

JULY/AUGUST 1996

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by Casey L. Gradischig.
Back -- Sunset Fishing by Gary Winch.



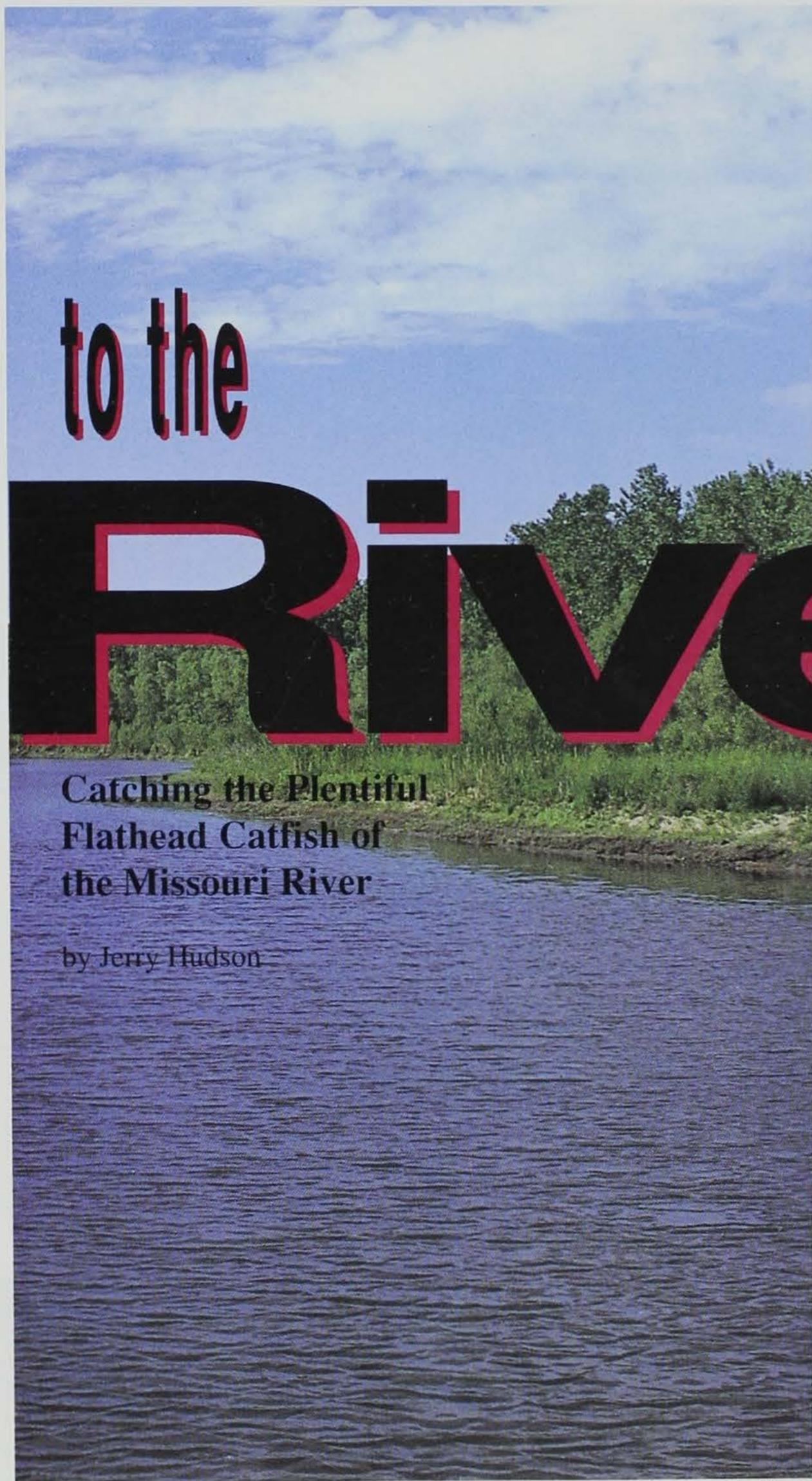
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to the River

Catching the Plentiful Flathead Catfish of the Missouri River

by Jerry Hudson

Dusk had already given way to darkness by the time we arrived in Council Bluffs for our first flathead fishing excursion of the season. It was already mid-July and the weather was hot and humid -- just right for trophy flathead catfishing. Steve, Larry and I planned this trip several weeks in advance so everyone had enough time to get organized and select the area we would fish. A location had been chosen along the Missouri River, downstream of the Council Bluffs waterworks. Several large flatheads had been caught here earlier in the summer.

After arriving at the rendezvous site, we unloaded our gear and hiked down the riverbank to a wingdike offering an excellent place to fish. River current swept along the front side and around the dike's end, forming a deep scour hole -- prime habitat for holding large fish. Everyone baited up with live green sunfish and cast into the fast current off the end of the dike,

Ron Johnson

letting the bait settle to the bottom. We settled back and waited for a big flathead to take our bait. Fishing turned out to be quite slow. We had several good strikes, but never hooked or landed a trophy flathead that evening. At half past midnight we decided to pack up our fishing gear and head for home. Not every fishing trip produces big fish, but this story does serve to illustrate several points.

Fishing for flathead catfish can be fun and exciting in the Missouri River. More than any other Iowa species, the flathead offers anglers the greatest possibility of hooking a really big fish. Flatheads grow rapidly, reaching weights of nearly 100 pounds. The Iowa record is 81 pounds. Flatheads are native to this region and are found abundantly throughout most of the middle and upper reaches of the Missouri River. Sometimes referred to as yellow cats, river mudcats or shovel nose catfish, flatheads have a flattened head with a lower lip extending beyond the upper lip and a slightly rounded tail. Colors vary from olive-brown to yellow over the upper portion of the body in adult fish, and olive-brown over the back and sides interlaced with dark spots in younger fish.

Flatheads are usually associated with medium and large rivers having moderate to heavy current. They prefer to inhabit deep pools at the end of wing dams (trash holes) or long open pools formed along the outside bend of a river. Here, they move from deeper water to roam the shallow flats or riffle areas in search of food. Flatheads are an aggressive predator, feeding primarily on live fish and crustaceans. They will occasionally take a dead bait if it has not been dead more than a day or two. Rotting flesh, stink baits, blood baits or other smelly concoctions which attract channel catfish usually are not effective on flatheads. Flatheads are mostly nocturnal in habit, but they also feed during the late afternoon and early morning hours, depending on water conditions and weather.

Keying in on these factors can help improve one's fishing success. With this in mind, let's look at fishing tactics employed by a couple of experienced



Jerry Hudson

■ Aggressive in nature, the predatory flathead catfish is attracted to live bait and crustaceans. Early morning or late-night fishing can yield trophy-sized flatheads of 20 pounds or more from the Missouri River waters.

flathead anglers. Keith Thompson of Riverton fishes the Missouri River near Bartlett and catches many flatheads up to 9-1/2 pounds. "I am a morning fisherman," says Thompson, "I like to be on the river by 7 a.m. and will continue to fish until 1 o'clock in the afternoon." However, if trophy-sized flatheads are desired (20 pounds or bigger) Thompson recommends late night or early morning hours as the best times to fish.

Like other anglers, Thompson's

choice of fishing location in the Missouri River is deep holes behind wing dams or deep pools along outside bends in the river, where the river bend is covered with large rock. He says he prefers fishing the rock wall as "a matter of convenience."

Choice of bait varies greatly with season and weather conditions. In late spring or early summer, Thompson and many of his flathead fishing friends use night crawlers and catch many flatheads in the four- to six-pound range. "I usually

prefer 4- to 6-inch green sunfish or goldfish, but also use 8- to 10-inch creek chubs for bait." Bait this size is hooked through the back and behind the dorsal fin using a 3/0 hook. Just enough weight is used to get the bait to the bottom of the pool.

When asked about his fishing gear, Thompson says he uses a 6-1/2 foot heavy-duty spinning rod and a heavy-duty spin-casting reel filled with 20-pound test line. This type of reel allows Thompson the option of releasing the line with a touch of a button when a strike occurs, giving the flathead time to take the bait before setting the hook.

Kenny Smith of Council Bluffs is another dedicated Missouri River flathead fisherman. Smith's ability to read the river and consistently catch flatheads comes from many years of fishing

experience. "My flathead fishing usually begins in early summer and continues through fall," says Smith. "On my days off, I'm usually on the river before daylight and will continue to fish till about 1 p.m. No fishing is done in mid-afternoon, but I occasionally fish from late afternoon until dark."

Experience leads Smith to fish the trash holes or deep pool below wing dikes. He also likes to fish deep holes containing snags along the outside bend in the river. Last year, he caught many fine flatheads in this habitat. His biggest flathead topped 29 pounds.

Bait selection is limited for this flathead fishing enthusiast. "My favorite bait is a one-inch strip of flesh, cut from a freshly caught drum." Both sides of the drum are filleted and the meat is cut into one-inch strips

leaving the skin on the meat. Only one strip at a time is placed on a 2/0 crooked shank hook (turn style) and fished in holes which drop off to 10 or 15 feet of water. "I prefer to use this style hook," says Smith, "it helps increase the number of fish hooked. I also use small bluegill for bait if I have the time to get bait before I go fishing."

While some anglers miss the big fish because they aren't using heavy enough gear, Smith makes his big

catches using a 5-1/2-foot medium-heavy fishing rod and a heavy bait-casting reel wound with 30-pound test line, and just enough slip sinker to get the bait to the bottom. When a bite occurs, he lowers the rod tip or releases the line so the flathead can run with the bait before setting the

hook. To prevent the line from snagging, thereby wasting valuable time, it's important to cast downstream with this type of equipment.

The tactics employed by these experienced anglers work well in the Missouri River as well as any other river system containing flathead catfish. While devotees to this sport may not be numerous, flathead fishing is gaining popularity each year. Since they were removed from the commercial fishing list several years ago, flatheads have increased substantially in the Missouri River. If you're ready to try for a trophy flathead, the Missouri River is hard to beat.

Jerry Hudson is a fisheries management biologist in Lewis.

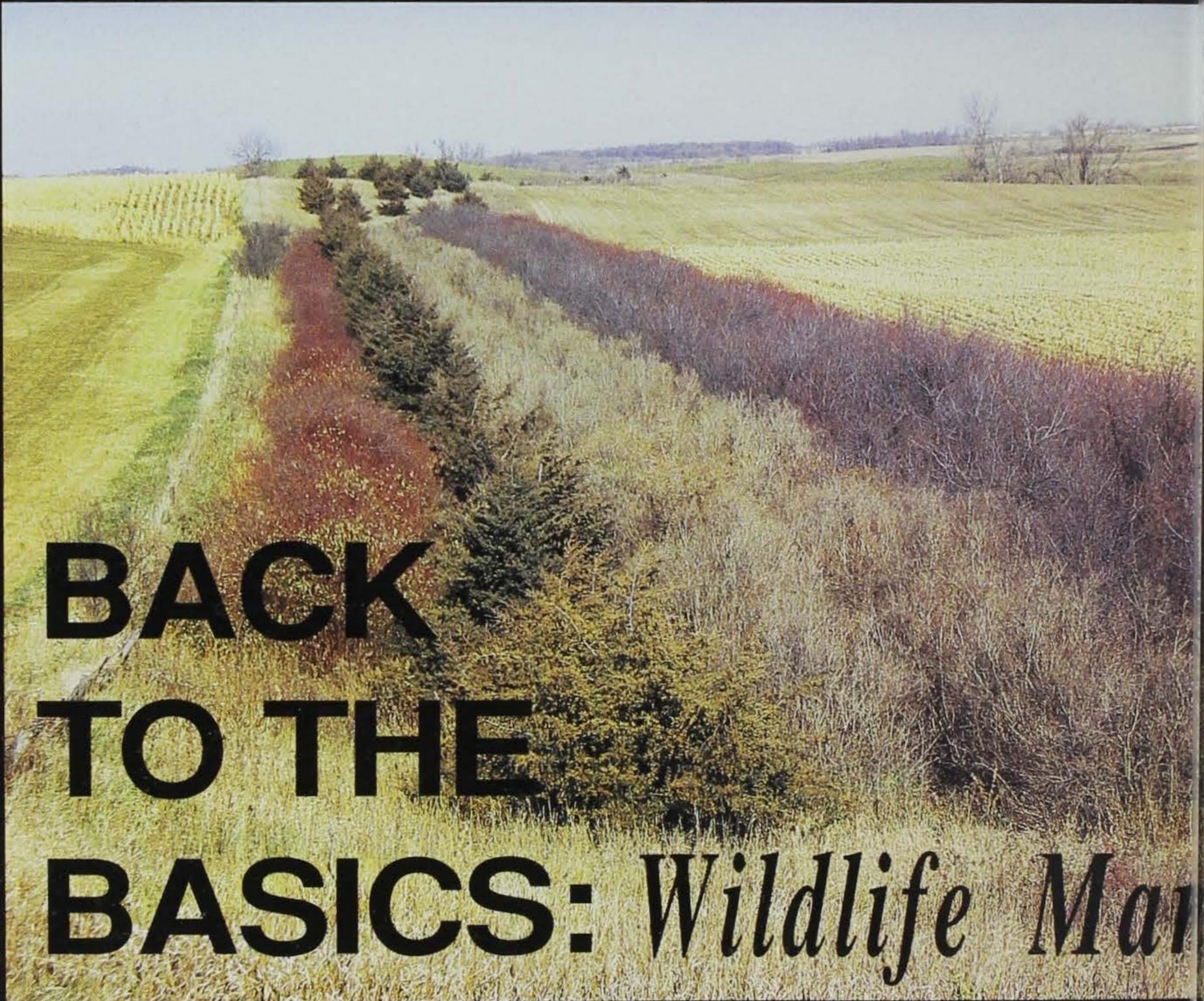
"On my days off, I'm usually on the river before daylight and will continue to fish until about 1 p.m."





■ Usually associated with medium to large rivers with moderate to heavy currents, flatheads generally inhabit deep pools at the end of wing dams, roaming to shallow flats or riffle areas in search of food.

Jerry Hudson



Doug Harr

BACK TO THE BASICS: *Wildlife Management*

by Doug Harr

When it comes to improving any tract of land, large or small, for wildlife, almost everything revolves around providing their basic habitat needs. The very word "habitat" is best defined as what any living creature needs to survive -- namely, food, water and shelter. If this were a college course, it might be listed as "Principals of Wildlife Management 101: Habitat Development." While it's fairly

obvious that providing suitable habitat is the only sure way to produce wildlife, human nature sometimes leads us on tangents which may or may not have much value to wildlife. Perhaps, then, it's time to take a little refresher course in how to best provide for the needs of wildlife, both game and nongame species. The following concentrates on time proven ingredients, it also incorporates some recent thinking regarding fragmentation of habitat and its effects on wildlife.

Managing Woody Cover Components

Basic to any discussion of wildlife habitat is cover — the places where animals can find sites for nesting, protection from predators or shelter during inclement weather. Cover may be classified by many types, but it is most simply divided into categories of woody or grassy cover.

Woody cover can include large blocks of natural forests, corridor-like riparian (streamside or lakeside) woodlands, or artificial plantations of trees and shrubs, such as farmstead windbreaks, field shelterbelts or fruit and nut tree plantings. Natural woody cover is of tremendous importance to

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Management



eight rows wide and incorporating multiple rows of evergreens. On many public wildlife areas, large, rectangular blocks of densely planted trees and shrubs are the norm for incorporating shelter needs into wildlife management plans. Private landowners should consider similar designs when planning new windbreaks. The DNR offers a cost-share incentive program covering up to 75 percent of the establishment costs for landowners wishing to plant new groves of 8 to 14 rows according to certain design requirements. An informational brochure and planning assistance are available from the nearest DNR wildlife management biologist.

When managing natural woodlands, care must be taken not to jeopardize the value of those woodlands to the diverse wildlife inhabiting them. Riparian timber, for example, tends to lie in long, continuous strips along



Roger A. Hill



Roger A. Hill

white-tailed deer, wild turkeys, ruffed grouse, cottontail rabbits and squirrels. In addition, woodlands host a huge variety of nongame birdlife, especially birds of prey, woodpeckers and neotropical migrants such as warblers, tanagers, orioles and thrushes. Artificial plantations similarly benefit a large variety of game and nongame species.

Woody cover, whether in plantations or natural stands, should be managed in large blocks whenever possible. Windbreaks are most effective for slowing wind and stopping snow from around farmsteads when planted large and thick; likewise, they provide the best shelter for wintering wildlife when planted at least

along rivers, streams and lakes. These are important travel corridors used by forest wildlife for moving between larger habitat areas. If portions of the timber are cleared for cropping, improving pastures or housing construction, these important habitat links are broken and the ability to support wildlife deteriorates.

In larger blocks of natural forest, preventing fragmentation is critical to many creatures living there. Certain warblers and thrushes require huge, unbroken expanses of timber to meet their reproductive and foraging needs. Permanent openings created in large blocks of timber quickly degrade

habitat for these birds and attract brown-headed cowbirds. These "parasitic nesters" lay eggs in the nests of other species and are considered to be a primary cause of recent population declines in many colorful songbirds.

At the same time, there also can be benefits to artificial openings in woodlands. Ruffed grouse, native to northeastern Iowa, thrive around openings where sunlight encourages woody regrowth within mature forests. Small clearcuts can be created, allowing aspen or other fast-growing woody species to grow back. Grouse readily populate such habitat to feed on the bud tips of new vegetative growth. Deer, likewise, are attracted to brushy openings in older timber. If such clearcuts are reforested quickly, either by replanting or by natural regeneration, long-term harmful effects on neotropical songbirds may be avoided.

■ Larger blocks of natural forest or woody shelter are critical to many creatures, from songbirds to wild turkeys (top). Permanent openings quickly degrade habitat and attract brown-headed cowbirds (upper left).

Roger A. Hill



Managing for Effective Grassy Cover

Properly managed grasslands can make a great difference in wildlife numbers and variety. One need only witness the effects on pheasants as a result of the Conservation Reserve Program, or CRP. This U.S. Department of Agriculture program to retire and seed highly erodible croplands in return for an annual rental payment to landowners has, since 1986, boosted the Midwest's pheasant population to the highest levels in three decades. After a protracted battle in Congress this year, a new farm bill emerged and was signed into law, promising to continue CRP past the turn of the century. Some of the lands currently enrolled will revert to crop production soon, given new changes in CRP eligibility rules and recent near-record commodity prices. Nevertheless, other steep or less farmable lands may be newly enrolled in CRP, with a national goal of keeping approximately 36 million acres in the program. How might these acres — mostly grass — best be managed to protect soil and water while yielding a wildlife bounty?

Grasslands, whether in CRP, permanent pasture, on public lands for wildlife production and hunting, or planted as prairie restoration, all have at least two things in common -- properly managed grassy cover will

house a great variety of birds, mammals, reptiles, amphibians and insects, and the bigger the tract, the better it will be for most wildlife.

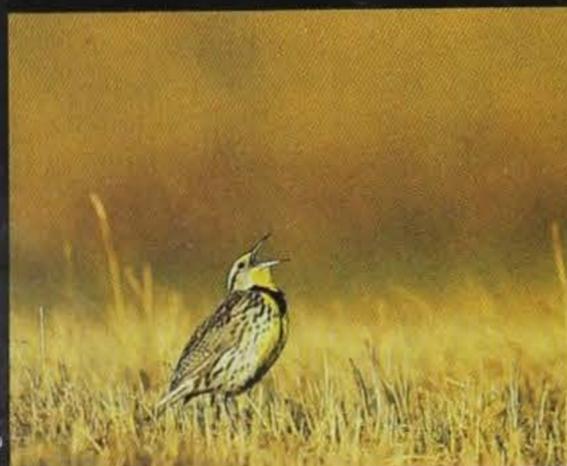
Just as with unbroken forest expanses, large, unfragmented blocks of grassland are best. Scattered wetlands within large grassy expanses are acceptable or even beneficial, but introducing woody cover to grasslands often creates undesirable results. Of all neotropical migrant songbirds, some of the worst declines have been noted for species such as bobolinks and dickcissels. Once again, at least part of this decline is attributed to grassland fragmentation and the resultant increase in cowbirds.

Gamebirds such as pheasants do best in large grasslands unbroken by trees, provided there are weedy patches and nearby feeding areas. Gray partridge thrive in expansive tracts of shorter grasses. There always are exceptions to rules, and the bobwhite quail is one of those. These popular gamebirds prefer their habitat diversified by broken, brushy woods and small cropfields, all interspersed with patches of grasses or annual weeds. When managing for any wildlife, there often will be trade-offs. If the goal is reduced habitat fragmentation, creatures such as bobwhites may realize lower populations.

Good grassland may be diverse

■ Stands of mixed prairie grasses and wildflowers offer more diverse cover than a monotypic planting. However, when it is desirable to maintain a single-species seeding, switchgrass might be a better alternative for wildlife cover.

Roger A. Hill



without being fragmented, and this spells better habitat for wildlife. Early records show that Iowa's historical tallgrass prairie provided for a veritable cornucopia of wildlife — everything from bison and sandhill cranes to prairie chickens and hognose snakes. The reason creatures existed in such variety was the grassland community's diversity. Native prairie did not consist only of a vast sea of grass; rather, it was a wonderful mix of plantlife dominated by a few spectacularly large and colorful grasses.

One problem with past grassland management has been the human tendency toward monotypic, or single-species, plantings. Kentucky bluegrass and smooth brome grass were planted widely for pastures and hayfields soon after Iowa's settlement. Yet, neither grass is native to the state, and both exhibit growth in the spring or fall



months, instead of during our warm summers, when high-quality cover is crucial to wildlife's reproductive and brood-rearing needs.

While bluegrass often is of minimal use to wildlife, smooth brome or other exotic grasses, when planted with a legume such as alfalfa, can offer suitable nesting cover. Pheasants and some species of waterfowl, along with meadowlarks, vesper sparrows and meadow voles, will do quite well in this nesting cover if it is left unmowed until at least mid-July. When it is desirable to maintain a single-species seeding, switchgrass might be a somewhat better alternative for wildlife cover. This relatively easy-to-grow, tall, native grass provides improved nesting, escape and especially winter cover for pheasants, and is sought by deer and several species of songbirds. It appears less beneficial for nesting

ducks than a brome-alfalfa mixture, however. Switchgrass does have an advantage in choking out thistles and other noxious weeds once the grass reaches its mature height of three to five feet.

