

CONSERVATIONIST

IOWA

MARCH/APRIL 1998

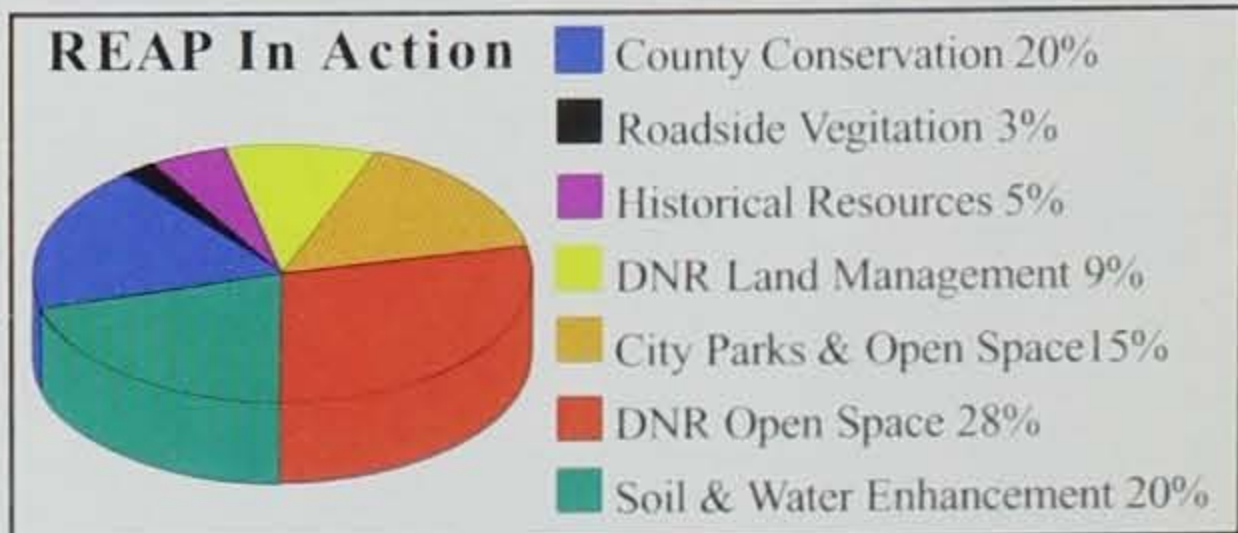
DEPARTMENT OF NATURAL RESOURCES





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IOWA CONSERVATIONIST

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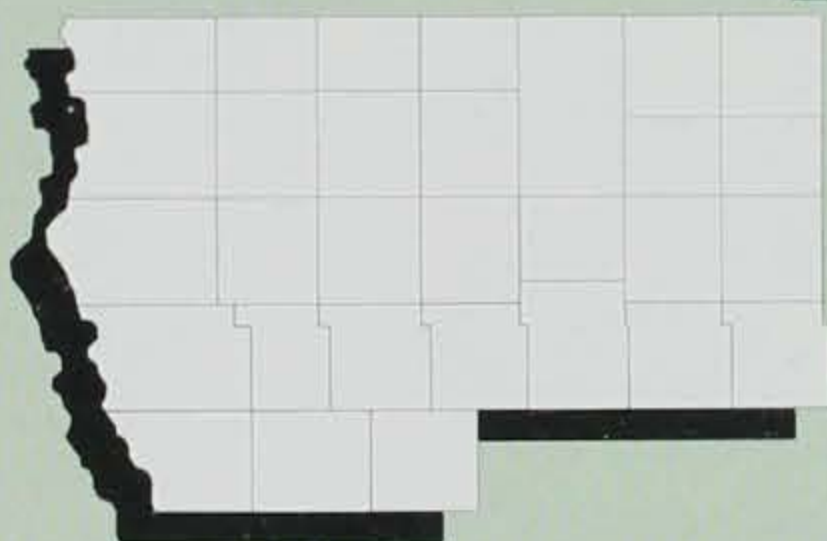
FISHING

1998

FORECAST

NORTHWEST

BY: THOMAS W. GENGERKE, REGIONAL FISHERIES SUPERVISOR



Natural lakes and small impoundments. Great border rivers and smaller prairie streams. Waters that run deep and those that keep your ankles dry. Different things to different people.

All of these contrasts contribute to your perception of a quality natural resource and all of these contrasts are available within northwestern and north-central Iowa. So what's the commonality? I think it's diversity. Diversity of land forms and species all contribute to the profound richness of natural systems and resource experiences available to us.

From an angler's viewpoint we have to marvel at the diversity of opportunities available to us. We can fish for rainbow trout during the winter months at Blue Pit, near Mason City, or we can enjoy the large numbers of 8- to 10-inch bullheads currently available at Black Hawk Lake (Sac County). We

can catch fish to eat, such as bluegills, which are bountiful in Little Wall Lake (Hamilton County), or channel catfish, which are in plentiful supply in our rivers or in Storm Lake (Buena Vista County). We can fish for fun by catching and releasing largemouth bass in Crystal Lake (Hancock County) or smallmouth bass in West Okoboji (Dickinson County). We can fish for small fish, big fish, fish that are easy to catch, as well as those that are more difficult.

We can fish in groups while we locate yellow perch or we can seek solitude while in the pursuit of trophy muskellunge or riverine walleye. The combinations are enormous. There are so many different arrangements for so many different fish. If you have never experienced fishing the natural lakes, small impoundments, great border rivers and small prairie streams of northwestern and north-central Iowa, it's time to give it a try. For those of us who live in the region -- let us

appreciate the unique and diverse resources available to us in our "own back yard."



Ron Johnson



Lowell Washburn

Species

Lake or Stream, *County*

Comments

Walleye

Clear Lake, *Cerro Gordo*

Walleye harvest was down in 1997 compared to the record harvest observed in 1996. Large numbers of sub-legal size fish remain in the population, and with adequate growth, these fish should exceed 14 inches in 1998. Most fish creeled will be 14 to 18 inches.

Black Hawk, *Sac*

Lots of walleye, 15 inches or larger by June 1998. Some lunker fish available.

Silver Lake, *Dickinson*

The strong 1995 year-class will produce the bulk of the angling. This lake has been a consistent producer of large fish and 1998 will be no exception.

Ingham, *Emmet*

The average size fish creeled will be 15 inches. The occasional larger fish will also be caught.

Spirit Lake, *Dickinson*

The 1994 year-class, 14-inch-plus fish will be overshadowed by the huge 1995 year-class of fish. Most of these fish will have to be released.

East Okoboji, *Dickinson*

There will be good fishing for 20-inch-plus fish during 1998; however, the majority of the creel will be comprised of fish stocked in 1994 and 1995 (12 to 14 inches). This is an excellent opportunity for catch-and-release enthusiasts.

W. Fork Des Moines, *Emmet*

A good population of walleye inhabit this portion of the river. Deep holes scattered throughout the river and the riffle areas near Estherville are consistent producers.

Iowa River, *Hardin*

Good numbers of one- to two-pound walleye from Eldora to Union.

Little Sioux River, *Clay*

This stretch of river has been a consistent producer over the past several years. Water level conditions must be favorable.

Bullhead

Black Hawk Lake, *Sac*

Great population of 8- to 10-inch fish. Don't overlook fall fishing for these fish in Black Hawk.

Lake Cornelia, *Wright*

Good numbers of 1/2- to 3/4-pound fish. May is typically the best month.

Dog Creek, *O'Brien*

The mean size is 11 inches and there are plenty of fish.

Silver Lake, *Dickinson*

Excellent fishing for 10- to 12-inch fish.

High Lake, *Emmet*

The underexploited population has the potential to provide anglers with both quality and quantity during 1998.

Center Lake, *Dickinson*

Excellent population of 10-inch fish.

Spirit Lake, *Dickinson*

Improved size and excellent fishing expected -- try the North Grade!

Crappie

Briggs Wood, *Hamilton*

Excellent numbers of eight- to nine-inch fish.

Beeds Lake, *Franklin*

Extremely abundant population of seven-inch crappie.

Yellow Smoke, *Crawford*

It's a crappie lake! Jigs tipped with minnows or waxworms, fished near the timber, will yield lots of 8- to 10-inch fish.

Ingham Lake, *Emmet*

Fishing the submerged shallow water timber during April and May will produce 9- to 11-inchers.

Lake Pahoja, *Lyon*

Ten-inch fish will be available by late summer or early fall.

Largemouth Bass

Mill Creek, *O'Brien*

Good numbers of 15-inch or larger fish are available. The lake is small -- please be selective in your harvest. Catch-and-release is encouraged.

Ingham, *Emmet*

The 1997 surveys revealed a population weighted towards 15-inch fish.

Crystal Lake, *Hancock*

Excellent numbers of 1-1/2- to 3-pound fish. Catch-and-release is encouraged.

Upper Pine, *Hardin*

Healthy population of bass. Legal fish up to five pounds.

Smallmouth Bass

Iowa River, *Hardin*

Population density, excellent public access, numerous canoe launch and take-out sites make the Alden to Eldora reach particularly inviting.

Shell Rock River, *Cerro Gordo*

Smallmouth have recovered nicely in this stream. Concentrate your efforts between Rock Falls and Nora Springs.

Spirit Lake, *Dickinson*

Fairly stable population. Spring and early summer seem to be the best times, and rock reefs and points the preferred areas on this lake.

West Okoboji, *Dickinson*

Good size structure and excellent recruitment. Again, fish the rock reefs. State record is available.

Species

Lake or Stream, *County*

Comments

Yellow Perch

High Lake, *Emmet*

Lake Pahoja, *Lyon*

Excellent numbers of 8- to 10-inch or larger fish are available.

Catch rates during the 1997 netting season indicate large numbers of 9- to 11-inch fish will be available to anglers.

Spirit Lake, *Dickinson*

West Okoboji, *Dickinson*

A good population of four- and five-year-old fish will produce decent fishing during 1998. Perch fishing will improve in 1998 with adequate numbers of four- to six-year-old fish recruiting into the catchable population.

Lake Cornelia, *Wright*

Swan Lake, *Dickinson*

Perch are very abundant -- eight-inch average. Fish deep water in the north end of the lake. Good numbers of 9- to 11-inch fish are available.

Muskellunge

Clear Lake, *Cerro Gordo*

West Okoboji, *Dickinson*

May and September are the best months. Fish artificial weed beds and rock reefs. Population improving.

This has been the most consistent producer over the past few years and the population structure is improving.

Yellow Bass

Black Hawk, *Sac*

Yellow bass populations have bounced back and lots of fish in the 10-inch range were caught in 1997. Small spinners or a small leadhead jigs tipped with one piece of fish flesh are top baits.

Channel Catfish

Clear Lake, *Cerro Gordo*

Storm Lake, *Buena Vista*

Black Hawk Lake, *Sac*

Lake Pahoja, *Lyon*

East Okoboji, *Dickinson*

Mill Creek, *O'Brien*

Big Sioux River, *Lyon, Sioux, Plymouth & Woodbury*

W. Fork Des Moines, *Emmet*

Boone River, *Hamilton*

Iowa River, *Hardin*

Des Moines River, *Kossuth & Humboldt*

The average size fish has steadily increased in recent years. Three- to five-pound fish were common in 1997.

Each year this lake produces thousands of two- to five-pound fish. Fish around the islands in May and June and along the windy shores in the summer months.

Fish average about two pounds and 10-pounders are not uncommon. Shad entrails, sink bait and liver are the top three choices for catfish anglers at this lake.

They caught a 16-pounder in 1997 but the fishery is dominated by two- to four-pound fish.

A good population of three- to five-pound fish.

The cage catfish program has provided lots of big fish.

Large numbers of small fish.

Excellent population of 1-1/2-pound-plus fish.

Scenic river below Webster City with an abundance of 3/4- to 1-3/4-pound catfish.

Excellent catfish stream from Alden to the county line.

Fish near Algona and downstream, as well as both forks of the river throughout Humboldt County.

Bluegill

Little Wall, *Hamilton*

Indian Lake, *Hancock*

Yellow Smoke, *Crawford*

Lake Pahoja, *Lyon*

Seven- and eight-inch fish are abundant. Fish in the spring and early summer before the vegetation gets too thick.

Quality size fish (9 to 10 inches).

Good variety of sizes and lots of fish. In mid-summer try a piece of nightcrawler on a teardrop beside the submerged timber.

Angling is improving. Good numbers of six- to eight-inch fish.

Northern Pike

Swan Lake, *Dickinson*

Silver Lake, *Palo Alto*

Tuttle, *Emmet*

West Okoboji, *Dickinson*

Trumbull, *Clay*

Four- to five-year-old fish (24 to 30 inches) are plentiful.

Surveys and incidental catch by commercial anglers indicate excellent numbers of three- to six-pound pike.

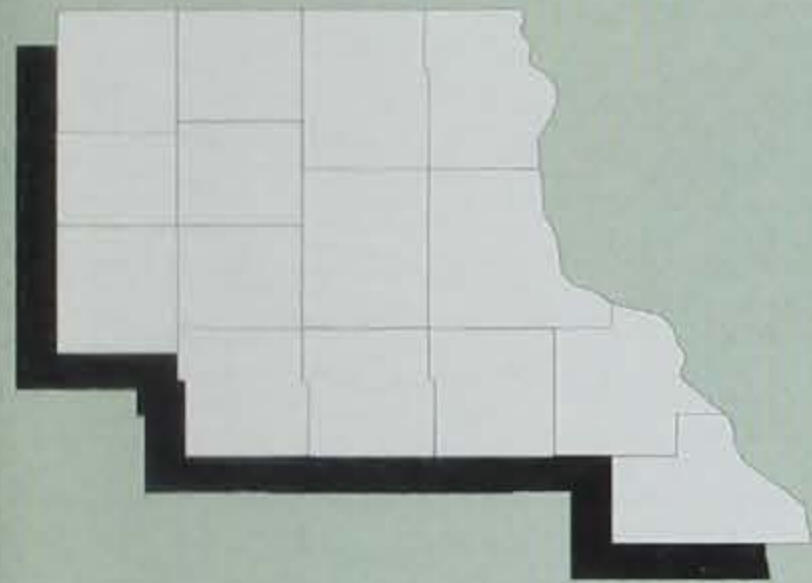
A traditional hotspot for four- to five-pound fish.

A good population of three- to four-pound fish may be caught with live bait, spinners and spoons fished in and around the vegetation. Large fish (10 to 15 pounds) are caught each year.

Thirty-inch fish are not uncommon.

NORTHEAST

BY: DAVE MOELLER, REGIONAL FISHERIES SUPERVISOR



Finally, the open-water season is here. And boy are you ready! Reels are cleaned and lubed, tackle box is organized and fully restocked, reels are re-spooled with new line, and you've purchased a few new lures you are anxious to try. Anticipation is running high. So, to ensure you have a successful year, let us take a look at some of the better lakes and streams you will definitely want to fish this year. In addition to the fish species covered in the accompanying table, here are a few others you should try.

Very early in the spring, just after ice-out, is a prime time for *sauger* fishing in the mighty Mississippi River. This close cousin of the walleye congregates in late March and early April in the tailwater areas immediately below the navigation dams. The tailwaters of dams 9 near Harpers Ferry, 10 at Guttenberg, 11 at Dubuque and 12 at

Bellevue are prime sauger hotspots. Limits of ten saugers are not uncommon during the peak of the run. There is no minimum length limit on saugers, however, there is a 15-inch minimum on the similar-looking walleye. The distinguishing characteristic to look for is that saugers do not have a white tip on the lower tail fin. Like the walleye, saugers are absolutely excellent on the table.

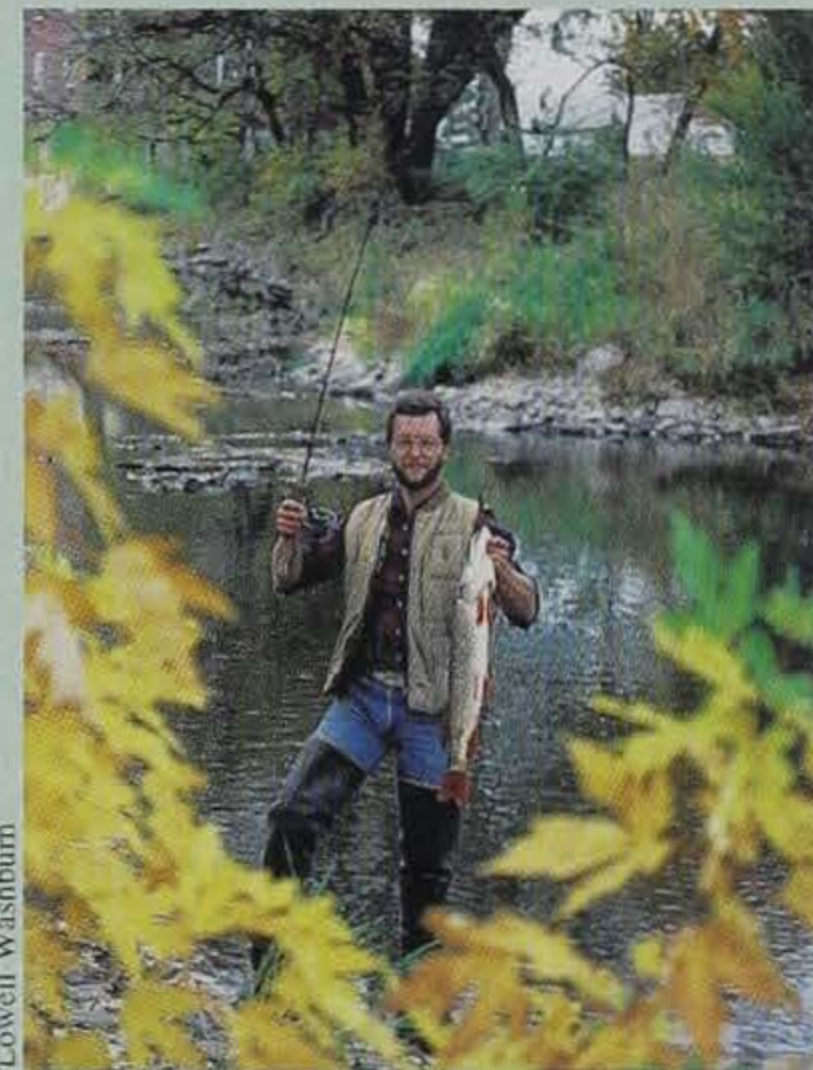
Also, in the early spring is the annual spawning run of *suckers* in several interior rivers. This is a great way for the whole family to get out and release some of that pent-up fishing fever following a long winter of pouring over tackle catalogs and dreaming of the lunkers out there waiting for you. The Upper Iowa, Yellow, Turkey, Volga and Maquoketa rivers are prime sucker streams. The tackle is simple — a #8 long-shanked hook baited with worms, and just enough weight to hold it on the bottom. The action is often furious. Sucker meat is delicious, but bony, so most anglers either pickle them or grind the meat and deep-fry it as thin patties. Either way, you're in for a real treat.

Another species that provides a lot of angling enjoyment for Mississippi River anglers is the *freshwater drum*, also known as sheepshead. This fish is so plentiful it also supports a substantial commercial fishery. The serious action begins in June and continues right on through the warm summer months. Drum love current, so look for them along main channel borders, side channels and especially near the wing dams. They love night crawlers. Try a live crayfish for the really big ones. Hang on to your rod as these babies can hit hard and then test the drag system on your reel.

One of my personal



Ron Johnson



Lowell Washburn

favorites is the *white bass* or *striper*. This fish loves to smack lures and it'll also test your equipment. Look for this speedster primarily in the Mississippi River, however, Lake Delhi near Delhi also supports a very good striper population. Stripers like a combination of current and rock, which makes the Mississippi's wing dams a favored haunt. They love to run in schools so be ready for some fast and furious action once you have them located.

Northeast Iowa offers a real diversity of both quality fish populations and types of waters to fish. It is now up to you to get out and enjoy these angling opportunities. Here's hoping your fishing outings are numerous, enjoyable and full of action through all of 1998.



Ron Johnson

Species

Lake or Stream, *County*

Comments

Walleye

Cedar River, *Bremer, Black Hawk, Chickasaw, Floyd, & Mitchell*

Mississippi River, Pools 9 through 15

Fingerling stockings have resulted in good populations. Fish below dams up to several miles downstream in the early spring, and deeper pools and snags in summer and fall. Don't overlook above riffle areas for actively feeding fish.

1997 walleye angling was excellent, probably the best it has been in 10 years. A repeat is expected in 1998 with many fish in the 15- to 18-inch range. Key in on tailwaters in pre-spawn period in March and April, and again in late fall. Work the wing dams in post-spawn and summer/early fall periods.

Shell Rock River, *Butler*
Wapsipinicon River, *Buchanan*

Four years of fingerling stockings have resulted in abundant 14- to 18-inch walleyes. Excellent numbers from Independence downstream. Good numbers now present below Littleton due to three years of fingerling stockings.

Bluegill

Casey Lake, *Tama*
Lake Delhi, *Delaware*
Mississippi River, Pools 9 through 15
Volga Lake, *Fayette*

Abundant seven- to eight-inchers, some up to nine. Seek shallow waters in May and June. Fish up to eight inches. Fish the early spring and late fall to avoid heavy boating traffic. Expect an increase of more and bigger bluegills throughout the range. As vegetation has made a comeback in recent years, so has the angling success and harvest of bluegills increased. From six to eight inches, found along old creek channels and along the dam. Handicap-accessible floating fishing dock with habitat structures off the outer corners.

Channel Catfish

Casey Lake, *Tama*
Cedar River, *Bremer, Black Hawk, Chickasaw & Floyd*
Lake Delhi, *Delaware*
Lake Meyer, *Winneshiek*
Maquoketa River, *Delaware, Jones & some Jackson*
Mississippi River, Pools 9 through 15

Good numbers of moderate-size fish. Fish the early to mid-summer months. Abundant numbers from Charles City downstream and occasional flathead below Waterloo.

Good population of all sizes of cats, avoid mid-summer due to high recreational boat traffic. Supplemental stocking has built up good numbers of quality-size cats.

Good populations of channel cats beginning at Manchester with quality flathead catfish below the City of Maquoketa.

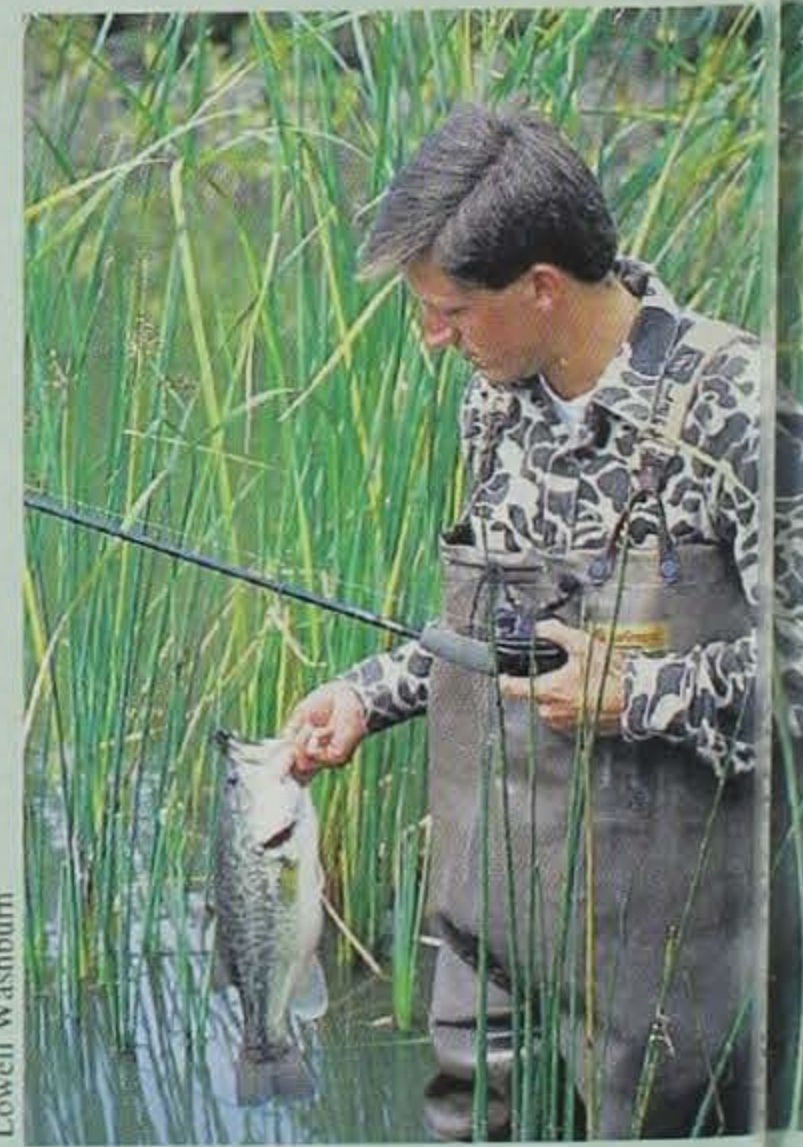
The long-term forecast for this Big River species looks very positive. Population numbers and average size continue to increase every year. Early harvest generally begins in April and May drifting shad baits along main channel border riprap. As water temperatures warm in June to August, prepared baits and chicken liver become very effective near wing dams and running side channels. Many fish in the two- to four-pound size group are harvested, and bigger fish in the five-pound-plus class are becoming more numerous.

Shell Rock River, *Butler*

Good numbers throughout the entire county.



Lowell Washburn



Lowell Washburn

Species

Lake or Stream, <i>County</i>	Comments
Turkey River, <i>Clayton</i>	Best population from Elkader to Osterdock. Hit the deep water just below the riffles, around snags and along rocky banks.
Upper Iowa River, <i>Allamakee</i>	Best access by canoe from Lower Dam northeast of Decorah to Hwy. 76 north of Waukon. Medium sized fish, but plentiful.
Volga Lake, <i>Fayette</i>	Many years of fingerling catfish stockings have established an excellent population. Some very large cats are occasionally taken. Handicap-accessible fishing pier.
Wapsipinicon River, <i>Buchanan</i>	Concentrate your effort downstream from Independence, all sizes present.
Crappie	
Casey Lake, <i>Tama</i>	Average-size fish in deep-water structure.
George Wyth Lake, <i>Black Hawk</i>	Good number of 8- to 10-inchers. Handicap-accessible fishing pier available.
Lake Delhi, <i>Delaware</i>	Average-size fish abundant. Concentrate in spring and fall.
Mississippi River, Pools 9 through 15	Netting surveys continue to indicate black crappie populations are strong and increasing. Lots of fish eight- to nine-inchers with quite a few from 10 to 12. Move frequently until you locate an active school. Minnows and small jigs fished under a bobber around brush and woody structure still produces the best catches.
Sweet Marsh Segment B (Marten's Lake), <i>Bremer</i>	Good numbers of 9- to 11-inchers.
Largemouth Bass	
Casey Lake, <i>Tama</i>	Eighteen-inch minimum size limit has produced an excellent population, with numerous five-plus-pound bass.
George Wyth Lake, <i>Black Hawk</i>	Largemouths concentrate on the abundant sunken tree piles and pallet-bed structures.
Mississippi River, Pools 9 through 15	The Big River still supports the largest bass population in the state, due in part to the 14-inch length limit and increasing catch-and-release angling. Good numbers, but most are less than five pounds. Fish for them in the backwater lakes and running sloughs near woody structure. A new catch-and-release area has been established in Brown's Lake in Pool 13 near Green Island.
South Prairie Lake, <i>Black Hawk</i>	Newer 22-acre lake just south of Cedar Falls. Abundant 12- to 15-inch bass, 18-inch minimum size limit.
Sweet Marsh Segment B (Marten's Lake), <i>Bremer</i>	High numbers of quality-size bass. This lake is being treated to eradicate Eurasian watermilfoil.
Volga Lake, <i>Fayette</i>	Good population of medium-size bass with some over the 15-inch length limit. Try along the riprap or near deeper snags along the west shore. Handicap-accessible floating fishing dock with habitat structures off the outer corners.
Northern Pike	
Cedar River, <i>Black Hawk & Bremer</i>	Pike can be found in the shallow backwater habitats.
Mississippi River, Pools 9 through 14	Most fish from five to eight pounds with some up to 15. Fish large, live, baitfish in the backwaters in summer and fall, and near the mouths of coldwater tributary streams during the hottest summer periods.
Sweet Marsh Segment B (Marten's Lake), <i>Bremer</i>	Good northern population augmented with fingerling stockings.
Wapsipinicon River, <i>Buchanan, Black Hawk, & Bremer</i>	Best fishing from Independence upstream. Fish the abundant deadfalls and connected shallow backwaters. A 17-pounder was caught in 1996.
Smallmouth Bass	
Cedar River, <i>Bremer & Black Hawk</i>	Best habitat and bass numbers are downstream from Waverly and Waterloo.

Species

Lake or Stream, *County*

Comments

Cedar River, *Mitchell & Floyd*

Excellent habitat above and below the Mitchell impoundment. Catch-and-release area from Otranto to St. Ansgar. Good also below Charles City. Best accessed by canoe.

Maquoketa River, *Delaware*

Catch-and-release area below the Lake Delhi dam has excellent numbers of large smallies — some more than 20 inches!

Maquoketa River, *Jones & Jackson*

Below Monticello and Canton are the best areas.

Mississippi River,
Pools 9 through 15

This species is responding to increases in riverine habitats and populations are on the increase. Fish rock structure in the current with either live or artificial baits.

Shell Rock River, *Butler*

Excellent numbers of 12- to 17-inch smallies from Greene to Shell Rock.

Shell Rock River, *Floyd*

Best accessed from canoe or by wading. Medium-size fish.

Turkey River, *Clayton*

Excellent habitat from above Eldorado down to Big Spring and from Elkader to Garber. Best accessed by canoe.

Upper Iowa River,
Allamakee, Howard & Winneshiek

Very scenic and popular canoeing stream. Best fishing early above Kendallville, later below Decorah. Catch-and-release area from Decorah to Upper Dam; fair numbers of 12- to 18-inchers.

Volga River, *Fayette*

Small, but scenic, river — best from Fayette to Mederville. Best accessed by canoe.

Wapsipinicon River,
Buchanan

Independence to Quasqueton has the best habitat. Concentrate on any rocky areas.

Trout

Bailey's Ford, *Delaware*

Stocked with catchable rainbow and brown trout three times per week April through August. Habitat improvement completed in 1997.

Bloody Run, *Clayton*

Large stream stocked with browns and rainbows from April through October. Special brown trout segment on lower end (immediately above Bloody Run Park) with a 14-inch minimum length limit and artificial-lure-only restriction contains large browns.

Ensign Hollow, *Clayton*

Abundant brown trout in the 12- to 17-inch range with some larger fish present. Catch-and-release and artificial-lure-only.

French Creek, *Allamakee*

Wild brown trout catch-and-release area. High numbers of wild brown trout with increasing numbers of large fish. All angling restricted to artificial-lure-only.

