

Iowa

March/April 1993

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Department of Natural Resources





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Iowa CONSERVATIONIST

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Inside Front -- *Springtime Ritual* by Greg Bordignon. Available as a limited edition print (image size 17" x 29"). To receive a print, send a check for \$95, plus \$4.75 state sales tax if an Iowa resident, to Greg Bordignon, Wildlife Creations, 6612 Boxwood Lane, NE, Cedar Rapids, Iowa 52402. For further information call (319) 395-9487.

Inside Back -- Morning trout stream by Jerry Peters

1993 FISHING FORECAST

NORTHEAST

Northeast Iowa offers a myriad of quality angling opportunities.

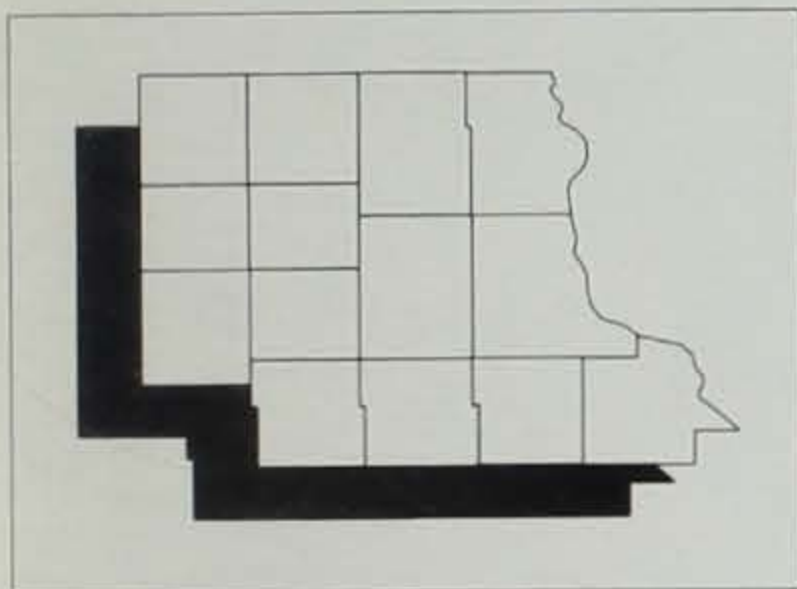
--David L. Moeller, regional fisheries supervisor, northeast Iowa

So you're ready to go -- tackle box fully stocked and all in order, reels cleaned and lubed, new line on all the reels, hooks sharpened and a 1993 fishing license in your wallet. Now let's take a look at some of the better "fishin' holes" in northeast Iowa you will want to try this year.

Coming up soon is the annual spawning run of suckers in several inland rivers. The Upper Iowa, Yellow, Turkey and Volga rivers are

NORTHEAST

Species	Lake or Stream (County)	Comments
Bluegill	Casey Lake (Tama)	Good numbers of bluegills between 6 and 8 inches.
	Greenbelt Lake (Black Hawk)	Fish up to 8 inches common in 8 to 10 feet of water.
	George Wyth Lake (Black Hawk)	Fair numbers of 6- to 7-inch fish. Concentrate on the stake beds and brush piles.
	Sweet Marsh Segment B (Bremer)	Deep water along the south dike holds most of the fish.
Bullhead	Volga Lake (Fayette)	Big bluegills are fairly scarce but good numbers in the medium-size range; drift the deeper water over the old creek channels.
	Sweet Marsh Segment B (Bremer)	Large numbers of bullheads in the 1/2- to 3/4-pound range.
Channel Catfish	Cedar River (Black Hawk, Bremer, Chickasaw, Floyd)	Tremendous population of catfish in the 3- to 8-pound class.
	George Wyth Lake (Black Hawk)	Numerous 14- to 18-inch fish available but a challenge to catch; fish the brush piles near the shoreline.
	Lake Meyer (Winneshiek)	The cage rearing program on the lake provides good numbers of channels.
	Maquoketa River (Jones, Delaware, Jackson)	Many "cats" in the 1- to 3-pound range with some up to 8 pounds.
	Mississippi River, Pools 9-15	Large population of 12- to 20-inch fish; best along channel borders and on wing dams in summer and early fall using plastic worms dipped in stink bait.
Crappie	Upper Iowa River	Popular catfish stream below lower dam; many fish from 2 to 6 pounds; good success along rocky shorelines.
	Volga Lake (Fayette)	Excellent catfish lake; very large fish occasionally taken; many in the 2- to 6-pound range.
	Casey Lake (Tama)	Nine- to 11-inch fish very abundant; use of minnows for bait prohibited at this lake; fish the submerged trees and along the face of the dam.
	Mississippi River, Pools 9-15	Numbers of large fish reduced due to drought years; May and October best with minnows or small jigs in brushy habitat in deep, quiet water.
	Hartwick Lake (Lake)	Fish the submerged trees and recently placed stake beds for 8- to 10-inch



prime sucker streams. The tackle is simple -- a half-ounce sinker and a #8 long-shanked hook baited with a gob of worms -- and the action is often furious. Sucker meat is delicious, but bony. To solve the bone problems, 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.

Also, early in the spring, just after ice-out is a prime time for saugers in the "Mighty Mississippi." This close cousin of the walleye congregates in late March and early April in the tailwater areas just below the navigational locks and dams. The tailwaters of Dam 9 near Harpers Ferry, 10 at Guttenberg, 11 at Dubuque and 12 at Bellevue are prime sauger hotspots. Limits of 10 sauger are not uncommon during the peak of the run. Saugers seem to disappear after spawning in April, but reappear in the tailwaters again in late fall and winter.

Another species that provides a lot of angling enjoyment to Mississippi River anglers is the freshwater drum, also known as sheepshead (see *Drumming Up Drum*, page 25). This fish is so plentiful it supports a substantial



Ron Johnson

commercial fishery as well as a major sport fishery. The serious action begins in June and continues right on through the warm summer months. Drum love current so look for them along the main channel borders, side channels and

	Delhi (<i>Delaware</i>)	crappies.
	Volga Lake (<i>Fayette</i>)	Better numbers of 7- to 8-inch fish; fish near the artificial structure or over the old creek channels in the upper lake for best results.
Largemouth Bass	Casey Lake (<i>Tama</i>)	Good numbers of 12- to 18-inch fish; 18-inch length limit on this lake.
	Lake Hendricks (<i>Howard</i>)	Many bass from 1-1/2 to 3 pounds with a few trophy fish from 5 to 8 pounds; best success along steep shorelines or along dam riprap.
	Lake Meyer (<i>Winneshiek</i>)	Majority of population at or near the 15-inch size limit.
	Mississippi River, Pools 9-14	The largest bass population in the state; best during the pre-spawn in May and the fall months near backwater structure; 14-inch length limit.
	Sweets Marsh Segment B (<i>Bremer</i>)	Large number of bass from 12 to 17 inches; hit it early as vegetative growth makes it tough to fish during the summer.
Northern Pike	Maquoketa River (<i>Delaware</i>)	All sizes present with fish of more than 10 pounds possible. Concentrate your efforts below dams; stocked annually with 2-inch fingerlings.
	Mississippi River, Pools 9, 10 and 11	Very strong populations with many fish 5 to 8 pounds, some up to 15 pounds; fish the shallow backwaters in the spring and near the mouths of cool water tributaries in the hot summer.
Smallmouth Bass	Shell Rock River (<i>Bremer</i>)	Numerous fish in the 4- to 8-pound range; good natural reproduction.
	Cedar River (<i>Black Hawk</i>)	Fish areas with rock- or brush-type habitat, good numbers of smallies.
	Cedar River (<i>Mitchell, Floyd</i>)	Excellent smallmouth bass population; best above Charles City to the state line; new catch-and-release area from Otranto Dam to St. Ansgar.
	Maquoketa River (<i>Delaware</i>)	Catch-and-release regulation below Delhi Dam has resulted in increased numbers and excellent fish size; several bass at least 18 inches.
	Mississippi River, Pools 9, 10 and 11	Increasing population; best on rocks, riprap and wing dams in late summer and fall; use crawdads or imitating lures.
	Shell Rock River (<i>Butler and Floyd</i>)	Under-fished smallmouth population; many smaller fish in any deep-water habitat; spring concentrations often occur below dams.
	Turkey River (<i>Fayette</i>)	High water in 1992 improved quality of bass habitat; concentrate in deep-water areas and along rocky shorelines.
	Upper Iowa River (<i>Howard, Winneshiek, Allamakee</i>)	Combines unique scenery with excellent smallmouth population; very popular canoeing stream, less traffic below lower dam.
	Volga River (<i>Fayette</i>)	Smaller, wading stream with good population of smallies; very scenic river.
	Wapsipinicon River (<i>Buchanan</i>)	Average numbers but good concentration of 2- to 3-pound fish; fish the rock riffles.

especially near the wing dams. They love crawlers and crayfish presented right on the river bottom.

One of my personal favorites is the white bass, or striper. This fish loves to smack lures and then test the drag system on your reel. Look for this speedster primarily in the Mississippi River; however, Hartwick Lake near Delhi also supports a good striper population. White bass like a combination of current and rock which makes the Mississippi wing dams a favored haunt. They love to run in schools so be ready for some fast and furious action when you have them located.

As you can see, northeast Iowa offers a myriad of quality angling opportunities. Couple this with the natural beauty of the area and you are sure to enjoy each fishing expedition.

Ron Johnson



Trout

- Bailey's Ford (*Delaware*) Stocked with catchable rainbow trout from April-October, abundant habitat structures.
- Bloody Run (*Clayton*) Stocked with catchable rainbows and browns from April-October, one of Iowa's largest trout streams; contains a special regulations segment with a 14-inch length limit on browns and artificial lures only.
- Ensign Hollow (*Clayton*) A catch-and-release stream; developing population with fish up to 16 inches caught last year.
- Fountain Springs Catchable stream with excellent angler access.
- French Creek (*Allamakee*) Stocked with catchable rainbows and browns from April-November; excellent habitat and access.
- Little Turkey River (*Delaware*) Stocked only with catchable browns; walk-in area; timbered valley.
- North and South Bear (*Winneshiek*) Stocked with catchable rainbows and browns (browns only above Highlandville) from April-November, both high-quality streams with excellent access.
- Spring Branch (*Delaware*) Fourteen-inch minimum on browns and artificial lures only; intensive stream improvement resulted in several browns of more than 20 inches.
- Trout Run (*Winneshiek*) Stocked with catchables April-October; located on grounds of Decorah Trout Rearing Station.
- Waterloo Creek (*Allamakee*) One of Iowa's best trout streams; stocked with catchable browns and rainbows from April-October; numerous insect hatches; popular fly fishing stream.

Walleye

- Cedar River (*Black Hawk, Bremer, Chickasaw, Floyd*) Best angling below dams in the spring; fish up to 10 pounds not uncommon; population has been enhanced by fingerling stockings the last five years.
- Maquoketa River (*Delaware*) Fish up to 3 pounds below Delhi Dam resulting from annual plants of 2-inch fingerlings.
- Mississippi River Tailwaters, Pools 9-15 Good from November-April; best for lunkers (up to 12 pounds) just after ice-out; 15-inch length limit.
- Mississippi River Wing Dams, Pools 9-15 Best from May-October at low flows; slow troll crawlers, leeches or plugs bumping the rocks; 15-inch length limit.
- Shell Rock River (*Butler, Bremer, Floyd*) Recent fingerling stockings have resulted in large number of 1- to 2-pound fish.
- Wapsipinicon River (*Buchanan*) Expanding population from walleye fingerling stockings with some fish up to 6 pounds.

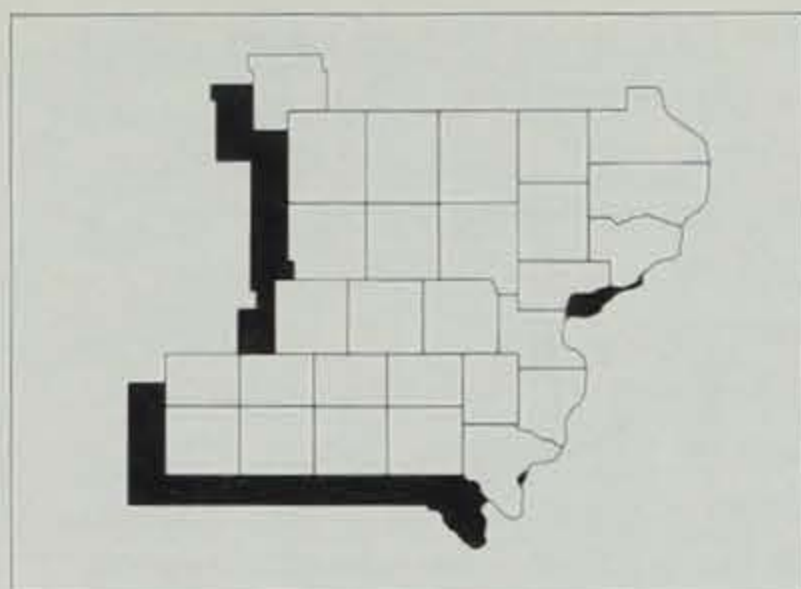
SOUTHEAST IOWA

Perhaps the Mississippi River is the best catfish hole of all. This is reflected in the generous catch limits -- all you can carry.

--Stephen J. Waters, regional fisheries supervisor, southeast Iowa

Between the locks and dams that assist the movement of commercial barge traffic on the Mississippi River lies an exciting and exceptional angling resource. Largemouth bass, panfish, catfish, white bass, walleye and sauger are the more popular sport fish sought by this river's anglers.

The Mississippi River's protective minimum size limit on largemouth bass



(now 14 inches) has meant a greater number and larger size of bass to interest the angler. Fall electrofishing surveys at the Big Timber Area, now a larger area due to the completed restoration project, showed excellent numbers of 12- to 15-inch fish. Other top-producing areas in Pool 17 include Cleveland Slough, Hidden Acres and Bogus Island. Huron Island and lower

Burnt Pocket backwaters in Pool 18, Burlington Island, riprap shorelines and stream mouths in Pool 19 are also favorite hotspots of bass anglers. Radio tagging studies have shown that backwater bass love structure. Therefore, fish right on top of brush, logs, stumps, etc., for great bass fishing action.

Crappie and bluegill angling on the Mississippi River for quality-size fish will be good in the same backwater where good bass fishing can be found. Fish tight to stumps, logs and brush. At areas where deep holes exist (Big Timber), crappie can be caught suspended in open water during the summer months and ice anglers report fine catches during the winter months.

Perhaps the Mississippi River is the best catfish hole of all. This is re-

SOUTHEAST

Species	Lake or Stream (County)	Comments
Bluegill	Mississippi River	See narrative.
	Odessa (Louisa)	Average harvest size 7 to 8 inches.
	Farm Ponds	Exceptional angling -- best chance for a trophy.
	Pleasant Creek (Linn)	Average harvest size 6 to 8 inches.
	Geode (Henry)	Average harvest size 6 to 8+ inches.
	Miami (Monroe)	Average harvest size 6 to 7 inches.
	Hannen (Benton)	Average harvest size 6 to 8 inches.
	Hawthorn (Mahaska)	Average harvest size 6 to 7 inches.
	Kent (Johnson)	Average harvest size 6 to 7 inches.
	Iowa (Iowa)	Average harvest size 6 to 7 inches.
	Keomah (Mahaska)	Average harvest size 6 to 7 inches.
	Diamond (Poweshiek)	Average harvest size 6 to 8 inches.
	Rogers (Benton)	Average harvest size 7 inches.
Channel Catfish	Mississippi River	See narrative.
	Inland Rivers	See narrative.
	Rathbun (Appanoose)	Exceptional fishery -- all sizes available.
	Coralville (Johnson)	Exceptional fishery -- a variety of sizes.
	Otter Creek (Tama)	Lots of 14- to 20-inch fish.
	Diamond (Poweshiek)	Average harvest size 12 to 20 inches.
	Kent (Johnson)	Average harvest size 12 to 18 inches.
	Miami (Monroe)	Good for a variety of sizes.
	Macbride (Johnson)	Good for a variety of sizes.
	Darling (Washington)	Good for a variety of sizes.
	Geode (Henry)	Average harvest size 15 to 18 inches.
Bob White (Wayne)	Average harvest size 18 to 20 inches.	
Lacey-Keosauqua (Van Buren)	Average harvest size 16 to 18 inches.	
Crappie	Rathbun (Appanoose)	Average harvest size 9 inches. Trophy fish available.
	Mississippi River	See narrative.

flected in the generous catch limits -- all you can carry. Mr. Whiskers can be caught in nearly all parts of the river, but best bets are above and below wing dams and rip-rapped heads of islands where there is a current; stumpfields and rip-rapped shorelines are hotspots during the spawning period.

Fantastic walleye and sauger angling also exists on the Big River.

The navigation lock and dam habitat produces great catches in late winter, early spring and late fall. Wing dam fishing during summer and early fall will also produce stimulating action. Try backtrolling crankbaits or three-way nightcrawler rigs on the upstream side of wing dams or slow trolling on the bottom in the tailwaters with bright-colored jigs tipped with minnows or three-

way minnow rigs. Jigging sonars below the navigation dams is an effective technique late fall through early spring. A 15-inch size limit is in effect for walleye. White bass anglers should look to the same walleye-sauger habitats to catch this numerous and spirited fish.

Rivers in southeast Iowa are great places to catch catfish. The Wapsi, Skunk, Cedar, Des Moines



	Coralville (<i>Johnson</i>)	Average harvest size 9 to 10 inches.
	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>)	Average harvest size 8 to 9 inches.
	Pleasant Creek (<i>Linn</i>)	Average harvest size 8 inches.
	Darling (<i>Washington</i>)	Average harvest size 8 inches. Trophy fish available.
	Miami (<i>Monroe</i>)	Average harvest size 8 inches.
Largemouth Bass	Mississippi River	See narrative.
	Farm Ponds	Best chance for a trophy.
	Odessa (<i>Louisa</i>)	Variety of sizes.
	Miami (<i>Monroe</i>)	High population number.
	Pleasant Creek (<i>Linn</i>)	Known for its bigger fish.
	Iowa (<i>Iowa</i>)	Slot size limit of 12 to 16 inches.
	Hawthorn (<i>Mahaska</i>)	Slot size limit of 12 to 16 inches. Bigger fish available.

and Iowa rivers all produce excellent numbers and a variety of sizes of catfish. Float fishing from one access to another, checking brush piles, lower end of sandbars and rocky riffles will produce lots of fish and lots of fun.

Many Iowans enjoy fishing for flathead catfish. The Skunk (Keokuk, Washington, Jefferson, Henry and Des Moines counties), Iowa (Louisa County), Cedar (Louisa County) and Wapsipinicon (Clinton and Scott counties) rivers are favorites for flathead catfish anglers. Large dead chubs (6 to 8 inches) or a gob of worm works well. Fish deep holes in summer and fall and around bridge pilings for trophy fish.

Early spring, soon after ice-out,

anglers should take note of some fabulous channel cat fishing. When water temperatures reach about 50 degrees Fahrenheit these fish go on a feeding spree, feeding on fish that have died during the winter. Plan to use a *sour* fish bait such as cut shad and fish in the shallower, warmer portion of the lake or river. The best areas for early spring catfish angling are lakes Rathbun, Coralville and Darling and all river systems.

Farm pond fishing for largemouth bass, bluegill and channel catfish is so productive that it warrants special attention. These mini-lakes produce more trophy-size fish than any other water area. Because of their small size, they are the first areas to warm up; thus,

they are great places to begin the new fishing season. Keep in mind, you will be fishing on private property, which requires owner's permission and the utmost respect is due the landowner and their property.

Size limit regulations on black bass and other species will certainly benefit the angler by protecting more fish. This will produce higher catch rates and improve size quality. However, size limits can only help produce desirable predator populations if anglers comply with the regulation and practice catch and release fishing with legal-size fish as well. Give it a try, join the increasing numbers of bass (and other species) anglers who are enjoying the thrill of releasing their catch to fight another day.

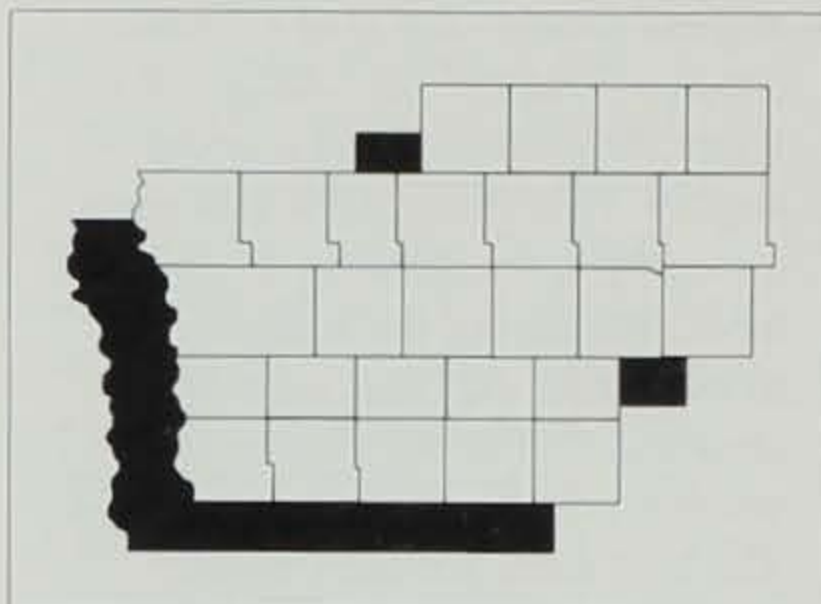
Walleye	Darling (<i>Washington</i>)	Variety of sizes.
	Geode (<i>Henry</i>)	Good catch and release.
	Macbride (<i>Johnson</i>)	Good catch and release.
	Coralville (<i>Johnson</i>)	High population of 10- to 16-inch fish.
	Union Grove (<i>Tama</i>)	Good catch and release.
	Mississippi River	See narrative.
	Rathbun (<i>Appanoose</i>)	Boat angling late spring and summer.
White Bass	Macbride (<i>Johnson</i>)	Average harvest size of 14 to 20 inches.
	Des Moines River (<i>Wapello</i>)	Hot action below the Ottumwa hydropower dam.
	Mississippi River	See narrative.
	Rathbun (<i>Appanoose</i>)	Lots of 12- to 13-inch fish.
	Coralville (<i>Johnson</i>)	Lots of 10- to 15-inch fish.
Carp	Macbride (<i>Johnson</i>)	Average harvest size 13 to 16 inches.
	Des Moines River (<i>Wapello</i>)	Hot action below the Ottumwa hydropower dam.
	Mississippi River	Good angling in all pools.
	Inland Rivers	Good angling in major rivers.
	Rathbun (<i>Appanoose</i>)	A variety of sizes available.
	Coralville (<i>Johnson</i>)	A variety of sizes available.
Flathead Catfish	Odessa (<i>Louisa</i>)	A variety of sizes available.
	Darling (<i>Washington</i>)	A variety of sizes available.
	Inland Rivers	See narrative.
	Wipers	Four- to 8-pound fish taken in reservoir and below low-head dams in Iowa City.
Saugeye	Coralville (<i>Johnson</i>)	Fourteen to 20 inches below Coralville dam.
	Iowa River (<i>Linn</i>)	Average harvest size 8 inches.
Redear Sunfish	Iowa River (<i>Johnson</i>)	Average harvest size 8 inches.
	Hawthorn (<i>Mahaska</i>)	Average harvest size 8 inches.
	Iowa (<i>Iowa</i>)	Average harvest size 8 inches.
Bullhead	Geode (<i>Henry</i>)	Seven- to 12-inch fish.
	River backwater areas	Eight- to 10-inch fish.
	Darling (<i>Washington</i>)	Eight- to 11-inch fish.
	Odessa (<i>Louisa</i>)	10-inch average.
	Keomah (<i>Mahaska</i>)	

SOUTHWEST

If I were only going to fish once this year, I would go to Green Valley on a nice weekend in mid-May and fish for crappie.

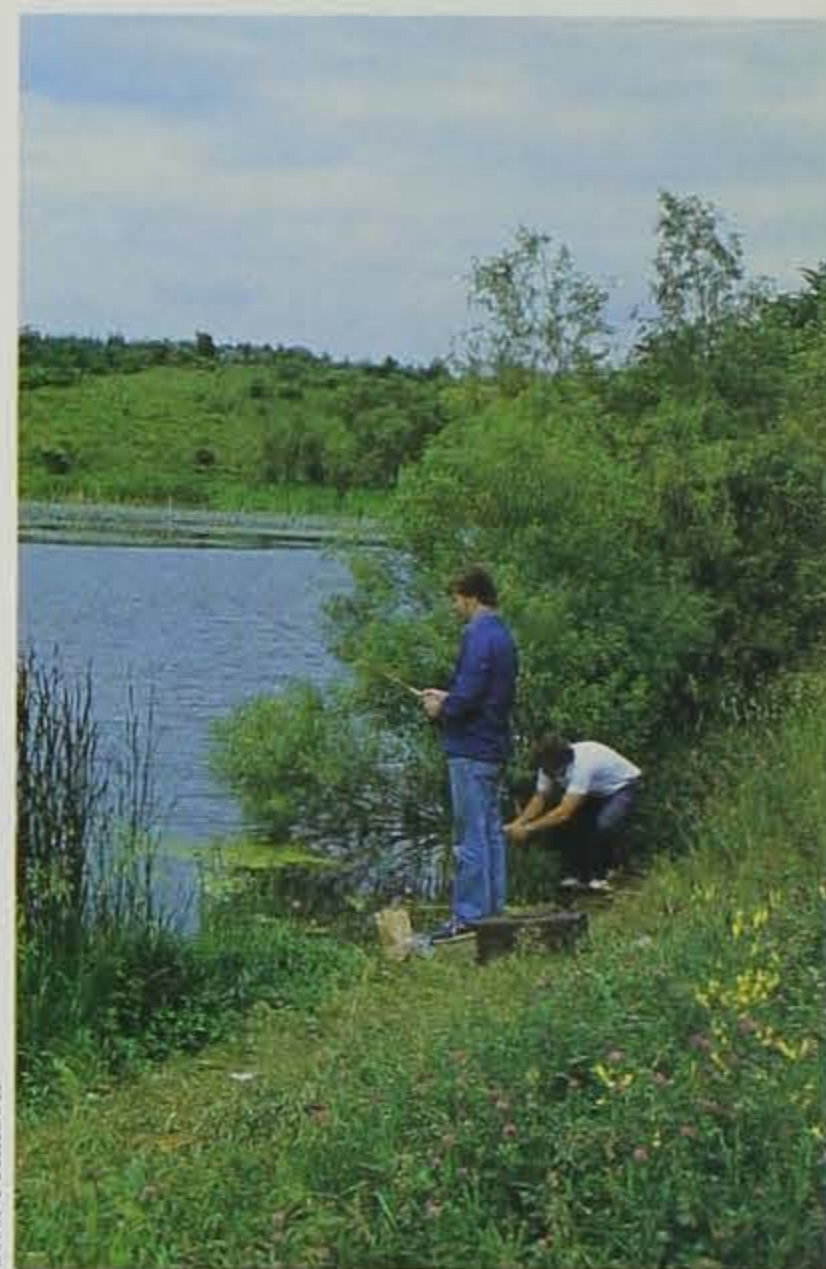
--Joe Schwartz, regional fisheries supervisor, southwest Iowa

Last year's fishing proved to be a mixed bag in southwest Iowa. May, typically our best fishing month, proved to be the best for several years. Warm, dry weather with few passing cold fronts allowed good fishing on most of our lakes in May. Lake Icaria and Green Valley provided excellent catches of crappies to many happy anglers and seemed to be the best-of-the-best in 1992. Crappie size in Green



Valley was the best in many years and should be slightly better in 1993. Red Rock also proved exceptional. Five-gallon buckets full of slab white crappie were common there.

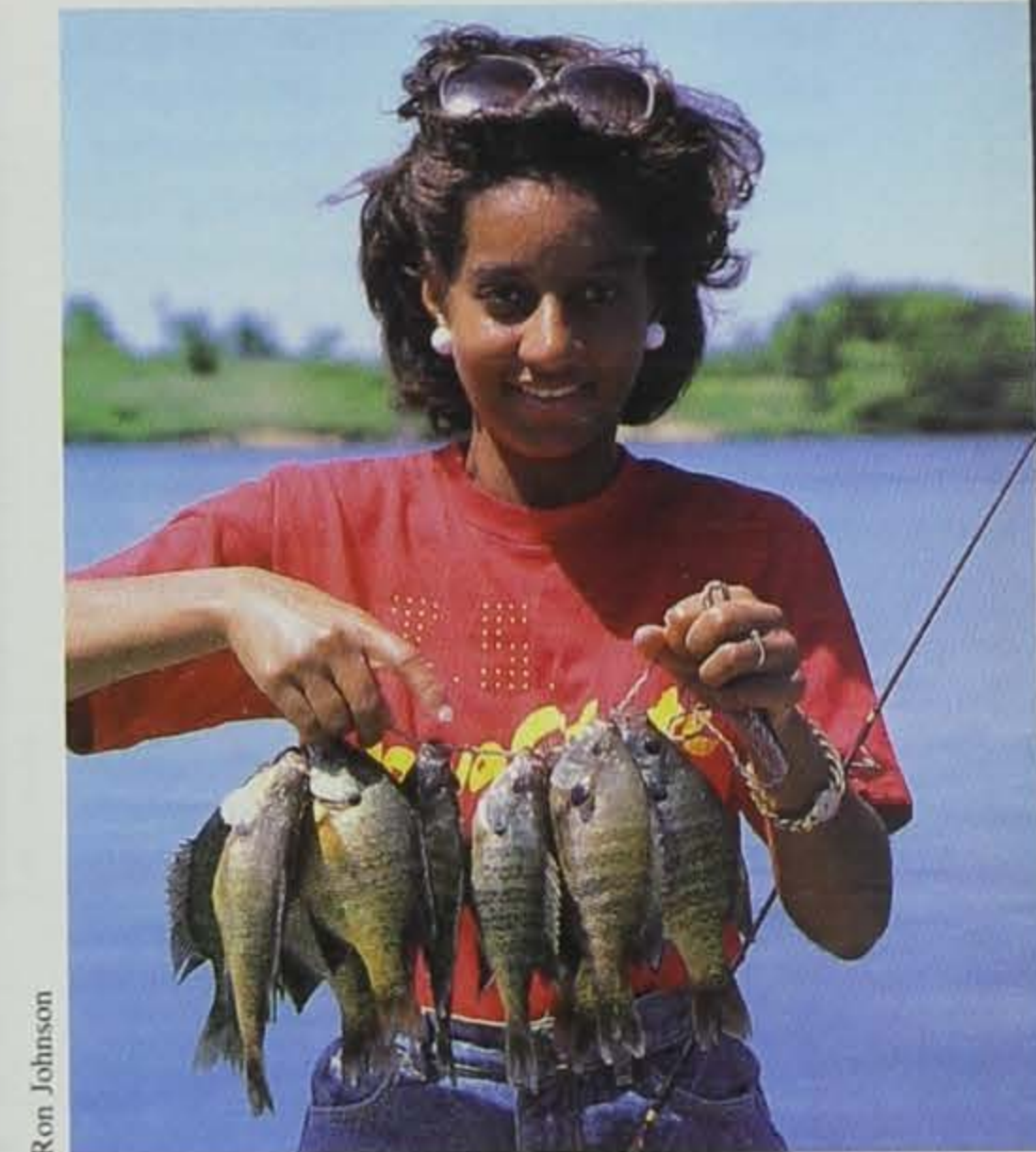
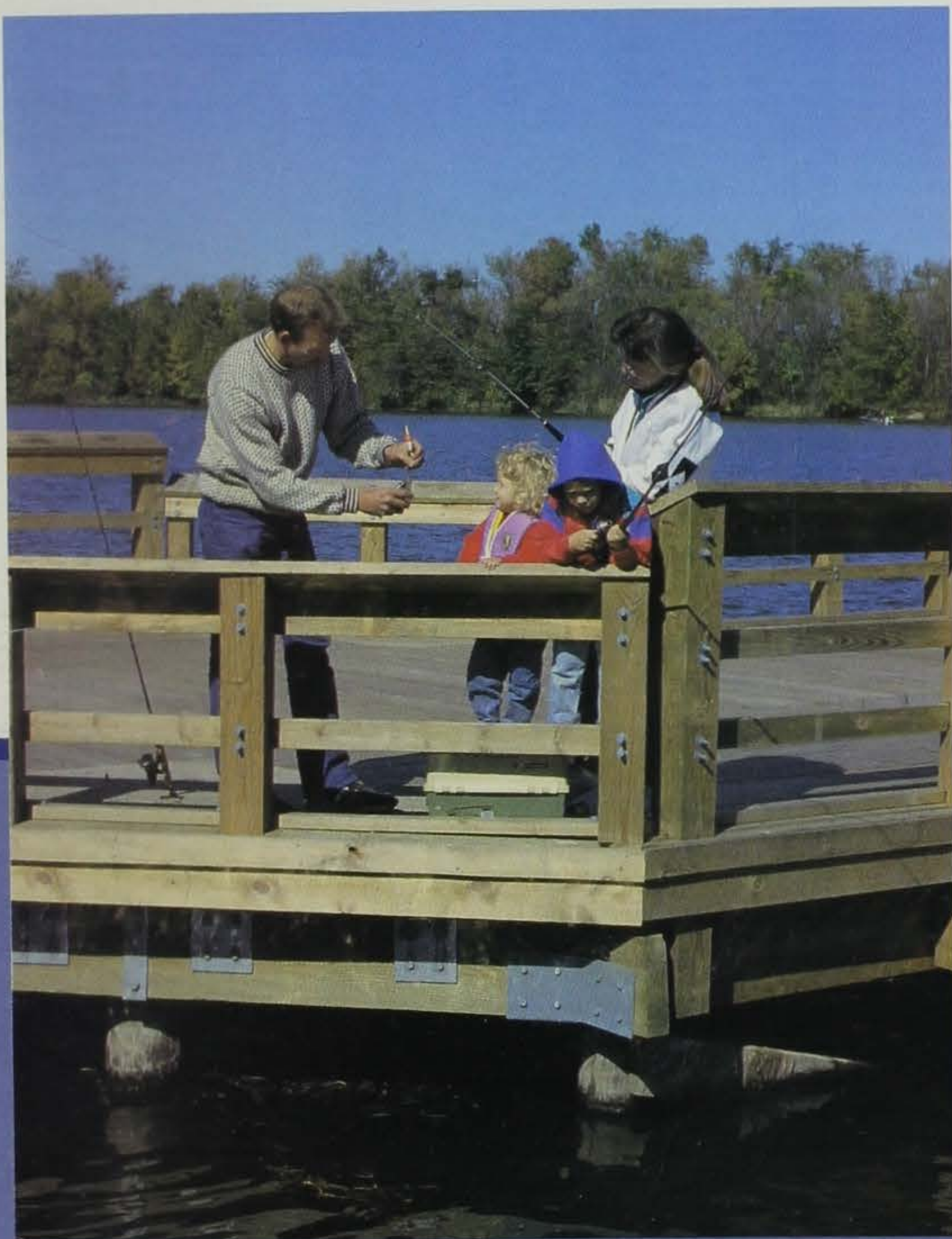
Unfortunately, fishing the remainder of the summer was slow at best. It seemed like every weekend in June and July was rainy and cold. Excellent catches in May of crappie, bluegill and



Ron Johnson

SOUTHWEST

Species	Lake or Stream (County)	Comments
Bluegill	Anita (Cass)	Six- to 8-inch fish are frequently caught.
	Beaver (Dallas)	Fish are growing fast in this new lake. This year will be the best yet.
	Green Valley (Union)	Seven- to 8-1/2-inch fish coming on.
	Greenfield (Adair)	Medium-sized fish are abundant -- 6-1/2 to 8-1/2 inches.
	Hickory Grove (Story)	Seven- to 10-inch fish.
	Icaria (Adams)	Nice looking 7- to 8-1/2-inch fish with some up to 9-1/2 inches.
	Little River (Decatur)	Seven- to 9-inch fish are common. Some 10 inches.
	Morman Trail (Adair)	Eight-inch fish. This lake has made a comeback.
	Nine Eagles (Decatur)	Try marked fish reefs. Good redear are present.
	Pony Creek (Mills)	Eight-inch fish common.
	Prairie Rose (Shelby)	Average 8 inches. Population increasing. Best-looking bluegills in a long time.
	Twelve Mile (Union)	Eight- to 9-inch fish common. Try around flooded trees.
	Viking (Montgomery)	Eight-inch common. Try mid-summer drift fishing.
-Crappie	Anita (Cass)	First crappie lake to start in the spring. Nice fish 8-1/2 to 10-1/2 inches. Numerous smaller fish moving into the fishery.
	Badger Creek (Madison)	Nice fish, 8 to 9-1/2 inches.
	Big Creek (Polk)	Most fish will be 7 to 8 inches this year. A few 10 or more inches. Looks to be better because of shad reduction.
	Green Valley (Union)	Super abundant 7- to 10-1/2-inch fish. Super springtime fishing from jetties. Best yet.
	Greenfield (Adair)	Try the face of the dam in spring.
	Icaria (Adams)	Fish are up to 1 pound. Try fishing newly riprapped areas. Good number of 8- to 10-inch fish.
	Little River (Decatur)	Try around flooded trees. Lots of 8- to 12-inch fish.
	Manawa (Pottawattamie)	Best crappies in several years. Some 8 to 10 inches.
	Meadow Lake (Adair)	Strong year class of 9- to 10-inch fish. Lots of nice redear.
	Orient (Adair)	Always turbid water, but still good crappie fishing. 8 to 9 inches.
Prairie Rose (Shelby)	Fish are 9 to 10 inches.	