A mixed seeding of several different native grasses generally is best for most wildlife. Species selected should include both tall and short grasses, as well as cool-season and warm-season types. Add a few species of wildflowers, and what results is something that, while not a recreation of historic prairie, does provide some of the true prairie's diversity and greatly enlarges the scope of wildlife using the area. A late-summer hay-cutting certainly is permissible with switchgrass or mixed prairie grass seedings after most wildlife nesting is complete. These plants usually demonstrate enough late regrowth to still

provide adequate winter cover, and may even be enhanced in the long run by such a light mowing regimen.

Grazing native grasslands can be compatible with good wildlife management, too, but proper timing is a crucial element. Native grasses are best used in a pasture rotation, allowing livestock to forage on brome or bluegrass in spring, early summer and fall, while moving them into native pastures or seedings for a few weeks in mid- to late-summer. It is critical that native grasses not be grazed to less than about eight inches high. Even though initial establishment of mixed native grass seedings is more difficult and costly, they have become the cover of choice by many professional wildlife managers, because of the ease of long-term management, reduced weed control needs and increased benefits to wildlife.



Ken Formanek

Effective Use of Food Plots

Food certainly is critical to assuring wildlife survival and productivity, but its importance can be over-emphasized. In a cash-grain economy such as Iowa's, it's seldom difficult for wildlife, especially traditional game species, to find an adequate food supply. Even in the barren, post-harvest landscape dominating much of

north-central Iowa each winter, wildlife can find plenty of spilled corn or other suitable waste in cropfields. The limiting factor affecting most species, here, is lack of suitable shelter. Still, providing food for wildlife is a satisfying experience for many people, so it is important that design and placement of food plots benefits rather than

harms wildlife.

In open country, food plots should be of substantial size and depth to provide a safe place to feed as well as the food itself. Three rows of corn might prove a death trap in a howling midwestern blizzard, but ten acres left standing in a wide, rectangular block provides adequate shelter while pheasants, deer and other wildlife



Doug Harr

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feed. Food plots are better used if planted near permanent winter cover, such as a woodlot or windbreak. Due to the fragmentation factor, now it is thought best not to clear patches for food plots in the middle of large timbered tracts. Corn left standing in existing croplands near the edge of existing forest is adequate for turkey and deer without causing habitat

degradation for already-disappearing songbirds. The normal practice on Iowa's public wildlife management areas is to require some standing row crops to remain unharvested through the winter months. Farmers with contracts on DNR croplands are permitted to salvage any remaining crop the following spring.



Bruce A. Morrison



Providing for Water Needs

With the exception of aquatic species, the water needs of most wildlife can be met naturally, even in areas of intensive farming. Streams, small farm ponds, even rain, snow and dewfall adequately supply upland and woodland wildlife. While not true in all parts of the nation, Iowa receives sufficient precipitation for this purpose. Waterfowl, amphibians and other creatures, however, often need special management consideration.

North-central Iowa once boasted millions of acres of wetlands, primarily in the form of shallow marshes, larger sloughs and lakes. But in order to propel the state's agricultural economy, the vast majority of these wetlands were drained early this century. Waterfowl and other wetland wildlife, from dragonflies to marsh wrens, suffered precipitous declines in local populations. To provide for the needs of aquatic species, today it often is necessary to restore, enhance or even create wetlands.

Although this might sound like a more insurmountable problem than supplying food and cover, wetland habitats are not always difficult or expensive to provide. In areas of northern Iowa where subsurface tiles

■ A few acres of corn left standing adjacent to woodlots or other dense cover make an excellent food plot used by many species of wildlife.

Adding It All Up

Providing for wildlife is not difficult, nor must it be expensive. All it takes is a little planning and keeping in mind the basic elements required for good wildlife habitat. And while it helps if the tract to work with is large, even small patches of habitat will serve the needs of some creatures, pheasant or field sparrow, deer or dickcissel.

Habitat size and configuration may restrict exactly what species may live there, but with some careful planning it is possible to tailor almost any site to at some of the wildlife desired.

Doug Harr is a wildlife management biologist for the Big Sioux Wildlife Management Area and is located in Rock Rapids.

drain agricultural lands, the simplest wetlands may be restored by plugging the tile, a task costing a few hundred dollars at most — not much more than establishing a good native grass planting. More elaborate marsh restorations or creations are possible, using earthen dikes and various types of water control structures. These are common developments on lands owned by Iowa DNR and the U.S. Fish and Wildlife Service across Iowa. On public lands, complexes of uplands interspersed with several wetlands of varying size and depth can provide for the needs of almost every native aquatic species.

DNR Wildlife Bureau staff can advise landowners desiring wetlands for their property. Biologists can design the wetland and help secure any available cost-assistance of construction. In some instances, restored wetlands might be eligible for various conservation easement, which can pay the landowner anywhere from 60 to 90 percent of the property's value in exchange for an agreement to permanently protect the marsh. Some easements may be custom tailored to the landowner's needs, with increased use restrictions normally resulting in higher easement payments. The beauty of wetland easements is that landowners are paid for providing wildlife habitat, while retaining ownership of their property.

■ Restoration of this two-acre wetland involved a simple tile plug and cost only \$200. A wetland easement now offers permanent protection for the marsh.

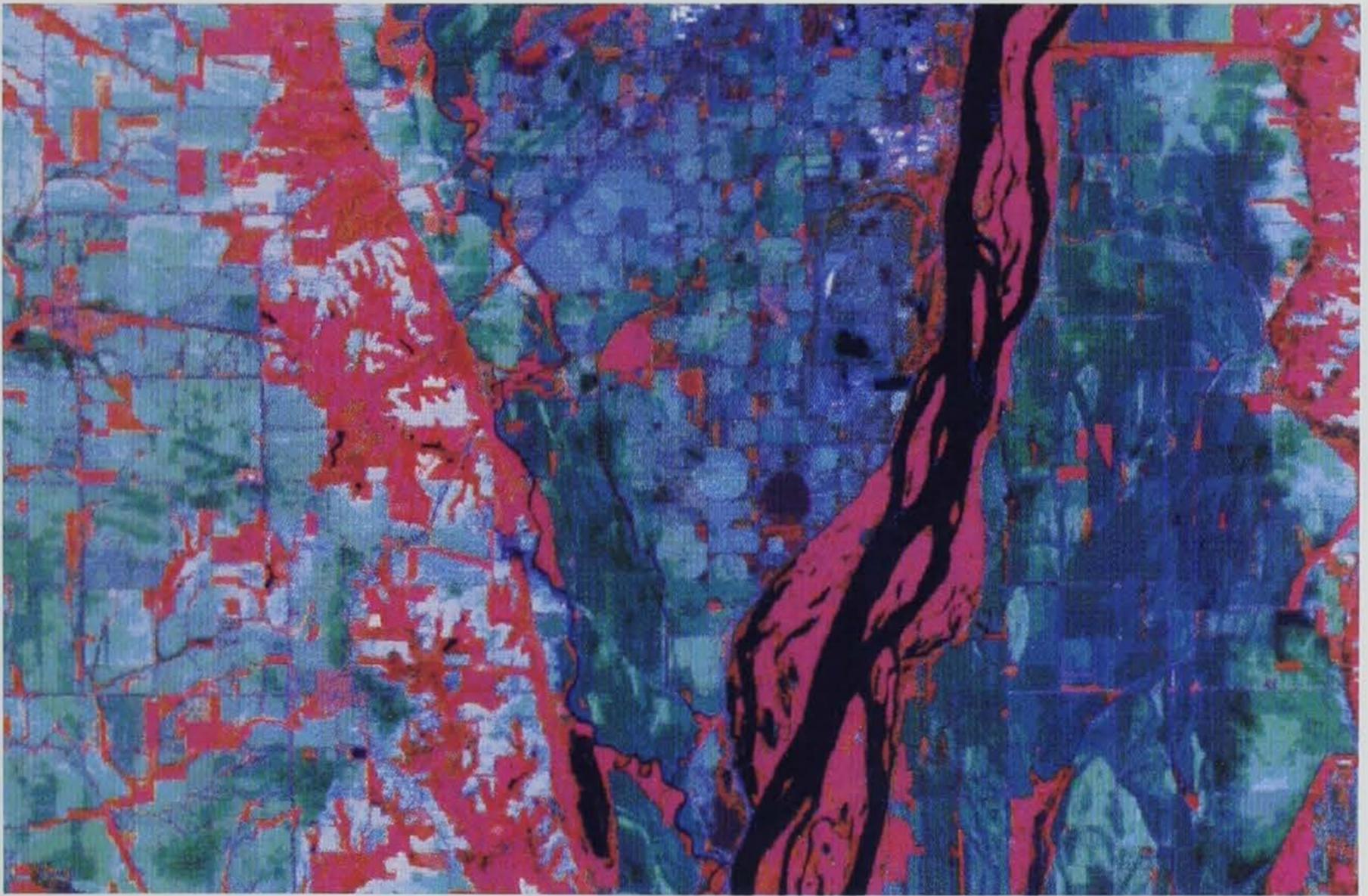


Doug Harr

MAPPING

FOR THE NEXT CENTURY

Satellite images and computer technology add new dimensions to detailed geologic mapping of Iowa



SATELLITE IMAGE: Taken on May 27, 1989, this color-infrared Landsat TM image of the Mississippi River valley shows the distribution of vegetation (red), bare soil (light blue-greens), and wet soil (dark blue-greens). Sandy, better-drained materials (purple) and open water (black) also can be distinguished. These patterns help to differentiate deposits representing thousands of years of floodplain history. Circular features are center-pivot irrigation plots. This image was used to confirm and adjust geologic contacts mapped on page 17.

by
Greg A. Ludvigson
E. Arthur Bettis III
Bernard E. Hoyer

Satellite Images of Iowa's Landscape

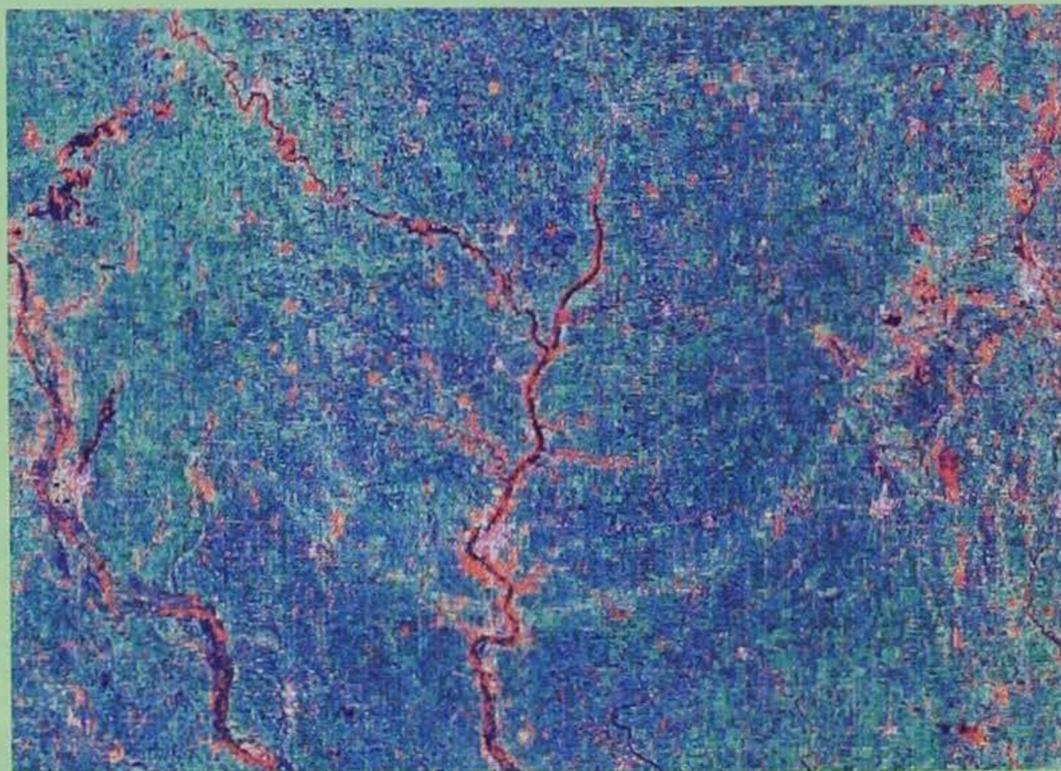
by James D. Giglierano

Satellite images taken from more than 400 miles in space provide a unique perspective on Iowa's landscape. Broad geologic features can be seen underlying farm fields, forests, roads and towns. Geological forces have modified these landscapes for thousands of years, while human activity is a recent, but also significant agent of change.

These views were taken by the Landsat 5 spacecraft and are shown in "false color." Blue and green represent bare soils with varying degrees of moisture. Pink and red indicate healthy pastures and forests. Open water is black, while roads and towns are white and magenta.



■ The wide Missouri River valley in Fremont County was excavated by glacial meltwaters. Historically, the river has meandered from side to side, leaving the scour marks evident here. Today, the river is confined to a narrow portion of its floodplain by engineered levees, but the Flood of '93 again covered much of the area between the bluffs.



■ This June 1991 image reveals the broad arc of the Algona glacial moraine across Kossuth County. Remnants of countless lakes and wetlands are seen as darker areas beneath the bare soils of drained and plowed cropland.

Passage of the National Geologic Mapping Act of 1992 provided a stimulus for detailed geologic mapping of the U.S. directed towards the resolution of environmental problems. This decade-long mapping program is administered by the U.S. Geological Survey and includes a STATEMAP component which offers financial support for geologic mapping. During the first year of the program in 1993-94, the DNR's geological survey bureau (GSB) mapped approximately 110 square miles of the Mississippi River valley in southern Muscatine and northern Louisa counties. Tools unavailable in the earlier years of traditional geologic mapping were applied. These include satellite images to assist with mapping boundaries between different geologic deposits, and computer technology to convert maps to digital databases, which then can be transferred in electronic form, printed as colored maps, combined with other geographic information, and be easily updated.

Iowa's geologic maps display the location and distribution of various rock types, faults and sediments deposited by marine seaways, glaciers, wind, streams and hillslope processes. They also convey information about the three-dimensional geometry of these deposits and their relative age relationships. Such qualities make geologic maps valuable to scientists in understanding the Earth's composition and structure, processes and history. They also are valuable to society, which lives and depends on geologic materials. People need answers to questions such as the best place to locate a landfill, the extent of groundwater contamination problems, sources of road-building aggregate and geologic hazards affecting subdivision development.

Geographic information systems (GIS) combine computer mapping and assorted databases. This technology can be used to prepare customized maps. Features such as water wells and core holes may be selected for display based on their depth, construction, capacity or use -- whatever is recorded in the database about them. Similarly, streams, sinkholes, geologic contacts or faults could be selected by a database criterion. Lakes, sand dunes or bedrock units may also be selected based on attributes that describe them, such as water quality, thickness or permeability. The result is maps may be constructed for one general purpose but can be converted quickly into another, more specialized purpose if appropriate database is available.

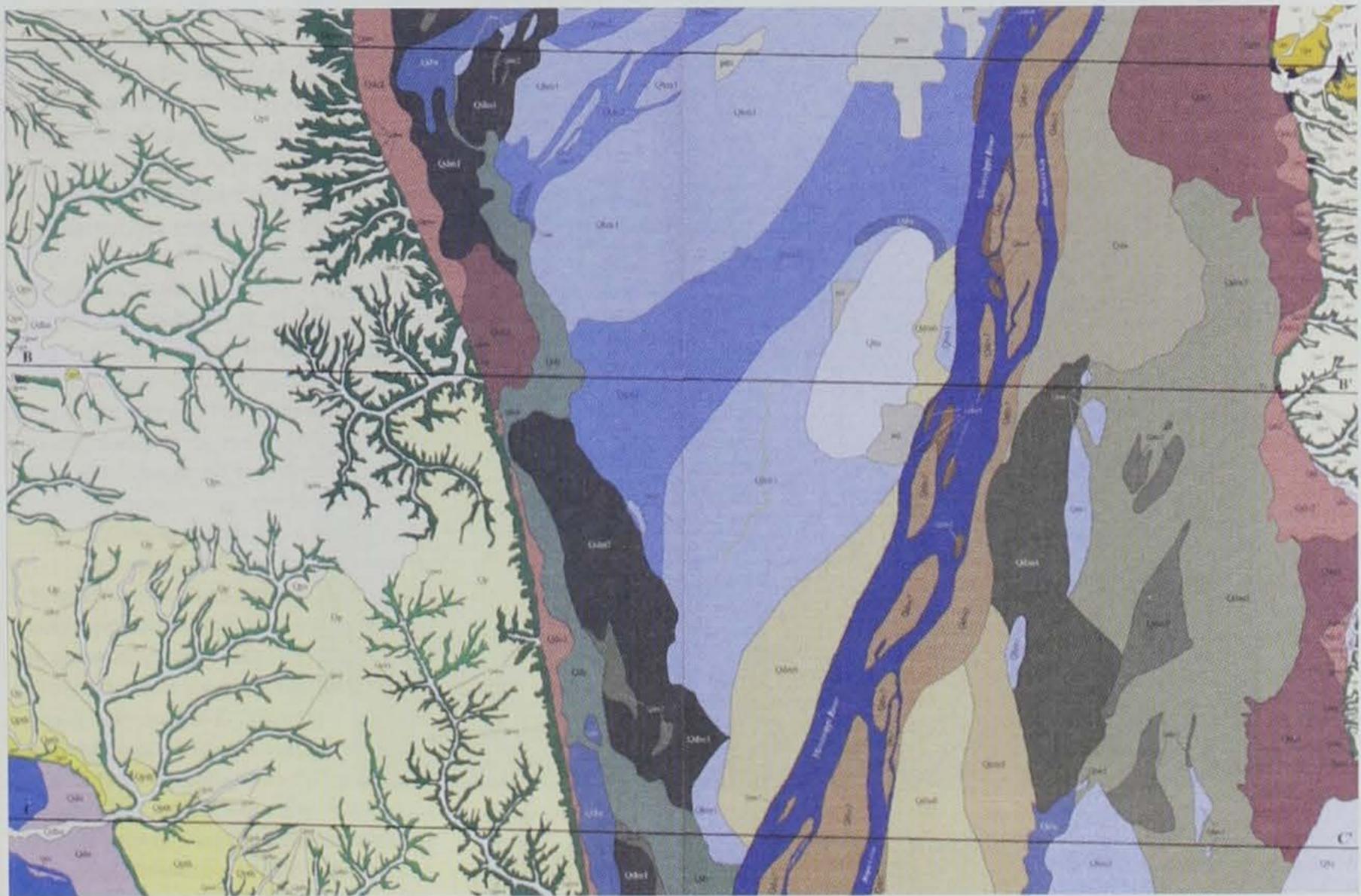
The goal of the Mississippi valley project was to map geologic materials to a depth of five meters (about 18 ft) at 1:24,000 scale (1 in = 2,000 ft) in order to provide baseline geologic information for a host of environmental and resource issues. The mapped area includes Muscatine Island, a portion of the Mississippi valley under competitive pressures from agriculture and industry for land and groundwater. A portion of the Upper Mississippi River navigation system and several wildlife refuges and game management areas also occur in this area and present a series of contrasting resource management issues. Land degradation

were used to construct the geologic maps. This data was compared to landscape patterns on high-altitude air photos and satellite imagery to formulate and draw the map units. Thirty-two map units, each depicting a unique succession of geologic materials to a depth of five meters, were developed.

The pattern of map units below shows many elliptical, smooth-edged units that characterize river deposits in the Mississippi valley, while the bordering uplands contain mainly two units of loess-mantled glacial drift that are dissected by branching units of younger stream deposits along drainage ways. The map and related cross-

Today there is a recognized need for more rapid access to more detailed information. GIS techniques provide an effective means to develop specific information, tailored to specific needs, in a timely manner. The use of this technology enables geologists to develop map information in ways that better assist society in understanding and resolving its environmental and resource problems.

Greg A. Ludvigson, E. Arthur Bettis III, Bernard E. Hoyer and James D. Giglierano are all geologists with the department's geological survey bureau in Iowa City.



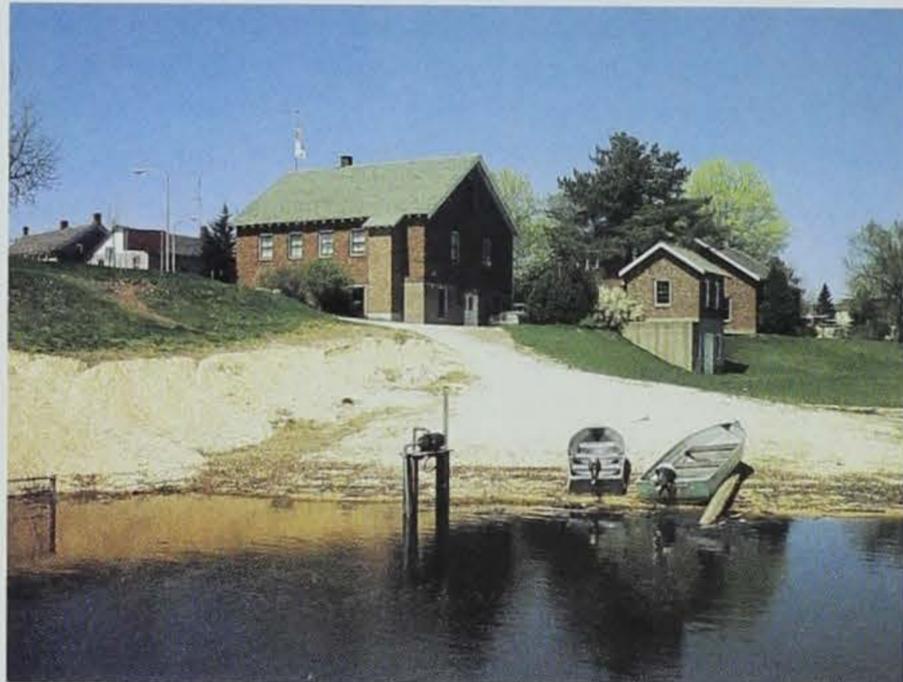
from soil erosion and headward advance of Mississippi tributary valleys, as well as landfill siting are important issues on the upland.

