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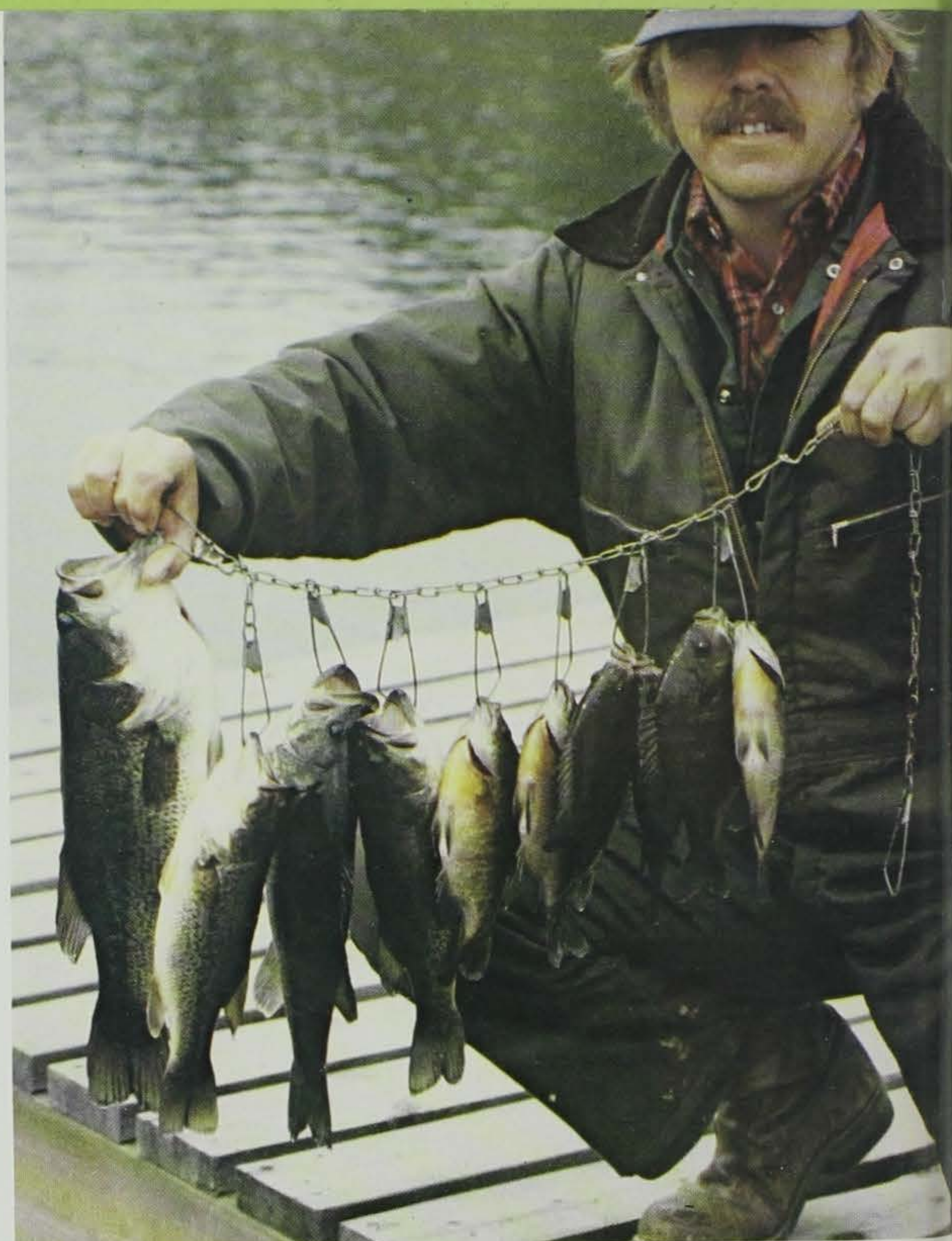
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Farm ponds produce large stringers of bass and bluegills.

Ron Johnson

By Tom Putnam

Iowa's most under-utilized fisheries resource is probably a few minute's journey from your home. Privately owned farmponds, more than 80,000 in number, are often ignored when it comes to planning the next fishing trip. These ponds offer more than 100,000 acres of angling opportunity, especially for those residing in the southern half of the state.

Some ponds, of course, are better than others. To be considered a good fish producer, several important steps usually have to take place in the life of a pond. First, the pond has to be constructed in the correct location. Here, the size of the watershed and how the land is being used are of utmost importance. A watershed of about 20 acres for each surface acre of

water impounded supplies an adequate water source to maintain the pond level. Protected timber, grassland or pasture are the most desirable watershed covers. Rowcrop is the least suitable because of the siltation and turbidity problems associated with its runoff.

A pond must be of a suitable size to sustain a stable fish population. One that is too small or shallow is susceptible to winterkill, and a balanced fish population cannot be maintained for any length of time.

The pond should also be built with a mechanical spillway to allow overflow to pass through the dam via a tube. This design will prevent dam break which often results when grass spillways are relied upon to handle overflow situations.

FARM PONDS

Good Management Provides Great Fishing

If the pond owner is interested in watering livestock, a 2-inch pipe should be installed in the lower portion of the dam. A standpipe is installed in the pond a few feet below the water level. A watering tank with a float valve is then placed below the dam. The pond should then be fenced to prevent livestock from watering along the pond edge.

