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COVER: "Drifting Down -- Canada Geese" by world-renowned wildlife artist Maynard Reece of Des Moines is the 1989/90 Iowa Ducks Unlimited "First of State" Sponsor Print/Stamp. For further information on this limited edition print, see page 23.

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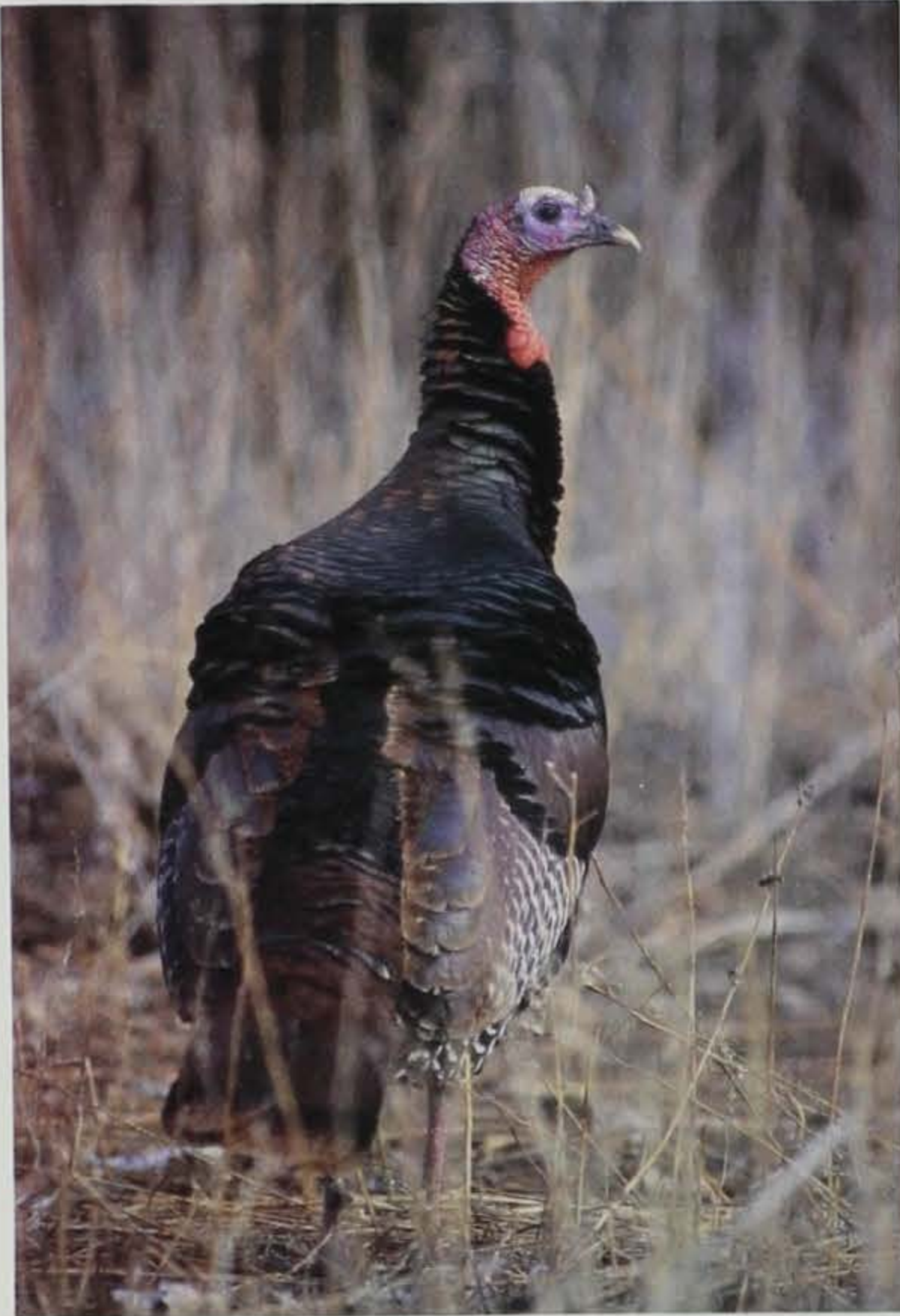
Hunting Season Forecast

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

"Where will the best pheasant hunting be this year?" "Are coon numbers up or down?" "Should I fix up my duck boat or wait for another year?" These are typical questions asked of Department of Natural Resources wildlife biologists by hunters and trappers as they plan hunting trips for another year. What they would really like to know, of course, is how hunting will be in their county, or, even better, in their own favorite hunting spot. Our information on wildlife distribution is seldom that specific, but annual surveys do allow us to predict general trends.

Predicting the status of wildlife populations is just slightly less risky than predicting next month's weather. It is impossible to count the exact number of any species on a statewide or even regional basis, so biologists are forced to use 'trend indicators', surveys that reveal whether populations have increased or decreased since last year. These surveys are seldom precise and can be misleading on a year-to-year basis, but they have

This year's fall turkey hunters should have little trouble finding birds.



proven useful in documenting population changes over a period of years.

Survey methods vary -- late summer roadside counts for pheasants, quail, partridge and rabbits; low altitude airplane flights for wintering deer herds and breeding duck numbers in the spring; and nighttime spotlight counts for raccoons are a few of the methods used. Some secretive animals like wild turkeys and most furbearers are nearly impossible to count. Combined with estimates of past harvests and hunter numbers, the surveys do, however, provide an objective basis for biologists to use in recommending hunting seasons to the Natural Resource Commission.



The accompanying table lists estimated harvests of Iowa's major game animals in 1988 compared to the previous 10-year average and the status of populations where survey data is available. Based on this information, most hunters should enjoy a very good year in 1989.

Upland Game

Last year's drought reduced pheasant numbers in the southern half of Iowa and hunters found both pheasants and quail hard to come by after the first few weeks. Northern Iowa bird hunters had a banner year, however, because pheasants and partridge numbers were high. Mild winters since 1984 and more nesting cover in government set-aside acres were the primary contributors to the pheasant resurgence. Overall the pheasant harvest was about average, quail were down and partridge were far above average.

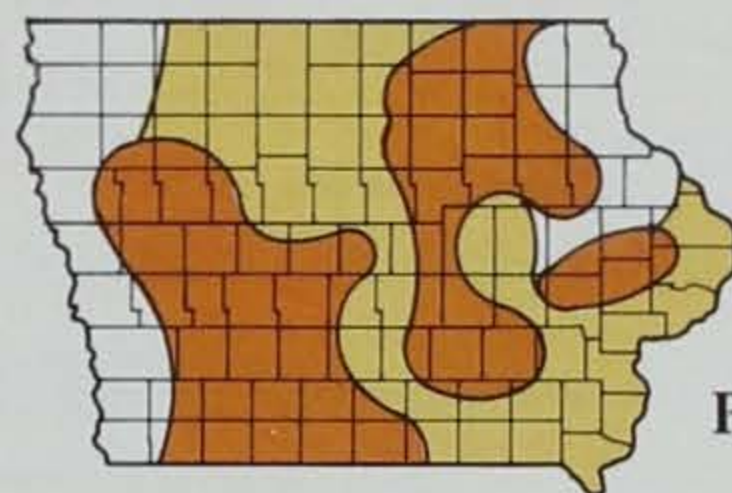
This year's surveys indicate that 1989 will be similar to last year. Mild winter and nesting season weather resulted in good numbers of game birds in northern Iowa -- even quail showed up on survey routes in west-central and east-central Iowa -- and similar or slightly fewer birds in southern Iowa. The drought has lingered longer in southern Iowa and game birds have not yet recovered there. There are fewer "hotspots" for pheasants this year, with counts fairly similar over most of the state. West-central and east-central Iowa may be the best bets, but hunters in most regions will find average-to-good bird hunting. Quail hunting will be best south of Interstate 80, but there are good areas in western and eastern Iowa. Partridge hunting should be excellent north of I-80.

Rabbits and squirrels, once the mainstay of small game hunters, remain abundant even though hunters' interest in them has declined. Rabbit numbers are on the increase in northern Iowa and still good elsewhere. Hunters

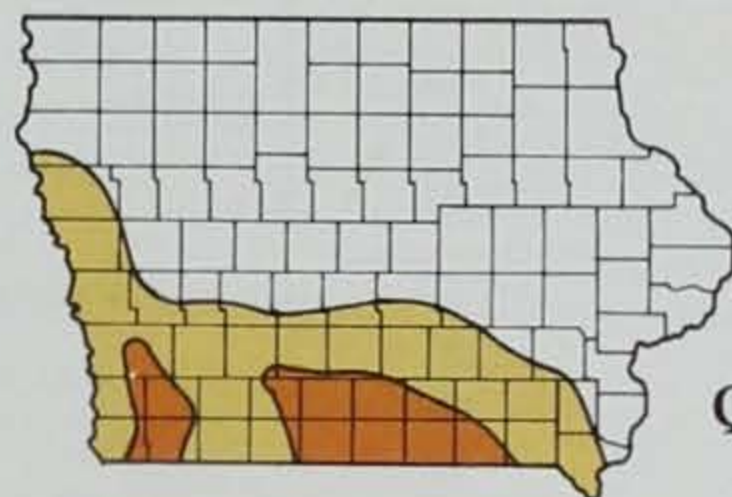
UPLAND
King-neck
Bobwhite
Gray partridge
Cottontail
WATERFOWL
Ducks
Mallard
Wood
Blue-winged
Other
All ducks
Geese
Canada
Snow
All geese
FOREST
White-tailed
Shogun
Bow
Muzzle
All deer
Wild turkey
Spring
Fall
Ruffed grouse
Squirrels
FURBEARERS
Raccoon
Fox
Coyote
Muskrat
Mink
Beaver

1988 Game Harvest and 1989 Population Status

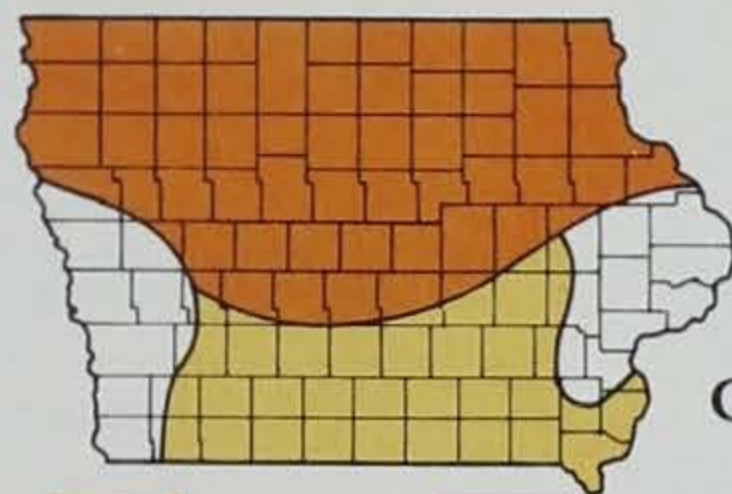
	Harvest		Population change from:	
	10-year avg.	1988	10-year avg.	1988
UPLAND GAME				
Ring-necked pheasants	1,137,000	1,140,000	+5%	+7%
Bobwhite quail	375,000	289,000	+23%	+20%
Gray partridge	71,000	104,000	+104%	-19%
Cottontail rabbit	699,000	425,000	-12%	+29%
WATERFOWL (1000s)				
Ducks				
Mallard	114.9	39.0	N/A	+4%
Wood duck	52.3	10.7	N/A	
Blue-winged Teal	45.6	1.3	N/A	
Other ducks	81.6	22.5	N/A	
All ducks	294.4	73.5	N/A	-1%
Geese				
Canada	12.2	11.0	Down slightly	
Snow/white front	19.0	8.9	Down slightly	
All geese	19.9		Down slightly	
FOREST WILDLIFE				
White-tailed deer				
Shotgun	31,050	80,055		
Bow	5,541	9,897		
Muzzleloader	3,129			
All deer	37,029	93,756	+50%	+6%
Wild turkey				
Spring	2,143	7,059	No survey	
Fall	1,485	4,427	No survey	
Ruffed grouse (1000s)				
	11	13	No survey	
Squirrels (1000s)				
	698	510	No survey	
FURBEARERS (1000s)				
Raccoon	290.1	190.6	+56%	+42%
Fox	21.7	16.2	No survey	
Coyote	9.0	7.6		
Muskrat	498.9	192.2		
Mink	26.4	14.0		
Beaver	11.1	18.5		



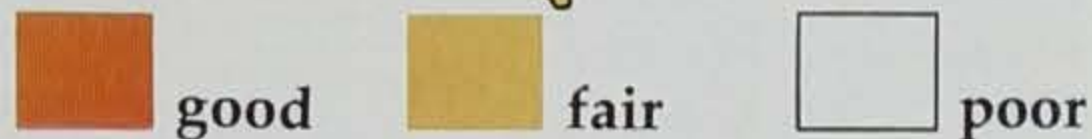
Pheasants



Quail



Gray Partridge



Mild winters and government set-aside acres have been the primary contributors to the pheasant resurgence.

1989 Iowa Hunting & Trapping Seasons

IOWA HUNTING SEASONS AND LIMITS

Game	Season	Shooting Hours	Daily Bag Limit	Possession Limit
Cock Pheasant	Oct. 28 - Jan. 10	8:00 a.m.	3	12
Quail	Oct. 28 - Jan. 31	to	8	16
Gray Partridge	Oct. 7 - Jan. 31	4:30 p.m.	8	16
*Ruffed Grouse	Oct. 7 - Jan. 31		3	6
Rails (Sora & Virginia)	Sept. 2 - Nov. 10		15	25
Snipe (Wilson's-Jack)	Sept. 2 - Dec. 17	Sunrise	8	16
Woodcock	Sept. 16 - Nov. 19	to	5	10
Cottontail Rabbit	Sept. 2 - Feb. 28	Sunset	10	20
Jackrabbit	Oct. 28 - Dec. 10		3	6
Squirrel (fox and gray)	Sept. 2 - Jan. 31		6	12
Pigeons	Oct. 1 - March 31	UNRESTRICTED	UNRESTRICTED	
Crows	Oct. 15 - Feb. 15		UNRESTRICTED	
*Turkey (gun)	Oct. 9 - Nov. 26	1/2 hr. before sunrise to sunset	ONE TURKEY PER LICENSE	
**Turkey (bow only)	Oct. 1 - Dec. 1 and Dec. 18 - Jan. 10	1/2 hr. before sunrise to 1/2 hr. after sunset	ONE TURKEY PER LICENSE	
**Deer (bow)	Oct. 1 - Dec. 1 and Dec. 18 - Jan. 10	1/2 hr. before sunrise to	ONE DEER	ONE DEER PER LICENSE
***Deer (muzzleloader)	Oct. 14 - Oct. 22 or Dec. 18 - Jan. 10	1/2 hr. after sunset	ONE DEER	
***Deer (gun)	Dec. 2 - Dec. 6 or Dec. 9 - Dec. 17	Sunrise to Sunset	ONE DEER PER LICENSE	

*Check regulations for open areas.