Several sources of subsurface information, including water well records, engineering boring records obtained from public utilities and the Department of Transportation, monitoring well records of the U.S. Geological Survey, borings made by the GSB, and published soil surveys,

sections (not shown) provide a detailed view of the geologic materials that most affect day-to-day activities in this area and can give planners a sound base of geologic information from which to make resource decisions.

COMPUTERIZED MAPS: Geologic maps of the Mississippi valley are combined in this graphic and are the first detailed mapping of the shallow (upper 18 ft) geologic materials in Iowa done under the STATEMAP program. Two major groups of deposits are present -- those left by glacial ice and wind compose the uplands, and those left by streams occupy the valleys. The information is available in electronic or paper form and can be updated as more subsurface information is acquired.

GUTTENBERG



Jerry Leonard

MORE THAN JUST A FISH HATCHERY

by Gary Ackerman

It is a rough-cut gemstone hidden in steep hills and coulees of the magnificent Mississippi River valley. It is perched on the bank of the river just below Lock and Dam 10, quietly, awaiting the eruption of spring. Winter is gone, backwaters remain ice bound and the river flows free. Soon navigation will begin. Soon fishers will be congesting in the tailwater hoping to hook sauger or walleye. We patiently await the beginning of the annual spawning run for northern pike. Soon it will begin, when the river stages rise to enrich and flooded backwaters as waters warm by the sun's increasing strength.

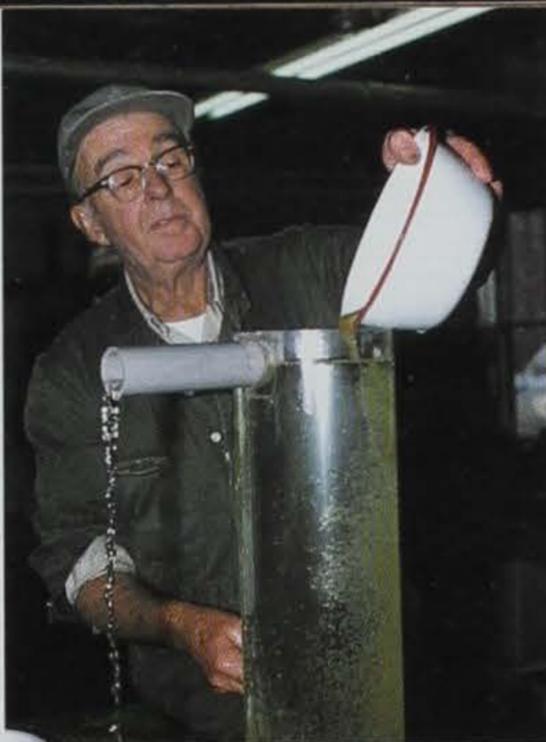
We operate a fish hatchery at Guttenberg. Annually we net pike for brood fish to culture northern pike fry. Some are stocked as swim-up fry while others are transported to rearing hatcheries in Clear Lake and Fairport. We have been doing this at Guttenberg for the last 22 years. Production techniques are highly refined, so there is little stress to meet annual quotas for fry which range from two million to 13 million. But, the old federal fish hatchery is far more than just a fish hatchery, it has been an integral part of the early conservation movement on the Mississippi River.

Iowa led the nation in early recognition and protection of the Mississippi River. Early Iowa fishery programs focused almost entirely upon the operation of the Lansing station. It began as a fish hatchery and fish rescue station. Under the direction of B.F. Shaw in the late 1800s, Iowa implemented a fish commission. Fish culture techniques were developed and refined to produce northern pike and walleye sac fry for stocking or rearing to fingerling sizes. Much of the early fish stockings were by rail. Hawkeye Number Nine was a specially built railroad car outfitted with holding tanks and life-support systems for the transportation of fish from Lansing to throughout Iowa. Bullheads were netted from backwaters to create instant fishing ponds. Channel catfish sub-adults were bait-netted from chutes and sloughs and transported throughout Iowa to rapidly create sport fisheries.

Many different species of adult fish were seined in the fall from lakes and sloughs for brood stock to spawn and produce fisheries. And, many adults were seined for exhibit purposes at public gatherings, county fairs and a major conservation exhibit at the State Fair. Public relations flourished. The Lansing crew also did much of the early trout management and stocking in northeastern Iowa. Lansing Station led the way early on.

Soon political demands for other fish species outweighed professional fish culturists' ability to produce them. The imaginative mind of Shaw turned to "the mother source" for fish, the Mississippi River, to satisfy diversity, quality and quantity of fish. Shaw recognized the tremendous fishery resource that was being wasted. Thus, the fish rescue program began at Lansing and Sabula in 1876. The idea was simple. During spring floods many fish enter backwater habitats to spawn. As water receded, adult fish returned to the main stream, whereas literally millions of fry remained stranded to grow to fingerling sizes by fall. Most lakes and ponds were destined to either dry up or freeze out by late fall, so a strong movement began to save the fingerlings from destruction. They were seined from backwaters, sorted, then bucketed by hand to flowing waters. Largemouth bass and other select species were sorted and held for stocking elsewhere in Iowa by old Hawkeye Number Nine.

The fish rescue program rapidly expanded. In 1880 Missouri and Illinois began rescuing fish, Wisconsin started in 1895, then the federal



Ken Formanek



Ken Formanek



Ron Johnson

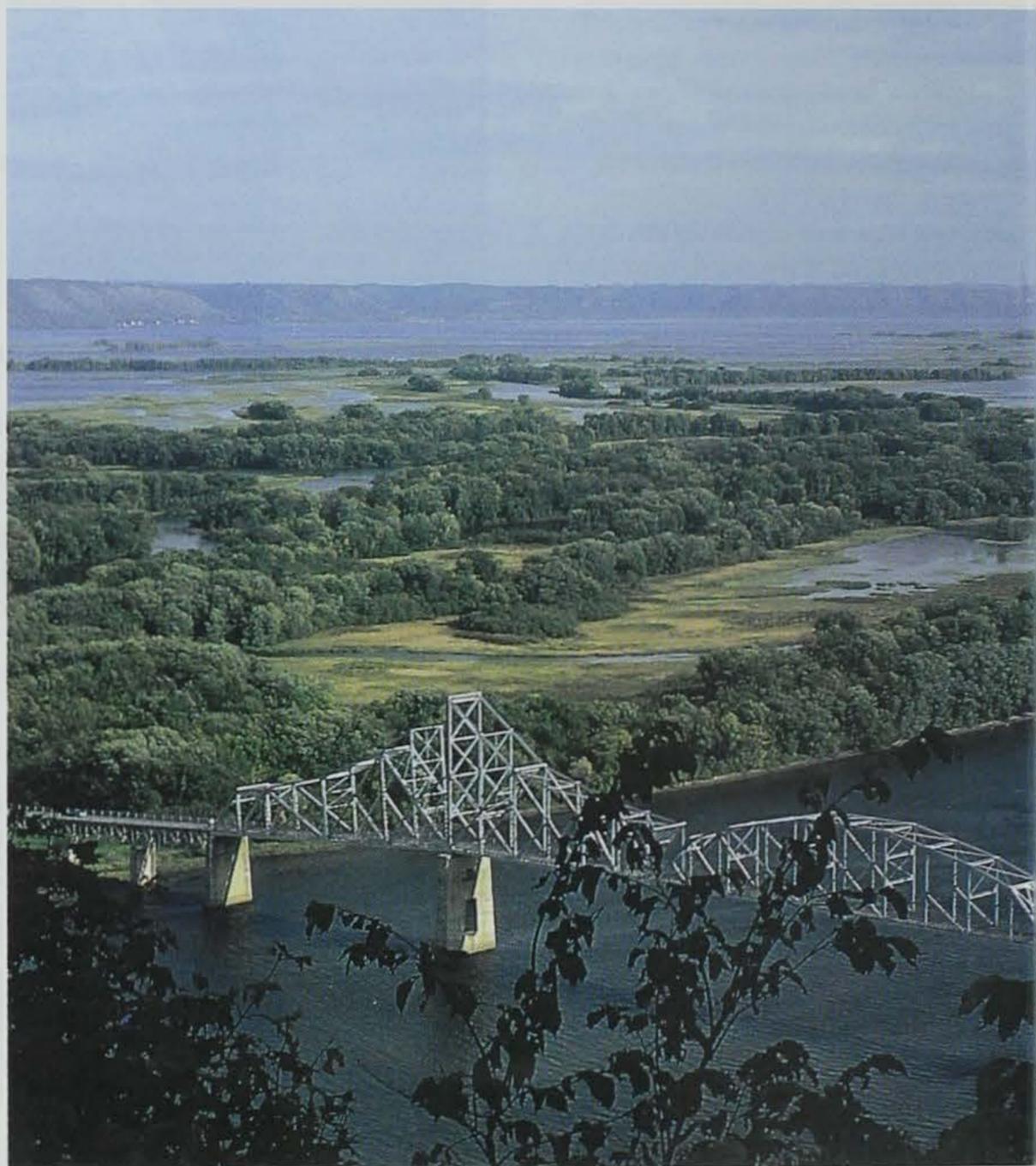


DNR

Top to bottom
 ■ The hatchery process -- stripping a female northern of eggs (right), carefully measuring two liters of fertilized northern pike eggs into incubating jars, millions of eggs awaiting hatching and the results -- a fine stringer of northern pike.

government got into the act. They quickly dominated the program and expanded it to establish 34 fish rescue stations in the Mississippi River drainage system. Everyone believed it was truly a great program, however, most fingerlings probably died in transport because of lack of dissolved oxygen and stress incurred. Nevertheless, the program was carried out for many years. The U.S. Fish Hatchery at Guttenberg, was one of the early fish rescue stations along the Mississippi River.

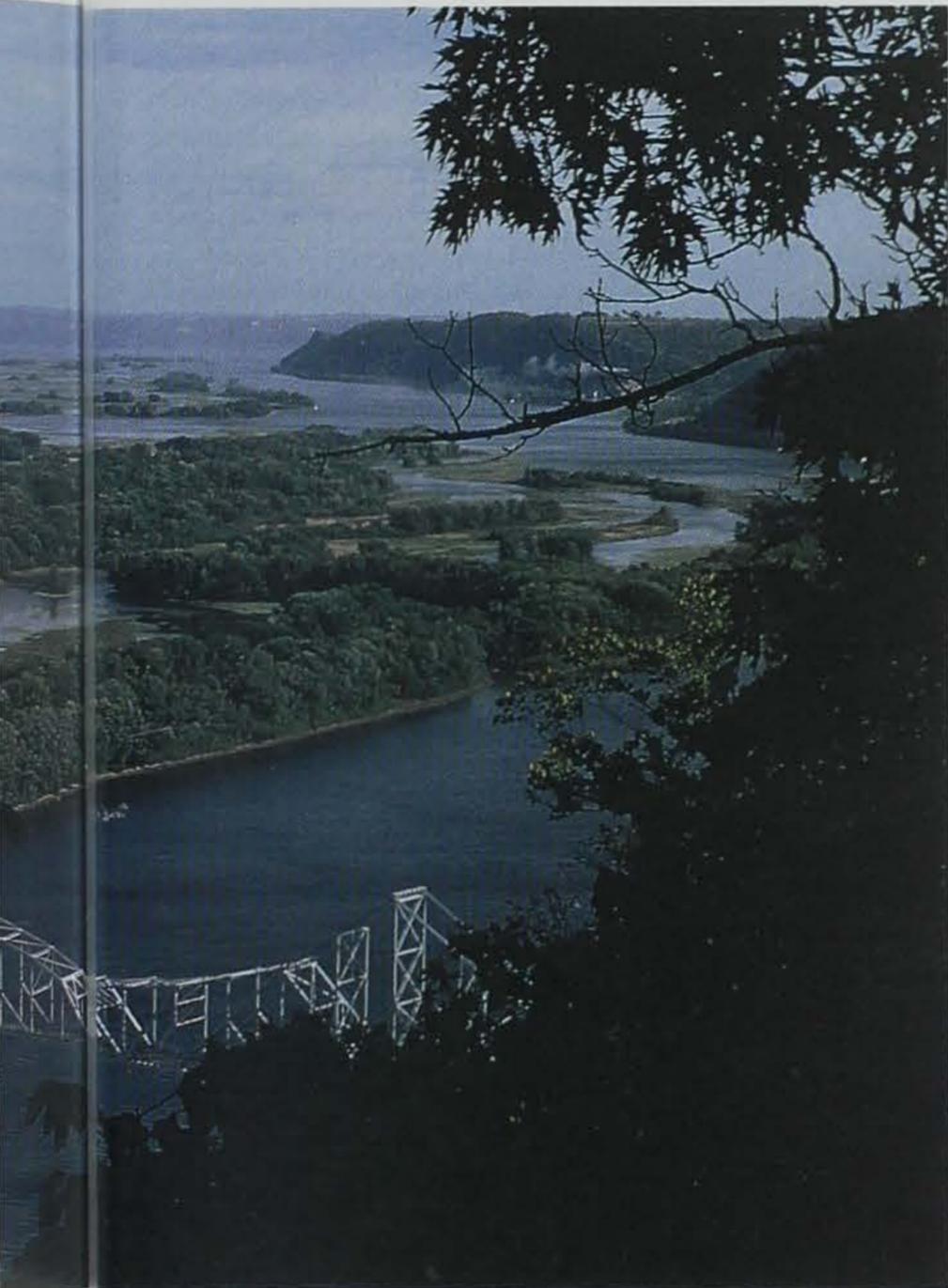
The evolution of the fish hatchery at Guttenberg was no simple matter. It was part of the early conservation movement along the Upper Mississippi River -- a mitigation measure for



■ Hawkeye Number Nine, a specially built railroad car outfitted with holding tanks and life-support systems, ready to transport fish from the Lansing Station to points around Iowa.

DNR

expansion of navigation on the Upper Mississippi River, construction of the nine-foot channel and of the lock and dam system as we know it today. A hotbed of discontent developed in northeastern Iowa around the McGregor area. Sport anglers and commercial fishers had focused most early conservation endeavors on stocking fish as a cure for the ills of an ecosystem. They had not yet understood the impacts of declining habitat, pollution and sedimentation of the Mississippi. But they feared the unknown impacts of damming. Will Dilg of the Izaak Walton League of America attacked big business and big government for damming the river. The first plan was to create a national park system, which failed. Then, in June 1924, the Upper Mississippi River Wildlife and Fish



■ The valuable backwater resource of the Mississippi, viewed from south of Lansing -- a legacy worth protecting.

DNR

operated by the DNR's fishery management bureau since 1974 as a public aquarium, fish hatchery and fishery management station.

Guttenberg is now more than just a fish hatchery. It is a live and functioning part of the history of the Mississippi River. In fact, because of its early involvement with the conservation movement on the

river, the Guttenberg Fish Hatchery and Aquarium has been entered in the National Register of Historical Places.

When people always ask, "Just what do you do?" I usually respond, "raise fish." It is an easy reply and the inquirer is generally satisfied. However, work at the Guttenberg station encompasses a bit more.

Interagency coordination between the Army Corps of Engineers and the Iowa DNR is a big part of our job and involves intricate and complex issues. We work with two different Corps districts, the Rock Island District (RID) extending downstream from Guttenberg and the St. Paul District (SPD) extending upstream from Guttenberg. Much of our work has been in protection of riverine habitat.

The principle mission of the Corps is maintenance of the Mississippi for commercial navigation. This involves dredging point bars and channel closures in order to maintain a nine-foot deep navigation channel. It also involves disposal of dredge spoils along the river valley in a safe and environmentally acceptable manner. We work diligently with the Corps to develop long-term plans for dredging and disposing sands, developing sand beaches for recreation, constructing central stockpile disposal sites, constructing beneficial use sites for off loading sediments and implementing measures to avoid environmental damage to the rivers' ecosystem. Much of our actions are directed at minimizing the impacts of spoiling valuable habitat.

The management and regulation of the aquatic resources of the Upper Mississippi River (UMR) is another major focus of our work at the station. The UMR's aquatic resources are governed by Iowa, Wisconsin, Minnesota, Missouri and Illinois, in concert with federal regulations. Over the years, the states have made major accomplishments. We have continually coordinated aquatic programs with all river management entities, largely through the Upper Mississippi River Conservation Committee (UMRCC), which has historically made an important impact upon fish management of the river. Over the years, the UMRCC has been partly funded and administered by the U.S. Fish and Wildlife Service. Several other federal agencies unofficially participate including the Department of

Refuge was created. Our early conservationists made the refuge issue a national concern, not just a regional issue. Their vision saved much of the Mississippi River valley from development and destruction to create one of our nations' most valued natural treasures. Later, the regional issue paid another minor dividend in the construction of the U.S. Fish Hatchery at Guttenberg. The hatchery became operational in 1939, and focus intensified upon rearing and stocking fish.

By the late 1970s, the U.S. Fish and Wildlife Service restructured its fish hatchery program nationwide. Several hatcheries became surplus -- old, outdated and unneeded. The DNR applied for transfer of Guttenberg Hatchery in 1972, and it was deeded to the Iowa DNR in 1984. It has been

■ Filling grain barges along the Mississippi. Maintenance of a nine-foot navigation channel for barge traffic involves dredging.



DNR

the Army, U.S. Coast Guard, Environmental Protection Agency and the Department of Transportation. Most interagency actions are aimed at conserving the future ecosystem of the Mississippi.

Probably the single most important accomplishment of the UMRCC has been sport fishing reciprocity across state lines. If you are a nonresident and purchase a sport fishing license in Illinois, as an example, we will honor this license for all waters of the Mississippi joining Iowa. Soon states joined interest across state lines to provide uniform sport fishing regulations as well as sport fishing reciprocity to help eliminate public relation problems with an ever growing sport fishery upon the Mississippi. The vast resource of the river coupled with the magnitude of species diversity soon created an angler's Mecca from the impounded waters of the river. Backwater fisheries flourished with largemouth bass, bluegill, crappies and northern pike while riverine species continued to provide vast quantities of walleye, sauger, white bass and smallmouth bass. Sport anglers' diversity of catch included abundance of channel catfish, bullheads, flatheads, carp and freshwater drum in competition with a flourishing commercial fishery for the same species. Other more unusual catches might include sand sturgeon, rock sturgeon, paddlefish, mooneye, dogfish and occasional burbot or eel. The river, soon after impoundment into a series of river

lakes, had become a vast and varied storehouse of resources for everyone, seemingly an inexhaustible reservoir of resources.

We have been very active in the management of mussels in the Mississippi, twice sponsoring an international freshwater symposium on research and management of freshwater mussels, coordinating and developing a rare and endangered species lists for states of the UMRCC, and helping fund and track the invasion of the zebra mussels into the Upper Mississippi River. Another research project is underway to determine ways to relocate native mussels to protected habitats outside of the Mississippi.

UMRCC states annually compile commercial harvest statistics for our aquatic resources. Our database for commercial fish harvest on the Mississippi is probably the best in the world. We now only compile commercial harvest data for freshwater mussels. The database is complete for the last two decades as well as for those days of the button era. Here is what happened in 1995. The reported catch of mussels by 79 Iowa fishers totaled 544,526 pounds, with an estimated value of \$1.1 million. It was comprised of 46 percent relic (dead) shell, 21 percent cutout shell, 20 percent threeridge, 10 percent washboard and 2 percent others. Mussel harvest has recently increased, largely fueled by increased prices for shells. Shells are used for the cultured pearl business by Japan. We also keep the data base for commercial turtle

harvest in Iowa which is not quite so lucrative.

The UMRCC is helping us manage the Mississippi's aquatics. A federal and state initiative has been organized and funded for researching the basic life history of paddlefish over the entire reaches of the Missouri and Mississippi rivers. It is a vast and complex undertaking. Without federal leadership, coordination and funding this research program would undoubtedly fail for no state or special interest group has reason or justification to take on such a job. Another good example of federal initiative is implementing the rare and endangered species act. The U.S. Fish and Wildlife Service has been very active in protecting many of those unique and fragile species that do not appeal to the general public in the way a bald eagle or black-footed ferret does. One such animal found near Guttenberg is the rare and endangered freshwater mussel, *Lampsilis higginsii*, or the Higgins Eye Pearly Mussel. The animal might have been seriously impacted by a careless construction project in Pool 10 had it not been placed on the federal list. A great deal of people now give a darn about this clam.

Some of our other projects and programs underway at the Guttenberg station include annually certifying ginseng for export. More than one million dollars worth was exported from Iowa last year. Last fall, we assisted our fishery research team, from Bellevue, complete a life history study of walleye and sauger at Lock and Dam 10. We installed many fish attractors in Bussey Lake and 90 concrete breaker blocks in the tailwaters of Lock and Dam 10. We sampled the fish populations in the Lansing bottoms and in lower Pool 11 to provide supportive information for habitat improvement projects at Lansing and Dubuque. Last fall, we collected fish fillets for chemical analysis for potential contaminants. Last winter, we sampled water quality data for the Corps to evaluate a Bussey Lake project.

Yes, we do operate a fish hatchery. It has been more than a week now since we stripped the last female northern

pike of eggs and several males of sperm. The eggs have been incubating in 53-degree wellwater for nine days and have hatched. We will wait another three days to allow the very

small sac fry to grow and absorb their yolk sacs. We will then measure, by water displacement, one liter of sac fry (about 50,000) and place them into a plastic bag of water and oxygen for shipment.