Fenced ponds where livestock have been excluded usually develop better fish populations due to more successful spawning. The pond banks are more stable, decreasing turbidity. If the fence is at least 100 feet from the pond edge, the grass strip that develops acts as a buffer to incoming field runoff, increasing water quality.

Almost every warmwater fish species imaginable has, at one time or another, been stocked into a farm pond. Pond research over the years has found that, in the Midwest, there are three species most suitable for establishing a balanced fishery; largemouth bass, bluegill and channel catfish. Bass, the fish-eating predator, can grow to 7 lbs. or more in the fertile pond situation while feeding on bluegill. This predation helps keep the bluegill population in check resulting in fewer, but larger bluegill. Catfish are placed in the pond as an omnivorous bottom feeder, although at a larger size (15 inches) they begin to prey on bluegill.

A pond can be stocked free of charge by the Iowa Conservation Commission if it meets several quality criteria. First, it must be at least one-half acre in size. It must be at least 8 feet in maximum depth. The pond must be new or renovated and free of fish. It must be fenced to exclude livestock. If the pond meets all these criteria, it will be stocked with small fingerlings of the three species mentioned at the following rates: bluegill-750 per acre, catfish-100 per acre, and largemouth bass-70 per acre. Bluegill and catfish are stocked in the fall, and

the bass the following spring. Recent fisheries research has determined this stocking sequence to give the best results for establishing a balanced fishery.

Pond owners interested in the Commission stocking program should contact their local SCS office to sign up for fish. This should be done by July 1. The pond will then be inspected by a Conservation Commission employee to determine if it meets the stocking requirements, and if it does, he will take care of ordering the fish.

A question often asked is, "Must I allow public access to my pond if I receive free fish from the Commission?" The answer is "no." We feel that if an angler asks a pond owner to fish he will usually be granted permission. So we accomplish our purpose of stocking without the pond owner having to allow uncontrolled entry to his property.

From the onset it is extremely important to manage a farm pond correctly to sustain a catchable fish population. Once the pond has been stocked, it will take two to three years before the fish grow to harvestable size. At that time, bluegill can be caught in great numbers without affecting future balance. Bass, on the other hand, must be harvested more carefully. Not more than 15 bass per surface acre should be removed from the pond in any one year. Maintaining a large bass population will definitely be an important factor in keeping bluegills from stunting.

A sustained catfish harvest will depend upon the desire of the pond owner. Since catfish do not reproduce successfully in the farm pond environment, this species must be stocked occasionally to maintain good numbers. Additional catfish can be purchased through a private hatchery. A list of these in Iowa is available from the Commission.

Tom Putnam is a fisheries management biologist stationed at the wildlife research station at the Ledges State Park near Boone. Putnam has been employed with the Commission for 11 years. He is a graduate of Iowa State University.

Another tool used to help maintain a pond as a quality fish producer is aquatic vegetation control. A little vegetation is desirable to afford protection to young fish. Too much vegetation, however, can hamper bass predation on bluegill and interfere with shoreline angling. If more than ten to fifteen percent of the surface is covered, or if the entire shoreline is choked, control by either biological or chemical means is necessary. Since chemicals are expensive, dangerous, and the results unpredictable, many pond owners are now stocking grass carp to control the weeds.

Grass carp is an exotic species that eats vegetation without uprooting the plants and increasing turbidity. This species does not reproduce under pond conditions so the number stocked will be the number that remains. In three years, seventy-five to ninety percent of the pond's vegetation problem can usually be controlled with a stocking of 10 fish per surface acre.

Since grass carp is an exotic import, a free permit must be obtained from the Iowa Conservation Commission prior to stocking. The number of fish recommended on the permit can then be purchased from a private hatchery, several of which are now located in Iowa.

It is important to remember that angling pressure can either help to sustain a healthy fish population, or be its demise. If angling is controlled so that many bluegill are harvested each year, along with a few bass and catfish, the pond will provide good fishing for many years. If bass are overharvested, the quality of fishing will rapidly decline.

An angler should keep these harvest principles in mind and put them into practice when receiving permission to fish a pond. By being a responsible angler, better fishing can be enjoyed at that pond for years to come.



J. FLANDENBERGER

CAN WE SAVE THE BLUEBIRD?

By Douglas Harr

It's usually referred to as a "bluebird day" by duck hunters — one of those beautiful, sunny autumn days when the weather is so nice that a hunter is more likely to see bluebirds on the wing than ducks. Unfortunately nothing could be further from the truth. At almost any time of year the average Iowan is now much more likely to see waterfowl than bluebirds.

Since North America was first settled, the eastern bluebird has remained among the most popular of all birdlife, a familiar resident of gardens, orchards, and woodland edges from the central prairies to the Atlantic seaboard. Today, however, this colorful songbird is so uncommon that many people under the age of 25 or 30 may never have seen one.

What happened to this once-familiar bird of gentle voice and flashing colors? Before answering that question we should first learn a little background about bluebirds and their lifestyles and ecology. Eastern bluebirds are members of the well-known thrush family, making them first cousins to the ubiquitous American robin. They also have two close counterparts living in western North America. One of these is the western bluebird, a similar species found living from the Pacific coast into lower elevations of the central Rocky Mountains.