Pine Creek, *Allamakee & Winneshiek*

Walk-in access to very remote and scenic stream. Stocked with browns twice monthly from April through November.

Richmond Springs, *Delaware*

In Backbone State Park. Handicap-accessible access. Stocked with catchable rainbows, plus has a healthy wild brown trout population.

Sny Magill/North Cedar,
Clayton

Excellent drive-up or walk-in access on Sny Magill which is stocked from April through November with brown and rainbow trout. North Cedar is walk-in access and is stocked with browns once per month in the lower portion, and with fingerling brooks once annually in the upper end. One area on Sny Magill is developed for handicap access.

South Pine, *Winneshiek*

Very strong numbers of naturally reproducing, vividly colored brook trout. Catch-and-release and artificial-lure-only. Long (3/4-mile) walk to get to stream.

Spring Branch, *Delaware*

Lots of improved habitat with additional areas completed in 1997. Fourteen-inch size limit on brown, rainbow and brook trout. Excellent insect hatches.

Trout Run, *Winneshiek*

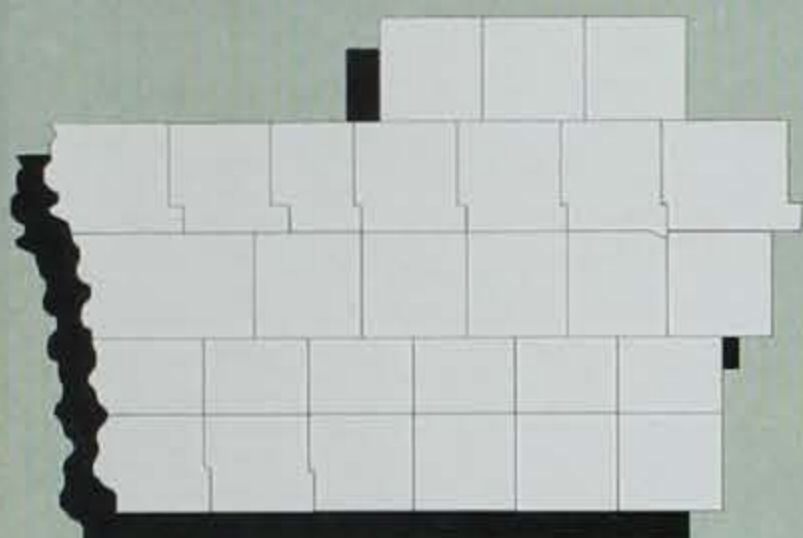
Handicap parking and stream access. Stocked twice weekly with browns and rainbows from April through October.



Ron Johnson

SOUTHWEST

BY: JOE SCHWARTZ, REGIONAL FISHERIES SUPERVISOR



I look for 1998 to be another excellent fishing season in southwest Iowa. If it's half as good as 1997, it will be. May is usually the top time for fishing the small reservoirs that provide the majority of fishing in this part of the state. For the most part, our fishing centers on four species: largemouth bass, bluegill, crappie, and channel catfish. We have good fishing for other species like walleye and white bass in some lakes and reservoirs, but the big four are everywhere.

Most people think of *catfish* as warm-weather fish, but some really good catfishing occurs right after ice-out. The best baits are winter-killed fish found along the shoreline or some shad purchased from a bait store.

Crappies usually start biting in mid-April and are going great guns by May. As an example, the 1997 creel survey at Twelve Mile estimated more than 80,000 crappies were taken that year, with 56,000 of those being caught in May. It is common to see buckets of these tasty panfish being harvested each spring. Minnows and small jigs are the best baits for crappie.

Good *bass* fishing usually starts about the time crappies do, although it is often earlier in farm ponds, where water warms more quickly. Crank baits and plastic worms are favorite bass catchers.

Bluegill fishing picks up significantly in mid-May as the crappie bite declines. Fastest fishing for bluegill occurs when they are spawning and this often coincides with Memorial Day in this part of the state. Worms

are the best bait for bluegill, but small jigs or other live bait also work well.

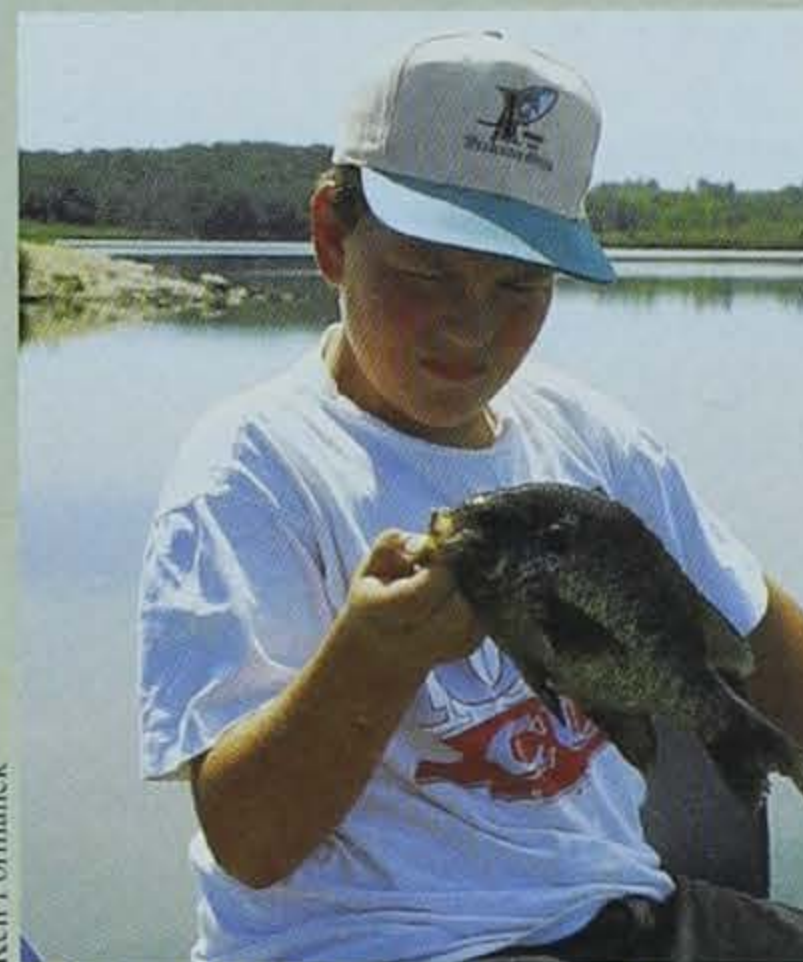
Summer heat moves fish to deeper water where they often prove to be more difficult to catch. Drift-fishing for bluegills and crappie, fishing deeper structure for bass and bottom fishing for catfish are all effective in mid-summer. The cooler temperature of autumn make for more pleasant fishing and offer better catches.

Anglers in southwest Iowa will have two new lakes to fish this year. Fogle Lake (40 acres) near Diagonal and Three Mile (880 acres) near Afton should fill this

spring and will be excellent fishing lakes. Both have been stocked for the past several years and I look for good fisheries to develop. Fish in both lakes are still growing and some are currently acceptable size, but in another year or two fishing will be as good as it

gets. Extensive fish habitat was built into both lakes prior to impoundment, first-class boat ramps were constructed and other developments will make these lakes a nice addition to the other fine public lakes in southwestern Iowa.

Spring is rapidly approaching. It is time to sharpen your hooks, clean out the tackle box, put new line on reels and ready the boat. The following tables give the best places to fish in southwest Iowa this year, and if you are interested in a good trip, consider one of those listed. You will be glad you did.



Ken Formanek



Ken Formanek

Species

Lake or Stream, *County*

Comments

Bluegill

Ahquabi, *Warren*
 Anita, *Cass*
 Badger Creek, *Madison*
 Big Creek, *Polk*
 Hickory Grove, *Story*
 Icaria, *Adams*
 Little River, *Decatur*
 Meadow, *Adair*
 Nine Eagles, *Decatur*
 Nodaway, *Adair*
 Three Mile, *Union*
 Twelve Mile, *Union*
 Viking, *Montgomery*

Tremendous redear sunfish population. Tough to catch.
 Consistently large fish. Try the structure.
 Good for large numbers of seven- to eight-inch fish.
 Large numbers of six- to seven-inch fish. Try the tree reefs.
 Seven- to nine-inch fish.
 Nice looking 7- to 8-1/2-inch fish with some up to 9-1/2 inches.
 Seven- to nine-inch fish are common. Excellent.
 Good six- to eight-inch fish. Redears are dandy.
 Try marked fish reefs. Good redear are present. Little fishing pressure.
 Good before vegetation becomes established.
 New lake. Lots of six- to eight-inch fish. Will get better as the season progresses.
 Fish eight to nine inches are common. Try around flooded trees. Excellent bluegill lake.
 Eight-inchers common. Best in spring and early summer.

Bullheads

Beaver Lake, *Dallas*
 Green Valley, *Union*
 Little River, *Decatur*
 Manawa, *Pottawattamie*
 Rock Creek, *Jasper*

Good growth, good catches.
 11- to 13-inch fish. Numbers are down.
 Nice fish, big catches. 10- to 12-inches.
 Nice size fish. Average one pound to 12 inches.
 Fish are definitely keepers but not as many as in the past.
 Medium-sized, but lots of them.
 Nice fish, catches are down, but still worth trying.

Yellow Bass

Carter Lake, *Pottawattamie*
 Icaria, *Adams*
 Manawa, *Pottawattamie*
 Viking, *Montgomery*

Lots of small fish.
 Six to nine inches. Hard hitters, good eating, lots of fish.
 Lots of small fish, but an occasional pounder.
 Moderate amount of eight- to nine-inch fish.

White Bass/Wipers

Red Rock, *Marion*
 Saylorville, *Polk*

Fish mid-summer, off of dam towards beach or up towards marina. Also good in Des Moines River up to Scott Street Dam in spring.
 Good in reservoir and below dam. New record wiper caught last year. White bass are 8 to 13 inches.



Ron Johnson



Don Bonneau

Species

Lake or Stream, County	Comments
Largemouth Bass	
Ahquabi, Warren	Excellent catch-and-release fishing. Eighteen-inch length limit on bass.
Anita, Cass	Perennial favorite. Bass up to six pounds. Fish the structure.
Badger Creek, Dallas	Lots of 12- to 16-inch bass with an occasional lunker.
Beaver, Dallas	Good catch-and-release fishery for less than 15 inches.
Big Creek, Polk	Try new structure, face of dam, new silt dikes and jetties.
Don Williams, Boone	Most fish are 13 to 17 inches.
Easter, Polk	Up to five pounds. Mostly 10 to 14 inches.
Farm Ponds	Many private ponds in southwest Iowa have good bass.
Green Valley, Union	A 22-inch length limit here. Any keeper will be a real trophy.
Hooper, Warren	Excellent catch-and-release fishery. Eighteen-inch length limit on bass.
Little River, Decatur	Great fishing. Try fishing submerged brush and trees. Good numbers of 2- to 3-1/2-inch pounders.
Mariposa, Jasper	Good catch-and-release fishery.
Meadow, Adair	Good bass lake for fish up to five pounds.
Nine Eagles, Decatur	Good numbers of small fish, an occasional large fish.
Prairie Rose, Shelby	Fish the stake beds and brush piles.
Red Rock, Marion	Best from mid-May to mid-July.
Saylorville, Polk	Lots of small bass, few legals. Fish face of dam, Big Creek outlet or any rocky area. Best early in the season.
Twelve Mile, Union	Excellent for 12- to 18-inch fish. Our most popular tournament lake.
Viking, Montgomery	Good population of 12- to 15-inch fish. Fish the new structure.
West Lake Osceola, Clarke	Good summer bass fishing.
Walleye/Saugeye	
Des Moines River Polk & Boone	Fish below Corps dams, low-head dams and gravel riffles. Scott Street dam is good in the spring.
DeSoto, Harrison	Best in spring. Fair numbers of 14- to 17-inch fish.
Icaria, Adams	Fish are up to 10 pounds.
Little River, Decatur	Average fish are 14 to 18 inches.
Manawa, Pottawattamie	Was good in '97, looks good for '98. Mostly 14- to 16-inch fish.
Saylorville, Polk	Fish sandy points, old river channel.
Three Mile, Union	New lake. Try the flooded road beds for 12- to 16-inch fish.
Twelve Mile, Union	Fish artificial reefs. Fish are 14 to 17 inches. Up to four pounds. Best walleye lake for numbers in southwest Iowa.
Channel Catfish	
Ahquabi, Warren	Newly renovated lake, fish up to 17 inches.
Big Creek, Polk	Really nice fish, lots of them and not many catfish anglers.
Cedar, Madison	Four- to six-pounders, but you will have to sort through abundant small ones.
Easter, Polk	Excellent for fish 12 to 20 inches.
Green Valley, Union	Seeing three- to five-pounders again.
Icaria, Adams	All sizes up to five pounds, occasional 15 pounds. May have to sort out smaller fish.
Little River, Decatur	Fish small bays in mid-summer. Many 3- to 10-pounders.
Littlefield, Audubon	Fish north shore on strong south wind.
Manawa, Pottawattamie	Good numbers, most two to six pounds. Up to 12 pounds.
Meadow, Adair	Fish are two to six pounds.
Mormon Trail, Adair	Good numbers.
Nine Eagles, Decatur	One- to three-pounders with a few 12-pounders.
Nodaway, Adair	Best early. Summer vegetation makes fishing tough.
Orient, Adair	Stocked every year. Fish the camping area or on strong south wind.
Red Rock, Marion	12 to 20 inches. Best from Mile-long bridge and towards dam.
Rock Creek, Jasper	Shallow, fertile lake with good catfish of all sizes.

Species

Lake or Stream, *County*

Comments

Saylorville, *Polk*
Summit Lake, *Union*
SW Rivers
Twelve Mile, *Union*
Viking, *Montgomery*
West Lake Osceola, *Clarke*

Excellent channel fishing. Lots of two- to four-pound fish.
One- to three-pounders common. New boat ramp makes for good access.
Catfish are abundant in all of our rivers.
Cats two to three pounds common, good early on cut shad.
All sizes to six pounds. A few big ones.
One- to three-pound cats are abundant and under-used by anglers.

Crappie

Ahquabi, *Warren*
Anita, *Cass*

Badger Creek, *Madison*
Big Creek, *Polk*

This lake is back for crappies. Good numbers of 8- to 10-inch fish.
First crappie lake to start in the spring. Nice fish 8-1/2 to 10-1/2 inches. It will be a good crappie year at Anita.
Nice eight- to nine-inch fish.
Most fish will be 7 to 10 inches this year. Fish the new structure or the jetties.

DeSoto Bend, *Harrison*

1997 was their best crappie year ever.
Should be good crappie year in '98.

Don Williams, *Boone*
Easter, *Polk*

Nice but inconsistent on catches.
7 to 8-1/2 inches common, few fish up to 11 inches. High density of crappie.
Good numbers of smaller fish. Should be tremendous next year.

Green Valley, *Union*

Mostly small fish.

Greenfield, *Adair*
Icaria, *Adams*

Fish are up to one pound. Try fishing riprapped areas. Good number of eight-inch fish.

Littlefield, *Audubon*

Lots of 8- to 10-inchers last fall.
Should be good this spring. Try face of the dam.

Little River, *Decatur*

Try around flooded trees. Lots of 8- to 10-inch fish. Some 12-inchers.

Manawa, *Pottawattamie*
Mariposa, *Jasper*
Meadow, *Adair*

Good early fishing in lagoons.
Lots of small crappies. Good any time.
Strong year-class of eight- to nine-inch fish and few big ones.

Orient, *Adair*

Always turbid water, but still good crappie fishing, eight to nine inches.

Prairie Rose, *Shelby*

Fish are 8 to 11 inches. Good all summer but best in spring.

Red Rock, *Marion*

Big fish. Fish when water is clear, try feeder stream embayments.

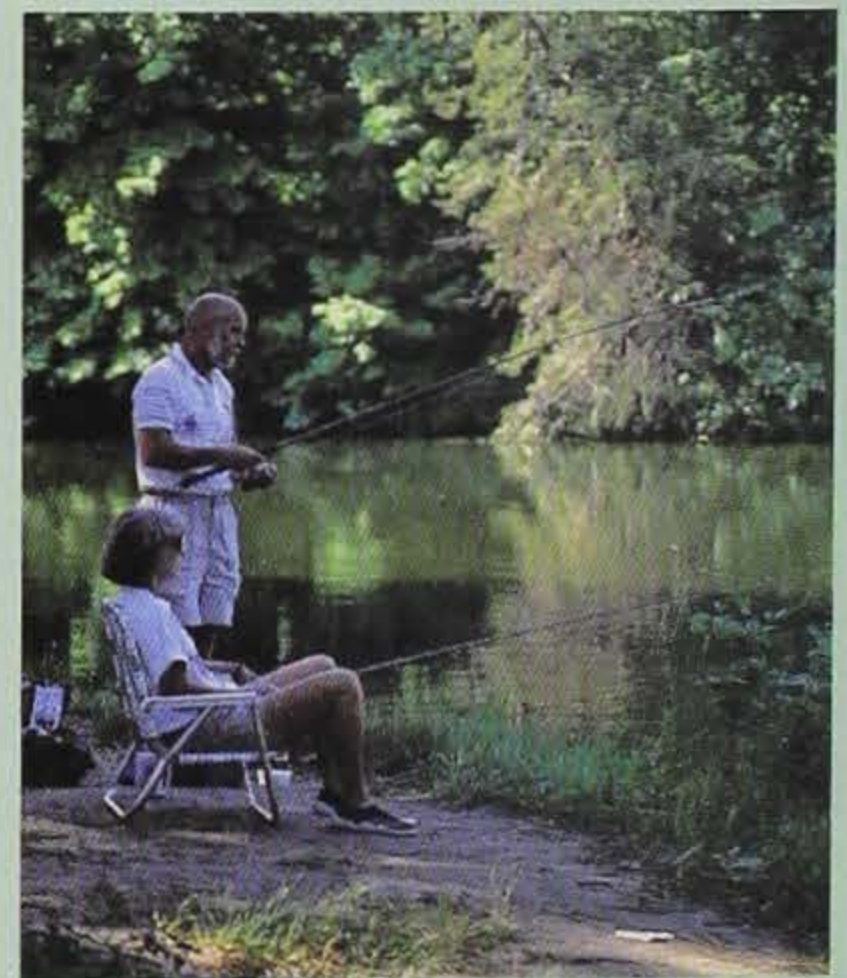
Rock Creek, *Jasper*
Saylorville, *Polk*
Slip Bluff, *Decatur*
Twelve Mile, *Union*

Fish 7 to 8-1/2 inches.
Excellent-sized fish. 8 to 11 inches for most part.
Eight- to nine-inch fish. Few people fish this lake.
8- to 12-inch and very good numbers. Fish size should be better than last year.

Viking, *Montgomery*
West Lake Osceola, *Clarke*

Mostly small fish this year.
Fall surveys showed impressive numbers and sizes of crappies.

Jerry Leonard



SOUTHEAST

BY: STEPHEN J. WATERS, REGIONAL FISHERIES SUPERVISOR



Fisheries biologists' surveys indicate a terrific year of fishing is scheduled for 1998. Several of the lakes which have a redeveloping fishery (Hawthorn, Keomah, and Wapello) are back and are looking for anglers. Plus many more water bodies are ready for an Iowa time-honored tradition — fishing.

I suggest gathering up the family and fishing equipment soon after ice-out and beginning a great fishing season by chasing Iowa's most popular game fish — the *channel catfish*. Early catfishing was made for the family, because the fishing is easy and the action is fast. Also, this type of angling is typically done on shore.

When water temperatures reach about 50 - 55 °F catfish begin a feeding spree — feeding on fish that have died during the winter. Fish your bait (cut baits are best) in the shallower (two- to six-foot), warmer portion of a lake or river with the wind blowing across or toward you. Use an egg-type sinker to lighten the bait, and set the hook after a short run. The best areas for early spring catfishing are lakes Rathbun, Coralville, Darling, Kent, Macbride, the Mississippi River and all inland rivers.

The Mississippi's "Mr. Whiskers" can be caught in nearly all parts of the river using a variety of baits, but best bets are above and below wingdams and riprapped heads of islands where there is a current. Stumpfields and riprapped shorelines are hotspots during the prespawn and spawning periods. The size limit set on commercial fishing in

1985 has resulted in more spawning-sized adults. This allowed nature to replenish catfish numbers benefiting both sport anglers and commercial fishers.

The Great River's *walleye and sauger* angling is what legends are made of. The lock-and-dam habitat produces great catches in late winter, early spring and late fall. Jigging sonars or jig-and-minnow combinations are highly effective. Wingdam fishing during summer and early fall will also produce stimulating action. Try backtrolling crankbaits or three-way nightcrawler rigs on the upstream side of the wingdams. An upside to the summer angling period is the peace and quiet of having a portion of the river to yourself, whereas, the lock-and-dam fishing can be a bit competitive for some folks. Keep in mind, while fishing the Mississippi for walleye, a 15-inch minimum size limit exists.

The Mississippi River also produces excellent catches of white bass, drum, carp, crappie, bluegill and largemouth bass. *White bass* frequent similar habitats of walleye and sauger, and serve as a great bonus fish. Look for crappie, bluegill and largemouth bass in the river's backwaters near stumpfields, brush and vegetation. Remember, there is a 14-inch length limit on largemouth bass.

Interest in *flathead catfish* seems to have reached a new high in southeast Iowa due primarily to great fishing for these "big ones." Bank pole or rod and reel, using green sunfish, bullheads, or bluegill for bait is the preferred technique. Fish deep holes in summer and fall, and around bridge pilings in interior rivers and in side channels, eddy areas, and below locks and dams on the

Mississippi River. At Rathbun Lake concentrate on riprap in the Bridgeview area in late spring to early summer for excellent action.

For *bluegill and crappie*, traditional baits and techniques are highly successful, but why not try a new angling technique or two. Don't put your ice-fishing equipment away when the warm season arrives. Keep your ice flies, waxworms and small bobbers handy, because these baits often out-produce the traditional bluegill baits. And, why not try flyfishing for spring crappie and bluegill? What could be more fun for a bluegill angler than flyfishing with small surface poppers during the morning and evening hours of summer? Have you tried drift fishing for bluegills and crappie during the summer when they have moved away from shore and are suspended about 8 to 12 feet below the surface? Lower your baits to this level, and let the wind or trolling motor push you around the lake. Note where you catch fish and return for a similar drift pattern. I believe you'll find new techniques, bait and equipment can revitalize one's interest in angling, and enhance your fishing experiences.

Effective *bass* size regulations are a benefit to all anglers. With an excellent bass population, these important predators can whittle away at the panfish, improving their size for



Ken Formanek

positive angler benefits. Additional benefits are improved bass catch rates and larger sizes of bass. Give size limits a chance, release a bass and do as the bass does — eat the panfish. Enjoy the best of both worlds.

Southern Iowa is blessed with

several excellent bass-bluegill lakes, but perhaps the best systems are small in size — almost too numerous to count. These excellent fisheries are called farm ponds. Ponds are excellent spots to start the new fishing season. Because of their size, they are the first

systems to warm up, meaning a lot of early action. Also, they are the best fishing holes to catch lunker bass and bluegill. But, remember these mini-lakes are, for the most part, located on private property and require the owners permission for angling opportunities.

Species

Lake or Stream, <i>County</i>	Comments
Saugeye	
Iowa River, <i>Johnson</i>	Exceptional fishery; lots of two- to four-pound fish with 10-pound fish available.
Coralville, <i>Johnson</i>	Best in early spring and late fall around I-380 bridge. Good numbers of two- to three-pounders
Sugema River, <i>Van Buren</i>	Fair numbers of 14- to 20-inch fish.
Union Grove, <i>Tama</i>	High numbers of 14- to 17-inch fish with individuals up to six pounds.
White Bass	
Mississippi	Seek locks and dams and wingdams.
Rathbun, <i>Appanoose</i>	High numbers of 10- to 15-inch fish.
Coralville, <i>Johnson</i>	Lots of 12- to 14-inch fish. Best in late summer on shad-colored crankbaits.
Macbride, <i>Johnson</i>	Good numbers of 10- to 14-inch fish.
Des Moines, <i>Wapello</i>	Hot action below the Ottumwa hydropower dam.
Pleasant Creek, <i>Linn</i>	Excellent for summer top-water action.
Bluegill	
Mississippi, Pool 16	Andalusia backwaters, Credit Island Slough, Wyoming Island Slough.
Pool 17	Big Timber, Cleveland Slough, Hidden Acres, Bogus Island, Blanchard Slough, Eagle Fill.
Pool 18	Huron Island, Burnt Pocket, Johnson Slough, Dasher Chute.
Pool 19	Burlington Island, Turkey Chute, Blackhawk Bottoms, Lead Island Chute, Niota weedbeds, Rabbit Island riprap, Devils Creek weedbed, and Gray's Bay.
Farm Ponds	Exceptional angling—best chance for a trophy.
Pleasant Creek	Good quality, many seven- to nine-inch fish available.
Geode, <i>Henry</i>	Average harvest size seven to eight-plus inches. Trophy fish available.
Hannen, <i>Benton</i>	Good numbers, six to eight inches.
Hawthorn, <i>Mahaska</i>	Good numbers of six- to eight-inch fish.
Iowa, <i>Iowa</i>	Good numbers of six- to eight-inch fish.
Kent, <i>Johnston</i>	All sizes, easy shoreline access.
Keomah, <i>Mahaska</i>	Good numbers of six- to eight-inch fish.
Wapello, <i>Davis</i>	Good numbers of eight-inch and larger fish, look to artificial habitat.
White Oak, <i>Mahaska</i>	Good numbers of seven- to eight-inch fish.
Diamond, <i>Poweshiek</i>	Average harvest size six- to eight-inch fish.
Red Haw, <i>Lucas</i>	Good numbers of six- to eight-inch fish. New structure in lake.
Union Grove, <i>Tama</i>	Low numbers but quality fish up to nine inches.
Sugema, <i>Van Buren</i>	Tremendous numbers of seven- to eight-inch fish. A bluegill anglers' dream.
Crappie	
Rathbun, <i>Appanoose</i>	Superb crappie lake. Average size 9 to 12 inches, some trophies.
Mississippi River	Same comments as in bluegill section.
Coralville, <i>Johnson</i>	Excellent 8- to 10-inch fish, 13 to 15 inches common.
Odessa, <i>Louisa</i>	Average harvest size 8 to 10 inches.
Geode, <i>Henry</i>	Average harvest size 8 to 10 inches.
Iowa, <i>Iowa</i>	Good numbers form 8 to 10 inches.
Darling, <i>Washington</i>	Average harvest size 7 to 10 inches; trophy fish available.
Hawthorn, <i>Mahaska</i>	Good numbers of 7- to 10-inch fish available.



Ken Formanek

Species

Lake or Stream, *County*

Comments

Miami, *Monroe*
 Diamond, *Poweshiek*
 Macbride, *Johnson*
 Sugema, *Van Buren*
 Pleasant Creek, *Linn*

Good numbers of 8-inch fish, 10-inch fish available.
 High numbers of 7- to 10-inch fish.
 Excellent for 8- to 10-inch fish, 11- to 13-inch fish available.
 Good angling 9- to 10-inch fish most common.
 Good in spring for 9- to 11-inch fish.

Channel Catfish

Mississippi
 Inland Rivers
 Corydon, *Wayne*
 Rathbun, *Appanoose*
 Coralville, *Johnson*
 Otter Creek, *Tama*
 Kent, *Johnson*
 Macbride, *Johnson*
 Darling, *Washington*
 Geode, *Henry*
 Iowa, *Iowa*

All pools excellent.
 Good to excellent
 Good numbers with a variety of sizes. Fish up to 29 inches.
 Exceptional fishery, all sizes. Post ice-out period excellent.
 Exceptional fishery, all sizes.
 Lots of two- to four-pound fish.
 Excellent fishery, 12 to 16 inches average.
 Excellent for all sizes.
 Good for a variety of sizes.
 Good for a variety of sizes.
 Good numbers of two- to three-pound fish.



Largemouth Bass

Mississippi
 Farm Ponds
 Miami, *Monroe*
 Pleasant Creek, *Linn*
 Iowa, *Iowa*
 Geode, *Henry*
 Macbride, *Johnson*
 Sugema, *Van Buren*
 Diamond, *Poweshiek*
 Wapello, *Davis*
 Hawthorn, *Mahaska*
 Keomah, *Mahaska*

Same comments as bluegill section.
 Best chance for a trophy. Great fishing.
 Excellent numbers, various sizes.
 18-inch size limit. Excellent catch-and-release with fish up to eight pounds.
 Good numbers, various sizes.
 Good catch-and-release fishery. Some trophy fish.
 Good numbers of two- to four-pounders.
 18-inch size limit. Excellent catch-and-release for 14- to 17-inch fish.
 Good numbers of two- to four-pound fish with trophy sizes present.
 No-kill regulation; lots of 10- to 15-inch fish.
 Good numbers of slot-length fish (12 to 16 inches) for catch-and-release angling.
 Good numbers of 12- to 16-inch fish.

Bullhead

Wapello, *Davis*
 Macbride, *Johnson*
 Otter Creek, *Tama*

10- to 14-inch fish available.
 Best east of causeway in May.
 Lots of 10- to 12-inch fish.