**Special regulations, seasons and limits may apply to the Iowa Army Ammunition Plant in Burlington.

***Shotgun hunters may hunt during one period - not both.

1989 IOWA WATERFOWL HUNTING SEASON AND LIMITS

Game	Season	Area	Shooting Hours	Daily Bag Limit	Possession Limit
Ducks	Oct. 7 - 8	N. Zone	Sunrise to Sunset	**See below	
Early season	Oct. 21 - 27	S. Zone			
Ducks	Oct. 21 - Nov. 17	N. Zone			
Late Season	Nov. 4 - 26	S. Zone			
Coot	Same as Ducks			15	30
Geese (Snow and Brant)	Sept. 30 - Dec. 18	Check Regulations SW Goose Zone		+See below	
	Oct. 14 - Jan. 1	SW Goose Zone			
Geese (Canada)	Sept. 30 - Nov. 13	Check Regulations SW Goose Zone			
	Oct. 14 - Nov. 27	SW Goose Zone			
Geese (White-Fronted)	Sept. 30 - Dec. 8	Check Regulations SW Goose Zone			
	Oct. 14 - Dec. 22	SW Goose Zone			

**Ducks: The daily bag limit is three (3) ducks and may include no more than two (2) mallards (no more than one of which may be a female), one (1) black duck, two (2) wood ducks, one (1) redhead and one (1) pintail. Canvasbacks: The season is closed.

The possession limit for ducks shall not include more than four (4) mallards (no more than two (2) of which may be female mallards), two (2) black ducks, two (2) redheads, two (2) pintails and four (4) wood ducks.

Mergansers: Daily bag limit is five (5) (no more than one (1) hooded); possession limit is ten (10) (no more than two (2) hooded).

+Geese: Daily bag limit is seven (7) including no more than two (2) Canada and two (2) white-fronted. Possession limit is fourteen (14) including no more than four (4) Canada and four (4) white-fronted.

**Note: Check regulations for areas closed to waterfowl hunting.
Steel shot is required statewide for waterfowl hunting.**

1989 HUNTING AND TRAPPING SEASONS FOR FURBEARERS

All furbearer seasons open at 8:00 a.m. on the opening date. There are no daily bag or possession limits.

Species	Opening Date	Closing Date	Area Open
Mink, Muskrat, Raccoon, Weasel, Badger, Opossum, Striped Skunk and Fox (Red and Gray)	Nov. 4	Jan. 21, 1990	Statewide
Beaver	Nov. 4	April 8, 1990	Statewide
Groundhog	June 15	Oct. 31	Statewide
Coyote (Hunting)	Continuous Open Season		Statewide
Coyote (Trapping)	Nov. 4	Jan. 21, 1990	Statewide
Otter, Spotted Skunk and Bobcat	Continuous Closed Season		Statewide



IOWA DEPARTMENT OF NATURAL RESOURCES
Wallace Building, Des Moines, Iowa 50319-0034



seeking some early season action will find excellent rabbit and squirrel hunting in September and October.

Forest Wildlife

Deer and turkey populations continue to thrive in spite of record hunter numbers and harvests each of the last five years. Deer hunters will have unprecedented opportunities this fall; by combining bow and gun licenses, a hunter could take as many as three deer. Hunter numbers are expected to exceed 150,000 and more than 100,000 deer could be taken if the weather cooperates. Surveys show deer numbers are stable or continue to rise and this year's regulations are designed to harvest more does to control population growth. Hunters can assist by taking more does in their hunting parties and protecting more bucks for next year.

More than 11,000 turkey were taken in spring and fall of 1988, far exceeding expectations when the turkey restoration program was begun. Turkey numbers are

excellent in all parts of the state and fall hunters should have little trouble finding birds. Nearly half of spring hunters and 60 percent of fall hunters were successful in 1988, providing perhaps the best turkey hunting to be found anywhere.

Ruffed grouse and woodcock provide bonus hunting to a small but loyal contingent of upland bird hunters. Ruffed grouse numbers are approaching their cyclic 10-year peak across most of the continent and Iowa should be no exception. Grouse harvests have increased each of the last three years and 1989 should be better yet.

Woodcock are primarily a bonus bird for the grouse hunter. Federal surveys predict similar numbers to previous years, but their migration time is fickle. If woodcock move through Iowa in late October, grouse hunters will find plenty of bonus action.

Waterfowl and Furbearers

Dry weather may benefit upland game, but prolonged drought is no friend to wildlife that depends on wetlands for living space. Most of the upper Midwest and Canada received more rain this year than last, but not enough to replenish wetlands dried to dust by nearly a decade of drought. Restrictive hunting regulations and poor hunting conditions flyway-wide reduced duck harvests by about 50 percent last fall, but slightly fewer ducks found habitat for breeding this spring. Better-than-expected production helped maintain duck populations near last year's levels, and a similar fall flight of ducks is forecast. Many species of ducks remain far below

average population levels and restrictive hunting regulations similar to last year's will remain in effect (see Waterfowl Flight Forecast on page 24).

Goose populations made it through an average-to-late nesting season in Iowa and in the Canadian Arctic. Production was mediocre as a result and a fall flight similar to last year is predicted. Dried-up wetlands may make Canada goose hunting over water more difficult, but Canada goose flights should still be good across most of Iowa. Success will depend mostly on weather to our north and the timing of goose migration. Snow goose numbers are very high and hunters will have an additional 10 days and a bag limit of seven snow geese this year. In recent years most snow goose migrations have caught just the western part of Iowa.

Wetland furbearers -- muskrat, mink and weasel -- will also be in short supply until waters are restored, but other furbearers are in good condition. Raccoons and fox numbers appear to be strong. Pelt prices were so low in 1988 that there was little furharvesting activity. Raccoons in the west half of the state suffered from a distemper outbreak last fall, but it did not appear to adversely affect populations. Spring raccoon surveys produced the highest numbers since 1977 when the survey was begun.

Terry W. Little is the wildlife research supervisor for the department and is located in Des Moines.

The duck season may be the only negative to an otherwise very positive hunting season. Hunting restrictions similar to last year will be in effect, with the season expected to be much the same as last year. The bright spot in the waterfowl picture may be the goose season. Numbers are good and in the case of snow geese, the season has been extended by 10 days and the bag limit increased to seven.



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Stamp Design Prints Available

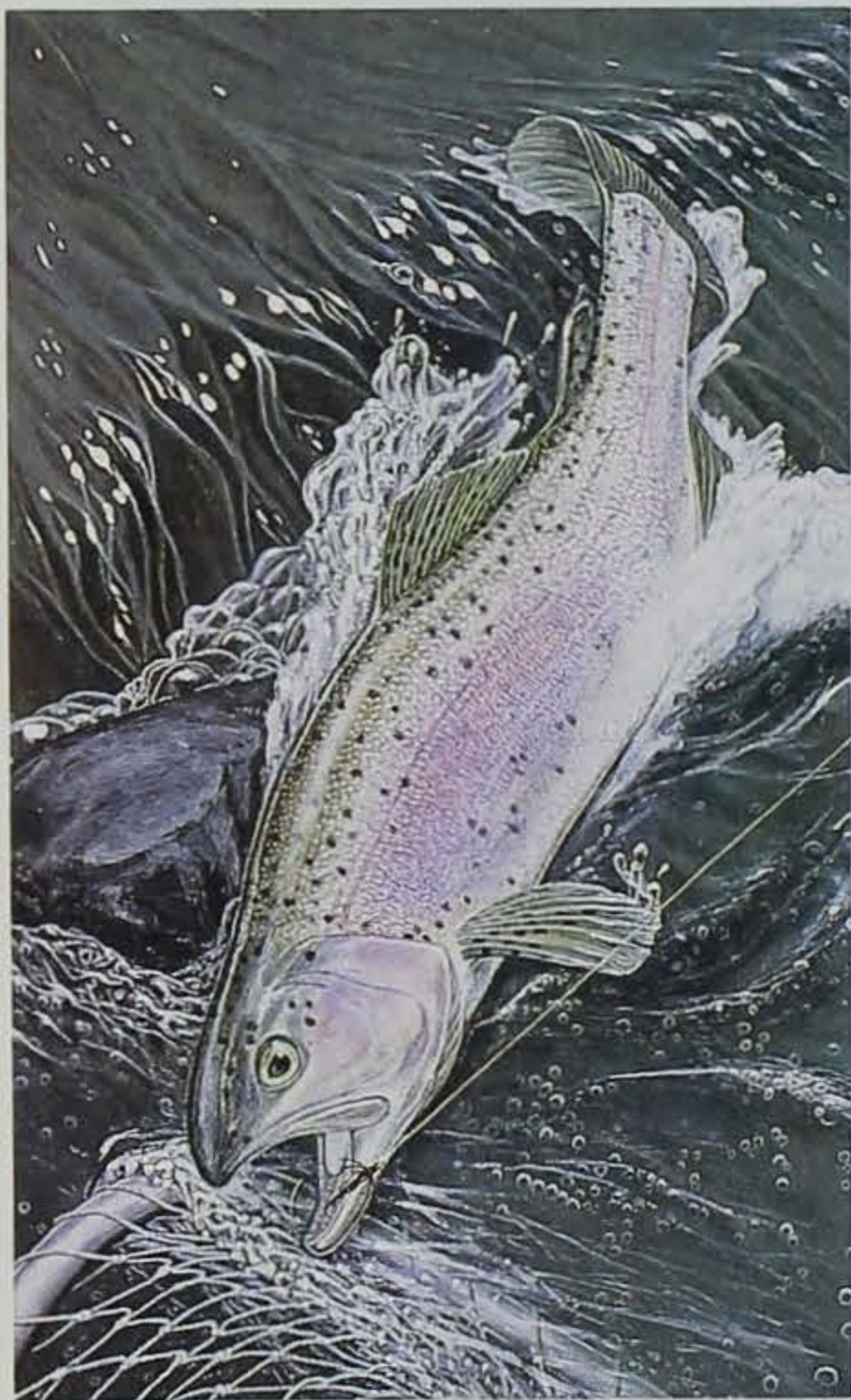
Limited-edition, individually numbered prints of Iowa's 1990 trout, habitat and waterfowl stamp designs will be available soon for purchase and can be ordered direct from the artists. A percentage of the revenue from

the prints goes to the Iowa Department of Natural Resources' fish and wildlife fund.

Mike Dunbar designed both the habitat and trout stamps. The habitat design features a fall setting and white-tailed deer, and the trout stamp features a rainbow trout caught on an angler's fly and headed into his net. Each design can be purchased for \$120. The trout stamp and habitat stamp can be pur-

chased separately for \$8 and \$3 respectively. To order, write Mike Dunbar, 3015 Woodmayr Road, Bettendorf, Iowa 52722, (319)326-5038.

The waterfowl stamp, designed by Patrick Murillo, features canvasback ducks flying over a rocky point in grey skies and can be purchased for \$100. To order, write Patrick Murillo, 541 Lisbon Street, Prole, Iowa 50229, (515)961-7364.



1990 Trout Stamp, designed by Mike Dunbar.



1990 Habitat Stamp, designed by Mike Dunbar.



1990 Waterfowl Stamp, designed by Patrick Murillo.

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Iowa's Energy Leaders Prove *Energy Efficiency Works*

by Patricia Cale

What do a small company in northwest Iowa, a manufacturer of refrigerators, and the National Guard have in common?

The three are among the five 1989 winners of Iowa Energy Leadership Awards. The five winners, chosen from more than 50 nominees for the awards sponsored by the Iowa Department of Natural Resources, include:

- Amana Refrigeration, Middle Amana — leading the appliance industry with some of the nation's most efficient home appliances;

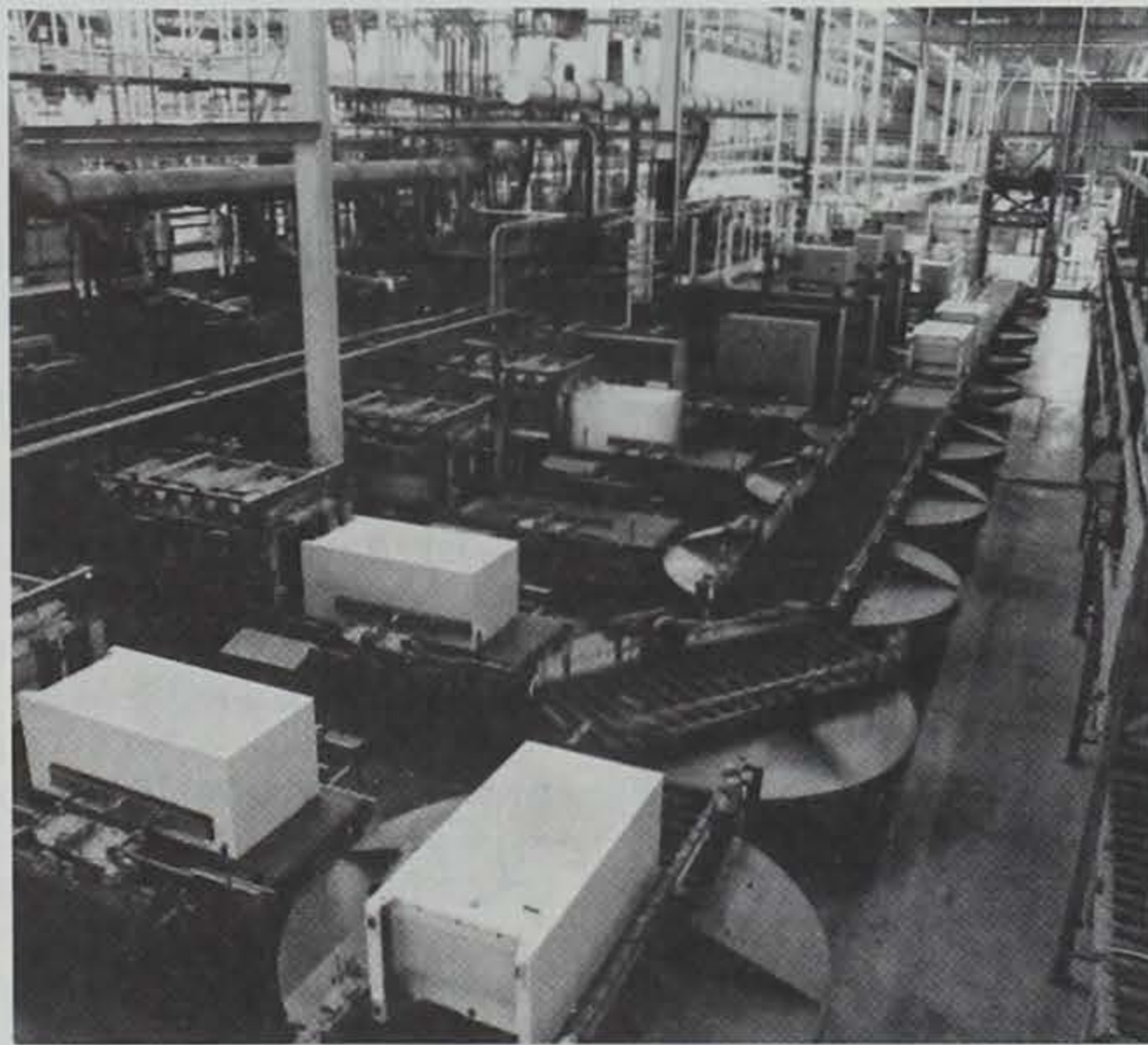
- Bio-Mass Energy and Recycling and the Sioux Center Bio-Mass Energy Project — showing how an entire community can get involved in energy efficiency;

- Iowa Electric Light and Power, Cedar Rapids — saving customers money by encouraging energy conservation and replacing polluting energy sources with clean, renewable resources;

- Iowa National Guard) — waging war on wasted energy in its facilities; and

- Lundell Manufacturing of Cherokee — developing and making equipment to turn garbage into energy.