Living in this same region, but at elevations usually above 5,000 feet, is the mountain bluebird, a species whose range extends as far north as Alaska. It is a somewhat sleeker-looking bird, with the males exhibiting a lighter azure color than other bluebirds. Neither the male or female mountain bluebird has the rusty-colored breast of their relatives at lower elevations. Both western and mountain bluebirds are fairly common within their respective ranges and are not as threatened as eastern bluebirds.

Habitat preferred by eastern bluebirds is much the same as that of robins. Scattered clumps of trees inter-

spersed with open areas are favored by both, with creek-bottom pastures and old orchards being the most popular for nesting and foraging. When North America was first settled much of the eastern continent was unbroken forest. Because this was not a preferred habitat, neither bluebird nor robin was very abundant when European settlers arrived on the scene.

By the late 1700's things were changing rapidly. Much eastern U.S. forest was being cleared and orchards were well-established. Later, as central prairies were penetrated by settlers, trees were planted around open country farms and bluebirds moved west of the Mississippi to fill this newly-created habitat. Soon bluebirds were abundant everywhere, adapting to human presence and charming, with beauty and song, all who knew them.

Robins likewise prospered around people. Although bluebirds are somewhat shy; not so their brassy robin relatives that inhabited virtually every dooryard and garden, even into the most populous cities. For many decades this situation remained fairly stable; robins dwelled from country deep into city, while bluebirds remained slightly more rural but nearly as common.

Towards the mid-twentieth century conditions conducive to bluebirds began deteriorating. Urban areas expanded housing and commercial developments into surrounding countryside, clearing orchards and pastoral habitat so favored by bluebirds. Expanding numbers of European starlings and house sparrows, introduced into the U.S. around 1900, aggressively usurped bluebirds from their nesting sites in tree cavities. Unregulated mass applications of persistent pesticides, especially DDT and related compounds, took a countless toll of avian species, bluebirds included, from World War II until only a decade ago. While all these developments certainly did have adverse effects on robins, they eventually proved much more adaptable than bluebirds, and today robins

remain almost as common as ever.

Habitat destruction in the name of more intensive agriculture, coupled with spreading suburbs and industrial developments, continues to reduce and further threaten the eastern bluebird. Although not yet endangered it is considered a species in serious trouble because of spiraling population declines. These problems are especially acute in Iowa, where bluebird habitat has long been somewhat marginal at best.

Such concerns notwithstanding, there are a few bright spots developing in efforts to protect bluebirds and their habitat. In pockets where these birds still survive in some numbers much is being done to erect artificial nest structures — bird houses — which are a readily acceptable substitute for hollow trees. When placed in quantity over an extended linear distance, artificial housing can substantially increase local bluebird populations. Termed "bluebird trails", these strings of nest sites have proved very effective, especially in the northeastern U.S. Another trail, extending across Manitoba and Saskatchewan, Canada, is some 500 miles long and may be the continent's most extensive birdhouse project. In recent years it is believed over 8,000 young bluebirds have been raised in this monumental system of man-made habitat.

Thus bluebirds are once again demonstrating their adaptability to human presence and assistance. Across the country birdwatching clubs, scout groups, civic organizations and countless interested individuals are setting out nest boxes in a prodigious effort which very well may assure the eastern bluebird a positive future.

Not far from my home, where the Big Sioux River divides Iowa and South Dakota, a bluebird population appears to be flourishing. Here, the large hills frequently prove too steep to farm. Scattered throughout this region's crop and pasturelands are stands of hillside and bottomland timber,

Continued from page 5

providing nearly ideal habitat conditions. A bluebird trail has been in place here for many years, and additional nest boxes have recently been erected on state-owned wildlife management lands by area Cub Scouts.

In short, it is a perfect setting for eastern bluebirds, and one can seldom travel more than a few miles through this area without glimpsing at least one or two flashes of cerulean on the wing or perched on a tree branch. Some bird authorities even believe this may be one of Iowa's largest remaining bluebird populations.

I've enjoyed many a pleasant hour here observing these beautiful birds at the nest. Males arrive first each spring, dressed in brilliant blue with rusty red breast and white underparts, in order to stake out their territories. A few days later arrive the more drably-hued females, ready to form pairs for mating. Each pair will select a natural nest site such as a vacated woodpecker hole, or a birdhouse mounted on a fence post or utility pole.

Within the natural or artificial cavity is constructed a soft, grass-lined nest in which three to six pale, bluish-white eggs are laid, there to be incubated for two weeks. Upon hatching, nestlings are attended by both parents which bring their young an assortment of grasshoppers, cutworms, and other insects. This diet of destructive pests is a seldom recognized blessing for nearby farmers.

First broods are normally observed in May or early June, and a second brood is often raised later in the summer. As the year progresses, the birds' insect table fare is supplemented by wild raspberries, chokecherries, and a few other seeds and small fruits.

In my annual observations, as I sit and listen to their soft song — typical of robins and thrushes but much less harsh — I have real hope for the eastern bluebird. Even here their habitat has gradually been degraded, but with an enlightened public and a slight trend towards improved conservation of local resources I think the bluebird may just well survive.