Ron Johnson

Ron Johnson

Largemouth Bass

- Red Rock (*Marion*)
- Saylorville (*Polk*)
- Slip Bluff (*Decatur*)
- Anita (*Cass*)
- Big Creek (*Polk*)
- Easter (*Polk*)
- Farm Ponds
- Green Valley (*Union*)
- Little River (*Decatur*)

- Nine Eagles (*Decatur*)
- Prairie Rose (*Shelby*)
- Rock Creek (*Jasper*)
- Twelve Mile (*Union*)
- Viking (*Montgomery*)

Walleye/Saugeye

- Big Creek (*Polk*)
- Des Moines River (*Polk and Boone*)

Big fish. Fish when water is clear, try feeder streams.
 Excellent-sized fish.
 Eight- to 9-inch fish.
 Perennial favorite. Bass up to 6 pounds.
 Great fall of 1992 bass fishing. Most fish below size limit.
 Up to 3-1/2 pounds.
 Many private ponds in southwest Iowa have good bass.
 The 18-inch length limit has produced an abundance of big bass.
 Great fishing. Try fishing submerged brush and trees. Good numbers of 2- to 3-1/2-pounders.
 Good numbers of small fish, an occasional large fish.
 Fish the stake beds.
 Good number of 2- to 4-pounders.
 Excellent for 12- to 18-inch fish. Tough to catch because of clear water.
 Good population of 12- to 15-inch fish.
 Two- to 4-pounders common.
 Fish below flood Corps dams, low-head dams and gravel riffles.

bass degraded to poor catches during the summer months. Those anglers who were willing to brave the lousy weather had spotty success at best. Fishing may have been good one day on one lake, but poor at other lakes and bad the rest of the week.

Fortunately, fall fishing took a decided upturn at many of our state fishing lakes. Late September-October fishing for bass and crappie was good for many anglers. Icaria and Little River stood out as having exceptional autumn fishing. Big Creek, slow most of the year, bounced back following a DNR shad reduction project and provided excellent crappie fishing in the lake October through mid-November. Many other lakes such as Prairie Rose, Viking, Twelve Mile and Nine Eagles also had good fall fishing for panfish.



Ron Johnson

The table below lists the better lakes in southwest Iowa and how fishing for each species will be. If I were only going to fish once this year, I

would go to Green Valley on a nice weekend in mid-May and fish for crappies. You will definitely be happy with your catch.

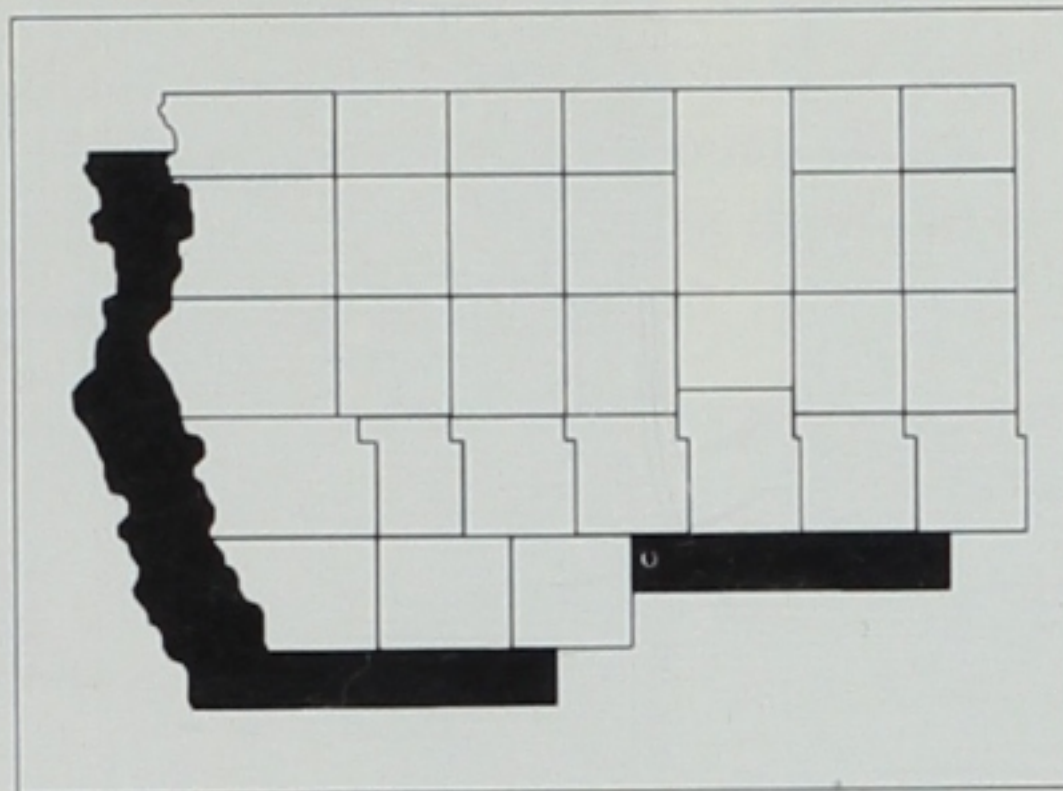
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	Little River (<i>Decatur</i>)	Average fish are 14 to 18 inches. 7-1/2-pounder biggest so far.
	Manawa (<i>Pottawattamie</i>)	Was good in 1992; looks good in 1993.
	Saylorville (<i>Polk</i>)	Fish sandy points, old river channel.
	Twelve Mile (<i>Union</i>)	Fish artificial reefs. Fish are 14 to 17 inches. Up to 4 pounds.
	Beaver Lake (<i>Dallas</i>)	New lake, good growth, good catches.
	Green Valley (<i>Union</i>)	Eleven- to 13-inch fish.
	Little River (<i>Decatur</i>)	Nice fish, big catches.
	Manawa (<i>Pottawattamie</i>)	Nice-sized fish. Average one-pound, 12-inches.
	Prairie Rose (<i>Shelby</i>)	Fish continue to grow. They now average 10 inches.
	Rock Creek (<i>Jasper</i>)	Fish are definitely keepers.
	Springbrook (<i>Guthrie</i>)	Medium-sized, but lots of them.
Channel Catfish	Twelve Mile (<i>Union</i>)	Nice fish, big catches.
	Big Creek (<i>Polk</i>)	Really nice fish, lots of them and not many catfish anglers.
	Easter (<i>Polk</i>)	Very good.
	Icaria (<i>Adams</i>)	All sizes up to 5 pounds, occasional 15-pounders.
	Little River (<i>Decatur</i>)	Fish small bays in mid-summer. Area biologist was really impressed with catfish seen in 1992 survey. Many 3- to 10-pounders.
	Littlefield (<i>Audubon</i>)	Fish north shore on strong south wind.
	Manawa (<i>Pottawattamie</i>)	Good numbers, most 2 to 6 pounds. Up to 12 pounds.
	Meadow (<i>Adair</i>)	Fish are 2 to 6 pounds.
	Morman Trail (<i>Adair</i>)	Good number.
	Orient (<i>Adair</i>)	Stocked every year.
	Southwest Rivers	Catfish are abundant in all of our rivers.
	Saylorville (<i>Polk</i>)	Excellent channel and flathead fishing. Lots of 2- to 4-pound fish.
Slip Bluff (<i>Decatur</i>)	One-and-one-half to 2-1/2 pounds common.	
Twelve Mile (<i>Union</i>)	Cats 2 to 3 pounds common, good early.	
Viking (<i>Montgomery</i>)	All sizes to 6 pounds. A few big ones.	
Willow (<i>Harrison</i>)	Abundant 12- to 14-inch cage-reared fish.	
Yellow Perch	Anita (<i>Cass</i>)	Abundant 8- to 9-inch fish easily caught on worms.
	Icaria (<i>Adams</i>)	Seven- to 9-inch fish. Becoming more abundant.
Yellow Bass	Icaria (<i>Adams</i>)	Seven- to 10-inch hard hitters. Good eating.
	Manawa (<i>Pottawattamie</i>)	Lots of small fish, The new state record yellow bass was caught in 1991.

NORTHWEST

Northwest Iowa can offer almost any angler their heart's desire -- the opportunities are only limited by the time you have to take advantage of them.

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Some may argue that the walleye is number one in northwest Iowa, but diversity is the real drawing card. With the possible exception of the Mississippi River, no other area in Iowa offers such an assortment of fish and water bodies -- it is a treasure chest to anglers. Natural lakes, 31 of them to be exact, are the highlight of this glacier region offering nearly 30,000 surface acres of water to



fish. In addition to the species and bodies of water mentioned in the table below, here are a few others to consider.

Although walleye is king in this part of the state, statewide the channel catfish is the most pursued by Iowa anglers. Lake Pahoja in Lyon County is showing signs of excellent catfishing this year. Fish should average between three and six pounds. Catfish anglers do

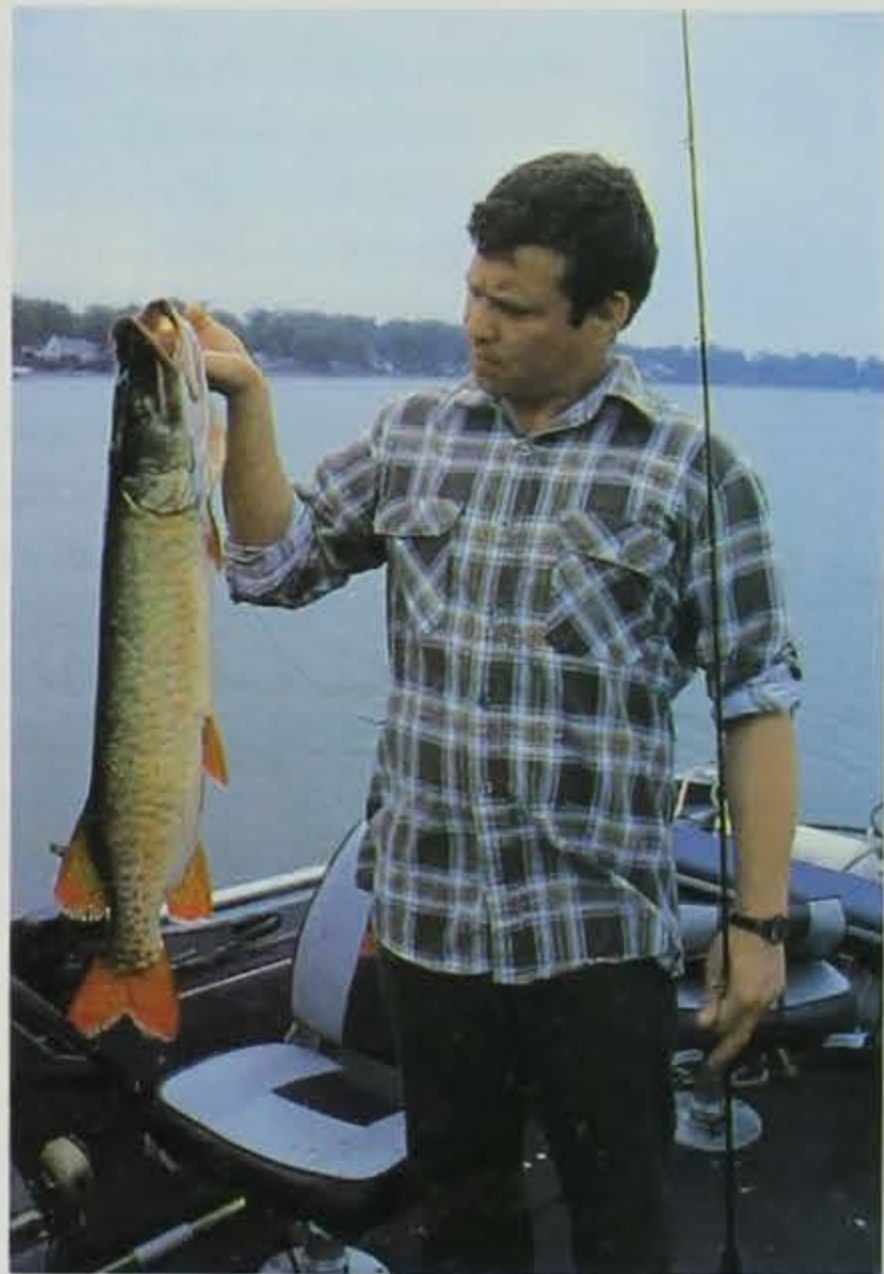
well on shad entrails, chicken livers and nitecrawlers. Crawdads and prepared baits also work well in the summer.

Statewide, bluegill are the most frequently caught fish, with approximately eight million taken each year. Considering this and their fighting ability, they make excellent fishing for children or the inexperienced angler. The weedlines of Dog Creek in O'Brien County should offer good numbers of six-inch fish this year. Lake Pahoja has a high density of bluegills and good size structure. Spring Lake in Cherokee County has lots of fish in the seven- to 10-pound range.

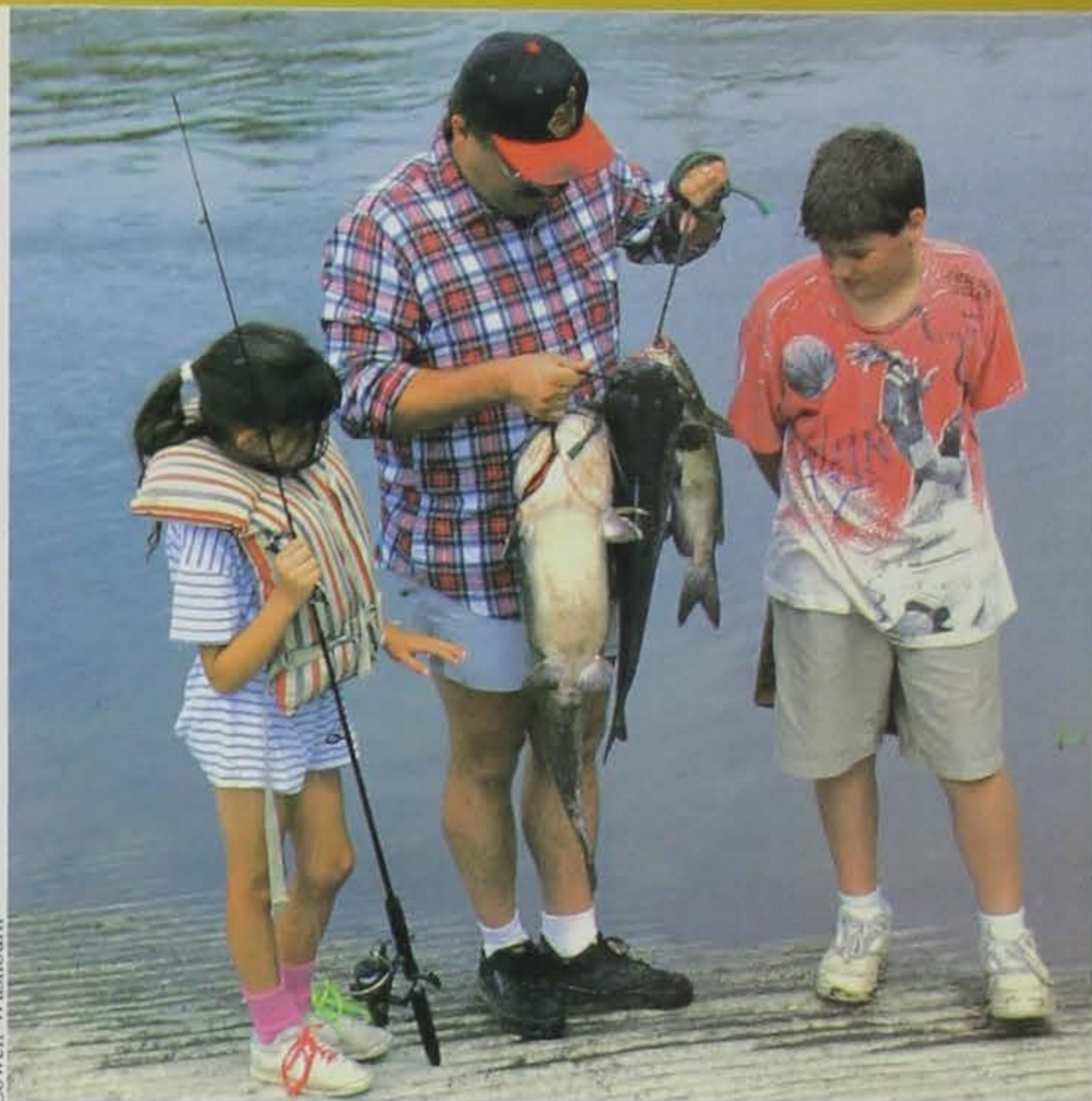
Crappies are another species that offers quantity as well as quality. Like bluegill they are an excellent eating fish and particularly during the spawn can offer some fast and furious action. The

NORTHWEST

Species	Lake or Stream (County)	Comments
Walleye	Clear Lake (Cerro Gordo)	Good for big fish, 4- to 8-pounders, but don't expect limits. Fish rock reefs with jig and minnow in spring and fall and troll the artificial weed beds with plugs in the summer.
	East Okoboji (Dickinson)	Southern one-third of lake, work the weeds and scattered rock piles. Fish tend to be smaller and catch and release is encouraged.
	Five Island (Palo Alto)	Good winter fishing in southern portion of lake for 2- to 5-pound fish. Surveys indicate good numbers of 15-inch fish.
	Lost Island (Palo Alto)	Early spring and fall fishing will be best, especially for 14-inch fish.
	Silver Lake (Dickinson)	Aeration plus good survival of young fish equals good fishing for large walleyes -- 4- to 6-pounders. Strong year classes of 4- to 7-year-old fish.
	Spirit Lake (Dickinson)	Moderate numbers of legal-sized fish will provide good fishing if the weather cooperates. While numbers are down, there should be good fishing for fish 16 inches or larger.
	Storm Lake (Buena Vista)	Excellent fishing during past three years -- 13-pounder in 1989! Excellent fishing for fish above the 15-inch length limit. May and June are the best months.
	WF--Des Moines River (Humboldt)	Spring -- below obstructions. Fall -- deep pools. Fingerlings reared in Humboldt ponds are stocked annually. Good size variety -- up to 8 pounds.
Yellow Perch	West Okoboji (Dickinson)	Weed lines offer excellent opportunity along with early season fishing off rocky points.
	Cornelia (Wright)	Excellent recruitment during 1990. Two strong year classes have developed. Seven- to 10-inch fish are available.
	East Okoboji (Dickinson)	Weed beds are holding more fish. Harvest continues to be good and is increasing.
	Spirit Lake (Dickinson)	Good numbers of 8- to 10-inch fish available. Should be better than last year.
Bullhead	West Okoboji (Dickinson)	Numbers are down slightly. Fish may be in deeper water (35 to 45 feet) during warm months. Fish above the thermocline.
	Beeds Lake (Franklin)	Good shoreline access. Lots of 8- to 9-inch fish.



Lowell Washburn
Lowell Washburn



Channel Catfish

- Black Hawk (*Sac*)
- Center Lake (*Dickinson*)
- Clear Lake (*Cerro Gordo*)
- Cornelia (*Wright*)
- Crawford Creek (*Ida*)
- East Okoboji (*Dickinson*)
- Lost Island (*Palo Alto*)
- Silver Lake (*Dickinson*)
- Spirit Lake (*Dickinson*)
- Boone River (*Hamilton*)
- Big Sioux River (*Lyon, Sioux and Plymouth*)
- Black Hawk (*Sac*)
- Clear Lake (*Cerro Gordo*)
- Des Moines River (*Kossuth, Humboldt*)
- East Okoboji (*Dickinson*)
- Iowa River (*Hardin*)
- Lake Smith (*Kossuth*)
- Snyder Bend (*Woodbury*)
- Storm Lake (*Buena Vista*)

Muskellunge

- Clear Lake (*Cerro Gordo*)
- West Okoboji (*Dickinson*)

Bluegill

- Beeds (*Franklin*)
- Crawford Creek (*Ida*)
- East Okoboji (*Dickinson*)
- Little Wall Lake

Excellent number of 8- to 10-inch fish. Start at the inlet in the early spring.

Large number of 8- to 10-inch fish. Good shoreline access.

Excellent density. Small size -- 7- to 9-inch average.

Fish in the spring -- April and May. Plenty of 9- to 10-inch fish.

Lots of fish in the 9- to 12-inch range.

Another tremendous fishery during 1993 at the spillway and north end if the spillway is flowing during the spring and early summer.

Large number of 7- to 9-inch fish.

Consistently good.

Numbers are increasing and 1993 should be a moderate to good year.

Lots of 10- to 16-inch fish. Some 26 inches!

Fish generally average 1/2 pound to 2 pounds. Large numbers are common.

Shad entrails are excellent bait.

Fish range from 1 to 2 pounds. Fish public docks or outside edge of bullrushes.

Catfish factory. Good fishing year in and year out. Quality habitat.

Consistent producer during spring and early summer.

1992 survey showed excellent numbers of 1/2- to 1-1/2-pound fish.

Excellent number of 1/2- to 1-1/2-pound fish.

Excellent numbers of large fish -- 5 to 10 pounds. Early spring is best.

Large fish. Islands and submerged reef are good locations. Lots of 1-1/2- to 3-pound fish were caught during 1992. Also a good fall fishery.

May is the best time -- always produces fish. Fish range from 34 to 42 inches. Rock reefs and points and Berkley Fish Hab weedbeds.

Most consistent producer. Late summer and fall. State record in 1991. An estimated new state record was released during 1992. More "follows" reported during 1992.

Six- to 8-inch fish. Fish from jetties or causeway. Popular winter fishery.

Drift over old creek channel with 1/64-ounce leadhead for 7- to 10-inch fish.

Good number of large bluegills present. Excellent harvest in 1991. Cold and variable weather affected the 1992 harvest.

Excellent numbers. Renovated in 1989. Lots of fish larger than 7 inches. Fish

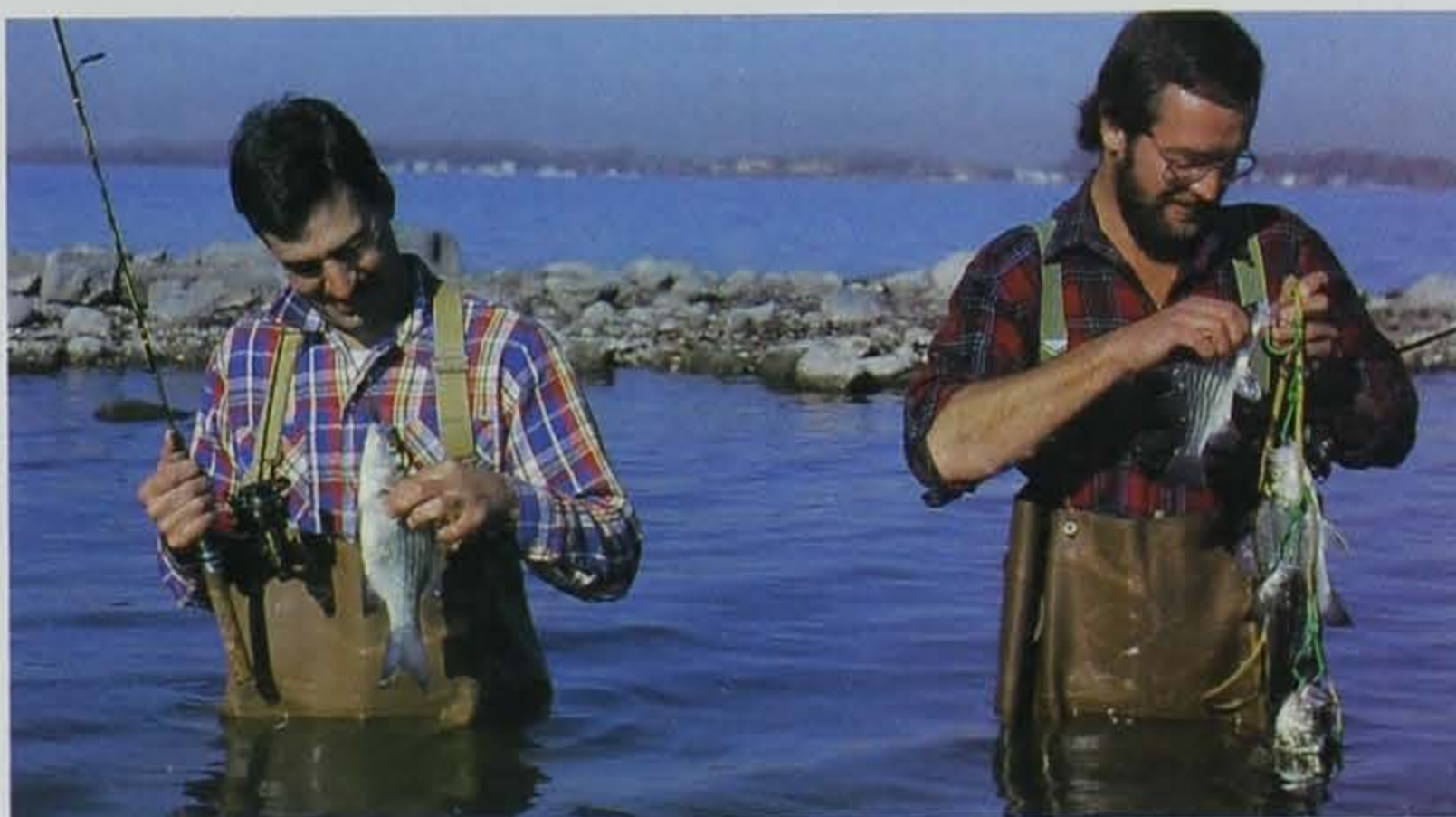
Interstate Park Pond in Franklin County had some excellent fishing in 1992 with fish averaging eight inches.

Although northwest Iowa does not have the reputation for largemouth bass that other parts of the state have, they can be found. Crystal Lake has a relatively high density of bass and many will exceed 15 inches this year. Lake Pahoja has had stable numbers of largemouth since 1990 and again will offer good fishing in 1993. Anglers are encouraged to practice catch-and-release of this sporty fish.

Looking for action? White bass may be the answer. East Okoboji in Dickinson County is a good bet. Try a jig and a minnow, or a spinner, on a sandy bottom. Fish range from 12 to 15 inches at Storm Lake in Buena Vista County. Try trolling crank baits in the

spring and early summer. West Okoboji in Dickinson County has nice fish in the one- to three-pound range. Try them through the ice in deep (50 to 60 feet) water.

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Ron Johnson

	(Hamilton)	start biting in May.
	Lower Pine (Hardin)	Six- to 8-inch bluegills are plentiful. Lots of shoreline habitat.
	Minnewashta (Dickinson)	Excellent fishing in 1991. Weed beds holding fish.
	Upper Gar (Dickinson)	Good fishing. Again -- weed beds holding fish.
	West Okoboji (Dickinson)	Consistently excellent fishery. Record harvest in 1992 should continue into 1993. Lots of action.
Crappie	Badger Lake (Webster)	Good for 8- to 10-inch fish. Winter fishery has been good.
	Black Hawk (Sac)	Early spring and late fall fishing for 10- to 12-inch fish in the marina.
	Center Lake (Dickinson)	Fish have grown. Average 8 inches.
	Clear Lake (Cerro Gordo)	Fish the canals in April and May.
	Ingham and High (Emmet)	Good number of 10- to 12-inch fish. Fish shallow water in late May and early June.
	Lower Pine (Hardin)	High density. Fish tend to run 7 to 8 inches.
Northern Pike	High Lake (Emmet)	Good numbers. Fish run 3 to 8 pounds.
	Little Wall Lake (Hamilton)	Developing population. Fast growth. Fish shortly after ice-out. Concentrate on north and south ends. High density of 2- to 4-pound fish.
	Silver Lake (Worth)	Excellent fishing last year. Fish will be larger during 1993.
	Spirit Lake (Dickinson)	Excellent. Spring. Fish developing weed beds. Fish average 2 to 5 pounds.
Smallmouth Bass	Boone River (Hamilton)	Fish rocky substrate in slack water or eddy areas. Quality habitat.
	Iowa River (Hardin)	Excellent habitat between Alden and Eldora.
	Spirit Lake (Dickinson)	Shallow water rock structures. Practice catch and release. Excellent spring fishery on north and east shorelines.
	WF--Des Moines River (Humboldt)	1991 survey revealed 12-inch average size below Humboldt. Population increasing.
	Winnebago River	Fish up to 17 inches were seen in 1991.
Largemouth Bass	Dog Creek (O'Brien)	Excellent numbers of legal size (15 to 18 inches). A boat is necessary to fish this habitat effectively.
	Indian (Hancock)	Excellent numbers of fish greater than 15 inches.
	Little Wall Lake (Hamilton)	Good densities and fast growth. Eighteen-inch minimum length limit.
	West Okoboji (Dickinson)	Excellent year class strength. Spring is best in shallow water, fall also good.
	Yellow Smoke (Crawford)	Excellent for sub-legal fish.

bass degraded to poor catches during the summer months. Those anglers who were willing to brave the lousy weather had spotty success at best. Fishing may have been good one day on one lake, but poor at other lakes and bad the rest of the week.