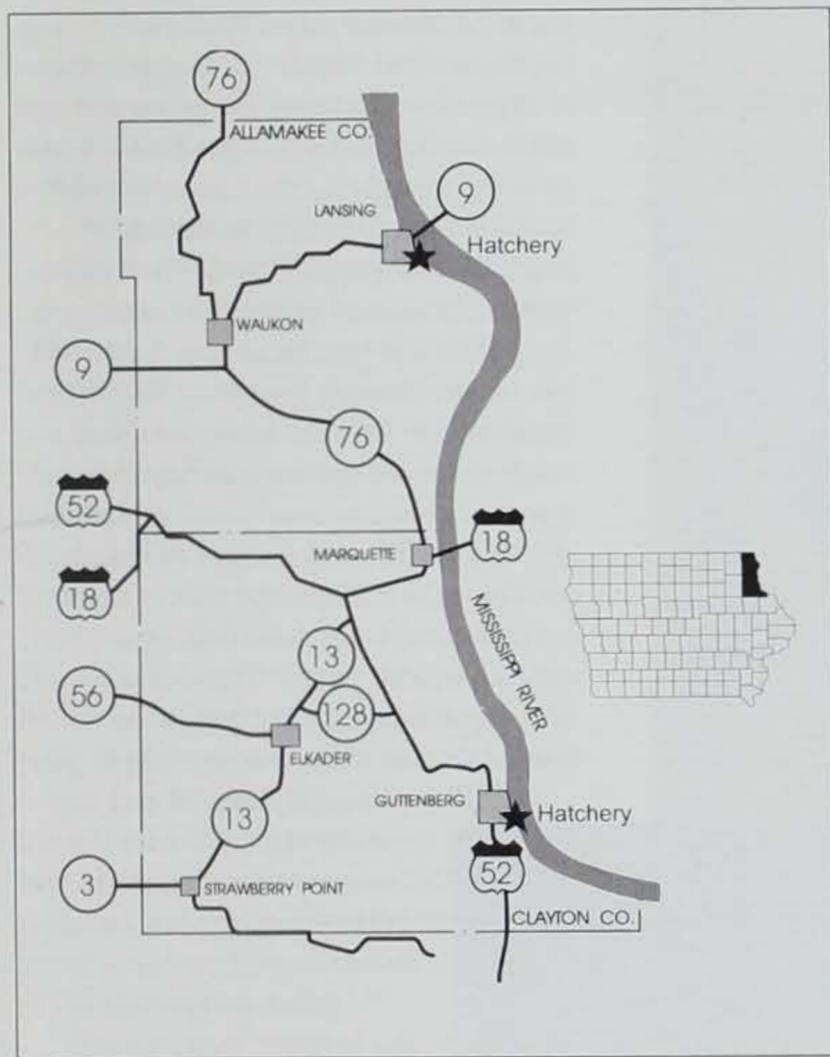
This morning we shipped our first lot of 1.5 million northern pike sac fry to rearing hatcheries in Clear Lake and Fairport. A second lot awaits shipment to Coralville and Saylorville reservoirs. The last lot goes next week and then we'll clean up the hatchery for the 1997 pike run. Next week, we will begin netting fish specimens for viewing in our public aquarium. It opens every year in May.

If your are touring Iowa, our facility deserves a visit. We operate an admission-free public aquarium from May through September, open daily

from 8 AM until 8 PM. You won't be able to see a paddlefish, because we don't have the proper aquarium facility to keep one, but we do exhibit most common fish species from the Mississippi River as well as trout from rivers and streams of northeastern Iowa. We also exhibit turtles common to Iowa. We have an interesting display of freshwater mussels, including something about the old button-making business and an update on the new business of making cultured pearls from Mississippi River clams. Group tours are available upon request if you make advanced reservations.

Life goes on at the fish hatchery. If you are passing by on River Park Drive in downtown Guttenberg and see several old bronze-red brick buildings huddled along the shore of the mighty Mississippi River, stop by. There might even be a friendly old river rat to answer your inquiries, bring you up to date on some of the early history of the river and share visions for the future of Mississippi.

Gary Ackerman is fisheries management biologist for the department at Guttenberg.



■ Personnel at the hatchery work with the Army Corps of Engineers to develop long-term plans for dredging and disposing sands, avoiding environmental damage to the rivers' ecosystem.

DNR

1996 Waterfowl Prospects



Gary Winch



Roger A. Hill

Lowell Washburn



by Guy G. Zenner

It was mid-morning on October 10, 1992, the opening day of the duck season, when I pulled into the parking lot at Myre Slough. A light northwest breeze pushed some cotton-ball clouds slowly across a bright blue sky; it was a beautiful autumn day. Wetland conditions had improved dramatically at Myre Slough during the past summer and a small group of duck hunters were gathered comparing the success of the morning's hunt as they loaded their gear. "Never happen" were the first words I heard as I opened the door.

"How can you be so sure," retorted one of the younger hunters. "We've had droughts before. Look at how much water we got back in Myre in just a year."

"Haven't had a drought like this one since the 1930s," the older hunter came back as he tied the last rope across his duck boat. "There wasn't near the drainage or as many acres farmed then as there is now. Nope, you

young guys might just as well be satisfied with the season we got this year, cause it ain't gonna get any better."

"What do you think?" the younger hunter asked me as I joined the group. "He says we'll never have more than a 30-day duck season again?"

"There are no sure bets, especially when working with Mother Nature," I responded. "But what she can take away, she can also give back. Take Myre Slough for example. During the last three years you could just

about walk across this marsh in tennis shoes and not get your feet wet. But now, with just one good wet season, the water level is near crest. When the drought breaks on the prairies and the water returns, the ducks will move in to take advantage of it. All it takes is a couple of good production years for duck populations to recover. When that happens, the duck season will be longer than 30 days. For now though, we'll stick with the 30 days so we can

maintain a sizable population to take advantage of those good conditions when they occur."

"Never happen," the old hunter scoffed as he loaded the last of his gear into a pickup that appeared to match his age. "The good old days of 50-day duck seasons are over." And as if to emphasize the point, the truck door slammed shut with a bang and he roared out of the parking lot.

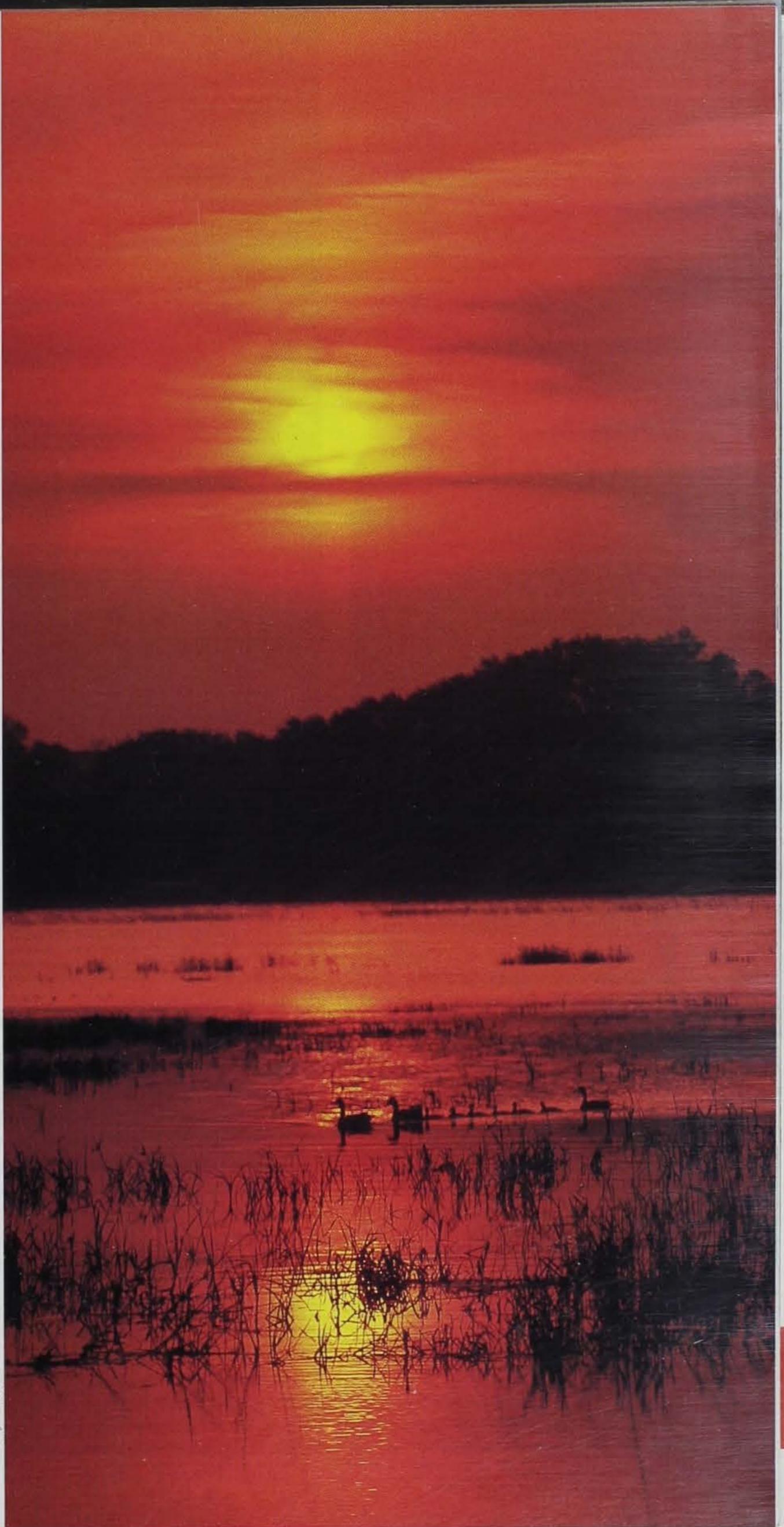
"Time will tell," I mused half to myself as I watched the truck head down the gravel road trailing a cloud of dust. "One thing is for sure," I said turning back to the remaining hunters as they continued to load their gear, somewhat less enthusiastically than before, "duck populations have been going up and down with pond numbers on the prairies for most of this century and they will continue to fluctuate. I don't know exactly what our seasons will be like in the future, but if there is one constant in waterfowl regulations it is that the season length and bag limits are always changing. If we can get the kinds of rains we saw at Myre this summer to fall on the Dakotas and prairie Canada, the duck populations will improve and we will be in for some good seasons."

"Let's hope," was all one of the younger hunters said as he threw up the tail gate on his pickup and headed for the driver's seat. But from his response, it was apparent he had little hope left.

In 1992, after five years of 30-day duck seasons, the longest stretch of restrictive seasons since regulations were first implemented in 1917, many hunters felt prospects were for a better season. The landscape, at least as far as ducks and wetlands were concerned, had changed significantly during the latter half of the 20th century. Even those of us that study duck populations and habitat changes were beginning to wonder if man's efforts to convert the prairie pothole region entirely to crops, much to the detriment of wetlands and wetlands wildlife, hadn't finally been successful.

But just when we thought we were seeing a trend, the weather turned 180 degrees and the prairies entered the wet portion of the dry-wet cycle that characterizes them. It started in 1993 when the Dakotas and eastern Montana received

Gary Winch



the second highest levels recorded since 1955 while blue-winged teal numbers were the third highest. Seven of the 10 species surveyed were above the goals set in the North American Waterfowl Management Plan. Only pintails and scaup remained below their long-term averages.

At the time of this writing, 1996 duck population information was not available. However, wetland habitat conditions were predicted to be nearly as good as 1995 in the Dakotas and possibly better in southern Manitoba and southeastern Saskatchewan. Wetland conditions in the northern parts of Manitoba and Saskatchewan, however, were not expected to be as good as 1995. Overall, duck populations and production were expected to be at least as good as 1995, and very possibly better. It certainly looks like duck populations have finally recovered from a decade of drought.

It is important to remember, though, that nothing lasts forever, especially good wetland conditions on the prairies. As sure as there is a tomorrow, drought will again seize the prairie in the not-to-distant future and duck populations will decline. It is as natural a cycle as the seasons and we simply have to adjust to it as we do to winter each year. But for now, ducks are taking advantage of the bounty of wetlands and their populations are high and increasing.

In Iowa, wetland habitat conditions ranged from fair to good early this spring, but the dry early spring weather caused some temporary and seasonal wetlands to dry up quicker than normal. Temporary and seasonal wetlands are particularly important to breeding ducks because they contain the invertebrates (insect larvae, snails, etc.) that are the

primary source of protein for hens that are laying eggs. Late spring rains have replenished wetlands and water conditions going into summer are excellent. The conversion of many acres of Conservation Reserve Program grasslands back into corn and soybean fields may have depressed duck production in Iowa compared to previous years, but production should still be fair or better. Canada goose production, on the other hand, benefits from stable water level conditions. Production on the rivers may have been affected by spring rains, but a good crop of local Canada geese should again be expected this fall.

With the rebound of the duck populations, hunting regulations were liberalized last fall and hunters enjoyed



Gary Winch

some of the same drenching rains that flooded Iowa. These rains boosted duck production well above expected levels and set the stage for improved wetland and waterfowl numbers in 1994. The precipitation that fell in 1994, and persisted again in 1995, not only helped sustain the revived wetland habitat in the north-central U.S., but also improved wetland habitat across most of prairie Canada.

In 1995, prairie pond numbers were 38 percent above the 1974-94 average and the highest since 1979. The duck breeding population was estimated at nearly 36 million, a 10 percent increase from 1994. Breeding mallards increased to 8.3 million, the highest number since 1972, and surpassed the North American Waterfowl Management Plan goal of 8.1 million. Canvasbacks, redheads, and gadwalls all reached historic high levels. Shovelers and green-winged teal were at



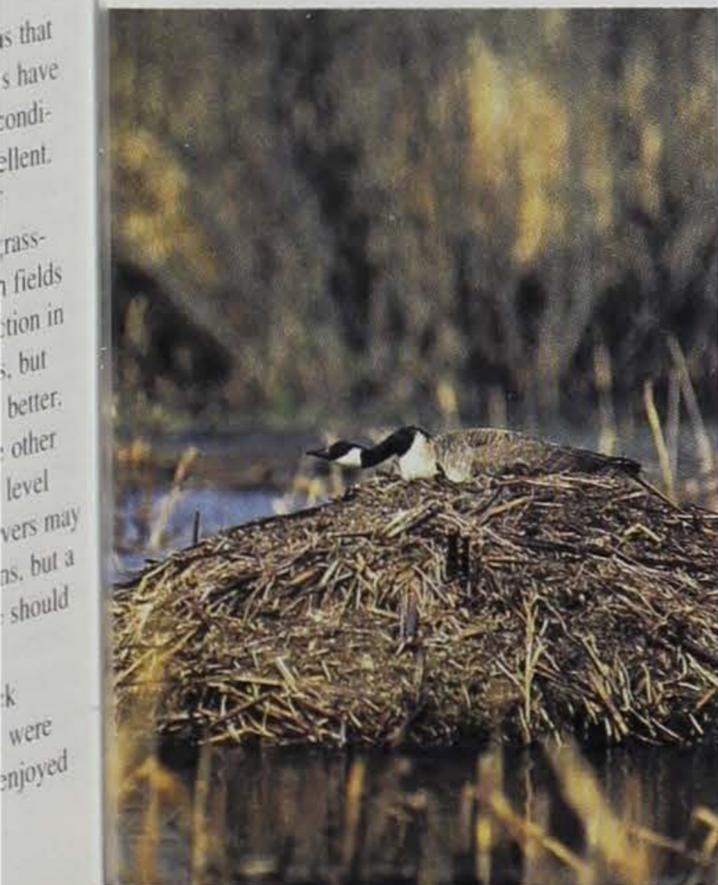


■ In 1995, the duck breeding population was estimated at nearly 36 million, a 10 percent increase from 1994. Seven of the 10 species surveyed were above the goals set in the North American Waterfowl Management Plan. Only pintails and scaup remained below their long-term averages.



Lowell Washburn

Roger A. Hill



Roger A. Hill

the first 50-day season they had in more than 10 years. All factors indicate that this coming season should be similar to last year's.

What can waterfowl hunters in Iowa expect this fall? Well, very likely another very good fall flight. Undoubtedly, there will be more ducks migrating over Iowa this fall than during most of the last 10 years. Whether they stop, however, will depend upon local wetland habitat conditions and the weather. Ultimately, the weather will determine how much of the fall flight we get to see in Iowa. In 1994, the predicted fall flight did not materialize in Iowa because of unusually mild fall weather. In 1995, another unusual weather pattern pushed nearly all the

ducks through Iowa during the first few days of November. Hopefully, we will see normal weather and waterfowl migration patterns this fall.

After a decade of drought, water has finally returned to the prairies and duck populations have risen to the levels of "the good old days". Those things that could "never happen" finally did.

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

Charge!



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Energized ISU solar car hits the road in "Race for the Future"



Article by Joel Palmer
Photos by P.S. Cale

Seven days. More than 1,500 miles. More than 30 teams representing colleges and universities all over the United States and Canada will hold the future in their hands as they compete in the "Race for the Future: SunRayce97."

With the decreasing supply and increasing cost of fossil fuels, solar energy could be the transportation fuel of the future. SunRayce is a bi-annual road race showcasing the ability of solar energy to be used for transportation. Next year's race will take place June 20 - 26, beginning in Indianapolis, Indiana and ending in Colorado. During the race, each team makes a scheduled stop at the end of the day and leaves at the same time the next day. The winner of the race is the car making it from start to finish with the lowest cumulative time. Team PrISUM, Iowa State University's solar car team is currently preparing for the event — designing, constructing, demonstrating and racing its solar-powered vehicle.

Team PrISUM's car, "Cynergy," is powered by more than 1,500 solar

cells. The cells are designed with an electron imbalance between two layers. One layer has a positive charge and the other has a negative charge. When the sun hits the solar cell, electrons flow from the positive layer to the negative, creating an electrical current that powers the car's motor. No fossil fuels are needed.

Team PrISUM began in 1990 as a project primarily for the College of Engineering, however, it now incorporates the experience of students from all

"I've always wanted to make a difference in the world and I feel I am by helping to promote solar energy."

colleges at Iowa State. Business and accounting students handle the financial aspect of the operation while communication and marketing students work on the newsletters and other promotional material. "This is like a little company. There are lots of different jobs to be done," said Beth Hunter, director of Team PrISUM and a senior majoring in civil engineering and environmental studies.

The team is comprised of all undergraduate students. About 100 students are involved at some point during the project. Of those, 20 to 30 students will dedicate themselves to the project from beginning to end and only 20 will be able to make the trip to next year's race. There are only five members on this year's team that participated in SunRayce95.

This will be Iowa State's fourth entry in SunRayce. Team PrISUM placed 17th in the inaugural race in 1990 and finished 10th in 1993. In 1995, the team was looking for even more improvement, but an accident 30 miles from the finish line left them with a 19th place finish. The rear tire popped and Hunter, who was driving, lost control and collided with a concrete bridge rail.

But the solar racers feel they have a top-ten quality car for next year's race. For the first time, Team PrISUM will not build a new car for SunRayce. It will use the same outer shell it competed with last year. The team has made modifications to the suspension, braking system, steering and electrical system. After recently completing 200 miles of road testing in which no major problems occurred, Team PrISUM is ready to finish in the front of the pack at next year's race. "We're confident in



the car we have built and feel we can reach this goal," said Hunter.

In order to be ready for next year's race, Team PrISUM needs to raise a total of \$125,000 to complete "Cynergy" and race it. It has only accumulated \$25,000. This does not concern team members because more and bigger contributions will come as the race nears.

team also created the Adopt a Solar Cell program, designed to cover the cost of the solar array — the largest single expense of building the car. Individuals or organizations can "adopt" solar cells by paying \$25 per cell. The array is comprised of 1,550 cells.

Other contributors to Team PrISUM include several departments of

Contributors not only donate money, but also needed equipment. The team recently received a \$6,000 computer system which collects data to help it plan racing strategy. The system will measure things like how much energy is left in the batteries, the temperature of the solar array and current weather conditions. "There's a lot of strategy involved in racing," said Hunter. "Before we just guessed, but now we have a scientific method to help us plan strategy."

Not only is there a lot of strategy involved, but also a lot of time and work involved in preparing for SunRayce. Team members can put in up to 20 hours a week working on the car during non-race years. As the race draws near, more hours will have to be spent on road testing, making adjustments and then more testing. The team hopes to have the car finished for its

PrISUM Fast Facts:

- Length: 6 meters (19.7 ft.)
- Width: 2 meters (6.6 ft.)
- Height: 1.1 meter (3.6 ft.)
- Gross Weight: 445 kg (979 lbs)
- Tires: Avocet Fastgrip 51 cm x 4 cm slick tires, 100 psi
- Wheels: 3 wheels, 20 inches
- Cost: \$100,000 construction, \$70,000 racing and testing
- Project Time: 2 years
- Top Speed: 65 mph under ideal conditions

They raised \$4,000 during the recent eight-day SunRun in which the team drove the car across the state visiting sponsors, receiving \$500 for every presentation they made. The

Iowa State University, Mid American Energy and a grant from the Iowa Energy Center. Hunter said alumni will contribute as much as \$15,000 to the team.



unveiling on Jan. 31. The team also has more publicity stops and presentations to make. Hunter said the team has dozens of requests for parades and presentations this summer.

But the time and work involved provides valuable and rewarding experience to team members. "I've learned so much working on the solar car," said Hunter. "I've gained hands-on experience in engineering and I've learned how to keep a team going."

And for all its efforts, Team PrISUM will probably not win anything for competing in SunRayce. The winning team will take home about \$2,000. But neither money nor the prestige of placing high in the race is the motivating factor for Team PrISUM. "It's a motivating project," said Hunter. "I've always wanted to make a difference in the world and I feel I am by helping to promote solar energy."



"The main reason we do this is because solar energy is going to be feasible in the future," said Hunter. "People are going to realize that this is the way to go, especially with us running out of petroleum supplies."

Joel Palmer is an energy information intern for the DNR in Des Moines.