Douglas Harr has been employed as a wildlife management biologist for the Commission for ten years. He is responsible for managing the Big Sioux Wildlife Unit in northwest Iowa. His office is at Rock Rapids. He is a graduate of South Dakota State University.



HOW TO CONSTRUCT AN ATTRACTIVE NEST BOX AND ESTABLISH A BLUEBIRD TRAIL

If properly designed and maintained, artificial nest structures will readily attract bluebirds, provided there is a nearby remnant population from which to start. Here are some tips on attracting and housing America's favorite songbird.

— Although there are many variations, almost every bluebird house should have some basic requirements and thus every variety will look quite similar. The accompanying diagram illustrates a typical nest box. A couple of important features should be pointed out. The entrance hole should be exactly $1\frac{1}{2}$ inches in diameter and $1\frac{1}{8}$ inches below the roof. This excludes starlings, although it may be necessary to evict house sparrows occasionally. The roof must extend out beyond the box, to offer protection from rain, and should be hinged or attached with a screw so that box cleaning may be facilitated.

— Ventilation holes should be drilled in the nest box so that baby birds do not succumb to heat before fledging. Placed in the floor, these holes will also drain away any water that might enter.

— Interior dimensions of the box are usually about 4 by 4 inches, and many boxes are about 6 or 7 inches deep. Making the box about 9 inches deep may help discourage predators, such as raccoons, from reaching inside for eggs.

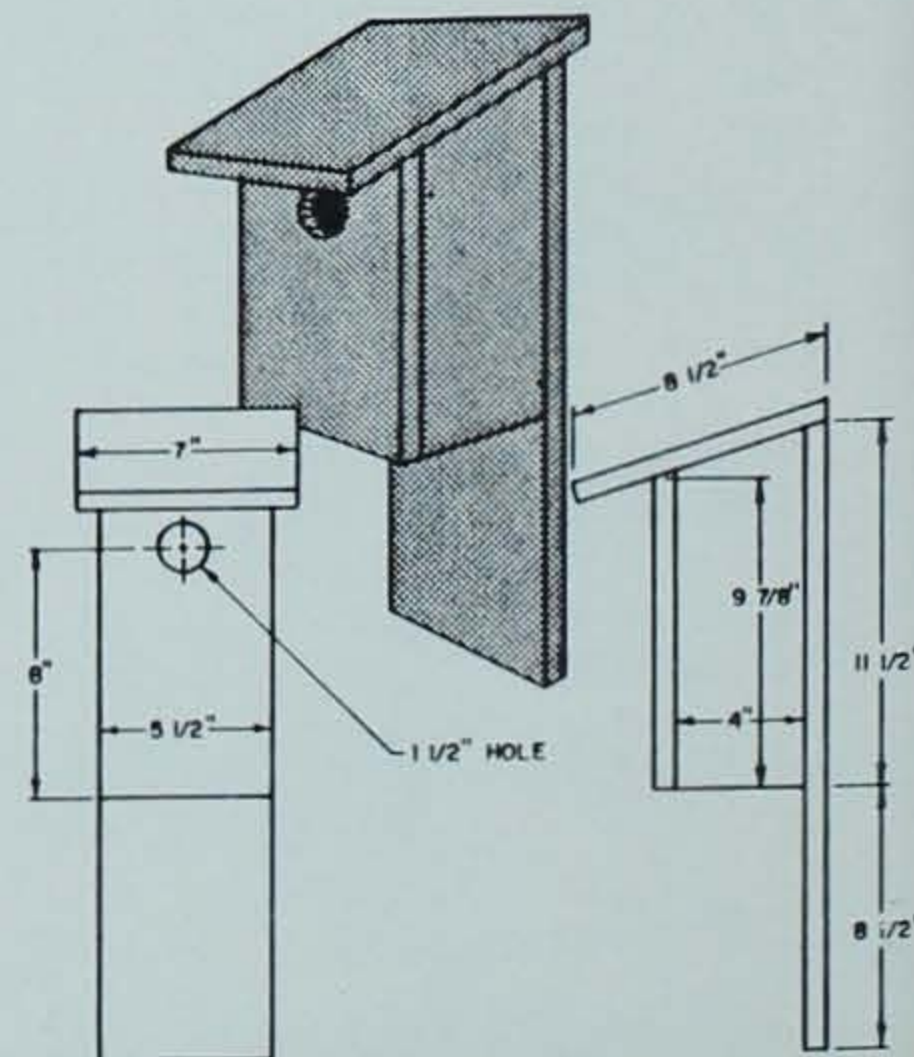
— Boxes should be left in their natural wood colors, or if painted should be only in a light natural color, such as tan or light green, in order to prevent soaking up too much heat from the sun.

— To establish a trail, boxes should be placed on posts, poles, or tree trunks no less than 300 feet apart (any closer spacing may only cause the

territorial males some antagonizing) and from 3 to 6 feet above ground. In rural areas, wooden fence posts make perfect places for regularly spacing boxes at the proper height. Be sure to ask the landowner's permission if you plan to put boxes up on other than your own fence posts.