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- Manawa (*Pottawattamie*)
- Saylorville (*Polk*)
- Twelve Mile (*Union*)
- Beaver Lake (*Dallas*)
- Green Valley (*Union*)
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- Prairie Rose (*Shelby*)
- Rock Creek (*Jasper*)
- Springbrook (*Guthrie*)
- Twelve Mile (*Union*)

Channel Catfish

- Big Creek (*Polk*)
- Easter (*Polk*)
- Icaria (*Adams*)
- Little River (*Decatur*)
- Littlefield (*Audubon*)
- Manawa (*Pottawattamie*)
- Meadow (*Adair*)
- Morman Trail (*Adair*)
- Orient (*Adair*)
- Southwest Rivers
- Saylorville (*Polk*)
- Slip Bluff (*Decatur*)
- Twelve Mile (*Union*)
- Viking (*Montgomery*)
- Willow (*Harrison*)

Yellow Perch

- Anita (*Cass*)
- Icaria (*Adams*)

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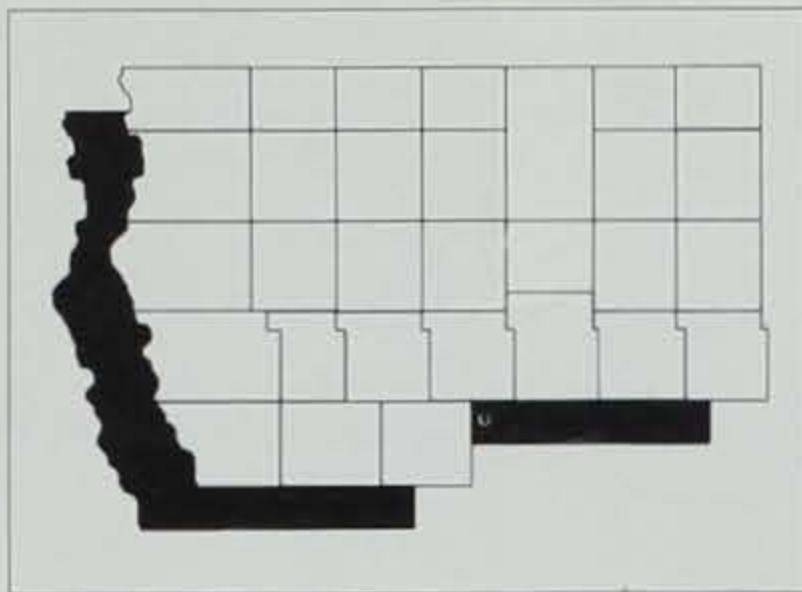
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- Was good in 1992, looks good in 1993.
- Fish sandy points, old river channel.
- Fish artificial reefs. Fish are 14 to 17 inches. Up to 4 pounds.
- New lake, good growth, good catches.
- Eleven- to 13-inch fish.
- Nice fish, big catches.
- Nice-sized fish. Average one-pound, 12-inches.
- Fish continue to grow. They now average 10 inches.
- Fish are definitely keepers.
- Medium-sized, but lots of them.
- Nice fish, big catches.
- Really nice fish, lots of them and not many catfish anglers.
- Very good.
- All sizes up to 5 pounds, occasional 15-pounders.
- Fish small bays in mid-summer. Area biologist was really impressed with catfish seen in 1992 survey. Many 3- to 10-pounders.
- Fish north shore on strong south wind.
- Good numbers, most 2 to 6 pounds. Up to 12 pounds.
- Fish are 2 to 6 pounds.
- Good number.
- Stocked every year.
- Catfish are abundant in all of our rivers.
- Excellent channel and flathead fishing. Lots of 2- to 4-pound fish.
- One-and-one-half to 2-1/2 pounds common.
- Cats 2 to 3 pounds common, good early.
- All sizes to 6 pounds. A few big ones.
- Abundant 12- to 14-inch cage-reared fish.
- Abundant 8- to 9-inch fish easily caught on worms.
- Seven- to 9-inch fish. Becoming more abundant.
- Seven- to 10-inch hard hitters. Good eating.
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Bullhead	West Okoboji (Dickinson)	Numbers are down slightly. Fish may be in deeper water (35 to 45 feet) during warm months. Fish above the thermocline.
	Beeds Lake (Franklin)	Good shoreline access. Lots of 8- to 9-inch fish.

TOXIC CLEANUP DAYS

A Program That Works for Iowa

While it was recognized some time ago that hazardous waste was being discarded in the trash, the significance of the problem has only recently been recognized. In 1981, state programs in Massachusetts, California, Kentucky and Washington started to address this problem. In 1986, Iowa held two pilot Toxic Cleanup Days (TCD). A year later Iowa's Household Hazardous Materials (HHM) program was developed focusing on public education and Toxic Cleanup Days. Presently, all states have addressed the household hazardous materials issue.

by Marilyn Krogulski and
Caroline Gathright-Conner

Why All the Concern ?

Perhaps the greatest threat posed by household hazardous waste is its disposal in sanitary landfills. Upon delivery to landfills, waste is usually compacted, resulting in broken containers and released contents. These materials, combined with precipitation, can create potentially dangerous "leachate," which is capable of contaminating ground and surface waters.

Disposal of household hazardous materials into wastewater systems has resulted in costly damage to plumbing and treatment equipment and the discharge of contaminants into the environment. Toxic materials may destroy the bacterial action of the treatment process and thus allow these substances to be discharged untreated into local surface waters.

The U.S. Environmental Protection Agency estimates that between 25 and 35 percent of households in Iowa use septic tanks. These systems are not equipped to handle hazardous waste. Strong acids and bases, solvents and other chemicals can destroy septic systems and leach into the groundwater.

Hazardous wastes dumped into storm sewers or drainage ditches flow untreated into rivers, lakes and streams presenting serious danger to animals, fish and plants, not to mention humans.

Hazardous wastes disposed of in sinkholes travel directly to underground aquifers. In a study conducted by the Iowa Department of Agriculture and Land Stewardship, a sinkhole near Osage was discovered to contain 450 pesticide containers, 50 of which had remaining pesticide residue.

Improper storage of hazardous wastes has resulted in old containers becoming corroded and leaking toxics into the environment.

Hazardous substances may enter the body through ingestion, inhalation or skin contact. Toxins can be ingested by eating or drinking hazardous substances through contaminated food and water. Toxins can also be inhaled in

the form of gases, vapors and sprays and can be absorbed through skin contact with hazardous substances. Hazardous products containing corrosives or irritants can injure the skin and enter into the body tissues and bloodstream. Some hazardous chemicals can be absorbed through skin contact without damaging the skin.

Children are more susceptible than adults to environmental toxins found in food, air or water. Because they are maturing, children's requirements for food and oxygen are greater and the dose of toxins per pound of body weight is higher.

Chronic exposure to household hazardous wastes in the waste stream pose a potential health threat to sanitation workers. Garbage trucks have burned and sewers exploded because people put flammable wastes in them. Trash haulers have been blinded, seriously burned or overcome with fumes when acids, corrosives or flammables were placed in the garbage through carelessness or ignorance.

Whether improperly disposed of in landfills, septic systems or sinkholes; used improperly; or left unused on shelves or in storage sheds, household hazardous materials can cause environmental problems and pose serious health threats.

What Are We to Do?

In 1986, two pilot Toxic Cleanup Days were held in Iowa. Toxic Cleanup Days are held to prevent household hazardous waste from being improperly disposed. In addition, they provide public awareness and education about household hazardous products.

Funding for the pilot programs was obtained through a grant from the U.S. Environmental Protection Agency and from the DNR's operating fund. Because these programs were successful, consideration was given as to how Iowa could fund the events on an ongoing basis. With passage of the Groundwater Protection Act of 1987,



DNR photo

the Household Hazardous Materials program was established.

Education is the key to properly managing toxic materials. Since the inception of Iowa's HHM program, information has been expanded and refined to meet the needs of consumers. Through the HHM educational program, residents are encouraged to:

- use less toxic alternatives to household hazardous materials;
- purchase only those quantities of toxic materials needed;
- use up existing quantities of toxic materials for their intended use as

▲ Iowa's HHM program provides for consumer education and for the administration of the Toxic Cleanup Days. A retailer is required to have shelf labels under household hazardous products, and informational brochures displayed and available for consumers.



fall of 1991 a new strategy was implemented in the Toxic Cleanup Days sponsored by the DNR. Due to an assessment of the materials brought to events and the rise in participation rates in the spring Toxic Cleanup Days of 1990, changes were made.

Some materials brought to events by conscientious participants included such items as brand new bottles of gasoline anti-freeze additives, gallons of usable rug shampoos, and even hand lotion. The Toxic Cleanup Days had heightened public awareness concerning household hazardous waste. However, the need to help people discern what could be taken and what should be used up or given away was apparent. With large amounts of waste coming in and a limited time period for sorting and packing, many items that could have been properly managed locally were, instead, disposed of at the event, resulting in unnecessary costs.

In 1990, participation rates for the Toxic Cleanup Days increased dramatically from a one to two percent participation rate to a 3.75 percent participation rate. All of the events funded by the state in 1990 except one were halted before the end of the day due to the unexpected participation and limited funds available. One event that was conducted for the entire day had an eight percent participation rate.

At this point, the program was reexamined and revisions were made to provide more efficient service to the households of Iowa. Two significant changes were made.

First the program was revised to require counties having a Toxic Cleanup Day to provide a task force to establish an agenda for proper household hazardous management on an ongoing basis.

Local communities were requested to:

- establish household hazardous materials information in their libraries;
- institute annual school curriculum in their schools regarding household hazardous materials;

- provide ongoing education to the public;

- assist retailers with the display of consumer education materials as mandated by law; and

- provide local sources for assistance with proper household hazardous materials management.

The second change in the program was to hold Toxic Cleanup Days by appointment only, with a two-week call-in period preceding the event. Iowa is the first state nationally to sponsor a Toxic Cleanup Day by appointment.

Toxic Cleanup events without appointments tend to encourage the impression that a Toxic Cleanup Day will be held for the "quick fix" rather than personal responsibility for buying less toxics, using up what is bought and giving leftovers to those who can use

them.

Through the appointment-only system, local volunteers, trained by the DNR, provide a local resource of people knowledgeable about household hazardous materials management. Citizens who use the call-in system learn more about household hazardous materials on a one-on-one basis than by just bringing all their household hazardous materials to a Toxic Cleanup Day. Scheduling appointments results in a fast, even flow of service and a more accurate idea of costs of the event. Farmers with seasonal commitments could make special arrangement for delivery of their wastes.

The 1992 Toxic Cleanup Days conducted by the State were successful in collecting more than 188,684 pounds of hazardous waste at a total cost of \$451,483. An additional 140,471

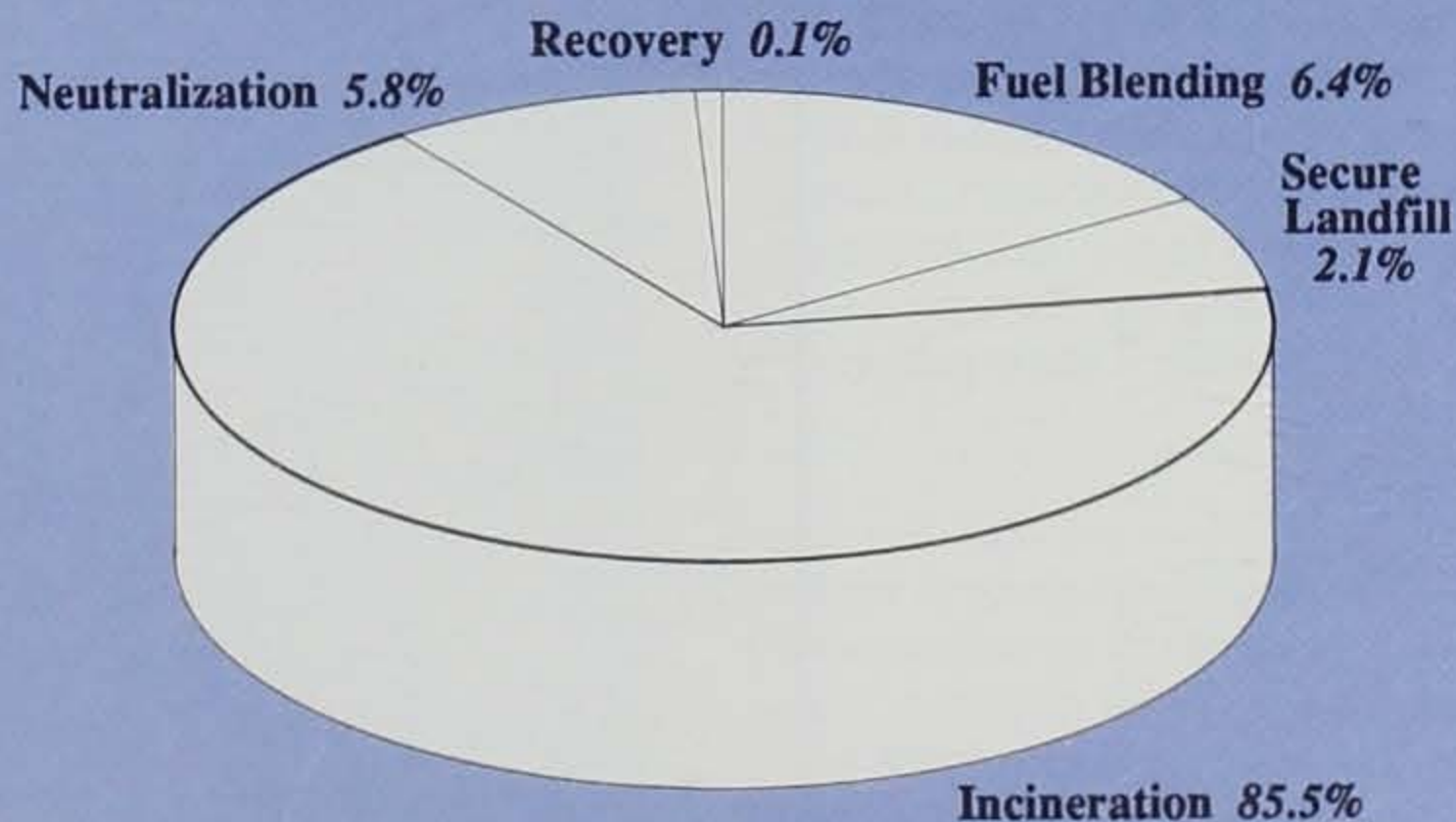
Waste Disposal Methods Used in 1992

Incineration: High temperature (1800°F or greater) destruction of wastes in EPA permitted facilities. Ash generated from this process is placed in a secure chemical landfill.

Fuel Blending/Recovery: Material is commingled with other similar wastes and used as a supplementary fuel in the production of power.

Neutralization: Chemical transformation of wastes to make them less toxic or chemically inert. Residuals from this process are placed in a secure chemical landfill.

Secure Chemical Landfill: Wastes not requiring treatment are placed in landfills that meet or exceed federal, state and local regulations.





DNR photo

▲ Toxic Cleanup Days volunteers collect used motor oil for recycling later.

Participation by County in 1992

<i>County</i>	<i>% of Households Participating</i>	<i>Total Participation</i>	<i>Event Attendance</i>	<i>Telephone Assistance</i>
Allamakee	3	176	161	15
Calhoun	2	116	95	21
Cass	2	127	102	25
Cedar	3	217	97	120
Cerro Gordo	5	1,060	790	270
Clinton**	2	426	381	45
Henry	4	258	190	68
Howard	6	251	162	89
Jones	2	136	110	26
Lee**	2	319	279	40
Louisa	3	135	114	21
Monona	5	93	60	33
Palo Alto	7	300	205	95
Plymouth	3	260	65	195
Polk	5	6,716	6,716	NA*
Sac	4	188	153	35
Shelby	3	159	127	32
Winnebago	6	275	180	95

*Toxic Cleanup Days locally funded; telephone appointments not used.
 **Counties holding two events during 1992.

Running the Show

Each year proposals are submitted to the DNR by counties wishing to hold Toxic Cleanup Days. The proposals are evaluated according to several criteria designed to demonstrate ability to manage and oversee the cleanup day. Counties are selected twice each year to establish spring and fall events.

Request for proposals (RFP) are sent to hazardous waste management firms to solicit a qualified firm to handle the hazardous waste collected at the Toxic Cleanup Days. Information requested in the RFP includes a cost estimate on collection and disposal for the sites selected based on population and expected volumes of waste to be collected, ability to collect waste stream categories brought to Toxic Cleanup Days, previous experience, safety and emergency contingency plans and technical management expertise.

After selecting the host communities, DNR staff provides a one-day workshop for the local Household Hazardous Materials/Toxic Cleanup Day task force and attend additional meetings with the local planning committees. Information, consultation and advice on all aspects of the program are given to local task forces. DNR staff provides ongoing technical assistance during the planning and execution of the event.

The hazardous waste contractor trains all volunteers on safety procedures for the event. Local volunteers provide staffing for the collection of usable and unusable paint, used oil, and used lead-acid batteries. The contractor staffs the hazardous waste area with assistance from local volunteers to unload participant vehicles.

The site for the waste collection is prepared for activity by the hazardous waste contractor. Site preparation can include laying a pro-

TECTIVE flooring of heavy plastic in the waste collection and segregation areas. A border may be established by a berm of absorbent material to prevent accidental spillage from contaminating the area and also to keep unauthorized personnel out of this area. Safety stations, including equipment such as fire extinguishers, eye washes and a first aid kit, are also located in these areas.

Personnel on site include hazardous waste contractor staff, DNR staff and local volunteers. Local volunteers perform a variety of tasks such as greeting participants at the entrance, checking appointments, directing traffic, collecting wastes, bulking paint, taking surveys, distributing educational information, and providing refreshments for volunteers.

Trained contractor personnel segregate the wastes into various Department of Transportation (DOT) hazard categories. Federal regulations on the transportation of hazardous waste require that all of the collected materials be recorded. Only hazardous waste contractor staff sort and record waste.

All participants attending a Toxic Cleanup Day are provided a Household Hazardous Waste Wheel and fact sheets on household hazardous materials. They are greeted at the entrance and their appointments confirmed. Participants are then directed to the appropriate collection area, where they are assisted by local volunteers.

After collection, segregation and packaging, the wastes are transported to the hazardous material contractor's facility for further segregation, and then delivered to final disposal facilities. Each class of hazardous waste collected at a Toxic Cleanup Days event has a particular disposal method (see figure on page 19).

pounds of hazardous waste were collected at a locally sponsored event at a total cost of \$500,000 for 6,716 households.

The 1992 Toxic Cleanup Days conducted by the State provided assistance for 7,941 households. Of these, 6,716 households disposed of their waste properly at a Toxic Cleanup Day. Another 1,225 participants were given instructions by telephone on ways to manage their waste safely and did not need to bring their waste to a Toxic Cleanup Day event. The average volume of hazardous waste collected at rural events was 62 pounds and at urban events 38 pounds. The average cost per pound of hazardous waste was \$2.31.

On the local level, all 20 community operations collected 12,105 gallons of used motor oil, 11,592 gallons of usable paint, 1,549 used lead-acid batteries, 1,557 used oil filters, 7,235 gallons of antifreeze and 2,000 pounds of corrugated cardboard.

In some communities that used the appointment system, used batteries, used oil and usable paint were diverted directly to local outlets for recycling and reuse.

Iowa is progressing in the management of household hazardous wastes. An increasing number of citizens of Iowa are gradually becoming aware of the dangers of household hazardous wastes and the importance of proper management of these products. Continuing education on household hazardous materials will be an important factor in reducing them and not producing them. Providing efficient and safe methods of disposing of these wastes is helping to protect our groundwater and the drinking water it provides.

Marilyn Krogulski and Caroline Gathright-Conner are both environmental specialists for the department's Waste Management Assistance Division.

CORNERING THE MARKET ON ETHANOL-POWERED VEHICLES

The State of Iowa is now operating the largest ethanol-powered fleet in the U.S., setting a precedent at the state and local levels for the rest of the nation.

by Patricia S. Cale

While the debate may continue at the federal level regarding support of the ethanol industry, Iowa is wasting no time in setting a precedent at the state and local levels for the rest of the nation.

With the purchase of 54 specially designed Chevy Lumina and Ford Taurus, the State of Iowa is now operating the largest ethanol-powered fleet in the U.S., Gov. Terry Branstad announced in January.

"Iowa has moved into a leadership role in demonstrating that ethanol can be the fuel of choice for vehicle fleets," said Branstad.

The cars can run on a blend of up to 85 percent ethanol and 15 percent gasoline. A special computer chip, by adjusting for the oxygen content of the fuel, allows them to burn any ethanol/gasoline mixture. The 85 percent ethanol fuel is currently available from a tank at the state vehicle dispatcher in Des Moines, and additional tank

placements are planned to supply the fuel.

According to Dale Schroeder, vehicle dispatcher, "The cars will be used for routine state government business in Des Moines, Ames, Iowa City and Cedar Falls."

Because of ethanol's economic impact, state policy-makers have made government a standard-setter for ethanol use. State government agencies have been required to use the 10 percent ethanol blend since 1987. The recent purchases fulfill a 1991 law requiring that alternatively fueled vehicles make up at least five percent of the new cars bought by state agencies.

In addition to state government, local units, such as cities, counties and school districts, are being asked to use ethanol. The 1991 state law set January 1, 1993, as the date on which this local requirement would begin. The law requires that all gasoline-powered vehicles now burn a 10 percent ethanol blend, and that they display a bumper sticker

Ethanol -- The Performance Fuel

- ✿ Ethanol-blended fuel is comprised of 90 percent gasoline and 10 percent ethanol.
- ✿ Ethanol is recognized as a superior octane enhancer and replacement for lead and other toxic compounds in gasoline. The blending of 10 percent ethanol boosts the octane rating of gasoline by an average of three points.
- ✿ Every major auto manufacturer in the world provides warranty coverage for properly blended ethanol fuel. In fact, General Motors and Chrysler encourage the use of oxygenated fuels.
- ✿ Since its introduction, motorists have driven more than one trillion miles on ethanol blends with satisfactory performance.
- ✿ Ethanol accounts for eight percent of the U.S. gasoline market.
- ✿ Ethanol helps prevent gas line freeze in the winter.
- ✿ Ethanol blends have also been proven to be acceptable in small engines, including outboard motors, snowmobiles, lawn mowers and chain saws. All small engine manufacturers that have tested ethanol approve the use of 10 percent ethanol blends.

Ethanol and Agriculture

- ✿ 416,000 bushels of Iowa corn are processed daily into ethanol, approximately eight percent of Iowa's corn crop.
- ✿ Approximately 150 million bushels of corn are processed annually into ethanol.
- ✿ One bushel of corn produces 2.5 gallons of ethanol, plus:
 - enough corn oil to make two pounds of margarine
 - 15 pounds of carbon dioxide for carbonated beverages
 - enough protein meal to raise three chickens

Ethanol and Cleaner Air

- ✿ Ethanol helps lower carbon monoxide emissions from most cars by more than 25 percent.
- ✿ In terms of oxygen, ethanol is the "cleanest" fuel additive available. A 10-percent ethanol blend contains 3.5 percent oxygen to reduce hazardous carbon monoxide levels.
- ✿ Nearly 40 cities fail to meet the Environmental Protection Agency's standards for carbon monoxide emission levels. These cities are being required to use oxygen-containing additives, like ethanol, to reduce these hazardous emissions.

Ethanol and Energy Security

- ✿ 23.8 gallons of corn-derived ethanol displaces one barrel of imported oil. One acre of corn produces the equivalent of 10 barrels of oil.
- ✿ The 950 million gallons of ethanol produced in the U.S. in 1991 reduced oil imports by more than 40 million barrels.
- ✿ Taxes paid to cover military and foreign aid costs to protect foreign oil places the true cost of gasoline in excess of \$4 per gallon, according to a General Accounting Office study.
- ✿ The combination of reduced oil imports and increased co-product exports resulting from ethanol production reduced the U.S. trade deficit last year by more than \$6 billion.

Iowa Ethanol Industry

- ✿ More than 12,000 jobs are affected by the production of ethanol in Iowa, including 2,550 in the corn processing industry associated with ethanol production.
- ✿ Iowa produces 25 percent of the nation's ethanol, second only to Illinois, which produces 45 percent.
- ✿ More than 33 percent of all the gasoline sold in Iowa contains 10 percent ethanol.
- ✿ Iowa's ethanol production capacity is expected to reach 375 million gallons in 1993.
- ✿ Ethanol production generates \$1.5 billion in economic activity for Iowa.
- ✿ Fuel ethanol generates 20 percent more usable energy than its production requires. Approximately 56,000 BTUs are required to produce one gallon of fuel ethanol. However, one gallon of ethanol produces at least 76,000 BTUs.

advertising that fact to the general public.

A group of state agencies and local government associations organized an advisory committee to identify, and help solve, any problems local governments might have in following the new law.

The committee -- comprised of representatives of the Iowa departments of Natural Resources, Transportation, Education, Agriculture and Land Stewardship, and Economic Development; of the League of Iowa Municipalities and the Iowa State Association of Counties; and the Iowa Corn Promotion Board -- conducted a survey of city, county and school officials. The survey results found that respondents had several major concerns --

-- 28 percent were concerned about using ethanol in older model vehicles;

-- 23 percent were concerned about additional costs to purchase ethanol-blended fuel;

-- 16 percent disliked being mandated by the state to use ethanol;

-- 15 percent were concerned about the effects of ethanol on small engines such as lawnmowers and chain saws; and

-- 12 percent were concerned about having to travel outside their city limits to buy ethanol.

The committee is working to address these concerns by distributing information about ethanol use, charting the location of all stations selling ethanol blends and gathering data on converting to ethanol blends in small engines and on underground storage tanks. It is to Iowa's benefit to set an example for the nation that ethanol works. Iowa has a major stake in the ethanol industry.

Patricia S. Cale is an energy information specialist for the department in Des Moines.

**It is to Iowa's benefit to set an example
for the nation that ethanol works.**

**Iowa has a major stake
in the ethanol industry.**



Illustration by Kay Irelan

DRUMMING UP DRUM

While fewer than one percent of Iowa's anglers profess a preference for freshwater drum, or what are locally called sheep-head, it remains a fact that drum are the fourth most commonly caught fish on the Mississippi River. Their popularity stems from their relatively plentiful abundance, large size, willingness to bite on a variety of baits and their reputation as a fighter. They are also excellent table fare, and an epicurean delight.

Fish may be taken at any time of the day as well as throughout the year; however, the best fishing usually occurs during the warm summer months of July and August, a time when many other fish species prove difficult to catch.

Popular areas for river anglers to pursue this worthy quarry are found on or near wing dams and along the main channel border. A small current, though not mandatory, may improve your catch. Success tends to be pretty uniform along the entire Mississippi River; however, interest in drum fishing appears to be slightly greater in more downstream pools, particularly below pool 16.

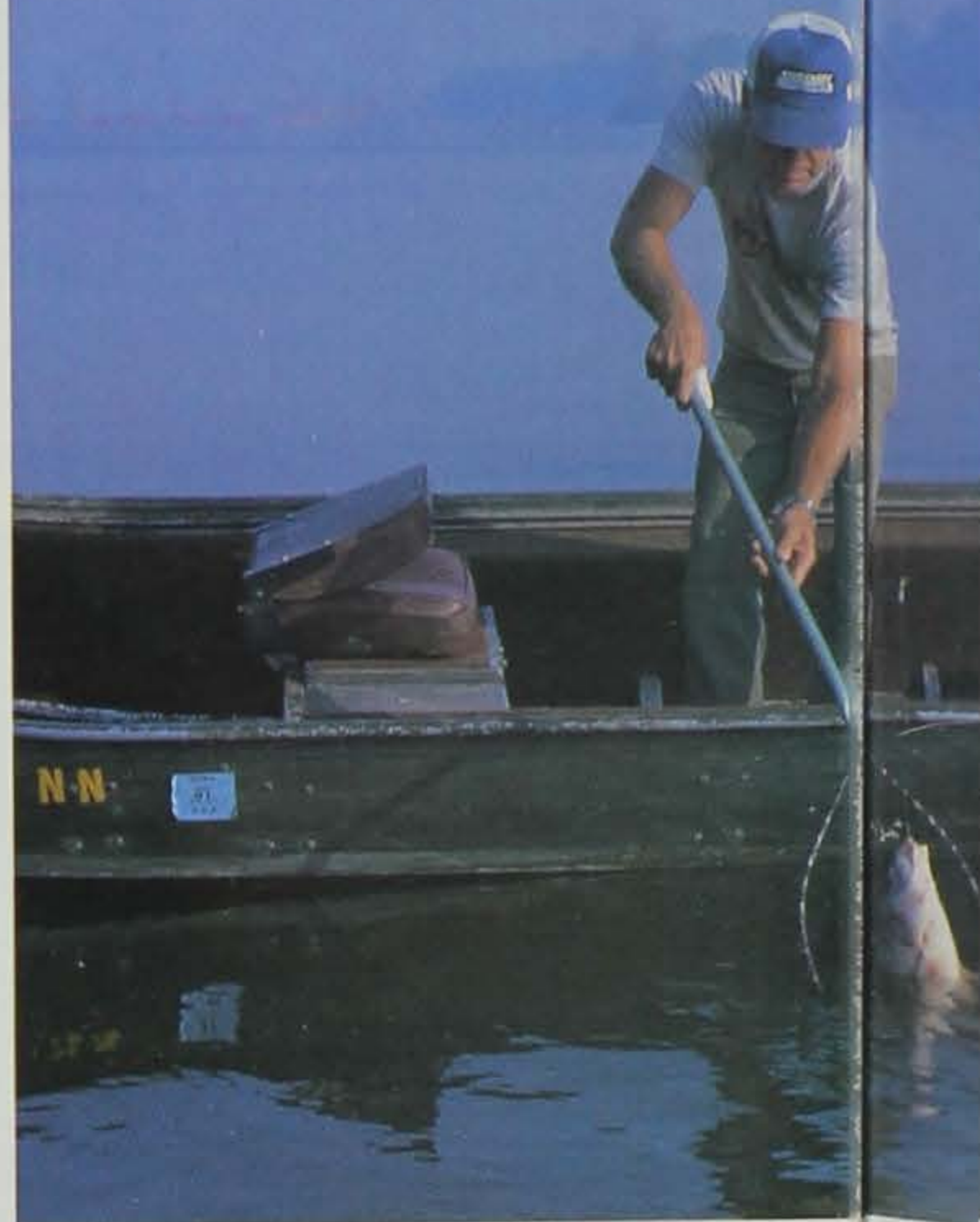
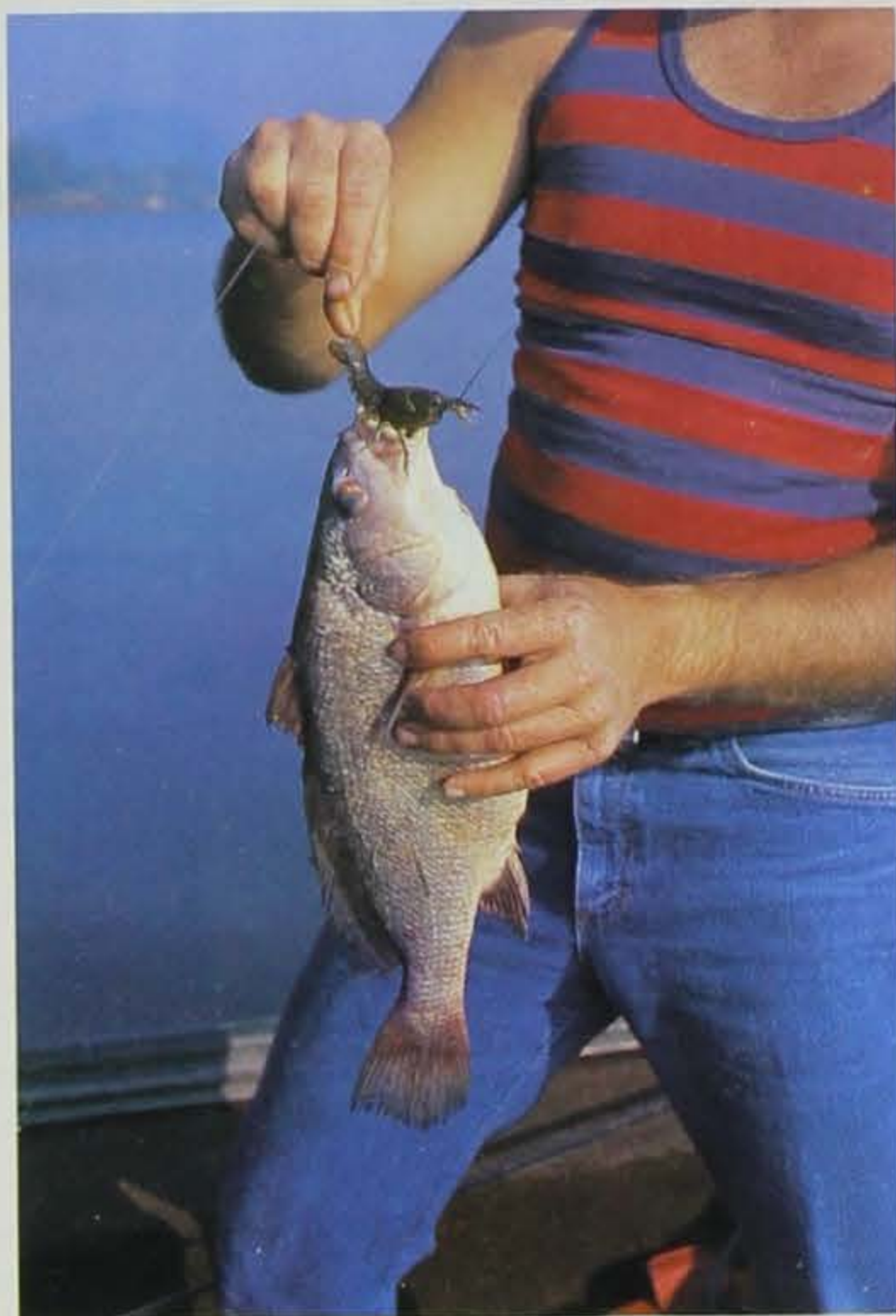
Freshwater drum are often taken by walleye anglers, and during the initial fight are easily mistaken for an aggressive walleye.