R Recycling

Trash

Reclaiming Human

Dignity

Article and photos by Rebecca Conard

What does it take to partner a model human services agency with a novice solid waste agency and create a noble experiment that is equal parts environmental reclamation and social reclamation? Well, it starts with a vision, builds on a foundation of no-nonsense business practices, and relies on a lot of good-old-fashioned ingenuity. Just ask a couple of special people: John Winkelman, executive director of Howard Center, Inc. (HCI), a nonprofit agency that serves the mentally disabled, and former Sac County supervisor Jim Schelle, manager of HCI's Sac Area Recycling Center (SARC). Each in his own way will tell you the same thing, and there are a dozen anecdotes for every twist and turn this enterprise has taken since it started in 1989.

After the bottle bill was passed in 1979, HCI set up a redemption center for cans and bottles. The center provides a sheltered work environment for people with mental disabilities. It was not long before grocers began to support recycling, in part to keep container deposits and redemption

handling from becoming an unwieldy burden on retailers and distributors. The Fareway grocery chain, which was already recycling cardboard, also saw this as an opportunity to expand its recycling efforts. In 1988 the company received a \$91,960 grant from the DNR to implement a cooperative effort with sheltered workshops in 12 towns and cities where Fareway stores were located. The money was spent to purchase 12 bakers and set up operations to collect and process No. 2 plastic containers, basically milk jugs. The Howard Center in Sac City was one of the 12 workshops selected. In this manner, HCI entered the recycling business in 1989. From plastic milk jugs, HCI moved into recycling glass containers received at the redemption center.

A year later, Sac County's landfill board, the Sac County Solid Waste Agency (SCSWA), entered the picture, one of many such agencies caught in the wake of the 1989 Waste Reduction and Recycling Act, which set state goals for reducing the amount of trash dumped into landfills.



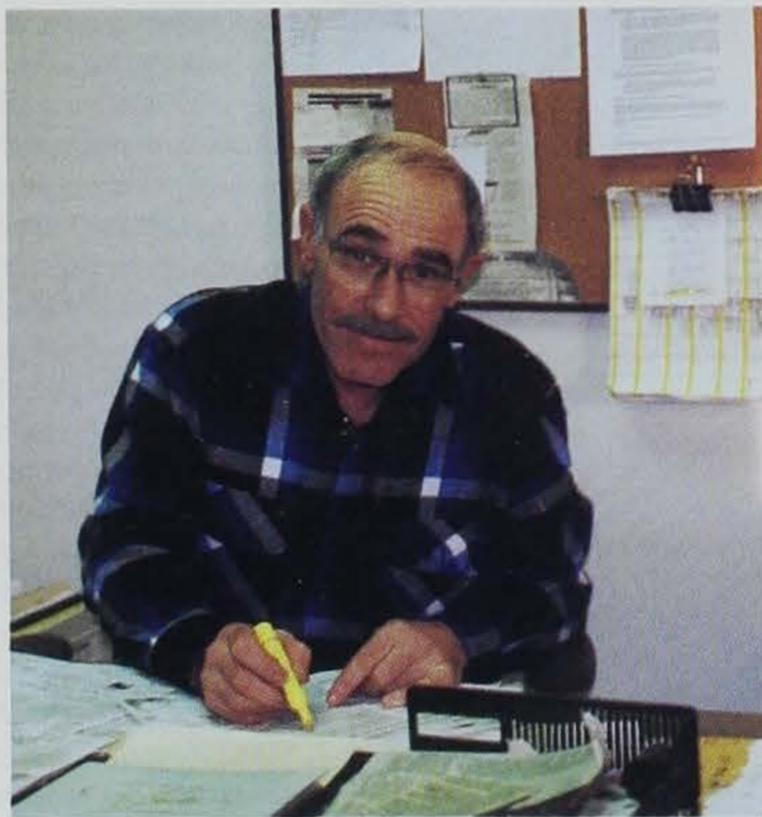
SCSWA immediately began casting about for a recycling plan to meet the mandated 25 percent reduction by 1994. John Winkelman and Jim Schelle, then serving as the county supervisor's representative on the SCSWA board, put their heads together and came up with a proposal. HCI would establish a full-fledged recycling operation if the county would promise to buy the service from HCI on a cost-minus-sales-revenue basis. SCSWA and Sac County Board of Supervisors agreed. To build and equip the size facility needed to recycle solid waste from the entire county, HCI and SCSWA each invested about \$250,000. The DNR augmented their investments with another \$150,000 grant. HCI and SCSWA dedicated its new recycling center in 1992 and named it the Sac Area Recycling Center (SARC).

A year later, curbside recycling became mandatory throughout Sac County. Since then, the quantity of solid waste recycled in Sac County has increased robustly: 456 tons in 1992-93, 665 tons in 1993-94, and 784 tons in 1994-95. As a result, in three years Sac County reduced the amount of solid

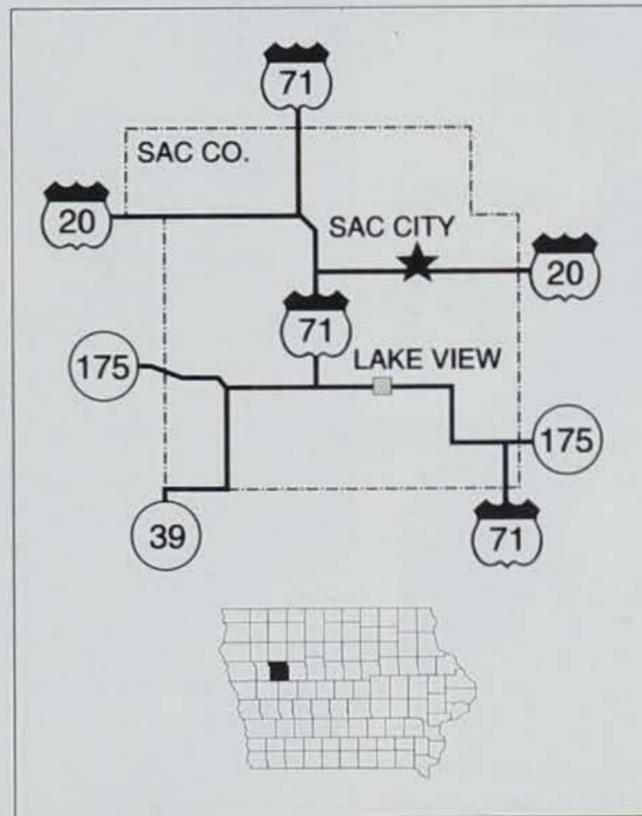


waste going into landfills by 31 percent of the 1988 base-year tonnage, according to DNR's 1994 report *Attainment of the Twenty-Five Percent Waste Reduction and Recycling Goal*. Of the 40 solid waste agencies operating in Iowa, Sac County's percentage reduction was exceeded by only three other solid waste agencies and matched by one. All of them contributed to raising the statewide average to 28 percent, three points above the target reduction rate set by the 1989 Waste Reduction and Recycling Act.

Updated reports show that Sac County's progress is solid. As of January



■ Jim Schelle, manager of the Sac Area Recycling Center (top), attributes much of the center's success to local teamwork and good will among recycling pioneers when it comes to sharing information.





“Reports show that Sac County’s progress is solid.”

1996, tabulations show a 35 percent reduction from 1988. That’s still a ways from meeting the 50 percent reduction mandated by 2000, and Jim

Schelle knows they will need to

implement additional strategies to meet that goal, but county

residents by and

large have demonstrated a willingness to cooperate.

Schelle attributes much of the center’s success to local teamwork and good will among recycling pioneers when it comes to sharing information. After traveling to Preston, Minnesota to look over an operation producing livestock bedding from newsprint, Schelle decided SARC could do that. Iowa State University provided technical assistance, and a few local farmers lent him hay balers and straw choppers to get started. Marketing cardboard also took some ingenuity at the beginning. In the “pf period,” as in pre-forklift, Schelle would borrow one, and also borrow a truck, in order to move cardboard, three or four bales at a time, to borrowed warehouse space along Highway 20 near the outskirts of town. When enough had accumulated for a marketable load, he’d borrow another forklift to load it on the buyer’s trailer. As he says, “That worked fine in the summertime.”

A local fabricator, Don Phillips, also lent his talent to develop machines that either were not yet available on the market or were prohibitively expensive. Phillips, for instance, turned a hay baler into a can smasher. He also designed and built a bedding bagger for shredded newsprint. Assistance like this allowed and encouraged Schelle to be more creative and take a few more risks in setting up recycling operations. By 1992, when the new center opened, most of the kinks had been worked out.

Success is also attributable to preexisting arrangements for garbage collection throughout the county. SARC has been fortunate to deal with only one private hauler, which made it

easier to obtain cooperation among towns to send all recyclables to one location. Winkelman thinks the county's small size, less than 13,000 people, also made it easier to reach agreement on logistical and procedural matters. Both Winkelman and Schelle agree that HCI's leadership probably made the crucial difference. The agency's work is highly respected. "People trust us," is how Winkelman puts it. "A church or any nonprofit that had a good reputation would have worked, but we fit that bill." He also adds that, "people, in general, really wanted to see this work." Which is not to say there wasn't a lot of grumbling in 1992 when people learned they would have to clean containers and do a little presorting of their recyclables. But they do, and it's worked.

Another oft-heard complaint in the beginning was, "How come it's going to cost me to get rid of this?" Now, four years down the road, the cost of recycling is very encouraging news. From 1992 through 1994 the cost for SARC's recycling service ran about \$6 per capita. When the price of paper increased dramatically in 1994-95, SARC saw its sales revenues increase accordingly and the per capita cost dropped to \$1.50. Such fluctuations were not unanticipated given market uncertainties for any fledgling industry, but no one expected the per capita cost to stay that low. Currently, the per capita cost for 1995-96 appears as though it will be about \$3, and the only certainty about the recycling market is that it will remain volatile for at least a few more years. Nonetheless, SARC has so far delivered one of those rare win-win combinations: Sac County easily met the state-mandated landfill reduction target, and county taxpayers have barely noticed the cost. Fingers are still crossed as SARC looks to the future, but some quiet celebrating has been going on.

The news gets even better, though, because there is an equally interesting story about the human services aspect. Why would a nonprofit human services agency want to plunge into the recycling business? It's financially



■ From baling paper (opposite page) to sorting glass containers (above), John Winkelman, executive director of Howard Center, Inc. was sure he could use the recycling jobs to mainstream people with disabilities into the regular workforce.

risky, and there are certain societal prejudices that come with assigning the mentally disabled to handling society's garbage. Winkelman's answer is succinct: "My goal was to create jobs." What he means by this is a bit more complex. Unlike other social service agencies that provide labor to recycling centers under contract, HCI owns the jobs at SARC. Winkelman and Schelle realized the recycling industry would create real jobs, not make-work positions, and Winkelman had a good idea that he could use those jobs to mainstream people with disabilities into the regular workforce.

In some ways, it's an old concept in a new guise. During the early 1900s, park advocates and social reform crusaders joined forces to promote parks as a way to preserve unspoiled natural areas, protect certain plant and animal species, and provide nearby places of respite and recreation for a burgeoning industrial workforce.

In the parlance of the day, resource conservation goals meshed with human conservation goals. Together, these forces created a persuasive groundswell of public opinion in favor of establishing state and municipal parks. To be sure, the motives of conservationists and social reformers

contained a moralist and public welfare ideals that crumbled under special interest politics in later decades. But the HCI-SCSWA partnership is proof, once again, that what's good for the environment is good for society in ways that are definable and measurable. In this case, the goal is not so much conserving the human spirit as it is reclaiming human dignity.

Winkelman's "hidden agenda," as he calls it, was job skills and job



■ Winkelman and Schelle realized the recycling industry would create real jobs, not make-work positions.

experience. In that sense, SARC was an experiment. As director of a social services agency, he also has to work toward state and federal mandates for achieving an integrated workforce. His less-talked-about goal, therefore, has been to increase the skill level of HCI's people in order to move them into jobs in the larger community. That goal is beginning to materialize. Since 1994, HCI has been able to integrate about 15 former SARC employees into a variety of jobs located in towns throughout Sac and Calhoun counties. That means, he says "that a lot of the people doing recycling jobs have gained some really good skills. We've got people out there running equipment that they would never get the chance to operate on the outside." Under supervision and with good training, the men and women of HCI run paper shredders, operate balers, grind plastics and sort materials.

On sorting days, when the workforce is highest, the recycling center is bustling with activity. Good-natured retorts can occasionally be heard above the din of equipment, the safety buzzers, and the clink-clanking of breaking glass. Even the casual observer notices a pervasive sense of purpose mixed with a spirit of camaraderie.

This is no sweat shop. The center, though amply cluttered with "product," is still a clean and safe working environment. Every employee is in place and focused on his or her job. Working at the recycling center has, Winkelman notes, "given them a sense of confidence that they could work other places." In the process, it has given them a new measure of control over their lives.

Despite all the success the enterprise has enjoyed, there is no assurance the partnership can or should last. The realities of the American market economy, political demands for cost shifting and reducing government services and persistent social prejudices that are fueled, in part, by fears of job competition, leave Winkelman looking for new approaches. Even so, he is unequivocal the enterprise has been worth every obstacle, every challenge, every extra minute. "It was a lot of work to create a few jobs," he laughs, "but the human services are the real success story with the recycling center."

Rebecca Conard is an assistant professor of history at Wichita State University.

"People trust us . . ."

"... in general, they really wanted to see this work."



Don Poggensee

Becoming an Outdoors Woman

by Gloria Baker

They came with their sisters, friends, daughters and alone to the Becoming An Outdoors-Woman (BOW) workshop held at the Springbrook Conservation Education Center last September. However, after spending three days fly fishing, turkey hunting, outdoor cooking, canoeing, shotgun shooting, waterfowl hunting, map and compass reading and backpacking they left with a new understanding of the outdoors, of themselves and of each other -- a sense of camaraderie had developed.

Founded by Dr. Christine Thomas at the University of Wisconsin-Stevens Point, the Becoming An Outdoors-Woman program is sweeping the nation. The program is the result of a workshop held in 1996 entitled "Breaking Down the Barriers to



Ken Formanek

Clockwise from left:
 ■ Spending three days on such activities as fly fishing, duck hunting and dog training tends to develop a sense of camaraderie among participants.



Participation of Women in Angling and Hunting.” During this workshop a list of 21 barriers were identified, 14 directly related to not learning outdoor skills in childhood. As a unified effort to “make up” for missed opportunities, the BOW workshops were developed and currently 40 states adopted the program and held workshops. Iowa hosted its first Becoming an Outdoors-Woman workshop in 1994 with an overwhelming response. Last year’s workshop filled within six days of mailing registration forms.

The participants, ranging in age from 18 to 80 come from all walks of life. Many are professionals, such as doctors and attorneys, looking for a change from the corporate pace. Some

are wanting to experience the outdoors with their spouses, while others are single parents hoping to better share nature with their children.

The workshop begins on a Friday and runs through Sunday, and offers this under-served audience an opportunity to try new skills, and learn about the outdoors in a positive, non-intimidating environment. Instruction is given by highly qualified men and women from around the state.

Participants of Iowa’s Becoming An Outdoors-Woman stay in heated, modern dormitories at the DNR’s Conservation Education Center, near Guthrie Center. Activities are within walking distance of the main buildings or transportation is provided to off-site

locations. Meals are provided and always receive the highest praises. This year’s workshop will feature a cookout /fish fry prepared by DNR administrators.

One of the most important things we have learned from the first two workshops is women out there wanting to join. They are enthusiastic and interested. They devour the information presented at the workshop and are grateful to get it.

We have learned there is a real need for workshops like BOW and women will jump at the chance to participate in a program that teaches skills in a friendly atmosphere. We learned they will continue the interest, and actually purchase licenses and join



becoming an  *outdoors-
Woman*

Ken Formanek

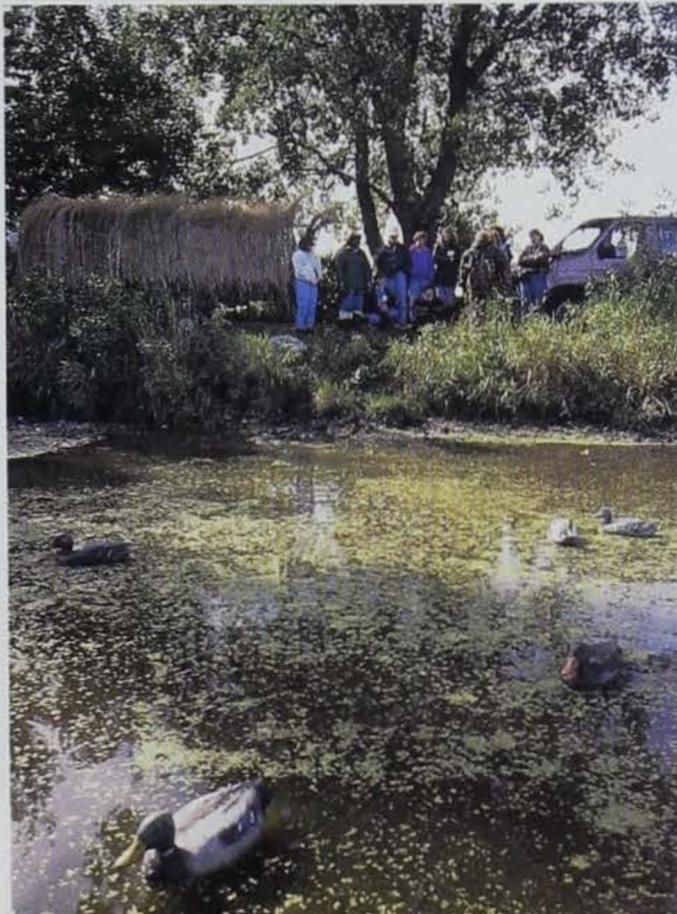


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Julie Sparks



in if given the opportunity. They learn valuable outdoor skills and most of all, they learn that Becoming An Outdoors-Woman opens the door to an exciting world of activities, enhancing their appreciation of our natural environment and enriching life.

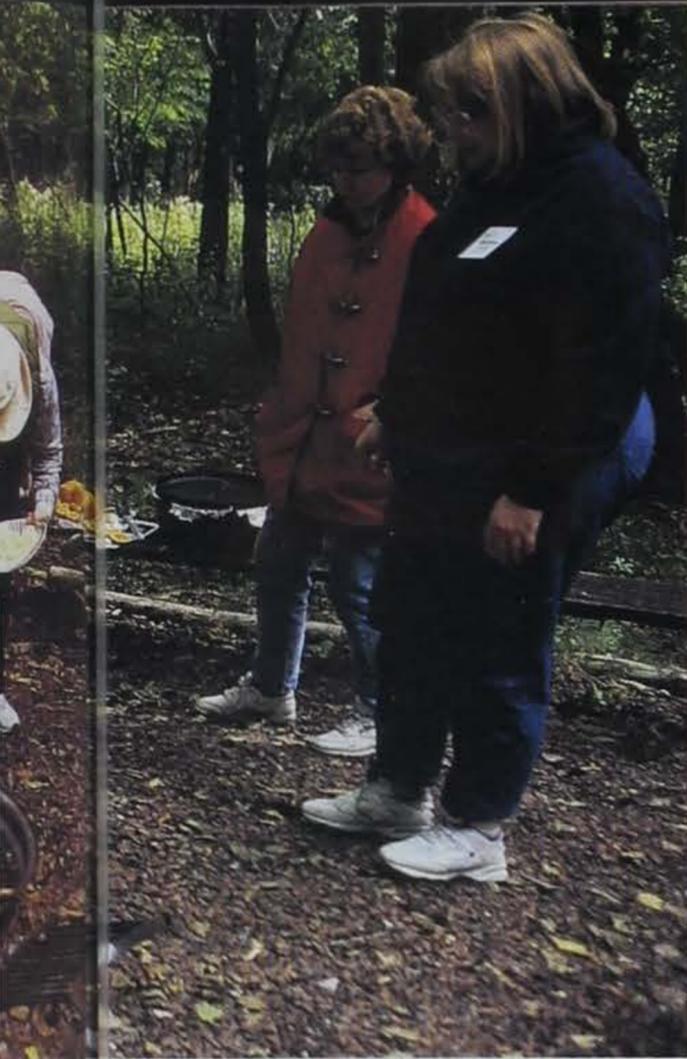
Where do we go from here -- after only two years and an interest growing exponentially? A steering committee consisting of DNR, county conservation board and ISU extension representatives developed the concept of subject-specific weekends -- a more intense learning experience. In a program unique to the state, three Iowa's Outdoors Women's Adventures (IOWA), were piloted this year -- a fishing getaway, camping outing and hunting expedition. Plans are to conduct an additional 15-20 similar workshops in 1997, with an overall goal of expanding skills learned in the Becoming an Outdoors-Woman workshop.

Gloria Baker is the program coordinator for the Becoming an Outdoors-Woman and IOWA programs.

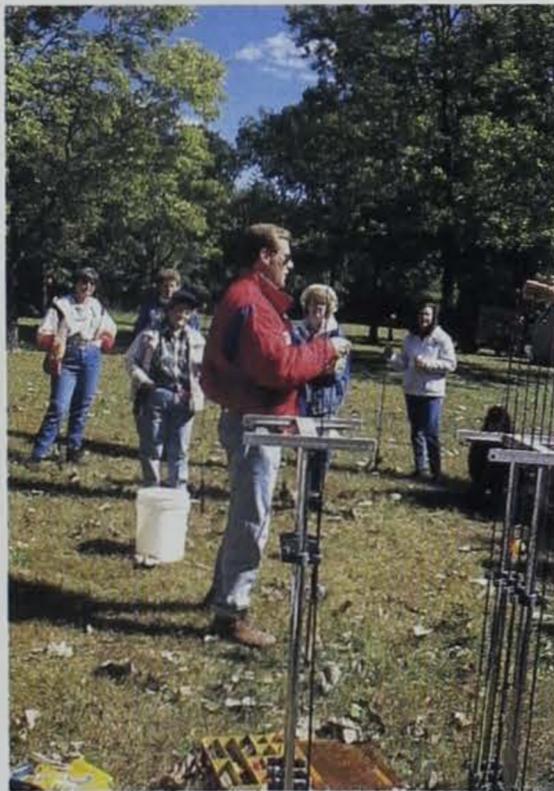
Don Poggensee



■ Becoming an Outdoors-Woman opens the door to an exciting world of activities, enhancing our appreciation of our natural environment and enriching life.