Flathead Catfish

Mississippi
 Skunk, and lower Iowa, Des
 Moines and Wapsipinicon
 Rivers
 Coralville, *Johnson*

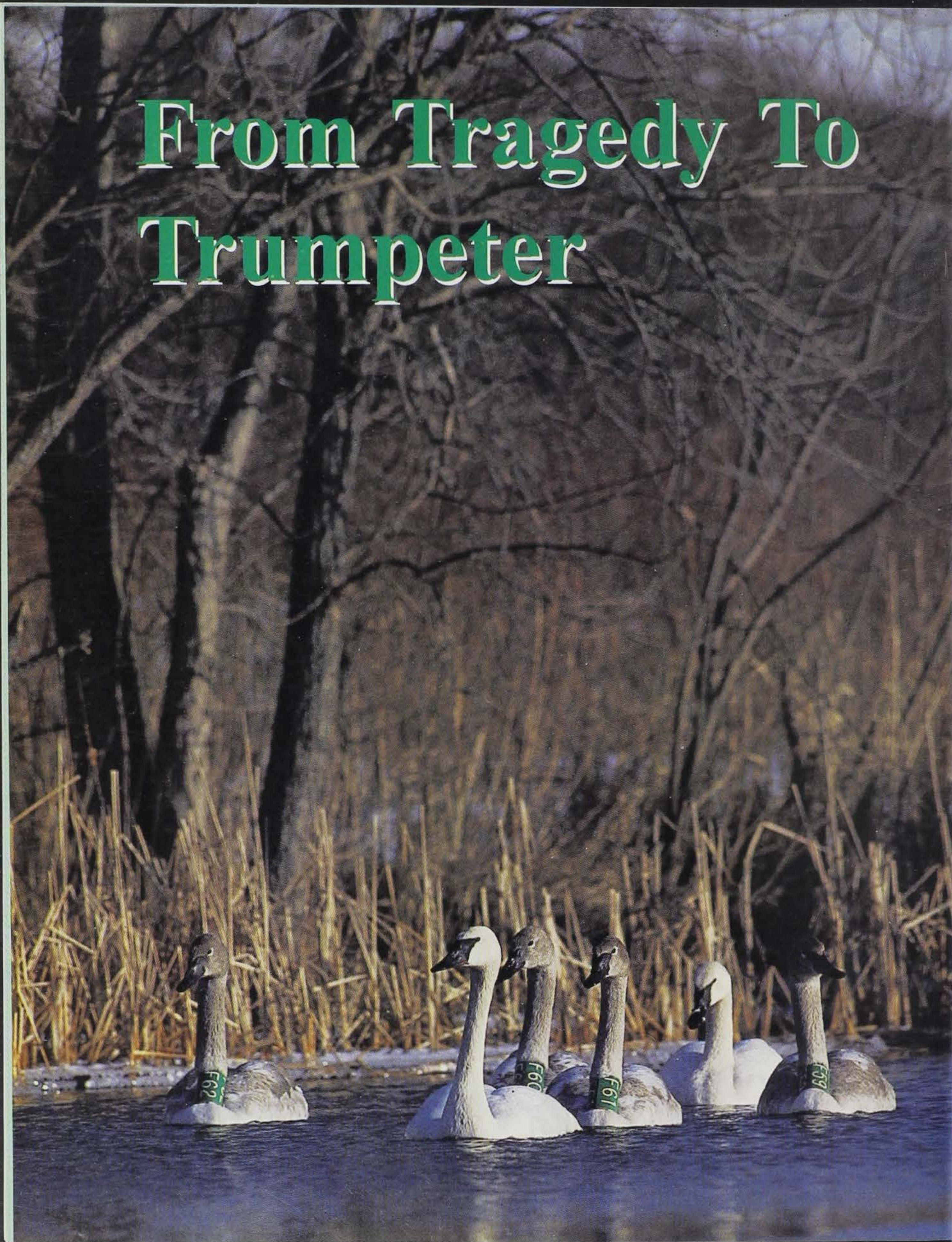
Best below locks and dams, wingdams and side channels.
 Big fish in deep holes during summer and around bridge pilings.
 Good numbers of 10- to 30-pound fish.

Walleye

Mississippi
 Rathbun, *Appanoose*
 Macbride, *Johnson*
 Des Moines, *Wapello*
 Coralville, *Johnson*

Seek locks and dams, and wingdams. Excellent for sauger, too.
 Good numbers of 15- to 21-inch fish.
 Good numbers for skilled anglers.
 Hot action below the Ottumwa hydropower dam, trophy fish available.
 Good in spring and late fall in upper end and around I-380 bridge.

From Tragedy To Trumpeter



Collars in
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patterns.

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Collars identify each swan with the letter "F" and a series of numbers. The numbers show the state from which the bird was released. The collar bands allow biologists, using spotting scopes, to identify birds and track their migratory patterns.

by Dena M. Gray-Fisher

What started as a tragic story for one Iowa family ended in the triumphal

return of a pair of trumpeter swans -- the largest of all North American waterfowl and possibly the rarest swan in the world. They disappeared from the Iowa wetlands at the turn of the century and became alarmingly scarce in the United States.

Cheri Davison, formerly of Iowa City, was an animal science major at Iowa State University when she was tragically killed in a car/train accident in January 1995. Davison had been an active member of the school's Trumpeter Swan Restoration Project and was doing committee work when she was killed. The ISU swan restoration project is committed to bringing back the native trumpeters to Iowa.

Although Cheri's life was cut short that wintery day, her memory and love for the majestic swans lives on in what has been called a rather unusual restoration project. Working in cooperation with the Iowa DNR and the Iowa Department of Transportation (DOT), the Davison family provided funds to purchase a pair of trumpeter swans in their daughter's honor. The breeding pair was acquired from Wyoming at a cost of \$2,500.

While restoration projects are being conducted in several states, what makes this project unusual is the unique habitat and nesting site selected for the pair.

Trumpeter swans are extremely sensitive to human intervention and development in or near their habitats. They require a large, undisturbed territory for successful nesting, and if their area is infringed upon, they may abandon their nest and eggs. In Iowa, only a limited amount of suitable habitat remains. The swans once nested in the wetlands in Hancock

County located in north central Iowa near the Minnesota border.

Finding a Suitable Habitat

After finding what the DNR felt was a suitable site, conservationists contacted the Iowa Department of Transportation. They had their eye on a section of the state's right-of-way managed by the DOT. The site is unique in that it is artificial, found between two busy state highways, and landlocked, meaning the property would not normally be available for public sale.

The area, technically known as a borrow pond, was created when dirt was removed for road construction. The site is just west of Ames at the junction of the U.S. 30 and Lincoln highways. It is described as a fenced, shallow marsh encircled by an abundance of cat tails, reeds, native prairie grasses and scrub trees. Aquatic plants, the trumpeter's main food source, are also plentiful. Though the pond is nestled between two highways, it remains secluded and serene.

Recognizing the site's potential for use as a waterfowl habitat, the DOT established a partnership with DNR that allowed them to use the site as a sanctuary or special trumpeter swan breeding area. Harry Budd of the Department of Transportation said, "This project is just another example of the DOT's proactive wetland and woodland mitigation effort. Besides the department's mitigation efforts, the DOT has also been active in roadside tree plantings, native grass planting and the provision of wildlife nesting boxes placed behind the state's road signs."

Successful Reproduction

Since the swans were introduced into their new habitat, their reproduction efforts have been highly successful. In 1996, five eggs hatched and a brood of four cygnets survived. Last year, six cygnets survived. According to DNR biologists, those numbers are well-above average -- a good indication the nesting

site is very conducive for reproduction.

The survival rate is extraordinary when you consider that of the 12 nesting pairs of trumpeters in Iowa in 1996, only four produced broods during the cool, wet summer. Neighboring states fared even worse.

By age two or three, trumpeter swans select their lifetime mate. Their breeding season begins in late April to mid-May. After mating, they build or refurbish their big, bulky nests made of mounds of reeds, rushes, roots and grasses, and lined with swan's down. Pairs, or females, lay from two to 10 dull-white eggs. The incubation period ranges from 32 to 38 days. They raise one brood per year.

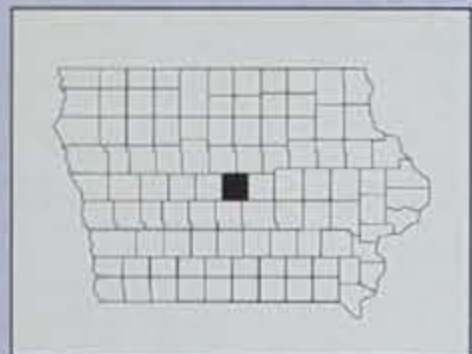
Ardys Erickson, grandmother of Cheri Davison, had this to say after she watched the mother swan and her five cygnets circle the pond during a ceremony held last year to celebrate the births. "It's like the circle of life," she said. "That says a lot to me."

Characteristics

A member of the Anatidae family, the trumpeter swan (*Cygnus buccinator*) is the largest swan in the world. Birds stand up to four feet tall, and have a wingspan of between seven and eight feet. Males, called cobs, average 27 pounds. Females average 22 pounds.

Adult birds have snowy white plumage, while the younger, immature birds are a sooty grey. By age two, the young trumpeters have full adult plumage and coloring, with brown eyes, black legs and feet, and a black bill accented with a thin red streak.

The trumpeters are known for their resonant "trumpeting" call. The call is similar to the notes of a French horn. As their trumpeting sound echos across the pond, the birds slowly swim in synchronized patterns. Bird watchers can also hear a lot of honking, hissing and gurgling noises as the birds exhibit patterns of head nodding and bill-dipping.





Lowell Washburn

Near Demise

Trumpeter swans were once abundant in North America, but by the early 1900s were thought to have become extinct. While the drainage of marshlands for farmland, cities and large industry had a major impact on the destruction of their nesting habitat, other factors also played a role in their disappearance.

One of those factors was the natural competition for food with other migratory birds, and birds that lived in the same wintering areas. This meant some birds lacked the energy for migration, egg laying and incubation in the spring.

Indiscriminate hunting also played a primary role. The birds were victims of European settlers who wanted them for their meat and skins (used for powder puffs). They were also hunted for their feathers, used for writing pens and to decorate women's hats. The use of feathers from the trumpeter and other great birds helped ignite the formation of the Audubon Society and the passage of laws protecting migratory birds.

Then, in 1932, after years of believing the birds had vanished from the continental United States, a small breeding population of just 69 birds was discovered in the Redrocks region near

Yellowstone Park. In the 1930s, shortly after the birds were rediscovered, an international restoration program was started. Trumpeter swans from Canada and Alaska joined the small flock, enhancing their genetic diversity. Rescued from near extinction, the population in this area has grown to more than 500. Another 2,000 trumpeters from Canada join the flock each winter.

Protection for trumpeter swans was first established in the United States in 1919 and was based on previous enactments including the 1894 Lacey Act; the second Lacey Act of 1900; the Weeks-McLean Act of 1913; and the Migratory Bird Treaty Act. All have been used to ensure some protection of the trumpeter swan and other migratory birds.

Although the trumpeter swan fulfills all the requirements of an endangered species, an official designation for the bird has not been made. Some people believe the designation isn't warranted since the overall effort to protect and restore wetland habitats is already helping to guarantee the swans' survival.

Iowa's Managed Care Program

The goal of Iowa's Trumpeter Swan Restoration Program is to restore a breeding and migrating population of at least 15 wild nesting pairs by the year 2003. The DNR expects the first nesting pair to be established next year.

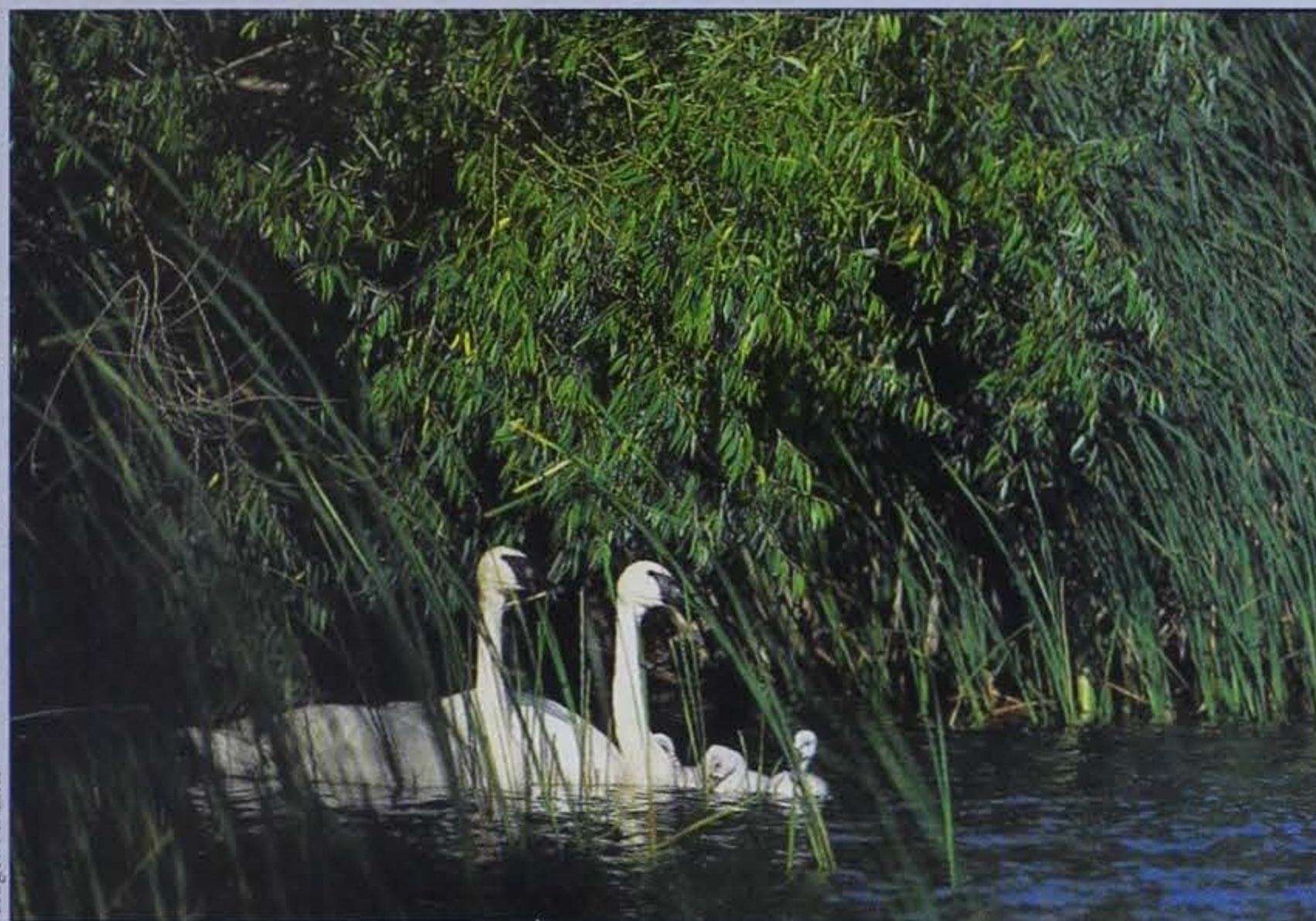
The DNR has released 83 trumpeters to date. They were free to fly this year and migrate south in early November to search for open water. They will return to release areas in the spring.

Presently, the DNR's program is also supporting 18 captive breeding pairs. Of those, nine successfully reproduced last summer -- producing a record number of 40 cygnets.

To help ensure the swan's survival, the wings of the cygnets are clipped when they reach age four months. Normally, by September or October the

Roger A. Hill

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Roger A. Hill

The DNR has released 83 trumpeters to date. They were free to fly this year and migrate south in early November to search of open water. The DNR is also supporting 18 captive breeding pairs of trumpeter swans. Of those, nine successfully reproduced last summer -- producing a record number of 40 cygnets.

cygnets are already starting to make flight attempts. In the wild, the life span of a trumpeter swan is approximately 12 years. In captivity and under managed care, they can live up to 35 years.

While getting one's wings clipped may sound like punishment, it may very well mean survival for the trumpeter swan cygnets. "Research suggests that cygnets whose wings are clipped the first year increase their chance of survival," said Pat Schlarbaum of the DNR's Boone wildlife research station. Only the flight feathers on one wing are usually trimmed to unbalance the birds so they don't try to fly away. The clipped birds will regain their flight feathers in the following year's molt, and be able to fly.

The right leg of the male birds, and the left leg of the females, are banded with permanent metal U.S. Fish and Wildlife Service tags. The tags are standard for migratory bird identification. Besides the tags, temporary green and white neck collars are placed on the birds. The collars identify each bird by the letter "F" and a series of numbers. Those numbers show the state from which they were released. Both the

metal tags and collar bands are used to track migratory patterns of the birds and allow biologists, using spotting scopes, to identify birds on the ground.

In the past, the pair of trumpeters living in the borrow pond were removed each fall before it froze over. They were transferred to Swan Lake in Carroll County, where they wintered. Swans must remain near open water to obtain their preferred diet of aquatic plants.

Trumpeters eat aquatic plants, insects, snails and worms. A mature bird will consume up to 20 pounds of plants each day. Their long necks and powerful bills allow them to reach down and pull up roots and stems other birds can't reach. Presently, the DNR is supplementing the bird's diet with cracked corn.

According to Schlarbaum, they have learned from observing the birds that the swans eat much more food during the autumn. The swans then decrease their intake significantly during the winter months. This eating pattern is very different from that of mammals.

Thanks again to the Davison family, a recently installed aeration system will ensure the birds have access

to open water and allow them to remain in the pond. In addition to the aeration system, the Davison/Erickson family and their friends recently purchased the borrow site from the state of Iowa and presented it to the Boone County Conservation Board for long-term management.

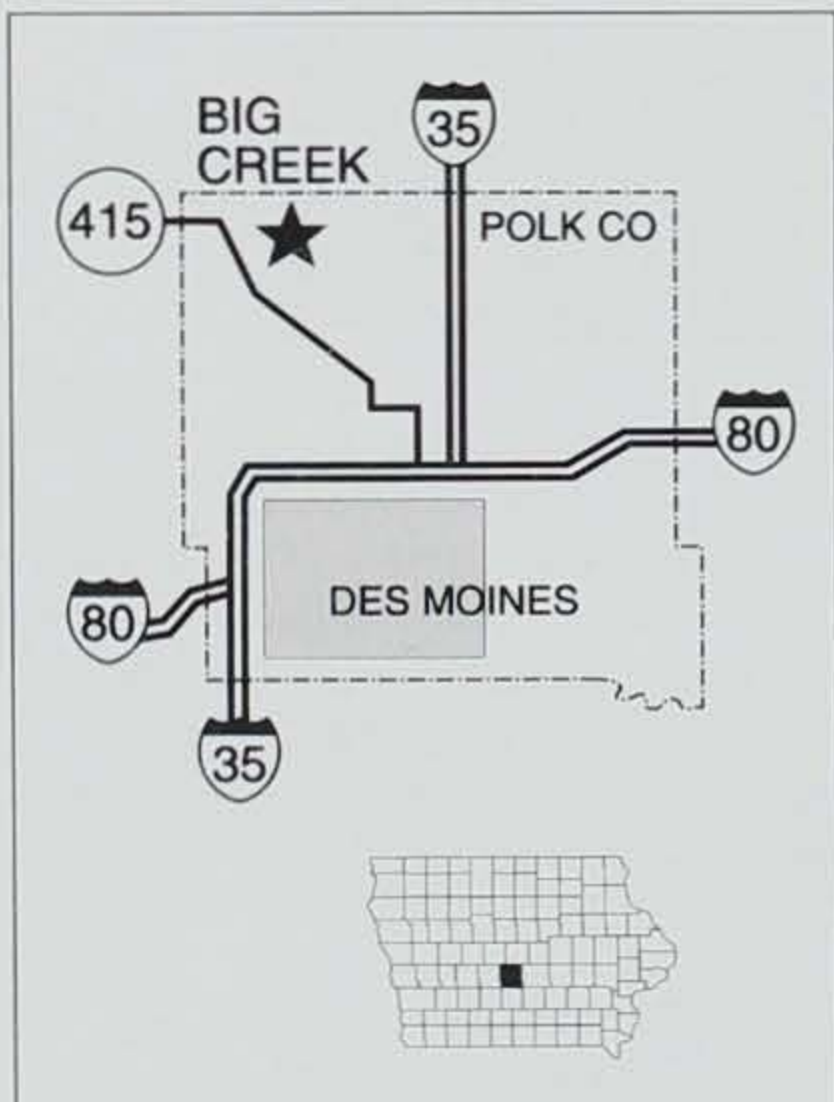
Outlook

Because of coordinated breeding programs in Wisconsin, Minnesota, Michigan, Ohio and Alaska, and Ontario, Canada, trumpeter swans are again gracing the skies and wetlands of North America. The general outlook for the trumpeter is encouraging. A continental survey taken in 1990 found more than 15,400 trumpeters swans in North America. With proper protection and conservation, the number of birds will remain steady and Cheri Davison's memory will live on.

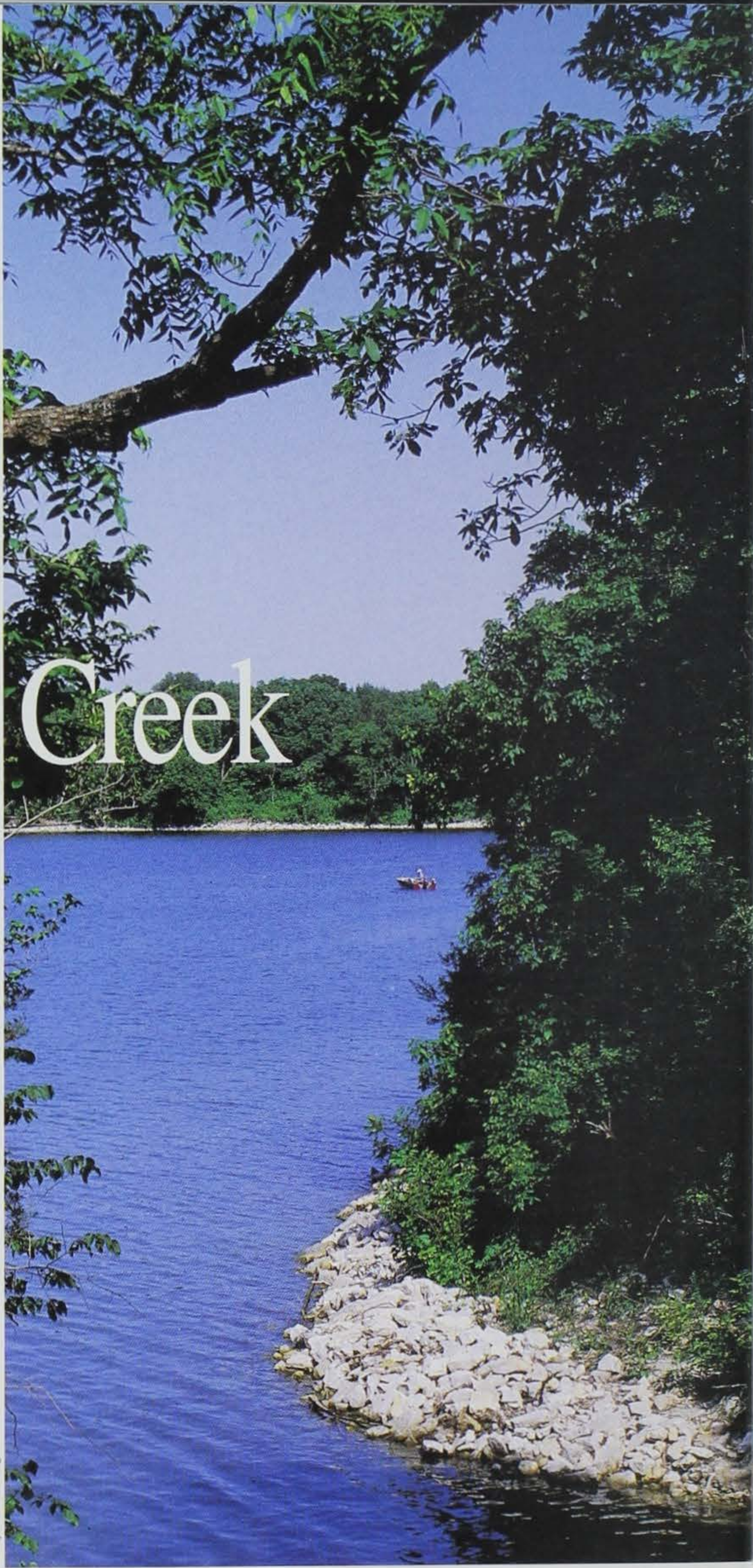
Dena M. Gray-Fisher is the supervisor of media and marketing services with the Department of Transportation in Ames.

A Big Deal For Big Creek

by R. H. (Dick) McWilliams



Casey Gradischmag



"The dirtier... tell how... similar co... quality in... lakes is he... nance of v... challenge... lakes. Ge... for aquati... for the de... of fish pop... perhaps th... maintainin... in artificia... many fact... lakes and... fishing op... water qual... population... quality, go... other recre... our lakes... boating or... of the near... Big C... County, ju... one of cen... fishing an... was constr... 1970s. Th... Creek Lak... water qual... However, ... tion and e... lines were... Water qua... declined, a... turbid follo... subsequent... sedimentat... very evide... provided f... ational act... into wetlan... along exp... banks and... nally excel... habitat we... shorelines... production... habitat for

"The water in the lake seems to get dirtier every year, but it's difficult to tell how much." This comment and similar comments regarding water quality in many of Iowa's artificial lakes is heard far to frequently. Maintenance of water quality is a major challenge in the management of these lakes. Good water quality is necessary for aquatic life, and a basic requirement for the development and maintenance of fish populations. Sedimentation is perhaps the greatest single problem in maintaining desirable aquatic resources in artificial lakes. Although there are many factors impacting fisheries in lakes and streams (and consequently fishing opportunities), without good water quality desirable sport-fish populations will not develop. Water quality, good or bad, also influences other recreational enjoyment and use of our lakes, such as swimming, pleasure boating or a family picnic on the shore of the nearest lake.

Big Creek Lake, located in Polk County, just north of Des Moines, is one of central Iowa's best-known fishing and recreational area. The lake was constructed and filled in the early 1970s. Throughout its early history Big Creek Lake was known for its excellent water quality and fishing opportunities. However, by the late 1980s sedimentation and erosion of windswept shorelines were becoming major problems. Water quality in Big Creek Lake had declined, and lake water was often turbid following heavy rains and subsequent runoff. The degree of sedimentation in the inlet areas was very evident. Inlet waters that had provided fishing and/or other recreational activities were now developing into wetlands. Wind and water erosion along exposed shorelines resulted in cut banks and shallow water where originally excellent shoreline and good fish habitat were found. These windswept shorelines offer poor areas for food production, and provide unsuitable fish habitat for either adult or juvenile fish.

In addition to the direct damage to the shoreline, material from the eroded shoreline added to the turbidity in the lake.

Faced with declining water quality in Big Creek Lake, a project began in 1995 to enhance lake water quality, enhance fish habitat, increase shoreline access, and rejuvenate the swimming beach and shoreline area. Sediments entering the lake through major inlets would be trapped and erosion of shorelines controlled. Shoreline access would be increased via fishing jetties and walkways, and the swimming beach and adjacent shoreline would be expanded and rejuvenated as needed. In addition, and certainly not the least, a variety of different kinds of fish habitat would be added throughout the lake.

To minimize the impact of the construction on lake users, the project was to be done during winter months. Because a lot depended on good weather throughout the autumn and winter, the basic plan was to hope for the best and plan for the worst. If construction could not be completed during one winter due to unusually bad weather conditions, sudden winter thaws, and so forth, the lake would be allowed to fill the following spring and drawn down again the following fall to complete the work. Fortunately, nature cooperated and the project was completed the first season.

The lake was lowered 20 feet to allow construction equipment access to all affected shorelines. The drawdown began in September 1995, and by the end of the month was essentially complete. The drawdown revealed a tremendous amount of trash on the lake bottom -- bottles, cans, tires and other debris were found everywhere. A volunteer clean-up day, began first by a local couple and coordinated by volunteers from the Des Moines Izaak Walton League, was undertaken. Area businesses also cooperated. Hy-Vee of Ankeny, Casey's General Store of Polk

Faced with declining water quality in Big Creek Lake, a project began in 1995 to enhance lake water quality, enhance fish habitat, increase shoreline access, and rejuvenate the swimming beach and shoreline area.



Ken Formanek

Big Creek Enhancement Highlights

4.7 miles of shoreline armored

3 in-lake sediment basins built

9 fishing jetties built

4,500 cedar trees placed and anchored

Numerous rock piles, rock reefs built

Pallet habitat constructed

Swimming beach restored

20 dump-truck loads of trash removed

City, Polk City Basics, the Polk City Chamber of Commerce and Big Creek concessions provided donuts, coffee, pop and lunch for the more than 200 volunteers who showed up with boots and gloves in hand. Other volunteers brought ATVs which were used to haul collected trash to dumpsters. Some trash had to be piled in one location for later pick-up. In a one-day effort, three 60-yard dumpsters (courtesy of Waste Management of Iowa) were filled. This meant about 20 dump-truck-loads of trash was picked up from the lake! In addition, three dump-truck-loads of old discarded tires (some with rims still attached) were removed and disposed of properly.

The first part of this \$1.2 million water quality project was to build in-

lake sediment containment berms or sills. Three rock sills, ranging from 350 to 800 feet long, were constructed across each of the lake's inlets. The sills slow incoming water and allow sediment to settle out faster and

help keep water in the main portion of the lake clean. Each of the sills has a "notch" area to allow at least small boat access. However, water levels above the sills are relatively shallow, and care should be exercised if venturing there. The inlet areas will continue to develop into wetlands, and with development of marsh vegetation will also have the added benefit of helping to control excessive nutrients from entering the

lake by acting as nutrient sumps.

Approximately 4.7 miles of eroded and windswept shoreline were stabilized using riprap as armor. However, where necessary, the shoreline was reshaped, or some other control measures applied before armoring. The riprapped shoreline also provides shallow-water fish habitat, particularly valuable for pan-fish species.

To increase angler access to various areas, nine fishing jetties, two 150 feet long, and seven shorter "fish" access jetties were built. The fishing jetties were put in areas where increased lake access was particularly needed and where control of erosion was critical. A rocked path was built along the water's edge on the west side of the lake to allow access to about 400 feet of normally inaccessible shoreline. More than 40,000 tons of riprap and rock were used in the building of sills, fishing jetties and for shoreline armoring.

Fish habitat improvements, both mid-water and along the shoreline, were important components of the project. While shoreline riprap and fishing jetties added shallow-water habitat, good fish habitat in deeper water (8 to 15 feet) was minimal and most of the habitat constructed during the winter was concentrated in those areas. The Big Creek State Park management plan included programs to replant hardwood tree species in selected areas, a prairie reclamation project and a general tree thinning management program in the park's uplands. To benefit both projects, cedar trees within the planned reforestation or prairie reclamation areas originally scheduled to be cut and burned were used for fish habitat. Crews from the work release program of the Iowa Department of Corrections cut, hauled and placed more than 4,500 cedar trees in the lake. The trees were individually placed and then anchored by hand, using donated



Dick McWilliams

The longest, 850-foot rock sill, across the arm of Big Creek. Rock sills are a major means of controlling sediments from entering the lake.

concrete blocks. Most of the northern half of the lake, particularly along the east side, had cedar trees anchored where water would normally be 6 to 15 feet.

As experienced anglers know, good habitat is a key to good fish populations and to good fishing. A major goal of the habitat enhancement program was to provide a diversity of habitat in the lake. Rock reefs and rock piles were built using riprap, clean broken concrete and donated concrete block from Rhino Materials, LC. The amount of rocky substrate was increased by "scattering" rock and riprap along shallower sloping contours. In all, more than 10,000 tons of materials were used in the construction of fish habitat. The Des Moines Chapter of the Izaak Walton League also installed additional woody habitat. Chapter members placed and anchored more than 500 wooden pallets donated by a local business for habitat along one of the lake "flats." A few areas where habitat enhancement had been planned were not completed due to unfavorable winter weather. Department of Corrections work crews cut, placed and anchored cedar trees in these areas the following summer. A new Big Creek Lake contour map includes sites of the newly created fish habitat. Maps are available from the DNR, Wallace State Office Building, Des Moines, IA 51309-0034 and are also available from many local bait and tackle shops.