— Cleaning old nests out of the boxes after each nesting season is essential to keeping your bluebirds coming back. When cleaning out the box be aware you may find any number of creatures inhabiting it, from mice, to sparrows, to wasps. Wrens and tree swallows will also use the boxes during summer months, but these may be considered just an extra benefit, unless they occupy so many structures that there is no room for bluebirds.

— Don't place your bluebird houses in or near crowded city lots; bluebirds just won't nest there even if trees and some grass areas are present. Larger suburban lots and scattered trees around outskirts of smaller towns will sometimes attract bluebirds, but rural settings are definitely preferred.



THE WINNEBAGO RIVER

IOWA'S NEWLY DISCOVERED FISHING HOTSPOT

By Stephen L. Schutte

A few years ago, Clear Lake was the standard by which all fishing was measured in north-central Iowa. Wall-eyes, muskies, yellow bass, white bass, northern pike, yellow perch, crappies and bullheads were extremely abundant and anglers had "easy pickin's" year-round. Clear Lake suffered a severe oxygen depletion winterkill in 1978-79 that left anglers "high-and-dry," and they began searching for new fishing meccas as the lake began its recovery to good fishing.

The persistent piscators were not long in locating a long-existing, but relatively untapped fishing resource very near Clear Lake — the Winnebago River. The Winnebago River has its origin just west of Twin Lakes, a few miles north of the Iowa-Minnesota border. The river flows southward into Winnebago County and meanders southeasterly through Hancock, Worth and Cerro Gordo Counties, to its confluence with the Shell Rock River in west-central Floyd County.

The Winnebago River is characterized by its timbered banks, limestone outcroppings, adjacent marshes and ponds, periodically occurring sandbars and great diversity in bottom substrates. Located in an area of intensive agriculture, the river is subject to periodic turbid, high water conditions in the spring and at other times of heavy rainfall. Surprisingly, though, the Winnebago maintains good water quality a large majority of the time.

The upper half of the Winnebago River is separated from the lower half by a dam located in the town of Fertile. The dam has created two distinctly diverse sets of river habitat. Above the dam the Winnebago River has a predominately mud bottom with many adjoining marshes and small overflow ponds. Below the Fertile dam the river bottom is primarily rock, rubble and sand with many pool and riffle areas.

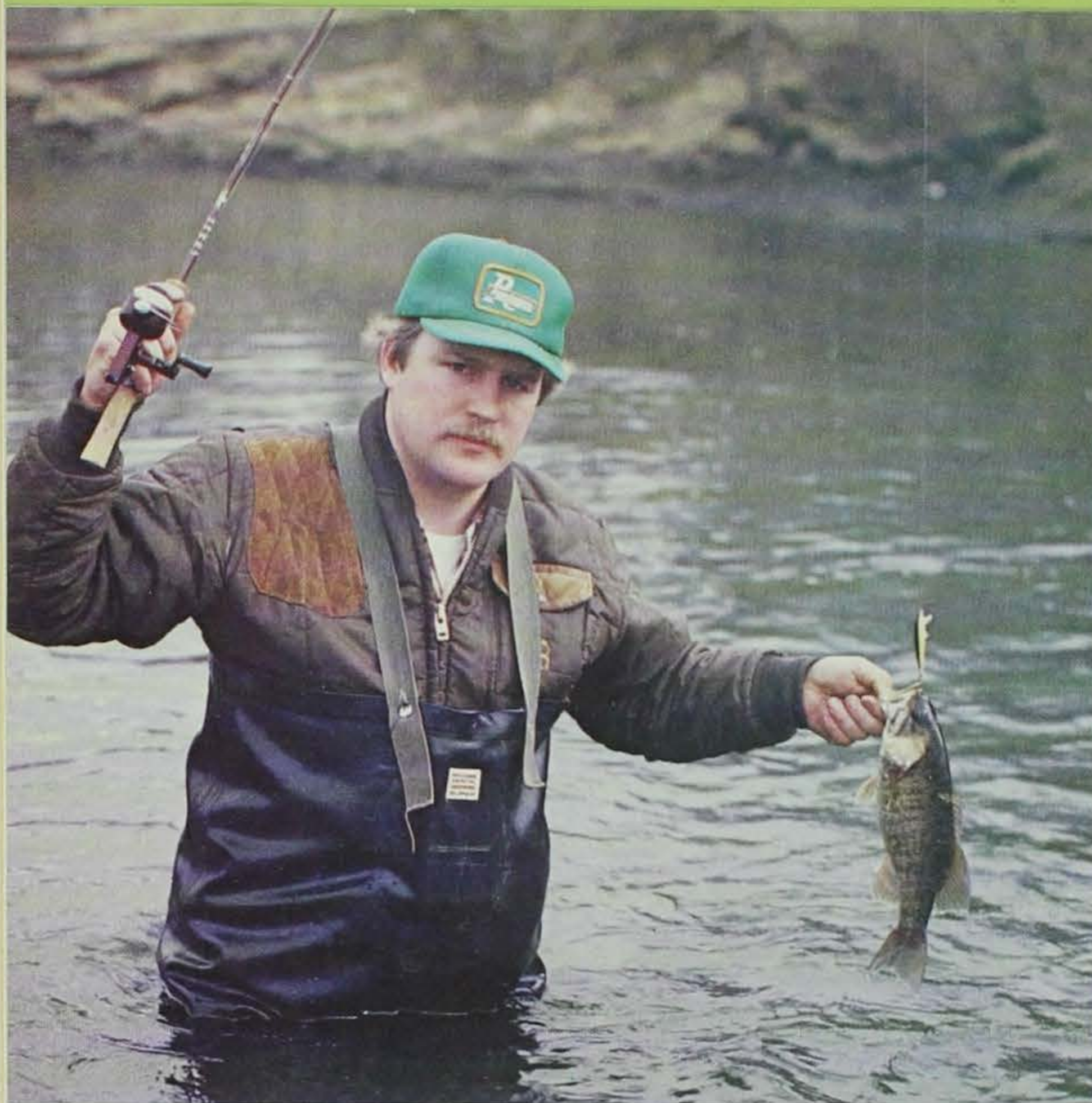
For the nostalgic angler who appreciates the history of a fishing area, it's interesting to note that the original 10-foot high dam was constructed in 1856 by 19-year-old William Rhodes. After the dam washed out in 1858 by heavy spring runoff, Rhodes rebuilt it in 1859, widening the dam by 50 feet. A grist mill was built in 1868, powered by water diverted at the dam. The mill operated until 1929 when the dam again washed out. The dam was rebuilt in 1930 and still stands today. The mill building is still in existence and is presently an historic antique shop. William Rhodes Island Park, maintained by the town of Fertile, lies on the river bank immediately across from the old mill.