Don Poggensee



Ken Formanek

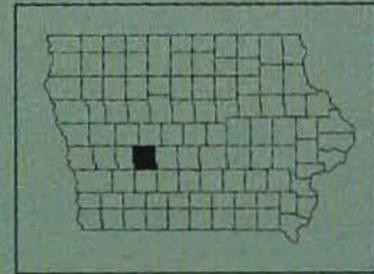
■ Becoming An Outdoors-Woman opens the door to an exciting world of activities, enhancing women's appreciation of their natural environment and enriching life.

How To Become an Outdoors-Woman

Although primarily designed for women, the workshops are open to anyone at least 18 years interested in learning outdoor skills. The workshop can accommodate 125 participants and the past workshops have filled quickly.

This year's workshop is scheduled for September 27, 28, 29 and will be held again at the DNR's Springbrook Conservation Education Center located north of Guthrie Center. The workshop fee is \$110, which includes all instruction, program materials, use of demonstration equipment, meals and lodging. A limited number of partial scholarships are available, and preference is given to single parents and full-time students.

To be placed on the mailing list for the both the Becoming An Outdoors-Woman workshop and the IOWA expansion programs, send your name and address to Gloria Baker, Project Coordinator, Conservation Education Center, 2473 160th Rd, Guthrie Center, IA 50115.



A typical BOW workshop may include a selection of the following topics:

- | | |
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| <i>Archery</i> | <i>Backpacking</i> |
| <i>Backyard Habitats</i> | <i>Boating</i> |
| <i>Camping Basics</i> | <i>Canoeing Basics</i> |
| <i>Calling All Animals</i> | <i>Falconry</i> |
| <i>Firearms and Safety</i> | <i>Fishing Basics</i> |
| <i>Fly Fishing</i> | <i>Hunting Dogs</i> |
| <i>Lake Fishing</i> | <i>Map and Compass Skills</i> |
| <i>Muzzleloading</i> | <i>Nature Hikes</i> |
| <i>Outdoor Cooking</i> | <i>Outdoor Photography</i> |
| <i>Outdoor Survival</i> | <i>Rifle Shooting</i> |
| <i>River Fishing</i> | <i>Waterfowl Hunting</i> |
| <i>Woodworking for Wildlife</i> | <i>White-Tail Deer Ecology</i> |



Ken Formanek

New Life for an Old Lake



The Restoration of Lake Ahquabi

by R. H. McWilliams

Dredging of Lake Ahquabi will be completed during the summer of 1996. Although dredging signals the end of a nearly \$2 million renovation project, it's just the beginning of a new life for Lake Ahquabi. The lake, located five miles south of Indianola in Warren County within Ahquabi State Park was originally dedicated along with the

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Ken Formanek

related to sedimentation, and a decline in water quality and loss of fish habitat. Comparison of contour maps between the 1935 and early 1950s showed upper portions of the lake were rapidly filling with sediments. Where water was originally five feet deep, water was less than a foot deep. Effects of sedimentation were seen up to one-half mile from the inlets where water depths decreased to about half the original depths. By the early 1970s, an estimated 11 surface acres of the lake had been lost to sedimentation. Re-suspension of silt by wave and wind action became more and more common, and by the mid-1980s, turbidity was a factor in the well-being of the fish populations. Some areas of shoreline also eroded and added to the sediment load in the lake.

In the early 1960s, first signs of problems with the fishery were observed. A large carp population had developed and, in 1965, the lake was renovated and restocked. The new fishery rebounded following the renovation, but was short-lived. Several attempts were made to partially or totally renovate the fishery during the 1970s and 1980s. Although some short-term benefits were observed, the overall decline of the fishery continued. As sedimentation continued, good fish habitat was lost. Areas once containing good spawning and nursery habitat for many fish species became unusable. These changes resulted in habitat less attractive to desirable fish and more attractive to less desirable species. A decrease in water clarity affects the ability of fish, particularly sight-feeding fish, to find food. When turbidity becomes too severe, the lack of available food affects fish growth. For example, growth of largemouth bass, bluegill and crappie during 1986 was slower than normal due to the



Casey L. Gradischmig

From left:

- Probably the most noticeable phase of Lake Ahquabi's renovation was its draining in 1993. Following the draining, a new outlet was built, the spillway was modified and major fish habitat work was done.
- The renovation has also increased angler access with construction of jetties, and an all-weather fishing pier and house.

park in 1936 -- making the area one of the oldest of Iowa's state parks. Over the next 20 to 25 years, the lake provided anglers with many hours of enjoyable fishing. However, problems with water quality, water depths and consequently the fishery, were on the horizon. The primary cause in the decline of the lake and its fishery was



Casey L. Gradschnig



From left:

- Restocking of Ahquabi began in 1995 and fishing opportunities should be excellent by 1998.
- Hydraulic dredging operations will remove nearly 310,000 cubic yards of silt and accumulated sediments and will pump into the three sediment basins. The sediment ponds will be developed as wetlands, continuing to protect the lake from silt and nutrients, and providing additional habitat for a variety of wildlife species.

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Ken Formanek

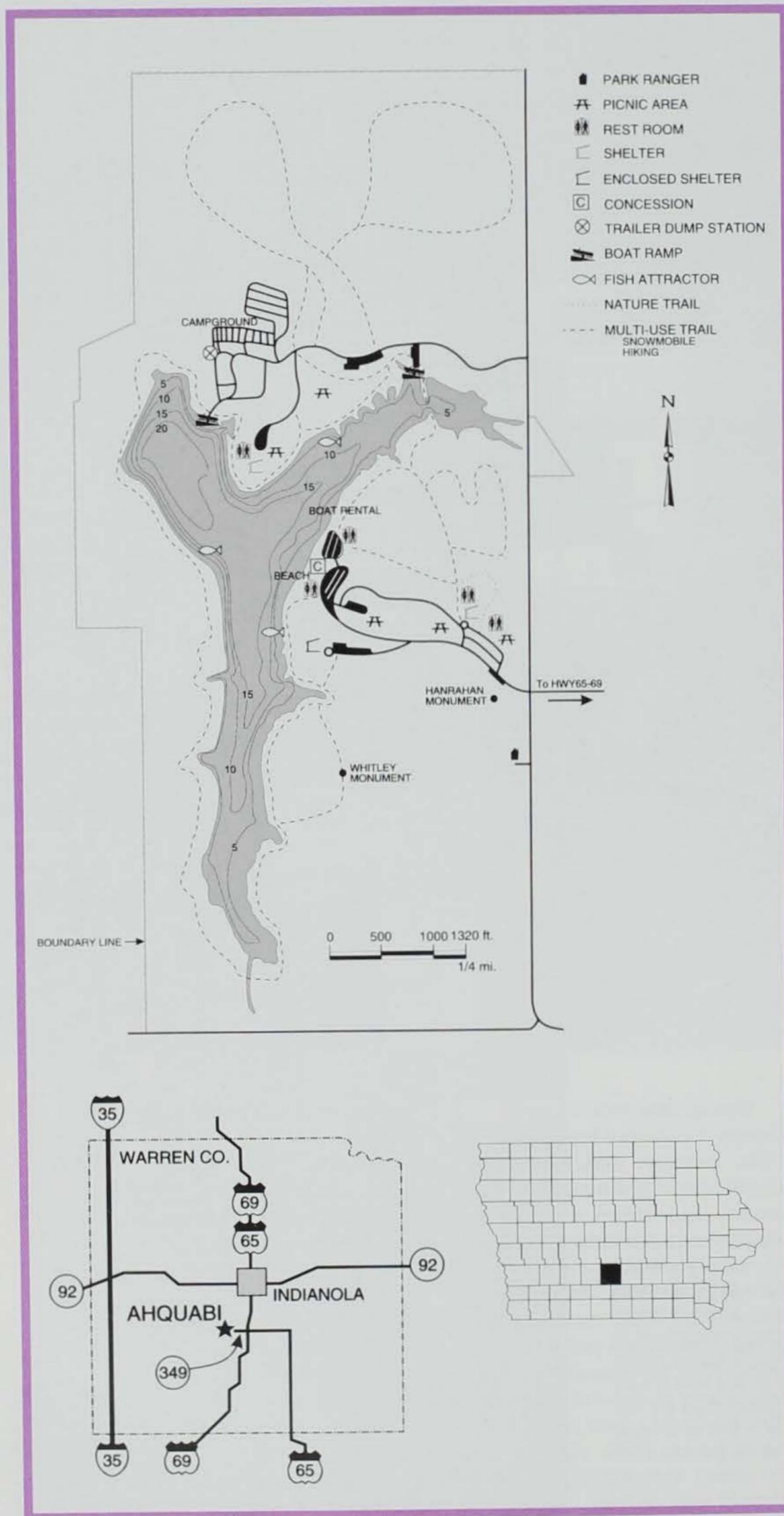
very turbid water throughout much of the year.

Accumulation of sediments also led to a change in types of vegetation in the lake. Vegetation along the shoreline originally consisted of various submergent varieties favored by desirable fish. As sedimentation continued, there was a noticeable shift in the plant community to less desirable plants, such as water lilies. Although attractive, many of these plants shade out more desirable types and offer little in the way of fish habitat. These plants continued to spread and by the mid-1980s dominated much of the shoreline.

Management within Lake Ahquabi's watershed began in the 1970s. Extensive work, including, erosion-control structures and other conservation practices, was done by the Department of Agriculture and Land Stewardship Division of Soil Conservation and by the DNR. More than 80 percent of the watershed was under various conservation practices by the 1980s. With the watershed under good conservation management, renovation plans for the lake itself proceeded. During the late 1980s, plans to improve and protect water quality in Lake Ahquabi were designed. Aging

structures, such as the spillway and outlet tube on Lake Ahquabi and the pond on the adjacent Hooper Wildlife Area, needed to be repaired or replaced. Silt and sediment basins were to be constructed on major watershed drainages to provide long-term protection for the lake.

Final phases of the lake restoration, perhaps the most noticeable, began in 1993 when the lake was drained. A new outlet was built, and the overflow spillway repaired and modified to include a vertical drop to prevent undesirable fish from re-entering the lake during periods of high water. Two



ponds of about 12 surface acres each were constructed to trap silt and nutrients on the watershed. Hydraulic dredging operations will remove nearly 310,000 cubic yards of silt and accumulated sediments and will pump into the three sediment basins. Dredging will not deepen the lake, but should restore the lake to its original bottom contour. After dredging is complete, the sediment ponds will be developed as wetlands. These areas will continue to protect the lake from silt and nutrients, and more importantly, will provide additional critical habitat for a variety of birds and other wildlife species.

The original silt pond on the Hooper Wildlife Area was renovated and enlarged from 15 to 50 acres. Hooper pond will act as a secondary silt and sediment basin for Lake Ahquabi. The Hooper pond is protected by silt and sediments ponds, and will be managed as an additional fishery resource. Due to extremely dry weather, there was insufficient water during 1995 to stock fish. The pond is expected to fill this year and will be stocked as soon as possible. It will provide some excellent fishing opportunities in the future.

Construction of fish habitat in Lake Ahquabi was a major component of the renovation. Six fish reefs were constructed in various parts of the lake — three primarily of rock and three with a combination of rock/sand and other materials. To diversify fish habitat types, trees and brush were added in areas near the dam with the help of volunteers. These areas will provide habitat for young and old fish alike. After dredging is complete, trees and brush will be placed in the "arms" to further enhance and diversify habitat throughout the lake.

Angler access was increased with construction of a fishing jetty at the day-use area, and existing jetties were repaired as needed. A unique feature at Lake Ahquabi is the construction of an all-weather fish pier and house built east of the swimming beach. Fish habitat was placed under and around the fish house. This will provide opportunities for year-round



Ken Formanek

fishing regardless of weather. Boater access was improved with construction of a two-lane boat ramp and hard-surfaced parking lot. Additional parking is available near the boat ramp. Similarly, boater access on the Hooper pond will be increased with construction of a boat ramp this year.

Restocking of Lake Ahquabi began in 1995 with bluegill, channel catfish and largemouth bass. Additional largemouth bass and redear sunfish will be stocked this year. These populations will develop rapidly and fishing opportunities should be excellent by 1998. After largemouth bass and bluegill populations develop, the fishery will be further enhanced with the addition of crappie.

Many people were involved in the renovation project. Landowners on the watershed, various federal and state agencies and staff, personnel from the Warren County Conservation, and volunteers from local organizations have all cooperated in the renovation and improvement of Lake Ahquabi and its watershed. The improved water quality and fishery in Lake Ahquabi and the Hooper pond will indeed mean new life for these areas and enjoyment for their visitors.

Funding for the restoration was from the Environmental Protection Agency's Clean Lake Program, Iowa's



Ken Formanek

REAP (Resource Enhancement and Protection) program, the DNR, Federal Aid in Fish Restoration and Marine Fuel Tax.

R. H. McWilliams is a fisheries management biologist at the DNR's Boone station.

From top:

■ Fish habitat was placed under and around the unique all-weather fishing pier and house. It will provide opportunities for year-round fishing regardless of weather.



Ken Formanek

Parks Profile

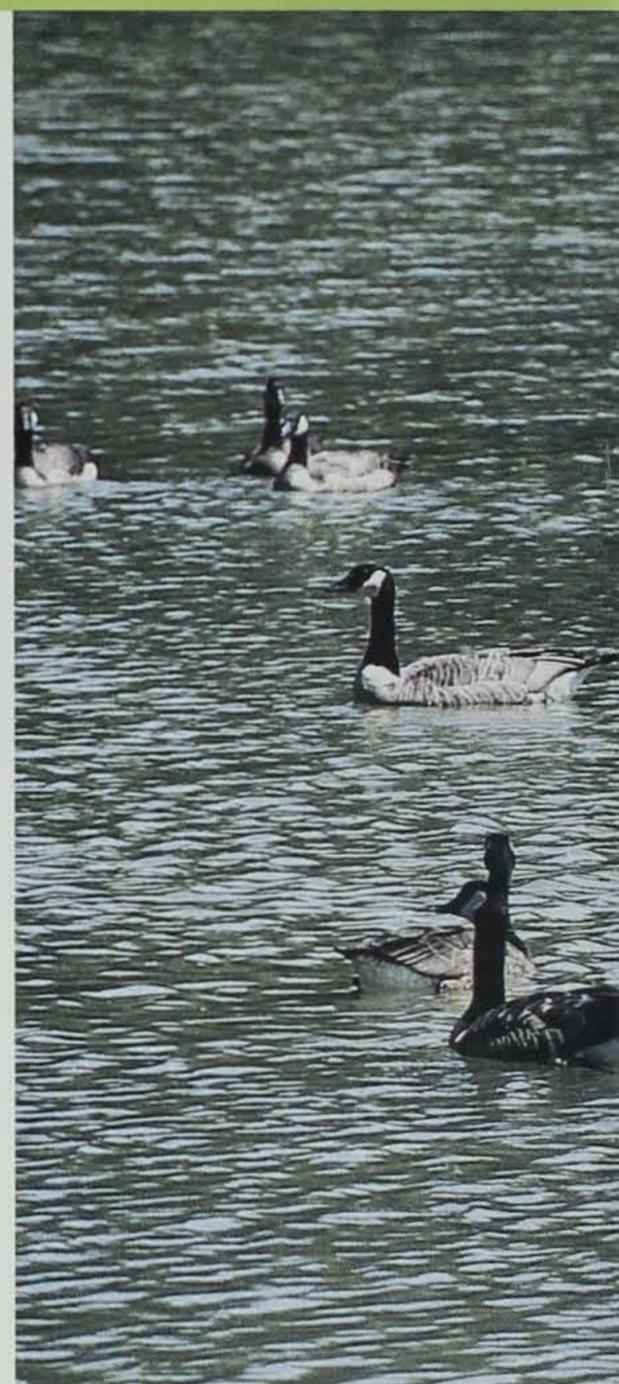


*Follow the
Roads Less
Travelled to . . .*



Stephens State Forest, Bob White, Nine Eagles and Red Haw State Parks

Article by Robert Schierbaum
Photos by Ken Formanek



Have the rigors of life taken a toll on your soul? Does it seem the faster you go the more behind you get? Does it seem full speed ahead is the only speed you know? Is your personal treadmill going too fast? You may not be able to get off the road you're traveling, but maybe you can get out of the fast lane for a while. Reduce your speed and take a road less traveled. Take a positive step and retreat to some places of quiet beauty in south-central Iowa.

Along the back roads of south-central Iowa are four state areas waiting to refresh your soul -- Bobwhite State Park, Nine Eagles State Park, Red Haw State Park and Stephens State Forest. These areas are well-known by the "locals," however, their reputation has not spread to other parts of the state.

All four areas share certain traits. They are all excellent for camping as well as day outings. They all offer hiking trails allowing an up-close-and-personal view of resident wildlife,

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Nine Eagles

including white-tailed deer, squirrels, rabbits, raccoons, foxes, woodchucks and a variety of song birds and game birds. In the spring, these areas can be hotspots for mushroom hunters and in the fall, enjoyable sites for leaf watchers. In addition, the waters of these areas provide refuge for migrating waterfowl in the spring and fall. While they have many similarities, these areas are also individually special.

Bobwhite State Park located west of Allerton in Wayne County, had its beginning in the 1940s when the Rock Island Railroad built a lake to supply water for its engines. After serving its purpose for the railroad, the lake was given to the city of Allerton and later transferred to the state. When the park was established, a contest was held to name it. "Bobwhite" comes from the local gamebird the bobwhite quail, which gets its name from the song it sings -- "bob bob white."

Bobwhite's lake was originally 115 acres, however heavy siltation from

surrounding land has reduced the lake to 89 acres. Although the lake has a variety of fish species, largemouth bass and channel catfish are the most sought after. A sandy beach is available for swimmers and sun worshipers. The park's shady campground can host 32 campers -- 19 of these sites have electricity.

Nine Eagles State Park located in



Red Haw



Bob White



Nine Eagles

Decatur County southeast of Davis City was created in the late 1940s due in part to a Dr. Scott who was instrumental in purchasing the land.

The name Nine Eagles was inherited from the first post office in Decatur County, built in the area that is now the park. According to one story, as the townspeople were debating over what to name the post office, someone looked at a nearby tree where nine eagles were perched and decided "nine eagles" would be a good name. However, there is good reason to believe the name came from a prominent early family in the area, the Spencers. The nine brothers and sisters were affectionately known in the area as the "nine eagles."

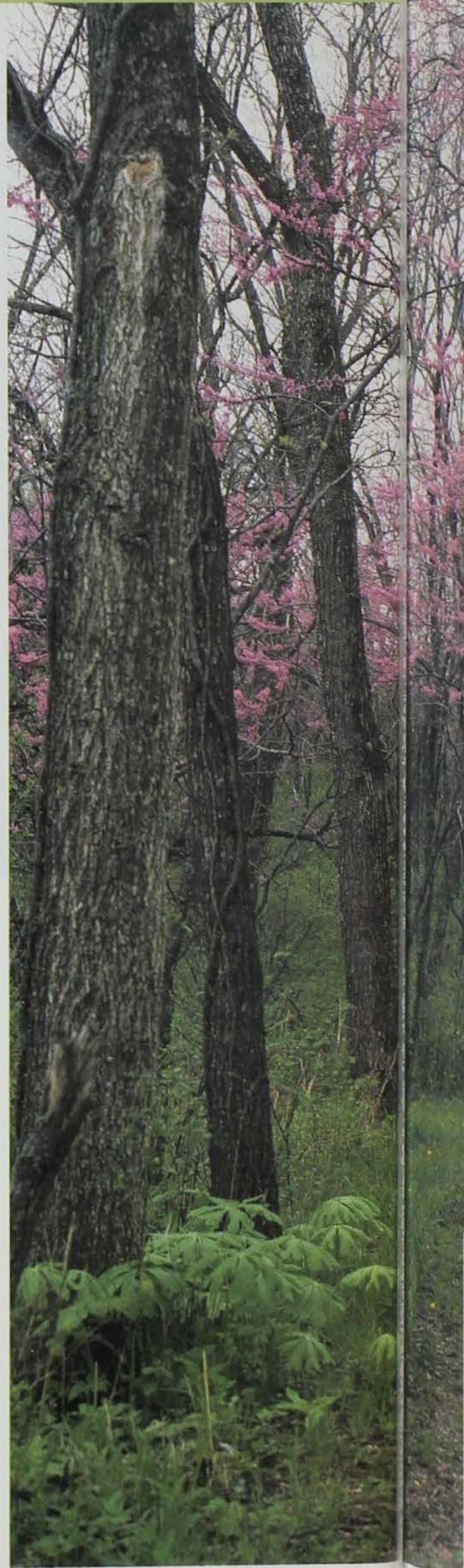
Nine Eagles State Park is 11,000 acres with a 67-acre lake. The lake has a nice sandy beach for swimming and a wide variety of fish for catching. The park has been hand-rearing channel catfish for a number of years and consequently they have become the preferred species among Nine Eagles'