Article by
Thomas W. Gengerke
Photos by Ron Johnson

Many fish are taken incidental to other species, serving to illustrate the wide variety of baits, as well as tactics, which might prove productive for ardent drum anglers. Virtually everything from crankbaits to crawlers will produce fish at one time or another. The most consistent live baits are peeled crayfish tails and night crawlers; however, clams, catalpa worms, minnows and leeches also work well. On the Mississippi River, leadhead jigs, either haired or bare, and tipped with light-colored twister tails (white, yellow, orange or chartreuse) are proven combinations. The jig must be heavy enough, 1/8 to 1/4 ounce, to work properly in whatever current you are encountering. Try not to use a jig that is so heavy it will lodge in rock crevices.

Freshwater drum are often taken by walleye anglers, and during the initial fight are easily mistaken for an aggressive walleye. Drum, however, are usually larger and hit the lure harder. They tend to tire more quickly than a walleye. It is important to recognize that drum inhabit many of the same structural areas that walleye frequent; rock reefs, points and sharp

▶ Almost any kind of bait or tackle works at one time or another when fishing for drum. Crawfish or peeled crawfish tails are always a good bet.



An added bonus for drum anglers is the opportunity to collect "lucky stones . . ."

breaks or steeply sloping contours. Mud flats are also commonly inhabited by freshwater drum who are feeding on aquatic invertebrates.

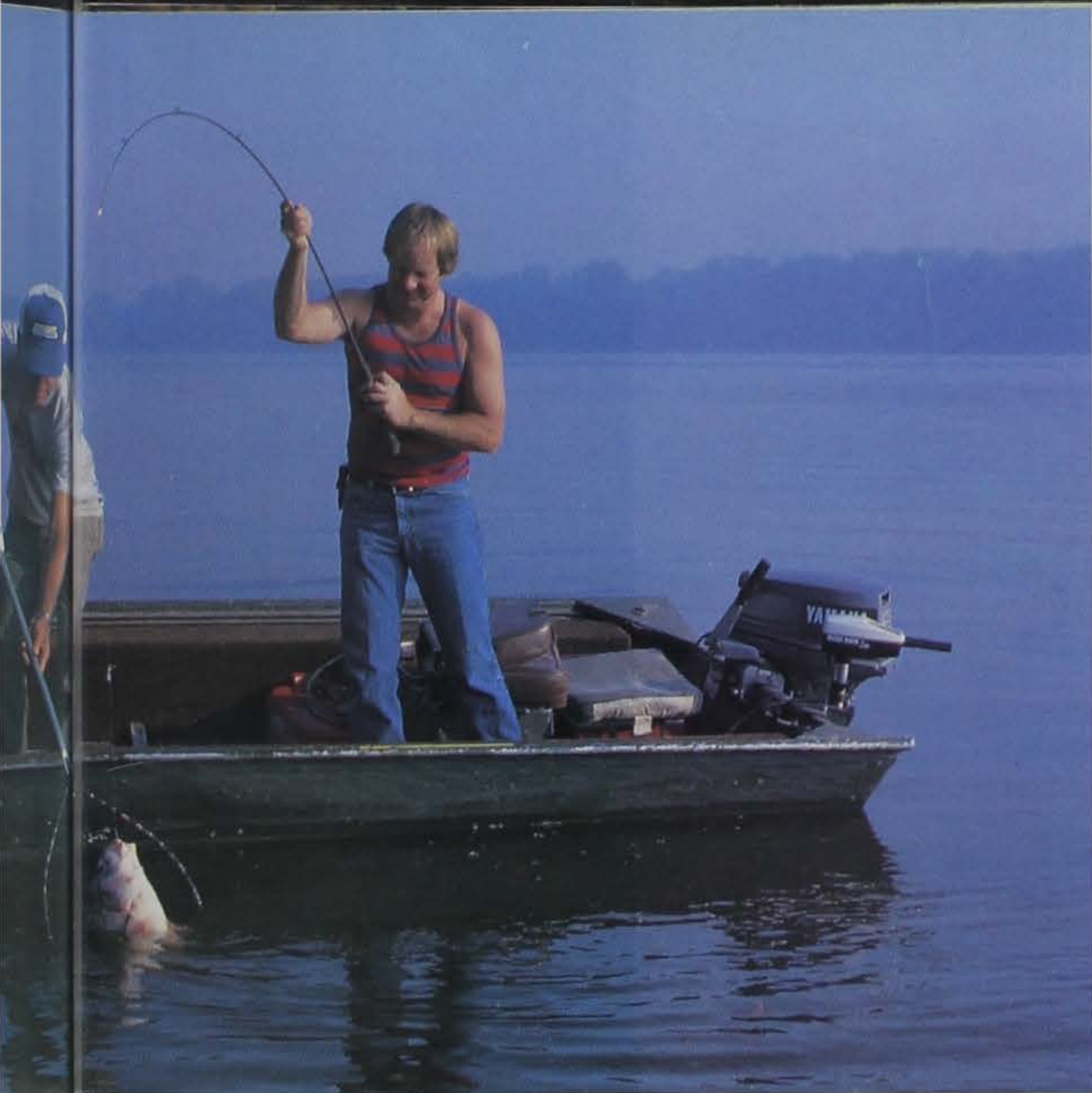
Large populations of freshwater drum are also found in Spirit Lake and East and West Okoboji in Dickinson County and Saylorville Reservoir in Polk County. While few anglers actually pursue these fish, a substantial number are harvested each year. The present state record, 46 pounds, was taken from Spirit Lake. This fish is only 8-1/2 pounds less than the world record. Again, the best time for drum angling in these waters is from late June through August when lake waters are warm and fish are actively feeding.

It is virtually impossible to fish a peeled crayfish tail on a rocky shoreline or reef and not catch a drum. Many anglers prefer a straight shanked No. 8 hook tied directly to six- or eight-pound test line. The bait should be kept at or near the bottom. A small split shot placed six to eight inches above the hook will facilitate finding

the bottom and maintaining proper position. Freshwater drum strike hard; therefore, the hook should be set immediately upon sensing a bite. A small leadhead jig, about 1/8 ounce, also works well, especially if it is tipped with a soft-bodied twister tail. Any of the light colors will work, but purple will often outfish the other colors in these lake environments.

An added bonus for drum anglers is the opportunity to collect "lucky stones" which are large circular, pearl-colored ear bones with a distinctive L-shaped marking on the surface (hence, the name lucky stone). These stones make interesting conversation pieces and can even be used for barter -- depending upon your age -- as well as in "lucky" jewelry.

Thomas W. Gengerke is the department's regional fisheries supervisor for northwest Iowa.





While few Iowa anglers actually pursue freshwater drum, a substantial number are harvested each year.





Mixed plantings of pine and hardwoods have multiple benefits. They reduce sod competition, force hardwoods to grow straight and tall, provide wildlife cover and offer aesthetic diversity.





RESERVING HARDWOOD FORESTS

The familiar call of the bobwhite quail and the sweet scent of autumn olive blossoms emanate from the stand of 30-foot tall walnut trees that were planted only 13 years ago. These rolling hills of LeRoy Township near Belle Plaine were farmed until the mid-1970s. Today trees have replaced corn and beans on this 120-acre farm.

"A patient of mine told me about a family farm for sale," said the owner of the farm, a Cedar Rapids doctor. "I looked at the farm, and I was impressed. I've had a life-long dream of owning my own Walden Pond. I like black walnut, and I enjoy the associated benefits of growing trees."

Tree plantings on the farm now include stands of walnut

Article by Robert Hibbs
and Gail Kantak

Photos by Robert Hibbs



with autumn olive, walnut with pine and walnut with oak. Trees planted in 1980 are now 20 to 30 feet tall. A woodland community is beginning to develop and native woodland wildflowers should appear in a few more years. Only the prime agricultural ground, less than 10 acres of the 120-acre farm, still remains in rowcrop production. With such success, this landowner was ready to create more woodlands.

A new feature of the federal CRP (Conservation Reserve Program) now makes it possible for landowners to create additional forests on marginal and highly erodible land. There are more than two million acres of CRP in Iowa; much of which is eligible for conversion to hardwood forests.

The doctor later purchased an adjacent farm with an existing CRP contract. Like most CRP contracts in Iowa, the agricultural fields had been seeded with grass. Under the CRP program, the federal government makes an annual rental payment based upon the landowner's bid. Grass contracts are enrolled for 10 years while conversions to trees are eligible for up to 15 years. When the CRP opportunity came to plant trees and extend payments from 10 to 15 years, he added another 160 acres to his tree planting plans. Forty acres of trees were planted last fall, another 70 are planned for this spring, and an additional 50 are planned for this fall.

The CRP program allows plantings larger than 10 acres to be planted over a three-year period. At least half of the trees must be hardwoods; evergreens may be used as "trainers" and wildlife cover. The CRP program will share 50 percent of the cost of the trees and planting, minus the original payment



◀ **Steve Swinonos, district forester at Anamosa, measures a walnut tree planted in 1969 by Gene Frye, a tree farmer from Marion. The 24-year-old tree measures 13.5 inches in diameter.**



◀ **CRP conversions promote the planting of hardwood trees.**

▼ **The use of tree shelters is becoming increasingly popular. They may be cost-shared on conversion practices.**



made to establish the grass cover. The maximum cost-share payment to establish trees under this program is \$210 per acre.

More and more landowners are finding that converting to trees on highly erodible, marginal sites makes good economic and environmental sense. Not only are they receiving CRP payments over a longer period, they are investing in a profitable and renewable resource,

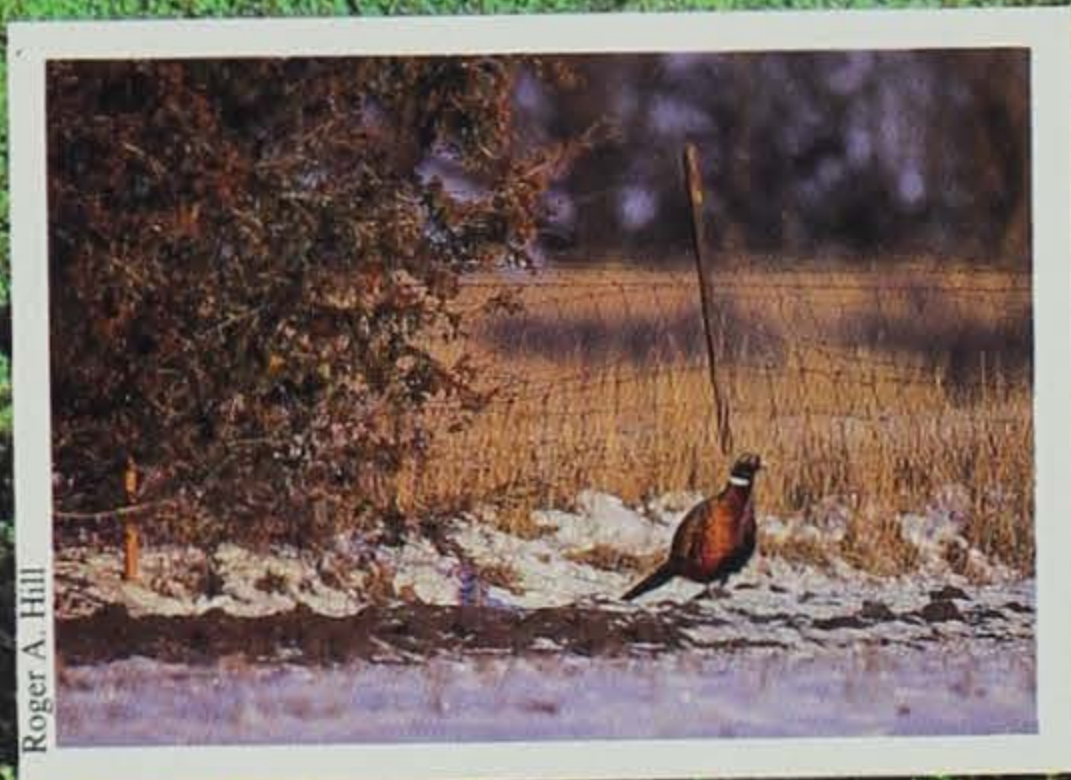
creating wildlife habitat and diversity, and enhancing water quality.

Iowa is gaining thousands of woodland acres as landowners convert their CRP contracts to trees. For anyone considering such a conversion, prompt action is needed. Conversions must be made before contracts expire, which begin in 1995. With the uncertainty of future farm legislation, landowners are advised to take advantage of current

CRP rules. Anyone wanting more information may contact the State Forester's Office, Wallace State Office Building, Des Moines, Iowa 50319-0034.

Robert Hibbs is a district forester in Marshalltown.

Gail Kantak is a district forester in Humboldt.



Roger A. Hill

Roger A. Hill

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1992 Fish Awards

The listing below includes the top 10 entries and released of each species taken during 1992.
Current state records are highlighted.

WEIGHT/LENGTH	DATE	ANGLER/HOMETOWN	LOCATION/COUNTY
BASS, LARGEMOUTH (MINIMUM -- 7 LBS. OR 22")			
10 lbs. 12 ozs.--23-1/2"	05/84	Patricia Zaerr, Davenport	Lake Fisher, Davis
9 lbs. 9 ozs.	06/10/92	Ron Carter, Fairfield	Farm Pond, Jefferson
9 lbs. 9 ozs.	04/24/92	Craig Ham, Waterloo	Lake Hawthorn, Mahaska
9 lbs.	07/20/92	Roger Frese, Bridgewater	Farm Pond, Adair
8 lbs. 1 oz.	10/03/92	Todd Sawyer, Boone	Farm Pond, Decatur
8 lbs.	10/10/92	Roger D. Buchholz, Waterloo	Lake Ponderosa, Poweshiek
8 lbs.	11/08/92	Ed Murray, Council Bluffs	Lake Neyati, Pottawattamie
8 lbs.	04/05/92	James G.E. McCalla, Clarinda	Farm Pond, Page
8 lbs.	10/01/92	Don Swingen, Waterloo	George Wyth Lake, Black Hawk
7 lbs. 8 ozs.	03/23/92	Aaron W. Roe, Blakesburg	Farm Pond, Wapello
7 lbs. 8 ozs.	08/17/92	Ivan E. White, Lenox	Windmill Lake, Taylor
7 lbs. 8 ozs.	06/16/92	Daniel P. Allen, Ottumwa	City Reservoir, Wapello
7 lbs. 8 ozs.	05/03/92	Roger Stanley, Sergeant Bluff	Snyder Bend, Woodbury
7 lbs. 8 ozs.	06/26/92	Jimmy Buckley, Ft. Dodge	Briggs Woods, Hamilton
Released--24"	07/06/92	Robert D. Halverson, Soldier	Farm Pond, Monona
Released--23-3/4"	05/19/92	Bryce Morgan, Sergeant Bluff	Farm Pond, Woodbury
Released--23"	09/05/92	Randy Gardner, Cedar Rapids	Farm Pond, Keokuk
Released--23"	04/03/92	Steve Walker, Red Oak	Pond, Montgomery
Released--22-1/2"	04/26/92	Michael Todd Olson, Carlisle	Farm Pond, Warren
Released--22-1/4"	05/11/92	Douglas P. Knox, Marshalltown	Farm Pond, Jasper
Released--22-1/4"	05/10/92	Jeff Chlupach, Slater	Farm Pond, Story
Released--22"	02/29/92	Steve Walker, Red Oak	Pond, Montgomery
Released--22"	03/04/92	Steve Walker, Red Oak	Pond, Montgomery
Released--22"	10/01/92	Daniel Putz, Manchester	Maquoketa River, Delaware
Released--22"	06/28/92	Mark Mitchell, Estherville	Big Spirit, Dickinson
Released--22"	10/18/92	Jeff Renner, Denison	Farm Pond, Crawford

BASS, OCEAN-STRIPED (MINIMUM -- 5 LBS.)

9 lbs. 4 ozs.--29"	07/83	Richard Pauley, Mystic	Lake Rathbun, Appanoose
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No 1992 entries.

BASS, ROCK (MINIMUM -- 1 LB.)

1 lb. 8 ozs.--10-1/2"	06/73	Jim Driscoll, Dubuque	Mississippi River, Dubuque
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No 1992 entries.

BASS, SMALLMOUTH (MINIMUM -- 4 LBS. OR 20")

7 lbs. 12 ozs.--22-3/4"	09/90	Rick Gray, Dickinson	West Okoboji Lake, Dickinson
7 lbs. 8 ozs.	09/20/92	Jeff Lenz, Milford	West Okoboji Lake, Dickinson
5 lbs. 12 ozs.	06/02/92	Paul Olson, Glidden	West Okoboji Lake, Dickinson
5 lbs. 1 oz.	04/03/92	Dwane Krogman, Lismore, MN	West Okoboji Lake, Dickinson
5 lbs.	06/01/92	Aaron Green, Guttenberg	West Okoboji Lake, Dickinson
4 lbs. 13 ozs.	05/19/92	Robert Fitzgerald, Milford	West Okoboji Lake, Dickinson
4 lbs. 12 ozs.	08/14/92	Shaely Stoner, Oslo, MN	West Okoboji Lake, Dickinson

4 lbs. 12 ozs.	04/04/92	Dale Peters, Spencer	Spirit Lake, Dickinson
4 lbs. 12 ozs.	02/01/92	Scott Drown, Mountain Lake, MN	West Okoboji Lake, Dickinson
4 lbs. 10 ozs.	04/04/92	Terry Wackerbath, Spirit Lake	Spirit Lake, Dickinson
4 lbs. 10 ozs.	01/26/92	Rod Douma, Sanborn	West Okoboji Lake, Dickinson
Released--22"	08/06/92	Mark Mitchell, Estherville	West Okoboji Lake, Dickinson
Released--22"	09/07/92	William R. Hanson, Pocahontas	Okoboji Lake, Dickinson
Released--21"	09/06/92	Kevin Scuffham, Storm Lake	Spirit Lake, Dickinson
Released--21"	09/07/92	William R. Hanson, Pocahontas	Okoboji Lake, Dickinson
Released--21"	08/29/92	Arnold Zerke, Estherville	West Okoboji Lake, Dickinson
Released--21"	09/17/92	Jeff Gardner, Cedar Rapids	Maquoketa River, Delaware
Released--21"	09/15/92	Mark Woldruff, Cedar Rapids	Maquoketa River, Delaware
Released--21"	09/27/92	Randy Gardner, Cedar Rapids	Maquoketa River, Delaware
Released--21"	09/10/92	Jeff Lenz, Milford	West Okoboji Lake, Dickinson
Released--21"	08/16/92	Arlys Mitchell, Estherville	
Released--21"	09/07/92	William R. Hanson, Pocahontas	Okoboji Lake, Dickinson
Released--21"	09/19/92	Ronald L. Wasmund, Spencer	West Okoboji Lake, Dickinson
Released--21"	09/07/92	William R. Hanson, Pocahontas	Okoboji Lake, Dickinson
Released--20-1/2"	10/26/92	Dick Crail, Algona	Big Spirit Lake, Dickinson
Released--20-1/2"	06/09/92	Howard Dean, Sloan	West Okoboji Lake, Dickinson
Released--20-1/4"	09/19/92	Kendall Mead, Spencer	West Okoboji Lake, Dickinson
Released--20"	08/15/92	Dwane Krogman, Lismore, MN	West Okoboji Lake, Dickinson
Released--20"	08/16/92	Arlys Mitchell, Estherville	West Okoboji Lake, Dickinson
Released--20"	08/16/92	Arlys Mitchell, Estherville	West Okoboji Lake, Dickinson
Released--20"	09/07/92	William R. Hanson, Pocahontas	Okoboji Lake, Dickinson
Released--20"	07/23/92	Jack Lenz, Holstein	West Okoboji Lake, Dickinson

BASS, WHITE (MINIMUM -- 2-1/2 LBS.)

3 lbs. 14 ozs.--20"	05/72	Bill Born, Milford	West Okoboji Lake, Dickinson
2 lbs. 14 ozs.	05/18/92	Jack F. Smith, Council Bluffs	Okoboji Lake, Dickinson
2 lbs. 12 ozs.	01/06/92	Irv Schnell, Milford	West Okoboji Lake, Dickinson
2 lbs. 12 ozs.	06/11/92	Steven A. Smothers, Marion	Cedar River, Linn
2 lbs. 10 ozs.	06/04/92	Fred Steffen, Bettendorf	Mississippi River, Scott
2 lbs. 10 ozs.	06/09/92	Roy Fuller, Springville	Coralville Reservoir, Johnson
2 lbs. 9 ozs.	06/09/92	Roy Fuller, Springville	Coralville Reservoir, Johnson
2 lbs. 9 ozs.	01/26/92	Clarence Bendlin, Spencer	West Okoboji Lake, Dickinson
2 lbs. 9 ozs.	02/01/92	Bill Ferns, Spirit Lake	West Okoboji Lake, Dickinson
2 lbs. 8 ozs.	09/12/92	Tina N. Murray, Rochelle, IL	Mississippi River, Jackson

BASS, WIPER (MINIMUM -- 4 LBS.)

15 lbs. 6 ozs.--30-1/2"	09/08/92	Ronald B. Fredrickson, Madrid	Des Moines River, Polk
10 lbs. 8 ozs.	05/26/92	Danie J. Borchardt, Mason City	Saylorville Lake, Polk
10 lbs.	04/11/92	Dave McConnell, Boone	Des Moines River, Boone
9 lbs. 4 ozs.	07/23/92	Ron Miller, Monroe	Des Moines River, Marion
8 lbs. 12 ozs.	06/07/92	Dale Pretzer, Newton	Des Moines River, Marion
8 lbs.	05/16/92	Jeff Eggleston, Urbandale	Des Moines River, Polk
6 lbs. 8 ozs.	05/16/92	Jeff Eggleston, Urbandale	Des Moines River, Polk
6 lbs. 5 ozs.	08/17/92	Guy Powell, Des Moines	Des Moines River, Polk
6 lbs. 1 oz.	05/02/92	Floyd Bolton, Hazel Green, WI	Mississippi River, Clayton
5 lbs. 7 ozs.	05/09/92	Kory Krebs, Maxwell	Saylorville Lake, Polk
4 lbs. 4 ozs.	09/04/92	Fred Steffen, Bettendorf	Mississippi River, Scott

BASS, YELLOW (MINIMUM -- 3/4 LB.)

1 lb. 9 ozs.--14-1/2"	04/91	Bill Campbell, Council Bluffs	Lake Manawa, Pottawattamie
1 lb. 3 ozs.	11/15/92	David McDunn, Missouri Valley	Farm Pond, Pottawattamie

1 lb. 1 oz.	05/01/92	Tom Dryden, Carroll	Black Hawk Lake, Sac
1 lb.	1992	Rick Burden, Omaha, NE	Lake Manawa, Pottawattamie
15 ozs.	05/10/92	Bill Hott, Lake View	Arrowhead Lake, Sac
15 ozs.	07/16/92	Roger K. Jones, Council Bluffs	Lake Manawa, Pottawattamie
14 ozs.	05/01/92	Bob Erps, Arcadia	Black Hawk Lake, Sac
14 ozs.	05/01/92	Bill Hott, Lake View	Black Hawk Lake, Sac
13 ozs.	05/01/92	Bill Hott, Lake View	Black Hawk Lake, Sac
13 ozs.	05/03/92	Ross Schvette, Arcadia	Black Hawk Lake, Sac
12 ozs.	05/08/92	David Heue, Lytton	Black Hawk Lake, Sac
12 ozs.	05/03/92	Ross Schvette, Arcadia	Black Hawk Lake, Sac

BLUEGILL (MINIMUM -- 1 LB.)

3 lbs. 2 ozs.--12-7/8"	07/86	Phil Algreen, Earlham	Farm Pond, Madison
2 lbs. 6 ozs.	06/07/92	Curtis Sullivan, Missouri Valley	Farm Pond, Pottawattamie
2 lbs. 2 ozs.	07/04/92	Don Carrick, Bayard	Farm Pond, Guthrie
2 lbs.	05/09/92	John Haut, Menomonee Falls, WI	Davis Lake, Wayne
1 lb. 14 ozs.	10/10/92	Janice Brustkern, Evansdale	Farm Pond, Howard
1 lb. 12 ozs.	05/31/92	Patrick Heinz, Edwards, IL	Lake Geode, Henry
1 lb. 10 ozs.	05/21/92	Tom Fleming, Cedar Rapids	Hannen Lake, Benton
1 lb. 8 ozs.	01/26/92	Jeff Duncan, West Des Moines	Farm Pond, Polk
1 lb. 8 ozs.	06/06/92	Edith Hoffman, Dedham	Farm Pond, Guthrie
1 lb. 8 ozs.	07/08/92	Aaron Smithson, Missouri Valley	Farm Pond, Harrison
1 lb. 8 ozs.	05/10/92	Evelyn Fleming, Cedar Rapids	Hannen Lake, Benton
1 lb. 8 ozs.	02/10/92	Robert McCorkle, Alburnett	Farm Pond, Johnson

BOWFIN/DOGFISH (MINIMUM -- 5 LBS.)

10 lbs. 12 ozs.--31"	06/28/92	Craig L. Carlson, Columbus Junction	Lake Odessa, Louisa
8 lbs. 12 ozs.	04/04/92	John W. Kaufman, Muscatine	Lake Odessa, Louisa
8 lbs. 10 ozs.	10/02/92	Patrick Lee Kutsch, Dubuque	Mississippi River, Dubuque
7 lbs. 8 ozs.	09/16/92	Larry Joe Templeton, Spirit Lake	West Okobojo Lake, Dickinson
7 lbs.	07/23/92	Scott Hamel, Dubuque	Green Island, Jackson
6 lbs. 10 ozs.	05/24/92	Kenneth C. Huesmann, Stockton	Lake Odessa, Louisa
6 lbs. 8 ozs.	05/18/92	Dan C. Freiburger, Dubuque	Mississippi Backwater, Dubuque
6 lbs. 4 ozs.	04/11/92	Paul Christianson, Gutténberg	Grimes Lake, Clayton
5 lbs. 8 ozs.	08/13/92	Barbara Bodnar, Clinton	Green Island Bottoms, Jackson

BUFFALO (MINIMUM -- 20 LBS.)

51 lbs.--45"	04/86	Jeff Duis, Sibley	East Okobojo Lake, Dickinson
32 lbs.	08/06/92	Joyce E. Hedding, Ft. Dodge	Silver Lake, Dickinson
26 lbs. 9 ozs.	06/12/92	John Christan, Ames	Clear Lake, Cerro Gordo
25 lbs. 6 ozs.	06/11/92	Carl Hutchens, Mason City	Clear Lake, Cerro Gordo
25 lbs. 2 ozs.	09/05/92	Carol Bliss, Andrew	Mississippi River, Jackson
25 lbs.	06/01/92	Mike Swanson, Biloxi, MS	East Okobojo Lake, Dickinson

BULLHEAD (MINIMUM -- 2-1/2 LBS.)

5 lbs. 8 ozs.--22"	1989	Michael Hurd, Elsworth	Farm Pond, Hamilton
3 lbs. 4 ozs.	07/08/92	F. Ray Davis, Jr., West Des Moines	Farm Pond, Madison
3 lbs.	06/20/92	Matthew Fox, Paton	Farm Pond, Greene

CARP (MINIMUM -- 25 LBS.)

50 lbs.--44"	05/69	Fred Hougland, Glenwood	Glenwood Lake, Mills
47 lbs. 6 ozs.	05/19/92	Dick Frease, Spirit Lake	Big Spirit Lake, Dickinson
32 lbs. 7 ozs.	06/12/92	Gary Lee Burmood, Estherville	Spirit Lake, Dickinson
28 lbs. 9 ozs.	05/17/92	Joel Stephen Ihnen, Ames	East Okobojo Lake, Dickinson

28 lbs.	05/17/92	Ron Burmood, Estherville	East Okobojo Lake, Dickinson
28 lbs.	05/17/92	Joel Stephen Ihnen, Ames	East Okobojo Lake, Dickinson
26 lbs. 5 ozs.	06/20/92	Gary Burmood, Estherville	Spirit Lake, Dickinson
26 lbs. 1 oz.	06/20/92	Gary Burmood, Estherville	Spirit Lake, Dickinson
25 lbs. 12 ozs.	05/14/92	Toby Simpson, Okobojo	East Okobojo Lake, Dickinson
25 lbs. 6 ozs.	09/02/92	Chris Martens, Columbus, NE	East Okobojo Lake, Dickinson

CATFISH, BLUE (MINIMUM -- 20 LBS.)

40 lbs.	06/89	John DeLong, Jr., Missouri Valley	Missouri River, Harrison
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No 1992 entries.

CATFISH, CHANNEL (MINIMUM -- 15 LBS.)

31 lbs.--37"	06/86	Kyle Gettschalk, Lowden	Gravel Pit, Cedar
29 lbs.	05/16/92	Blaine Martin, Bonaparte	Des Moines River, Lee
27 lbs. 5 ozs.	09/17/92	Vernelle P. Riedeman, Paullina	West Okobojo Lake, Dickinson
27 lbs. 5 ozs.	09/17/92	Vernelle Riedemann, Paullina	West Okobojo Lake, Dickinson
26 lbs. 2 ozs.	06/21/92	Edward J. Dillon, Cedar Rapids	Cedar River, Linn
25 lbs. 2 ozs.	03/28/92	Clarence Tracht, Fairfield	Farm Pond, Jefferson
20 lbs. 12 ozs.	08/27/92	Kevin Guritz, Fairmont, MN	West Okobojo Lake, Dickinson
18 lbs. 2 ozs.	09/09/92	John McGrath, Eagle Grove	Gravel Pit, Hamilton
17 lbs. 13 ozs.	09/09/92	Lori Bowers, Essex	East Okobojo Lake, Dickinson
17 lbs. 6 ozs.	06/26/92	Floyd Breidinger, Milford	West Okobojo Lake, Dickinson
16 lbs. 8 ozs.	09/04/92	Ken Rimmer, Cherokee	East Okobojo Lake, Dickinson

CATFISH, FLATHEAD (MINIMUM -- 20 LBS.)

81 lbs.--52"	06/58	Joe Baze, Chariton	Lake Ellis, Lucas
62 lbs. 3 ozs.	06/26/92	Joe Kauffman, Wayland	Skunk River, Washington
50 lbs. 8 ozs.	06/12/92	Marvin (Fritz) Ahren, Boone	Des Moines River, Boone
45 lbs.	02/27/92	Kyle Anderson, West Des Moines	Saylorville Dam, Polk
44 lbs.	09/10/92	Ian Overland, Boone	Des Moines River, Boone
42 lbs.	05/22/92	David L. Oswald, High Amana	Iowa River, Iowa
42 lbs.	10/05/92	Scott Mitchell, Des Moines	Raccoon River, Polk
41 lbs.	1992	Scott Wisgerhof, Newton	Farm Pond, Jasper
40 lbs. 7 ozs.	06/21/92	Rod Cofer, Barnum	Des Moines River, Webster
40 lbs.	06/24/92	Ken Martin, Farmington	Des Moines River, Lee
39 lbs. 8 ozs.	07/28/92	Bryan Roarson, Elmore	Missouri River, Monona

CRAPPIE (MINIMUM -- 2 LBS.)

4 lbs. 9 ozs.--21-1/4"	05/81	Ted Trowbridge, Marshalltown	Green Castle Lake, Marshall
3 lbs. 4 ozs.	05/10/92	Clarence O. Ward, Council Bluffs	Lake Icaria, Adams
3 lbs. 3 ozs.	10/20/92	Michael Brogan, Solon	Farm Pond, Johnson
3 lbs. 2 ozs.	05/15/92	Kent Williams, Des Moines	Farm Pond, Warren
3 lbs. 2 ozs.	07/26/92	Alan Boykin, Omaha, NE	Hamburg Interstate Pond, Mills
3 lbs. 2 ozs.	05/12/92	Bruce D. Hardiman, Council Bluffs	Lake Icaria, Adams
2 lbs. 14 ozs.	06/09/92	Roger De Moss, Knoxville	Lake Red Rock, Marion
2 lbs. 14 ozs.	06/10/92	Andrew Nowasell, Hardin	Farm Pond, Hardin
2 lbs. 12 ozs.	04/12/92	Michael D. Brogan, Solon	Farm Pond, Johnson
2 lbs. 11 ozs.	05/14/92	Tim Wiseman, Algona	Gravel Pit, Kossuth
2 lbs. 10 ozs.	04/14/92	Ron Ritchie, Marengo	Sand Pit, Iowa
2 lbs. 10 ozs.	05/08/92	Mark Perkins, Council Bluffs	Big Lake, Pottawattamie
2 lbs. 10 ozs.	05/13/92	Glen Findley, Villisca	Viking Lake, Montgomery
2 lbs. 10 ozs.	08/09/92	John Baty, Moravia	Pond, Appanoose

FRESHWATER DRUM (MINIMUM -- 15 LBS.)