To prevent excess mortality or other complications in the major predator populations, the fish scheduled for fall 1995 stockings were instead over-wintered at state fish hatcheries. These fish, about 10,000 large fingerling walleye and an additional 10,000 large fingerling largemouth bass were stocked in Big Creek early in the spring of 1996. These fish will help maintain the



Dick McWilliams



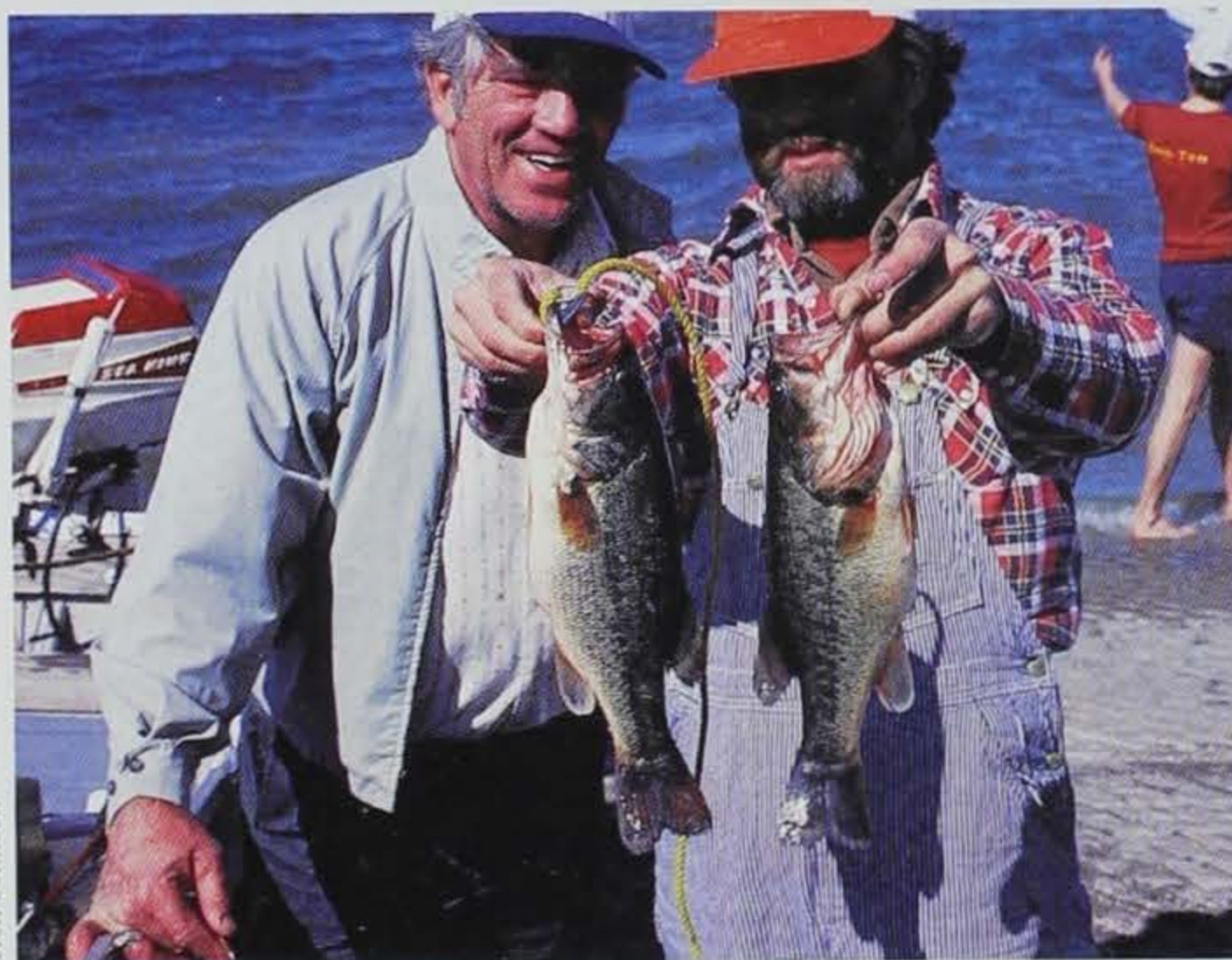
Ken Formanek

Lines of cedar trees and rock piles (top) provide a diversity of habitat for various fish species.

Construction and placement of pallets (above), used for fish habitat, was done by the Des Moines Chapter of the Izaak Walton League.

existing walleye and bass populations and provide a little boost to those populations in future years. The increased habitat throughout the lake will provide some additional and hopefully exciting opportunities to catch a nice stringer of crappie, or a chance for the wily walleye or one of central Iowa's favorite fish, largemouth bass.

As mentioned earlier, Big Creek Lake provides one of central Iowa's premier swimming beaches. Over the years since construction of the beach,



Ron Johnson

The increased habitat throughout the lake will provide some additional and hopefully exciting opportunities to catch one of central Iowa's favorite fish, the largemouth bass.

sand had "migrated" away and needed to be replaced and renewed. Some sand was pushed back onto the beach from deeper water areas. However, most of the sand for the beach was

removed from a shallow water area and hauled to the beach. This provided both a deeper and more desirable shoreline for fish and the tons of sand needed for the beach restoration and expansion. The swimming beach is now restored to its original size. With its family-orientated playground and excellent facilities, the area will continue to provide one of the best swimming beaches in central Iowa.

It was a difficult wait to see the lake fill during the spring of 1996. During "normal" years, spring runoff

would have been more than sufficient to fill Big Creek Lake to normal pool my mid-spring. However, 1996 was not a normal year, spring runoff was considerably less than normal, and the lake filled slowly, finally reaching the full mark the end of May. The difference in water quality, however, was quickly apparent. Most people noted water in Big Creek remained "clear" following heavy rains, in contrast to the "muddy" water in previous years. The water quality protection and improvement at Big Creek Lake has been successful, and along with the other enhancements and improvements will provide Iowan's with many years of recreational opportunities.

Dick McWilliams is a fisheries management biologist for the department in Boone.



Ken Formanek

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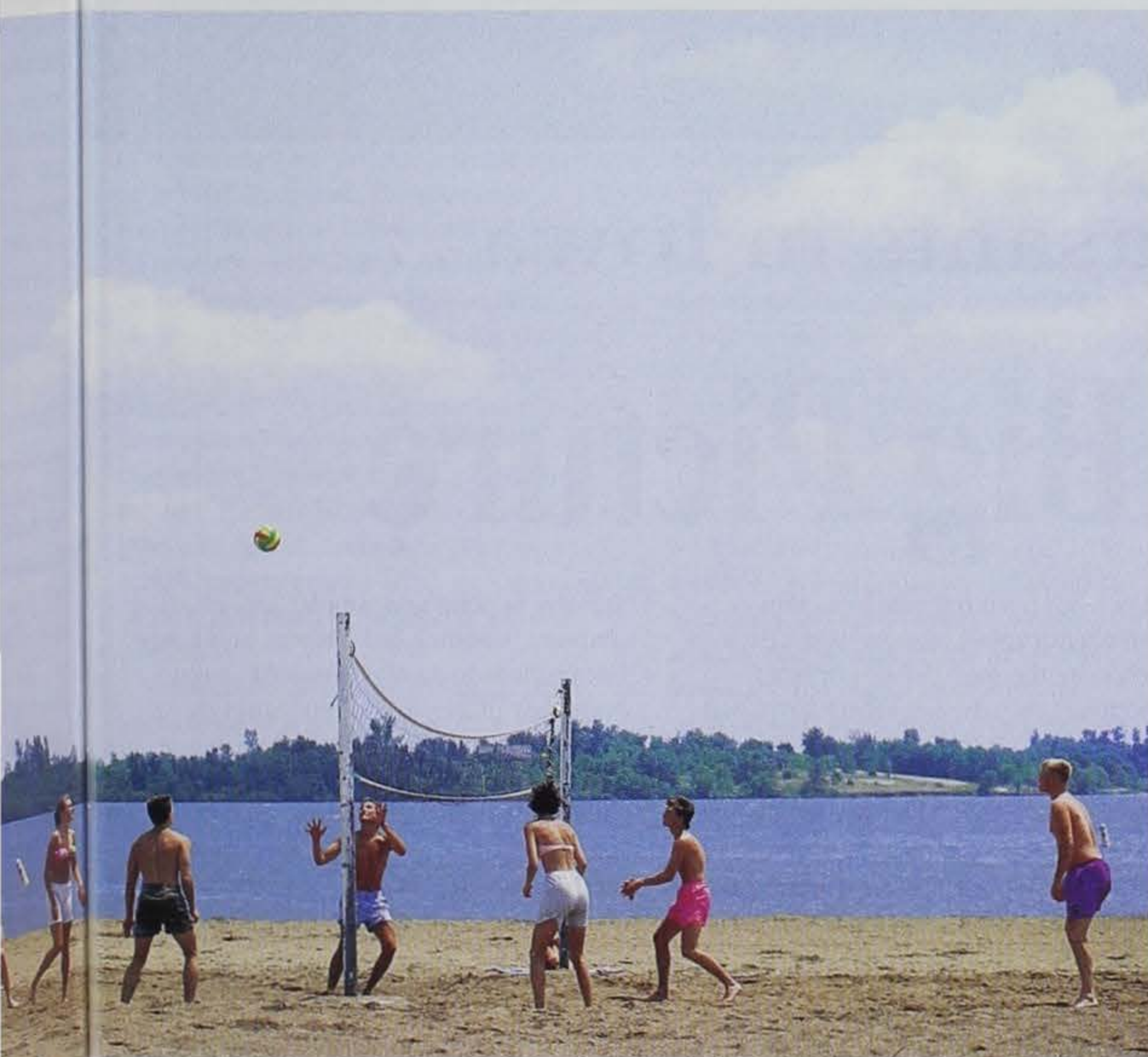
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Ken Formanek

A section of newly armored shoreline (left).

Big Creek's swimming beach (below), with its family-orientated playground and excellent facilities, makes it one of the best in central Iowa.



Ken Formanek

Many people and agencies, such as the DNR Parks Division and fisheries and wildlife bureaus, and the U.S. Corps of Engineers, coordinated and cooperated in this program. A special "thanks" to the United Contractors of Ankeny (the general contractor), Larry Lock, Kim Olafson (Big Creek Park staff), Mark Crawford (Big Creek concessions), Larry Taylor and Kevin Anderson (DNR Engineering inspectors), and particularly "Hud" Hudson for the many, many hours of volunteer labor to haul materials, drive bulldozers, and to generally move this and that. Thanks all the individuals and businesses who helped and volunteered so selflessly to make the improvements so successful. To all these people, we say THANK YOU.

Roger A. Hill



Pheasants in Iowa

The Big Picture

Around 1940, pheasant studies in Winnebago County boasted 400 to 500 pheasants per section. Imagine, 400-500 pheasants per section over most of northern Iowa. No wonder it was almost considered a nuisance bird in that day and age. Those bird numbers are some of the highest population levels ever reported in the scientific literature and are part of the reason why

Iowa has been referred to as the pheasant capitol of the world. However, by the mid-1980s, pheasant populations across northern Iowa had gotten so low many people, even some within the Department of Natural Resources (DNR), had written off northern Iowa for pheasants and pheasant hunting. What caused this decline in pheasant populations? The

answer is plain and simple: loss of habitat. Farming has become so intense in northern Iowa that pheasants have very few places to nest and survive. However, some wildlife biologists within the DNR refused to write off pheasants in northern Iowa. Surely there had to be a way to improve or rearrange what little habitat remained in northern Iowa to help pheasants.

by Todd Bogenschutz and Richard Schmitz

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The Study

To answer this question, wildlife biologists with the DNR and Iowa State University designed a study that would document almost every aspect in the life of a hen pheasant. Although biologists understand much about the basic biology of pheasants, little is known about how pheasant interact with their habitat on the scales of a typical Iowa township. More specifically biologists wanted to know why some parts of the landscape always produced pheasants and other areas of the landscape produced very few. What large-scale features about a particular area of farmland make it better for pheasants?

Biologists compared a 36-square-mile area in Palo Alto County with good pheasant populations to a 36-square-mile area in Kossuth County with poor pheasant populations. Iowa DNR surveys show that Kossuth County has an average of 0.3 pheasants observed per mile of road. Palo Alto County has an average of 3 pheasants per mile, a 10-fold higher population. The farmland in the Palo Alto study area was considered good pheasant habitat and farmland in the Kossuth study area poor pheasant habitat (Figure 1).

The study had four main objectives, to determine how different arrangements of habitat (cropland, Conservation Reserve Program (CRP), road ditches, farmsteads, and wildlife areas) on these 36-square-mile areas influenced hen pheasant winter survival, spring survival and nesting and reproduction. The fourth objective was to take the information on land-use and hen survival and reproduction and incorporate it into a computer model. Biologists could then move pieces of habitat around on the computer screen and determine what arrangement of different habitats produced the most pheasants.

Work on this study began in 1985 and answers to the questions are finally being answered today. Between 1989 and 1994 biologists trapped and placed small radio transmitters on 579 wild hen pheasants and 335 wild pheasant chicks on the two study areas. Hens and chicks were followed everyday over six years, and every aspect of their life documented. Many of the results of this exhaustive effort follow below.

Winter Survival

Biologists found hens on both study areas moved similar distances each day and had similar home ranges. Most hens spent their entire winter in a home range area of 190 to 240 acres. Mammalian predators, especially red fox, were the largest source (67 percent) of mortality in winter. Hawks and owls killed another 13 percent of hens. Comparisons of the habitat used by hens on both study areas showed hens that had more grass in their winter home ranges survived longer than hens that had less grass in their winter

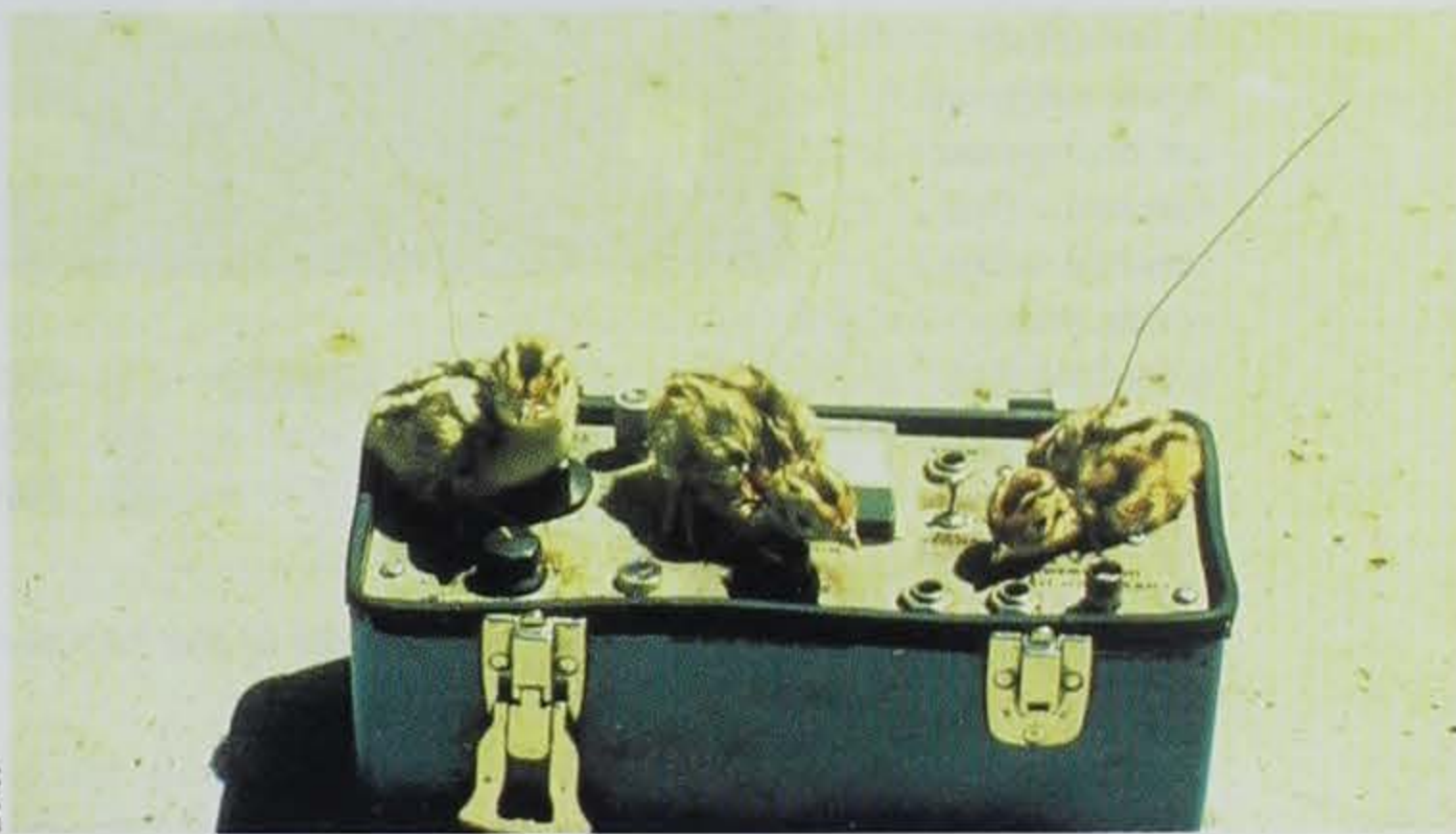
home ranges. The data collected on hens in the winter showed weather plays a significant role in winter survival. Winters that were colder and had more days with snow on the ground also reduced the survival of hens on both study areas. In mild winters many hens survive, in harsh winters fewer hens survive. Although we have no control over the effects of weather, this information is helpful to biologists and landowners. As the total amount of grass increases in a winter landscape the higher hen pheasant survival will be as well. *Management Implications: Cold winters with long periods of snow reduce hen survival, but farm landscapes with more permanent grass cover in winter increase hen survival.*

Spring Survival

When the last of winter's snow finally melts in early spring, hen



DNR



DNR

Between 1989 and 1994 biologists trapped and placed small radio transmitters on 579 wild hen pheasants (top) and 335 wild pheasant chicks (above) on the two study areas. Hens and chicks were followed everyday over six years, and every aspect of their life documented.

pheasants search for habitats to eventually nest in. Biologists call this the pre-nesting period. During this period, biologists again found that hens on both the high-population and low-population study areas moved similar distances and had similar home ranges, although hens made smaller movements in the spring than in the winter. The home range of hens in the spring averaged only 90 to 117 acres. Predators were the greatest source (88 percent) of mortality in the spring. Mammalian predators, as in

winter, again accounted for most deaths (67 percent), with the red fox identified at most crime scenes. As in the winter, hens on both study areas included as much grass habitat in their spring home range as possible.

However, the amount of grass in the spring home range did not change her survival. Hen survival in the spring was determined by the amount grass-cropland edge she had in her home range area. The more grass-cropland edge a hen had in her spring home range the lower her rate of survival. The less edge a hen had in her home range the higher her chances of surviving the spring pre-nesting period.

Management Implications: Habitat management that reduces grass-cropland edge in northern Iowa farmlands would increase hen survival in the spring.

Nesting and Reproduction

Once hens laid their eggs and began incubating nests, biologists found hens that nested in larger (greater than 40 acres in size), blocky patches of habitat hatched more nests (20 percent more) than hens that nested in smaller (less than 40 acres in size) or narrow strips of habitat (Figure 2). Predators (74 percent) destroyed most nests that failed to hatch. Of all the hens radioed on Palo Alto study area between 1989 and 1994 almost 71 percent successfully hatched nests. On the Kossuth study area only 52 percent of the hens

successfully hatched nests. Hens nesting in Palo Alto County were more successful hatching young because most of the habitat patches in Palo Alto County were large and blocky and had less edge. Whereas most hens in Kossuth County nested in small or narrow strips of habitat with a lot of edge, like odd corners and road ditches.

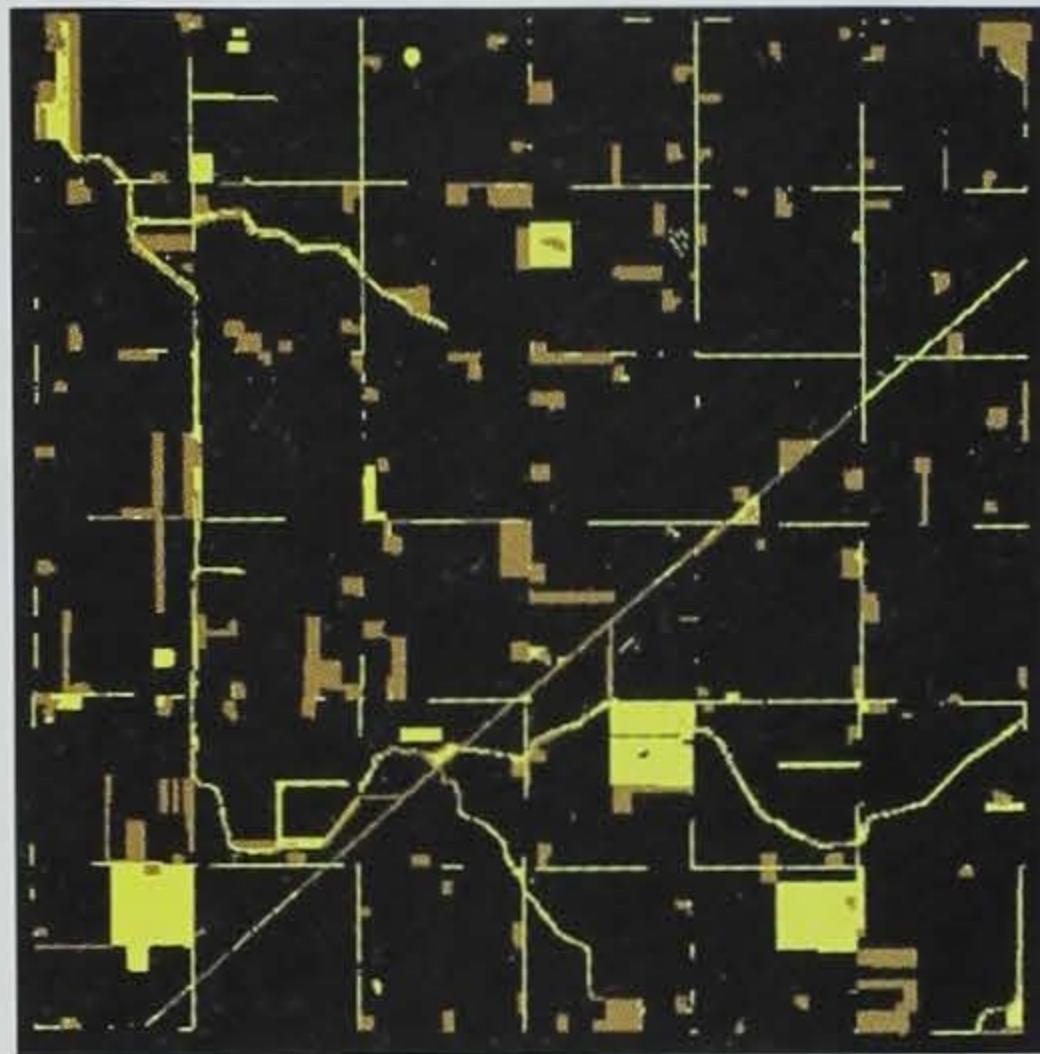
Biologist also followed the newly hatched pheasant chicks for the first month of their life to document their movements and survival. In both study areas, hens and their chicks spent their first month of life in about a quarter section (160 acres) area after hatching. Less than 50 percent of the chicks hatched survived their first month of life on both study areas. Mammalian predators were the cause of 85 percent of chick deaths. Exposure to weather accounted for the remaining 15 percent of chick mortalities. The data also showed that fat chicks hatched early in the spring had higher survival rates than small chicks hatched later in the

summer. *Management Implications: Habitat management that creates larger more blocky grass habitat with less edge in northern Iowa farmlands would increase hen pheasant nest success.*

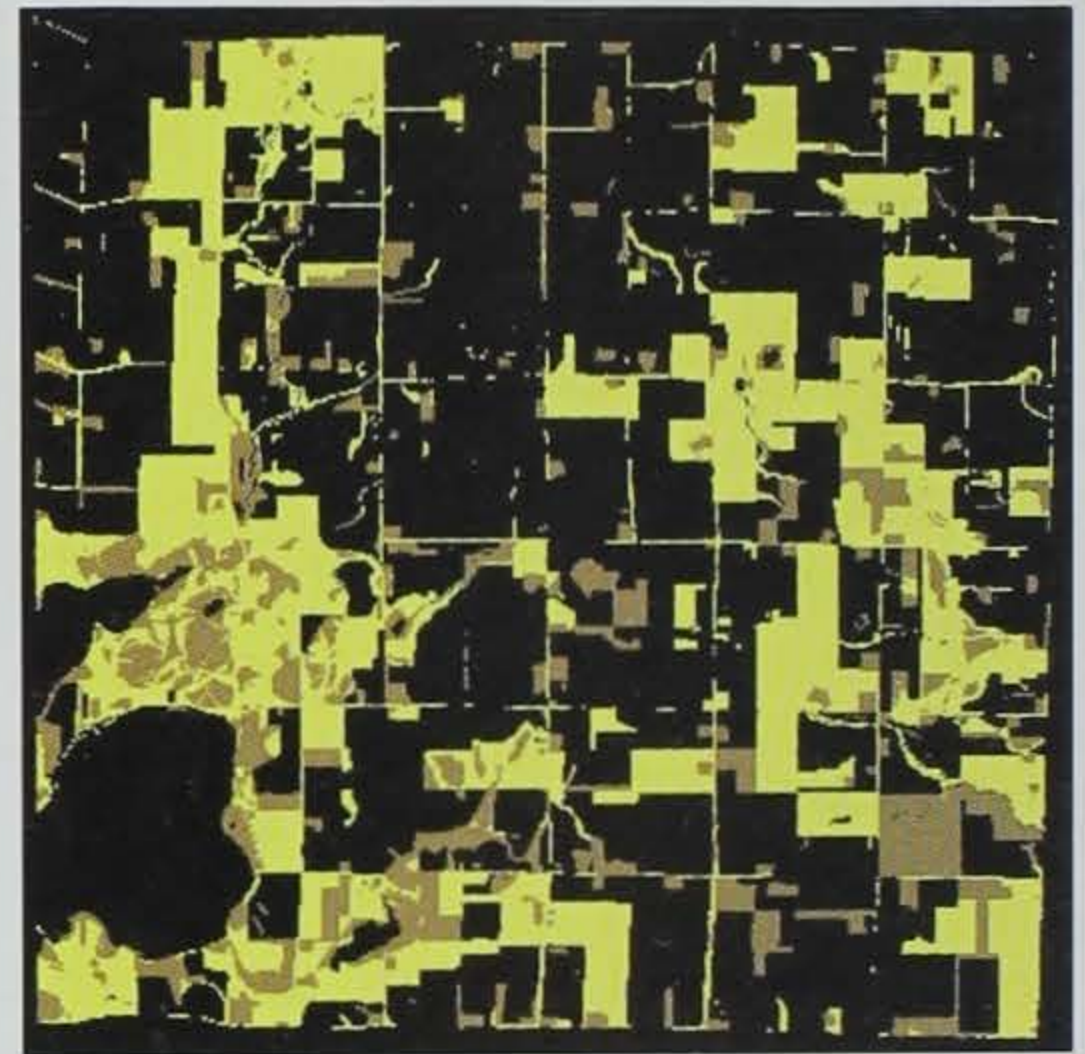
Summary

The information collected on more than 800 pheasant hens and chicks has shown that both weather and habitat are very important in the life of pheasants. Unfortunately biologists can do little to change the weather, but the habitat that exists in northern Iowa farmlands can be changed to help pheasants if land-owners are willing to make these changes. This study showed that in both winter and spring larger, blocky shaped grass habitats are better for pheasants than narrow strips of grass habitat. Perhaps more importantly it showed that the entire landscape in northern Iowa needs to have a lot of these blocky habitats to have large populations of pheasants. Palo Alto County has many more pheasants than

Kossuth Study Area



Palo Alto Study Area



Legend

- Grassy habitats with better nest success
- Grassy habitats with poorer nest success
- Rowcrops or water

Figure 1. Vegetation maps of the two study areas used in the northern Iowa pheasant project.

Kossuth farms in blocky p area in K farms w habitat drainage (Figure 2 a few far whereas farms th county d pheasant From biologist has broa pheasant northern habitat a are the a these pat like a tow next time northern pheasant field has ask your farmland around n is so goo pheasant Think ab landscap or three r around y about tha individua -- look at big pictur guess the farm around y more of t larger, bl habitat p

Future o Pheasant Northern All o informati above ha incorpora into a cor model, a pheasant if you wil

Kossuth County because a lot of the farms in Palo Alto County have blocky patches of habitat. The study area in Kossuth County has one or two farms with good patches of blocky habitat, but most farms have only drainage or road ditches for habitat (Figure 2). In a nutshell, Kossuth has a few farms that raise pheasants, whereas Palo Alto County has a lot of farms that raise pheasants. Which county do you think will have more pheasants?

From our standpoint as pheasant biologists in Iowa, we think this study has broadened our understanding of pheasant biology and the landscape in northern Iowa. Individual patches of habitat are important, but as important are the amount and arrangement of all these patches on the larger landscape, like a township. In other words, the next time you're out in the field in northern Iowa and you see a lot of pheasants, don't think, "WOW! This field has a lot of pheasants." Instead ask yourself, "What is it about all the farmland

around me that is so good for pheasants?" Think about the landscape two or three miles around you, not about that individual field -- look at the big picture. My guess is, a lot of the farmland around you has more of those larger, blocky habitat patches.

Future of Pheasants in Northern Iowa

All of the information above has been incorporated into a computer model, a pheasant model if you will, that

will allow biologists to ask questions about pheasant populations and land-use in northern Iowa. For instance, the new CRP is paying farmers to plant grass buffers along waterways and drainage ditches to improve water quality and wildlife populations in northern Iowa. The U.S. Department of Agriculture (USDA) is wondering if a strip of grass 66 feet or 100 feet wide will help pheasants in northern Iowa. Iowa's new pheasant model should be able to give the USDA the answer it is looking for. As another example, much of the land enrolled in CRP in northern Iowa is coming back into agricultural production. What impact will this have on pheasants? The pheasant model can tell us. Biologists will simply take a typical northern Iowa farmland landscape and ask the computer what pheasant populations will look like with CRP and without CRP in this landscape. What biologists within Iowa have developed is a model that will hopefully help guide the future of farm policy in Iowa. We want to know how

we can make farm programs and thus farmland better for pheasants. Ultimately the future of pheasants in northern Iowa depends upon how farm programs encourage farmers to diversify the use of their land.