Bob White

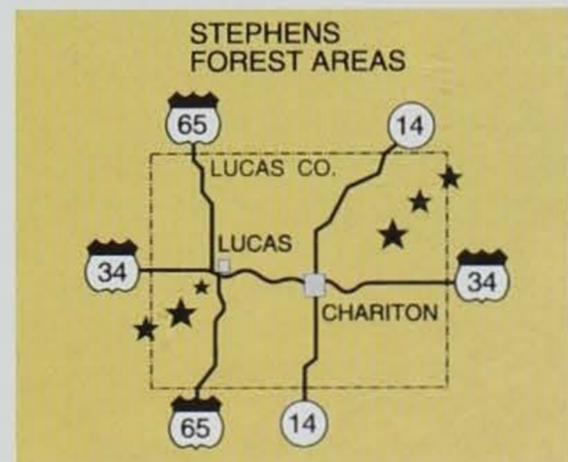
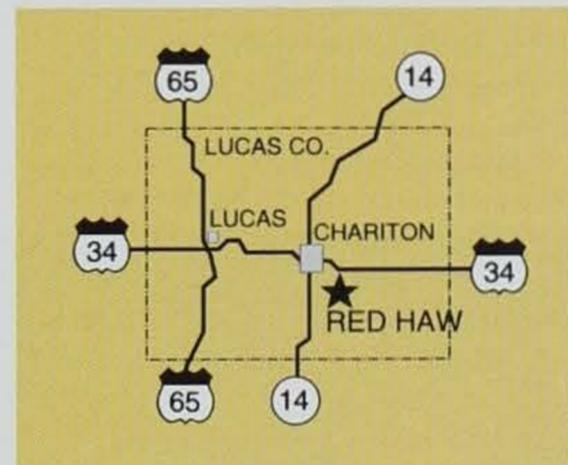
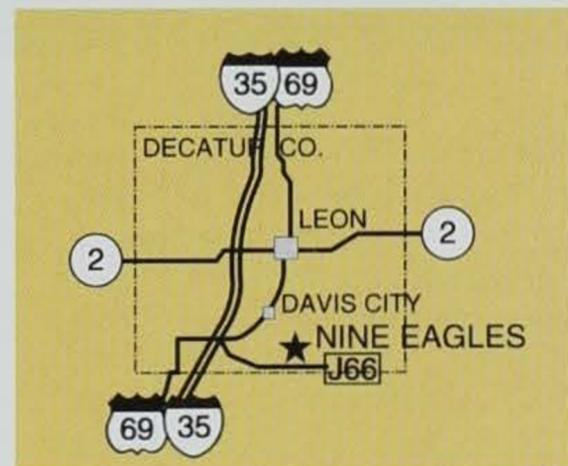
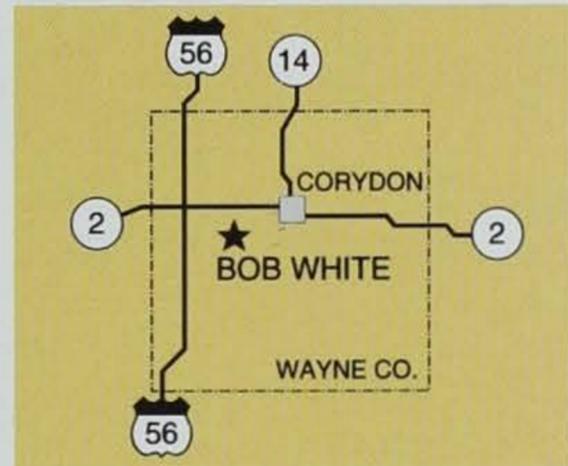
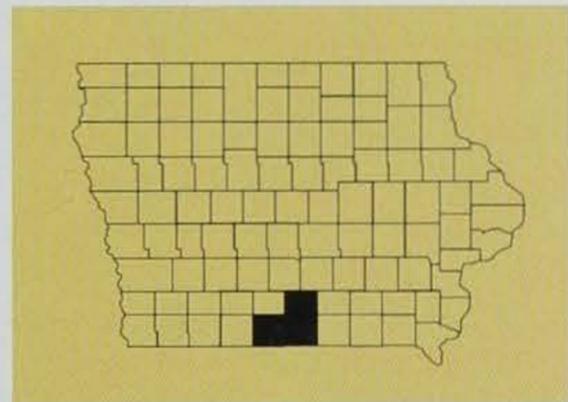
anglers. The park offers two separate campgrounds, one with 52 electric sites and one with 46 nonelectric sites. Both campgrounds have shower facilities. In addition to hiking trails, Nine Eagles also has 6-1/2 miles of equestrian trails through wooded terrain.

Red Haw State Park located east of Chariton in Lucas County, began in





Red Haw





Nine Eagles

1934 as an effort to provide a backup water supply to the city of Chariton. The dam was constructed through federal work programs Federal Emergency Relief Administration (FERA), the Works Progress Administration (WPA), and later the Civilian Conservation Corps (CCC) was brought in to make the area around the lake into a park. A large restored stone shelter stands as a symbol of the CCC's hard work.

The park was given to the state in 1936 and named for the large number of hawthorn trees in the area. In the 1950s, the foresters who were taking care of Red Haw introduced redbud trees to the park. The redbuds have since spread throughout the park, and when they bloom in the spring, are possibly Red Haw's most spectacular feature.

The park consists of 420 acres, with 72 acres of lake. The lake has a sandy beach and is well-known for its clear water and large bluegills. The campground, with a new modern shower building and playground, is set in a red oak timber overlooking the lake. There are 80 campsites, 60 of which are electric.

Stephens State Forest, located in

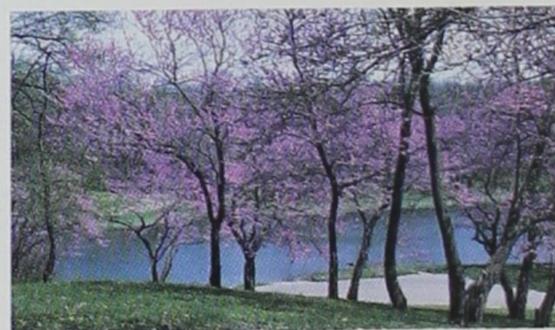
Lucas and Clarke counties, is named for Dr. T. C. Stephens, a professor at Morningside College in Sioux City and an active conservationist. The area had been a grazed timber as well as a site of a coal mine when the first parcels of land were purchased in the late 1930s. Land acquisition for Stephens Forest continues and today the three separate units making up Stephens total more than 6,000 acres. In the 1970s, campgrounds were established in the Whitebreast and Lucas units of the forest. Today there are seven campgrounds in the forest, three of which are equestrian campgrounds. A primitive campground also exists off the backpacking trail in the Whitebreast Unit.

Horseback riders can enjoy 31 miles of equestrian trails throughout the forest. Anglers will find four stocked ponds within the forest. The area has been and continues to be a popular hunting area, especially for deer and wild turkeys. Stephens Forest was one of the first sites used for reintroducing the wild turkey, which today flourishes throughout Iowa.

In the months ahead, as the daily routine wears you down, take a road less traveled to a place where time seems to go by a little slower on a



Nine Eagles



Red Haw

midsummer's day. Make time to experience one, or all, of south-central Iowa's places of quiet beauty -- with the emphasis on quiet.

Robert Schierbaum is a ranger at Red Haw State Park.

Summertime . . . When the Living (and Teaching) Is Easy

Summer is a great time to nourish future practical conservationists with a variety of "interactive" programs. Local park and recreation departments, county conservation boards, scouting groups, museums, garden clubs, libraries and nature centers in many communities may have summer nature programs for children. These vary according to age group from fishing clinics and nature walks to short workshops and overnights.

Whether your involvement is with your children, grandchildren, young friends or a neighborhood group, it is worthwhile to check out these community programs and match them to "your" children's interests and attention spans.

Making use of these local opportunities is an excellent way to get children interested in the many aspects of conservation, outdoor enjoyment and environmental awareness.

If you have a home computer, you may want to check out computer programs or interactive CD ROM games that involve nature, the outdoors or the whole environmental gamut. Local libraries may have these to loan or you may find interesting and age-appropriate programs from a little "surfing" on the Internet. While these interactive computer games and CD ROMs can be great and are very involving, the best kind of "interaction" is a "hands on" project.

Here is a small sampling of activities to do at home starting with very young children.

◆ Keep a weather chart. Using a large outdoor thermometer and a simple rain gauge (maybe even homemade), help the children keep track of temperature, precipitation and general weather conditions. Let them draw simple symbols to designate sunny, cloudy, partly cloudy, stormy and foggy days. Include approximate sunrise and sunset times. Design a simple chart using a ruler and a plain sheet of paper and use the measurements, records and hand-drawn symbols.

Older children might complete the record on a home database or print the chart and graphics from the computer. Complete the booklets by placing them in a folder and labeling them *Summer 1996*. This exercise can be continued throughout the year and the children's weather observations can be tied into animal behavior, plant cycles and seasonal changes.

◆ Make a special trip to the library to pick up plant or animal identification, stargazing, birdwatching or habitat books. There are many excellent books available for even pre-readers. Set aside a time to read the books and use them in simple plant and animal identification around your yard. Explore not only your own backyard but small streams, ponds, puddles, gardens, grasslands and timber areas in local parks. After searching near your home, identify other plants and animals at a larger park, botanical center or even the zoo. Use the similarities and contrasts in environments, food types and habitat requirements for a discussion of diversity. The children can draw their observations and keep a simple record.

◆ Encourage older children to choose a nature word for the day. Have them research it in the dictionary, look for it in the newspaper (especially in headlines), use the word in conversation and have them make up stories to tell or plays to act out for younger children.

◆ After reading about and/or observing animals have the children "become" the

animal. Ask them to tell you or act out what they would do during the day (or if they are awake at night) what they would eat, where they would drink, how they would store their food and where they would hide from "whatever would eat them." Even young children can act out a great deal of information about "their" animal.

◆ Have children help with simple maintenance projects around the home. Involve them in waste reduction and recycling efforts in the weekly trash disposal. Explain the concepts of "reduce, reuse and recycle" as you have them help complete simple home repair projects, fixing a fence or door, or rounding up blown in "yard trash" such as plastic bags and papers.

Children can also help with weeding and garden care. Gardening, composting and lawn care are excellent ways to help them learn environmentally safe alternatives for weed control and fertilization. A compost pile demonstrates natural cycles as well as emphasizing the importance of waste reduction.

Animal life cycles, "pest" identification, plant life cycles, animal food preferences and seasonal changes are all lessons easily integrated into simple



Casey L. Gradschning

Practical Conservationist

home gardening tasks. Letting children plant their own small vegetable garden or butterfly garden can be a terrific ongoing project. Nightcrawlers have great visual and tactile appeal and can be very useful in helping to explain food chains (remember the early bird!) and soil conditions. They are easily gathered as bait for a fishing expedition. Ladybugs also have a particular appeal for many children. The ladybugs are colorful, safe, nontreatening and beneficial in many gardening situations.

Have the children lie on the ground and closely observe the earth and what is in, on, around and under it. Changing their perspective helps them observe, up-close, the vigorous life that is going on all around them. Tell them to peer into a flower (watch out for bees) or closely inspect a leaf. Ladybugs, leaphoppers, moths, butterflies, ants and aphids may be found hiding or munching on tasty plants.

Help children peek under a rock or piece of wood that is lying on the ground. Ask what lives in these damp dark places. Observe a spider web and let the kids draw their spider web. All activities can lead to further reading and discovery. For example, in talking about the spider you can draw children back into books such as *Mrs. Spider's Tea Party*, or *Charlotte's Web*. Use each activity as a starting point to see what develops.

◆ Start or expand a collection of pressed leaves, rocks, nature stamps or anything else the children find interesting. Discuss the objects they have collected and how to organize and classify them. This can expand into a discussion of how plant and animal species are organized and categorized.

The following activities are adapted from resources and programs of the Polk County Conservation Board.

Meet a Rock

Many people have a "special" rock. Children especially seem to find *many* rocks (that turn up in jacket, shirt, short and pants pockets at wash-time) that

they see as special. This exercise emphasizes that searching for the "perfect" rock takes time, patience and creativity. The materials needed are a collection of intriguing rocks with different colors, textures and types, the book by Byrd Baylor, *Everybody Needs a Rock* and about 30 minutes. It is most suited to an age level of between second and sixth grade, but even younger children like rocks and may be able to tell you about their special rock.

Seat the children in a circle or half-circle around you. Ask how many of them have a favorite rock at home or in their pocket. Ask the group if they knew there were specific rules to follow when looking for their special rock.

Read Byrd Baylor's book, *Everybody Needs a Rock*, aloud to them and tell them to listen very carefully because at the end there will be a quiz. After reading the story, quiz or review with the children the ten rules of finding a "special" rock.

Now, tell the children they will have a chance to find their own special rock. Show them the various piles of "special" rocks you have set out on the floor. Tell the group the history of where these rocks were found, for example a gravel quarry, or a stream bed. Let each child select the rock pile where they wish to hunt for their special rock.

After the children have returned to their seats, have them share why their rock was special, and what made them pick their rock over all the other rocks in the piles, -- maybe the color, or the way it felt in their hand. This activity is a

great way to start exploration. It helps kids become interested and intrigued with rocks. They cannot wait to find out the rock type, its history and use.

This activity can be expanded and children can report back on the history of the special rocks they have at home and you can organize small field trips to gather specific kinds of new special rocks. Follow-up visits to a museum or science center might also be fun and a "life history" of their rock written and illustrated in story form is a perfect project for a rainy day.

Adopt a Pill Bug

Borrow a pill bug or a sow bug by simply turning over a rock or a piece of wood. Pill bugs always prefer dark, damp places for their homes. Gently pick the pill bug up. Let it explore your hand. Enjoy the tickly sensation.

If the pill bug rolls into a little ball encourage it to open up by softly chanting "Wake up, wake up little pill bug, Open out so you can go home." You can also try gently blowing on it until it uncurls. Return your little friend to its home as you found it.

These activities are just jumping off ideas for creating future practical conservationists. Use your imagination to get children to see, feel, smell and hear the outdoors. You will start them on a priceless journey of discovery and appreciation that helps them connect to the natural resources we all love and seek to protect.



Lake Iowa by Don Sievers

Background:

Regulations are an important tool used to manage Iowa's natural resources. They help provide sustainability for the resource, equal opportunities for users and control important health and safety issues.

One common use of regulations is for maintaining a balance in fish populations within a lake or pond. Two years after stocking, a pond contains the maximum pounds of fish that the pond can sustain. No more weight can be grown in the pond unless you first remove fish. Problems arise, not from how many pounds of fish are removed, but what species you remove.

Largemouth bass are the major predator and trophy fish in Iowa's farm ponds and small lakes. They are stocked with bluegills and catfish to provide a balance between fish populations. They are popular with anglers and provide excellent fishing. When anglers remove too many of the larger bass, the bluegill population grows out of control. The pond soon contains only stunted fish.

Length limit regulations prevent the overharvest of larger bass that control bluegill populations. Bag limits help to distribute the fish among anglers and special seasons allow fish like walleye to spawn before angling begins. Catch-and-release fishing provides an opportunity to catch large fish, but encourages their release to help control fish populations and provide other anglers an opportunity to catch larger fish.

Regulations also help in monitoring air quality, managing waste placed in landfills, protecting endangered species, providing safety while hunting and provide many other guidelines associated with resource use.

Age:

Grades 5 and 6

Objective:

Students will become aware of the role of regulations in managing natural resource issues and develop plans concerning resource management in a watershed.

Season:

All

Length of Activity:

1 to 2 hours

Materials:

flag football belts with flagging
whistle or bell for signaling the end of each round
paper for graphing
markers for graphing

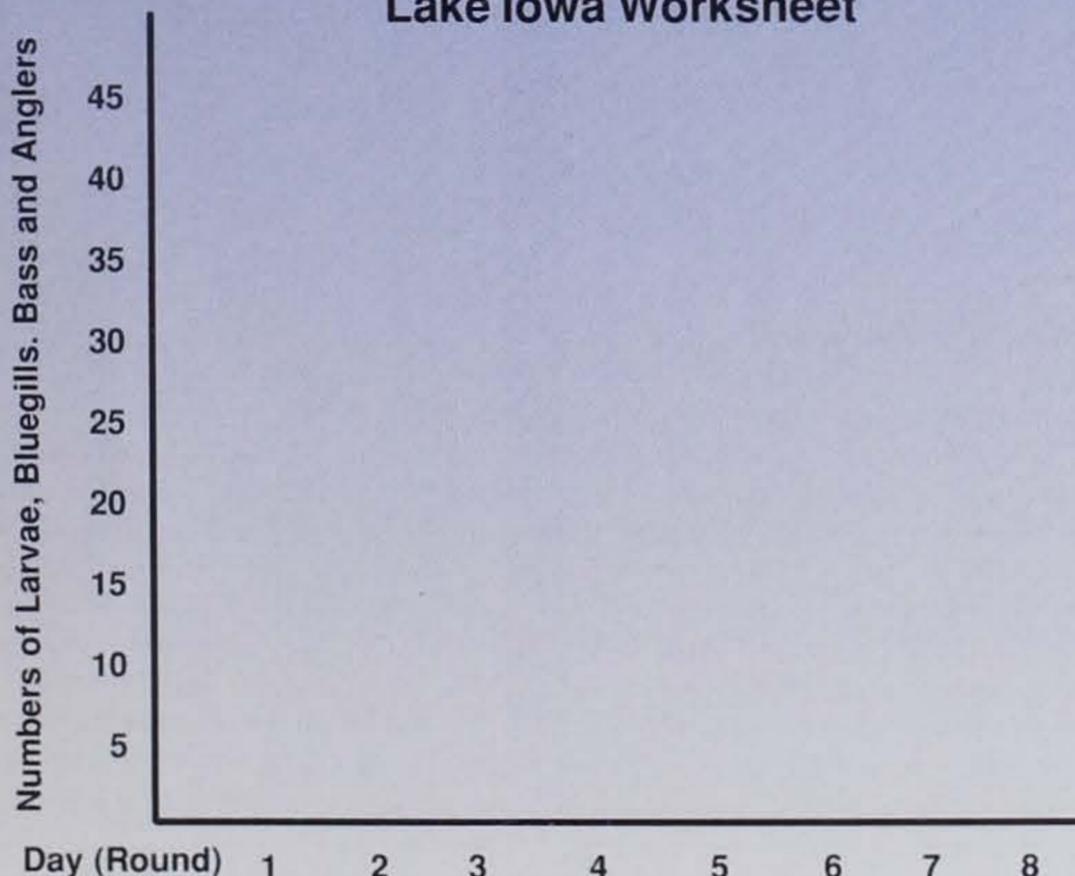
Additional Resources:

1996 Iowa Fishing Regulations booklet (especially pages 14 and 15 which contain information about length limits)

Key Words:

Food Chain
Population
Regulations
Sustainability
Overharvest
Predator
Spawn

Lake Iowa Worksheet



Classroom Corner

Previsit suggestion:

Riparian Retreat (from the May/June 1996 *Iowa Conservationist* Classroom Corner)

Postvisit Suggestion:

Planning for People and Wildlife (from project *WILD*)



■ Length limits and catch-and-release are valuable resource management tools.

Don Sievers is a training officer at the department's Springbrook Conservation Education Center in Guthrie County.

Procedure:

1. Ask the students to define or give an example of an aquatic "food." Encourage students to use a local, rather than exotic, example. Explain that students are going to role play a food chain.

2. The game is a series of rounds representing one day that last one to five minutes. The object of the game is to survive by finding something to eat. Assign students to be dragonfly larvae, bluegills and largemouth bass in a 3:2:1 ratio and choose one student to be an angler. Everyone should wear a flag football belt with the Velcro tab in back, facing out. Bluegill will be identified by attaching a yellow flag to their belt. Construct a graph and label the initial numbers of aquatic life under Day 1.

3. Assign habitat for the dragonfly larvae (cattails), bluegills (brushpile) and bass (stump of an old tree). A triangular arrangement works well with the brushpile 100 feet from the cattails and the stump 50 feet from the brushpile. The bass and the angler cannot go into the brushpile or the cattails.

4. At the beginning of each day bluegills must run to the cattails, grab a larva by the hand and return to the brushpile before a bass can grab its tail. If captured the larvae and bluegill die immediately and begin the next round as larvae. If they return safely, in the next round the bluegill becomes a bass and the larvae a bluegill. As long as bass continue to capture bluegills they survive and remain as bass for the next round. If they do not capture food they begin the next round as larvae. When bass have remained at the stump for two rounds they attach a red tail and can be pursued by the angler. Record the numbers of students representing each species at the end of each day.

5. Blow the whistle to begin Round 1. After a few rounds the population will no longer be balanced, i.e. the bluegills or bass may be eliminated. You may end the activity and have the students graph the results. Using the graphed information discuss the results and ask students what other issues might affect the fish population in "Lake Iowa."

6. Divide the students into groups of resource managers and ask them to develop plans for solving the following issues, or use examples of the issues they identified. Have them develop ideas

- for maintaining a balance in the populations.
- for reducing soil erosion from a housing development in the lake's watershed.
- to control seepage from a livestock lagoon located in the watershed above the lake.
- to prevent the anglers' children from collecting threatened plants and animals while they are fishing.

7. Students can report on their plans to the rest of the class. Discuss their results, paying special attention to any "regulations" they have used.

1995 Deer Season Excellent

The numbers have been tallied, totaled, and charted, and the 1995 deer season was the most successful since 1990, according to DNR wildlife biologist Willie Suchy. The total combined kill of 97,256 for all seasons was a 12 percent increase from 1994.

"Excellent fall weather, good numbers of deer and higher success rates all contributed to the increased kill," Suchy said. "Archery and muzzleloader hunters, and hunters during both shotgun seasons, were more successful than during the past

in an effort to keep things balanced."

Suchy said he expects another good fall next year, with the possibility of an all-time record. "We will continue to liberalize the regulations in northern Iowa and hunters should be even more successful," he said. "And as the hunting gets easier and success rates rise, more people will be interested in buying a deer license. Although the state issued nearly 180,000 deer licenses last year, that is still 15,000 less than the peak in the late 1980s."

Public's Help Needed In Stopping Game Law Violations

Summertime fishing season is here. The final spring turkey season ended May 12. Hikers and birdwatchers are walking the timber areas, and campers are packing their gear for new camping adventures. Poachers, however, do not limit themselves to a particular time and season and the DNR is asking for the public's assistance in stopping violations of Iowa's fish and wildlife laws.

All Iowa conservation officers have cellular phones and their numbers are listed in both the hunting and fishing regulations booklets. In addition, a toll-free "poaching hotline," **1-800-532-2020**, is provided by the TIP (Turn In Poachers) organization. The public has the opportunity to be an active participant in the investigation process of crimes against Iowa's fish and wildlife resources. Iowa citizens have made more than 5,500 calls to the TIP line to report possible fish and game violations.