For many years the entire Winnebago River has been a noted northern pike fishery. The Conservation Commission stocks 250,000 northern pike fry in the river each spring. The fish are placed in overflow ponds and areas of slow moving water to help insure their survival until they are large enough to cope with the rigors of river life. Until recently, northern pike angling was "big business" in the spring and fall, and the river was virtually anglerless for the remainder of the year — except for a very few tight-lipped line wetters!

Well, the search for a "new" fishing area by many fish hunters has let the cat out of the bag. They found it! Gone is the secret of a select few fishermen, and now everyone is in on the fun. The



Author



Author

Smallmouth bass are now abundant in the Winnebago.

Stephen Schutte is currently a conservation officer serving Cerro Gordo County. Prior to his present position, he served as a fisheries management biologist at Clear Lake. Schutte began his career with the Commission in 1972. He is a graduate of Iowa State University.

Winnebago River from Fertile to Mason City is full of northern pike, walleyes, and even more exciting, smallmouth bass.

A fishery survey conducted by Conservation Commission personnel on August 7, 1980 revealed many surprises. An electrofishing unit was launched in the Winnebago just below the Fertile dam and taken downstream approximately five miles. During the run 51 smallmouth bass were sampled. Twenty-eight of these fish were over 12 inches in length, the biggest one going 20 inches! Because of low water conditions that limited the maneuverability of the boat, it was estimated that only one-third of the fish observed by the survey crew were captured. And, of course, "the big one got away!" Also captured on the survey run were several walleyes up to 14 inches in length and many northern pike ranging from 13 to 28 inches in length.

The results of the survey confirmed the anglers' report of many smallmouth, walleyes, and northerns. Spring fishing had been excellent for all three species, and it was to continue throughout the summer and fall. As in the past, northern pike were readily caught above the Fertile dam, but the walleyes and smallmouth were confined to the

lower one-half of the river because of the dam. In addition to the above mentioned "big three," bullheads, carp, and suckers are also caught along the entire river.

Fishing the Winnebago River for smallmouth bass and walleyes can be done in many ways — bank fishing, wading and by canoe. As you might expect, smallmouth inhabit the riffle areas, feeding on food items swept from the rocks by the swift current. Floating Rapalas, Rebels, Mister Twisters, and jigs (leadheads) are the terminal tackle that produce the best results on the red-eyes. At times small frogs or soft-shelled crayfish work well. Immediately above and below the riffles are the hot areas to fish. Walleyes are often taken while fishing for smallmouth with Rapalas or jigs, but the best areas are the quiet, deeper pools in the river for the "bug-eyes".

Northern pike are taken along the entire length of the Winnebago using larger floating Rapalas or chubs for bait. Try the pool areas under logs and/or overhanging trees. (There might even be a smallmouth lurking there!) Because of their extraordinarily sharp set of dentures, it's a good idea to preface your terminal tackle with a heavy monofilament or wire leader. It

eliminates a lot of stories about "the big one that got away".

Bullheads, carp and suckers are also taken by anglers on the Winnebago. One of the best areas for these species is immediately below the Fertile dam. Worms or night crawlers are irresistible to the bullheads and suckers, and whole kernel sweet corn (canned) tricks the carp.

For the heartier fishermen, some limited ice fishing does occur on the Winnebago. Most of this fishing activity takes place north of Lake Mills at the Lande and Dahle Accesses. Northern Pike are the primary species taken using large minnows or chubs for bait. Both tip-up and "pole and bobber" methods are productive for the winter "jaws".