Todd Bogenschutz, is the upland wildlife research biologist for the Iowa DNR in Chariton.

Richard Schmitz, Ph.D. is a post-doctoral associate in animal ecology at Iowa State University.

Acknowledgments

Many thanks to the following people for their contributions to this 14-year study and for keeping Iowa at the forefront of wildlife management in the United States: The landowners in northern Iowa who graciously allowed us access to their land to conduct this study, the professors and staff at Iowa State University, DNR personnel and Iowa Pheasants Forever.

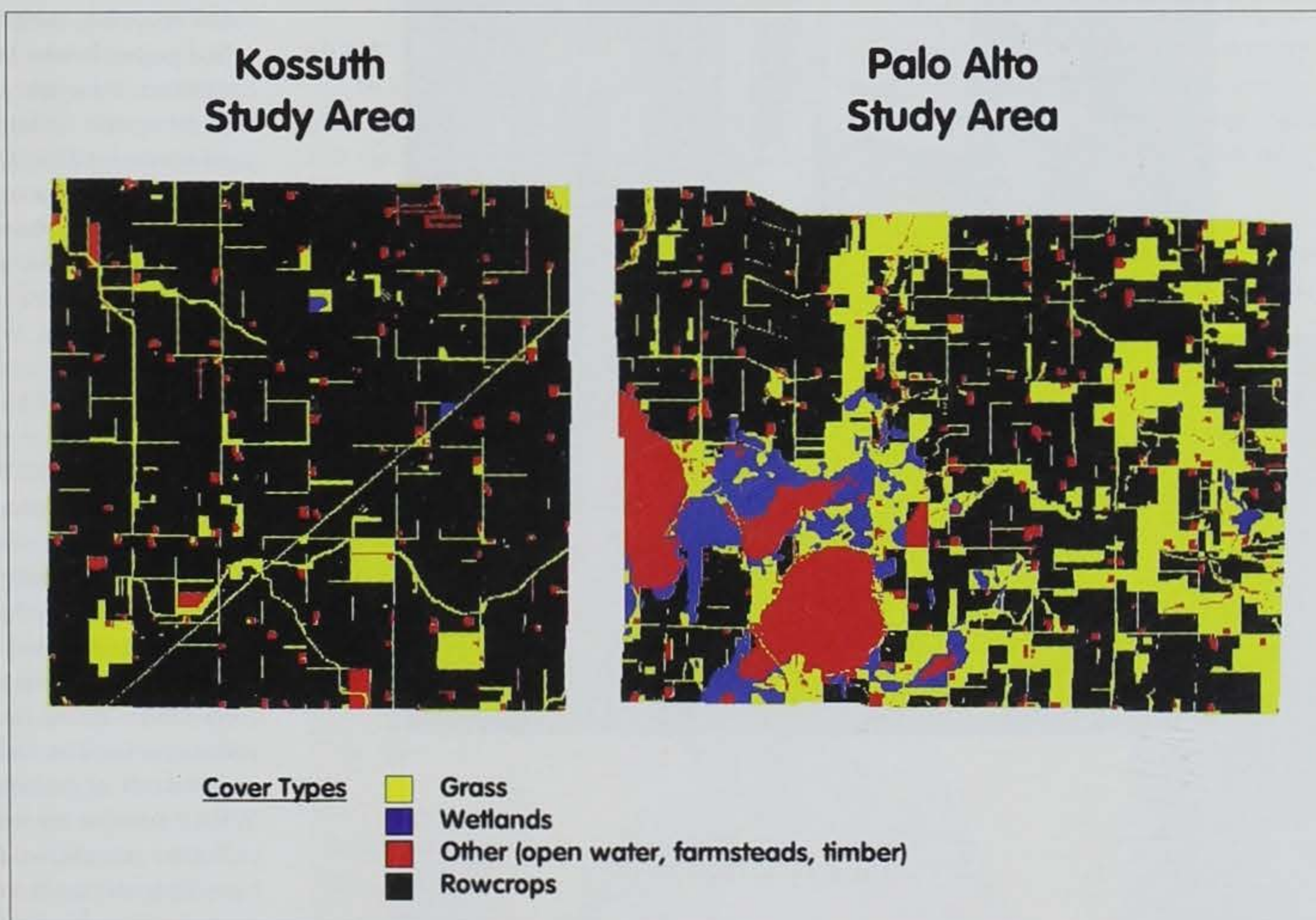


Figure 2. Habitats where pheasant hens were successful and unsuccessful at hatching nests.

Getting Our House In Order



DNR

by Mary Klemesrud

It's just around the corner. After another long, cold Iowa winter, we will all be ready for spring. And, with spring comes spring cleaning. But does your spring cleaning include sorting through landfilled garbage?

At the State of Iowa Capitol Complex, spring cleaning continues throughout the year and literally means being elbow deep in landfilled *garbage!* Conducting waste sorts is just one of many things the capitol complex is doing to enhance waste reduction and recycling efforts and to "get their house in order."

HISTORY LESSON

Recycling is nothing new to the state capitol complex. The departments of Natural Resources (DNR) and General Services (DGS) have been working together to manage recycling collection on the complex since 1989. Recyclables collected through a mandated recycling program include mixed office paper, books and magazines, cardboard, computer materials, fluorescent tubes and ballast, toner cartridges, yard waste, pallets, telephone books, used oil, and other surplus materials. In 1997, state employees recycled 1.6 million pounds of materials for recycling. Although the recycling program is well-established, it is just one component of the state's aggressive waste reduction and recycling initiative.

THE TOTAL CONCEPT

The Waste Reduction Assistance Program (WRAP) conducted a waste reduction opportunity assessment on the capitol complex in 1995 and 1996. WRAP, administered by the Waste Management Assistance Division of the Iowa DNR, assists business, industry and institutions in reducing the amount and toxicity of wastes they generate. WRAP focuses on waste reduction and pollution prevention as a means of benefiting the environment and a company's profitability. Among the many recommendations made by the

WRAP team, the following activities were identified to improve recycling efficiency, provide additional recycling revenues and reduce waste at the source:

- Contract with a full-time recycling coordinator for the capitol complex;
- Identify, quantify and characterize all waste streams on the capitol complex;
- Install electric hand dryers in selected buildings on the capitol complex; and
- Purchase recycling containers for state office workers.

WHERE DO WE START?

As recommended by WRAP, the Department of General Services hired a full-time recycling coordinator. Partial funding for the first year of the project was received through financial assistance provided by the DNR. Doug Reed was hired in November 1996 to increase waste reduction and recycling awareness by capitol complex employees and visitors. To show commitment to recycling efforts on the complex, the DGS made this position a permanent full-time position in its second year. Reed continues to work with the DNR and other state agencies to enhance and improve recycling efforts for employees.

GETTING OUR HANDS DIRTY

To identify, quantify and characterize the waste stream of the capitol complex, a waste sort was conducted in January 1997. The sort team (representatives from the DNR and DGS, the local solid waste agency, and business and industry) determined the amount of recyclables in the waste stream and the quality of recyclables being collected, and identified any materials that could be collected for recycling in the future.

To do this, the team suited up in protective equipment -- Tyvek suits, safety gloves, safety glasses and steeled toed shoes -- and actually sorted through garbage collected from 15 sites

on the capitol complex. Materials were sorted into 21 categories including white paper, mixed paper, plastic, food waste and others categories which may represent a recycling opportunities in the future. Results from the waste sort showed:

- Recyclables collected from the complex are of high quality and have very little contamination (three percent);
- Food waste/organic materials comprised 22 percent of the waste stream; and
- To no one's surprise, office paper represented the largest component of the waste stream.

"To know where you are going, you have to know where you are," said Reed. "The custodial staff and employees are making our recycling program work. The sort results point out new waste reduction/recycling opportunities and ways we can continue to improve our current program."

MORE THAN HOT AIR

In June 1996, to demonstrate waste reduction opportunities at the source, 153 electric hand dryers were installed in 80 rest rooms on the capitol complex.

Employees were reminded of the approaching change and of different environmental, health and financial benefits. To date, overall response by customers has been good and the reduction in paper towel waste has been considerable. For instance, during the six months prior to the dryers' installation 1,073 cases of paper towels were ordered for rest rooms. Since the dryers were installed, only 420 cases of paper towels have been ordered on complex. This is a 60 percent reduction in the paper products being purchased and used. By comparison, the amount of paper towel waste sent to the landfill has also decreased by 60 percent.

Without taking into account the environmental savings, the Department of General Services conservatively projects a financial payback period of 11 years and project savings of \$110,000 over the next ten years. This figure includes labor costs of the complex custodial staff who are now freed up to provide new services to their customers. More than the financial savings, this project is expected to save the equivalent of 238 trees alone, in just one year of operation.

Following an assessment of the capitol complex's waste reduction efforts, a sort team identified any materials that could be collected for recycling in the future.



DNR

EDUCATE, EDUCATE, EDUCATE!

A good education program is key to the success of any recycling/waste reduction program. But how do you remind 5,100 state employees daily to recycle at their work place? To do just this, the Department of General Services purchased and distributed more than 3,060 recycling/refuse containers to state employees on the capitol complex. "The recycling/refuse containers act as an educational tool to remind employees to recycle at work," said Reed. "We will continue to purchase and distribute containers to all 5,100 state employees."

The containers have separate compartments for refuse and

recyclables collected in the work place. The compartment for trash is smaller in size to encourage recycling. The bins also have stickers specifying materials collected for recycling on the capitol complex. Peggy Habick, custodial supervisor of the Wallace State Office Building, is seeing results from the use of the new containers. "The recycling containers are working well. The custodial staff has a more uniform method of collecting materials and we are seeing very little contamination in our recyclables."

WIN-WIN

But what about recyclable items that do not fit in the recycling bins like

furniture, typewriters and other surplus materials? A partnership has been developed with Iowa Prison Industries to handle surplus materials for the state capitol complex. Materials are refurbished and sold to support the program.

Those materials not accepted through the prison industries' program are sent to the Iowa Business and Education Connection. This nonprofit group links schools and businesses in a beneficial way, by collecting donated business products and materials and then distributing them to Iowa's schools.

CLEAN OUT YOUR FILES DAY

To increase the awareness of office paper recycling and the

recycling of other materials on the capitol complex, a "Clean Out Your Files Day" event has been held the past two years. "Clean Out Your Files Day" is a

one-day, five-hour event to give state employees the opportunity to clean their files. The goal of the "Clean Out Your Files Day" event is not only to recharge employee awareness for the existing waste reduction and recycling program, but also to pull more recyclables out of the offices and keep them from the landfill. During the 1997 event, 4,700 state employees purged 54 tons of paper, cardboard, computer software and books from their offices. State employees were recycling at a rate of 21,600 pounds per hour! In that one day the State of Iowa received approximately \$2,200 in revenue for the recycled materials collected and avoided \$1,600 in landfill fees.

The highlights of the 1997 event were a surprise building walk-through by Governor Branstad, and the Governor's Recognition and Award Luncheon which included an employee lunch and recycling games. Governor Branstad recognized those involved in the organization and execution of the event and encouraged business and industry to start their own office recycling programs.

A key component to the success of "Clean Out Your Files Day" is the event planning committee. The planning committee was comprised of both internal and external partners. Internally, custodial staff and department recycling coordinators played a key role in the organization and actual execution of the event. These two groups, along with the departments' public information officers, were responsible for the education of participating employees.

External partnerships were established with waste haulers, recycling processors and other organizations for additional technical and financial assistance. Everyone involved played an essential role and contributed to the success of the day.

BUY RECYCLED

But what good does all this recycling collection really do? None, if we don't put our money where our mouth is. Recycling -- the collecting,



With new waste bins, state employees are reminded daily to recycle at their work place.

remanufacturing and purchasing of recycled materials -- is only effective when we *buy recycled products* and *close the recycling loop*.

The Departments of Natural Resources and General Services continue to work together to educate employees of the benefits of buying recycled. Currently products such as office paper, plastic bags, toner cartridges, carpet, re-refined oil and many others are purchased with recycled content.

FUTURE EFFORTS

Waste reduction and recycling efforts do not stop here. The departments of General Services and Natural Resources, and several other partners will participate in the following activities during the 1998 and 1999.

- 1998 "Clean Out Your Files Day"
- 1998 Waste Sort to measure our educational efforts over the past year.
- Food Waste/Composting Pilot Project to further determine amounts of food waste on the capitol complex and work with a waste hauler to set up a composting program.



DNR

- C&D Asphalt & Concrete Recycling to look for recycling opportunities and recycled product purchasing opportunities for the restoration currently taking place on the capitol complex.
- Two-Sided/Duplex Printing Education to reduce paper waste.

Mary Klemesrud is an environmental specialist with the department's Waste Management Assistance Division.

Highlights of the 1997 "Clean Out Your Files Day" included recognitions by Governor Branstad and recycling games on the Capitol steps.



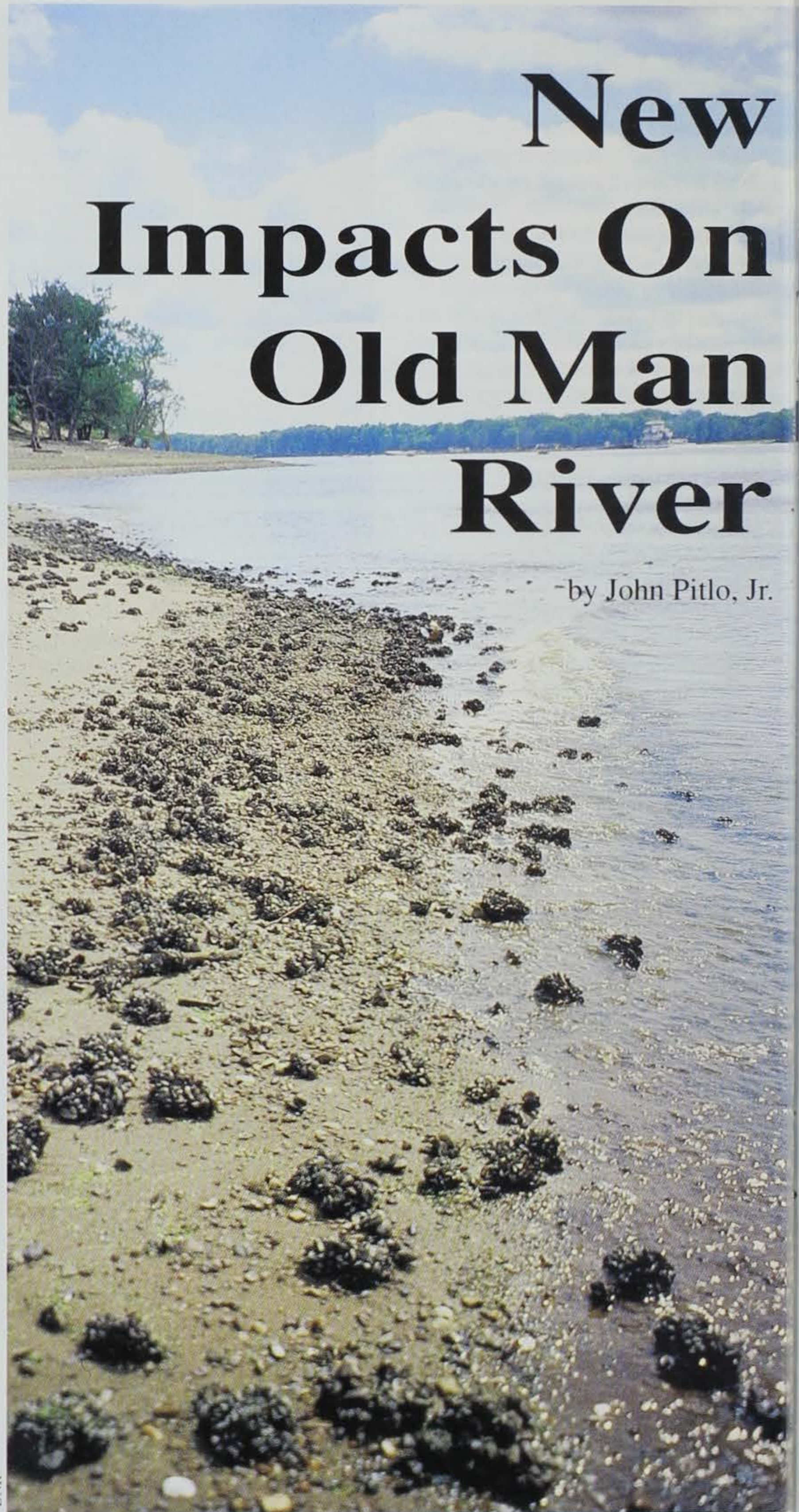
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Exotic species are those plants and animals introduced into our environment. In other words, they are not native to the habitats in which they are found. Exotic species have been introduced accidentally or intentionally. Some of these introduced species are good, however, many are thought of as bad.

Who would want to be without the heart-stopping flush of a gaudy autumn Iowa ringneck pheasant or the leaping acrobats of a rainbow trout - both of these species are exotics, having been introduced into Iowa lands and waters. Many ornamental garden plants are exotic species, lending brilliant displays of color to gardens during the blooming period. On the other side of the coin are common carp, starlings, and English house sparrows, introduced species that are commonly thought of as pests or nuisance. These species often overrun their new environment because of a lack of predators, competition, and disease to control their numbers. In addition, many times they crowd out beneficial native species. Several new exotic species have recently become common not only in Mississippi River, but also in some interior Iowa lands and waters.

Zebra mussels litter the shoreline of Pool 13 on the Mississippi River. All the dark lumps are encrusted native clams exposed due to low-water levels.

DNR



New Impacts On Old Man River

by John Pitlo, Jr.

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Zebra Mussels. These small, fingernail-sized mussels native to Asia were transported by ocean freighters to Lake St. Claire near Detroit, Michigan, sometime between 1986 and 1988. Zebra mussels are now found in all the Great Lakes and connecting waterways, the Illinois, Ohio, Arkansas, and Mississippi river systems and many of their tributaries. This rapid expansion of their range was due primarily to attachment of adults to commercial navigation crafts which ply the inland navigable waterways. Female zebra mussels begin to reproduce in their second year and can produce up to one million eggs during a spawning season. Eggs hatch into larvae called veligers that are free-swimming for a month. During this period, the veligers settle on anything solid -- rock, metal, wood, fiberglass, native mussels, each other and occasionally on vegetation. The zebra mussels attach by strands of protein known as byssal threads, and literally grow "on top of each other." Densities of 90,000 to 100,000 per square yard having been found in the Illinois River and Lake Erie.

Zebra mussels are filter feeders, filtering about one quart of water per day, feeding primarily on algae. However, plankton that zebra mussels filter but do not use are tied up into pseudofeces and ejected, thereby removing possible food resources for larval fish. Zebra mussels grow up to two inches long and live four or five years. They have the capability to dramatically improve water clarity and are responsible for changing the fish community in Lake St. Claire, Michigan. Diving ducks, freshwater drum, catfish and carp eat zebra mussels, but are not expected to control them.

Zebra mussels spread during the veliger stage, where they float freely with the current or can be carried on boats, motors, and boat trailers in water pumps, live-wells, bilge waters, bait buckets, moist carpet and hollow tubing of trailers. Overland dispersal by the above methods are possible since many

A number of native mussels encrusted by zebra mussels (below). Zebra mussel showing distinctive stripes and byssal threads used to attach to solid objects (bottom).

small lakes in the proximity of the Great Lakes, although unconnected to the lake, have populations of zebra mussels in them.

The impacts from zebra mussels are numerous. For power or water supply plants which draw water from the river, zebra mussels can reduce the capacity of pipes by 60 percent, resulting in enormous costs to clean and remain operable. Walls of locks and dams have become encrusted, requiring

cleaning and maintenance. Do you harbor your boat in a marina all summer? Better check the water pump to make sure your engine does not overheat, because zebra mussels will attach inside an engine in the water cooling ports and reduce the flow of water needed to cool the engine. Biologically, probably the greatest impact will be on native mussels. Some native mussels have been found with 10,000 zebra mussels attached to them. Zebra mussels have the potential to eliminate five to ten native mussels from Iowa waters. Two recent events on the Mississippi River can be related at least partially to zebra mussels. During the 1997 summer period, the river had an unprecedented water clarity of three to four feet. Some of this was undoubtedly due to the filtering action of zebra mussels, however, little or no summer rains and many acres in the CRP program also contributed to the water clarity. More alarming, was the detection of very low

oxygen levels by our long-term-monitoring crews during June and July -- three parts per million (ppm) below Lock and Dam 12. Dissolved oxygen measurements directly over zebra mussel beds were at one to two ppm,

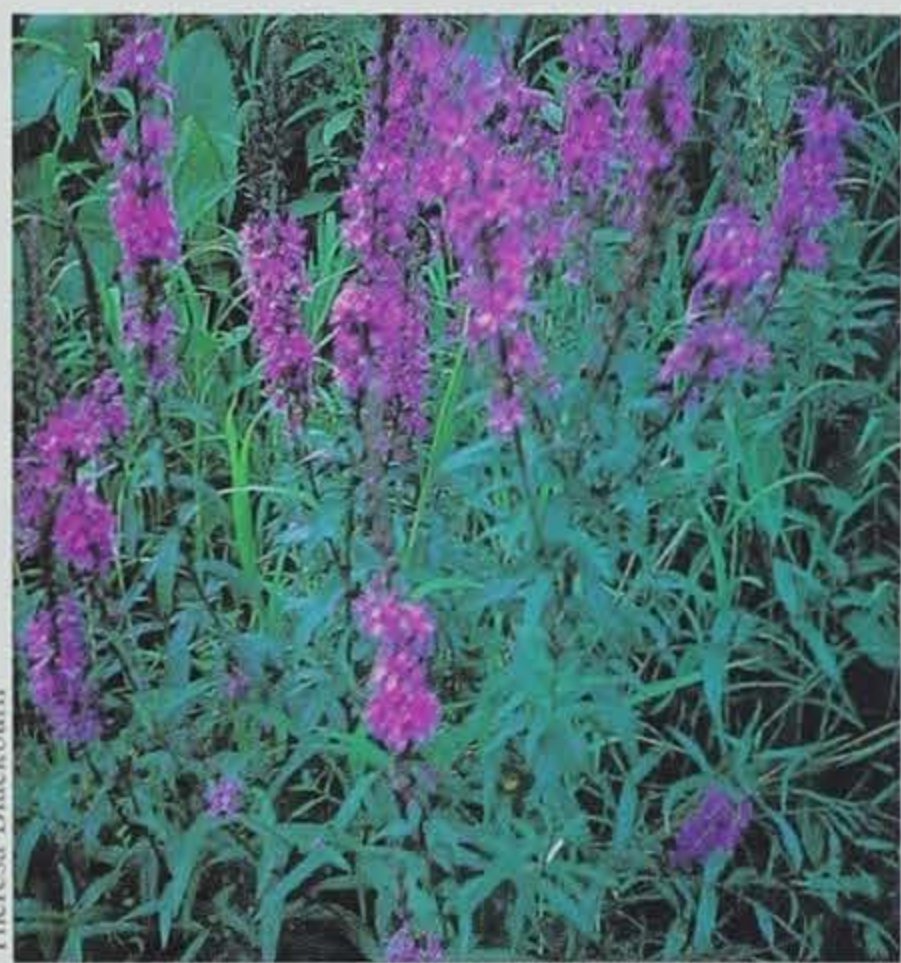


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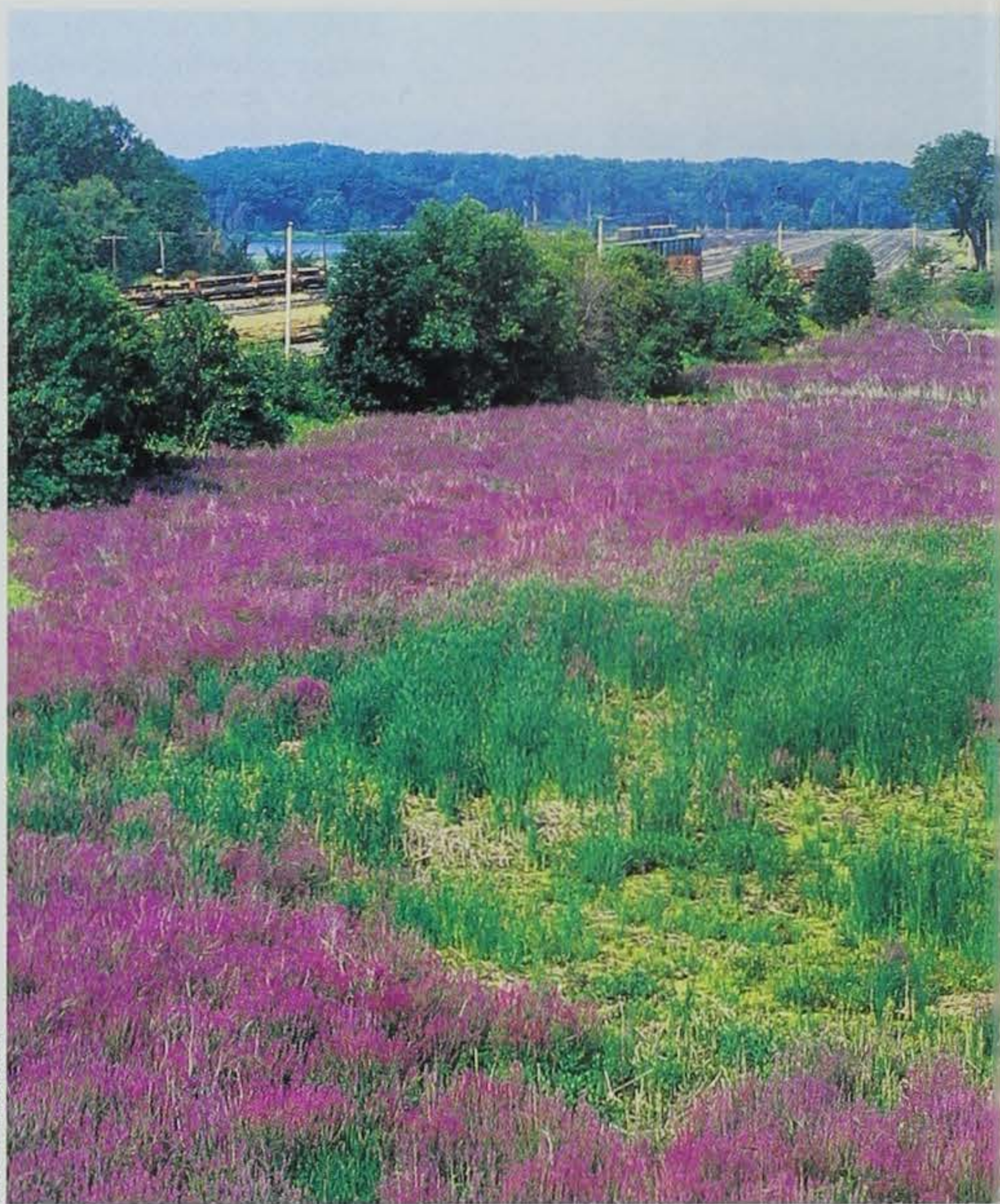
DNR

and during 1993 in the Illinois River, readings dropped to one ppm where zebra mussels were at densities of 90,000 per square yard. Warm summer water temperatures and dense beds of zebra mussel were probably responsible for the low dissolved oxygen readings. How these changes in water quality will affect the biology of the river during the next 20 to 30 years is unknown at present.



Theresa Blackburn

Flowering purple loosestrife (above). Stand of purple loosestrife in lower Pool 13, of the Mississippi on the edge of an island (right) and invading and crowding out a stand of native wetland plants (below).



Theresa Blackburn



Theresa Blackburn

Purple loosestrife is a highly aggressive, perennial wetland plant native to Europe and Asia. It was introduced to the northeast coast of North America in the early 1800s as a contaminant of European ship ballast and as a medicinal herb. Today, it is commonly sold as an ornamental garden flowering plant in greenhouses and in seed company catalogs. The plant has spread to nearly 40 states and Canada. Purple loosestrife is found in wetlands such as cattail marshes, sedge meadows and bogs. It occurs along stream and river banks, lake shores, in wet ditches and other disturbed wet soil areas. This plant forms very dense, impenetrable stands unsuitable as cover, food or

nesting for a wide range of native wetland animals such as ducks, geese, rails, muskrat, frogs and turtles. The plant can out-compete native vegetation and replace stands of cattails, arrowhead and sedges. The plant spreads by seeds (up to one million seeds annually by one plant) or vegetatively by resprouting from cut stems and regeneration from pieces of root. Seeds are mostly dispersed by water but can also be dispersed by wind and mud adhering to aquatic wildlife, livestock and people. Purple loosestrife blooms from July through September in a deep purple color blanketing entire wetlands. Several methods of control have been used on purple loosestrife with varying levels of success. Mowing, burning and flooding are largely ineffective. Hand pulling is recommended for small populations or young plants and isolated stems. Herbicides can be effective, however, many native and beneficial plants can also be killed. Probably the



invade. Eurasian watermilfoil competes aggressively to displace and reduce the diversity of native aquatic plants. It is tolerant to low water temperatures and grows under a wide range of environmental conditions.



Jim Wahl

Eurasian watermilfoil

Once established in a water body, it quickly grows to the surface to form dense canopies that shade the surrounding vegetation. Heavy mats of vegetation form by midsummer and severely restrict boating, water-skiing, fishing, and other forms of aquatic recreation. These mats clog water intakes and result in unsightly decaying mats that foul lakeside beaches and deplete dissolved oxygen levels. While Eurasian watermilfoil may provide good fish habitat in certain instances, severe infestations generally have a negative impact on fish and wildlife populations. This plant spreads by a variety of methods, however, the most important is by stem fragments. Motorboat traffic spreads it throughout the lake and transport of boating equipment plays the greatest role in introductions into new water bodies. In the Midwest, it was first found in Minnesota in 1987 and has since been found in 75 lakes and four streams in the Twin Cities area. Road checks in Minnesota have found this plant on 23 percent of the watercraft inspected

most economical and environmental friendly approach is with a biological control using several species of insects. Three species of insects have been introduced which feed only on purple loosestrife, a root-mining beetle and two leaf-eating beetles. Initial studies appear promising and loosestrife plants are killed or stunted and at higher insect densities, plants were stripped of all green tissue, leaving only whitish skeletons, thereby preventing seed production. These three species of insects were approved for purple loosestrife control in 1992 by USDA and introduced in seven states (the nearest state to Iowa was Minnesota). Wisconsin initiated a biological control program in 1994 because the plant had colonized nearly 40,000 acres in that state. Iowa initiated its own biological control program in 1994 at three areas in the state -- Black Hawk Lake (Sac County), Little Storm Lake (Buena Vista County) and Sunken Grove Marsh

(Pocahontas County). At these sites, the leaf-eating beetle has been introduced and is being monitored by Dr. John Obrycki, Department of Entomology, Iowa State University. On the Mississippi River, purple loosestrife is found primarily in the lower portions of the pools, growing amid rushes, on points of islands, and between the water edge and higher banks. On Pool 13, purple loosestrife covers nearly 10 percent the area where land and water meet.