Anyone convicted of unlawfully selling, taking, catching, killing, injuring, destroying or having in possession any animal, is required to reimburse the state for the value of the animal. Called liquidated damages, these are *in addition* to the fines and penalties assessed by the court. Values are assigned as follows:

each deer - \$1500; each elk, antelope, buffalo, moose - \$2500; each animal classified by the Natural Resource Commission as an endangered or threatened species - \$1,000; each wild turkey, beaver, mink, otter, red and gray fox, and raccoon - \$200; each animal or bird or the raw pelt or plumage of such for which damages are not otherwise prescribed - \$50; each fish, reptile, mussel, or amphibian - \$15. For each conviction of unlawful ginseng harvest, the state will be reimbursed 150 percent of the ginseng's market value as determined by the DNR.

Under legislation effective in 1990, convictions are assigned a point value ranging from one to three points, depending upon the seriousness of the violation. Licenses will be suspended or revoked by the DNR for a specific period depending on the number of points accumulated. A "multiple offender" is any violator whose point total equals or exceeds five points during any consecutive, three-year period, even if all violations occur as a single incident. The multiple offender program is administered by the DNR and any penalties, as with liquidated damages, are *in addition* to those imposed by the court for the same violations.

For more information on TIP and how to help stop poaching in Iowa, contact: DNR Law Enforcement Bureau, 900 E. Grand, Wallace State Office Building, Des Moines, IA 50319-0034 (515) 281-4515.



Roger A. Hill

couple years. For the second consecutive year, bow hunters set a new record. Bowhunter numbers were about the same as in 1994 and higher success rates accounted for most of the increased kill."

"The increased kill also reflects an increase in deer numbers," Suchy continued. "Most of the increased kill came from the northern two-thirds of the state where numbers are reaching the "tolerance" levels. People tend to get very upset with the problems that deer can cause and we will watch the numbers very carefully



You Can Remain Anonymous

Conservation Update

■ Sun Prairie Apartments has installed a new wind turbine, a BWC EXCEL, at the apartment complex located in West Des Moines.



P.S. Cale

Apartment Community Installs Wind Turbine

Sun Prairie Apartments, located in West Des Moines, were designed to maximize their energy efficiency. The 1,000-unit complex is constantly striving to give its residents apartments that will save them money on utility bills and conserve energy. Now, Sun Prairie has taken this concept much further by having a wind turbine installed at the complex.

On April 22, Sun Prairie's new wind turbine, a BWC EXCEL, was dedicated. "This turbine personifies our concept of energy efficiency and environmental protection," said Keith Denner, president of Professional Property Management. "This is a statement to the world that we are concerned with energy conservation."

This turbine is different from most commercial and residential turbines, because it is not tied to a utility grid. Sun Prairie will use the turbine to preheat hot water.

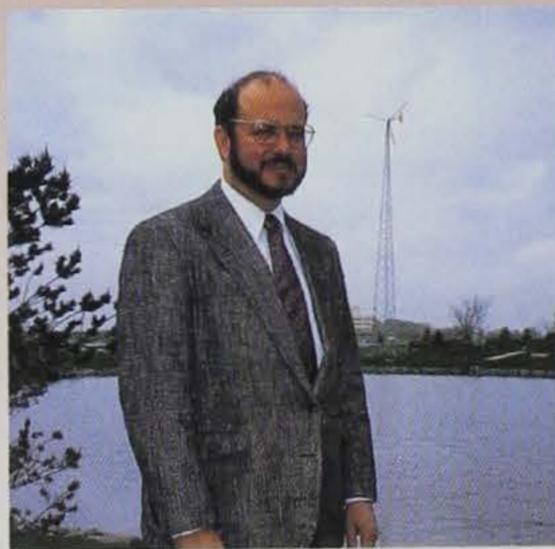
The 13-Kilowatt turbine stands 100 feet high, has three blades and a rotor diameter of 23 feet. The BWC EXCEL is the newest model produced by Bergey Windpower. This durable model has a 30-year lifespan and can withstand winds of 120 miles per hour.

The turbine has gained Sun Prairie a lot of notoriety. Denner said he has re-

ceived many inquiries from the community. He adds that he has received favorable response from both the tenants of Sun Prairie and local community leaders.

Denner said he received a great deal of support from the city of West Des Moines for this project. "This is a way of showing West Des Moines is a progressive community," he said.

The turbine cost between \$25,000 and \$35,000, none of which came from outside funding. Denner expects the turbine to save the complex about \$25 per day on the days it is operating. "This was not purely an economic decision," said Denner. "We just wanted to continue our philosophy that energy conservation is important."



P.S. Cale

■ Keith Denner, president of Professional Property Management with the turbine.

1995-96 Small Game Harvest Summary

Small game hunters made more than two million trips afield in pursuit of Iowa's upland game last fall, according to Todd Bogenschutz, DNR wildlife biologist. He said that despite a wetter than normal spring in 1995, Iowa's small game populations appeared to fare much better than expected and hunters reported higher harvests of pheasants, quail and rabbits than in 1994. Only partridge hunters reported taking fewer birds.

"Approximately 200,000 pheasant hunters harvested 1.44 million roosters in 1995," Bogenschutz said. "This was Iowa's highest pheasant harvest since 1981 and the best in the nation. Both the number of hunters and number of birds harvested increased from 1994. Based on our 1995 August roadside counts we expected to harvest about 1.3 million birds, so the harvest number was a pleasant surprise."

"Resident pheasant hunters averaged seven days afield and one bird per trip," Bogenschutz said. "While nonresidents averaged four days afield and two birds per trip. It's not unusual for nonresident hunters to have higher success rates. They travel long distances and tend to hunt in the better pheasant areas of the state. Typically, they hunt longer, harder and harvest more birds."

Approximately 51,000 quail hunters harvested 221,000 quail, the best harvest since 1991. Quail hunters averaged six days afield and slightly more than four birds for the season. Partridge hunters harvested just less than 7,000 birds, the lowest harvest on record, and averaged five trips and less than one bird for the season.

"Partridge were imported to this country from the arid steppe region of northern Asia," Bogenschutz explained, "and they do not reproduce well in Iowa unless we have a dry spring. Too much rain fell during the critical nesting months of April and May last year."

"Rabbits are an under-used resource in Iowa," Bogenschutz said. Hunters harvested 336,000 rabbits last year, averaging four

and one-half days of hunting and one rabbit per day. The number of rabbit hunters has declined 64 percent and the harvest has declined 77 percent since 1974. "Although rabbits lack the 'flair' of species like pheasant and quail," said Bogenschutz, "they are a great way to introduce kids to hunting. Rabbits can be found anywhere in the state and there is little, if any, competition for hunting spots."

Canada Condo?

A May trip to photograph nesting Canada geese on Clear Lake resulted in an unusual finding for DNR information specialist Lowell Washburn.

"There has been a nest in the same location for the past three springs," Washburn said, "and due to their familiarity with the activity of wading anglers, the geese are easily photographed. Earlier this spring, I had noticed the gander was not only always at the nest sight, but sat shoulder-to-shoulder with the female on the nest. I thought it somewhat strange, but let it go at that."

"On this trip, both birds were on the nest as usual when I arrived," said Washburn. "I set up to take photos, but had moved too close. The goose stood up, fanning wings and hissing, and exposed six eggs. I started to back off, but it was too late. Then the gander stood up, fanning wings and hissing and exposed six more eggs!"

"I was thinking this is *really* strange behavior," Washburn continued, "when the *real* gander became aroused by the commotion and appeared from around the corner of the island. I've seen aggressive Ganders before, but this bird was the heavy-weight champ. He flailed at me repeatedly and finally drove me back several yards. Both females were now off the nest and interacting with each other and the gander, neck stretching and nonstop vocalizing. I retreated further, escorted by the gander, and the females returned to the nest."

"There's no doubt the three birds were a single, though extended, family unit," said Washburn. "As near as we can deter-

mine, this has never before been documented in the wild. The eggs in this nest were separated by only about four inches. In searching the mountains of literature that have been written on the Canada goose, we can find no instance of geese nesting this close together. Rice Lake, in Winnebago County, has some of the highest nesting densities in North America, and in reviewing more than 1,000 concentrated nest sights, the closest nests were ten feet apart and separated by some barrier, usually a tree."

"To have goose nests literally touching, especially in an uncrowded situation such as Clear Lake where there are no other nests for more than two miles, is even more unlikely," Washburn said. "And if you add the fact that two females were sharing a single gander, apparently also previously undocumented, this nest really is one of a kind."



Boating and Alcohol Do Not Mix

More than half of the fatal boating accidents that happen nationwide can be traced to alcohol use, according to Sonny Satre, DNR recreational safety coordinator.

"Boaters face some natural risks like wind, weather and navigation hazards when out on the water," Satre said, "but operating a boat while intoxicated is illegal and dangerous. An intoxicated boat operator, like an intoxicated driver, has difficulty re-

sponding in emergencies. A loss of judgment is an early effect of drinking and people take more risks." He added that alcohol induces tunnel vision (the inability to see to the side), reduces depth perception, night vision and the ability to distinguish colors, especially red and green, the color of a boat's running lights.

"Boaters should apply the designated driver concept to boating," Satre said, "and at least one member of the party should stay sober to operate the boat. However, any intoxicated person, whether the operator or a passenger, is at risk on the water."

1995 Fall Turkey Harvest Results

Iowa's spring wild turkey hunting season ended May 12 and it will be some time before the season's results are tabulated. However, harvest statistics for the 1995 fall turkey season have just been completed, according to Dale Garner, DNR wildlife biologist.

"Iowa consistently has one of the highest turkey hunting success rates in the nation," Garner said. "During the 1995 fall season, 47-percent of Iowa's fall turkey hunters were successful in harvesting a wild turkey. Hunters took approximately 2,481 birds during the Oct. 16 through Nov. 30 season."

The DNR issued 6,911 gun/bow licenses, of which 3,458 were free licenses issued to landowners. In addition, 715 licenses were issued for the split archery-only season that ran Oct. 1 through Dec. 1, and Dec. 18 through Jan. 10, 1996. Non-resident wild turkey licenses were issued in Iowa last fall.

Garner said success rates varied from 18 percent in zone two at Shimek State Forest in Lee and Van Buren counties, to 66 percent in zone five at the Loess Hills. Central Iowa hunters in zone seven had a 20 percent success rate, southern Iowa hunters in zone four experienced 47 percent success, and zone six hunters in northeast Iowa posted a 50 percent success rate.

Conservation Update

Governor Proclaims 1996 Recycle at Work Year

Governor Terry E. Branstad proclaimed 1996 as Recycle At Work Year in a special state employee "Clean Out Your Files" (COYF) recognition ceremony held during Earth Week 1996. The governor encouraged businesses leaders statewide to initiate waste reduction programs, recycle at work and become models in their communities' solid waste reduction plans, just as state employees have been doing since 1989.

State employees were recognized for their efforts in reducing unnecessary paper from files during an April 23 special "spring cleaning" event. In under five hours, 4,600 employees working at the capitol's complex purged more than 46 tons of recyclable paper, cardboard, computer software and books.

According to Chris Denniston, of the U.S. Conference of Mayors National Office Paper Recycling Project, state and local governments are looking for ways to operate efficiently and recycling at work is a proven economical business practice. Denniston emphasized that Iowa leads state governments nationally by sponsoring the well-organized clean your files event, and is planning to share Iowa's experience with other state and local governments.

"The goal of COYF is to recharge the existing waste reduction and recycling program by creating awareness for complex employees, as well as to pull more recyclables out of the offices and keep them from the landfill," said Beth Hicks, DNR recycling specialist and the event's coordinator. Hicks is working with the Department of General Services (DGS) to assure the clean your files event becomes an annual Earth Week project for capitol complex employees. "Private businesses like Rockwell International Corporation of Cedar Rapids and R.R. Donnelley Printing Company of Des Moines conduct annual one-day events very successfully," said Hicks.



■ On April 24, Michael Barry, general manager of Weyerhaeuser Co., presented Governor Branstad with an environmental award for the State's recycling initiatives including the "Clean Out Your Files" event.

A partnership between the DGS and the DNR continues to provide a solid recycling collection program located at the Capitol's complex. The DGS handles collection operations and the DNR provides recycling technical assistance.

Tim Ryburn, DGS administrator of custodial services and cosponsor of the event, believes recycling is smart business. 1995 records show the State received \$14,500 in revenues for materials generated by the capitol complex recycling program. "By collecting paper for recycling, state employees saved an estimated 1,380 cubic yards at the Metro Waste Authority's landfill, sparing Iowa taxpayers more than \$20,400 in landfill tipping fees," Ryburn added.

Need another reason for your business to adopt recycling? "The demand for recycled paper products has increased in recent years, as has the need for better quality recovered fiber," stated Ron Bingham, sourcing representative for

Weyerhaeuser Recycling, located in Des Moines. Bingham commented that even though recycling markets are down, recycling should be looked at as a cost-savings benefit, waste reduction tool and an opportunity to reduce landfill costs. "Any revenues generated from the sale of recycled materials is an added advantage," he said.

In response, paper manufacturers have spent millions of dollars retooling their mills or building new mills like the Cedar River Paper Mill located in Cedar Rapids to process recovered old corrugated cardboard into new cardboard. "The Cedar Rapids plant is significant because it reduces transportation costs of recovered cardboard and mixed office paper for Iowa collectors that have previously been shipping materials out of state, and has added high-paying jobs for Iowans," said Jeff Geerts, DNR recycling specialist.

Iowa has taken significant measures to promote alternatives to landfilling by establishing a waste reduction goal of 50

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percent by the year 2000 as compared to 1988 levels. Businesses, industries and institutions are being called upon to be models for their own communities by initiating programs for reducing waste going to landfills.

For more information on recycling at work, contact Beth Hicks, at 515/281-8672 or the U. S. Conference of Mayors National Office Paper Recycling Project, at 202/223-3088.

Compiled by:
Waste Management Assistance staff

Free Booklet Helps Iowa Landowners Protect Natural Areas

Protecting Iowa's precious woodlands, wetlands, prairies and wild places just got a little easier. The Iowa Natural Heritage Foundation has improved *The Landowner's Options*, its free guide to voluntary land protection in Iowa.

The 64-page booklet features true-life examples and clear explanations of 18 legal methods of land protection. Landowners who want to permanently protect their natural areas -- whether they wish to

retain ownership, pass it on to others or create a public area -- will find suitable methods of protection. Many of the options provide the landowners with compensation or tax benefits.

Since it was first published in 1982, more than 11,000 copies of the booklet have been distributed to landowners and the professionals who advise them. *The Landowner's Options* was partially funded by a REAP Conservation Education Program grant through the Iowa Department of Education. Other cosponsors of the booklet include farm managers, bank trust departments, and conservation organizations.

The Iowa Natural Heritage Foundation's professional staff is available to confidentially discuss land protection opportunities with landowners. The Foundation is a nonprofit organization dedicated to building partnerships and educating Iowans to protect, preserve and enhance Iowa's natural resources for future generations.

For a free copy of *The Landowner's Options*, contact the Iowa Natural Heritage Foundation at 505 Fifth Avenue, Suite 444, Des Moines, IA 50309; phone 515/288-1846 or fax 515/288-0137.

Upcoming NRC, EPC and Preserves Board Meetings

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

Agendas for these meetings are set approximately 10 days prior to the scheduled date of the meeting.

For additional information, contact the Iowa Department of Natural Resources, Wallace State Office Building, Des Moines, Iowa 50319-0034.

Natural Resource Commission:

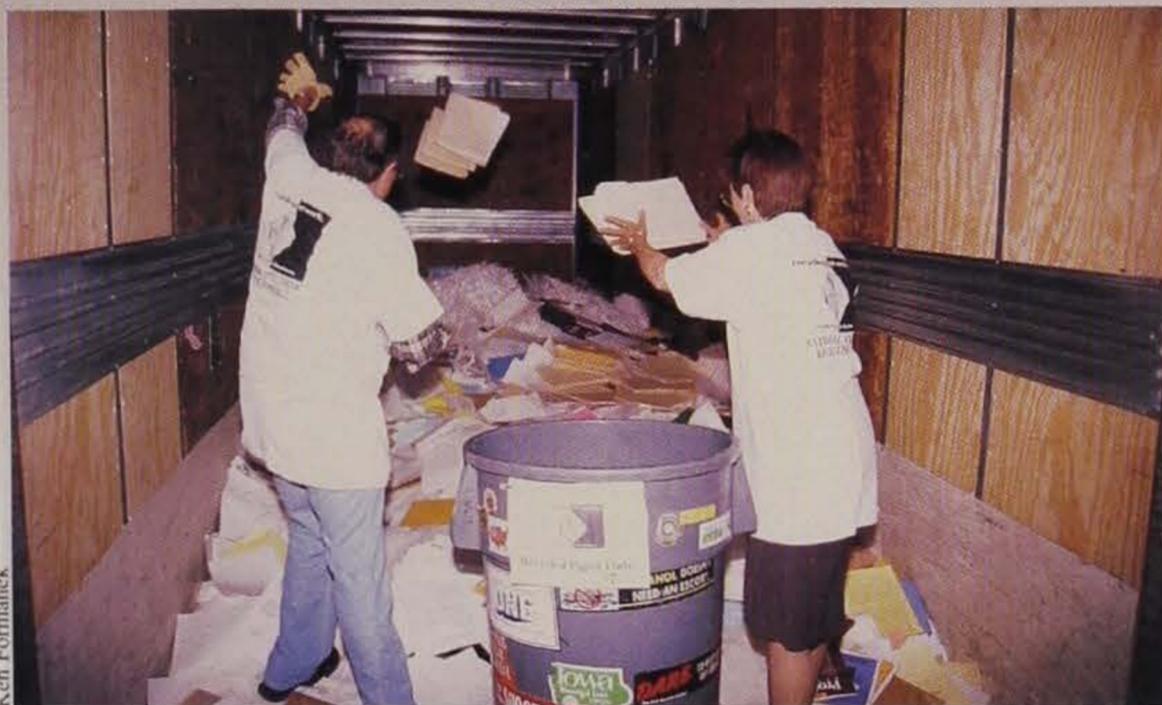
- July - no meeting
- August 2, Clear Lake
- September 12, Paulina

Environmental Protection Commission:

- July 15, Des Moines
- August 19, Des Moines
- September 16, Des Moines

State Preserves Advisory Board:

- September 5, Dickinson County



■ In under five hours, 4,600 employees working at the capitol's complex purged more than 46 tons of recyclable paper, cardboard, computer software and books.

Warden's Diary

Another Arena

In this job, summer hours can be very long and very hot, but during the fall we probably put in more night hours than usual. Fall's the time of the year when someone might decide to shine a light in a tree or field to take that raccoon or an early deer.

Many times, work in the fall involves going out night after night sitting in your truck (after you've squirreled it away somewhere on top of a hill or in the back of a field) in a spot you hope isn't easily visible to the "bad folks." Sometimes you find the unsuspecting poachers and capture them, enjoying the "where did you come from" look on their faces. Many times though, you find out you've ended up the only person in the world who is out of their house and awake at that hour of the morning. That's okay too, but sometimes, those many other empty nights can leave you wondering if the effort is worth the trouble. Sometimes though, you find what you never expected.

On this particular night I had parked across from a bridge on the side of a terraced field overlooking a road adjacent to some timber. I was really tucked away and the area was mostly uninhabited. It was a perfect place for a crime, or so I thought.

I had tilted back the seat, opened my thermos, and tuned the radio to my favorite radio program -- "Call Hayden Fry" (I love it, I love it!).

Anyway, it had been just a while since the last caller had hung up after expressing his undying devotion to the Hawkeyes. (I wonder if his devotion was on life support when the Hawks were nearly obliterated, by *Northwestern* of all people, the next Saturday.) I was debating whether or not to move after seeing nothing else all night but a couple of coon hunters. I rolled down my window thinking the cool air would wake me up a little.

Off to my left in the trees, I heard a loud snort. In the moonlight I could see a buck stealthily picking its way among the fallen leaves and branches. It was a large buck-- a very large buck. I sat back in the seat and opened the thermos again.

Later, as I was trying to decide whether to eat the sandwich or the candy bar (a critical decision at this time of night), I suddenly heard "Whack!"

It sounded like two baseball bats being slammed together. "What in the world?" I thought. I couldn't see anything. I sat back again and had just decided the candy bar was THE food of choice for this time and setting.

"Whack!"

I nearly jumped out of my seat spilling my coffee (which I now no longer needed to be *completely* awake) but not scalding myself.

"Whack!"

I turned on my headlights. In front of me was a spectacle I've heard about, read about and seen on TV, but never had witnessed in real life.

The buck I had seen before was about 30 yards in front of my truck, nose to nose with a smaller buck. They stared each other down, backed up, jumped forward, then, "WHAM," collided antler to antler with each other. They locked antlers and pushed back and forth, each trying to gain the advantage over the other.

I hooked up my handheld spotlight. What I saw behind the two bucks was even more amazing. About four does were standing close by watching the two in combat. As the fight continued, more does approached from the timber until it looked like an honest to goodness athletic event complete with spectators. It was truly, the arena of the natural world.

My heart nearly pounded out of my chest. I felt privileged to be able to view the spectacle. The two bucks whaled away at each other for almost

full ten minutes, fighting and pushing so hard you could almost feel their effort and exhaustion.

After a while, a stretch of time which must have been only a few more minutes but that seemed like an eternity, they stopped, squared off and just stared at each other. Then, suddenly, the smaller buck turned away in defeat and walked slowly towards the timber. The does watched as it left. There were no cheers for effort here, no rewards for second place. Such is the reality of the wild.

The larger buck stood its ground until the challenger was out of sight. Then he and the does melted silently back into the timber.

I sat in amazement still moved by what I had seen. I hope I am never so hardened that I fail to be in awe of the ways of the wild. I have spent a career watching, studying and protecting wildlife. For a moment such as this, it was all worth the effort. Those many other empty nights were worth the trouble. I'd been given a glimpse of what we are all working to protect.

-- by Chuck Humeston

**"As the fight continued,
it looked like an honest to
goodness athletic event
complete with spectators.
It was truly, the arena of
the natural world."**

Parting Glance



Gary Winch

“Cool it!”

When the summer heat
becomes a bit to much,
follow the lead of this fine
feathered friend by taking
time out for a cool dip.