The Iowa Department of Natural Resources launched the Iowa Energy Leadership Awards for the first time in 1989 to recognize Iowans who have excelled in energy innovation and leadership. The state effort was created to take the place of a federal program, the Energy Innovation Awards, which was discontinued for this year.



AMANA REFRIGERATION

In addition to producing energy-efficient appliances, Amana Refrigeration has pressed for federal energy standards for appliances which set energy-use limits on refrigerators and freezers. Amana builds energy efficiency into both its design and construction processes.

successful at their endeavors. The whole state benefits from their successes -- from the creation of jobs, a cleaner environment, lower utility rates and improved services. These companies and organizations are proving that using energy efficiently works for them and for Iowa."

The award winners were featured at the DNR's Iowa State Fair exhibit. The awards will be presented at a special program during Energy Awareness Month activities.

Amana Refrigeration: A Tradition of Energy Efficiency

Amana is a leading manufacturer of energy efficient appliances, but that is just part of a long-standing

The goal of the Iowa Energy Leadership Awards program is two-fold: First, to recognize the efforts of Iowa's leaders in solving problems in energy efficiency and renewable energy resources; and second, to promote the solutions themselves. The innovations of today's energy leaders can help Iowa and the nation meet both current and future energy and environmental needs.

According to Larry Wilson, director of the Iowa Department of Natural Resources, the five winners exemplify innovation and leadership in energy efficiency and alternative energy resources. "Energy innovation is a big part of why each of these winners have been

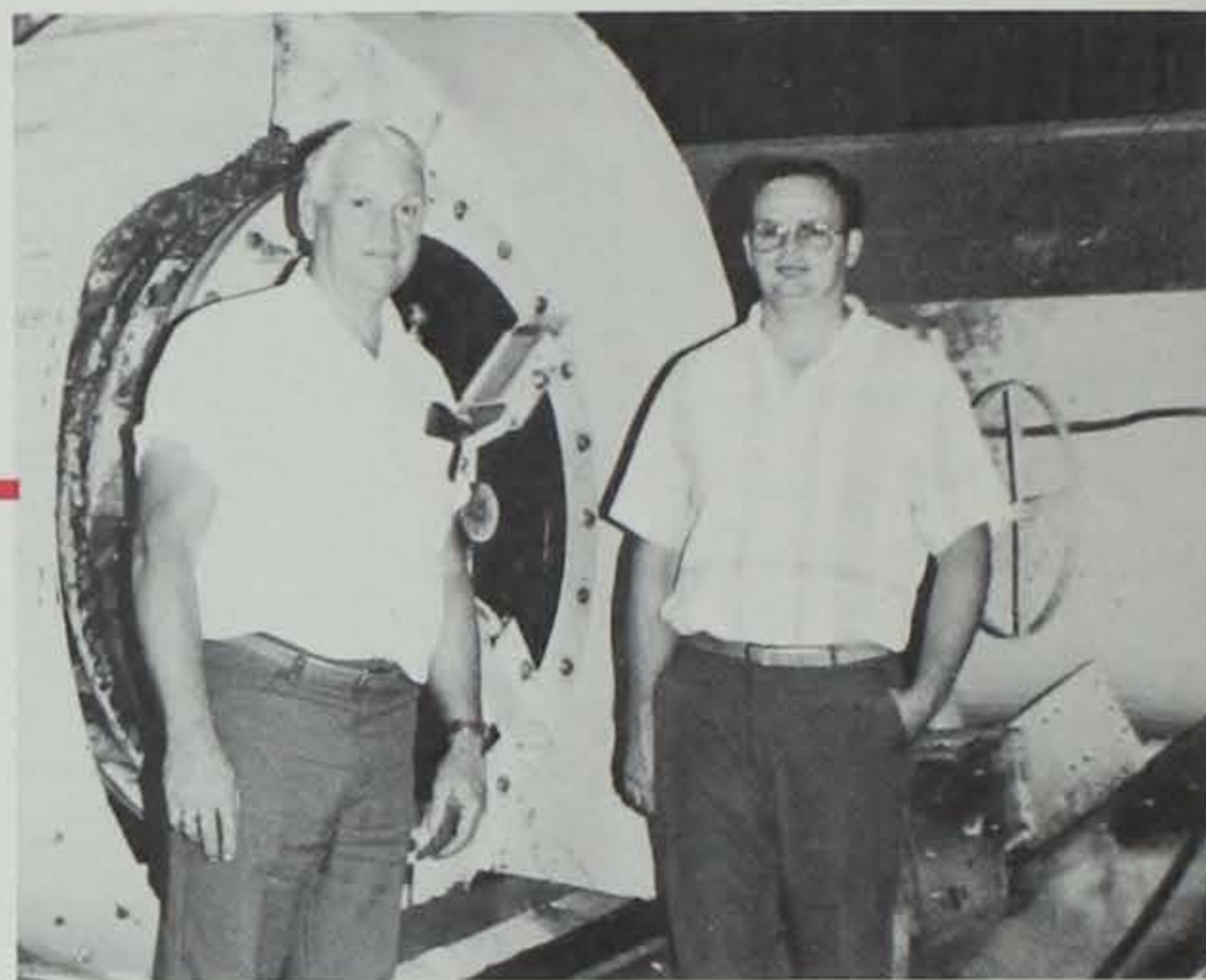
tradition at the 55-year-old Iowa-based company. Amana strives for energy efficiency in the design and construction of each and every product. Amana's refrigerators and freezers received top marks for energy efficiency in ratings certified by the Association of Home Appliance Manufacturers.

According to Ann Humbert, public relations manager, "When the energy crisis hit in the 1970s, we were already ahead of the game. Energy efficiency is an important consideration for consumers because it can significantly help them save money over the life span of an appliance." In addition to producing energy efficient appliances, Amana has pressed for federal energy standards for appliances which set energy use limits on refrigerators and freezers.

Amana Refrigeration employs 2,600 Iowans at its plant in Middle Amana. The Iowa plant produces refrigerators, freezers, microwave ovens, and electric ranges and cooktops. A second Amana plant in Tennessee manufactures heating and cooling products.



AMANA REFRIGERATION



PATRICIA CALE

Bio-Mass, founded by Rallyn and Norlyn Van Beek, uses a densifier to process waste cardboard and egg cartons into pellets that make an efficient, clean-burning fuel.

Bio-Mass Energy and Recycling: Poor Farm Economy Yields Opportunities

The downturn in the Iowa farm economy closed one door for the Van Beek family of Sioux Center, but "another door opened up," according to Rallyn Van Beek, president of Bio-Mass Energy and Recycling. The company will now receive an award for its efforts in promoting renewable energy resources.

The family moved into the waste-to-energy business when the poor farm economy caused problems for their farm implement dealership. Rallyn and son Norlyn Van Beek were co-founders of E-Z Fuels, Ltd., which uses a Lundell Manufacturing densifier to process waste cardboard and egg cartons from several local plants. The equipment produces small, dense pellets that make an efficient, clean-burning fuel. The Van Beeks, in cooperation with the City of Sioux Center, assisted Dordt College and Sioux Center High School to retrofit their boilers to burn the new fuel.

The two schools are now realizing savings in energy and costs. Dordt College cut its fuel costs by 16.5 percent, a savings of more than \$7,000 during the 1988-89 heating season. The high school's fuel bill decreased by 26 percent, for a \$3,800 savings.

The Van Beeks are also the founders of Bio-Mass Energy and Recycling, which serves as the marketing agent for the fuel pellets as well as many other types of recyclable material. Rallyn and Norlyn Van Beek serve as representatives of Lundell recycling equipment, which helps reduce solid waste volume by as much as 90 percent through recycling and producing fuel pellets. (Lundell Manufacturing is also a 1989 Iowa Energy Leadership Awards winner.) In that capacity, the Van Beeks travel all over the United States as well as hosting visitors in their Sioux Center plant to spread the word about opportunities in waste-to-energy.

Iowa Electric: Keeps Rates Down, Conserves Energy

Customers of Iowa Electric Light and Power Company are saving money, conserving energy, and helping the environment through the company's innovative energy programs.

Iowa Electric, based in Cedar Rapids, is a national leader in

keeping utility rates down by helping customers use energy more efficiently. In addition, the company has developed ways to replace fossil fuels with alternative, renewable energy sources.

Iowa Electric has managed to avoid building additional power plants — and rate increases — by using creative strategies to manage demand for electricity. One of the most successful programs is the interruptible rate program. When Iowa Electric forecasts a peak in which demand will surpass supply, some customers, such as government buildings or libraries, agree to have their power temporarily interrupted. These customers pay a significantly lower price for their electricity as part of the agreement.

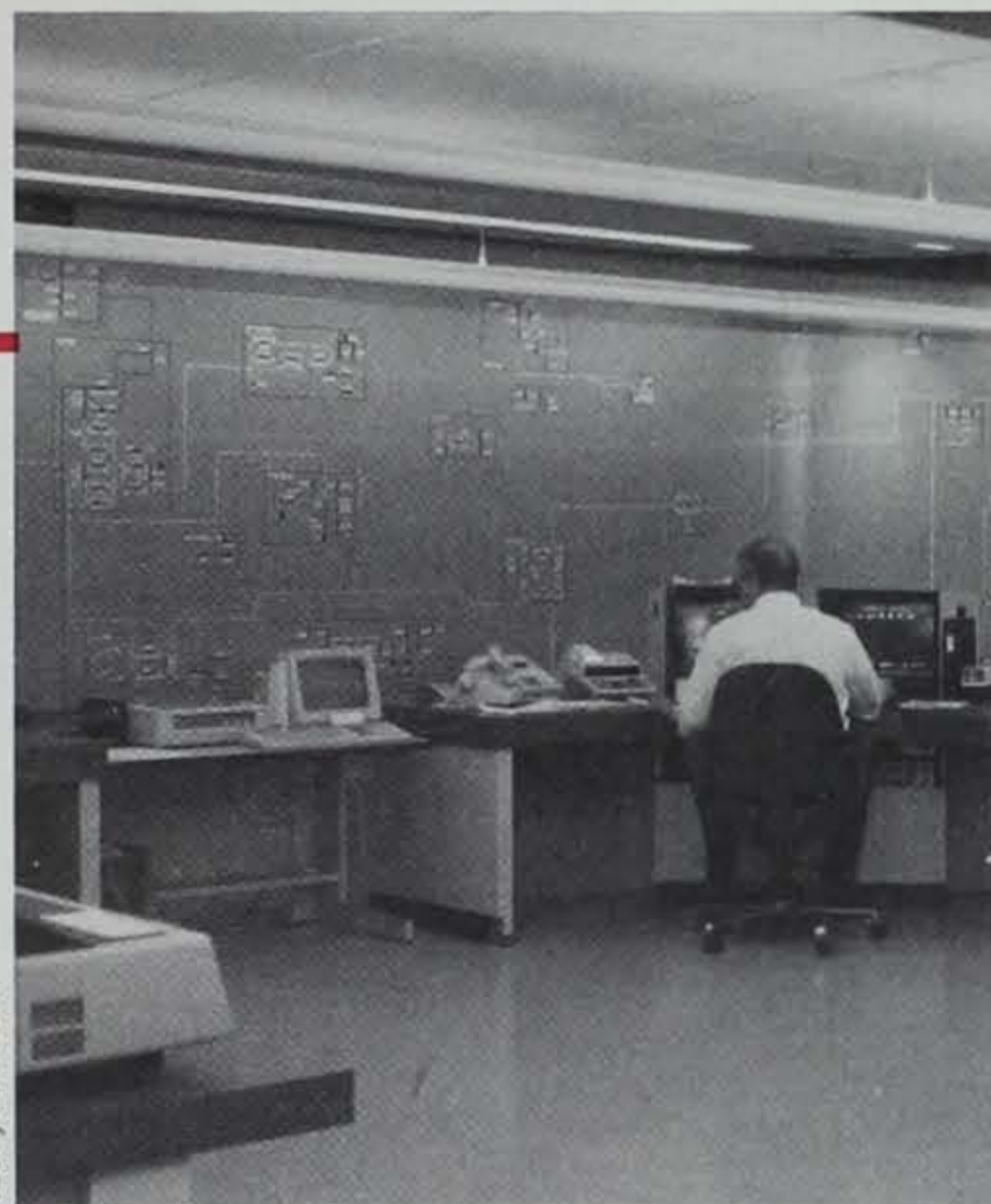
Iowa Electric's pricing programs avoided about 200 megawatts of capacity in 1988. That translated into as much as \$200 million in capital cost savings.

Making use of wasted resources such as wind and hydroelectric power is also part of Iowa Electric's cost-saving strategy. For example, methane gas from the Cedar Rapids landfill is burned as a replacement for coal in one of Iowa Electric's power plants. Iowa Electric has also been part of investigations into using refuse-derived fuel, pelletized paper, and oat hulls as fuel.

Iowa National Guard: Waging War on Waste

For more than 10 years, the National Guard has been waging a war on wasted energy that includes many low-cost techniques for energy management. The state agency has saved more than \$1 million in energy costs over that period.