Eurasian watermilfoil. This plant was first documented in 1942 from a pond in Washington, D.C. and has spread steadily westward. Today, it is one of the most widely distributed of all nonnative aquatic plants. The plant is currently established in 44 states and three Canadian provinces, and expanding. This plant can be expected to cause problems in the ecosystems they



Lowell Washburn

Comparison of Eurasian watermilfoil, northern watermilfoil and coontail. Coontail and northern watermilfoil are native aquatic plants. The most common method of spreading this nuisance aquatic plant is by carrying a part of the plant on a boat or trailer.



Jim Wahl

This plant can be chemically controlled, however, biological control is preferred if possible. Extensive research has shown the milfoil weevil, a native North American weevil, can control Eurasian watermilfoil. The object of biological control is not to completely eradicate the plant but to keep it in check so there will be populations of both the pest (Eurasian watermilfoil) and control (milfoil

weevil) in the body of water. Eurasian watermilfoil was first detected in Iowa in 1993 in Crystal Lake (Hancock County). Since that time it has been found in St. Benedict Pond (1994), Kossuth County; Walnut Creek Marsh (1994), Ringgold County; Kouty Pond (1995), Buchanan County; Wilson Grove Pond (1996) and Sweet Marsh (1997), Bremer County; Snyder Bend Lake (1996), Woodbury County, and Pools

9, 11, and 13 of the Mississippi River. All infestations in interior waterbodies in Iowa have been chemically treated and populations in Crystal Lake, St. Benedict Pond, and Walnut Creek Marsh appear to have been successfully eradicated. Because of the continued threat of Eurasian watermilfoil to Iowa water bodies, the Iowa legislature passed Eurasian Watermilfoil Legislation in 1996. The legislation directed the IADNR to develop a Eurasian Watermilfoil Program. This program addresses five primary areas; public awareness/education, boat access monitoring, aquatic vegetation monitoring, management and enforcement. To date, 5,239 boats have been inspected and three had Eurasian watermilfoil attached. More than 100 lakes have been surveyed to determine the presence of the plant. The Eurasian Watermilfoil Program also makes it illegal to transport Eurasian watermilfoil on a public road, to place a trailer or launch a watercraft with the plant attached in public waters, and operate a watercraft in a marked Eurasian watermilfoil area. To this end, all public boat ramps in the state have large orange signs warning of the dangers of Eurasian watermilfoil and how to keep our water unaffected. However, all the rules and signs will not help if the boating and fishing public does not get behind the program and become aware of the dangers of Eurasian watermilfoil and does his/her

part to keep their watercraft and trailers free of aquatic vegetation. To learn more about the Eurasian Watermilfoil Program in Iowa, contact Tom Gengerke at 712-336-1840.

Other exotic species you may hear about in the coming years include:

Bighead carp -- looks similar to common carp except the head is larger and the scales are much smaller. The fish can grow to be large and has been collected from the Mississippi River and Missouri River and their tributaries, especially below dams such as Red Rock Dam, Rathbun Dam and Lake Icaria Dam.

Silver carp and Black carp -- some scattered collections in the Mississippi and Missouri rivers. These species have recently escaped from commercial growers in Missouri and Arkansas.

Round Goby -- introduced by ballast water from ocean-going ships much like zebra mussels. Presently found in all ports of the Great Lakes and several miles into the Chicago shipping canal. This canal links the Great Lakes to the Illinois River -- a tributary of the Mississippi River.

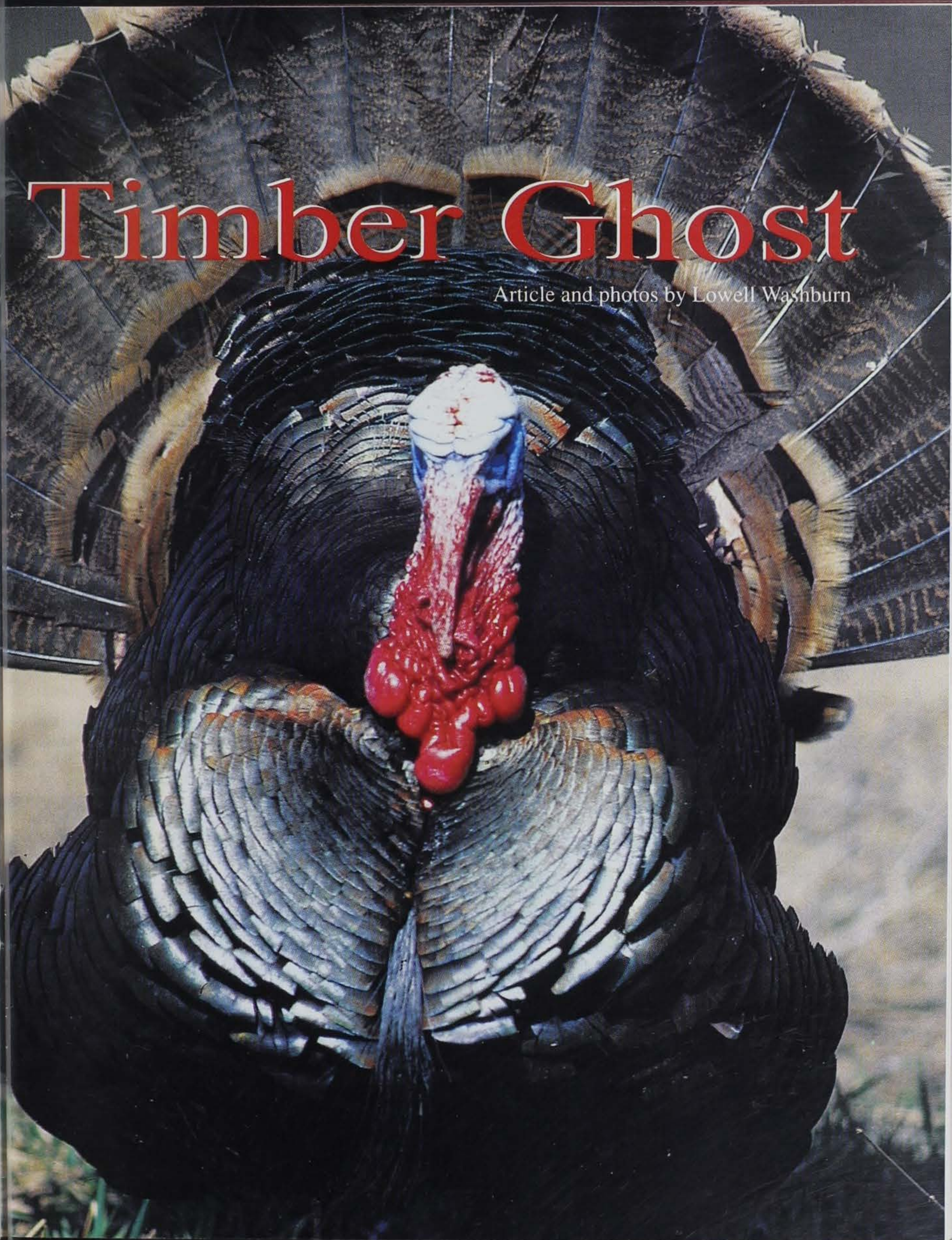
Ruffe -- introduced by ballast water from ocean-going ships much like zebra mussels. This is a small fish found near to shore. It is expected to compete with bluegill, crappie and yellow perch. Presently found in ports of western and northern Lake Superior and in Lake Huron. This species is gradually spreading its range in the Great Lakes.

White Perch -- this species is similar to yellow perch in size and appearance, however, it is silver in color. The white perch is plentiful in eastern waters including Lake Erie. More recently, it has been found in the Illinois River, a tributary to the Mississippi River, and appears to spreading westward.

John Pitlo is a fisheries research biologist for the department on the Mississippi at Bellevue.

Timber Ghost

Article and photos by Lowell Washburn



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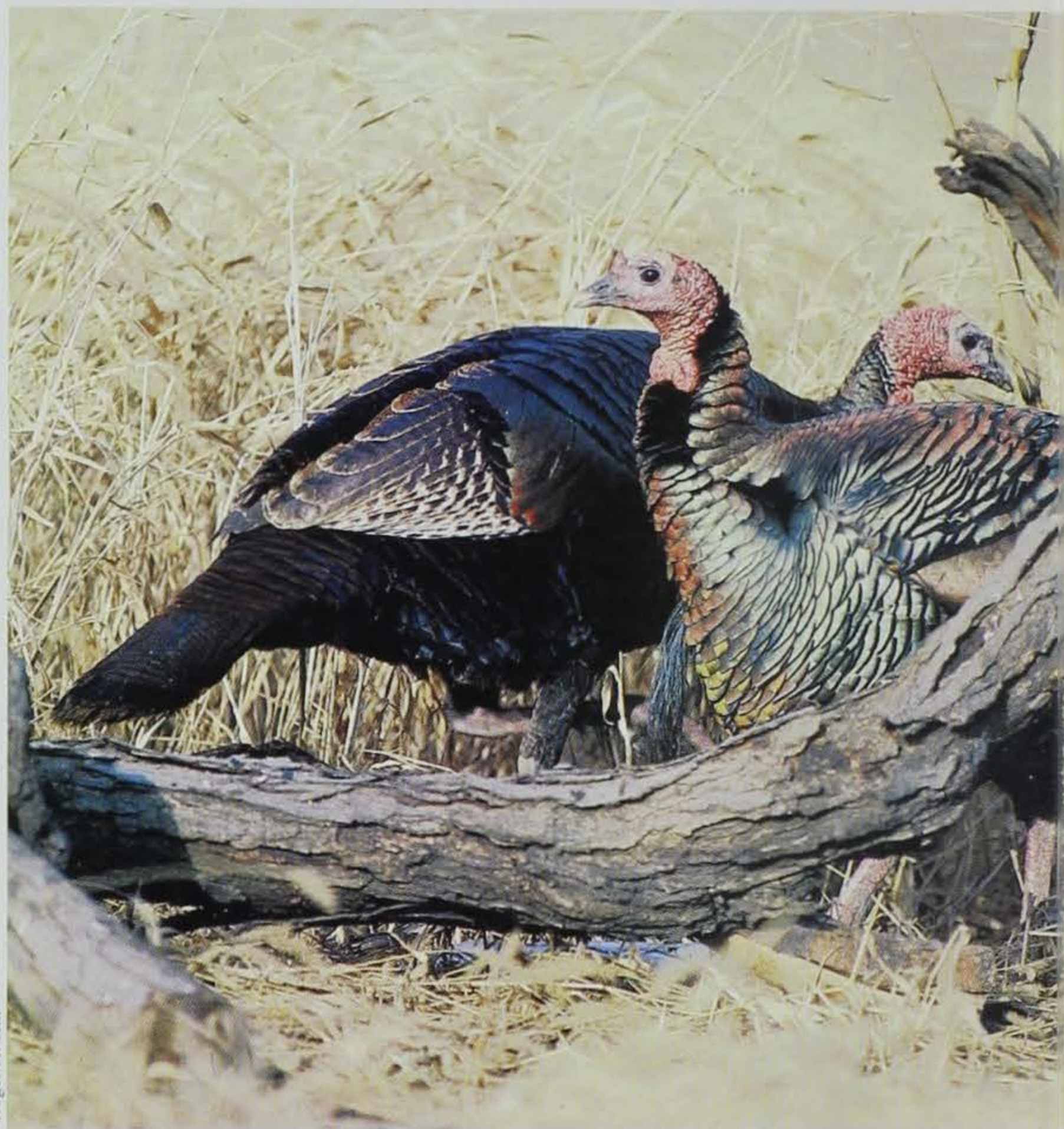
O

f all the creatures to inhabit the North American woodlands, no species is more shrouded in legend, mystery, and folk lore than is the eastern wild turkey. By the time a wild gobbler has survived its third or fourth hunting season, the bird will have become a true "Timber Ghost" — virtually impossible to outwit by call, decoy, ambush or any other means commonly available to human hunters.

The turkey I was currently viewing was just such a bird. It was late afternoon, and the magnificent tom was gobbling his heart out along the edge of a mature timber. So far, at least three different hunters had made serious attempts to bag this bird during the 1997 spring season. None had been successful, and each hunter had added his own chapter to the growing legend.

My brother Sterling had first introduced me to the "Boss Gobbler." After a couple of unsuccessful go 'rounds of his own, he had decided to collect another turkey. As they say, "a gobbler in the oven is worth two in the bush."

Although this particular "long beard" was perhaps best noted for his prolonged, half-hour gobbling tantrums. He also possessed an uncanny ability to remain hidden from human view. Without fail the bird always managed to do the right thing at the right time -- staying just over the ridge, behind a thicket, or around the bend.



Roger A. Hill

Although I had heard the stories and had even had one previous encounter of my own, today was the first time I actually laid eyes on this wary creature. And, in spite of the fact the tom was nearly 200 yards away, he nevertheless made for spectacular viewing as he marched back and forth along the tree line.

Ironically, it was only an hour ago, I had thought the bird was mine. He had suddenly begun answering my calls, rapidly drawing closer with each successive gobble. When the bird had come to within 70 yards or so, I began to feel confident. But, at the crucial moment, the old gobbler hesitated and decided to make the "hen" come to him. He finally moved on, keeping "just over the ridge" and out of sight. As he went, each mocking gobble became more distant. A few minutes later I had crawled to my current viewing position.

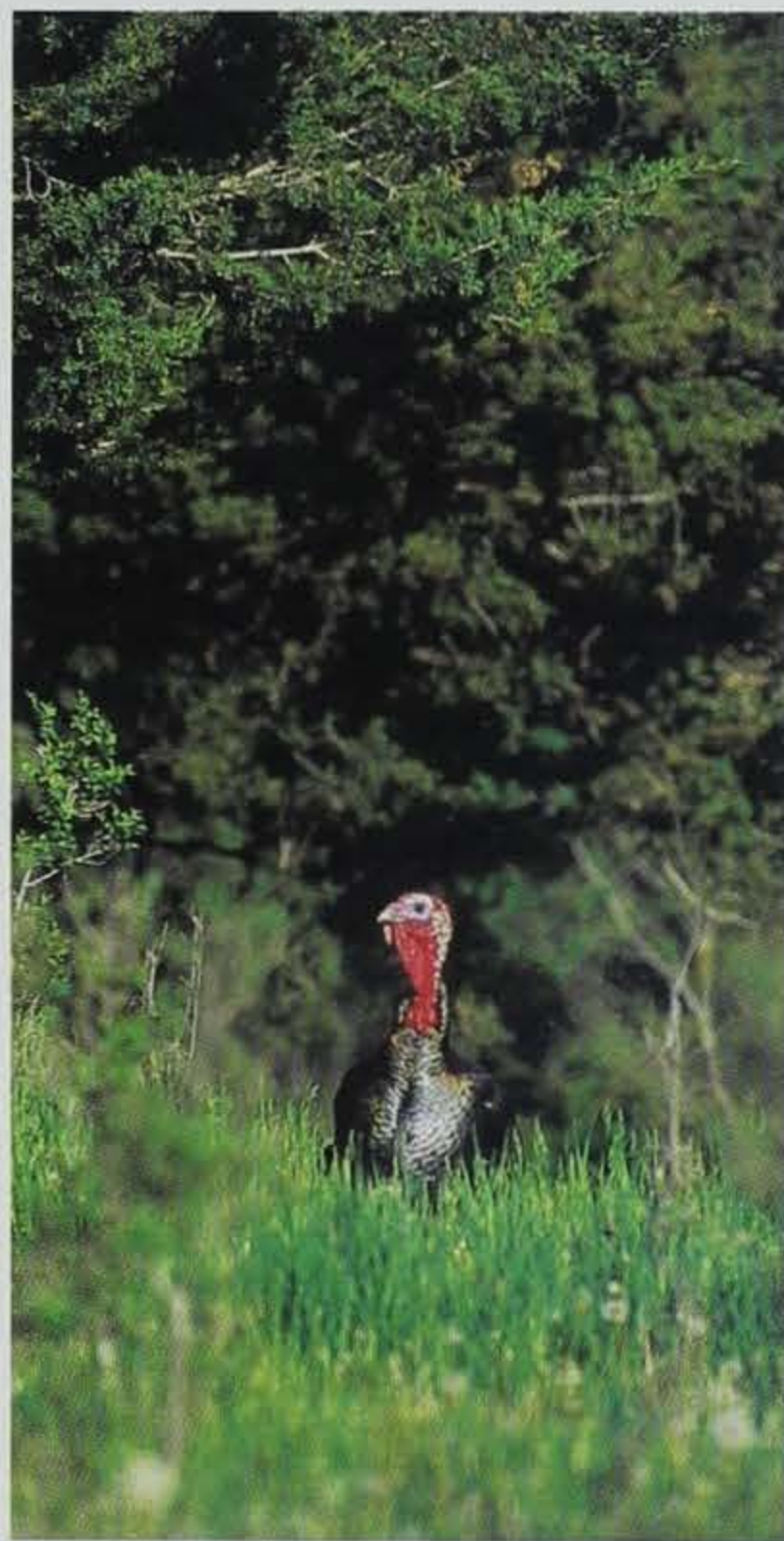
The sun began to set, but the tom didn't seem to notice. All by himself, he continued to strut and gobble. Dusk came and the woodland began to get seriously dark. Nevertheless, the show continued as the light faded. It was nearly pitch dark when the bird finally disappeared into the blackness of the forest.

I heard the bird fly up to his roost tree, and was more than a little amazed as the tom began to gobble with renewed fervor. Never before had I seen, or even heard of, a bird becoming so fired up so late in the day. As I made my way back toward the truck, I could still hear the tom's faint calling.

The night was short and sleepless. At one point I dozed off, only to wake up dreaming about the gobbler. By 5 AM, I was back in the timber.

Although daylight was a ways off, the morning promised to be a beauty. To my surprise, the gobbler was already

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scratching the ground and abruptly left the area, no doubt to add the latest deposit to her "nest in progress." Although I didn't see it go, the other hen must have left shortly thereafter.

With the second hen gone, business began to pick up. The tom began gobbling incessantly, and each reply on the yelper brought a near immediate response. Within minutes he closed the gap by 50 percent. I tensed as the bird suddenly disappeared into heavy cover. According to the stories, this is where most hunts come undone. Much to my joy, the gobbler soon reappeared -- standing in full view at a mere 27 yards. His stately elegance surpassed description.

For most turkey hunting enthusiasts, this would have marked the successful conclusion of an exciting hunt. But this was not the case. For no matter how you look at it, my muzzleloading 12-gauge falls well short of most current definitions of the "ideal turkey gun." With straight tube cylinder-bore barrels, cardboard wads,

sounding off when I arrived, and I mused over whether or not he had ever shut up.

After taking a position against the base of the largest available oak tree, I gave a series of soft yelps. The tom roared back. Daylight was coming fast, and from then on the bird "shock gobbled" to every sound it heard.

At 5:40 AM, the gobbler flew down and lit a short distance away. That was good.

At 5:43 AM, two hens (This was the first I knew they were there.) flew down to his side. That was bad.

For the next half hour, the tom didn't gobble much. Instead he spun and strutted like a giant wind up toy, constantly displaying before the hens. I continued to work the yelper, but of course, he totally ignored my calls.

With a pair of real hens just a few feet away, it made no sense to look for me.

Suddenly, one of the hens quit



Roger A. Hill

... my muzzleloading 12-gauge falls well short of most current definitions of the "ideal turkey gun."

and #7-1/2 lead shot; anything beyond 20 yards become highly risky. In this case, I'd just have to wait for the bird to move closer.

Since I could no longer call without being seen, I had to "tough it out" as the turkey alternated between strutting, gobbling and scanning the woods. After about five minutes of this routine, the disappointed bird did a sudden about face and disappeared the way he had come.

I resumed calling. The turkey resumed answering. But although we continued to have a lively conversation, the tom stubbornly refused to make a second approach. Shifting gears, I decided to stop calling. He promptly stopped gobbling. The bird was clearly frustrated, and I feared he would leave for good.

Shifting gears again, I stepped up the calling. The tom fired up and his gobbles grew louder. Soon the bird had returned to within 30 or 40 yards and I was getting pumped. By the time the

gap had closed to 25 yards, I was ready for a blood pressure pill.

At this point, I could clearly see the Timber Ghost as he cautiously slipped through tree trunks and gooseberries. At 15 yards, the tom paused behind an oak tree and I gave a final series of yelps. The calls drew an instantaneous and deafening response, as the timber rocked with the most primitive and blood stirring sound in the out of doors. I could almost smell his breath.

As the gobbler continued to close, I could see that he was doing a lot more looking and a lot less strutting. He was clearly suspicious, and at eight paces I took the shot. The charge ignited, and the tom disappeared into a cloud of white smoke.

As I knelt beside the slain tom, I realized that this was the most unusual and challenging bird I had ever hunted. A year later I can still hear the Timber Ghost in my dreams.



Turkey Hunting: Fun, But Potentially Dangerous

My friend Steve Suman became a shooting victim last Wednesday. He was hunting for wild turkey when another hunter mistook him for game and opened fire. That's how most turkey hunting accidents happen.

Although Steve is still plenty shook up, he is going to be O.K. However, physicians still ponder what to do about the two lead pellets imbedded in his neck. One is located between the jaw bone and ear lobe. The other pellet entered the cheek and is now resting near the upper spine. Because of the tremendous number of nerves found in those areas, surgeons are reluctant to go in. For now, at least, they are going to leave them where they are.

At any rate, this is one of those reports with a happy ending -- or at least as happy as they get in the accident business.

Unfortunately, it doesn't always turn out that way. Consider these turkey hunting horror stories:

During the 1992 season, two hunters were sitting together in thick [gooseberry] cover. One of the men was using a turkey call. Another hunter heard the calls, and fired a shot into the cover. He heard leaves rustle, and immediately fired again. He soon discovered his mistake. The first shot had instantly killed one hunter, and the second round had very seriously wounded the other.

In 1995, two hunters were walking through the timber when they spotted a turkey decoy. Not wanting to disturb the another hunter, the pair turned to tip toe away. One of the men was wearing a hooded sweatshirt with a white liner. The hunter with the decoy saw the white, mistook it for a gobbler's head and fired. Both of the retreating hunters were struck.

In the spring of 1996, a hunter decided to video tape two of his hunting partners who were hunting over

a decoy in a woodland clearing. The only problem was his buddies didn't know the plan. While crawling into position, the man with the camera was mistaken for game. A shot was fired at 33 yards, and he took 28 pellets in the head. He lived, but lost one eye.

Doctors say there is still a possibility he will one day regain sight in the other.

All of these stories are true. All occurred in Iowa. All were the result of pure negligence.

Nationwide, turkey hunting is considered the most dangerous of shooting sports. And although there have been some accidents, Iowa's safety record compares very favorably with those of other states.

"One of the things that I think really helps us here in Iowa is that we divide our hunters into four separate seasons, which goes a long way toward avoiding accidents," says Sonny Satre, DNR recreational safety coordinator.

"In a lot of states, the hunters are all hit the field at once and that creates problems," he says.

In many years, there have been no turkey hunting mishaps reported anywhere in Iowa. However, during the 1995 and 1996 seasons, two accidents occurred each year.

Regardless of how you slice it, turkey hunting represents an extremely intense, high-octane sport. The desire to succeed runs high, and when emotions override good judgment — the stage is set for disaster.

"With turkey hunting, everyone is very camouflaged and you can never really be sure of when you're going to encounter another hunter," says Satre.

"It all boils down to common sense. You just don't shoot until you can properly identify your target; and you never ever shoot at sound. Those are just the basic rules of hunter safety."

Fortunately, there are some things a hunter can do to minimize the risk of being mistaken for game.

1.) Never wear any clothing that contains red or white. Avoid red bandannas, and leave the white socks and tee-shirts back in camp. Remem-

ber, red and white are the primary colors of a spring gobbler's head.

2.) When working a bird, always sit against a tree that is at least as wide as your shoulders. This will keep you from being shot in the back. Always try to set up where you have a clear, 180-degree view of what's going on around you. This not only increases your chances of bagging a turkey, but also decreases your chance of "being bagged."

3.) Although they are extremely effective in the right situations, most safety instructors advise hunters NOT to use calls that imitate the sound of a gobbler. Gobbler shakers are just as likely to draw other hunters as they are to attract toms.

4.) When you see another hunter approaching through the woods, NEVER wave to get the other person's attention. Instead remain perfectly motionless, and alert the hunter with your voice. "Stop" or "Don't shoot" are good commands.

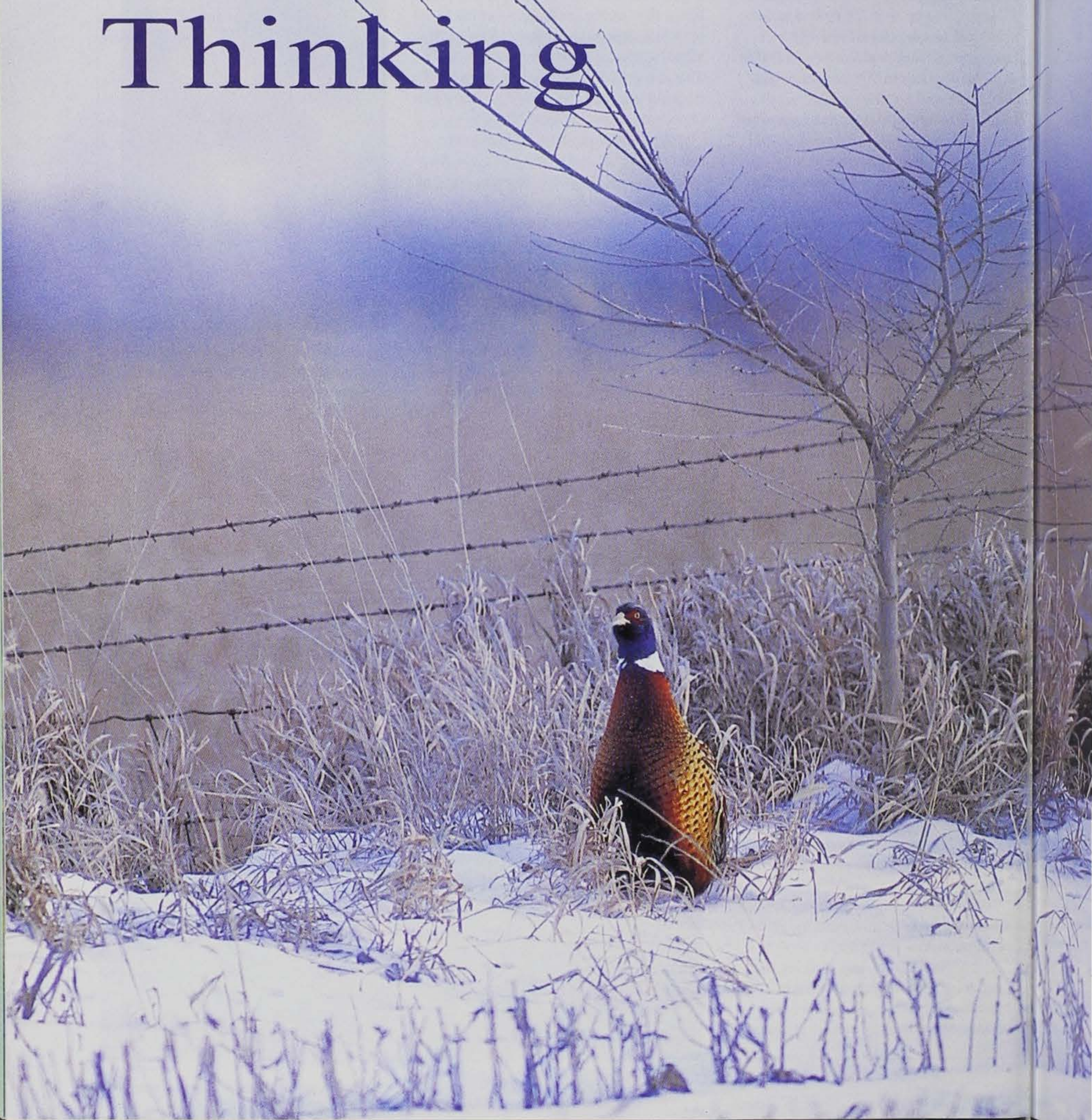
-- LW



Never wear any clothing that contains red or white. Remember, red and white are the primary colors of a spring gobbler's head.



Straight-Line Thinking





Roger A. Hill

If anyone had told me 20 years back how much water quality would be doing for wildlife today in Iowa, I'd have been paralyzed with mirth.

Two decades ago this August, I rolled into Des Moines, with my wife, to interview for a wildlife research position with the then Iowa Conservation Commission (now DNR). We were small town kids from Michigan, come to Iowa by way of Maine. We'd entered the state the way most people do -- on I-80, the ribbon of concrete that bisects Iowa's midsection. After Davenport on Iowa's east coast, we were quickly into the countryside looking for a slice of the rural life we were hoping to lead. We were looking to settle in somewhere with a moderate pace, and start having some kids of our own. And, we were absolutely appalled by what we saw.

That August of 1977, Iowa was in the midst of a drought year -- which didn't help the perception any. The hay, what little of it there was, was dusky olive-colored and stunted. The corn had given up and fired long ago, the leaves burned up on stalks still green. The beans were losing their green mantle prematurely. Creeks were dusty dry and the rivers were just trickles. Iowa was roasting, and the oven was set on high.

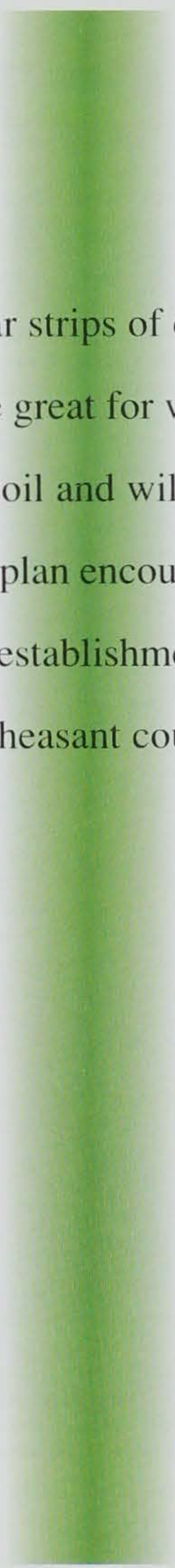
The meadows and soft greens of forested Maine, our adopted state through graduate school, were in stark contrast to the baked browns of an Iowa in drought. What impressed, however, was not the heat or its searing effects. Iowa was still caught then in the charismatic clutches of Agriculture Secretary Earl Butz, fulfilling his vision of a land "plowed fencerow to fencerow." Even having had the experience of growing up and working in the farm country of southern Michigan, we were stunned by the magnitude -- the completeness -- of cultivation as we crossed Iowa.