46 lbs.--38-1/2"	10/62	R. F. Farra, Clarion	Spirit Lake, Dickinson
26 lbs.	07/09/92	Luke Wohlers, Dyersville	Mississippi River, Clayton
17 lbs. 2 ozs.	08/21/92	Paul Ptacek, Elma	Mississippi River, Allamakee
16 lbs. 15 ozs.	09/17/92	Eldon J. Konzen, Dubuque	Mississippi River, Jackson
15 lbs. 9 ozs.	05/04/92	Dave M. Kaune, Dubuque	Mississippi River, Dubuque
15 lbs. 4 ozs.	09/07/92	Richard E. Walton, Ft. Worth, TX	Mississippi River, Dubuque

GAR, LONGNOSE (MINIMUM -- 6 LBS.)

17 lbs. 8 ozs.	09/18/92	Kevin Patrick Riley, Cedar Rapids	Mississippi River, Clayton
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GAR, SHORTNOSE (MINIMUM -- 2 LBS.)

No current state record.

No 1992 entries.

GOLDEYE/MOONEYE (MINIMUM -- 1-1/4 LBS.)

2 lbs. 4 ozs.	04/03/92	Mark Ekle, Farmington	Des Moines River, Van Buren
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MUSKELLUNGE (MINIMUM -- 15 LBS. OR 40")

40 lbs. 5 ozs.--50-1/2"	06/21/91	Dennis Dean Heidebrink, Rushmore, MN	West Okoboji Lake, Dickinson
34 lbs. 11 ozs.	05/04/92	Robert Rickman, Spirit Lake	West Okoboji Lake, Dickinson
31 lbs. 8 ozs.	07/29/92	Todd Bleeker, Beloit, WI	Spirit Lake, Dickinson
26 lbs. 1 oz.	01/18/92	Charles Herreid, Okoboji	West Okoboji Lake, Dickinson
25 lbs. 13 ozs.	1992	Gordon Hansch, Spirit Lake	West Okoboji Lake, Dickinson
25 lbs. 4 ozs.	07/09/92	Dusty Solem, Spirit Lake	Spirit Lake, Dickinson
25 lbs. 2 ozs.	06/28/92	Billy Jordan, Albia	Rathbun Lake, Appanoose
22 lbs.	10/17/92	Michael J. Prather, Mason City	Clear Lake, Cerro Gordo
19 lbs.	1992	Jeff Thelen, Estherville	Spirit Lake, Dickinson
15 lbs. 12 ozs.	05/19/92	Mike Wittrock, Carroll	West Okoboji Lake, Dickinson
15 lbs.	05/16/92	Nicholas Graham, Des Moines	Clear Lake, Cerro Gordo
Released--48"	09/15/92	Shannon Green, Spencer	West Okoboji Lake, Dickinson

MUSKELLUNGE, TIGER (MINIMUM -- 15 LBS. OR 40")

27 lbs. 2 ozs.--47"	08/89	Shannon Green, Spencer	West Okoboji Lake, Dickinson
Released--49"	09/12/92	Shannon Green, Spencer	West Okoboji Lake, Dickinson

NORTHERN PIKE (MINIMUM -- 10 LBS. OR 34")

25 lbs. 5 ozs.--45"	02/77	Allen Forsberg, Albert City	West Okoboji Lake, Dickinson
17 lbs. 2 ozs.	05/02/92	Janet Dys, Jackson, MN	Big Spirit Lake, Dickinson
15 lbs. 8 ozs.	06/05/92	Cory Guerin, Fort Dodge	Gypsum Pond, Webster
15 lbs. 4 ozs.	02/03/92	Luke Wahlers, Dyersville	Sny Magill, Clayton
15 lbs. 3 ozs.	01/30/92	Paul G. Poulin Jr., Spencer	West Okoboji Lake, Dickinson
15 lbs.	05/22/92	Warren Johnson, Ruthven	Silver Lake, Palo Alto
14 lbs. 13 ozs.	05/21/92	Jeff Lenz, Milford	West Okoboji Lake, Dickinson
14 lbs. 12 ozs.	02/18/92	Del Gonder, Spirit Lake	Upper Gar, Dickinson
14 lbs. 5 ozs.	02/09/92	Arlan Hollander, Boyden	West Okoboji Lake, Dickinson
13 lbs. 14 ozs.	03/05/92	Leo Matties, Cedar Rapids	Mississippi River, Allamakee
13 lbs. 10 ozs.	06/23/92	Irv Schell, Milford	West Okoboji Lake, Dickinson
Released--38"	10/20/92	Dick Crail, Algona	West Okoboji Lake, Dickinson
Released--38"	07/14/92	Mark Mitchell, Estherville	West Okoboji Lake, Dickinson
Released--36"	06/08/92	Mark L. Huling, Garner	Gravel Pit, Wright
Released--35"	03/07/92	Chris Jones, St. Paul, MN	Des Moines River, Polk

PADDLEFISH (MINIMUM -- 25 LBS.)

107 lbs.--69-1/2"	03/81	Robert Pranschke, Onawa	Missouri River, Monona
30 lbs.	12/28/92	Marty Hepker, Urbana	Mississippi River, Jackson

PERCH (MINIMUM -- 1 LB.)

1 lb. 15 ozs.--14-3/4"	09/74	John Walz, Estherville	Spirit Lake, Dickinson
1 lb. 14 ozs.	06/03/92	Troy Porter, Fort Dodge	Gravel Pit, Webster
1 lb. 14 ozs.	10/17/92	Tom Niederhauser, Eagle Grove	Gravel Pit, Webster
1 lb. 13 ozs.	09/21/92	John McGrath, Eagle Grove	Briggs Woods, Hamilton
1 lb. 10 ozs.	09/21/92	John McGrath, Eagle Grove	Briggs Woods, Hamilton
1 lb. 7 ozs.	06/05/92	Luke Pingel, Linn Grove	Farm Pond, Clay
1 lb. 4 ozs.	02/29/92	Howard Johnson, Ruthven	Lost Island Lake, Palo Alto
1 lb. 4 ozs.	09/17/92	Bobby McNamara, Winterset	Lost Island Lake, Palo Alto
1 lb. 4 ozs.	02/02/92	Frank Beschovner, Ruthven	Lost Island Lake, Palo Alto
1 lb. 4 ozs.	04/19/92	Gwen Hoakstra, Fall Creek, WI	Lost Island Lake, Palo Alto
1 lb. 4 ozs.	08/13/92	David Gross, Eagle Grove	Gravel Pit, Webster

SAUGER (MINIMUM -- 2-1/2 LBS. OR 18")

6 lbs. 8 ozs.--25"	10/76	Mrs. W. Buser, Sloan	Missouri River, Woodbury
5 lbs.	12/08/92	John Reeser, Sterling, IL	Mississippi River, Jackson
4 lbs. 12 ozs.	03/25/92	Mark McAvan, Maquoketa	Mississippi River, Jackson
4 lbs. 12 ozs.	1992	Dennis M. Jansen, Dubuque	Mississippi River, Dubuque
4 lbs. 8 ozs.	02/13/92	Jeff Ortiz, Bettendorf	Mississippi River, Jackson
4 lbs. 4 ozs.	10/01/92	James Dengler, Waterloo	Mississippi River, Allamakee
4 lbs.	10/18/92	Joe Hipschen, Bellevue	Mississippi River, Jackson
3 lbs. 16 ozs.	11/17/92	Kenneth L. Pettinger, Dyersville	Mississippi River, Clayton
3 lbs. 14 ozs.	07/13/92	Joseph Strohbeen, Sioux City	Missouri River, Woodbury
3 lbs. 14 ozs.	03/25/92	Norm Scott, Bettendorf	Mississippi River, Jackson
3 lbs. 12 ozs.	11/06/92	Douglas F. Clark, Jr, Bellevue	Mississippi River, Jackson
Released--3 lbs. 14 ozs.	10/04/92	Bob Dupont, Dubuque	Mississippi River, Jackson
Released--3 lbs. 4 ozs.	10/24/92	Dave Gross, Dubuque	Mississippi River, Dubuque
Released--2 lbs. 14 ozs.	10/18/92	Dave Gross, Dubuque	Mississippi River, Dubuque
Released--2 lbs. 11 ozs.	10/25/92	Dave Gross, Dubuque	Mississippi River, Dubuque
Released--19"	09/13/92	Dave Gross, Dubuque	Mississippi River, Clayton
Released--18-1/4"	09/13/92	Dave Gross, Dubuque	Mississippi River, Clayton
Released--18"	10/24/92	Carol Bliss, Andrew	Mississippi River, Jackson

SAUGEYE (MINIMUM -- 6 LBS. OR 25")

6 lbs. 9 ozs.--26"	10/13/90	Kirk Daily, Ottumwa	Des Moines River, Wapello
No 1992 entries.			

STURGEON, SHOVELNOSE (MINIMUM -- 3 LBS.)

12 lbs.--33"	04/74	Randy Hemm, Douds	Des Moines River, Van Buren
No 1992 entries.			

SUCKER (MINIMUM -- 4 LBS.)

15 lbs. 1 oz.--32-1/4"	09/83	Glen E. Dittman, Onawa	Missouri River, Monona
6 lbs. 8 ozs.	04/11/92	Mike Goltz, Monona	Yellow River, Allamakee
4 lbs. 4 ozs.	03/25/92	Aaron P. Batchelder, New Hampton	Little Cedar; Chickasaw
4 lbs. 2 ozs.	05/25/92	Carl Hutchens, Mason City	Winnebago River, Cerro Gordo

SUNFISH (MINIMUM -- 1 LB.)

1 lb. 13 ozs.--10-1/4"	09/67	Dale Cornick, Burlington	Lake Geode, Henry
1 lb. 7 ozs.	1992	Uldis Ilvess, Des Moines	Farm Pond, Polk

1 lb. 5 ozs.	06/06/92	Jill Albert, Vinton	Hannen Lake, Benton
1 lb. 2 ozs.	05/14/92	Ira L. Morgan, Muscatine	Sand Pit, Muscatine
1 lb.	05/23/92	Uldis Ilvess, Des Moines	Pond, Polk

TROUT, BROOK (MINIMUM -- 1 LB. OR 13")

2 lbs. 14 ozs.--17"	03/81	Lyle Brown, Jr., Decorah	Canoe Creek, Winneshiek
14"	07/18/92	John Held, Denison	French Creek, Allamakee

TROUT, BROWN (MINIMUM -- 3 LBS. OR 18")

15 lbs. 4 ozs.--31"	07/84	Fred Daug, Minneapolis, MN	French Creek, Allamakee
8 lbs. 11 ozs.	05/28/92	Mike Amundson, Waterloo	Village Creek, Allamakee
8 lbs. 4 ozs.	06/02/92	Josh Decker, Evansdale	Bear Creek, Fayette
6 lbs. 8 ozs.	05/27/92	Aaron Lee Anhalt, Frederika	Grannis Creek, Fayette
6 lbs. 6 ozs.	04/24/92	Nels Petersen, Cedar Rapids	Trout Run, Winneshiek
6 lbs.	05/15/92	Ted Wienhold, Jesup	Maquoketa River, Delaware
5 lbs. 13 ozs.	07/08/92	Dana Woeste, Rochester, MN	Richmond Springs, Delaware
5 lbs. 12 ozs.	07/12/92	Mary Rita Garcia, Davenport	Mississippi River, Jackson
5 lbs. 10 ozs.	04/19/92	Paul Bruan, Forest City	Coon Creek, Winneshiek
5 lbs. 5 ozs.	03/29/92	Eric Begle, Epworth	Sny McGill, Clayton
4 lbs. 9 ozs.	08/01/92	Darrell E. Wiley, Dubuque	Bankston Stream, Dubuque
Released--21-3/4"	04/11/92	David Hoke, Nashua	Coldwater Creek, Winneshiek
Released--21"	02/01/92	Bob Schroeder, Postville	Turkey River, Clayton

TROUT, RAINBOW (MINIMUM -- 3 LBS. OR 18")

19 lbs. 8 ozs.--35"	07/84	Jack Renner, Waterloo	French Creek, Allamakee
11 lbs. 14 ozs.	03/30/92	James Beyer, Ames	Sny Magill Creek, Clayton
9 lbs. 13 ozs.	10/24/92	David Scott Ward, Grinnell	South Bear, Winneshiek
9 lbs. 3 ozs.	03/30/92	Rory Streich, Charles City	Spring Creek, Mitchell
9 lbs.	04/15/92	Alan Badker, Mason City	Little Paint, Allamakee
8 lbs. 16 ozs.	04/02/92	J. Paul Buren, Mason City	Silver Creek, Allamakee
8 lbs. 12 ozs.	04/07/92	Nels Petersen, Cedar Rapids	Twin Springs, Winneshiek
8 lbs. 12 ozs.	10/07/92	Marvin Dolloff, Kensett	Turtle Creek, Mitchell
8 lbs. 11 ozs.	05/08/92	Dave Montgomery, Webster City	Richmond Spring, Clayton
8 lbs. 10 ozs.	04/10/92	Richard K. McDonald, Charles City	North Bear, Winneshiek
8 lbs. 7 ozs.	05/04/92	Thomas R. Sandersfel, Elkader	Buck Creek, Clayton

WALLEYE (MINIMUM -- 8 LBS. OR 28")

14 lbs. 8 ozs.--30-1/2"	09/86	Gloria Eoriatti, Ankeny	Des Moines River, Polk
12 lbs.	03/07/92	David S. Ward, Grinnell	Des Moines River, Polk
11 lbs.	10/15/92	Robert J. Kuderko, Rolling Meadows, IL	Mississippi River, Dubuque
10 lbs. 12 ozs.	10/22/92	Charles A. Posckany, Woodburn	Little River, Decatur
10 lbs. 9 ozs.	09/09/92	Alan Mrazek, Cedar Rapids	Iowa River, Johnson
10 lbs. 8 ozs.	10/01/92	Robert Desotel, Central City	Wapsipinicon River, Linn
10 lbs. 8 ozs.	03/19/92	Steven L. Jergenson, Clear Lake	Clear Lake, Cerro Gordo
10 lbs. 8 ozs.	01/08/92	Dan Thomas, Dows	Des Moines River, Humboldt
10 lbs. 8 ozs.	05/15/92	J.L. (Jerry) Mason, Marshalltown	Iowa River, Hardin
10 lbs. 4 ozs.	11/05/92	Dave Brunsvold, Estherville	Big Spirit Lake, Dickinson
10 lbs. 2 ozs.	02/23/92	Dennis C. Williamson, Des Moines	Saylorville Lake, Polk
Released--30"	07/24/92	James M. Denekas, Le Mars	Storm Lake, Buena Vista
Released--30"	10/17/92	Lee Bushnell, Mt. Auburn	Cedar River, Benton
Released--29-1/2"	06/10/92	Leon Brockman, Sherrill	Mississippi River, Dubuque
Released--29"	06/30/92	Wayne Leusink, Greeley, CO	Lake Rathbun, Appanoose
Released--29"	10/28/92	Mark Woldruff, Cedar Rapids	Iowa River, Johnson
Released--28-3/4"	01/18/92	Vern Prohaski, Mason City	Mississippi River, Allamakee

Released--28-1/4"	07/04/92	Gary G. Quade, Dubuque	Mississippi River, Dubuque
Released--28"	04/06/92	Vern Prohaski, Mason City	Mississippi River, Allamakee
Released--28"	09/12/92	Ron Bliss, Andrew	Mississippi River, Jackson
Released--28"	05/19/92	Darcy Johnson, Ruthven	Lost Island Lake, Clay
Released--8 lbs. 8 ozs.	03/30/92	Arlen Tirevold, Gruver	Silver Lake, Dickinson

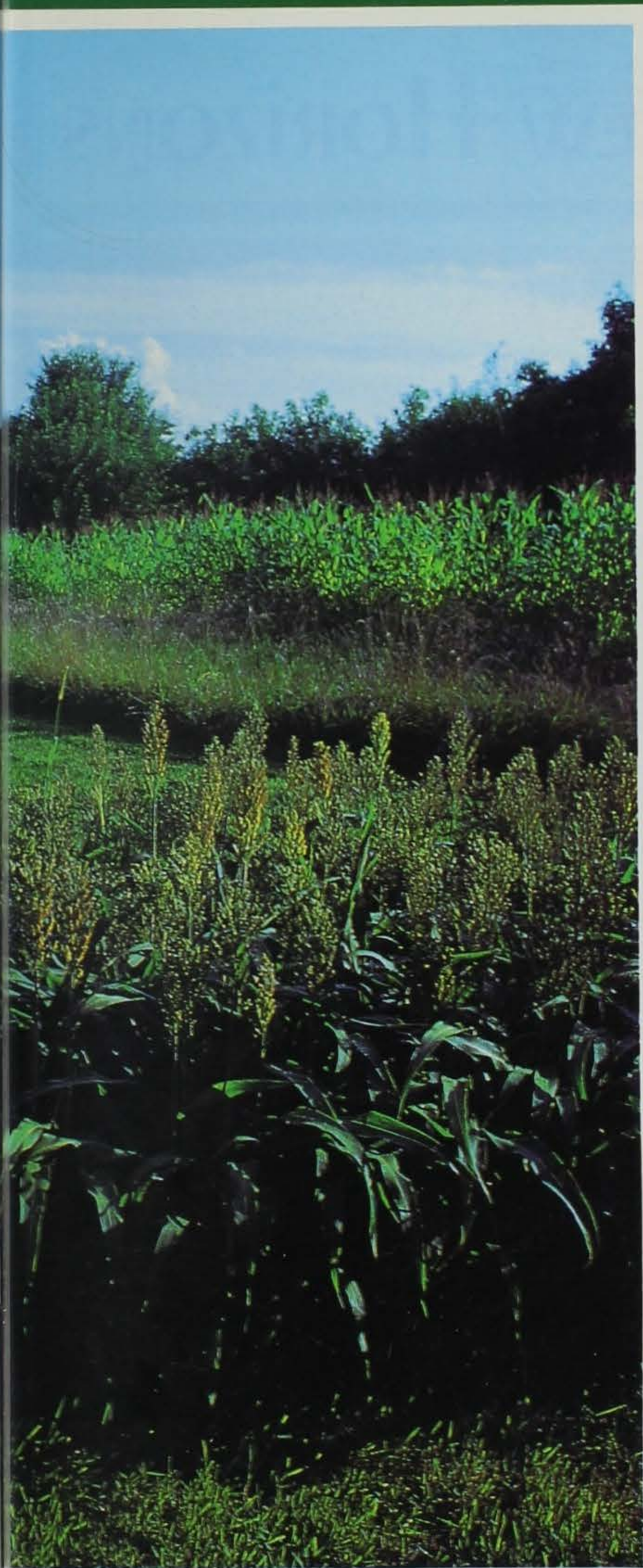
WHITE AMUR (MINIMUM -- 25 LBS.)

51 lbs.	09/88	Leon Allen, Omaha, NE	Viking Lake, Montgomery
50 lbs.	08/02/92	David G. Wilhite, Millersburg	Devils Run, Iowa
49 lbs.	06/12/92	Steve Karel, Bennington, NE	Viking Lake, Montgomery
42 lbs. 4 ozs.	09/02/92	Cy Steelman, Farnhamville	Spring Lake, Greene
35 lbs.	03/27/92	Michael L. Davis, Logan	Willow Lake, Harrison
28 lbs. 7 ozs.	05/04/92	Steve Johnston, Waterloo	Casey Lake, Tama



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Ron Johnson

PLANTING FOR WILDLIFE

For a limited time only the Iowa Department of Natural Resources is offering two special seedling packets for landowners. These packets include a nice selection of trees to help improve the odds for wildlife survival. Order your packets today! But, hurry! Time is running out and the supply is limited. Call the DNR's State Forest Nursery in Ames at (515) 233-1161, 8 a.m. to 4:30 p.m., Monday through Friday, or FAX your order to (515) 233-1131.

Wildlife Packet\$35
(200 bareroot seedlings)
50 Scotch pine, 50 autumn olive, 50 chokecherry and 50 nanking cherry

Songbird Packet\$15
(20 bareroot seedlings)
6 chokecherry, 6 gray dogwood, 5 lilac and 3 Scotch pine

Exploring New Horizons

FOR TOMORROW'S LAND USE

In 1987, the Iowa Legislature passed a measure known as the Groundwater Protection Act. This event marked the beginning of what is perhaps the nation's most far-sighted and ambitious attempt to protect the long-term quality of its citizens' drinking water.

One of the immediate outcomes of this legislation was the founding of the Leopold Center for Sustainable Agriculture at Iowa State University in Ames.

According to the Leopold Center's communications specialist, E. Anne Larson, this represented the nation's first state-funded program of its kind. The Leopold Center is funded at an annual level of about \$1 million from state fees on nitrogen fertilizer and pesticides. The center receives additional support from a state appropriations of approximately \$560,000.

"At the time that the Groundwater Act was signed into law, there was a growing public concern over the quality of our groundwater supplies," said Larson. "The thought among many was that it would be much better for Iowans to address these environmental concerns on a voluntary basis rather than be forced to do so through federal regulations," said Larson. "Consequently, the Leopold Center was established as a

means of mutually benefiting both agriculture and Iowa's natural resources."

As set forth by the state Legislature, the Leopold Center is given three missions --

-- to conduct research into the negative impacts of Iowa agricultural practices,

-- to assist in the development of alternative agricultural practices, and

-- to work with the Iowa State University Extension Service to inform the public about center findings.

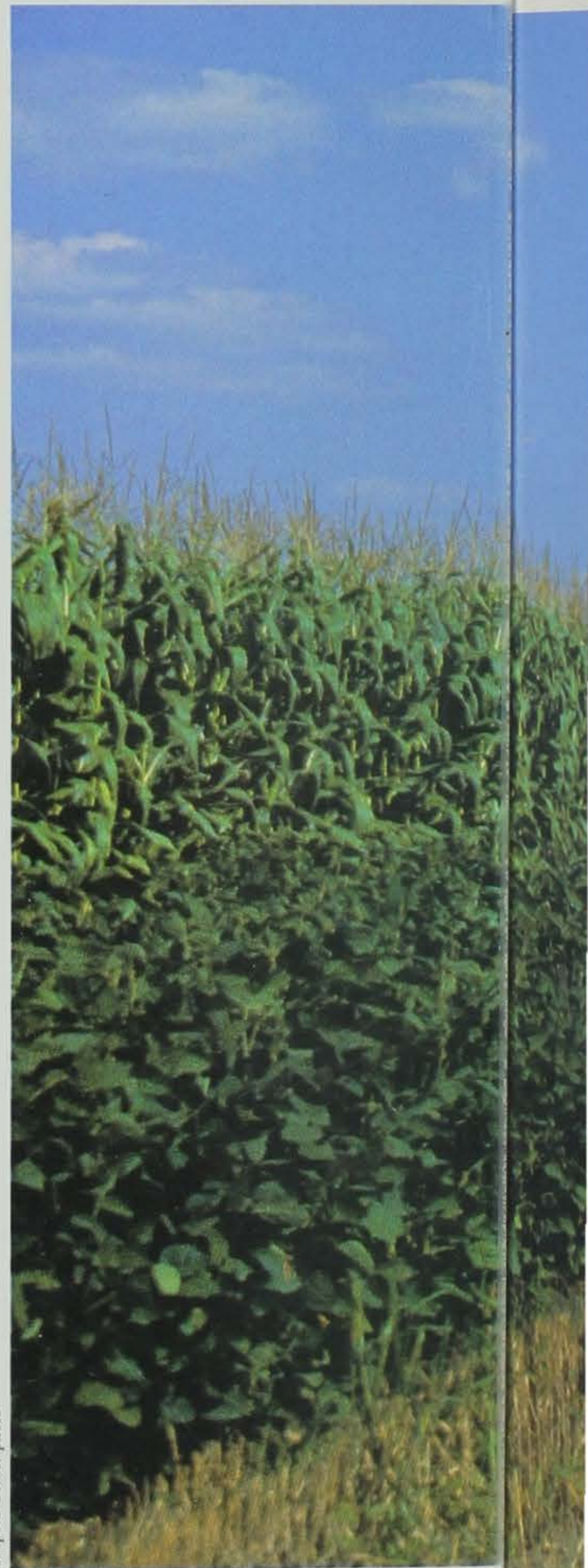
A fundamental component of all three missions revolves around the center's competitive grants program. According to assistant director Bruce Brown, who manages the grants program, Leopold Center competitive grants are available to investigators at nonprofit agencies and foundations across the state.

"In the first five years, the Leopold Center has awarded 90 competitive grants that total more than \$4.1 million," said Brown.

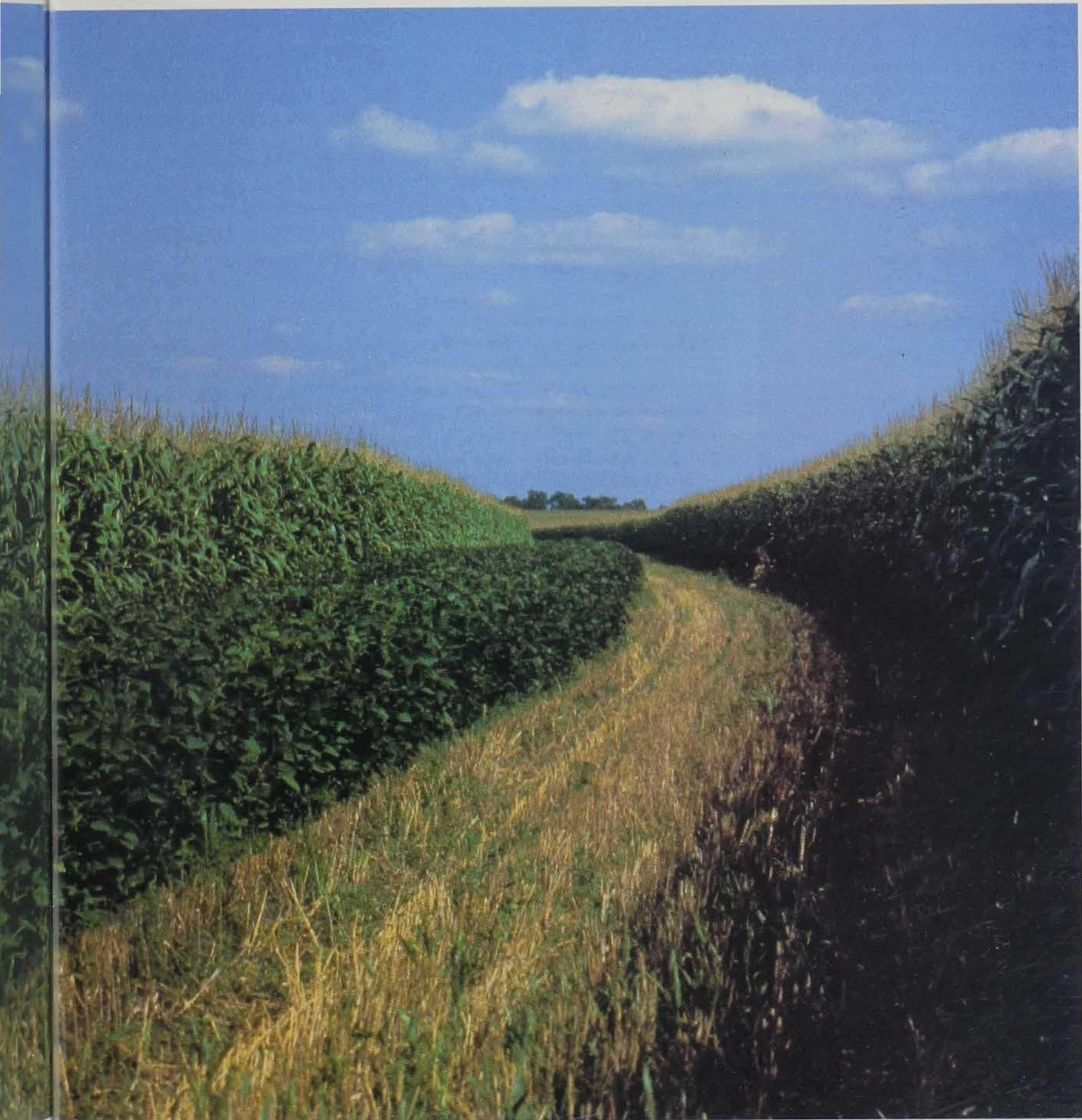
"We've been very fortunate to be backed by a legislature that is willing to continue funding," said Brown. "Even though there have been cutbacks here too, we still have money to continue the mission," he added.

Article by Lowell Washburn

Leopold Center photo



▼
Leopold Center research on nitrogen management is aimed toward producing more profit for farmers, less harm to the environment, less dependence on global energy reserves and more jobs in rural agricultural communities.



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A project called "The Living Soil," funded by the Leopold Center is designed for high school students to develop their awareness and understanding of the biological community present within the soil. Another project is looking at the benefits of prairie grasses in improving soil structure.

"One of our greatest challenges involves maintaining a clear sense of direction so that the projects funded are more than just a collection of independent initiatives," said Brown. To further complicate the situation, the challenge becomes even larger when considering

the broad spectrum of disciplines involved in sustainable agriculture. Competitive grants projects reflect the diversity of Iowa's changing agricultural climate.

For example, one project is investigating how buffer zones may improve the quality of water in Iowa creeks and streams. Another researcher is studying the effects of chemicals on stream-dwelling insects. Another study is looking at what happens to the components of pesticides, after they "break down." Yet another project is examining wetlands as a way to neutralize nitrate.

In addition to water quality, there are also competitive grant studies looking at livestock management, alternative means for pest control, soil conservation, agroforestry and wildlife management.

A total of 45 grants were funded in

1992. Twenty-four of those were new projects that include research on the impacts of sediments on stream ecology, the impacts of tillage systems on wildlife, and a study of grassland bird species in Conservation Reserve Program (CRP) lands. Another group is involved in developing a "living soil" educational packet designed to educate students on the biological processes of the soil.

"To understand the many fronts on which the Leopold Center is working, you must literally criss-cross the state," said Brown. There are currently more than 250 research and demonstration sites in 56 of Iowa's 99 counties. Brown describes the center as the hub of a largely decentralized research network.

"A visit to our offices will provide an idea of the services offered and of



Leopold Center photo



Roger A. Hill

▼
With support from the Leopold Center, Dr. Abe Epstein, an ISU plant pathologist, is investigating the effects of rose rosette disease on multiflora rose, a serious weed pest in southern Iowa pastures.

the problems under scrutiny, but the real changes are happening out there in the communities," he said. Since its inception, the Leopold Center has directly reached an estimated 25,000 individuals with research and educational programs. Researchers and center personnel have also disseminated project results at more than 400 Iowa conferences to farmer and community organizations.

In 1990, the center expanded activities by launching a group of six interdisciplinary teams to conduct "systems research" for more sustainable practices. Each team comprises conservationists, farmers and researchers.

According to Larson, the teams have been designed to tackle complex problems through long-term studies and on-the-farm research, and they have attracted considerable funding from outside sources. "The teams are really unique," she said, "in that they combine expertise from such a variety of scientific disciplines. In some cases, we have farmers, ecologists, social scientists and agronomists all on the same team," she added. "That's exciting. That makes things happen."

Currently, the six teams are involved in long-term research on cropping systems, grazing studies for beef cattle, alfalfa pest management, animal waste management, agro-eco systems, and the socio-economic impacts of agriculture.

"In addition to our competitive grants program and research teams, our other major thrust lies in the realm of education," said Larson. In addition to the ISU Extension, the Leopold Center also works with other university, local and state level organizations to communicate its findings. The center employs a full-time education coordinator to oversee and deliver programs that will enable Iowans to adapt to and

"... we have farmers, ecologists, social scientists and agronomists all on the same team," she added. "That's exciting. That makes things happen."

-- E. Anne Larson
communications specialist, Leopold Center

profit from the most sustainable agricultural practices that modern science can develop. Activities include field days, tours, training seminars, newsletters and an annual Leopold Center conference (see sidebar page 39).

Last year, a grant was used to work with 25 agricultural chemical dealers in eastern Iowa to focus more on selling services than on selling a product. Those services included sustainable agricultural practices such as sampling and testing for soil nitrogen levels, insect scouting, and scouting for weed problems so that the problem can be dealt with in a species-specific manner.

A Leopold project has also

developed a manure test kit that is allowing farmers to test the nitrogen, potassium and phosphorus levels of livestock waste. "The samples can vary dramatically from farm to farm," said ISU Extension agricultural specialist Greg Brenneman, "and we hope the test kits will enable farmers to better gauge manure application rates." Test kit results are currently being evaluated within the laboratory setting, and preliminary correlations have proved very encouraging. The educational development team also produced a number of television spots on sustainable agriculture that aired over a six-month period in eastern Iowa. The focus of this effort was on sustainable



Leopold Center photo



While the original prairie and early, small farms provided habitat for numerous bird species, most of this habitat has been converted to rowcrops. Now fencerows, grassed waterways, railroad rights of way and roadsides represent potential refuge for many bird species. Investigators are looking at the abundance and composition of birdlife in Iowa's roadsides, and the influence of vegetation types on the birds that use these roadsides.

"Changes come slow and are often hard to come by, especially when they involve changes in life style . . . I think that the new generation is more economically and environmentally conscious than we were even 10 or 15 years ago."

-- Dave VanWaus
Story County farmer



Roger A. Hill



Leopold Center photo

▲ **McNay Farm, one of Iowa State University's Research Farms, is just one of the sites where the Leopold Center cooperates with existing research efforts.**

agricultural methods that producers have already adopted. "We dealt with topics such as nitrogen testing, insect scouting, and use of alternative crops such as Christmas trees," said Brenne-man. The spots have been combined into an educational video that is available through ISU Extension offices in eastern Iowa.