Although the National Guard is a large agency with hundreds of buildings housing 8,000 employees, energy



RON JOHNSON



RON JOHNSON

Iowa Electric uses creative strategies to manage demand for electricity. The control room (above left) monitors usage all over the state. Methane gas from the Cedar Rapids landfill (above right) fuels an Iowa Electric power plant.



RON JOHNSON

The Iowa National Guard has used many low-cost techniques to reduce their energy bill. In addition, energy efficiency was built into remodeling plans for barracks at Camp Dodge.

efficiency improvements were completed throughout the entire Iowa National Guard system.

Although state agencies' budgets are often limited, the Guard made energy efficiency a top priority, and made it pay for itself. As each set of improvements were made, cost savings were earmarked for additional energy projects. In addition, building managers were rewarded for their efficiency measures by being able to keep their cost savings for their own projects.

Leadership has proven to be the key to its successful program. Adjutant General Warren Lawson devised a method of tracking energy consumption at each facility, then spearheaded a series of projects. As Colonel Larry Lampe, who managed the National Guard's facilities during the last 10 years, said, "When a general shows this level of enthusiasm for a project and wants positive results, projects get done!"

Lundell Manufacturing: Northwest Iowa Company Has Innovative Energy Product

They say if you build a better mousetrap, the world will beat a path to your door. The world is finding Vernon Lundell and his "mousetrap," an innovative system to solve both solid waste and energy problems.

Lundell Manufacturing of Cherokee, Iowa, regularly receives visitors from all over the United States and many foreign countries. They are all coming to see — and buy — Lundell's recycling system. The system takes garbage that would normally go straight into a landfill and sorts out the recyclable plastic, metal and aluminum. The paper waste that is left is made into pellets that can be burned cleanly and cheaply for fuel. Ninety percent of the garbage can be recycled or used for fuel.

According to Larry Wilson, DNR director, "With increasing pressure on landfills and new environmental regulations, Lundell's equipment is an attractive solution for many cities and counties."

Lundell Manufacturing began in 1945 building farm equipment. With the poor farm economy of the early 1980s, Lundell was forced to cut back production. "I had to come up with something that's got a future to it," Vernon Lundell says. Making the recycling systems now accounts for all but a small share of Lundell's production. According to Lundell, with an increase in orders for his equipment coming in from all over the world, he expects to add employees soon to keep up with the demand.

Patricia Cale is an energy information specialist for the DNR and is located in Des Moines.

October is Energy Awareness Month in Iowa and throughout the United States. This year's theme is "Energy Builds a Better America."

Iowa imports 98 percent of its energy which comes from other states as well as other countries. Each year, about \$4 billion is spent on energy. However, because of lower prices and conservation, Iowans are spending less — \$1 billion less than was spent in 1985 when Iowa's energy bill cost more than \$5 billion.

During Energy Awareness Month, everyone should take time to think about energy: where it comes from . . . how it is used . . . how it can be conserved or used more efficiently . . . and its importance to our national security and economic prosperity.

ENERGY
— BUILDS A BETTER —
AMERICA



ENERGY AWARENESS MONTH
OCTOBER 1989



PATRICIA CALE

Lundell Manufacturing, founded by Vernon Lundell (above), produces densifiers that sort recyclable plastic, metal and aluminum from garbage normally going to landfills.

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● 1990 *Iowa CONSERVATIONIST* Calendar - 12-month; full-color photos of Iowa's native wildlife and colorful outdoors; \$3.

● *Iowa Fish and Fishing* - 1987 edition; James Mayhew, editor; 323 pages; color plates by Maynard Reece; hard bound, \$15.

● *The Ring-Necked Pheasant in Iowa* - Allen L. Farris, editor; 147 pages; color photos; hard bound; \$5.

● *Waterfowl In Iowa* - Jack M. Musgrove, editor; 130 pages; color plates by Maynard Reece; hard bound; \$3.

● 1989 Nongame Poster - features a river otter, photo by Ron Johnson. Make tax-deductible donation of \$5 or more to the Chickadee Checkoff to be used to support nongame wildlife.

● 1989 Nongame Support Certificate - features a black swallowtail butterfly, photo by Ron Johnson; image 6" x 8-1/2"; 5,000 limited edition numbered; available until March 31, 1990.

Please enclose proper remittance with your order form. To ensure delivery by Christmas, orders must be postmarked by November 15, 1989. Offer expires January 15, 1990. Offer is limited while supply lasts.

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JAMES WOOLEY

Nitrogen is an essential plant nutrient. While corn crop yields are affected by uncontrollable factors such as rainfall, crop yields are also dependent upon nitrogen availability which can be readily controlled with the application of additional fertilizer. There is a limit, however, on the amount of nitrogen a plant can use. Application of nitrogen fertilizer beyond what a plant can use results in surplus nitrogen in the soil. That surplus of nitrogen represents both an economic loss to the producer and a source of surface and groundwater contamination with nitrate.

Most nitrogen fertilizer used in Iowa for commercial corn production is applied by injecting anhydrous ammonia gas just below the soil's surface. Regardless of the type of nitrogen fertilizer, bacteria present in the soil can convert the form applied to the form needed by the plant for growth. This bacterial action is also responsible for converting ammonia into nitrate which is highly mobile in water

How Much Can One Field Take?

An Example of
Sustainable
Agriculture

by Monica Wnuk

and is flushed into Iowa's surface and groundwater with rainfall or snowmelt. At present it is estimated that up to one-half of the nitrogen applied as fertilizer is lost to the environment through volatilization and rainfall-induced transport (runoff, tile drainage, infiltration).

Use of nitrogen fertilizers for corn production in Iowa has risen in the past 30 years. This increased fertilizer usage is a result of more land being put into production and application of fertilizer based on the philosophy "*if a little is good, more is better.*" Along with the increase in use, the nitrate levels in the state's ground and surface waters have steadily increased. Nitrate, as a plant nutrient, can result in algal blooms and nuisance weed growth in rivers, lakes and other surface impoundments. High levels of nitrate in drinking water can cause methemoglobinemia (blue-baby syndrome) in infants, a potentially fatal but treatable illness. High nitrate levels in drinking water have been sus-

pected to cause heart disease and cancer, as well as other health impairments to the adult population.

The key to reducing environmental contamination from the use of excess nitrogen fertilizer relies on developing ways to increase the efficiency in the use of nitrogen fertilizer. Aside from the environmental concerns, any reduction in the application of excess fertilizer results in decreased production costs. In 1985, the Iowa Fertilizer and Chemical Association lobbied to impose a surtax on nitrogen sales in the state to conduct research on nitrogen management. These funds, which provided approximately \$100,000 annually during a three-year period, supported the research of

Iowa State University's professor Alfred Blackmer. Continued funding was provided to Dr. Blackmer in 1988 and 1989 by the Leopold Center for Sustainable Agriculture. The results of Dr. Blackmer's work provided the information needed to correlate nitrogen availability in the soil with crop yield for corn. The ability to accurately balance *availability* with *need* can result in a reduction in the amount of fertilizer eventually reaching the state's waters as nitrate.

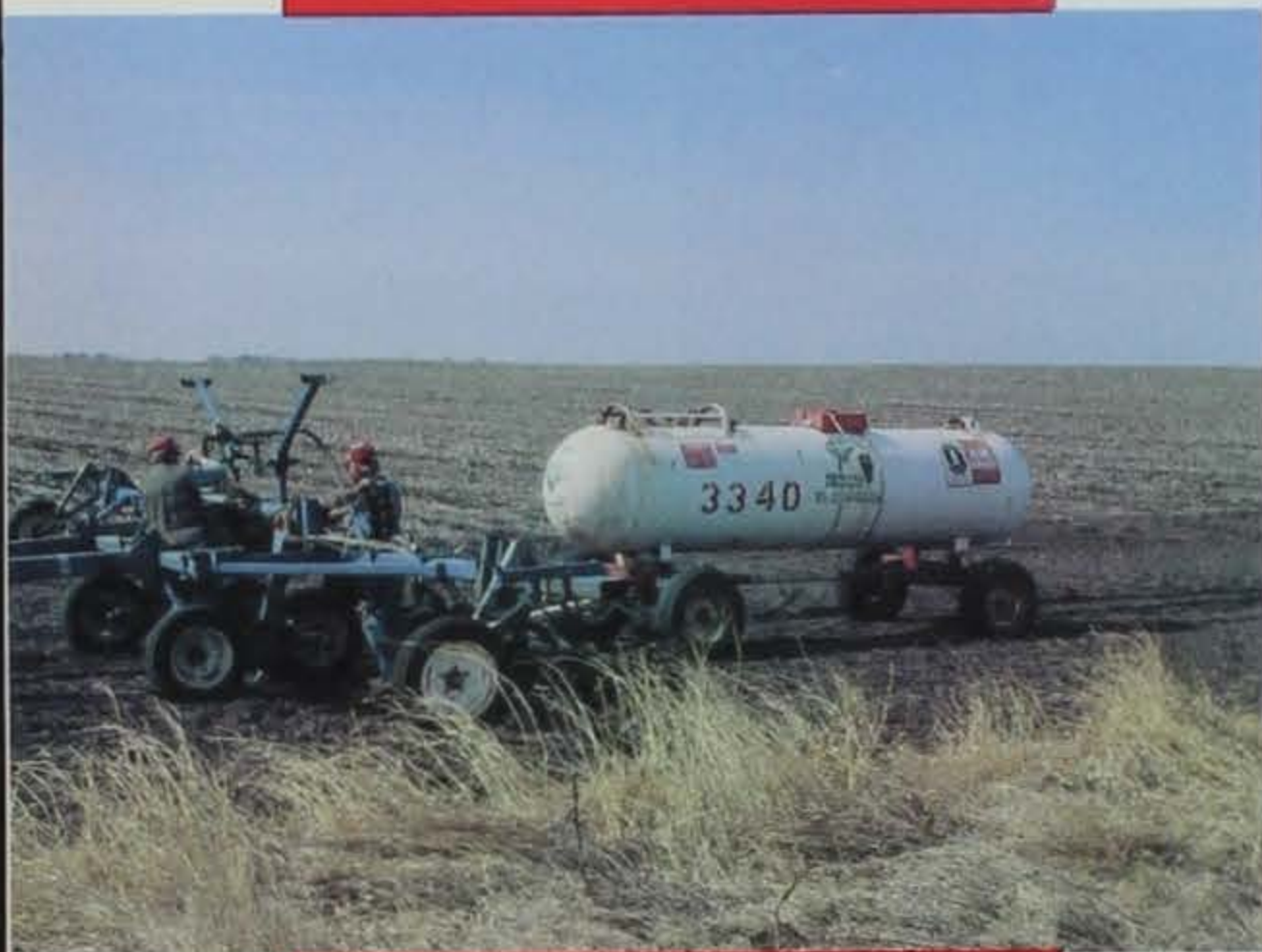
While the ability to test soil for nitrogen has been available for some time, the lack of a way to apply this number has resulted in differing recommendations on fertilizer application. Previously recommended fertilizer application rates were not able to accurately factor in the existing available soil nitrogen with yield. Being able to relate this number with crop yield is a very significant breakthrough which will help protect the environment, maintain production and reduce production costs.

The process developed by ISU for matching need with availability is relatively simple. When the corn crop is 6 to 12 inches high, soil samples are collected from the field and analyzed for soil nitrate. Using

this value which represents available soil nitrogen fertilizer, recommendations can be made by the ISU Extension Office on additional fertilizer requirements. At the height of 6 to 12 inches, the plants are still small enough to allow the application of additional fertilizer.

To simplify the testing procedure and reduce the amount of time between collecting the samples and receiving the results, Iowa State University is in the process of negotiating the marketing of a home-use testing kit for determining the available soil nitrogen fertilizer (as nitrate). The home-use test kit should be available commercially by January 1990. With the home-use test kit, decisions on fertilizer application can be made the same day as the soil nitrogen sampling.

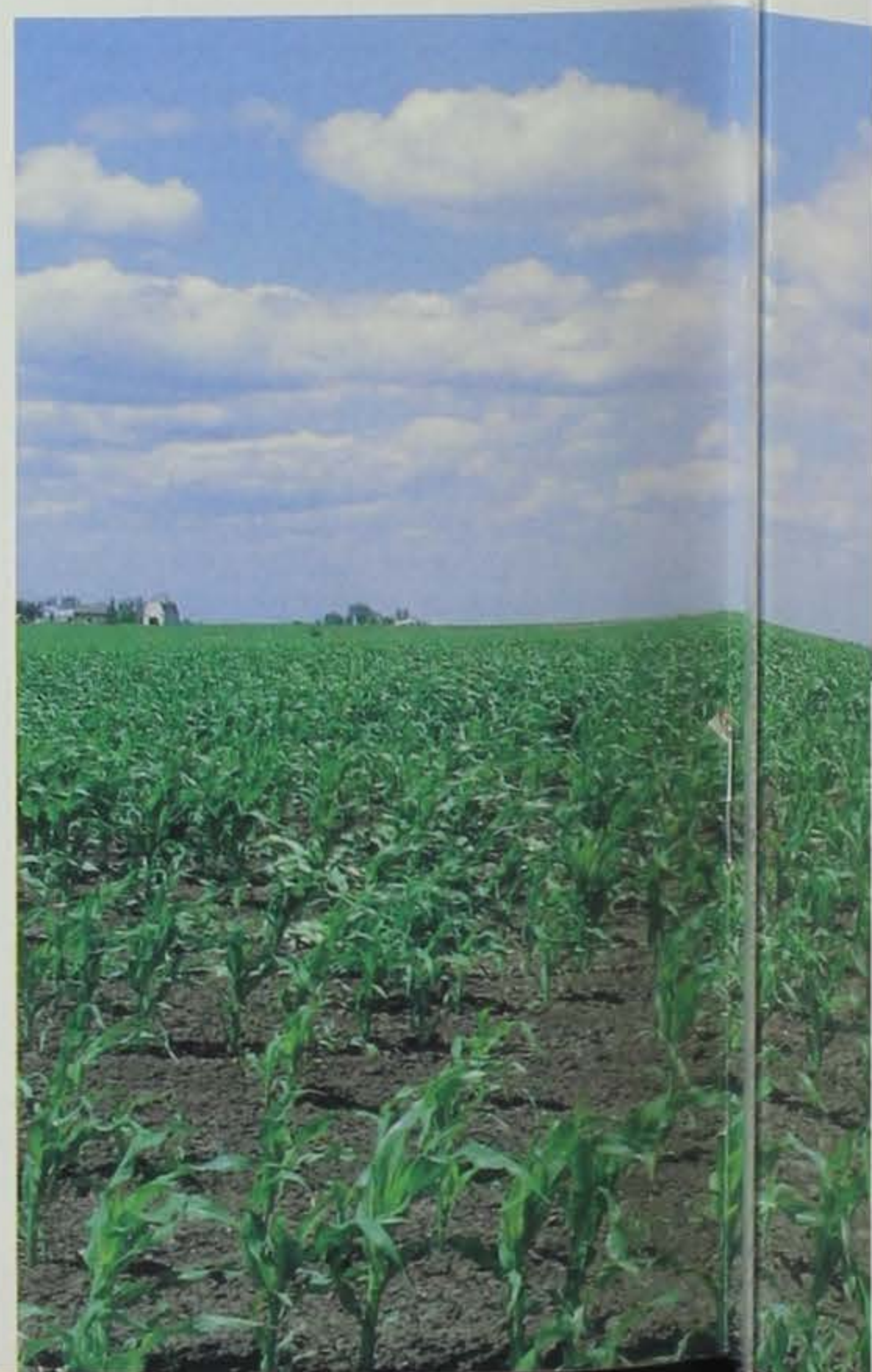
For the past several years, use of the test kit and fertilizer recommendation has been field tested to confirm Dr. Blackmer's findings under varying seasonal conditions. Test plots have been used with various amounts of fertilizers being applied to compare changes in yield. During the 1989 crop year, the test kit is being tested by



R. RUNGE

"Health [of the land] is the capacity of the land for self-renewal. Conservation is our effort to understand and preserve this capacity."