Where waterways should have protected the gradual relief of fields, rows of crops marched absurdly across (and in some cases, straight up and down) the slopes. The fragile soils carried by storms of early spring lay puddled at the foot of the hills. The cleavage between gentle slopes had become deep scars, well on their way toward gully status. We marveled at the corn, planted in ground that had been plowed to virtually the edge of denuded rivers and streams, now tipping over into the water courses growing on a plane diagonal to the horizon. How, we wondered in our ignorance of 12-bottom plows and 16-row planters, could a tractor get that close without falling in?

The little water visible was a poor cousin to what we'd left behind in the clear, clean brooks and lakes of Maine, where thirsty fishermen often just scooped a handful to wet their whistles. It was federally subsidized boom times in the Midwest farm economy. Water and quality were mutually exclusive terms in a lot of people's minds back then, secondary considerations to plowing more ground to make more corn, to generate more deficiency payments and to put more profits on the bottom lines of agri-business giants. The kind of habitat that was expanding in those days was suitable only for corn-borers.

We moved to southern Iowa after I accepted the job, where the pace is still a little more moderate and the farming is much more diversified. We've been here to watch the legacy of Earl Butz's scorched-earth policy of the 1970s. It spawned the farm-crisis of the mid-1980s that washed rural Americans from the landscape by the thousands. It was idiocy in spades, but we can also credit it with bringing ag policy to a more lucent, rational approach that considers how farming, water and wildlife are bound up together. Earl

by Jim Wooley



Linear strips of cover
can be great for water,
soil and wildlife.
A new plan encourages
their establishment in
pheasant country.

probably wouldn't appreciate the thought, but I think it was he who ultimately brought us CRP, WRP, EWRP, EQIP, WHIP and more programs designed to correct the excesses of his era.

That's why I'm pretty excited by the prospect of the latest NRCS program aimed at water quality, the National Conservation Buffer Initiative. Hand-in-hand with a herd of partners, the NRCS is seeking to do what they have had limited success with in the past -- putting buffers to soil erosion and declining water quality on the land. The goal is to establish 8 million to 10 million acres of these areas by 2002. They'll seek that objective with a war chest of programs provided by the 1996 Farm Bill and an increasing public awareness of the interrelatedness of farming, water and wildlife. Most think there will be tremendous landowner interest, not just because of payments to remove these lands from production, but also because landowners are interested in becoming better land stewards. Any way you slice it, this push is going to have decided benefits for wildlife.

What qualifies as a conservation buffer are all the things wildlifers have been trying to get landowners to establish voluntarily for wildlife for decades, with only a modicum of success. Grass filter strips along watercourses, wooded corridors along riverine areas, grassed waterways, and field borders all filter runoff from adjacent cropland. While they are not great chunks of cover, all provide nest sites and brood rearing areas, and welcome diversity and necessary edge effect for a variety of wildlife, including pheasants.

Perhaps the only negative I hear is the occasional complaint about trading big blocky CRP fields for linear cover of questionable value for wildlife. The conventional wisdom often dispensed is that linear cover can be bad for wildlife. It is more easily searched by

predators for nests and young, it is more likely to fill with snow in winter, it is less secure for escape cover. Blocky is better, according to most sources you'll read, and I can't argue that point. (See "Pheasants in Iowa -- The Big Picture," page 28.) From a purist's point of view it is correct. From a practical standpoint, however, you do your best with what you have.

All-encompassing generalizations don't do much for me anymore. I've run into enough exceptions to be uncomfortable about submitting to conventional wisdom. Several studies have illuminated the positive contributions of roadsides to pheasant nesting (in many cases 25 percent or more of total production). Studies in southern Iowa have shown that linear covers are often preferred. Forty-two percent of nests established in a three-year period were in relatively narrow linear habitat and nest success was more than 40 percent, a pretty respectable record.

Left idle, these areas are great brood-rearing habitat, excellent travel lanes, and even good cover if the winter weather is mild enough. Depending on the cover and management, they can be important landscape components for wildlife. We shouldn't make them out to be more than they are, but neither should we write them off as not being useful.

From a hunter's perspective, there's just no contest. Most of us talk a good game about hunting those big blocks of cover so dense and snarly they cause men to go bald prematurely. Watching roosters boil from the middle of a huge switchgrass field in a heavy winter snow squall is a wondrous thing of almost religious dimensions. And yes, there is something to be said for the aesthetics of a horizon's worth of native grasses stretching as far as the eye can see. But I am sorry, I don't hunt buffalo. I can stand in the fading sun alone so long staring across the never-ending prairie pretending I'm a pioneer.

Ron Johnson

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If it's me and the Lab, give us something nice and narrow and defined to investigate. It's even OK as far as I'm concerned, to walk along the edge in the open with my son, more intent on talking baseball than in what the Lab is doing in the fencerow. Linear cover, for me is hunter habitat, a trait that probably springs from a boyhood spent kicking rabbits out of fencerows. Given a choice, I'll opt for the straight stuff and a leisurely stroll. Roadsides, stripped corn, fencerows, weedy draws, waterways -- those are just what the pheasant hunter ordered.

Block cover just doesn't read like linear cover does. If you point out a fenceline cutting across a section or a waterway snaking between knolls, most hunters can look from a distance and judge with fair accuracy where the birds will be. The grass may turn there from

brome to Reed's canary grass, or wild plum may wrap the midsection of a fence on both sides. Perhaps it is the intersection of a waterway and a hedgerow where a patch of horseweeds has taken hold. Where the cover breaks, there's usually something jumping. Put me in the middle of a big CRP field, however, and I am usually lost for a while.

So, more new NRCS buffers? You bet. The more the better. The pain and agony of defeat, losing some of those big CRP fields, will be eased just a little by some of these filter strips entering CRP for another 15 years. My Lab, the Peanut-butter Girl, is excited, too. I talked to her about it tonight and she could hardly get her tongue rolled back up. Watch for us in the linear cover this fall -- a man and his baby hippo in search of birds.

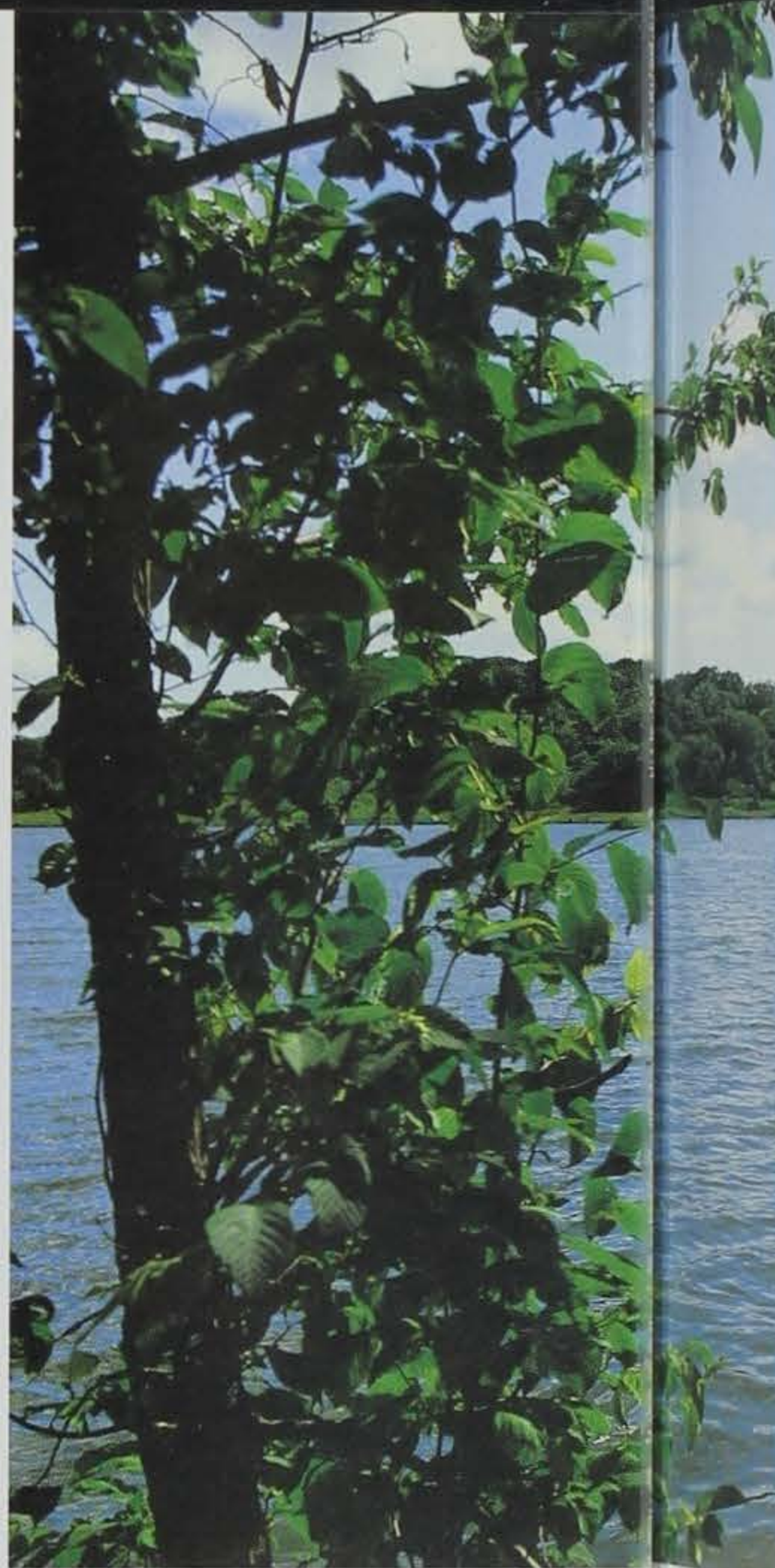
Jim Wooley is senior regional wildlife biologist for Pheasants Forever and former upland game biologist for the Iowa DNR.

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A Reason For Every Season

Volga River State Recreation Area

by Scot Michelson and Eric Medberry



Come visit one of the largest, most beautiful tracts of state-owned land in Iowa. You will find this recreation area in northeast Iowa's Fayette County. With 5,420 acres, this place has something for everyone.

The purchase of Volga River State Recreation Area (SRA) began in the 1960s, with a plan to construct either a 1,000-acre lake on the Volga River or a 560-acre lake on Frog Hollow Creek, a tributary of the Volga River. However, potentially high siltation and costs prevented a dam on Volga River, and seepage problems in the substrate of Frog Hollow Creek proved the 560-acre lake unfeasible. Eventually, a 130-acre lake on Frog Hollow Creek was decided upon and completed in 1980. The seepage problem was addressed by sealing the bottom with clay.

Frog Hollow Lake is open year-round for fishing and good catches of largemouth bass, bluegills and crappies are common. Any size boat may



Ron Johnson

Frog Hollow Lake (left).

along the limestone bluffs and rugged timber. Because of the winding nature of the river the two canoe access points located within the recreation area, are just two miles apart.

For those spending the night, camping is available at the 48-unit primitive campground. It has basic facilities with 20 of the sites available for equestrian users. There is a handicap-accessible campsite also available. The campground, nestled between the Volga River and rugged hills provide a picturesque, quiet setting for camping.

Hunting in the Volga River State Recreation Area is one of the more popular activities. The wide diversity of habitat provides hunting opportunities all types of game. From the spring turkey season to the late whitetail deer season the recreation area is used by avid hunters, young and old.

Future plans for Volga River State Recreation Area will call for enhance-

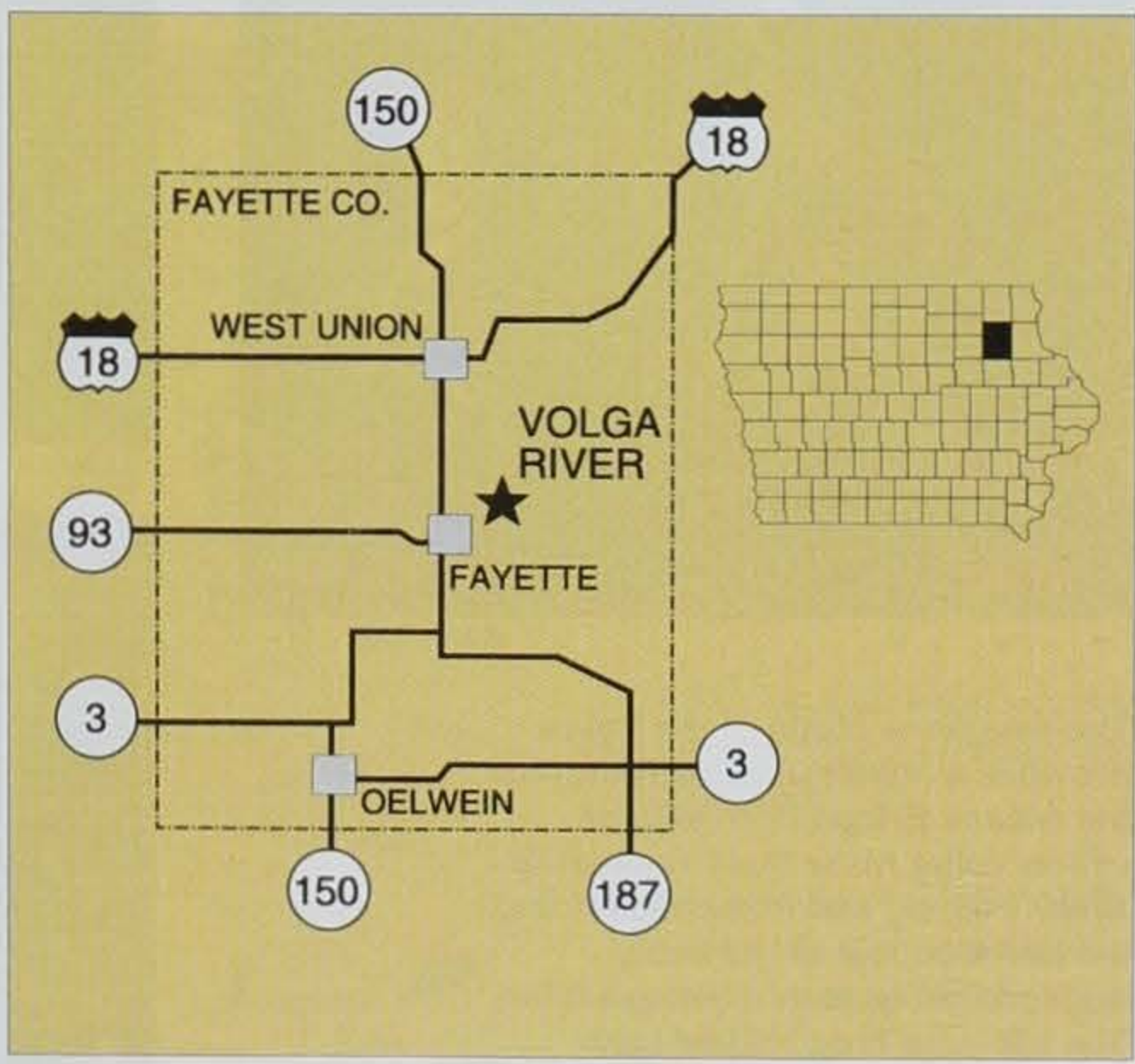
operate on the lake but at "no wake" speed. There is a three-lane boat ramp available for boater access to the lake. Sailboaters and canoeists may also use the lake for their boating pleasure. Shore fishing is very popular, especially with the recent addition of a handicap-accessible fishing pier.

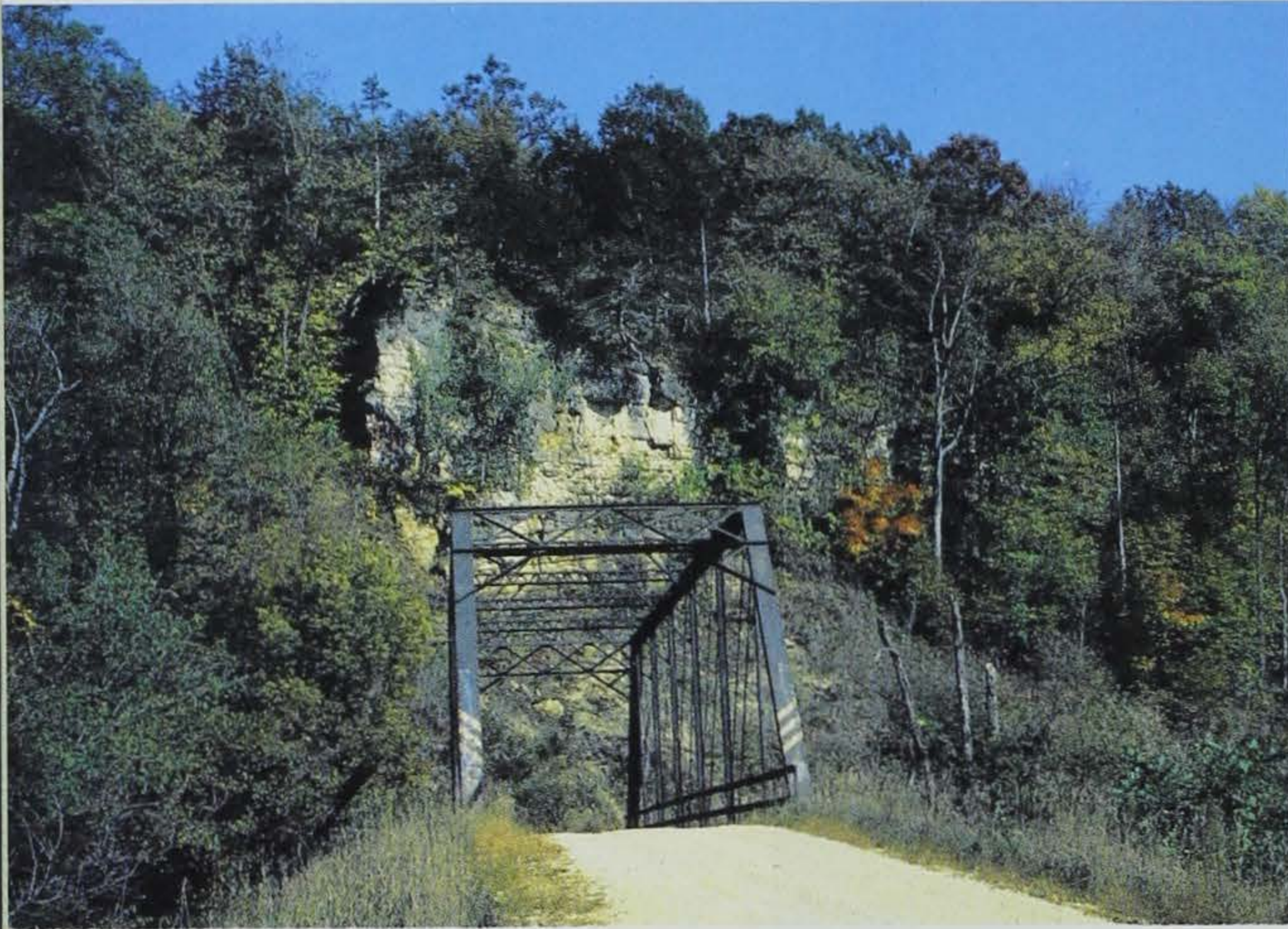
Today, the recreation area features a trail system of more than 30 miles covering a wide variety of landscapes. Hikers and mountain bike riders enjoy the challenge these multi-use trails provide, with their grassy slopes and sandy bottoms. However, the most popular activity on the trails is horseback riding. Because of their wide dimensions, even horse-drawn wagons can maneuver these winding trails. Also in the making is a proposed three-mile lakeside trail. Given its location, this trail promises to be popular to users of the non-equestrian campground and the picnic area.

Whether it's spring wildflowers,

summer woodlands, or the brilliant colors of autumn, trail users are greeted with beautiful scenery and abundant wildlife. The cold-weather season does not close the trails either, as they are open to snowmobilers and cross-country skiers in the winter.

The Volga River, one of northeast Iowa's premier small-mouth bass rivers, winds six miles through the southern part of the recreation area offering scenic canoeing





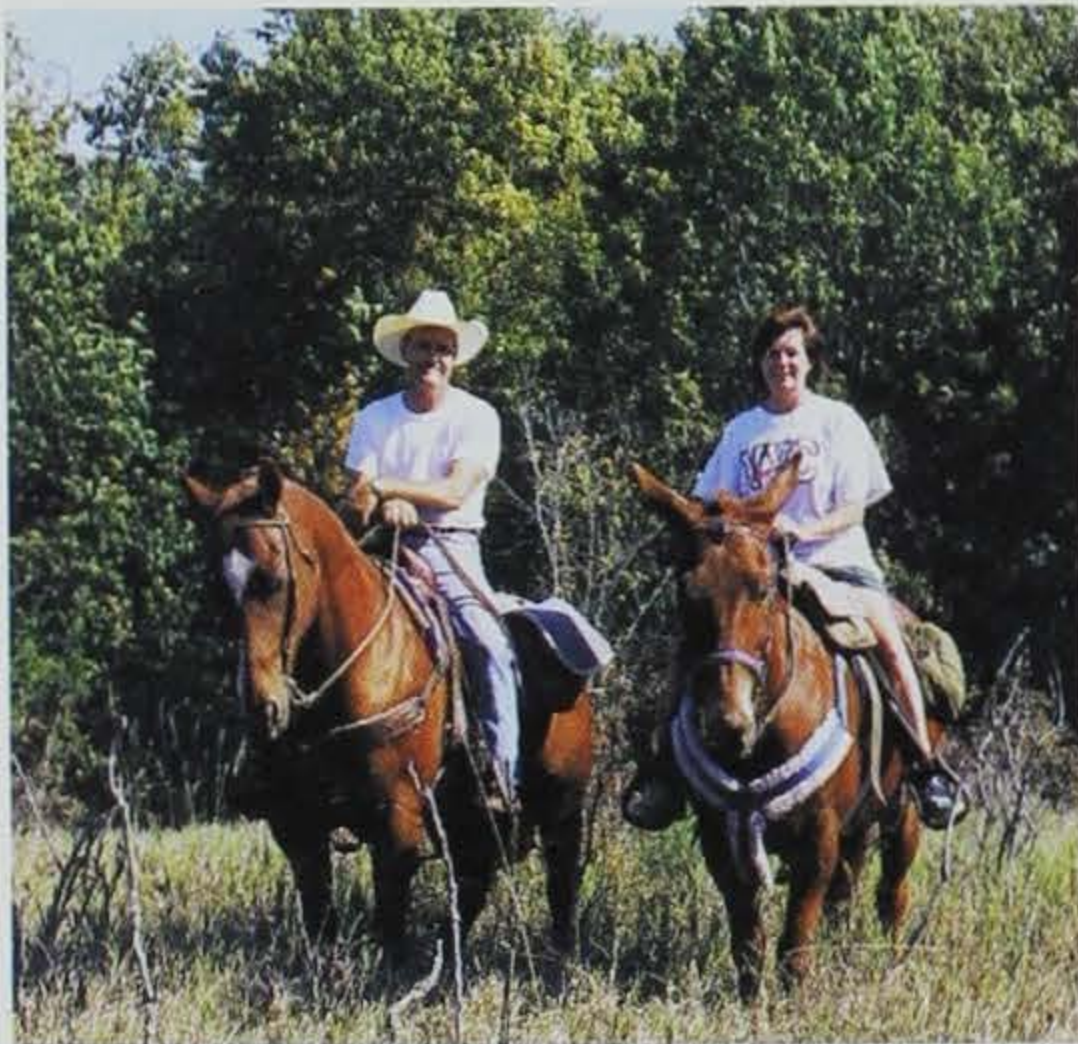
Ken Smith

ment of the area, including a modern campground (showers and electric sites) near the lake. The existing campground will also receive water and electricity. A beach area and picnic shelters will be added near the east shore of the lake. A shooting range, archery range and rental lodge are also in the development plans. The estimated completion date for this project is 2003.

Visit this recreation area and find within this beautiful landscape a variety of activities for all ages, interests and abilities. Come and see for yourself why Volga River State Recreation Area has a reason to visit for every season.

Scot Michelson is the ranger for Volga River State Recreation Area.

Eric Medberry is an English major at Cornell College at Mt. Vernon and has been a seasonal employee for the area.



Larry Zirkebach

The limestone bluffs of the Volga provides a beautiful background for the Albany Bridge (top) located within Volga River State Recreation Area. Fishing and horseback riding are just a couple of the many recreational opportunities available. The 130-acre Frog Hollow Lake (right) was completed in 1980.



Ken Johnson



Ken Formanek

Keeping the Catch

by Barb Gigar

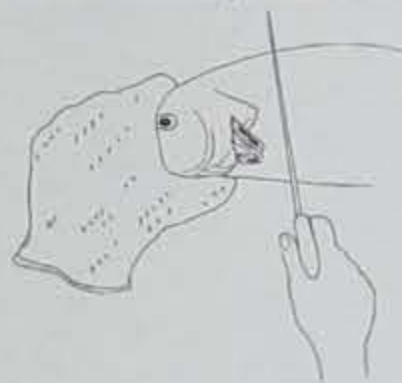
Illustrations by Ace Hendricks

Cleaning fish is often the angler's least favorite part of the fishing experience, but with proper equipment and techniques there is an easy and quick way to clean any type of fish. Three popular methods are filleting, pan dressing and skinning.

Preservation in the Field

Fish that are not going to be cleaned soon after catching should be field dressed. This is accomplished by removing the internal organs and gills. Hold the fish gently, but firmly in one hand and insert the tip of a sharp, narrow-bladed knife in the anal opening (vent). Slowly cut the belly wall from the vent to the head. Remove the internal organs, including the dark red kidney tissue attached to the backbone. Cut the gills free and remove them. Wash the belly cavity with cold, clean water if it is available. Put the fish in plastic bags. Seal and place in a cooler on ice.

Filleting is a very popular technique for cleaning pan fish and game fish because it is unnecessary to remove the internal organs, head or fins. The fillets are also boneless. Filleting is easiest when a sharp fillet knife with a thin, flexible blade is used. A fillet glove should be worn on the free hand to prevent serious cuts. A flat, firm surface to work on is also a necessity.



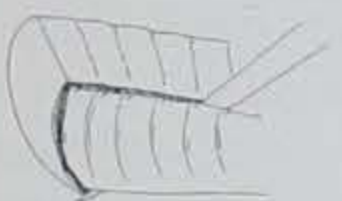
1. Place the blade of the knife just behind the pectoral fin and cut through the flesh to the backbone.



2. Turn the knife so that the blade is against, and nearly parallel to, the back bone. Hold the fish firmly with one hand and use a sawing motion to cut through the ribs toward the tail. Continue the cut to the base of the tail.



3. Place the knife near the tail end of the fillet with the blade next to the skin. Hold the fish at the base of the tail with your fingertips and work the flat of the blade forward between the skin and flesh.



4. Place the edge of the knife blade just under the top of the ribs and slice them out of the fillet. Repeat the procedure on the other side of the fish.

Skinning

Channel catfish and bullheads are often cleaned by skinning. The materials needed are a sharp knife, pliers, fillet glove and firm surface.



1. Grip the head tightly with the pectoral fins tucked between the fingers. Slit the skin along the backbone from just behind the head to the dorsal fin. Cut the skin downward on either side of the dorsal fin.



2. With a firm hold on the head, grasp the skin with the pliers and pull back toward the tail fin to remove.



3. Grasp the head with one hand and the body with the other. Bend the head downward to break the backbone. Remove the head.



4. Slit the belly and remove the internal organs.



5. Cut along both sides of the dorsal and anal fins and remove them using the pliers.

Pan Dressing involves removing the head, scales, fins and internal organs. This method requires a sharp knife, firm surface and fillet glove. Pliers are needed to remove the fins.

1. Hold the fish firmly in one hand. Hold the knife blade perpendicular to the fish and remove the scales by scraping from the tail to the head. Turn the fish over and repeat.



2. Cut downward through the back just behind the head and the pectoral fins.



3. Make a cut along either side of the dorsal fin to the backbone. Grasp the fin with the pliers and pull it out.



4. Slit open the belly (if the fish was not field dressed). Continue the cut along the anal fin. Use the pliers to remove it.



5. Remove the internal organs if they have not yet been removed. Cut off the tail if desired. Rinse with cold water and pat dry with towels.

Practical Conservationist

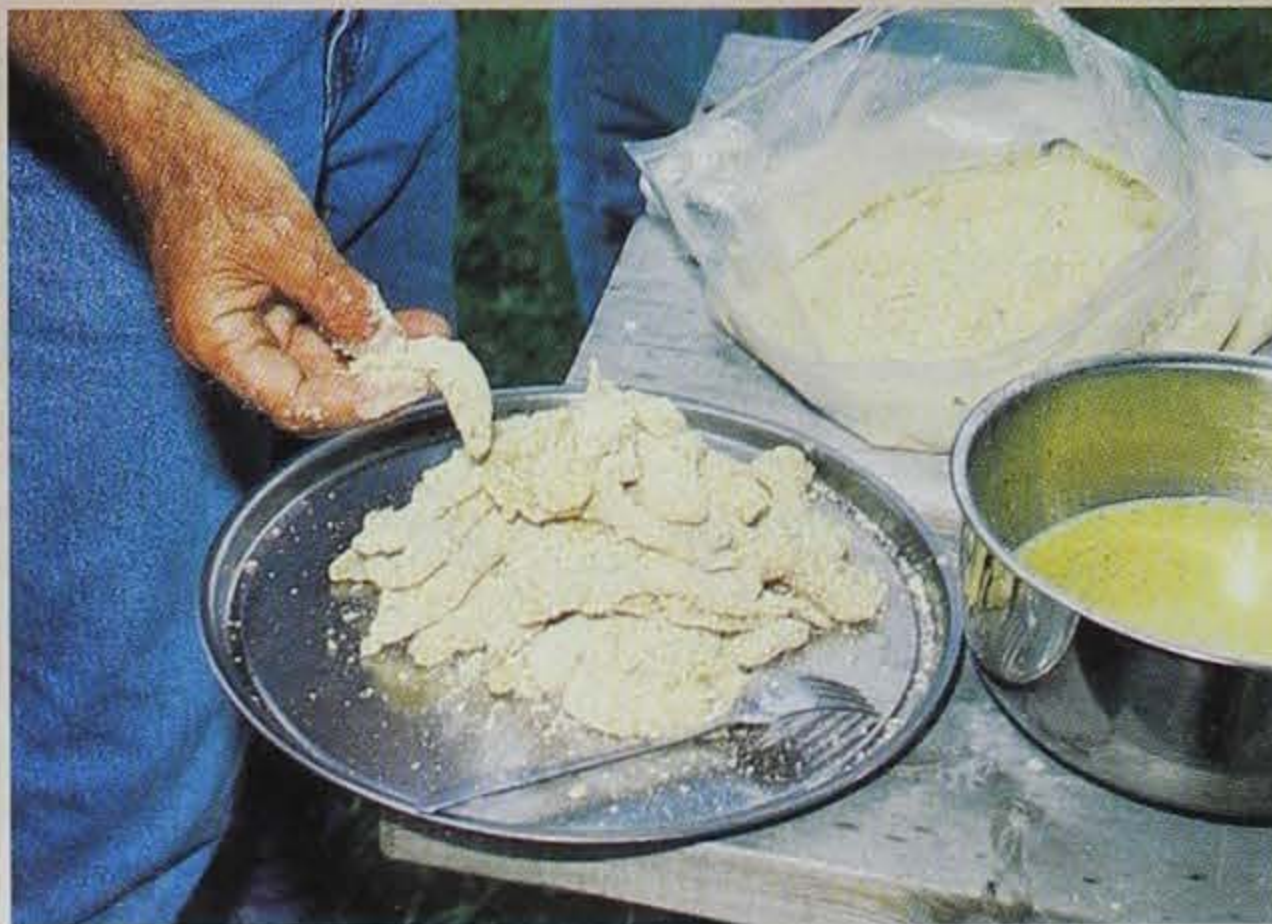
Storing Fish

Fish are best if they are cleaned and cooked within a few hours of catching, but this may not be possible. Fish may be refrigerated for 24 hours or frozen for up to one or two years, depending on the kind of fish and method of freezing. Fish with lean flesh can be stored longer than those with oily flesh. The best method of preparing fish for long-term storage is freezing them in block ice. Place fish in a container (milk cartons, pop-top plastic containers, freezer bags, etc.) loosely to about one and one-half inches from the top. Add cold water until it is about one inch from the top. Make sure the fish are completely covered by the water. Seal the container top and place it in the freezer. Fish may be thawed by placing them in the refrigerator or under cold running water. In order to assure good flavor and texture, fish should be thawed no longer than one day before cooking.