Here are a few pointers that will keep you out of trouble and make your Winnebago River fishing experience a memorable occasion and one you'll want to repeat. Remember that Iowa law requires that all smallmouth bass taken under 12 inches in total length from any inland river or stream must be returned immediately to the water. Be sure to obey all fishing laws and exercise all safety precautions that are applicable to any and all fishing activities. Like a large majority of Iowa's rivers and streams, the Winnebago River runs almost exclusively through private property. Be sure to obtain permission from the landowner, or person in lawful control of the land, **before** entering. You'll find them to be friendly, courteous and cooperative if they are treated in a like manner!

Join in the fun and plan a fishing trip to the Winnebago River soon. Feel free to call, write or stop in at the Fish and Wildlife Station, 1203 North Shore Drive, Clear Lake, Iowa 50428 (phone 515/357-3517) for the latest fishing information on the Winnebago River. GOOD LUCK!!!



NEW LEGISLATION

By Larry Davis

The Sixty-Ninth General Assembly passed several items of legislation that the Iowa Conservation Commission had hoped would be acted upon. Following is a summary of conservation legislation passed by the First and Second Sessions of the 1981-82 General assembly:

H.F. 396—Chickadee Check-off

This bill, referred to by many as the "chickadee check-off", allows persons filing an individual or joint Iowa income tax return to designate any amount of a refund due on that return to be paid to the state Fish and Game Protection Fund. The amount designated, however, cannot exceed the amount of refund due on the return.

The revenue received under this act will be used for habitat development. It may also be used for the matching of federal funds for the acquisition of land, leasing of land, or obtaining of easements for use as wildlife habitat for game and nongame species. Nongame wildlife includes those animal species which are endangered, threatened, or not commonly pursued or killed for sport or profit.

The act is effective as of January 1, 1982, for state income tax refunds on returns filed in 1983.

This legislation provides a welcome source of needed funds for the benefit of Iowa's nongame wildlife.

H.F. 641—Operation of Forest Nurseries by Adult Corrections Personnel

As a result of the passage of this bill, the Iowa Conservation Commission has the opportunity to cooperate with the Director of the Division of Adult Corrections in the establishment and operation of forest nurseries on state-owned land under control of the Department of Social Services. Labor will be provided by residents of the adult correctional institutions. Technical assistance will be provided by the Commission. Nursery stock will be sold in accordance with Commission procedures, and receipts from such sales will be divided between the Commission and the Department of Social Services in proportion to their respective costs.

Activity in this cooperative arrangement benefits the Commission's forestry program, the adult corrections program of the Department of Social Services, and the people of Iowa.

H.F. 772—Hunter Safety and Ethics Program

This bill establishes a hunter safety and ethics education program and specifies requirements for issuing a hunting license to persons born after January 1, 1967. Such licenses will not be issued unless the person exhibits a certificate showing satisfactory completion of a hunter safety and ethics education course approved by the Iowa Conservation Com-

mission. The act does, however, allow an officer of the Commission or a certified instructor to issue a certificate to a person who has not completed the course but has demonstrated to the officer or instructor a satisfactory knowledge of hunter safety and ethics.

Becoming effective July 1, 1983, the bill will make possible a more uniform hunter safety education program that will provide better-trained hunters in the years to come.

H.F. 2027—Special Turkey Hunting License

An act to allow the purchase of a special turkey hunting license for landowners and tenants of farm units and members of their families, this amendment solves a problem that some landowners have had in past years in getting a turkey hunting license.

In the past, landowners and tenants have had to enter the drawing for a turkey hunting license the same as other Iowa hunters. As a result of the new legislation, these landowners or tenants are assured of a license by making application and paying the regular license fee. However, this is a special license and is valid only for hunting on the farm land of the owner or tenant. Only one license will be issued per farm unit. These special turkey hunting licenses are subject to all other laws regarding the hunting of turkeys. A person pur-

chasing a regular turkey hunting license is not eligible to purchase this special license.

H.F. 2351—Property Tax Exemption for Forest, Wetlands, and Certain Other Lands

This bill provides a property tax exemption for wetlands, recreational lakes, forest cover, forest reservations, rivers and streams, river and stream banks, and open prairies.

Property tax exemptions are allowed providing they meet certain requirements. The landowner must make application for the exemption with the local Soil Conservation District office. Once certified by the Soil Conservation District commissioners, the county board of supervisors may grant exemptions for up to 3,000 acres of other than forest land for each county. The board of supervisors, however, upon certification by the Soil Conservation District, will grant unlimited exemptions for forest lands that meet the requirements of a forest reservation. Except for forest lands, the exempted lands cannot be used for commercial gain or other profit-making purposes.

H.F. 2398—Increased Penalty For Illegally Taking Certain Game and Fish

Under this bill, the amount of liquidated damages for illegally taking deer has been increased to \$750, \$200 for each wild turkey, and \$5 for each fish. The amount for



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the illegal taking of beaver, mink, otter, red fox, gray fox, and raccoon is now \$100. For other game birds, animals, and furbearing animals, the amount is \$50.

S.F. 251—Reciprocity of Certain Fish and Game Licenses For Nonresidents

This bill simply states that licenses or tags for commercial fishing gear, certificates for commercial fishing gear operators, licenses for bait dealers, or licenses for fishing, hunting, mussel taking, or trapping will not be issued to residents of states which do not sell them to residents of Iowa. However, the licensing of out-of-state bait dealers who sell at wholesale to licensed dealers in Iowa for resale is permitted.