"We have an overriding commitment to develop systems that can make agriculture profitable on a long-term basis," said Larson. "There is a belief out there that you can't have a sustainable rural community unless you first have sustainable, profitable agriculture," she said. There has been much written on the struggle of Iowa's small, rural towns and about the

decline in the overall numbers of farmers. "What we need is to have people farming in a profitable manner while at the same time having a positive impact on the environment," said Larson.

Story County farmer, Dave Van Waus agrees. VanWaus operates a family farm near Colo and is very interested and involved in conservation practices. He currently serves on an issues committee for the Leopold Center strip intercropping team. "In my view the Leopold Center is doing a very good job for Iowans and for the state's natural resources," he said. "For example the center has been very involved and out-front in the area of fertilizer research. Today farmers are using less and less fertilizer and the Leopold Center can claim part of the credit for that." Iowa farmers have reduced their application rates from 145 pounds per acre to 130 pounds per acre over a five-year period, while the rest of the corn belt has been increasing its dependence on nitrogen.

"Changes come slow and are often hard to come by, especially when they involve changes in life style," said VanWaus. "We [Leopold Center] don't claim to have all of the answers and probably never will. Iowa agriculture presents a constantly changing picture using new methods every 10 years or so, but the fact that people are at least willing to try something new means that we are headed in the right direction. That's the beginning. I think that the new generation is more economically and environmentally conscious than we were even 10 or 15 years ago."

"One of the most important things we can do is educate people that agriculture is not just important to farmers, but is, in fact, important to all of us," she added. "While making a commitment to conserving natural resources, we also must make it possible to earn a living off the land."

Leopold Center Sets Annual Conference for July 14-15

The Leopold Center for Sustainable Agriculture will hold its annual conference on July 14-15 at the Scheman Continuing Education Building at Iowa State University.

According to Leopold Center education coordinator Rich Pirog, the theme of the 1993 conference will be "Who Will Farm the Land -- Changes and Choices in Iowa Agriculture."

"Our kickoff session will provide a state of the state for Iowa's agricultural picture," said Pirog. "We'll be looking at the kinds of farms and farmers that

we now have, and by the time the conference is over, we'll have a feel for where we might be headed."

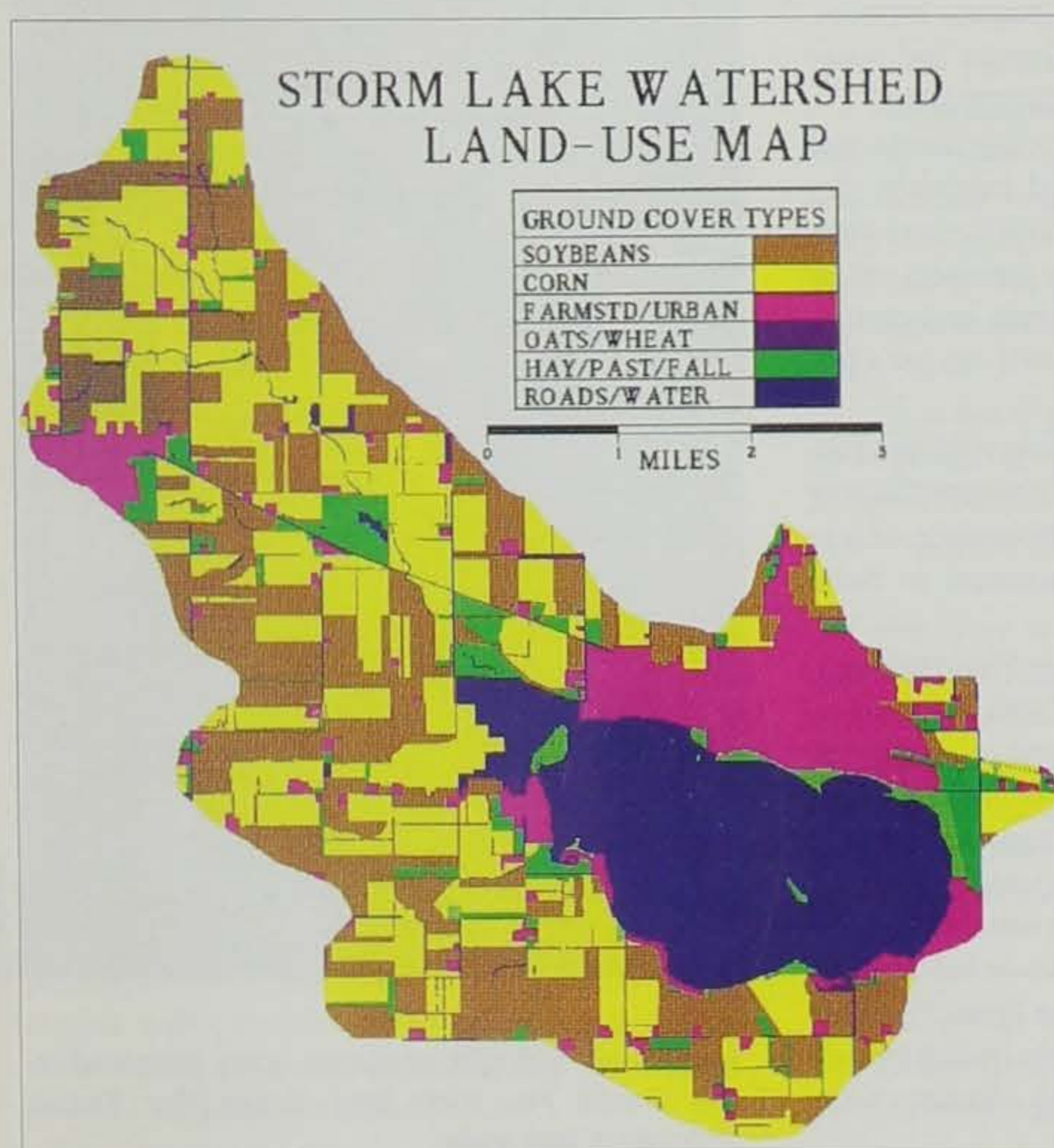
The afternoon of July 14 will feature tours including agroforestry, wetlands, rotational grazing systems, water quality and animal waste management. Tours will be followed by an evening barbeque.

"On the second day, July 15, we are offering a wide choice of concurrent sessions including perspectives on who will farm the land from farmers of different generations," said Pirog. "We'll also look at the future role of farmers by taking a look at what industry and the consumer may expect from agriculture in the future," he said. The event will conclude with a presen-

tation from Ben & Jerry's Ice Cream Co., a nationally known, "full flavor" ice cream producer. "This company has done their homework on and is very concerned with the environment," said Pirog. "Like all companies, they are also very concerned about profit. They've found how to do a great job at both."

"We normally have approximately 350 people turn out for our conferences," said Pirog. "The only cost is a nominal fee for meals. We're very excited about this year's event. We are going to have some fun at this," he added.

Anyone interested in attending the conference can contact the Leopold Center at 515/294-3711.



◀ The Storm Lake watershed demonstration project, funded by the Leopold Center, intends to determine the need for a more comprehensive, long-term research study and management plan to improve general environmental quality within the watershed and the lake.



▲ The Leopold Center's integrated pest management team is looking at controlling alfalfa weevil outbreaks. Team members Kris Giles and Todd DeGooyer are identifying factors causing mortality of the weevil.

Illustration Courtesy of ISU Animal Ecology Department
Leopold Center photo

TREES FOR KIDS

An Elementary Idea

by Lisa M. Pecka

What common interest could possibly bring together such diverse groups as foresters, bankers, telephone workers, a natural gas company, educators and students? Trees.

Initially established to celebrate the 20th anniversary of Earth Day in April 1990, the *Trees For Kids* program — backed by all those groups — is now in its fourth year. A recent recipient of the 1993 National Arbor Day Foundation Award, *Trees For Kids* operates on a limited budget to educate Iowa's youth and promote forestry using donated funds and grants.

Over the years, *Trees For Kids* has been supported by various organizations which ensure the continuation of the program.

A Strong Partnership

In 1991, the Telephone Pioneers joined the one-year-old founding group, consisting of the Iowa Bankers Association, the Iowa Nursery and Landscape Association and the DNR, to further tree education and planting efforts.

The DNR designs and compiles an educational packet for teachers and coordinates this state-wide activity. The packet contains classroom activities, an educational poster, information on tree planting and maintenance and information on how to get a free landscape tree.

The Telephone Pioneers, a community service organization of retired and currently employed telephone company employees, plays a key role in local communication. Its members set up contacts between interested teachers and participating nurseries and banks so schools can get a free tree.

Barb Edmonds, former president of the Pioneers, said that *Trees For Kids* is a wonderful way to make students aware of the importance of tree conservation. She said it is essential to build awareness from an early age.

Edmonds commented that the Pioneers "support and work with the other groups involved as much as we can so we can have a successful program for the children."

The Iowa Nursery and Landscape Association member nurseries provide, upon request, various species of landscape-sized trees to interested teachers and their students at wholesale or below cost. The nurseries also help to promote *Trees For Kids* within their school districts and help in distributing trees to participants. A total of 46,360 trees were planted in 1992.

"We are behind *Trees For Kids* because it is a good program," said Ron Herndon of Des Moines Seed and Nursery in Des Moines. "If children become interested in tree planting now, they will most likely continue to be interested as they grow older. They will want to plant trees for the rest of their lives." Herndon also said that *Trees For Kids* was a positive program for the nursery industry in the state of Iowa and helps promote tree planting in general.

Banks belonging to the Iowa Bankers Association provide reasonable funding to schools (\$25-50/local school) for the purchase of a landscape-sized tree from a participating nursery.

"Our bank supports *Trees For Kids* because we want our children to grow up in an environmen-



▲ More than 235,000 students were involved in the *Trees For Kids* and *Trees For Teens* programs last year.



◀ A total of 46,360 trees were planted in 1992 as a result of *Trees For Kids* and *Trees For Teens*. The estimated value of trees donated by all partners last year was \$450,000.

tally pure world as we can make," said Stephen L. Henry, vice president of Iowa State Bank in Des Moines. "Through this student awareness program, we can share our commitment to trees as a vital, life-giving resource for our community."

Neil Milner, executive vice president and CEO of the Iowa Bankers Association said, "We're proud of our members who participate in *Trees For Kids*. This program has provided a wonderful opportunity for bankers to support Iowa's environment and its communities by sponsoring student tree planting activities."

Trees For Teens

In 1992, Peoples Natural Gas became involved with *Trees For Kids*, donating funds to print the teacher packets as well as to begin a special *Trees For Teens* program in their service areas. *Trees For Teens* encourages teen involvement and stresses career opportunities in natural resource issues and management. The packet supplied to interested teachers is structured in the *Trees For Kids* format but is geared to the high school level.

Steve McLaughlin, director of energy efficient programs for Peoples Natural Gas, said the *Trees For Teens* and *Trees For Kids* programs were extremely successful in 1992. "They were very positive experiences for the students and for the teachers."

The "Kid" Connection

After all the connections are made by the partners, trees are planted on school grounds and in surrounding communities by teachers and students all over Iowa during Earth Week and on Arbor Day at the end of April. The estimated value of trees donated by all partners in 1992 was \$450,000.

The *Trees For Kids* program welcomes a new partner in 1993. The Iowa Wood Industry Association will provide additional tree purchasing assistance in limited areas along with funding to produce educational material.

Last year, more than 2,200 teachers participated in the *Trees For Kids* and *Trees For Teens* programs and according to these teachers, more than 235,000 students were involved in the programs. Beth Krough, teacher at Basics and Beyond Alternative School in Newton, said, "Students took pride in caring for the trees we planted. It is wonderful to see something done that is good for the community."

Through all the necessary communication and trouble shooting with more than 350 nurseries, 650 banks and 80 Pioneers that *Trees For Kids* requires each year, the partners realize that kids are the focus. Danville State Savings Bank received 66 thank-you letters from local elementary school children. Dan Kelly, president, said, "This was one of the most rewarding projects that we have ever participated in."

According to John Moore, principal of Loess Hills Christian School in Council Bluffs, "there was definite bonding between the kids and the trees they planted on the playground. The children had a very positive feeling about trees and will want to protect and nurture them through the years."

"It is fun to plant trees," said Andrew Chipp, sixth-grader at Harding Middle School in Des Moines, "because I can go back in 20 years and see how much the trees have grown."

For more information, or to receive a *Trees For Kids* or *Trees For Teens* classroom packet, contact Lisa Pecka, coordinator, by April 15, at the DNR Central Office, 900 East Grand, Des Moines, Iowa 50319-0034, (515)281-5135, Monday, Wednesday, Friday 1 p.m.-4:30 p.m., Tuesday and Thursday 8-4:30 p.m.

Lisa M. Pecka is a student intern coordinating the Trees For Kids and Trees For Teens programs through the department.



THE PRACTICAL CONSERVATIONIST

The Practical Conservationist will replace Iowa's Outdoor Cookbook, a column we've been featuring the past few months. The Practical Conservationist will expand on the idea of this previous regular feature. We will continue to have occasional recipes and still welcome your favorites. In addition we will bring you practical how-to advice on enjoying Iowa's outdoor resources and applying conservation techniques to everyday life. We welcome your comments about this column and any ideas you might have.

Pickled Fish

Article and photos by
Joe Wilkinson

►
Jars of mouth-watering pickled fish.



I was struggling with an idea for my regular outdoor column for the *Iowa City Press Citizen*, when I saw one of my neighbors turn toward Coralville Reservoir with boat in tow. It looked like it might be time to write about spring fishing. I'd heard a couple reports in the past two weeks about good catches, so I put in a call to fisheries biologist Bob Middendorf at the Lake Macbride station. "They're catching a few crappies on Macbride and we've had one report of a four- or five-pound walleye last week," reported Middendorf. "But overall it's a little slow." So much for my fishing story.

What was he doing on his day off? "Pickling fish," was the reply. That's all I needed to hear. When I moved here a few years ago, I was urged . . . almost ordered . . . to hookup with Bob when he did a batch of pickled fish. Here was my chance. Within five minutes I walked into his

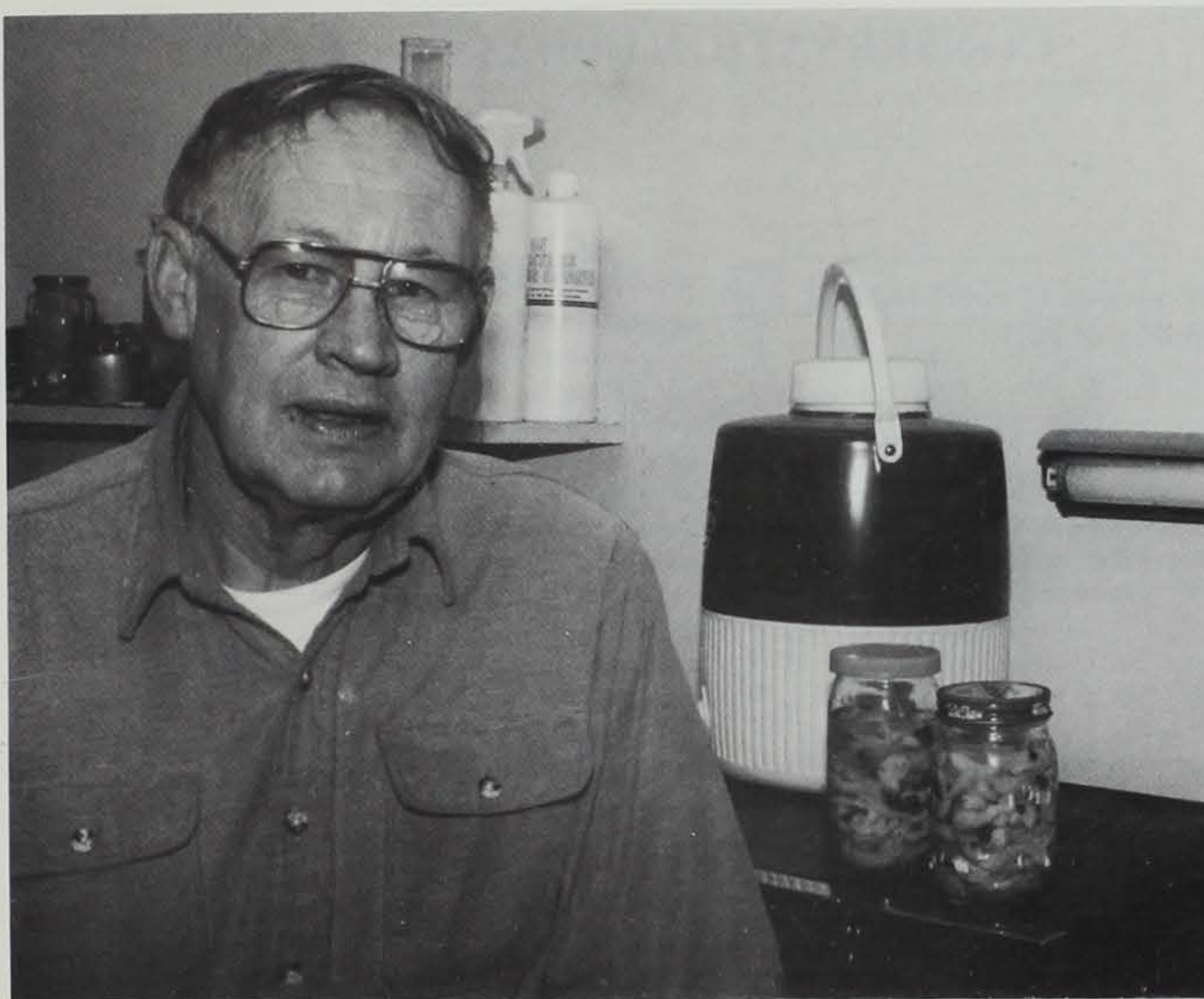
makeshift 'kitchen.'

I had tasted Bob's fish before. During the summer, Bob often kept a jar in the refrigerator at his office. It is salty, firm and tasty . . . and its reputation goes beyond just Iowa. "I used to brew up 12 to 15 pounds of it and take it to the big fisheries meetings as a snack," he recalled. "We'd have people from lots of other states there."

It seems as if people experiment with as many techniques to prepare fish as they do to catch it. My neighbors' fish fries are a social affair three or four times a year in our neighborhood. I attempted to smoke carp once, but was met with less than rave reviews. Perhaps pickled fish would be the answer. But what kind of fish? "This is buffalo," explained Bob as he placed a tub of filleted fish chunks on the counter. "You want to use fish with white meat . . . bluegill or bass. I've done northern, too. Buffalo is as good as any of them, though." I asked about the catfish I had taking up room in my freezer. "I don't know," he admitted, "That might turn kind of mushy. But, I think if I looked into it, I could brew up a pretty good batch." He would prefer to stick with his tested recipes, though.

Actually, I walked in on the final step of Bob's pickling. The fish had already been cut into bite-sized chunks and had soaked in the pickling solution for five days. The day before, Bob had poured off the solution, rinsed the fish and soaked them in clear water in the refrigerator overnight.

With jars, lids, spices, vinegar and all the other necessities lining the counter, it looked relatively easy as he got underway. A single hotplate was at the center of it all. As he talked, Bob mixed the sugar, white wine, water and pickling spice in his pan. As with many long-time cooks, it seems as if the recipe itself is more a recommendation than a requirement. A couple



◀ Bob Middendorf and his famous pickled fish.

shakes of the pickling spice container count for one tablespoon. A trained eye measures out the wine, if the measuring cup is out of reach.

While it came to a boil, Bob filled the glass jars with fish chunks and small slices of onion. He added the vinegar to the mixture and poured it over the fish. I was even pressed into service, running home for vinegar when he ran short. He capped them with plastic lids, and the nine pounds of chunked buffalo became a dozen jars of pickled fish. Since they weren't vacuum sealed, they needed to be refrigerated.

As he cleaned up, Bob tried to recall when he started canning. "I've been doing it . . . gee, I don't know how many years. It might have been my neighbor who got me started. His brother had a recipe, years ago." Reaching into a cabinet, he pulls out an inch-thick file, filled with recipes for fish sausage, chowder, carpburgers, oven-smoked fish and just plain old

fried fish. He explained that years ago, there was an effort by the state's fisheries bureau to expand the 'market' for rough fish taken from Iowa waters. That initiated the collection. From there, it simply grew. "Come up sometime and look through all these," he offers, when I mention my ill-fated smoked carp caper.

I originally use this story for the *Press Citizen* last year. Since then, Bob Middendorf has retired from the Iowa Department of Natural Resources after 43 years of service. He has spent his career studying fish *in* the water. With the enthusiasm I saw that day he prepared the pickled fish, I'd say he'll probably spend the coming years perfecting their preparation *out* of the water.

Joe Wilkinson is an information specialist with the department's information and education bureau and is located in Iowa City.

Bob Middendorf's Pickled Fish

Cut 3 pounds of fish into bite-sized chunks. Mix 3/4 cup canning salt to white vinegar -- enough to cover fish. Store 5 days in the refrigerator, stirring each day. After 5 days, pour off solution, rinse and soak fish overnight in clear water.

To can, mix and bring to a boil the following:

- 3/4 cup of sugar
- 1 Tablespoon of pickling spice
- 3/4 cup dry white wine
- 3/4 cup water
- Cut up hot pepper (optional)

Slice onions. Loosely pack fish and onions in jar. Add 1-1/3 cup white vinegar to pickling liquid and pour over fish in jars. Refrigerate. Let stand 48 hours before eating.

CONSERVATION UPDATE

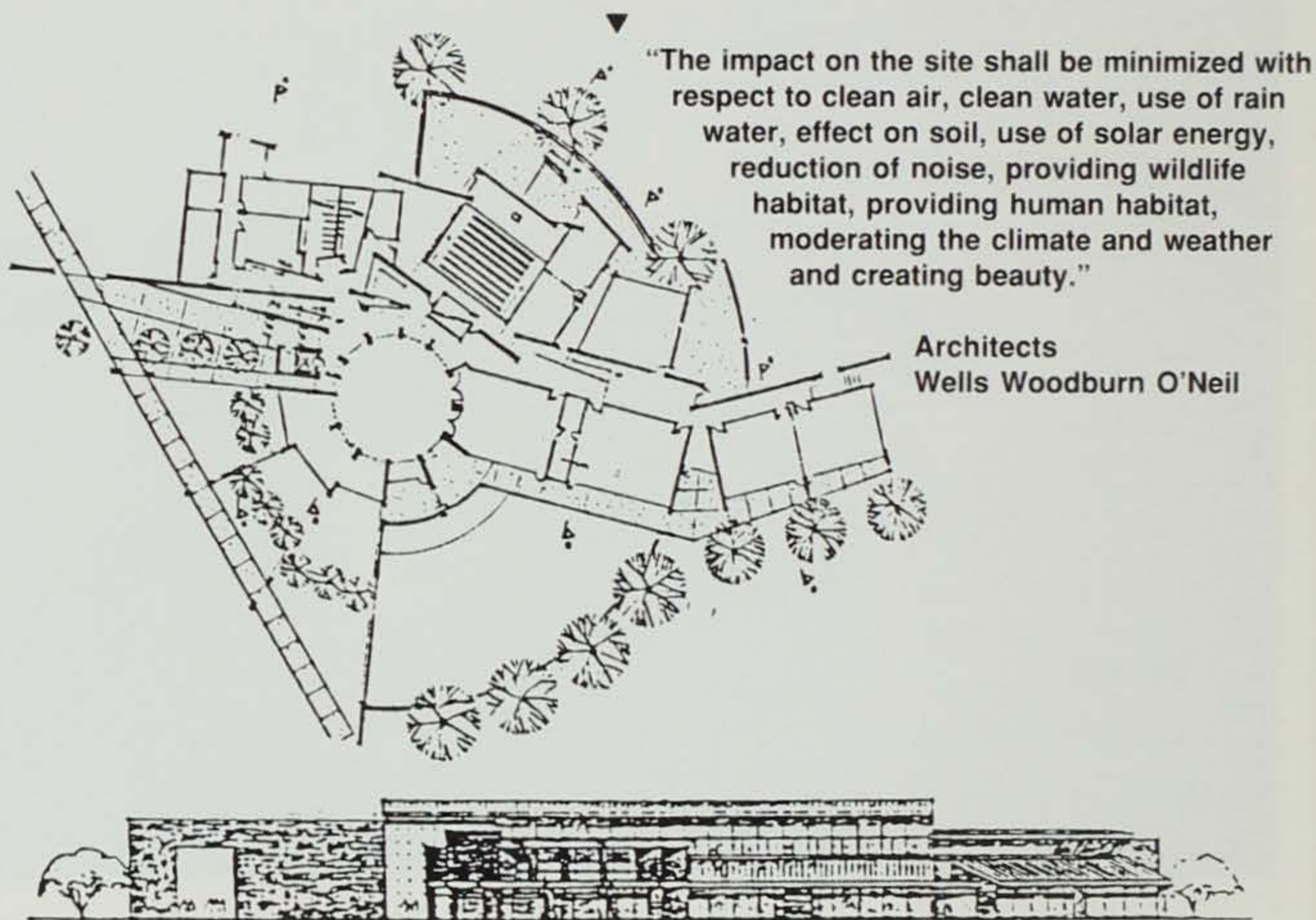
Designed for the Environment

by P.S. Cale, energy information specialist

The Center for Energy and Environmental Education at the University of Northern Iowa (UNI) will showcase environmentally sound design and construction as well as housing educational programs.

The Center is currently under construction, funded by a \$4 million grant from the U.S. Department of Energy. Classrooms, indoor and outdoor laboratories and resource rooms will allow students, teachers, businesspeople and others to learn about the relationships between energy and the environment.

According to architect Doug Wells and project manager Kevin Nordmeyer, every consideration in designing and constructing the building is being given to both energy consumption and environmental impact. With the assistance of the White Group, a Minneapolis consulting firm, the architects even chose building materials based on the amount of energy needed to produce, transport and maintain them.



▲ This view of the south side of the center displays the stone wall and its incorporation into the building. Natural and low-maintenance building materials that also need minimal energy to produce and transport are used throughout the building.

The building is constructed so that natural daylight will adequately light the rooms during normal business hours. The lighting was calculated using a "normal" overcast Iowa day as the baseline.



Mike Mickunas

◀ This model of the new Center for Energy and Environmental Education at UNI, shows the long, stone, heat-retaining wall (also shown in the line drawing above) that is part of the building's energy efficient design. The center's projected completion date is April 1994.

For example, tinted concrete will be used for some exterior walls. "Because it does not need to be painted, maintenance and materials costs are reduced as well as pollution," said Nordmeyer.

The architects set several goals when designing the building in consultation with a committee at the University of Northern Iowa. These goals are:

- The building shall use daylighting to reduce the use of electric lighting and use minimal lighting at night.

- The building shall be able to heat itself during the day and use minimal heat at night.

- The building shall need minimal cooling during the day and no cooling at night.

- Non-mechanical ventilation shall be used as much as possible.

The building will meet these goals by taking advantage of natural daylight and solar heat. It will use proper building orientation, window design and placement, daylighting sensors and high efficiency equipment.

Wells and Nordmeyer estimate that the 30,000-square-foot building will cost 29 cents per square foot per year to operate. The campus average at UNI is currently 76 cents per square foot.

The building is expected to be finished in the spring of 1994. Planning is also underway at UNI for the educational curricula to be offered.

New DNR Telephone Information System

A new automated telephone information system of the DNR is now available to provide around-the-clock answers to questions on natural resource issues. The information system number is (515) 281-5145.

The system is designed so that during regular business hours callers can easily bypass the recorded messages and speak with an individual.

With a touch-tone phone, a caller can transfer to an individual within 15 seconds of hearing the recorded message. Callers who use a rotary phone will listen to a recorded message that lasts approximately one minute, and then will be connected to an individual.

Once a caller enters the system, they can direct-dial five-digit "call box" numbers relating to specific topics. Additional numbers on various topics will be published as they are available. With these numbers callers interested in specific topics can immediately access a recorded message without having to go step-by-step through the information menu. Callers can also order a brochure or other information, or receive a return call during business hours by leaving their name, address and telephone number.

Post and save the chart at right for reference.

DNR 24-Hour Telephone Information System Call-Box Numbers

(for specific topics)

Dial (515) 281-5145, then 1 and the five-digit extension:

General information (talk directly to a staff person during regular business hours of Monday-Friday, 8 a.m. to 4:30 p.m.) -- 15918 (parks, forestry, hunting, fishing, boating); 18941 (solid or hazardous waste disposal, recycling, underground storage tanks)

Construction projects for bid -- 45445

Meeting schedules -- 45446 (Natural Resource Commission and Environmental Protection Commission)

Publication and brochure requests or receive the free *Nongame News* or *Energy Bulletin* -- 45421

Fish and Wildlife

Fishing license fees, seasons and limits -- 45422

Fishing report -- 45423 (available April 1-July 30 of each year)

Hunter education -- 15918 (time, location and contact person for hunter education classes); 45420 (to obtain duplicate hunter education card)

Hunting season dates, limits and fees -- 45412 (small game); 45413 (non-resident); 45414 (waterfowl); 45416 (deer); 45417 (turkey)

Parks and Forestry

Parks -- 45439 (camping fees and instructions for reserving park cabins, lodges and shelters); 45440 (park hours and general information)

Forestry -- 45441 (to order tree stock); 45442 (instructions for obtaining landowner assistance) (During the fall season, fall color reports and information on forestry events can be obtained by dialing 45442.)

Environmental Protection

Farm, medical, domestic, business or industry waste -- 45432

Underground storage tanks -- 45434 (registering); 45435 (removal)

Waste Management

Household hazardous waste material permit -- 16384

Toxic waste cleanup days -- 45430

Used oil, batteries and tire disposal -- 45431

CONSERVATION UPDATE

New WMAD Videos Available

The DNR's Waste Management Assistance Division has five new solid waste management videos available for loan. The videos, targeted to Iowans ages five through adult, promote reduction and recycling of general household wastes, hazardous household wastes and business wastes. Each video offers a unique, dramatic story motivating viewers to change their waste-producing habits as well as encouraging wise use of our natural resources.

The video, *Sarah's Tree*, aimed at young children, Grades K-5, offers a fresh educational perspective to young children. Viewers will relate to creating a cleaner earth by developing simple waste reduction and recycling habits as alternatives to landfilling.

Recycle Rachel focuses on teens, Grades 6-12. This video takes the waste reduction and recycling theme into the everyday life of an Iowa teenager. Rural and urban teens will interrelate with this upbeat video demonstrating the influence of one person's positive efforts on our environment.

Reduce, Reuse, Recycle: Waste Management For Adults, concentrates on Iowans, ages 18 and older. Proving that waste reduction and recycling has a place in every adult Iowan's lifestyle, this video moves the viewer from recycling collection to the all-important "closing the

loop" phase of buying recycled products. At the same time, it offers a clear message that recycling works and Iowans' efforts will not go to waste.

A fourth video, *Elliott Mess and The Case of Household Hazardous Wastes* is aimed at young teens through adult Iowans. A parody on Elliott Ness, this video focuses on suspect household hazardous wastes lurking in Iowa's homes. Reinforcing that there is nothing "bullet-proof" about an ordinary landfill, Mess places special emphasis on making healthy, environmentally smart choices when purchasing, using and disposing of household hazardous materials in order to protect Iowa's valuable groundwater.

If you are an Iowa business owner/operator, your company's dollars may be going to waste. *Less Means More: Waste Reduction and Recycling for Iowa Businesses*, is a 17-minute documentary video highlighting leading Iowa companies that have integrated sound pollution prevention methods as a routine part of every day's business. As demonstrated in the video, the free, confidential waste reduction assistance provided by the Department's Waste Reduction Assistance Program (WRAP), and the technical services offered by the Iowa Waste Reduction Center can enable both large and small companies to change priorities, moving from pollution control to pollution prevention.

The videos are on loan from a variety of local sources. To learn more about borrowing

these videos, contact the Waste Management Assistance Division of the DNR, (800)367-1025 or (515)281-5145.



Outdoor Journey, An Outdoor Recreation Skills Workshop for Young Girls

A nontraditional workshop, aimed at improving the outdoor recreation skills of young girls, has been developed by the Iowa Women in Natural Resources (IWNR) in cooperation with the Iowa DNR.

"There is a lack of social support and opportunities for girls to be exposed to various aspects of the outdoors," says Gloria Baker, office manager of the DNR's Springbrook Conservation Education Center and coordinator of the Outdoor Journey workshop.

"IWNR is providing the setting where our target audience, girls ages 12-15, will feel comfortable and unintimidated for their first crack at shooting a gun or using a fishing pole. There have been many such workshops that focus on young boys, but never one for girls," Baker added.

Baker explains that she has lined up professional

presenters and program leaders who can also serve as role models for the girls. Activities planned include: canoeing, fishing, shooting, orienteering, fire building and low-impact camping.

The event is set for June 9-11 and will be conducted at the Springbrook Conservation Education Center north of Guthrie Center.

For more information, or to enroll in the program, contact Gloria Baker at the Springbrook Conservation Education Center, RR 1, Box 53, Guthrie Center, IA 50115, 515-747-8383.

Toxic Cleanup Days Spring 93 Locations

The Toxic Cleanup Day (TCD) "call for an appointment" system allows Iowans to dispose of hazardous wastes during toxic cleanup days, and provides an opportunity for education on alternatives to disposal or in some cases proper disposal management in the home.