ALDO LEOPOLD,
The Land Ethic



selected Iowa Fertilizer and Chemical Association dealers. Results from using the ISU Extension Office recommendation on fertilizer requirements will be made available in January 1990.

There are several restrictions on using the late-spring soil test. For example, the test cannot be used if manure or anhydrous ammonia has previously been applied during the crop year. Anyone considering using the soil nitrate test should consult with the county extension office for additional information.

Dr. Blackmer's research will provide Iowa's corn producers with a practical and economically beneficial tool to maintain production, minimize production costs, while protecting the environment. Dollars saved from the cost of unneeded fertilizer will remain in the state. Iowa's surface and groundwater quality should benefit from fertilizer inputs appropriately balanced with the crop need.

Monica Wnuk is an environmental specialist with the department and is an alternate board member for the Leopold Center.

The Leopold Center for Sustainable Agriculture

Sustainable agriculture refers to any farm-related practice which meets these three criteria:

- is socially and economically acceptable,
- maintains production, and,
- is protective of the environment.

Creation of the Leopold Center for Sustainable Agriculture was made possible through Iowa's 1987 Groundwater Protection Act. Establishing the Leopold Center was one of many initiatives contained in the 1987 act to prevent contamination to Iowa's groundwater. The Leopold Center consists of a director and support staff to oversee efforts to promote agricultural systems combining responsible stewardship of natural resources with farm profitability. The center's work focuses on:

- identifying and reducing the

negative impacts of agricultural practices;

- developing alternative practices that promote sustainable agriculture and maintain and enhance environmental quality;
- studying the feasibility and impact of these practices;
- integrating these practices into large areas such as watersheds, rural water districts, and wildlife corridors, and;
- providing information for policymakers, farmers and the general public.

Over the years agricultural practices have become production-oriented, relying heavily on the use of chemicals -- artificial fertilizers and pesticide products. Chemical-intensive farming has evolved independent of its consequences to the environment. The enlightened vision in the future for farming practices that are compatible with environmental protection requires faster development of new sustainable agricultural practices and the more widespread use of the practices that are currently available.

The Leopold Center for Sustainable Agriculture currently provides competitive research grants. In addition to the competitive grants, six study groups called "issue teams" have been formed to identify long-range, interdisciplinary research needs for specific agricultural problems. The research projects currently funded by the Leopold Center focus on production changes, economic impacts, environmental effects and social acceptance of recommended farming practices.

For additional information on the center, contact Dennis Keeney, director, Leopold Center for Sustainable Agriculture, 3203 Agronomy Hall, Iowa State University, Ames, Iowa 50011; telephone (515)294-3711.

RON JOHNSON



WARDEN'S DIARY

Train a Child In the Ways . . . by Chuck Humeston

One of the advantages of this job is while you are working at it you get to make a detailed study of human behavior.

Now my studies are probably not scientific in the least, but it always seems like a glaring truth surfaces. What are we teaching these kids? Every officer has heard the person shaking his head with the, "These disrespectful kids today, no respect for anything!" Could it possibly be we "have-it-all-together" adults are part of the problem?

It starts with little things. The child who sees the police officer and says, "Mommy, policeman!" to which Mommy replies, "And if you are bad, he'll come get you! Now the kid is really wide-eyed every time he sees an officer. Wouldn't you be a little wary, too of the people who are coming to get you!" There is usually no harm intended in the remark, but think about it.

Anyway, the following are two of my case studies.

Case Study Number One

Bob Schaut, who was then the park ranger at A.A. Call State Park, and I were going out on Rush Lake in Palo Alto County to check duck hunters. We were dressed in our best "nobody will notice us because we look like duck hunters" gear. It was opening weekend, and a typical Rush Lake situation—crowded with duck hunters.

We motored out onto the marsh and noticed a man and a young boy in a boat behind a set-up in an opening in the

cattails. We decided to watch their shooting for awhile and stopped on the other side of the cattails. A lot of low-flying teal were present. They took a few shots and missed. It appeared a good time to open up the thermos of coffee during the lull. I heard the man say, "There's the reason we aren't getting any shots." I didn't think much of it until CRACK. . . it sounded like the shot went off right by my ear. We heard the pellets sizzle over our heads and pound into the lake right by our boat. We both took a dive for the boat floor. As we raised up, we heard the man proudly telling the boy, "Maybe the next duck will be flying lower!" It must have been funny as he was starting to chuckle.

Bob and I looked at each other with the same thought in mind -- "*Time to make a few checks of this group.*"

We motored over to them, counting to 10 and biting our tongues to keep from saying all those things you later wished you had said. When he saw us, he kept asking, "Are you guys from the DNR?"

We said, "Yes we are," and began to ask for licenses, guns and ducks. I noticed the boy looking at the man as he apologized to us for shooting over our boat. I asked the reason, and the man replied he thought we were hunters too close to him and scaring away the ducks.

So the boy probably learned a valuable lesson — if the other hunter is too close, then shoot him!

Case Study Number Two

I was walking the shore of Lost Island Lake at night as the

walleye were hitting. I passed a couple of men and a boy fishing together, and walked up to a man who had just reeled in a fish. While checking him, I noticed the boy from the first group run past me up the shoreline. He returned with another man and sat down with the other two men.

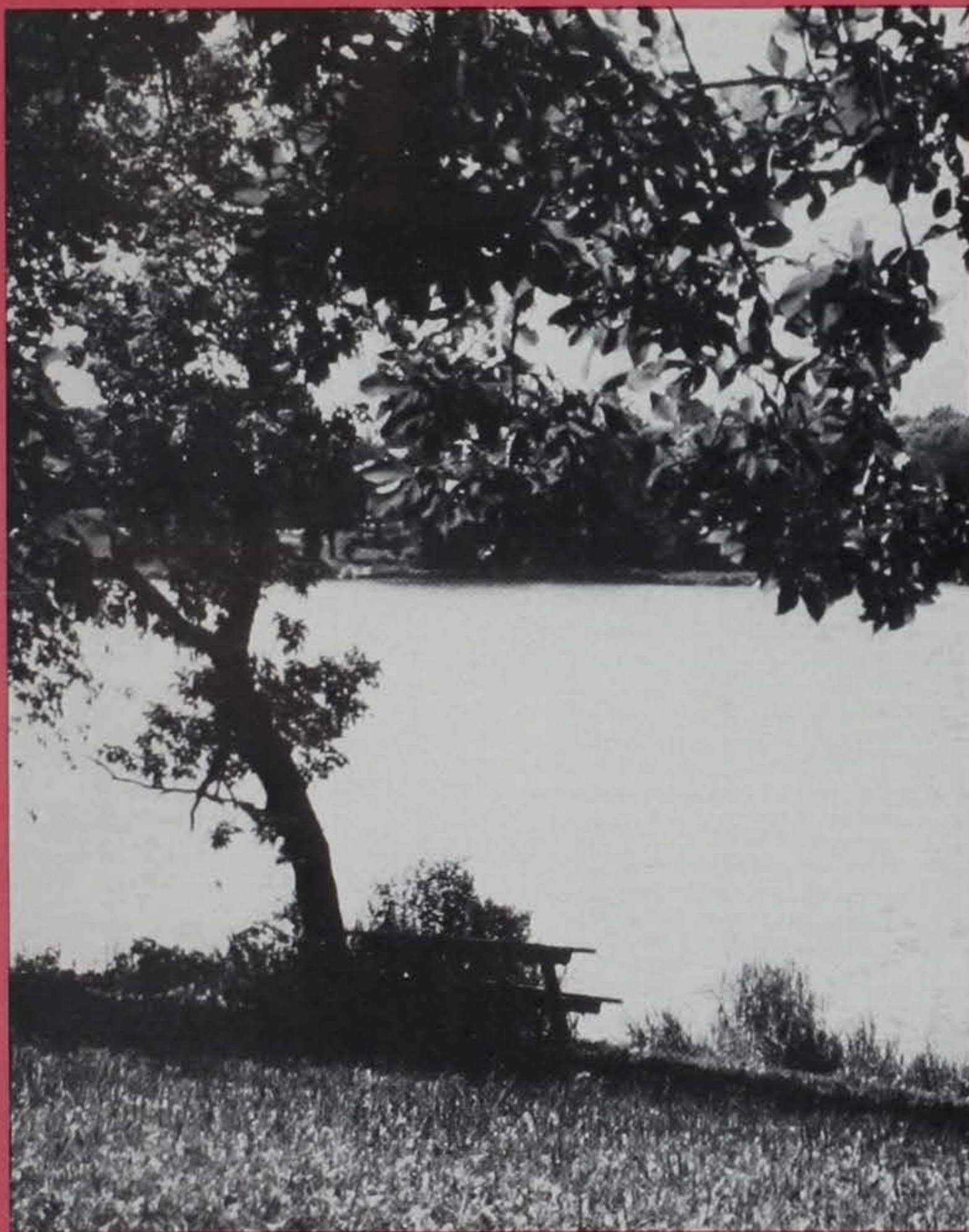
I walked about twenty-five yards in the direction in which the boy had been running, looked down, and found a fishing rod with water dripping from the line and the lure. Aha, a clue!"

Carrying the rod, I walked back to the men and the boy and asked if the rod belonged to any of them. No answer. I asked for licenses. All were licensed except for the man who had walked back with the boy. Finally, this man identified the rod as his, but said he wasn't fishing. I questioned him some more, and he finally told me if I could not prove he was fishing why didn't I just go away? Well, I thought, sometimes you just have to go away and wait for another day.

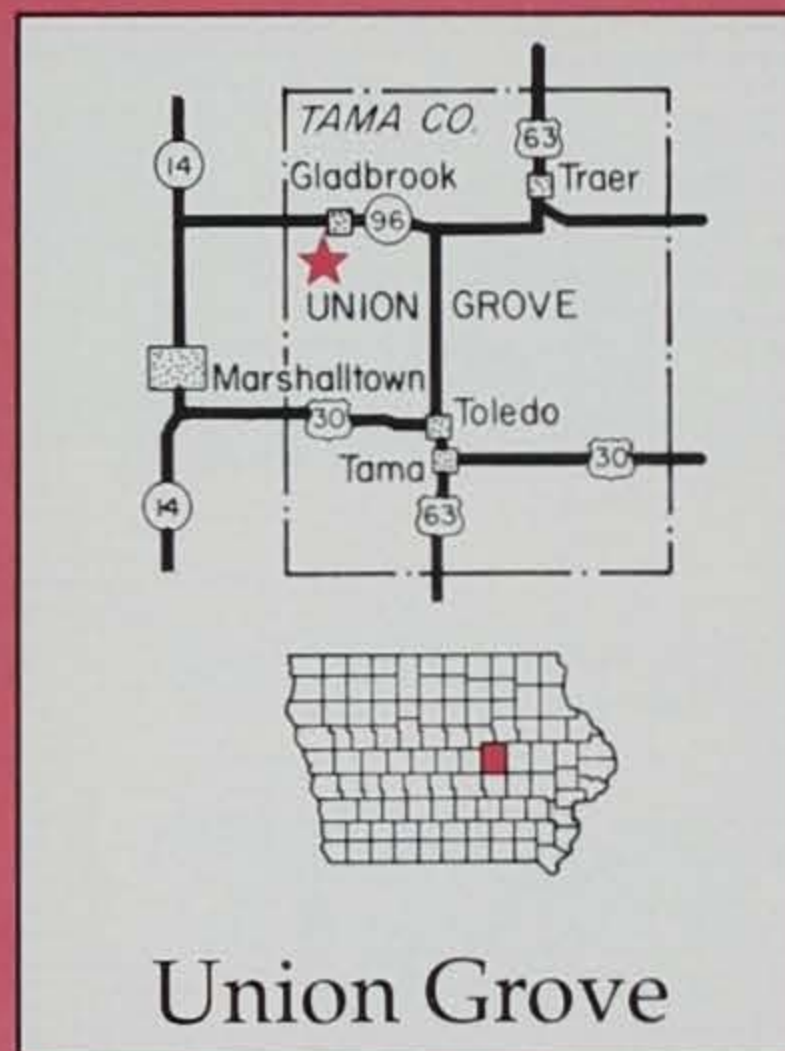
The boy learned a valuable lesson about fishing. . . don't get your license as required, and if caught, don't admit it.

You know, in hunter education courses we can talk until we are blue in the face about laws and ethics, but it only takes one bad example from Dad or another adult, and we might as well have saved our breath.

I guess the lesson from these studies is the future of the outdoors and the sports we love are in the hands of our young people. And you can bet they are watching us.



RON JOHNSON



Union Grove

A Long Road to Restoration

by Robert Middendorf

Union Grove Lake is located four miles south of Gladbrook in Tama County. Because there are few other lakes located in the area, Union Grove is a high-use recreational lake. But, like most of our impounded waters it has suffered from a high degree of siltation, due to watershed runoff from surrounding farm land. Overall lake size had decreased from 129 acres in 1954, to 106 acres in 1981.

A wide range of problems severely restricted management, recreational use and value of the lake. A large expanse of shallow water area became choked with aquatic vegetation making boating and fishing in and around the vegetated areas impossible. The over-abundance of vegetation provided excessive shelter for panfish to escape predation, resulting in over-population and stunted growth. Depleted oxygen content of the water resulted in

winter and summer fishkills and summer swimming was impaired by high algal populations. All problems were related to siltation and poor water quality.