Cooking

Fish may be prepared for the table in any number of ways. If you are preparing fresh fish, rinse them in cold water and pat dry. Make several shallow, diagonal cuts in the flesh of larger fillets to hasten cooking time. Whether you are baking, pan frying or deep fat frying fish, the most important thing to remember is not to overcook them. Three basic recipes for preparing fish are included here.

Properly prepared fresh fish is hard to beat.



Ken Formanek

Baked Fish

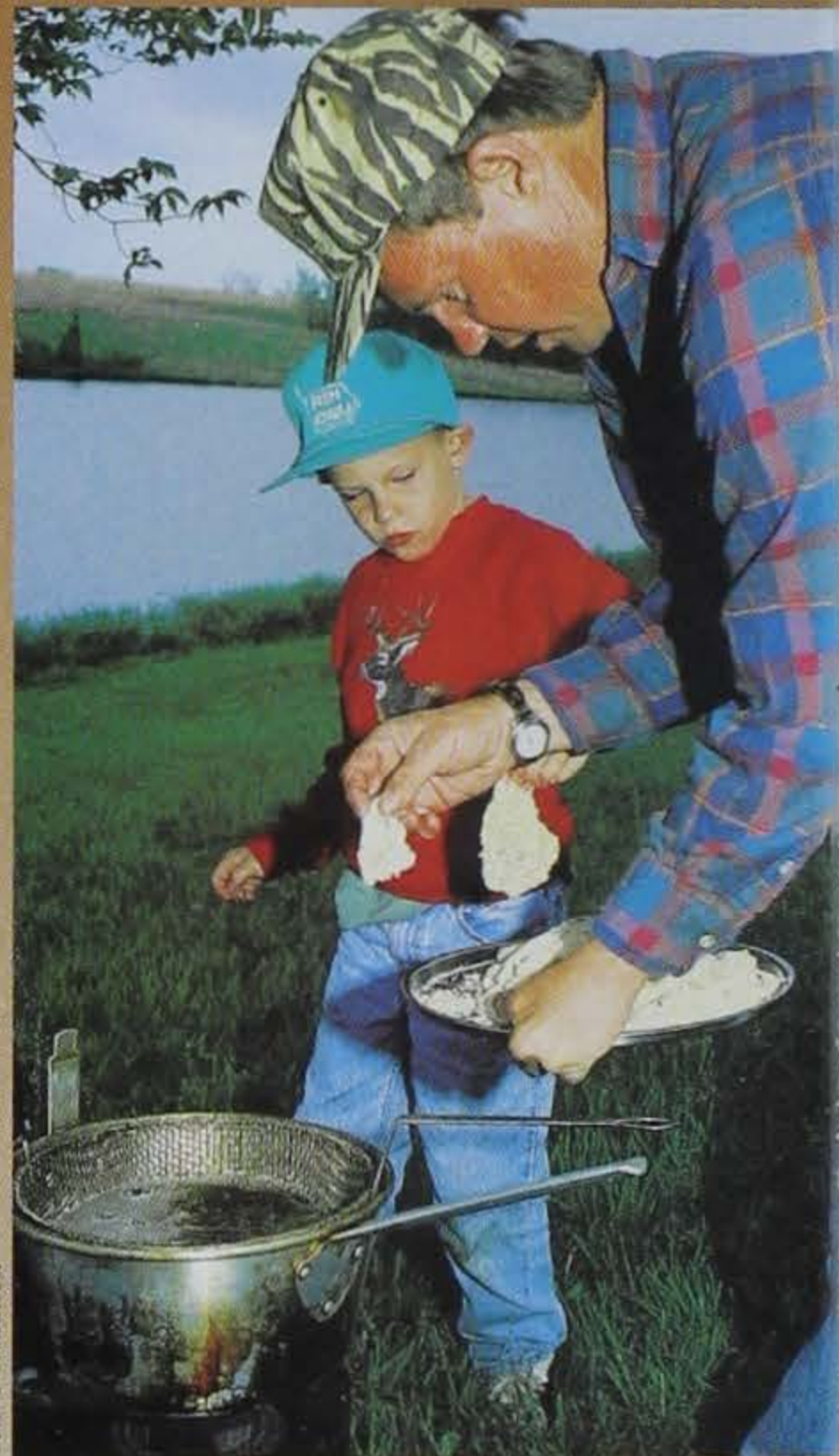
2 lb. whole fish, large fillets or steaks
vegetable oil
1/2 c. melted butter
1 Tblsp. lemon juice

Heat oven to 375 F. Lightly oil the bottom of 9" x 11" baking pan or casserole. Place fish in the pan. Mix the lemon juice and melted butter in a small bowl. Using a pastry brush, coat the fish with the butter and lemon mixture. Cover the pan with a lid or aluminum foil. Bake fish 30-40 minutes or until meat is white and flakes easily, basting with butter and lemon mixture every 10-15 minutes.

Deep Fat Frying

2 lb. small fish fillets or 2" x 2" chunks of fish
vegetable or peanut oil
1/2 c. milk
1 egg
flour, biscuit or pancake mix, cracker crumbs, or cornmeal for coating
deep fryer

Fill the deep fryer with oil to a depth of two or more inches. Heat to 375 F. Mix milk and egg in a small bowl. Dip fish pieces in the milk and egg mixture and then roll in flour or other coating material. Add fish to the hot oil and fry until golden brown. Remove fish from fryer and allow the temperature to heat back to 375 F between batches if you cook more than one. Serve immediately.



Ken Formanek

Pan frying

2 lb. fish steaks of fillets
vegetable or peanut oil
1/2 c. milk
1 egg
flour, biscuit or pancake mix, cracker crumbs or cornmeal for coating

Mix milk and egg in a small bowl. Set aside. Pour vegetable oil in the bottom of the skillet to a depth of one-quarter inch. Heat the oil over medium heat (350-375 F) Dip fish pieces in milk and egg mixture, then roll them in flour or other coating material. Place fish in skillet, taking care not to overcrowd because this will cool the oil and the fish will become soggy. Fry on each side for 3-5 minutes or until fish are brown and flake easily. Thicker pieces of fish will require longer cooking times. Remove from skillet and place on paper towels to drain. Serve immediately.

Fishy Who's Who *by Barb Gigar*

Adapted from the *Project WILD Aquatic* activity manual. (The activity manual is available through workshops.)

Background:

Fish play a variety of roles in aquatic ecosystems. Some are predators on other aquatic life. Some eat plants. Still others scavenge or feed on detritus (decomposing plant and animal material). Some species deposit eggs in special nests, some have live young. While some fish are well-known by those who fish, others are less conspicuous, but are nevertheless important members of the aquatic community. The major purpose of this activity is to expand students' knowledge of the different species of fish that occur in their area.

Procedure:

1. Ask the students what fish they think live in their area. Focus on identifiable boundaries such as their community, county or the state of Iowa. What different kinds of fish have they seen, caught, heard of or read about? Make a list of these different kinds of fish and post it in the classroom.
2. Obtain, or have the students make, a large map of the area they have chosen to study showing land as well as major bodies of water: lakes, marshes, rivers and larger streams. (A plat book or topographical map can be used to construct a map of different bodies of water in your township or county.) Make sure each major kind of aquatic habitat is identified. Locate the actual sites of these habitats in the area to be studied. (A simple way of making a large wall map for use in this activity is to trace the map on an overhead projector transparency. Project the map onto a large piece of paper on the wall and outline it.)
3. Divide the class into teams. Have each team identify possible sources of information about fish and fish habitats in the community or state. Have the teams develop a plan for getting information. Don't neglect first-hand sources, such as family members and friends, Department of Natural Resources fisheries personnel, local fishing club members and county conservation board naturalists are good resources to contact. Other sources might include the *Iowa Conservationist* or the school or public library. Each team should then use their sources and develop "biographies" for as many of the fish that occur in their area as possible.

Each "biography" should include the fish's name (common and scientific) and where it lives. It should also include specific information about the kind of habitat (stream, river, lake, pond) the fish needs in order to survive. In addition to biological information about the fish and its habitat, the "biographies" should include, if possible, information about ecological, scientific, recreational, economic, political, cultural, aesthetic and intrinsic reasons for which fish are valuable.

Age:

Grades 4 - 12

Subjects:

science, language arts

Objectives:

Students will recognize and identify the major species of fish that live in their area; describe various values of fish species in Iowa's aquatic ecosystems; and locate places where the fish species occur.

Materials:

paper, writing materials, reference materials (see "Other Resources")

Vocabulary:

biography, habitat, fish, detritus

Evaluation:

Name five species of fish that live in your state; describe where in the state each of these fish is most apt to be found and in what kinds of habitat; and list and describe a variety of reasons fish are important.

Below is a sample biography sheet.

Common Name:	Largemouth Bass
Scientific Name:	<i>Micropterus salmoides</i>
Habitat:	Ponds, lakes, quiet waters of larger rivers
Description:	Slender, dark green back, whitish belly, very large mouth
Food:	Predator - eats fish, crayfish, insects, frogs,
Importance:	Popular sport fish, good eating, controls populations of smaller sunfish

Classroom Corner

Other Resources:

Iowa Department of Natural Resources. 1997. *Fish Iowa! An Introductory Guide to the Fish of Iowa* (brochure). Des Moines.

Iowa Department of Natural Resources. 1990. *Fish Iowa! Basic Spincasting Module*. Des Moines (unit on fish ID as well as posters, audio-visual programs, fish ID card game, and coloring books)

U.S. Fish and Wildlife Service. "Habits and Habitats of Fishes in the Upper Mississippi River"

Mayhew, James. (ed.). 1987. *Iowa Fish and Fishing*. Iowa Department of Natural Resources: Des Moines

Iowa Department of Natural Resources. 1990. *Sportfish Identification* (audiovisual program). Des Moines (part of the "Fish Iowa!" series; available from area education agencies)

Reel Advantage '96 - '97 Interactive Fishing Guide (CD ROM). Interactive Outdoors, Inc., Sioux City (1-888-246-REEL)

Iowa DNR Fisheries Bureau homepage: <http://www.state.ia.us/fish>

Barb Gigar coordinates education programs for the DNR including Projects WILD, Aquatic WILD and Learning Tree; Fish Iowa! basic spincasting module; and Hooked on Fishing - Not on Drugs.

4. Ask each team to create a set of illustrations of the fish they have written about as well as an illustration of the habitat in which each fish is found. These should be drawn large enough to be easily seen in a wall display.

5. Have the teams meet and compare their information about the various fish and habitats. In some cases, the information may not agree. If so, the students might try to determine why. Through this process the students should be able to improve the accuracy and completeness of their descriptions.

6. Returning to the large wall map, ask the teams to post the biographies, on cards or in a suitable format, along with their artwork of the fish and their habitats, around the map near locations where the fish occur. Extend colored string or yarn from the cards and sketches to various points where the fish occur. Use tape, thumb tacks or push pins to attach the yarn to the artwork and map.

7. Have the students compare their original list of fish with their map entries and note how they have added to their knowledge of fish in the state.

Extensions:

1. Make replicas of some of the fish in three dimensions. Hang them on string from the classroom ceiling as mobiles. Let the classroom become an aquatic habitat!

2. Explore why some fish species occur widely in various habitats, while others are more restricted or specialized. What special needs do some fish have or what special abilities do they have?

3. Find out how some fish got their names! Why is a catfish a catfish, or a darter a darter? The scientific names also are interesting to explore.

4. Invite a county conservation board naturalist or fisheries professional to come and speak to the class about fish and fish habitat in the state, but only after you have created your displays so that the biologist can provide advice and make suggestions.

5. There may be hatcheries, fish research stations, or other places doing work with fish and fish habitat near your school. If possible, arrange a tour of one of these facilities for the class.

6. Are there any special fish habitat "hot spots" on your map where fish are in danger because of human or natural actions? Note these on the map and describe the nature of the problem.

7. Conduct a "creel survey." This involves conducting interviews of people whom you find fishing, for example, along streams, in lakes, at the shore and at city fishing holes.

8. Use a depth map (available from the DNR - either by mail or downloaded from the fisheries home page) of a nearby lake and locate the parts of the lake where different fish might be.

DNR Receives \$600,000 Wetland Grant

The Wildlife Bureau of the Iowa Department of Natural Resources recently received a \$600,000 grant from the U.S. Fish and Wildlife Service to acquire and restore wetlands in the Okoboji/Spirit Lake watershed in Iowa and Minnesota. These funds will be matched by \$927,250 put up by 19 other partners who, for a variety of reasons, are concerned with the protection of wetlands in the Great Lakes watershed.

The Iowa project is one of 19 projects selected on the national level for funding through the North American Wetlands Conservation Act (NAWCA). This act provides the primary funding mechanism for meeting wetland restoration objectives identified in the North American Waterfowl Management Plan, a comprehensive international plan. In Iowa, these funds will be used to protect existing and restorable wetlands through public acquisition or permanent easements, to restore drained wetlands and to protect uplands surrounding these wetlands through permanent grass seedings. Nest structures will also be placed to increase waterfowl nesting success.

This grant will help to continue the long-term commitment the DNR has had to wetland protection efforts in the Iowa Great Lakes region. While this grant is targeted at protecting and restoring wetland habitat for waterfowl and other wetland-associated bird species, these wetlands will provide many other benefits as well. Wetlands and their surrounding grasslands are important to many species of wildlife besides waterfowl and other migratory birds. Resident birds such as pheasants and partridge will also benefit from this effort, as will a variety of furbearers, small mammals and fish. Wetlands provide areas for a variety of outdoor recreation pursuits such as hunting, bird watching and nature photography. Wetlands are also important in filtering



Lee Gladfelter

runoff water to help improve groundwater and surface water quality. They also slow down the runoff of flood waters and help in groundwater recharge and flood reduction. It is for these reasons the following partners were willing to donate time and money towards wetland protection in the Okoboji/ Spirit Lake area: Iowa DNR, Dickinson County Soil and Water Conservation District, the Jackson County Soil and Water Conservation District, the Dickinson County Conservation Board, Ducks Unlimited, Inc., the Great Lakes Chapter of Ducks Unlimited, Dickinson County Pheasants Forever, Emmet County Pheasants Forever, the Audubon Society, the Iowa Natural Heritage Foundation, the Okoboji Protective Association, the Spirit Lake Protective Association, the Environmental Protection Agency, the Refuge Branch of the U.S. Fish and Wildlife Service and five private individuals.

Get Caught Up In Nature's Web This Spring With National Wildlife Week

Sponsored by the National Wildlife Federation, and its affiliate the Iowa Wildlife Federation, the theme this year is "Nature's Web: Caring For the Land." Wildlife Week is April 19-25.

The Iowa Wildlife Federation is distributing more than 11,000 wildlife week educator packets through the state's area education agencies (AEA) and county conservation boards. The packets contain an instructor's guide with activities and features that can be used in and outside the classroom as well as a full-color poster and information about the Iowa Wildlife Federation's Poster Contest (grades 1-6).

To receive your packet, contact your regional AEA, or the environmental education coordinator at your county conservation board. You can also contact the Iowa Wildlife Federation at 3125 Douglas Avenue, Suite 103, Des Moines, IA 50310.

Conservation Update

Trees For Kids/Teens Program Helps Educate Students

Jacob, a fourth grader from Delaware Elementary School, digs planting trees! After planting trees at school for a Trees For Kids activity, Jacob says he "might even buy a tree." On the other hand, Lacy thinks "under the trees will be a good place to have a picnic or read a good book."



Students at Ruby Van Meter School in Des Moines plant a new oak.

The kids are not the only ones talking about planting trees with Trees For Kids. For example, Stowe Elementary School Principal Keith Banwart says "The new trees are a wonderful addition to our grounds. The children have a real sense of ownership in their class's tree."

All these trees were planted last year as part of the Trees For Kids/Teens program. Trees For Kids (TFK) and Trees For Teens (TFT) are free educational and tree planting programs for any public or private elementary and secondary schools in Iowa. The programs' mission is to

promote the value of trees to Iowa's youth by providing educational information with opportunities for tree planting and care.

Last year more than 265,000 students and 4,600 teachers planted more than 75,000 trees, compared to 65,000 trees planted in 1996. Planting trees allows students to learn firsthand about the environment and gives them an opportunity to shape it.

"The opportunity to be involved in the planning and caring of planting a tree is a wonderful experience," says Glen Lohman, Spencer Community Schools superintendent. "It also builds a real sense of responsibility as far as respect for the trees and a sense of beautification of the school grounds and play ground."

Once a class plants a tree on Spencer school grounds, that class is responsible for its care until the end of the school year. "Then, when they come back the next year, they remember the tree and kind of protect it," says Lohman.

Additionally, Trees For Kids/Teens help develop values in caring for trees. "When they get older, they will be more likely to care for the trees," says Lohman.

Planting trees is important for the environment as well. Ron Herndon, of Herndon's Des Moines Seed & Nursery,



Student and Trees for Dubuque volunteers plant a new ash at the Audubon schools.



Second-grade students at Park Avenue Elementary School learn about their new ginkgo tree.

supplies deeply discounted trees and shrubs to schools participating in Trees For Kids/Teens. "We've all got to keep planting trees. There aren't enough trees around," says Herndon.

According to Herndon, teaching kids how to properly plant and care for trees is important, and sometimes they go home and help their parents plant trees after learning the process at school. "We're sending out a lot of ambassadors," says Herndon. "There's a lot more to planting a tree than digging a hole and letting Mother Nature take over."

Kids not only gain a new knowledge of and respect for nature, however. They also gain a greater understanding of community.

"The kids get the feeling that it takes

Conservation Update

everyone to make our community a beautiful place to live in," says Jim Ford, Ankeny's Westwood Elementary principal.

Funding and support for Trees For Kids/Teens is made possible through a cooperative partnership between the DNR Forestry Division, the Iowa Nursery and Landscape Association (INLA), the Iowa Bankers Association (IBA), MidAmerican Energy, Peoples Natural Gas, the Iowa Wood Industry Association, the Iowa Conservation and Education Council (ICEC), Trees Forever and Iowa State University Extension Forestry.

Both programs produce and distribute packets full of tree education materials including crossword puzzles, word searches, a full-color educational poster and internet activities. The DNR and an active committee of TFK partners design the teaching manuals, and biomedical illustration students at Iowa State University provide the original artwork for the posters. In addition, teachers receive instructions on how to obtain free landscape-sized trees to plant during Earth Week (April 19-25).

A unique partnership between the Iowa Bankers Association and the Iowa Nursery and Landscape Association provides schools with free trees. First, a local nursery provides discounted trees to the schools. Then, local bankers pick up the tab for these trees.

"We feel it is a wonderful, worthwhile program for everyone, especially the kids," says Deborah Jackman, marketing assistant for the Iowa Bankers Association. "[The kids] get a sense of how to care for the environment, and it's a great way for the banks to get recognition for their community efforts."

For more information on the Trees For Kids/Teens programs call John Walkowiak at (515) 242-5966 or Trish Toma, Coordinator of Trees For Kids/Teens at (515) 281-4915 or write to Trees For Kids/Teens, Forestry Division, DNR, Wallace State Office Building, Des Moines, IA 50319-0034.



In 1997, Turn-In-Poachers (TIP) of Iowa, Inc. donated \$5,000 to the DNR's law enforcement bureau for the purpose of acquiring specialized surveillance equipment. This equipment will be used by state conservation officers in their continuing efforts to curtail fish and wildlife poaching in Iowa. Shown here is Wendy Zohrer, current president of the TIP board making the presentation to Lowell Joslin, assistant chief of law enforcement for the Iowa Department of Natural Resources.

Call 1-800-ASK-FISH

Iowa anglers and anglers nationwide who want to know about fishing in Iowa have a toll-free line available, offering the most up-to-date information.

Callers can get everything from the current fishing report to the location of Iowa's lakes and facilities available there, including camping and boat ramps. A listing of license sellers, Iowa's fishing regulations and handicapped-accessible sites are as close as a phone call. The toll-free 1-800-ASK-FISH (275-3474) line is a complete source for anyone desiring information about fishing in Iowa.

The program is supported by Wallop-Breaux/Sport Fish Restoration Funds.

Free Fishing Days

During the week of May 30 - June 7 the DNR will join other agencies and organizations to celebrate National Fishing Week. The theme is "Catch A Smile."

The DNR has also set aside June 5, 6 and 7 as Free Fishing Days and fishing license requirements will be waived for Iowa residents during these three days. All other regulations apply.

Conservation Update



Iowa Pheasants Forever chapters are working with farmers and landowners to establish wildlife habitat.

The goal of **Pheasants Forever** is to restore pheasant populations through quality habitat. PF is paying landowners to plant food plots, nesting cover, shelterbelts and other habitat for game and nongame wildlife.

Iowa currently has 98 chapters throughout the state looking to work with local farmers and landowners for the benefit of all upland and wetland wildlife.

For help planting wildlife habitat or more information about **Pheasants Forever**, contact Jim Wooley (S. Iowa) at 515/774-2238 or Matt O'Connor (N. Iowa) at 319/926-2357, or write PF at 1205 Ilion Ave, Chariton, Iowa 50049

Think Habitat!

New 1997 State Record Fish

Sunfish

Caught by Russ Farrell of Prairie City, June 3, 1997.

The fish was taken from a farm pond in Union County. It weighed 1 pound 14 ounces and measured 11.38 inches. It beat the old state record by 1 ounce.



Wiper (Hybrid)

Caught by Don Ostergaard of McClelland, Sept. 3, 1997.

The fish was taken from the Des Moines River in Polk County. It weighed 18 pounds 15 ounces and measured 33.25 inches. It beat the old state record by 1 pound 10 ounces.

Outdoor Skills for Educators June 15 - 20, 1998

The Iowa Department of Natural Resources and the Iowa Chapter of Safari Club International will be sponsoring the Iowa American Wilderness Leadership School (AWLS). This program allows educators the opportunity to experience a variety of outdoor skills, such as canoeing, fishing, shooting, orienteering, camping and backpacking to name just a few.

If you are a teacher, scout leader or other educator that could use an outdoor skills experience, this program is for you! Experience the great outdoors through hands-on

skills activities and take these experiences back to your class or group. The activities are achieved in a non-intimidating setting, starting at the beginner level and advancing to the point of proficiency.

AWLS is held at the Springbrook Conservation Education Center, which includes air-conditioned dorms, high-quality meals and beautiful surroundings. The school will be held June 15 to 20, 1998 at a cost of \$100. This fee covers all food, lodging, programming and materials. Also, three graduate credits are available from Drake University for an additional fee. For more information call A Jay Winter at (515) 747-8383, Fax at (515) 747-3951 or e-mail at consed@pionet.net



The Iowa Wildlife Federation

Conservation and education are mainstays in the Iowa Wildlife Federation's (IWF) game plan. With about 1,000 statewide members, the IWF works to show the link between our natural resources and the world.

A big part of that effort comes through distribution of more than 11,000 Wildlife Week educator packets each winter, for use in classrooms, Cub Scouts dens, nature centers and other educational settings across Iowa. In recent years, the focus has been on endangered species, pollution solutions, wetlands, predators and recycling.

The IWF is active in statewide issues as well. It has a voice on the Turn In Poachers (TIP) program. It belongs to the Iowa REAP Alliance, the Iowa Environmental Council and other statewide coalitions improving our conservation picture. Members worked hard to retain the successful Conservation Reserve Program (CRP) during reauthorization of the 1996 Farm Bill in Congress. IWF members are active on urban deer task forces, helping communities realize deer overcrowding is a "people problem," too. The IWF administers the popular Trumpeter Swan Restoration Fund, as the DNR works to reestablish this majestic waterfowl. It played the same role in the successful reintroduction of the peregrine falcon.

The Iowa Wildlife Federation has been on board the "Teaming With Wildlife" initiative for years, as conservation supporters look for stable funding for nongame wildlife species. At the same time, the IWF supports the critical role that anglers, hunters and furharvesters have played in the restoration of our wild areas in the past decades, urging a science-based approach to wildlife management, not the fast-changing arena of public opinion.

The human impact on our planet's resources over the last couple centuries has been huge. Only recently have some of us recognized it. Many others still don't. Global warming, a spiraling loss of plant and animal species, as well as threats to our air and water quality affect the entire planet. The Iowa Wildlife Federation tries to deliver the message that our environment hinges on the actions of everyone, not just a few well-meaning conservationists. It's not just about wildlife, but protection of the habitat required by that wildlife. It's reducing soil loss, improving water quality, wise use of energy that will reduce the strain on those critical natural resources.

To apply for membership please send check or money order (\$20/individual) to:
Iowa Wildlife Federation, Inc.
3125 Douglas Suite 103
Des Moines, IA 50310

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 Board of the Iowa Department of Natural Resources.

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

Natural Resource Commission:

- March 12
Springbrook
- April
No Meeting
- May 14
Rathbun
- June 11
Marengo

Environmental Protection Commission:

- March 16
Des Moines
- April 20
- May 18
- June 15

State Preserves Advisory Board:

- March 10
Gilbertson Nature Center,
Fayette County

Warden's Diary

Thoughts From Behind the Windshield

It's finally that "slow time of the year, relatively speaking. And going from place to place in my territory, I have a little time to reflect on some of the things.

Now, don't get me wrong here, I'm not a philosopher by any means. I once took a philosophy class in college because one had to in order to receive a bachelor of science degree. After taking it, I soon realized why it was called a "BS" degree.

Let me tell you, you can go into law enforcement with a lot of "philosophies," but they soon get shattered by reality. Today, I'm wondering, "What do people really want from the outdoors?"

I think back to last October when I took a trip to visit my daughter in Las Vegas. She's a practicing veterinarian (a little fatherly chest thumping, thank you very much). She graduated from that school in Ames. You know, the one without my Hawkeyes.

Anyway, aside from the night life Las Vegas is famous for, it's fascinating for something else. You can get into your car there, and in less than an hour go from hot, endless desert to cool, refreshing mountaintops. So, one day we took a hike near Mt. Charleston. The first thing I noticed was a couple who huffed and puffed at high speed past us. Now this isn't a big mountain as western mountaintops go, but it was high enough and steep enough my wife had to stop a while because of altitude sickness. But this couple was definitely on a mission. We encountered them again in a few hundred feet. They were on the way down at high speed, wheezing and puffing on some cigarettes. They scooted down the trail, got in their car and drove off at about the same speed they were hiking. They hadn't been on the mountain ten minutes. Sometimes I think people want their outdoors like their food. Fast and drive-through!

We continued up the mountain. I stopped to look at the plants. I stopped to explore where a stream was coming from. I stopped to look over the vistas. What a view! It took us more than an hour and we got to the top.

My wife, daughter and I were sitting on the summit gazing at the beautiful valley stretched below us, congratulating ourselves on making the peak, when I heard something. A couple of men were behind us. What was that sound? Oh no, it couldn't be! One of them was wearing a pager. His beeper was going off! Go to the mountains to get away from it all . . . to get into the quiet . . . to hear nothing but the wind flying over the mountain top,

darting through the peaks and down the valley . . . and THIS GUY'S GOT A BEEPER!

My wife gave me the, "calm down" look. Then, the next thing I know, he guy is talking on a CELL PHONE! I expected to see the laptop computer any minute. Modern technology, I guess I'm a little counterculture in that regard. Doesn't anyone take the time to really leave it all at home and see what's out here? I thought the reason we go to the mountain top, or to the stream, or to the lakeshore was to get away from our hi-tech world.

I guess that's one reason I've always enjoyed the Boundary Waters Canoe Area. It's one place you have to leave the toys behind. Carry a canoe on your back over a rocky portage and you'll soon feel a part of what's around you. You can pull on a paddle with all your strength, propelling your canoe against the wind. Stop for a second, and you're flipped around, maybe even over. Curl yourself into a sleeping bag against the cold, while a storm snaps trees like toothpicks and the lightning flashes over the forest. That, like the mountain, is humbling. You realize your real place. You may think you have beaten the elements on your own, but in a second, they remind you you're not in charge.

On one trip, we were paddling along the shore of an island. Rock outcroppings towered over us. What force it took to place such a boulder! Suddenly, the sky darkened as a shadow appeared. An eagle swooped low over our canoe, and made a run at an otter -- probably trying to steal its fish dinner. The otter slid off the rock into the lake with a splash, and the eagle made a tight turn like a jet fighter, disappearing straight into the sky. In a second, the scene returned to tranquility. I was astonished. Try finding scenes like that while "surfing the net."

I walked down off the mountain in awe of its beauty and majesty. I looked back at the layers of rock turned on their sides by forces beyond us. I was in awe. We don't have the mountains in Iowa, but we have features just as fascinating. Do we really stop and take the time to look? Or, do we speed by in the drive-through, talking on our cell phone, waiting for the next page and thinking, "We've arrived?" I hope I never get that complacent.

Even looking out my windshield now, it may look drab, cold and snow covered, but it's ever changing. Sometimes dramatic. Sometimes subtle. Fail to appreciate it or protect it, and you can lose it. Go too fast, and you'll miss it. Philosophy? I don't think so. A life-style? Probably. Reality? Definitely.

Think I'll stop now and take a walk.

by Chuck Humeston

Parting Glance



David Boyesen

I dare you.