Watch local newspapers for phone numbers to call for appointments. Remember to store household hazardous materials safely until the events are held.

Dates and locations for the spring toxic waste cleanup days are:

◆ **May 1, Dubuque County**, Coordinator, Thomas Bylund, (319)589-4250, Dubuque Metro Landfill, Dubuque, Highway 20 North.

◆ **May 1, Jackson County**, Coordinator, Mark A. Beck, (319)652-5658, Jackson County Fairgrounds, Maquoketa, East end of town off Quarry St.

◆ **May 8, Humboldt County**, Coordinator, Larry Lerdal or Doug Wood, (515)332-3492 or (515)332-4809, Humboldt County Fairgrounds, Humboldt, Highway 3, Taft St. North.

◆ **May 8, Webster County**, Coordinator, Gary Boerner or Ken Danner, (515)573-4107 or (515)573-1403, Webster County Fairgrounds, R.R. 4 Fort Dodge.

◆ **May 15, Davis County**, Coordinator, Donnie Herteen, (515)664-3629, Rural Deposit Station, Bloomfield, Highway 2.

◆ **May 15, Dickinson County**, Coordinator, John Walters, (712)338-4786, Maintenance Building, Milford, Highway 71, south end of town.

◆ **May 15, Wapello County**, Coordinator, Thomas L. Clark, (515)683-0680, Ottumwa Park Shelter, Ottumwa.

◆ **May 22, Woodbury County**, Coordinator, Phyllis Packard or John Green, (712)279-6286 or (712)279-6156, Sioux City Utilities Field Office, 18th Street, Sioux City.

Remember when you shop to watch for the HHM logo. Make healthy, environmentally smart choices when deciding which household products to purchase and use.

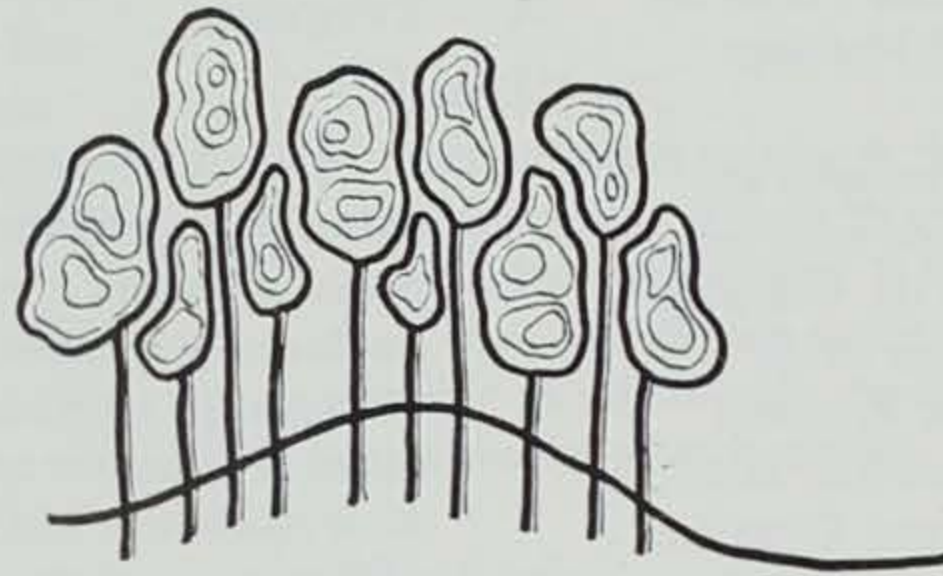
1993 Iowa Youth Hunter Education Challenge

The DNR and Iowa 4-H Safety and Education in Shooting Sports Program and the National Rifle Association Hunter Education Program are sponsoring a 1993 Iowa Youth Hunter Education Challenge Program June 10-12 at the Iowa 4-H Education and Natural Resource Center near Madrid. There will be competition in eight events: hunter responsibility exam; rifle, archery, shotgun and muzzle-loader hunting; hunter safety trail challenge; hunting/wildlife identification; and hunter orienteering skills.

All participants must be hunter education graduates and contestants will become members of a team of five to six shooters in either the junior (age 12-14) or senior (age 15-19) categories. Each team must be accompanied by an instructor/coach. Individuals may enter but must be accompanied by a parent, legal guardian or Iowa Hunter Education Instructor and will be arbitrarily assigned an appropriate team upon registration.

The \$30 registration fee covers the cost of ammunition, targets, awards, meals and lodging for the two-day event. Registration begins March 15 and each team must be preregistered by May 15. Entries will be limited to the first 100 participants submitting registration forms.

For registration forms contact Jim Pease, Department of Animal Ecology, 124 Science II, ISU, Ames, IA 50011, (515)294-7429.



Iowa's Forest Inventory Shows an Increase in Forest Land

Iowa's forest land increased from 1.6 million acres in 1974 to 2.1 million acres in 1990, according to the results of the latest forest inventory by the USDA Forest Service's North Central Experiment Station.

Most of the increase occurred in eastern Iowa where 85 percent of the forest land is located. According to Earl Leatherberry, one of the authors of the forest inventory report, this increase in forest lands reversed a steady and prolonged decline in the forest area. The reason for the increase is due to a shift from pasturing cattle in wooded areas to feeding them in feedlots, and to the increasing trend in reforesting highly erodible farm land and reforestation along streams and rivers. Many wooded pastures have reverted back to forest land.

Oak forest covers almost half of Iowa's timberland (land that can produce crops

of industrial wood) and more than one-third of timberlands are covered by the white oak, red oak and hickory type. The forest-type that showed the largest increase, however, was the maple-basswood type.

The volume of wood in trees at least five inches in diameter on timberland, also increased from 1.1 billion to 1.7 billion cubic feet between the 1974 and 1990 inventories. The volume of wood that could be made into lumber increased by 53 percent from 3.8 to 5.8 billion board feet.

Nonindustrial private owners hold 92 percent of Iowa's timberland. Approximately 57 percent of this land is held by owners with less than 50 acres.

Copies of the inventory report, *An Analysis of Iowa's Forest Resources, 1990*, may be obtained by calling the USDA's North Central Station's Distribution Center, (608)231-9237 or the DNR's 24-hour phone information system at (515)281-5145, and requesting Resource Bulletin NC-142.

CONSERVATION UPDATE

Upcoming NRC, EPC and Preserves Board Meetings

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

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

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

Natural Resource Commission:

--March 4, Des Moines
--April 1, Brushy Creek Area

Environmental Protection Commission:

--March 15, Des Moines
--April 19, Des Moines
--May 17, Des Moines
--June 21, Des Moines

State Preserves Advisory Board:

--March 9 (Tuesday)
Iowa City

Adopt-A-Stream Program

The DNR has developed a new program to stimulate public awareness of our precious water resources, and to encourage environmental action to protect or enhance these resources. The "Adopt-A-Stream" program is designed to register and give recognition to individuals, groups or political subdivisions interested in adopting a stream segment. Short- or long-term projects may qualify for stream adoption.

A river cleanup day is just one type of project that could be a popular local activity. The cleanup day could serve to heighten awareness of the unique natural beauty of that segment of the river as well as any environmental problems that may be present. Successful past river cleanup projects used organized canoe floats as cleanup efforts. A good hot dog roast and community get-together after the cleanup can cap off a rewarding day for participants. Adding some fun to the day's work makes it easier for these worthwhile projects to become annual events.

Any type of environmental protection or enhancement project may qualify for the program. Other kinds of projects might include trout stream habitat improvement work coordinated by the local DNR fisheries biologist, water quality monitoring projects, fishing access im-



Jim Zohrer

▲ The Boone River south of Webster City.

provement, summer river access maintenance, or streambank or watershed protection through grass or tree plantings. The possibilities are endless. Service clubs, outdoor enthusiasts, scouts or school classes will find this program popular and educational.

To enroll in the Adopt-A-Stream program, call or write the DNR to request an enrollment packet. Once the activity has been planned an enrollment application is returned by the sponsoring group to register their program. After the project is finished a project completion report is submitted. Completed projects will be recognized in the *Iowa Conservationist*.

Those groups or organizations carrying out projects will receive a certificate of appreciation from the DNR and the top 10 projects will receive an "American Rivers" poster showing an outstanding U.S. river. Aside from any recognition or certificates, the greatest rewards may come from spending a day in one of Iowa's natural green corridors and making these natural areas a better place for today's Iowans as well as for future generations.

For additional information or to request an Adopt-A-Stream enrollment packet call James Zohrer, water access coordinator, at (515)281-3449 or write to: Department of Natural Resources, Attn: James Zohrer, 900 E. Grand, Des Moines, IA 50319-0034.

CLASSROOM CORNER

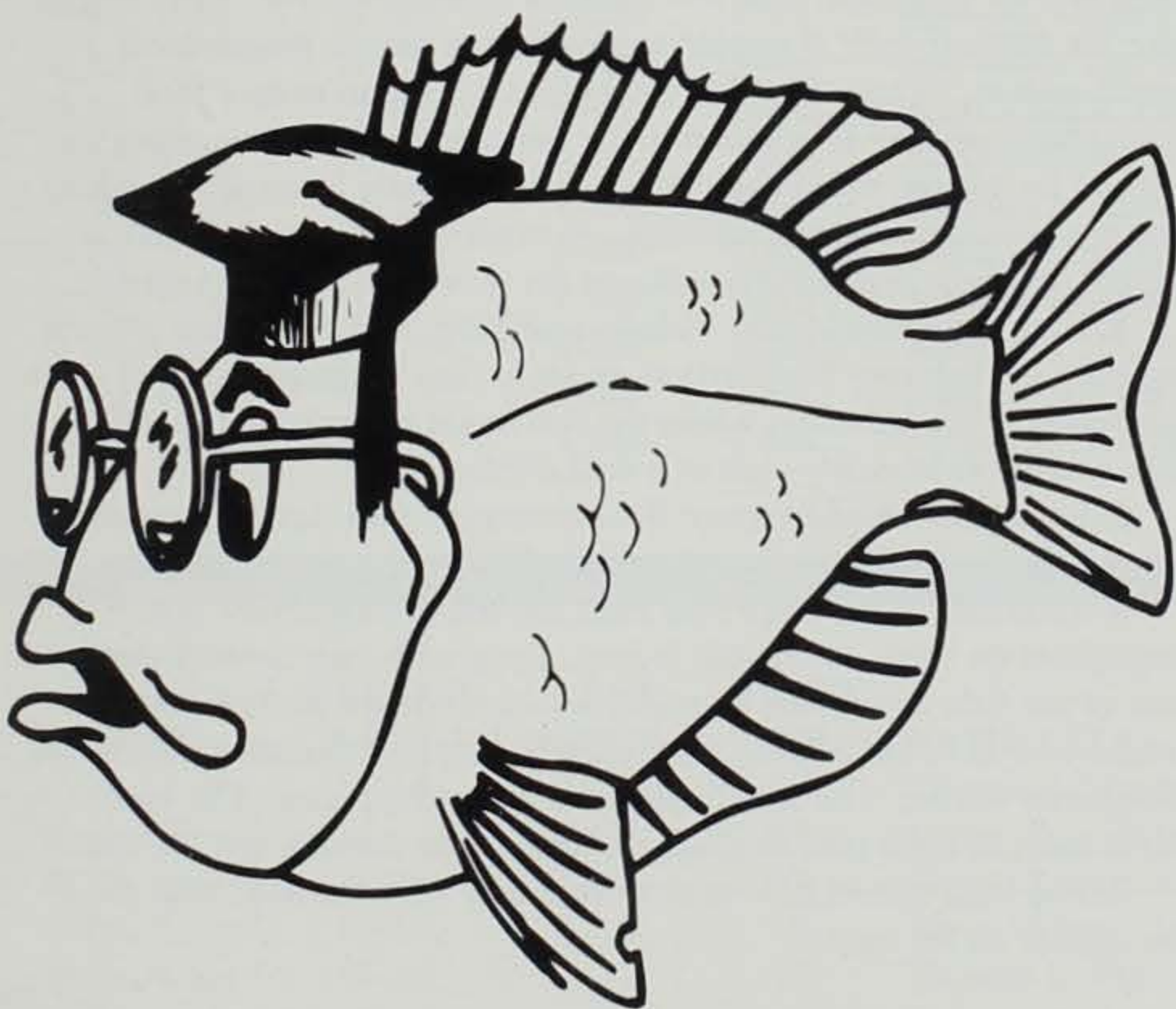
by Barb Gigar

Fishy Who's Who

The following activity is adapted from *Aquatic Project WILD*, a multidisciplinary activity manual for use with students, K-12. This manual is provided to educators free of charge through workshops conducted by either the Department of Education or DNR's Aquatic Education Program. Materials for *Aquatic Project WILD* are purchased with Sport Fish Restoration Funds. Workshops, including *Aquatic Project WILD*, which provide graduate credit are funded by a REAP conservation education grant.

Background:

There are almost 150 species of fish which have been documented in Iowa. Each plays a role in our aquatic ecosystems. Some are predators on other aquatic life. Some feed on plant material. Still others scavenge dead plants and animals. Some deposit eggs in nests while others scatter their eggs on rocks or plants. They exhibit a wide range of behaviors. Some fish are popular game fish among anglers, but others that are less conspicuous to humans are nevertheless important to our aquatic ecosystems. The major purpose of this activity is to expand students' knowledge of the different species of fish that occur in their area.



Oldious fishious

Age:

Grades 4-12

Objectives:

Students will be able to: 1) recognize and identify at least 10 species of fish that live in their area; 2) list at least one value of each species they identify; and 3) describe the habitat requirements of each species.

Method:

Students do an inventory of fish habitats that exist in their area, obtain information about the various fish species that occur in these habitats and locate the fish species on a map according to where they occur.

Materials:

Paper (possibly graph paper), drawing and art supplies, yarn or string and the references listed under "resource materials" or similar fish identification books.

Resource Materials:

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

Gigar, B. 1989. *Fish Iowa!* an introductory guide to the fish of Iowa. Iowa Department of Natural Resources: Des Moines, IA. 16pp.

Sportfish Identification (1/2" VHS). Iowa Department of Natural Resources: Des Moines, IA. 10:30 min.

Extensions:

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

2. Explore why some fish species or types 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 drum a drum or a darter a darter?

4. Invite your County Conservation Board naturalist to come and speak to the class about fish and fish habitat, but only after you have created you displays so (s)he can provide advice and make suggestions.

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

6. Are there any special fish habitat "hot spots" in your area -- places where fish are in danger because of human or natural activities? Note these on your map as well, and describe the problem.



Wayne Lonning

▲ White amur or grass carp

Barb Gigar is the department's aquatic education coordinator.

Procedure:

1. Ask the students what fish they think live in their area. Focus on identifiable boundaries such as their community, county, region or state. 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, rivers, large streams, marshes, sloughs and even ponds if they are studying a smaller area. Make sure each 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 state, county or township 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 ten teams. Have each team identify possible sources of information about fish and fish habitats in the community, county, region or state. Have the teams develop a plan for getting information about fish and fish habitats in their area of study. Do not neglect first-hand sources, such as family members and friends. County Conservation Board (CCB) or Department of Natural Resources (DNR) personnel, water quality specialists and biologists may provide valuable information. The DNR has several publications, as do many CCBs, that would be helpful. Other sources might include the school or public library. The class should then pick 10 fish found in their area (or you may assign 10 fish from the lists they have compiled). Each team will write a "biography" for one of the 10 species.

Each biography should include the fish's name (common and scientific), where it lives and what its habits are. It should also include specific information about the kind of habitat (moving or still water, warm or cool water, etc.) the fish needs in order to survive. (You might have the students look at sample entries from a human biographical source such as "Who's Who" to get an idea of how to write a short biographical sketch. In addition to the biological information about the fish and its habitat, the "biographies" should include information, where possible, about ecological, scientific, recreational, economic, political, cultural, aesthetic and intrinsic reasons for which the fish are valuable.

4. Each team should also include a painting, sketch or other artform depicting the fish they have written about in their biography as well as an illustration of the habitat(s) where the fish might be found. It should be large enough to be easily seen in a wall display.

5. Each team should present the information they have discovered about their fish species to the rest of the class.

6. Returning to the large wall map, the teams should now post biographies on cards or suitable format, along with their artwork depictions of the fish, around the map near locations where the fish occur. Extend yarn or colored string from each biography to locations where the fish species occurs. Use a different color for each species. Use tape, thumb tacks or push pins to attach the yarn to the artwork and the map.

7. The class should now review what they have learned about the fish species on the map.

1992 TOP 25 TURKEYS

*New All-Time Top 10 Turkey

Roger A. Hill



TOTAL SCORE	WEIGHT	BEARD LENGTH	LEFT SPUR	RIGHT SPUR	NAME/CITY	COUNTY TAKEN
*83.37	29 lbs. 2 ozs.	11-4/8	1-4/8	1-5/8	Gary L. Hesselberg, Davenport	Jackson
82.62	31 lbs. 2 ozs.	10-6/8	1-4/8	1-4/8	Melvin James Stevens, Victor	Monroe
82.43	28 lbs. 11 ozs.	11-2/8	1-3/8	1-6/8	Leslie E. Dorsett, Panora	Guthrie
82.31	25 lbs. 5 ozs.	11	1-6/8	1-6/8	Timothy J. Henning, Des Moines	Union
81.25	27 lbs. 4 ozs.	9-4/8	1-6/8	1-6/8	Kevin Mitchell, Fayette	Fayette
81.18	25 lbs. 11 ozs.	11-4/8	1-5/8	1-5/8	Aaron Finch, Jefferson	Greene
81.00	23 lbs.	11-4/8	1-6/8	1-6/8	Ronald R. Mower, Burlington	Des Moines
79.18	25 lbs. 3 ozs.	12	1-4/8	1-4/8	Erwin Jay Coon, Des Moines	Madison
78.75	27 lbs.	11-4/8	1-4/8	1-3/8	Kyle Bigler, Mason City	Allamakee
78.50	29 lbs.	11-5/8	1-2/8	1-3/8	Harold W. Heitman, Guttenberg	Clayton
78.50	26 lbs. 8 ozs.	11	1-4/8	1-4/8	Lyle E. Towne, La Porte City	Decatur
78.25	28 lbs. 8 ozs.	11-1/8	1-3/8	1-3/8	Roger McDowell, Mt. Pleasant	Henry
78.25	25 lbs. 4 ozs.	11-4/8	1-4/8	1-4/8	Gerry H. Hildal, Jewel	Hamilton
78.18	28 lbs. 3 ozs.	10	1-4/8	1-4/8	Michael D. Walter, Tipton	Cedar
78.12	27 lbs. 2 ozs.	10-4/8	1-4/8	1-4/8	Richard Pauley, Mystic	Appanoose
78.06	27 lbs. 1 oz.	11-6/8	1-2/8	1-4/8	Steve R. Canady, Marshalltown	Van Buren
78.00	26 lbs.	11	1-4/8	1-4/8	Steven M. Readinger, Mt. Pleasant	Henry
78.00	25 lbs.	11-4/8	1-4/8	1-4/8	Scott Kunkle, Cedar Falls	Bremer
77.75	24 lbs. 8 ozs.	11	1-5/8	1-4/8	Steven Wayne Hiveley, Madrid	Webster
77.56	26 lbs. 5 ozs.	11-2/8	1-4/8	1-3/8	Michael J. Smith, Rockford	Floyd
77.50	22 lbs.	10-7/8	1-5/8	1-6/8	Darrel Ballantyne, Solon	Johnson
77.43	25 lbs. 7 ozs.	11	1-4/8	1-4/8	John M. Houghtaling, Des Moines	Union
77.37	27 lbs. 6 ozs.	11-2/8	1-3/8	1-3/8	Ronald L. Jorgensen, Storm Lake	Sac
77.37	27 lbs. 2 ozs.	11-3/8	1-3/8	1-3/8	John H. Millsbaugh, Mt. Pleasant	Henry
77.31	22 lbs. 1 oz.	11-3/8	1-5/8	1-5/8	Melvin B. Wuebker, Jefferson	Guthrie

All-Time Top 10 Turkeys

TOTAL SCORE	WEIGHT	BEARD LENGTH	LEFT SPUR	RIGHT SPUR	NAME/CITY	COUNTY TAKEN	YEAR
88.94	25 lbs. 7 ozs.	10-4/8	2-1/8	2-1/8	Thomas J. Moravec, Cedar Falls	Allamakee	1990
86.63	29 lbs. 10 ozs.	11	1-6/8	1-6/8	Duane Frey, Winterset		1987
85.69	28 lbs. 3 ozs.	11-2/8	1-6/8	1-6/8	Matt Whatley, Riverside	Davis	1988
85.38	27 lbs. 10 ozs.	10-6/8	1-6/8	1-7/8	Steve Winkey, Iowa City	Johnson	1991
85.00	28 lbs. 4 ozs.	10-2/8	1-7/8	1-6/8	Thomas L. Miner, Chariton	Lucas	1991
84.25	31 lbs. 8 ozs.	10-6/8	1-4/8	1-5/8	Douglas D. Vaux, Coon Rapids	Guthrie	1991
83.88	28 lbs. 6 ozs.	10-2/8	1-6/8	1-6/8	Bryan T. Hayes, Mystic	Appanoose	1989
83.37	29 lbs. 2 ozs.	11-4/8	1-4/8	1-5/8	Gary L. Hesselberg, Davenport	Jackson	1992
83.31	30 lbs. 5 ozs.	11-4/8	1-4/8	1-4/8	C. L. Current, Monroe	Marion	1987
83.06	28 lbs. 1 oz.	11-2/8	1-4/8	1-6/8	James H. Meeks, Solon	Van Buren	1990



IF FOR RECYCLERS

IF you can keep your trash when all about

you haul theirs out to the curb on pick-up day;

IF you can learn the habit of reusing, instead

of simply throwing things away; IF you can

smash your cans and stack your papers, and

sort out all containers made of glass; IF you can

take your motor oil to be reclaimed, and compost all your

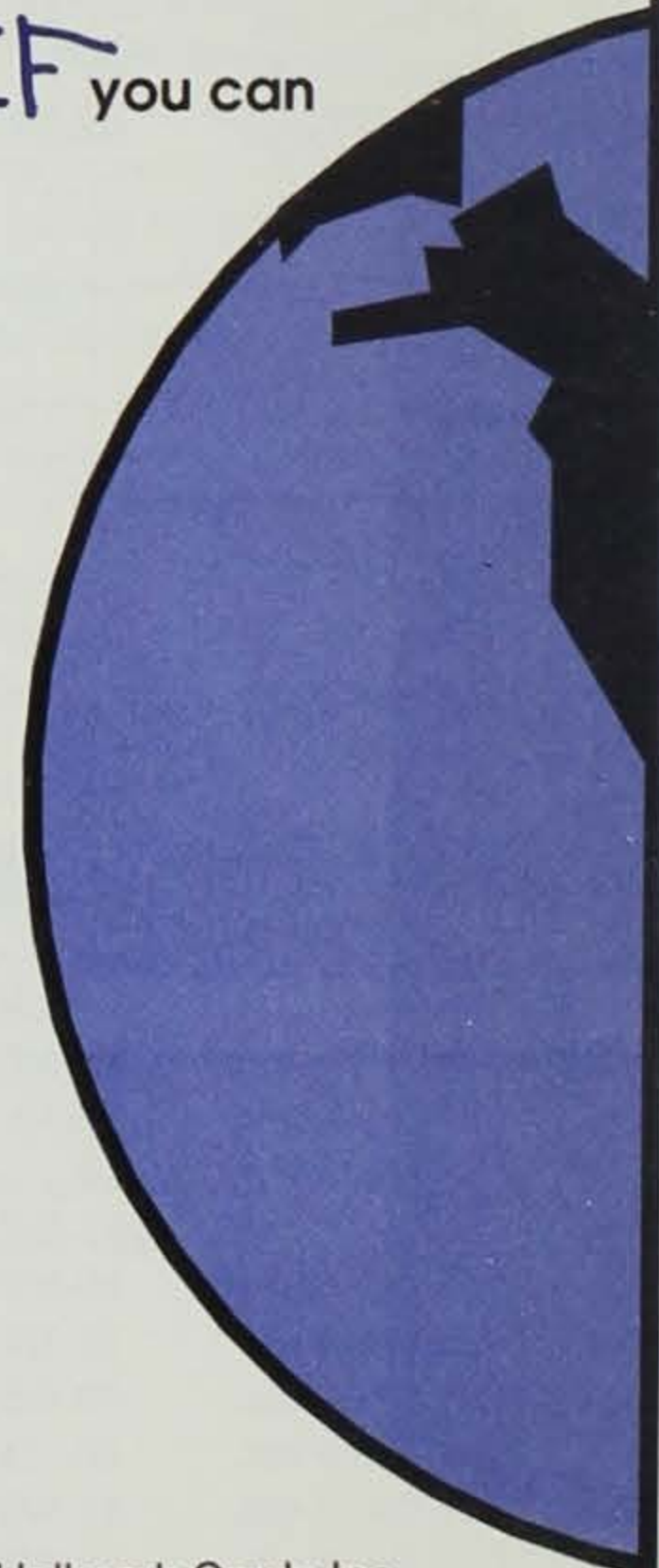
garbage, leaves and grass; IF you can keep recycling

more and using less, and find within each thing some

added worth, My friend, you might not always save

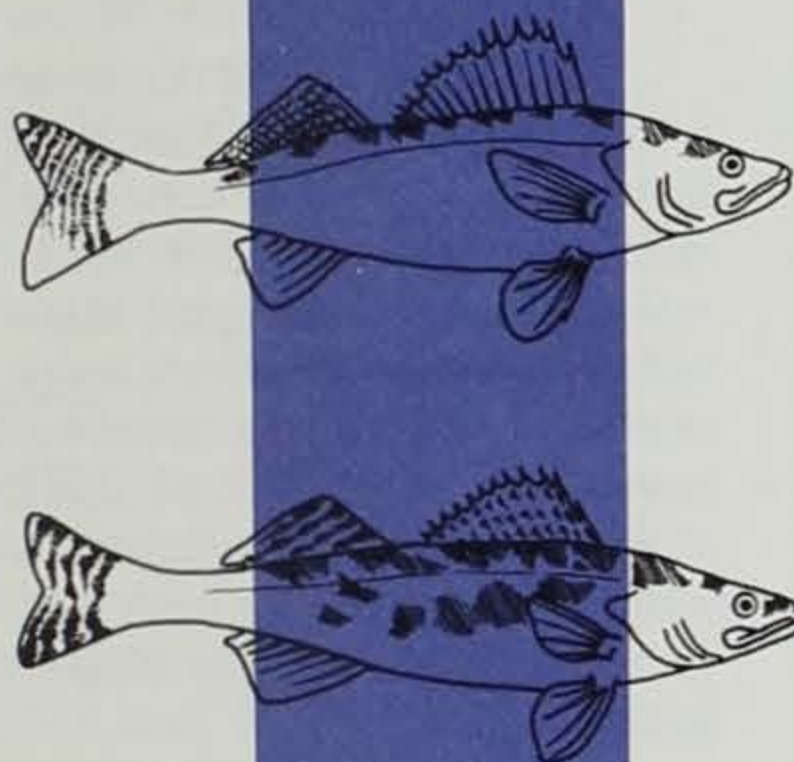
a lot of time, but -- which is more -- you just might

SAVE THE EARTH!



M I S S I S S I P P I

Walleye and Sauger



Questions and Answers

by Tom Boland

With few exceptions, the Mississippi River is the state's premier walleye hotspot. Together with its smaller cousin, the sauger, they offer river anglers a unique opportunity. Many questions are raised by "new-comers" as well as "old timers" regarding Mississippi River walleye/sauger biology and management. The following are some of the most commonly asked questions concerning this increasingly popular fishery resource.

What are the adjoining states' walleye and sauger harvest regulations -- are they any different from Iowa's?

Presently all Mississippi River states bordering Iowa, which include Illinois and Wisconsin, have the same walleye and sauger harvest regulations. They are:

- Continuous open season
- Aggregate daily bag limit of 10, with no more than six walleye
- A 15-inch minimum size limit on walleye only

Is there more fishing pressure on Mississippi River walleye and sauger than there use to be?

We think so. There seems to be more attention given to the rivers' walleye and sauger fishery resources in the last five years, but we don't have any hard data which would substantiate this belief. Most of the information that has been collected on walleye and sauger was done during the early 1980s. However, a six-year walleye and sauger research project was initiated by the DNR at Bellevue last year. The information collected in the next few years will provide data necessary to better evaluate and

manage the Mississippi River walleye and sauger fishery resources.

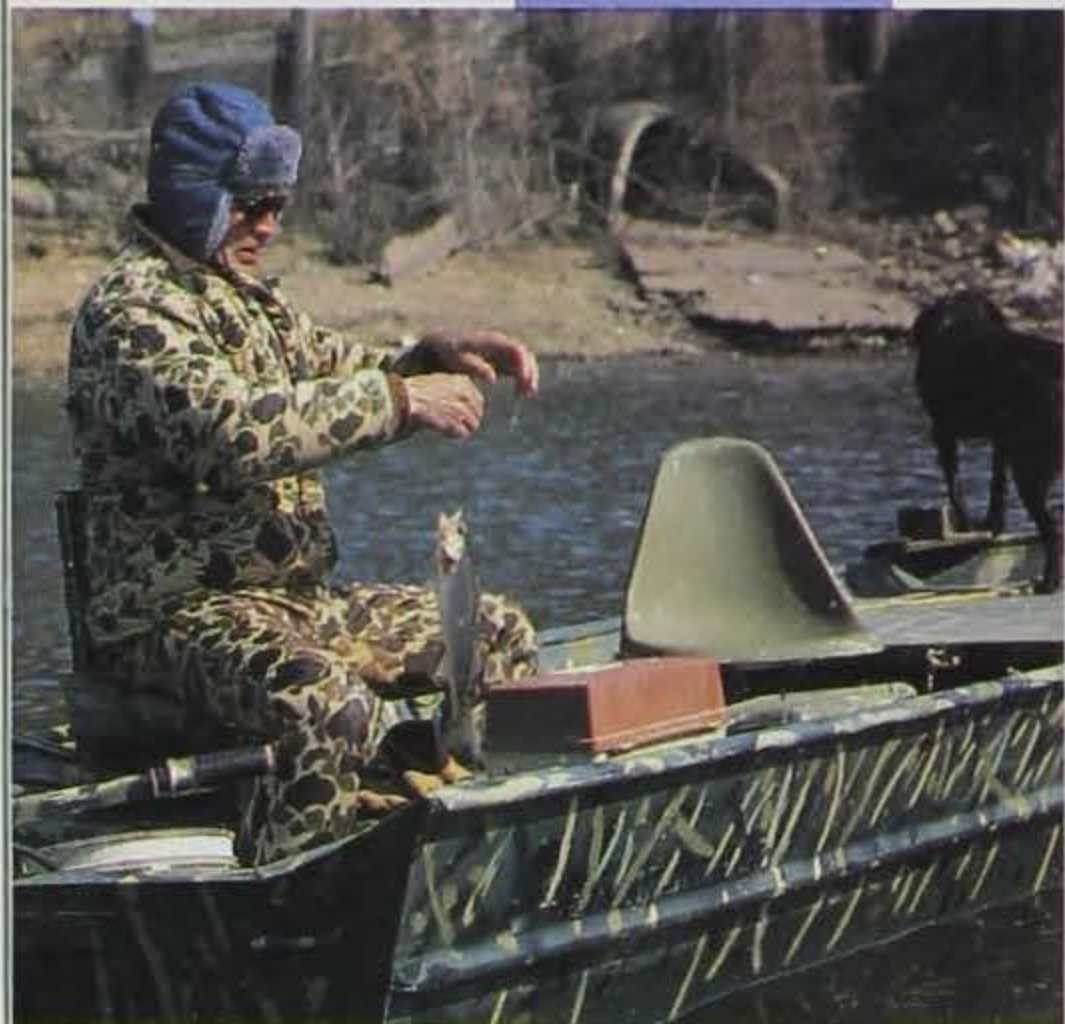
How many walleye and sauger are being harvested by anglers every year?

Harvest data was collected in the Bellevue and Guttenberg tailwaters during 1980-82. Although this data may not be as current as we would like, it is Iowa's most extensive walleye and sauger population and harvest information on the Mississippi River. An estimated 3,900 walleye and 17,100 sauger were harvested each year from Guttenberg and Bellevue tailwater locations during the two-year study period. Although this is good spring and fall harvest data, it does not include the summer harvest of walleye or sauger. Historically, some of the best walleye harvest is from summer wing dam fishing. The study that was initiated last year will repeat most of the work that was done in the 1980s for comparative reasons, but will also attempt to determine the summer harvest of walleye and sauger.

If anglers harvest that many walleye and sauger, how many fish are in the river and what percent of the total population are being caught and kept by anglers?

Again, the data collected from the study in the early 1980s indicates that in the Guttenberg and Bellevue tailwater areas, sauger outnumber walleye about three to one. Population estimates of fish greater than nine inches found within a half-mile downstream of Lock and Dam 10 and 12 was approximately 51,000 sauger and 16,000 walleye.

▼ Closed spawning seasons and more restrictive walleye and sauger harvest regulations are not thought to be effective or necessary to maintain the good fishery that now exists.



Ron Johnson

The number of fish caught and kept by anglers can vary greatly from year to year, but was calculated to be a low of eight percent in 1981-82 at Guttenberg for walleye to a high of 43 percent in 1980-81 for sauger at Bellevue. The average annual percent of fish greater than nine inches harvested by anglers from the two areas was estimated to be approximately 27 percent for walleye and 35 percent for sauger.