In 1980 the U.S. Environmental Protection Agency and the Iowa Department of Natural Resources provided funding to conduct a Clean Lakes Classification Study for future use of restoration of Iowa lakes. Data collection was conducted by Iowa State University. A total of 107 publicly owned lakes were surveyed and Union Grove ranked the number one lake in the state needing restoration. Ranking was based on severity of water quality problems, probability of success of restoration measures and importance of public benefit to cost ratio.

Local public support for implementing a lake restoration project was high. Having local support, the Department of Natural Resources made application to the U.S. Environmental Protection

Agency for matching funds to conduct a diagnostic/feasibility study. Approval was received and Iowa State University conducted the necessary feasibility studies in 1981 and 1982. They were assisted with field work by the Soil Conservation Service district conservationist and Iowa DNR field staff.

Results of the feasibility report stated, if nothing was done with the present rates of siltation, the lake would lose its recreational value within 34 years. Many of the problems would be improved by increasing water depths. But, before the lake is deepened, attention had to be paid to reducing the rate of siltation in order to increase useful life of a renovation project.

Using the detailed feasibility report, the DNR in 1983 made initial applications for federal assistance through the Clean Lakes Act. Federal funds were approved and the Iowa Legislature appropriated necessary matching funds in 1987.

A mechanical dredge is being used to pump sediment from the bottom of the lake and into two abandoned quarries. The dredging operation is scheduled to be completed by the end of this year.



RON JOHNSON

During the interim of securing funding, the Iowa SCS was diligently working with watershed landowners to put in place permanent soil conservation improvements. By the end of 1987 more than 85 percent of the watershed was in required erosion control practices. Controls included construction of terraces, contouring and grass waterways. Estimated cost of these controls was \$393,000. The first phase of protection for this valuable recreational resource was under way.

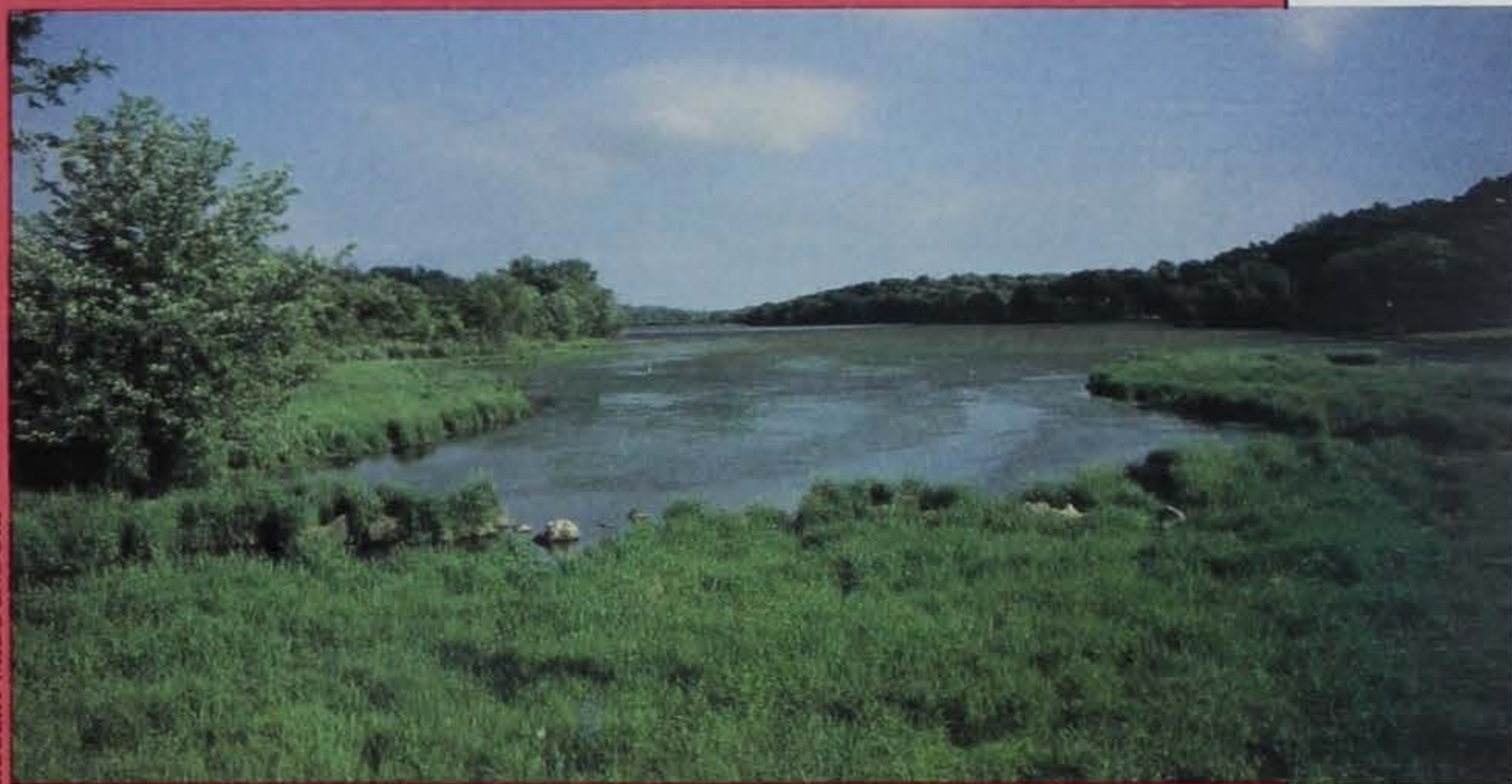
Restoration activity accelerated in 1988 when a 108-acre farm was acquired and a dam sediment detention basin was constructed to control an additional 21 percent of the runoff from the watershed area. Farmstead and dam sediment basin construction costs were \$170,000.

The lake's major physical renovation began in mid-summer 1988 with the unloading of a mechanical dredge. Pumping the lake bottom sediment began and material was forced 1,200 feet up to two abandoned quarries. Dredging continued through the winter of 1988-89 and completion is expected the end of this year. At this time, 250,000 cubic yards of sediment will have been removed, providing a greater volume of water for nutrient dilution and holding dissolved oxygen. When completed, dredging and all associated costs will be approximately \$600,000.

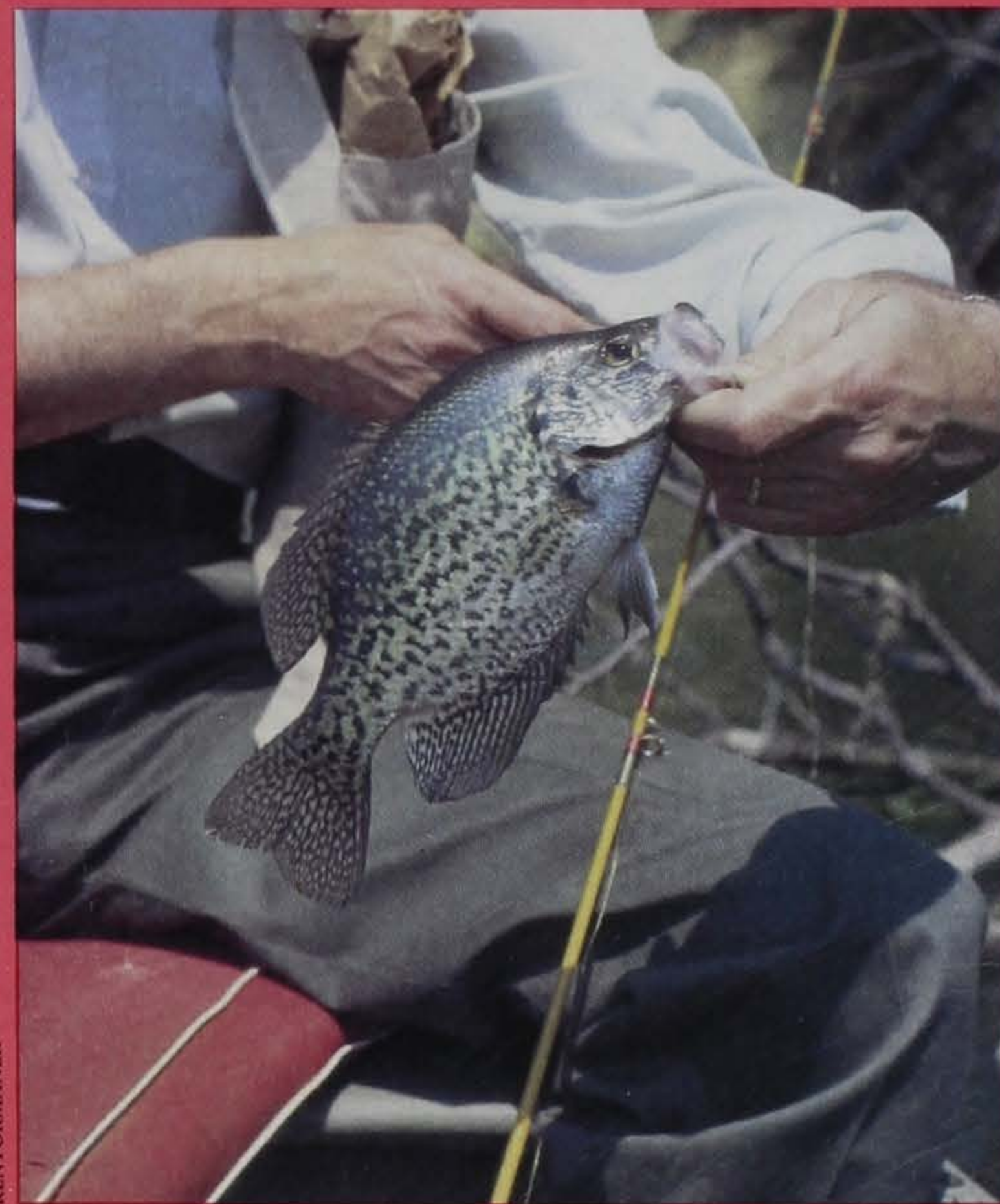
Future enhancement projects will include: placement of rip-rap for protection against shoreline erosion; a rip-rapped silt detention dike at the upper portion of the lake; construction of two handicapped accessible fishing jetties; and development of an aerated system, which should keep winter oxygen levels high, reducing the risk of winterkill.

Robert Middendorf is a fisheries management biologist for the department and is located in Solon.

ROBERT MIDDENDORF



The shallow water and dense growth of aquatic vegetation in the upper end of Union Grove Lake was evidence of a siltation problem. Restoration of the lake will bring back the high-quality fishery once enjoyed by area anglers.



KEN FORMANEK

CONSERVATION UPDATE

"Slough Bill" and Forest Reservation Update

by Steve Derman

Iowa's property tax exemption programs are going strong and are yielding big benefits to all Iowans through the protection of our remaining natural areas.

In May 1982 the Natural Conservation and Wildlife Area Tax Exemption Program, commonly called the "Slough Bill," was signed into law by then Iowa Governor Robert Ray.



Since the passage of the Slough Bill and Forest Reservation programs in 1982, more than 400,000 acres of fragile, natural areas have been protected.

The Slough Bill law provides Iowa landowners who have natural or unique "pieces" of land, including prairie, wetlands and marshes, timber and other habitat types, the opportunity to receive a direct property tax exemption incentive for protecting and preserving these native pieces of land. Also included in the Slough Bill legislation was an amendment to existing Iowa Code Chapter 161, which applies to property tax exemptions for Forest Reservations. This legislative modification increased the property

tax exemption rates for Forest Reservations to a full 100 percent exemption for qualified forest lands.

The primary objective of the Slough Bill is to protect and preserve lands in their natural state through the implementation of property tax exemption incentives for private landowners. By enlisting qualified land into the Slough Bill and Forest Reservation Programs, a landowner will help to preserve the integrity of fragile, natural areas. In heavily agricultural states like Iowa, modern-day economics places tremendous demands upon our soil resources. In many instances, landowners realize this pressure and feel the need to farm every acre possible. In such cases, even the steep sloped, highly erodible, marginally productive lands are tilled or grazed "just to pay the taxes." By providing tax-exempt status for these marginal lands, landowners feel less of a need to plow and pasture them.

The Forest Reservation exemption program is somewhat unique in comparison to the Slough Bill exemption program. Under Forest Reservation, the forested area must be at least two continuous acres in size and not less than 66 feet wide. Also, the landowner is allowed to take various forms of financial gain from the sale of forest products, including limited timber harvesting for firewood or sawlogs and Christmas trees.

However, Iowa Code Chapter 161 specifically prohibits grazing by domestic livestock and cropping on Forest Reservation lands. The Slough Bill, on the other hand, prohibits financial gain of any kind on exempted lands, including grain and equipment storage.

The following figures provide a very accurate picture of the success of the Slough Bill and Forest Reservation exemption programs to date. In the 1983 assessment year (the first sign-up year for the Slough Bill), 16,056 acres were certified and exempted compared to assessment year 1988 in which 53,466 acres were certified and exempted. Under Forest Reservation, the 1983 assessment year sign-ups totalled 146,000 acres compared to assessment year 1988 sign-ups totalling more than 347,000 acres. These are significant increases considering they span only a six-year period.

We feel that more and more Iowans have come to realize the importance of protecting our remaining natural resources. Every acre that is certified under one of these property tax exemption programs also provides additional protection to important wildlife production areas in Iowa.

To find out more about the Forest Reservation program, see your local county extension service agent. They have informational brochures available on the subject. For specific information regarding Slough Bill and Forest Reservation prop-

erty certification, contact your local county conservation board office, county soil conservation district office or Department of Natural Resources' wildlife biologist. The county assessor's office has the necessary forms you will need to request a certification inspection of your property to determine eligibility for either of the tax exemption programs.

Tips For Out-Of-State Hunters

According to the National Rifle Association of America, more than 1.4 million hunters will travel outside their state-of-residence this fall to enjoy a hunting trip. Hunters planning such a trip are reminded to review the hunter education requirements of their destination state or in Canada. Failure to be able to show proof of completing a hunter education course may prohibit the purchase of hunting licenses.

Hunter education courses for first-time licensees or those born after a certain date are now required in 39 states and seven Canadian provinces. [Iowa's law requires that anyone born after Jan. 1, 1967, must have a certificate of completion of a hunter education course to purchase an Iowa hunting license.]

It is recommended that hunters contact the fish and wildlife agency where they intend to hunt for the specific requirements of that area. If a hunter education course is neces-

sary, the hunter's home state fish and wildlife department should be contacted concerning course availability. [For information on hunter education courses in Iowa, contact the Iowa Department of Natural Resources, Wallace State Office Building, Des Moines, Iowa 50319-0034.]