How old is a 15-inch walleye or sauger?

A 15-inch Mississippi River walleye would be approximately two to three years old, while a slower-growing 15-inch sauger would be about three to four years old. Age and growth information was also collected during the study in 1980-82. See the table below for additional calculated lengths for Mississippi River walleye and sauger.

Length vs. Age for Mississippi River Walleye and Sauger

Age	1	2	3	4	5	6	7
	Length (Inches)						
Walleye	7.1	12.2	16.2	19.0	21.2	23.0	24.2
Sauger	6.2	11.2	14.5	16.7	18.3	19.8	

Is the existing 15-inch size limit and reduced daily bag limit of six helping the walleye population?

Maybe yes, maybe no. This sounds like a typical bureaucratic answer; however, it's the only one that anyone can give at this time. A computerized fish simulation model and the best available walleye data was used to determine the necessary harvest restrictions to produce the optimal size and number of walleye. The present minimum 15-inch size limit and six daily bag limit on walleye was put into effect on the entire river bordering Iowa on January 1, 1991. Normally, it requires five years or more of data

collection to adequately determine whether a regulation is working. Therefore, the walleye and sauger study that the DNR started last year will provide the much-needed information to help evaluate the present harvest restrictions and determine if regulation changes will be needed in future years.

Why do we have size and reduced bag regulations on walleye and not sauger?

Good question. The simple answer is that the data indicates harvest regulations on walleye should improve both the number and size of walleye, while maintaining an already good sauger fishery. Theoretically, since sauger outnumber walleye three to one in the Iowa section of the river, we should be able to have our cake (an improved walleye fishery) and eat it too (harvest greater numbers of smaller sauger to take home and eat).

A better answer is that biologists should be taking a closer look at existing sauger data and determine if a change in regulations would improve that fishery. If it is determined that placing additional harvest restrictions on sauger would improve that resource, it should be strongly considered.

Do we need to close fishing during the spawning period of walleye and sauger?

Many anglers become concerned about a fishery resource under two circumstances -- when they can't catch fish and are concerned that a complete collapse in the resource has occurred, or when they are catching too many fish and fear over-harvest will lead to a complete collapse of the resource. When either scenario occurs, which is most of the time, anglers usually take a conservative approach and ask questions like the above.

The general consensus of Mississippi River fisheries biologists is that a closed spawning season or further protection of the brood stock is not necessary. Also, more restrictive walleye and sauger harvest regulations, such as allowing only one fish more than 20 inches in

length each day, or a slot limit, are not thought to be effective or necessary to maintain the good walleye and sauger fishery that now exists.

What determines year class strength or the size of Mississippi River walleye and sauger populations?

The answer to this question can be difficult to understand, but let's give it a try. First, let's clarify the difference between the terms *year class* and *population*. Year class is the total number of walleye or sauger that were born and survived during a particular year. For example, if 100 walleye were born in the Mississippi River this year, they will represent the year class 1993. If only 50 percent of those 100 survive until 1994, the 1993 year class will be reduced by half, or 50 individuals. A walleye population is the total number of all age groups of walleye found in a particular body of water at a particular time.

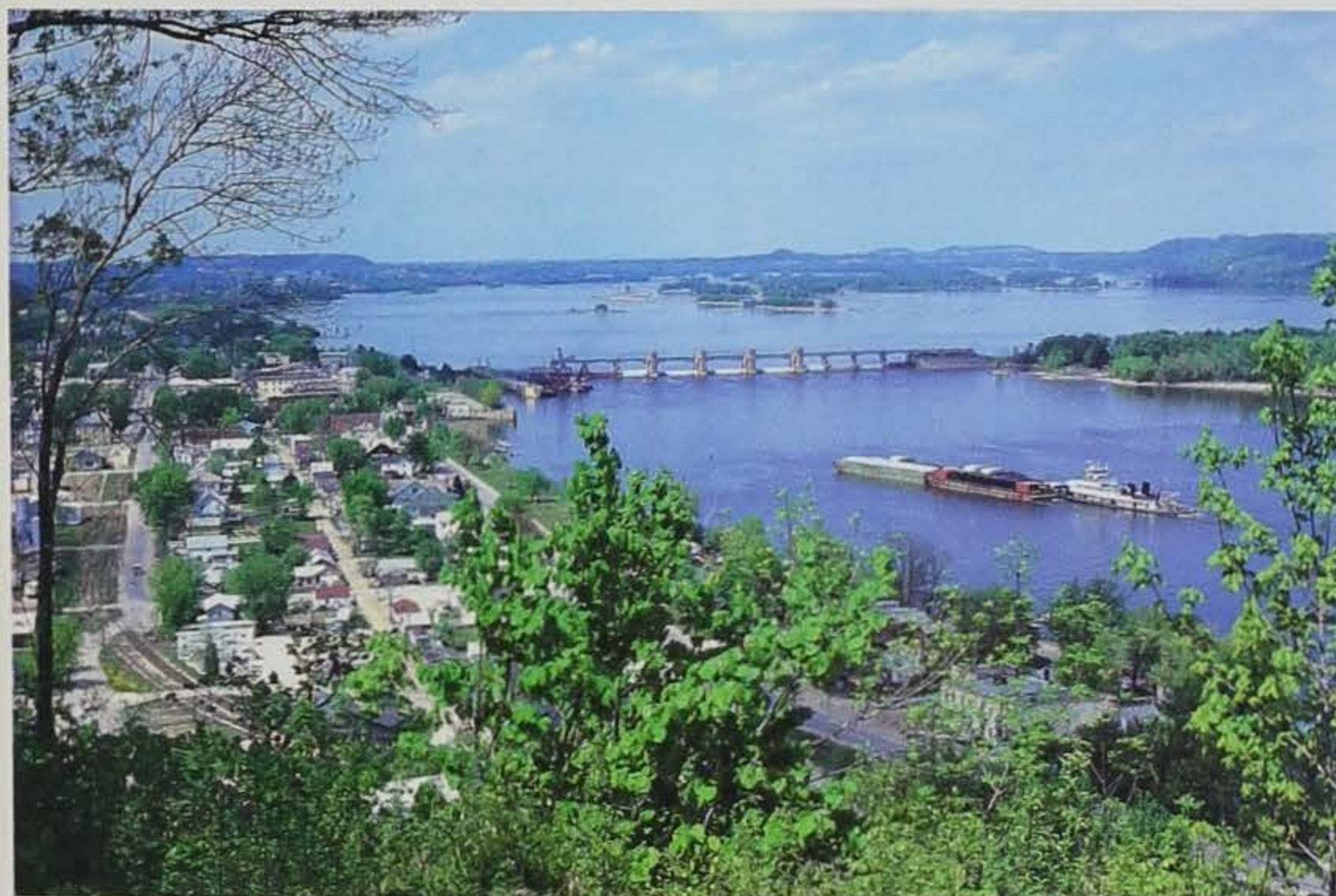
A variety of factors can effect year class strength and the size of walleye and sauger populations. Certainly, we would like to think that harvest regulations play an important part in determining the number of fish found in the river or we wouldn't impose them. Much of our time is spent collecting information that will determine if regulations are needed or are working. However, it is

not very well understood that some of the major factors influencing year class strength on the Mississippi River are environmental factors -- factors such as having the optimal water temperature and river stage or flow during the spawning period. Factors over which, incidentally, we have no control.

On the long-term, however, human-induced impacts and changes in natural habitat become very important. Human-induced impacts include increases in commercial and recreational boating traffic, maintenance of the navigational channel, discharge of heated or chemical effluents from point sources (factories), nonpoint source pollution from upland areas, construction of additional electrical generating facilities (which include coal, gas and hydropower), an increase in commercial and private development, an increase in water turbidity and sedimentation rates and many more.

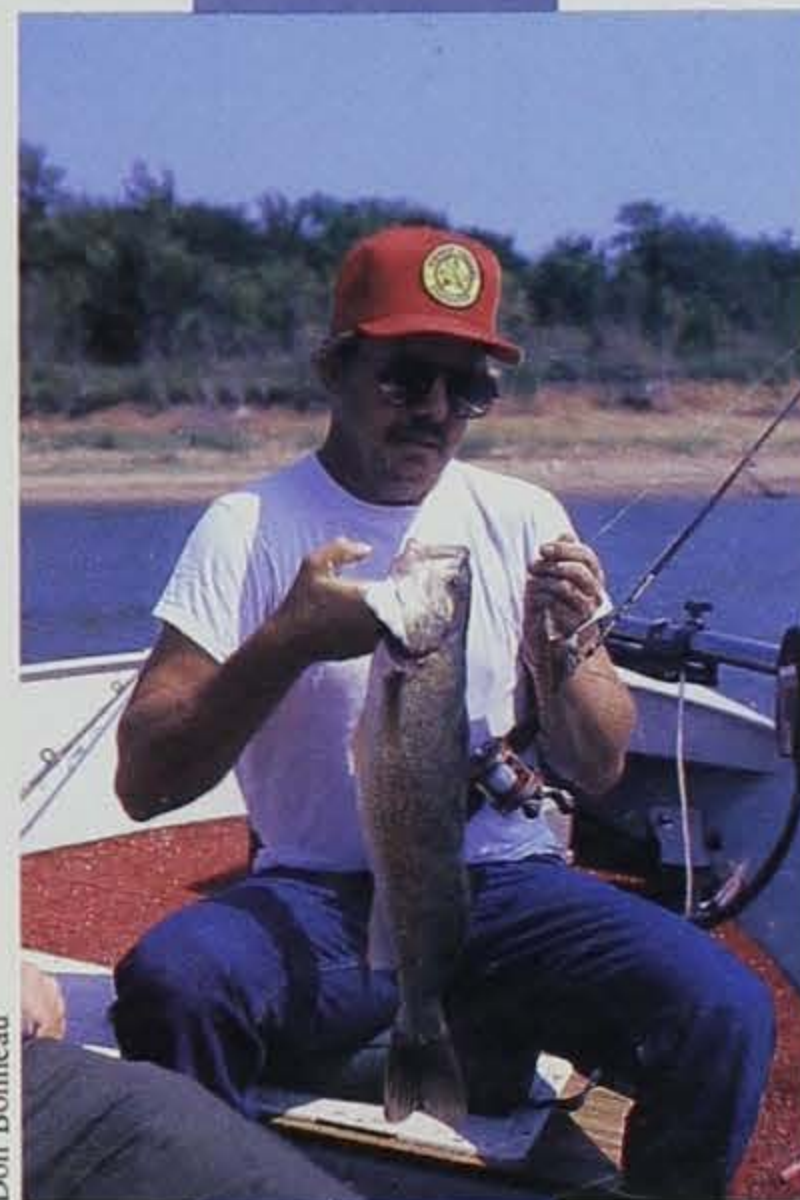
Over time, these factors will take their toll on the quality and quantity of river habitat that is required to maintain a quality Mississippi River walleye and sauger fishery and will ultimately determine the year class strength and size of future Mississippi River walleye and sauger populations.

Tom Boland is a fisheries management biologist located on the Mississippi River at Bellevue.



Tom Boland

... it is not very well understood that some of the major factors influencing year class strength on the Mississippi River are environmental factors.



Don Bonneau

◀▲ The DNR began a walleye/sauger study last year in the Bellevue (left) and Guttenberg areas which will provide information needed to evaluate present harvest restrictions.

Second in a Series

Dreams Come True

Article by
Kevin Szcodronski
Photos by Ruby Davis

I step out of my car, and the winter air gives me a shiver. The warm air is welcomed as I enter my building and head to my office. The nameplate on the door says "Director, Parks Department." My coat and hat are not yet settled on their hooks when I hear a quick couple knocks on the door. In come three of our city parks department's most active supporters. Immediately they begin rambling about an idea for a new parks project. They tell me the entire city will support it, and I do not have to worry about money because the state has a program called REAP.

Although this scene may vary a bit, the scenario is probably familiar to many city parks departments across Iowa. Since 1989, Iowa's Resource Enhancement and Protection program has brought a breath of fresh air to city parks departments across the state. With federal grant monies for local park and recreation projects all but drying up, availability of REAP City Parks and Open Space grants are both timely and very much in demand. There is no magic formula for receiving a grant. It takes some work, but only a modest amount compared to the awards that can result.

REAP grants can pay up to 100 percent of a project's cost, which means a city does not have to put up any of its own money. However, they may want to in order to enhance a project. The

state will also give most of the money up front, so the project can begin right away.

Charter Oak is a good example of how grant funds can be used to rally citizens and accomplish much more than the value of the grant itself. "Our REAP grant project really lifted the spirits of the community," explained Alvern Klinker, mayor of Charter Oak. "Attitudes have definitely improved," he added. "The project would not have proceeded without the \$12,400 received through REAP. We contracted to have the water lines installed. Iowa Public Service helped install lighting. REAP helped buy the supplies that our citizens made into their park."

City parks and open space receives 15 percent of REAP appropriations. This 15 percent has varied annually, from as much as \$3 million in 1991 to \$1.2 million in 1993. Competition for REAP grants is very keen. Since REAP's inception, 644 project applications have been submitted for consideration. A total of 97 grants have been awarded, which is only 15 percent of the demand. Cities can be successful, however, if they learn more about the program, do an excellent job of developing their project idea, and preparing a quality grant application.

Our work over the past two months has come together nicely, and we are ready to present the project to our city council for approval. Maps and charts are prepared and gone over one last time. A short report will provide council members with background information on REAP. We are well rehearsed and do a fine job. The council approves the project proposal and directs us to keep working on it, prepare the grant application, and report back to them before submitting it to the DNR for funding consideration.

REAP is spurring cities to create projects that are becoming models for others to use throughout the nation. REAP projects are prompting calls for information from not only far away, but they are also bringing in calls and letters from people throughout the state looking for directions to project sites.

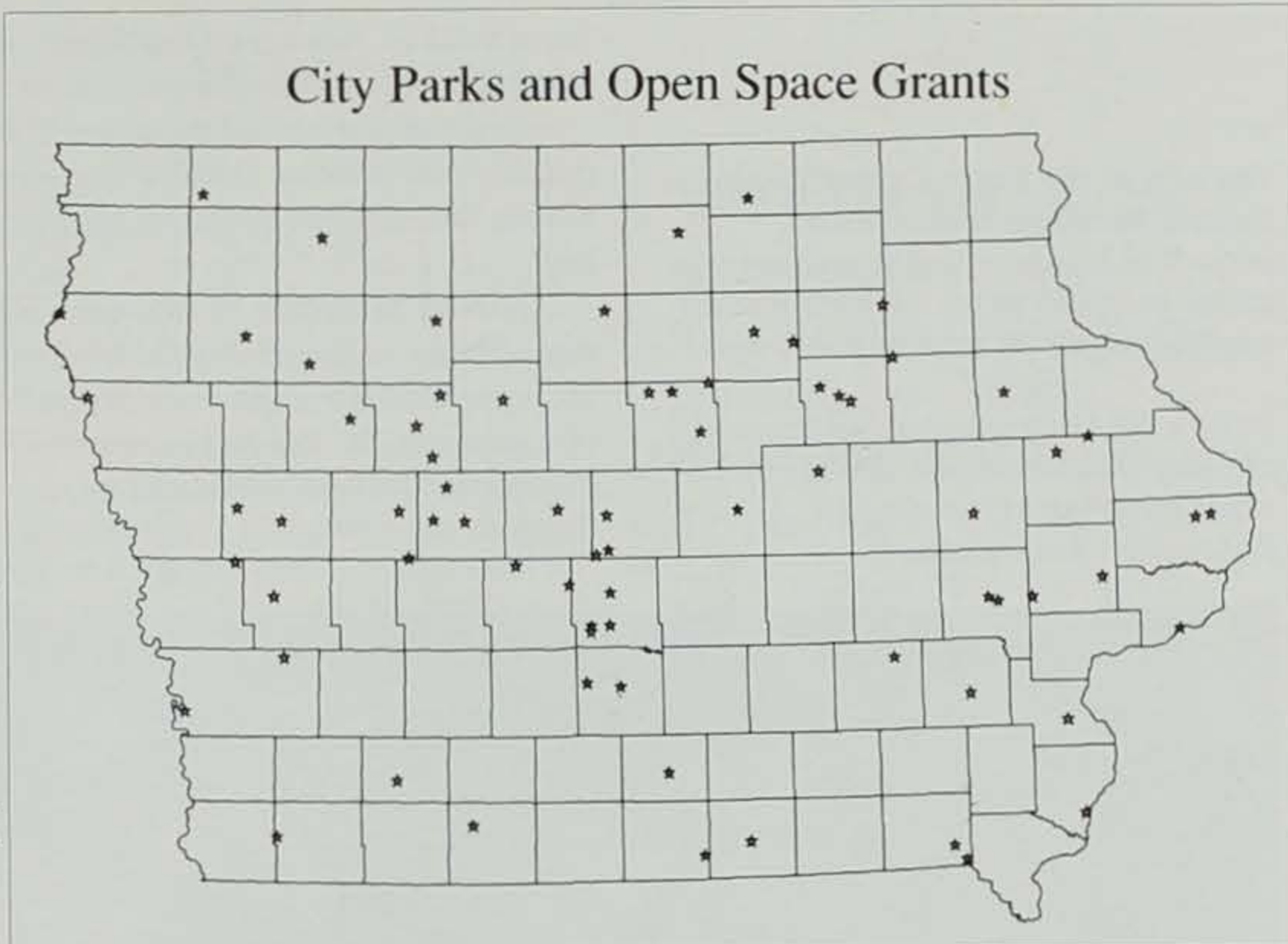
Wapello's REAP project consists of a trail and prairie plantings surrounding a wetland created with water from the city's wastewater treatment plant. It has converted an 80-acre farm field located along the outskirts of town into a wonderful public park in which visitors learn about and enjoy the outdoors and its resources. "The project not only has enhanced Wapello and the surrounding area," said L.J. "Tommy" Thompson, mayor of Wapello, "but there have been organizations from the states of Illinois, Wisconsin, Florida and California asking for more information on the project, along with many sister cities in the area."

Traer put their REAP grant to work on a butterfly garden adjacent to their nature preserve. "We have received requests for information and directions to our preserve from senior citizen tour groups as far west as Sioux City and from the Dubuque area to the east," said S. K. Hiltabidle, Traer city clerk. "Shortly after an article appeared in the *Des Moines Sunday Register*, our office received several calls from individuals planning weekend outings during the summer months and wanted to include our nature preserve in the trip. The butterfly garden has been a real topic of conversation."

A couple weeks later, the four of us attend a conference sponsored by the Iowa Park and Recreation Association. A poster session featuring some of the top scoring REAP city grant projects catches our eyes. It provides us with a good overview of the types of projects that are successful in receiving grants. We hope to get additional ideas on ways to improve our project proposal. I wander along the display panels and enjoy the wonderful photographs and site plans of success stories.

The following are top-scoring REAP city parks and open space projects from the last three years.

Westlake Phase I Acquisition, Cedar Falls — The 177-acre land acquisition for this major water recreational resource is in accord with the overall Cedar Valley Lakes Concept



Plan. The land being acquired includes 90 acres of water created by a Department of Transportation borrow area for highway construction. Property around the lake includes woodland and wetlands to be managed for passive recreation activities. Approximately 800 acres is planned to be purchased and developed over the next 10 to 15 years.

Sewell Trail and Recreation Area, Denison — This 67-acre acqui-

▲ **Locations of the 97 REAP City Parks and Open Space projects completed or underway (top).**

The Twin Reservoir Trail in Chariton, includes 1.5 miles of multi-use, handicapped-accessible interpretive trail on the west side of Lake Ellis.

▼
The site of the North Central Iowa Natural Heritage Trail, a REAP project in Manson, has a unique crater believed to be left by a meteor approximately 68 million years ago.

Rolfe's REAP grant enabled them to develop this limestone shelter and other facilities at Sunset Hill Recreation Area (bottom).



sition links an existing city park with an existing county park. The project includes walking and hiking trails; moped, cross-country skiing and snowmobile trails; picnic areas and a parking lot.

Nature Trail and Park Acquisition, Akron — Acquisition of this 28.4-acre area is for the establishment of a nature study area and outdoor classroom. Developments include tree and native grass plantings and comple-

tion of an already-initiated bicycle and walking trail.

Linn Creek Greenbelt Trail Extension, Marshalltown — This acquisition of 27 acres of flood plain land will include development of a trail to connect an existing multi-use trail next to Little League Park, and extending the trail 1.5 miles to connect Morris Park. The north side of the trail will be developed into a nature area of prairie grasses and the south side into a maintained park with shelters, picnic tables, benches and a parking lot. These two areas of development will be connected with a foot bridge over Linn Creek.

Stolley Park Acquisition and Nature Trail Development, Spencer — Stolley Park is an 80-acre recreational and wildlife area located in northwest Spencer. The acquisition and development plans target two objectives. Acquisition of 33 adjacent acres will protect the park from potential development and expand recreational and educational benefits. Development plans include enhancement of an existing trail system. Interpretive signs will be constructed to provide information to park users about their surrounding environment.

Northside Trailhead and Arboretum, Slater — This project includes the purchase of 1.5 acres of school property for a trailhead for the Heart of Iowa Nature Trail. Developments include a parking area, footpath, shelter house, prairie, arboretum and outdoor learning area. Renovation of a historic railroad tower is also part of the project.

Missouri Riverfront Acquisition, Sioux City — This 67-acre acquisition of open space adjacent to the Missouri River is for development of a multi-purpose recreational park. This property will become the south terminus of the city's riverfront open space system. A comprehensive master plan has been prepared that will help direct development of diverse recreation facilities over future years.

Crestbruck Park Development, Ankeny — In 1987, the city purchased 17 acres in the northeast quadrant of Ankeny for a neighborhood park. The

acquisition was made possible through years of hard work and commitment by residents of the neighborhood. The park is being developed as a passive, multi-use recreational facility and community park site. It provides the only public green-space in a highly populated and rapidly growing area of the city.

Pleasant View Park and Recreational Area, Dunlap — This area is 43 acres located within the corporate limits of Dunlap. The REAP project will establish an outdoor classroom, a recreation area for walking (handicapped-accessible), wildlife habitat, and park enhancements for picnicking, hiking and other uses.

Ryerson's Woods and Trail Development, Iowa City — Project plans are to construct a minimal impact trail system in 50 acres of undeveloped, wooded park land, featuring a handicapped-accessible interpretive trail section. It will also establish an acre of prairie, protect and preserve existing areas of historical and archaeological significance, build an 18-car parking lot and access from highway, and construct a small shelter/information center.

Centerville Reservoir's Wetland Development, Centerville — The City of Centerville and Appanoose County Conservation Board are leading a coalition of individuals, businesses, groups and agencies in an effort to protect and improve recreational, educational, wildlife and water supply values of the city reservoirs and surrounding lands. A key component is development of two 30-acre wetlands. This REAP grant is specifically being used to acquire 40 acres of land needed to fully develop the wetlands. The REAP application was submitted jointly by the city and county conservation board. Funds from REAP city parks and open space and from REAP county conservation grant accounts were awarded to this project.

Old Mill Nature Trail, Charlotte — This project is along Deep Creek with the trail starting at Broadway Street and traveling one mile to the west of Mill Street. A trail access will be placed at Mill Street. The trail will

be surfaced with crushed limestone and a wooden/steel bridge will be built over Honey Creek. Charlotte's neighbor city, Goose Lake, also has received a REAP grant which includes trail development. The two cities hope to someday connect their trails and provide safe, fun bicycling and hiking along the five-mile distance.

Our committee has done a wonderful job designing our project. We've rallied support from others in the community. It fits the purpose of REAP very well and most people in town are excited about it. I decide to get going on my work, which is to prepare the grant application. Before doing so, I flip through a newsletter distributed by the League of Iowa Municipalities, and see an announcement for a workshop on grant writing.

Preparing a grant application is made easier when the project idea is excellent and fits the program purpose like a glove. The primary purpose of the city parks and open space portion of REAP is to give cities and their residents more opportunities to learn about and enjoy the outdoors. Purchasing more park land, building trails and planting prairie grasses and trees are ways this is accomplished.

"Applications from our area have remained steady since the initial awards

"The REAP program has been the 'shot in the arm' that our park development plan needed. Without REAP, the \$270,000-plus in development and park improvements that we completed the past three years would not have occurred."

-- Jim Anderson
superintendent of recreation
Mason City Parks and
Recreation Department

▼
The Big Bluestem Shelter, which can accommodate more than 200 people, was one of many REAP developments at Moore Memorial Park in Ames.



"There are tremendous economic benefits from REAP grants. Because the City of Huxley did not have enough staff or volunteers to complete the construction of [its] park as designed, many people in the area were hired to complete the project. . . . Community volunteers did do a lot of work to put [the] park together, but at the same time we were also able to use grant money to help stimulate the area economy."

-- Marilyn Magnuson
Huxley park board member

were given," said Rick Hunsaker from the Region XII Council of Governments. "Communities have used the funds to reclaim waste areas, develop parks in undeveloped areas, creatively use public lands and control flooding. If it were not for this program, it is doubtful that many of our cities could have completed their projects. So far, we have received 10 separate grants for eight projects in four counties."

"From a grant-writing perspective, the REAP program is very friendly," said Hunsaker. "Applications are very thorough, and the public review process at the end is helpful in determining the shortfalls of various applications." The selection committee consists of individuals appointed for three-year terms by the DNR director under recommendation from the Iowa Recreation and Parks Association and the League of Iowa Municipalities. Current members include two city administrators, a city recreation director, a city parks planner and a DNR parks bureau staff person. "They are very accessible for advice and comments," Hunsaker added.

"Few state programs have the potential to touch so many people in the State of Iowa," said Marie Ware, recreation director for Coralville Parks and Recreation Department and member of the REAP grants selection committee. "Communities as small as Westphalia, population 144, and Goose Lake, population 221, up to Iowa's capitol city have been awarded grants for projects. The diversity of projects being completed shows the ingenuity and inspiration of community members for enhancement and protection of Iowa's resources."

"When reading each project proposal, it is easy to feel the sense of pride and enthusiasm from towns across the state," added Ware. "In the Depression, the Civilian Conservation Corps helped develop and preserve many natural areas and made a lasting mark in Iowa's history. The REAP program is giving Iowans the same development and preservation in the 90s. The completed projects are creating a new legacy of conservation efforts."

"A very heartening aspect of the grant review process has been to note the

increased emphasis on handicapped accessibility in the projects submitted for funding," said Nancy Exline, associate chief of the DNR's parks bureau and member of the selection committee. "Keeping the needs of wheelchair and cane users in mind during the planning and layout of a trail, picnic area or fishing spot eases use by the elderly, small children and those who maybe can't get around as well as others." Even though handicapped accessibility is the law, credit for increased awareness of these issues goes to the caring attitude of the persons involved in planning REAP projects. In the grant round just completed, virtually every project gave adequate consideration to handicapped accessibility.

Our presentation before the County Resource Enhancement Committee goes well and I am asked several questions about our project. I sense that others in the room are gaining excitement about it and want to help. They give me some ideas on ways that might improve the project and application. I am grateful because every little bit helps. I take my seat and once again my head is buzzing with ways to "fine tune" the application. I listen to the proposals from other cities and pick up even more ideas. We're now ready to obtain city council approval. I get that approval the following week and the mayor signs the application. Six duplicates are made and put in the mail to the DNR in Des Moines.

Completed grant applications are presented to a county resource enhancement committee. The committee is made up of county, city, school and other local officials, as well as farm and conservation organizations that are interested in REAP. The primary purposes of the committee is to prepare a five-year REAP plan for the county and coordinate REAP projects. Grant rules require that all city applications in the county be presented to the committee. Competition is tough within each county, but project coordinators benefit from seeing each other's presentations. It helps to identify ways to merge projects to make them even more beneficial.

REAP city grants are divided into

three city-size categories -- cities with a population less than 2,000, cities with a population between 2,000 and 25,000 and cities with a population greater than 25,000. With this system each category gets its own pot of money, and smaller cities do not have to compete with significantly larger ones.

Two weeks later I am in our capitol city walking into a room filled with representatives from other cities. The five scoring committee members are at the front tables, each with a box full of at least 100 applications at their sides. Our project is 17th on the list. . . . The chairperson finally introduces our application. My heart begins pumping harder. I know project presentations are not allowed, but I am hoping someone will have a question. One committee member asks whether the current landowners of the property to be purchased are still willing to sell. I answer that they are, and in fact as a result of the townspeople's excitement for the project, they recently decided to sell it for less money than they originally wanted. Another member asks if we have any plans for future development and can foresee future requests for REAP grants. I respond that numerous people have several ideas, and additional pursuit of REAP grants are among those ideas. I further explain that the current project is designed to stand on its own and it will provide plenty of benefits even without future expansions. There are no more questions.

There are limits on the amount of money any one project can receive in any given year. The maximum REAP grant a small town can receive in a year is \$50,000. Larger cities can receive from \$175,000 to \$300,000, depending on their size. Some cities have projects that will require several years to accomplish, and while it is not guaranteed, may look to REAP for help with future phases. Grant applicants should look ahead for future developments.

Grant awards are made within two months of the application deadline in mid-August. The projects themselves can begin immediately after a grant agreement is signed by the mayor and the DNR director.



City of Marshalltown photo

I step out of my car and quickly the hot, humid air engulfs my body. The air conditioning is welcomed as I enter my building and head to my office. The nameplate on the door says "Director, Parks Department," but below it someone has taped a handwritten sign that says "Congratulations!" I walk through the door and there are the same three people that last winter came to my office with a dream. Dreams can and do come true.

▲ Traer's REAP grant went to a prairie and butterfly garden development using all native species of flowers and grasses (top).

The shelters constructed at Marshalltown's Anson Park were made possible with a REAP city parks and open space grant.

Kevin Szcodronski is the REAP coordinator for the Department of Natural Resources.

WARDEN'S DIARY

by Chuck Humeston

Smallmouth Message

Spring -- it's the time of the year I start listening again. I watch the Iowa and Boone rivers closely. They begin to open up and are soon running again. They are a little high on the bank about now, but soon it will be time.

"What are you listening for?" you ask. "Have you lost your mind?" I've been accused of that before, but bear with me.

For me, it started on the end of a dock at Spirit Lake. We would go there every summer. My dad started me on a cane pole. He would load up the hook with nightcrawlers, place an overly large bobber above the hook and show me how to swing it out into the lake.

Soon it would start to bounce, then move, then finally plunge below the surface. Dad would say, "NOW!" and I would give a mighty jerk backwards onto the dock. The bullhead would come out of the lake like a missile and thunk down on the dock. Each one was a prized catch to me -- a rival to the finest trophy anywhere.

Between those dips of the bobber, I listened -- to the boats on the lake, the waves against the shore and the ducks flying overhead.

The best time was night. Night meant being there with just a cane pole and a Coleman lantern and half the time being bundled up against the chill. There were more sounds then, but their source could not be seen. What was it I was listening for?

Soon I graduated to the Zebco reel with a steel True-Temper rod. Talk about heavy action! Now I was on the dock by myself, and loading up the nightcrawlers myself. I heard the distinctive *zzziinnnggg* -- bait and sinker flying through the air as I put all my arms and shoulders into as long a cast as possible. Perhaps a longer cast would mean bigger fish? There was no



bobber now, just my finger under the line. A little jerk and I used the same backward haul on the rod I'd perfected with the cane pole. But now came the battle -- reeling the mighty bullhead up to the dock with the sound of water splashing.

Next, dad presented me with a fly rod. We went to many southern Iowa ponds where he showed me how to present the innocuous-looking fly for the consideration of the bass, crappie or bluegill. Add a few wiggles with the end of the rod and *wham!* Now this was different! This was the sound of a real fight, and the cane pole jerk came in handy here, too. I was hauling in line hand over hand to land the still-fighting fish onto shore. I was fishing with the sound of a dragonfly hovering around the end of the rod, the soft *whish* of line flying through the guides and the frog croaking. No, this sound was not just any frog, but a real southern Iowa bullfrog!

I left for awhile. "Important" high school pursuits got in the way of listening. Then, there was pursuit of a degree at the University of Iowa. Job and family concerns came next. Such is life.

But now I take the time to listen again. I drive to the Iowa River on a day off. I put the waders on and start upstream, an ultralight rod and spinning reel in hand. I've begun the search for the ultimate combination -- rod, reel and line which weigh nothing. An impossible goal you say? Oh, well . . .

where are you in your search? I reflect on what I see on the job. Gadgets and doodads pile up while we keep looking for ways to complicate the simple. There are even "professional" anglers! Equate fishing with a four letter word like work? Everyone searches and hears their own way I guess. But do they really listen?

I come to the place, though its not as often as I wish. One of my kids might be with me. They too, are starting to listen.

I tie the swivel onto the light line and a rooster-tail spinner on the swivel. Gently, I cast into the pool near the rock outcropping below the riffle. With just a few turns of the crank, the smallmouth hits and comes out of the water gyrating, spraying water in all directions.

I reel the smallmouth in and remove the hook to let the fish swim away to its space, the space into which I've intruded. I close my eyes. I can hear it all -- Dad's telling me how to bait the cane pole, the splash of a sinker, the hiss of the lantern, the *whoosh* of the flyrod and the grumble of the bullfrog.

I turn to the pool, pick up the line and cast. Can't you hear the sounds that used to be important to you? Maybe you haven't taken the time to slow down and listen. You should, because your very own version of the smallmouth's message is hanging in the air, just waiting for you. Are you listening?





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