October Toxic Cleanup Days

The Iowa Department of Natural Resources conducts Toxic Cleanup Days to collect quantities of less than 220 pounds or 25 gallons per person of household hazardous waste from homes and farms. Through cleanup days, residents are able to dispose of toxic waste in a proper manner rather than by common disposal methods such as spreading on the ground, flushing down sanitary and storm sewers, sending to sanitary landfills with regular household refuse, and long-term storage. Proper disposal protects Iowa's drinking water.

The locations and dates have been set for the following Toxic Cleanup Days. For more information, contact local officials or the DNR.

Council Bluffs -- Oct. 7 from 9 a.m. to 4 p.m. at the West Pottawattamie County Fairgrounds. For more information, contact Donn Dierks, City Hall, 209 Pearl St., Council Bluffs, Iowa



This 1989/90 Iowa Ducks Unlimited "First of State" Sponsor Print/Stamp featured on our cover was designed by world-renowned wildlife artist Maynard Reece and is a strict limited edition available only through Iowa DU as an exclusive promotion for the DU sponsor program in Iowa. Sponsors will receive the Reece stamp and print, a sponsor companion print of "Chickadees" by John Bald and other items. Sponsorships to Ducks Unlimited can be purchased for \$210 by writing Iowa Ducks Unlimited, 106 E. Main, Lake Mills, Iowa 50450, or by calling (515)592-3601. Make checks payable to Ducks Unlimited. MasterCard and Visa accepted.

51503, (712)328-4667.
Spencer -- Oct. 7 from 9 a.m. to 3 p.m. at the Clay County Transfer Station. For more information, contact Dan Payne, City Hall, P.O. Box 5108, Spencer, Iowa 51301, (712)264-7200.
Iowa City -- Oct. 14 from 9 a.m. to 4 p.m. at the Johnson County 4-H Fairgrounds. For more information, contact Marvin Klahn, Johnson County Health Department, 1105 Gilbert Court, Iowa City, Iowa 52240, (319)356-6040.
Davenport -- Oct. 14 from 9 a.m. to 4 p.m. at the Mississippi Valley Fairgrounds. For more information, contact Al

Moore, Scott County Health Department, 428 Western Ave., Davenport, Iowa 52801, (319)326-8618.
Charles City -- Oct. 21 from 8 a.m. to 4 p.m. at the Floyd County Fairgrounds. For more information, contact David Markle, Floyd County Board of Supervisors, Charles City, Iowa 50616, (515)228-7111.
Oelwein -- Oct. 21 from 8 a.m. to 4 p.m. at the City Street Garage. For more information, contact Walter Manchester, Chamber of Commerce, 9 First Ave. SW, Oelwein, Iowa 50662, (319)283-1105.

Waterfowl Fall Flight Forecast Same As Last Year

The U.S. Fish and Wildlife Service recently released figures that indicate this coming fall flight of ducks should be very similar to last year. Although spring surveys on breeding grounds indicated most duck populations were slightly lower than last year, improvements in precipitation and wetland habitat in late May and June in prairie Canada, Minnesota, South Dakota and Montana improved the renesting effort for some species. Consequently, Iowa duck hunters should see a fall flight of ducks that is very similar to last year.

With the duck populations not improved over last year, duck hunters should not expect many changes in the upcoming season regulations. Last fall, in response to the second lowest fall flight forecast on record, the U.S. Fish and Wildlife Service gave Mississippi Flyway states, which include Iowa, options for a hunting season designed to achieve at least a 25 percent reduction in duck harvest. These options consisted of a 30-day season, a conventional bag limit and a sunrise opener. The harvest goal was achieved, with 52 percent fewer ducks harvested in the Mississippi Flyway in 1988 compared to 1987 and 50 percent fewer ducks



Biologists predict duck hunters will find about the same season as last year. With low duck numbers and many wetlands still dry, conditions have not improved much over the preceding year.

harvested nation-wide. Species of concern, such as the mallard, pintail and blue-winged teal, experienced harvest reductions of 44 percent, 58 percent and 80 percent, respectively, in the Mississippi Flyway, compared to 1987. Canada also reduced its harvest of mallards by 47 percent nation-wide and 66 percent within the prairie pothole region of Canada.

Estimates from the U.S. Fish and Wildlife Service surveys show Iowa duck hunters bagged only 73,500 ducks last year, the lowest harvest estimate since 1962, when only 45,100 birds were killed. The mallard harvest also reached the second lowest level with 39,000 mallards harvested compared to an average of 64,200 for the past three years. The average

number of ducks killed per hunter also fell to 4.3 birds per season compared to 6 birds the year before.

"These reductions in harvest were the result of a combination of factors," said Guy Zenner, waterfowl biologist for the Iowa Department of Natural Resources. "It was really what we expected given substantially fewer ducks migrated over Iowa last fall, the hunting season was considerably shorter, and our wetland habitat was in very poor condition after a severe drought last summer."

According to Zenner, conditions have not improved much this year in Iowa. Although timely precipitation has been helping crops through another dryer-than-normal summer in many areas, little of this moisture is replenishing lakes

and marshes. "Given the present situation, both duck hunters and migrating ducks could find good habitat in short supply this fall," Zenner said. "However, that can change quickly if we get enough precipitation in September to give us a little runoff."

"On the brighter side," said Zenner, "the fall flight of geese through Iowa should be very good again this year."

The principal populations of Canada geese that nest near Hudson Bay in Manitoba and migrate through Iowa have been doing very well during the past years and production estimates indicate the fall flight should be similar to last year. "Although our Canada goose harvest was 27 percent lower last year than the fall before, I think this was more a reflection of the drop in waterfowl hunters than a change in hunting opportunity," said Zenner. "Geese can be effectively hunted over land, and the populations migrating through Iowa should provide ample opportunity. Our giant Canada geese, as well as the populations of neighboring states, continue to expand their range, and these birds are now providing some exciting opportunities that should not be overlooked by waterfowl hunters."

Snow goose populations remain strong, and a very good fall flight is again predicted. "The hunting opportunity

experienced here in Iowa will depend primarily on weather conditions to the north and our wetland habitat along the Missouri River," Zenner said. "There are plenty of snow geese for hunters to pursue. All we have to do is get them to spend a few days in Iowa on their way south."

Zenner reminds hunters that although the waterfowl hunting season may not be much better than last year, this is not the time to quit buying duck stamps. "Even if you don't plan to hunt ducks, you should still purchase your duck stamps because this is the primary source of funds used to acquire and preserve waterfowl habitat," said Zenner. "And preserving habitat is the key to the recovery of our waterfowl populations."

TIP Program Working In Iowa

Since Iowa's Turn-In-Poachers (TIP) program began in 1985, more than 3,000 telephone calls have resulted in more than 800 arrests, and nearly \$42,000 have been approved in rewards.

"The program is successful," said Steve Dermand, coordinator for the TIP program for the Iowa Department of Natural Resources. "The TIP program works in Iowa because concerned individuals care enough about our fish and

wildlife resources to take action when they witness or hear of poaching incidences."

A minimum of \$100 is paid as a reward for information leading to an actual arrest. Payments of up to \$1,000 have been made to anonymous TIP callers on cases dealing with commercial poachers, endangered species or other more severe cases. All TIP information is confidential and anyone reporting a poaching incident is guaranteed anonymity. Persons witnessing or having knowledge of violations against fish and wildlife can call the toll-free TIP hotline number 1-800-532-2020. The TIP number is monitored 24 hours a day.

According to Dermand, all funds used to pay rewards are raised by the TIP of Iowa organization, a group composed of sporting clubs, corporate members and individuals. For information on becoming a supporting member of TIP, contact Craig Karr, Box 872, Waterloo, Iowa 50704.

Recycling Tip

Save your used, folded paper and plastic grocery sacks. Contact your local community, church, service, charitable or thrift shop organizations when you drop off clothing and household items for them to use. Ask if the groups can use the sacks to pack and store the food and clothing items they distribute throughout the year.

Classroom Corner

by Robert P. Rye

Television has made viewers aware of each sport's vocabulary. For example, skiing has "slalom" courses where the skier weaves around markers in the snow or water. All outdoor activities have these unique words that are common to the participants.

See how well you can match the activity with a word from its corresponding vocabulary.

Activity	Vocabulary
1. Fishing	a. Derailer
2. Swimming	b. Gorp
3. Snow Skiing	c. F-Stop
4. Backpacking	d. Spoon
5. Rock Climbing	e. Daisy Turn
6. Birding	f. Telemark
7. Photography	g. Gunwale
8. Snowshoeing	h. Butterfly
9. Biking	i. Belay
10. Canoeing	j. Rump Patch



Answers:

1. d 2. h 3. f 4. b 5. i 6. j 7. c 8. e 9. a 10. g

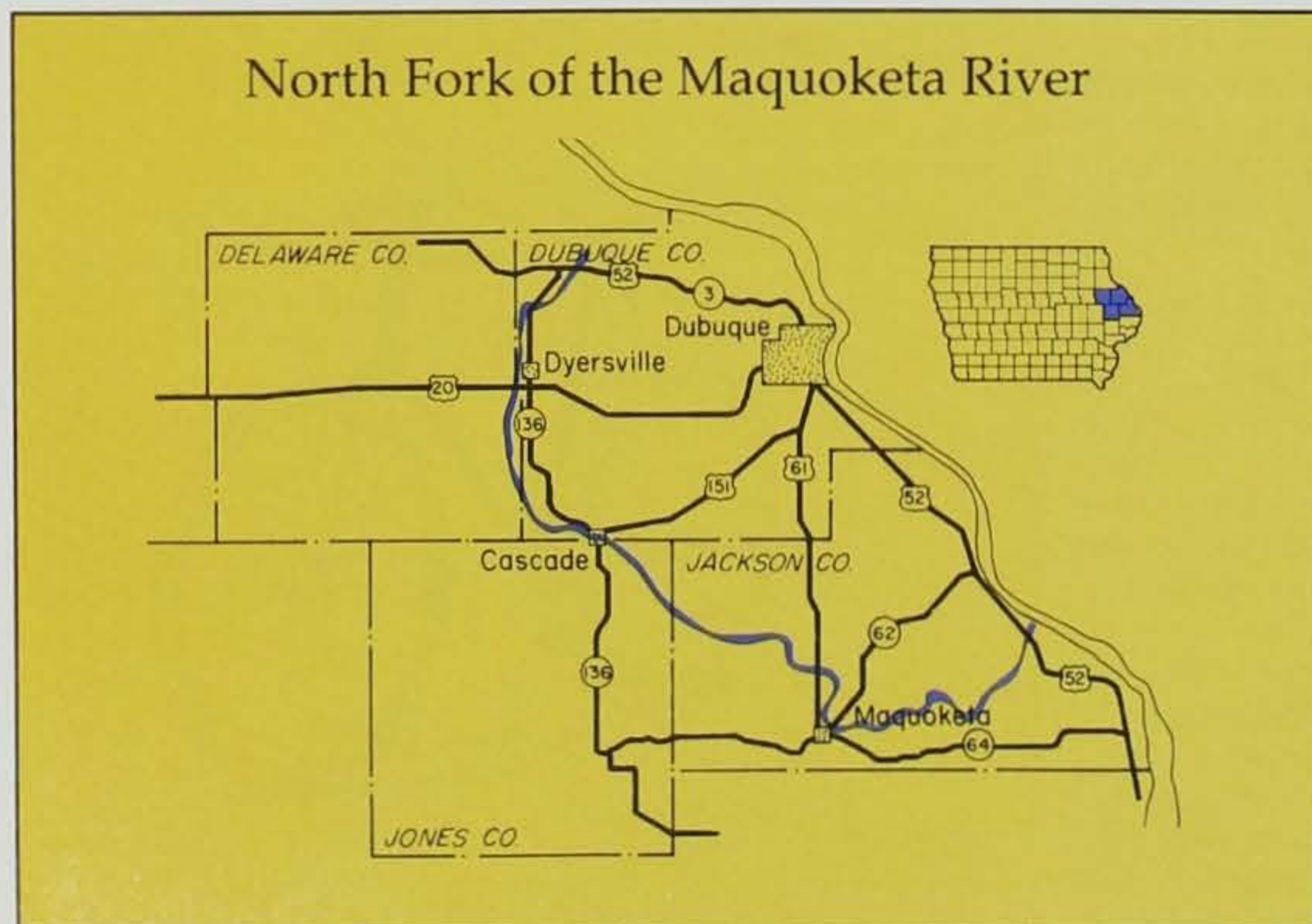
COUNTY CONSERVATION BOARD FEATURE

Fall Canoeing -- We're Not Crazy! by Ann Burns



JERRY LEONARD

While most people think of canoeing as a summer activity, with a slight change in preparation and by taking some extra precautions, canoeing can become a favorite autumn activity.



There was frost on the grass when we awoke that Sunday morning in October. In fact, record low temperatures were set all over the state that night. But, undaunted, 18 of us set out for a fall canoe trip.

After the bone-chilling night, the sun came out warm and bright, and the wind stayed calm. The fall leaves were at their peak color, and we were going to enjoy them from the vantage point of the North Fork of the Maquoketa River.

Most people think of canoeing as a summer activity. But, with a slight change in preparation and some extra precautions concerning weather and water conditions, canoeing can continue well into fall.

Summer canoeing means suntan lotion, insect repellent, and cold sandwiches and beverages. For fall canoeing, you can still use the sun block on your face, but the bug juice can stay in the bag. For lunch and snacks, forget the cold



RON JOHNSON

meat sandwich and cold beverages. Try a thermos of hot vegetable soup, lots of crackers, hot chocolate, coffee, or tea. For snacks, bring high-energy munchies such as candy bars, peanuts or your favorite *gorp* (good old raisins and peanuts) recipe.

Selecting your clothing for fall canoeing is very important. Boots that are waterproof from toe to above the ankle will keep your feet dry and warm when you put in and take out your canoe or if you misread the channel and have to get out and push. Pack along lighter shoes or boots in waterproof bags for exploring when you get off the river.

A wool sweater or jacket and pants will keep you comfortable on a 49-degree day when your aluminum canoe pulls heat away from your body at your major contact point with the canoe. A seat pad will also help in this area. Should you happen to take a spill, wool clothing will help maintain your body heat even when it is wet. An extra set of clothes, packed in a waterproof bag, is added insurance. Take along gloves and a hat.

Most importantly, take along your life jacket. It serves as one of your thermal layers, in addition to being a lifesaver.

We were not the only creatures on the river that day. Red-tailed hawks soared on the thermals above the bluffs along the river. Squirrels and late-migrating songbirds provided entertainment, color and sound along the river banks. Wood ducks and deer were slow to take off — perhaps surprised to see people on the river at this time of year.

So, if you enjoy canoeing, do not limit yourself to one season. Change the clothes you wear and the food you pack, and give fall canoeing a try!

Author's Note: My family's favorite *gorp* recipe says to mix together two cups each of raisins, dry roasted peanuts and plain M&Ms.

Ann Burns is a naturalist with the Jackson County Conservation Board.

CALENDAR

OCTOBER 14

Hawk Watch. Stone State Park in Woodbury County is the location to view hawks as they migrate through the state. The park overlooks the Missouri River Valley. For more information, contact Stone State Park, Rte. 3, Sioux City, Iowa 51103, (712)255-4698.

OCTOBER 14 AND 15

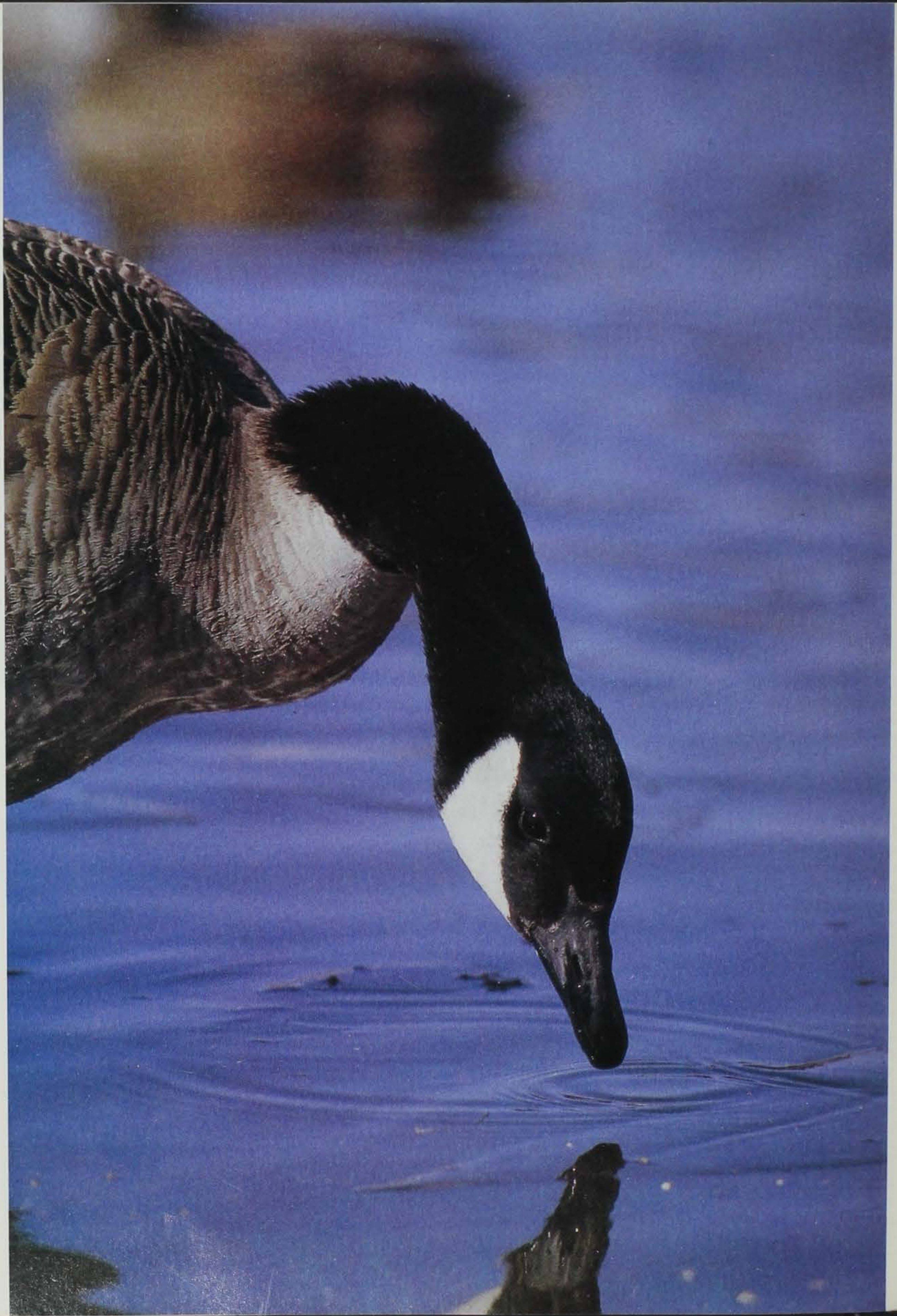
Heritage Days. Osborne Pioneer Village in Clayton County is the location for pioneer crafts and skills. For more information, contact Clayton County Conservation Board, Osborne Conservation Education Center, Elkader, Iowa 52043, (319)245-1516.

OCTOBER 14 AND 15

Forest Crafts Festival. A festival of wood crafts and demonstrations, chain saw carvers, buckskinners, and an operating sawmill at Lacey-Keosauqua State Park in Van Buren County. Smokey the Bear will also be on hand during the festival. For more information, contact Lacey-Keosauqua State Park, Box 398, Keosauqua, Iowa 52565, (319)293-3502.

OCTOBER 21 AND 22

Halloween Night Hike. Nature hike with educational skits about the environment and natural resources. Rain date of October 28 and 29. For more information, contact Todd Von Ehwegen, Sac County Conservation Board, Rte. 3, Box 96A, Sac City, Iowa 50583, (712)662-4530.



Honkers!

Each autumn the dark geese arrive -- pouring in on the clean, sharp edge of the year's first major cold snap.

These are the Canadas, and as their discordant bugling reaches your ear, it serves notice that the change of seasons is now official. The clarion, lonesome sound of traveling geese possesses a certain sense of urgency that prickles the skin, quickens the pulse, and if you happen to be a goose hunter, makes work or sleep next to impossible.

Many types of Canada geese can be seen over Iowa this month ranging from the tiny, arctic-nesting Richardson's goose to our own massive home-grown giants. But regardless of size and origin, all Canadas share the distinction of being the most sought-after trophy in the world of waterfowling.

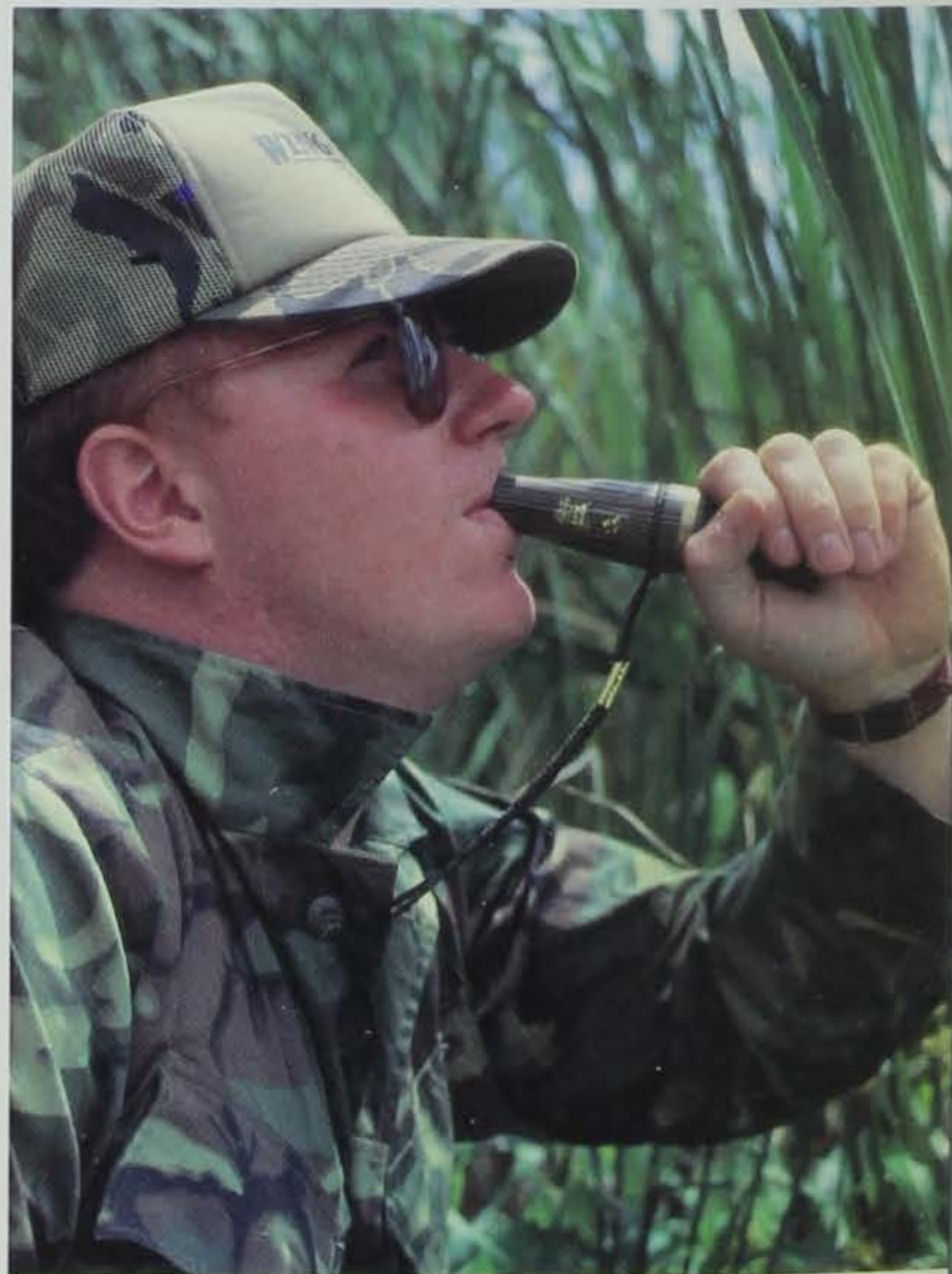
October is the Gunner's Moon, and as the migration swells to full tide, it becomes a spectacle that can be witnessed but never adequately described as thousands upon thousands of honkers assemble on favored waters and feeding areas. It is here that the hunters wait in hand-made marsh boats, in shoreblinds, and in corn stubble -- all in breathless anticipation of seeing, hearing and perhaps even bagging the continent's most majestic gamebird.

But even though their numbers are great, the dark geese remain wary, aloof and incredibly hard to take. And in spite of the frustrations, it is the secret wish of every goose hunter that the magnificent Canada forever remains just that way.

Story and photos by Lowell Washburn



Canada geese can be hunted effectively over land or water, giving ardent waterfowl hunters opportunities even in drought conditions.

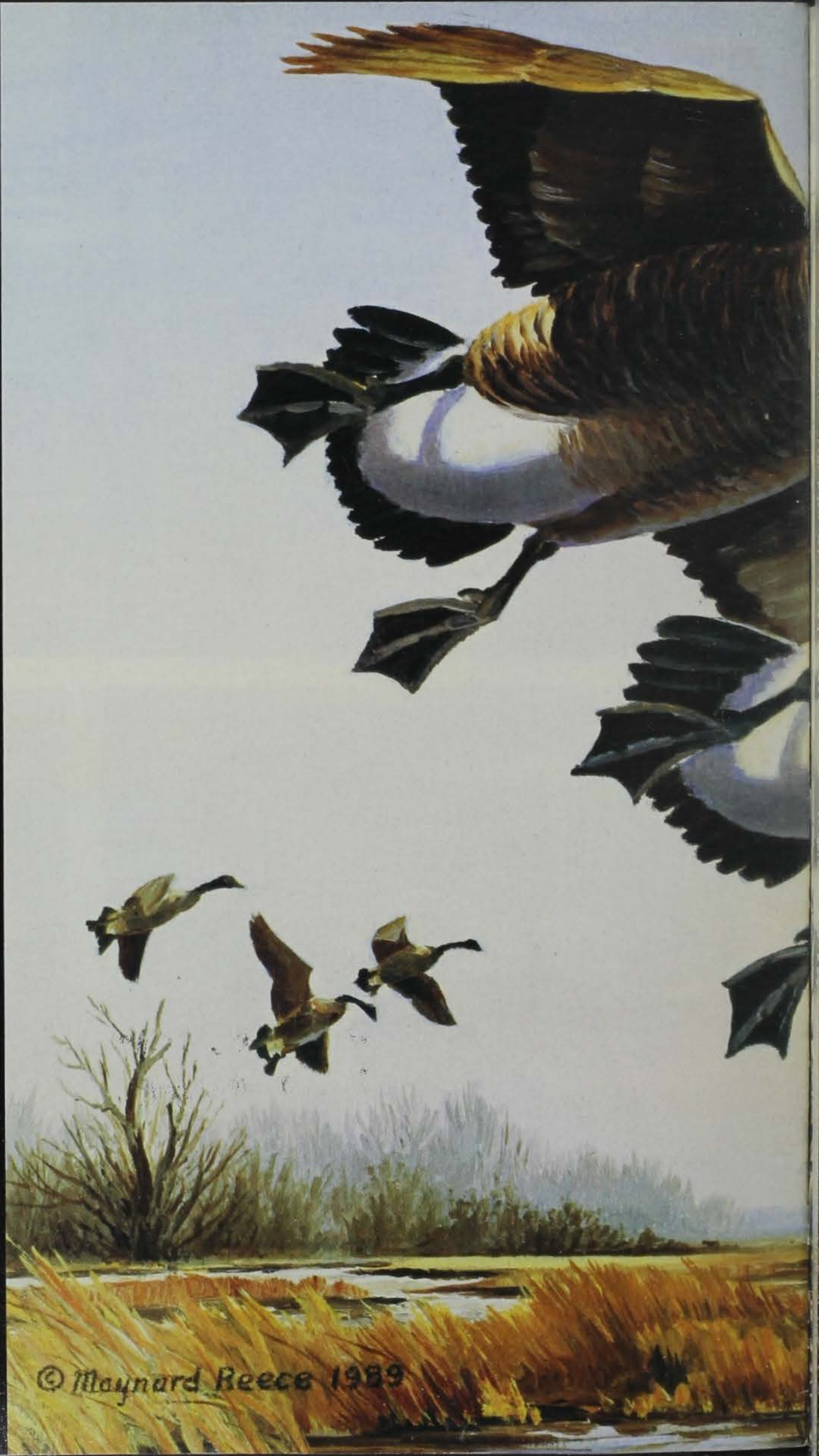




Heralding the change of seasons, they move through the state in their honking v-formations. Canada geese are perhaps this continent's most majestic gamebird.



Richardson's goose



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