S.F. 289—Trespassing

This bill defines trespassing as entering property without the express permission of the owner or person in lawful possession of the property, with the intent to commit a public offense, or to use, remove, alter, damage, harass, or place on the property anything animate or inanimate, or to hunt, fish, or trap on the property. However the act does not prohibit the unarmed pursuit of game or furbearing animals lawfully injured or killed which come to rest on or escape to the property of another.

S.F. 294—Taxidermy

This bill defines a taxidermist as a person engaged in the business of preserving or mounting game, fish, or furbearing animals, and allows a taxidermist to possess at any time game, fish, or furbearing animals which

have been lawfully taken. It also requires a taxidermist to keep accurate records of transactions, showing numbers and kinds of specimens received for preserving, the date acquired, and the name and address of the owner of the specimens. Each specimen must have attached a signed tag with the name and address of the owner, along with the total number and species of the specimens and the date they were killed.

S.F. 322—Use of Fish and Game Licenses

This bill makes it illegal for a nonresident to buy an Iowa resident hunting or fishing license. It is also illegal, under this act, for a license holder to allow someone else to use his or her hunting or fishing license.

S.F. 399—Iowa Boating Laws Revisions

This comprehensive piece of legislation becomes effective July 1, 1982. As a result of its passage, Iowa now complies with safety and equipment laws required by the Federal Boat Act.

The following are highlights of this bill:

- Boat motors up to 10 horsepower are now legal on man-made lakes of 100 acres or more in size. The Commission is also now allowed to set the horsepower limit on man-made lakes under 100 acres.
- International lighting as approved by the U.S. Coast Guard is now an approved lighting system on Iowa motorboats.
- The law clarifies the Commission's authority to enforce a noise control limit for motorboats.

- Prohibits anchoring under bridges, in heavily-traveled channels, and in locks in a manner which would unreasonably interfere with normal boat traffic.
- Requires that boat operators comply with regulatory buoys or signs in the same manner as automobile drivers are required to comply with highway signs.
- Prohibits overpowering in excess of the federal or manufacturer's capacity plate giving the horsepower limit.
- Prohibits mooring or tying up unattended vessels at public docks adjacent to boat launching ramps and designated for loading and unloading.
- Allows conservation officers to issue written warnings and requires the termination of use for certain violations of the Code.
- Clarifies the public's right to navigate upon the public waters of nonmeandered streams.
- Prohibits altering or destroying of hull identification numbers or capacity plates which the state or federal government requires the manufacturer to place on vessels.

The new schedule of fines for boat law violations is as follows:

Violation	Scheduled Fine
Failure to register	\$20.00
Improper or expired registration	10.00
Improper or Defective Lights	20.00
Allow to operate improperly-equipped vessel	20.00

Failure to keep commercial vessel records	20.00
Defective muffling devices	20.00
Prohibited operation	25.00
No dealer license	10.00
Failure to display dealer number	10.00

S.F. 452—Private Fish Hatcheries

Prior to the passage of this bill, licensed private fish hatchery operators have been prevented from selling non-native fish species such as brown trout and white amur. This bill makes the sale of white amur and brown trout by licensed resident fish hatchery operators legal.

Senate File 452 allows Iowa's private fish hatcheries to handle those fish species found not to be detrimental to present native fish populations. An estimated 10 to 20 fish hatcheries will now be permitted to handle and propagate white amur, resulting in an estimated production for stocking of 100,000 fish annually.

S.F. 526—Registration and Operation of Snowmobiles

This bill allows a peace officer to stop and inspect a snowmobile operated, parked, or stored on public streets, highways, public lands, or frozen waters of the state to determine if the snowmobile is registered, numbered, or equipped as required by Commission rules. If the snowmobile is not in compliance, the officer may issue a warning memorandum to the operator indicating those items not in compliance. The person receiving such a memorandum must stop using the snowmobile as soon as possible and until the snowmobile is in compliance. If compliance is not provided

within 14 days, the owner or operator will be in violation of the act.

Upon application to the Conservation Commission by local authorities, this bill allows for the adoption of an ordinance or local law relating to the operation or equipment of snowmobiles, providing the application is approved by the Commission.

The registration fee for snowmobiles is \$12, plus a writing fee of \$1. After the first day of September in even-numbered years, an unregistered snowmobile may be registered for the remainder of the current registration period and for the subsequent registration period in one transaction. The fee is \$3, plus the regular \$12 fee and writing fee.

Revenue received from snowmobile registration fees is placed in a special conservation fund and appropriated to the Iowa Conservation Commission for the snowmobile program. The program includes cost-sharing of snowmobile facilities and programs with political subdivisions in accordance with rules adopted by the Commission. At least 50 percent of the special fund is available by these subdivisions, and money not utilized by them is used for the snowmobile program for the state.

If a snowmobile is involved in an accident resulting in injury or death or property damage amounting to \$200 or more, an accident report must be filed with the Commission by the operator or someone acting for the operator within 48 hours.

Book review: Iowa's Natural Heritage

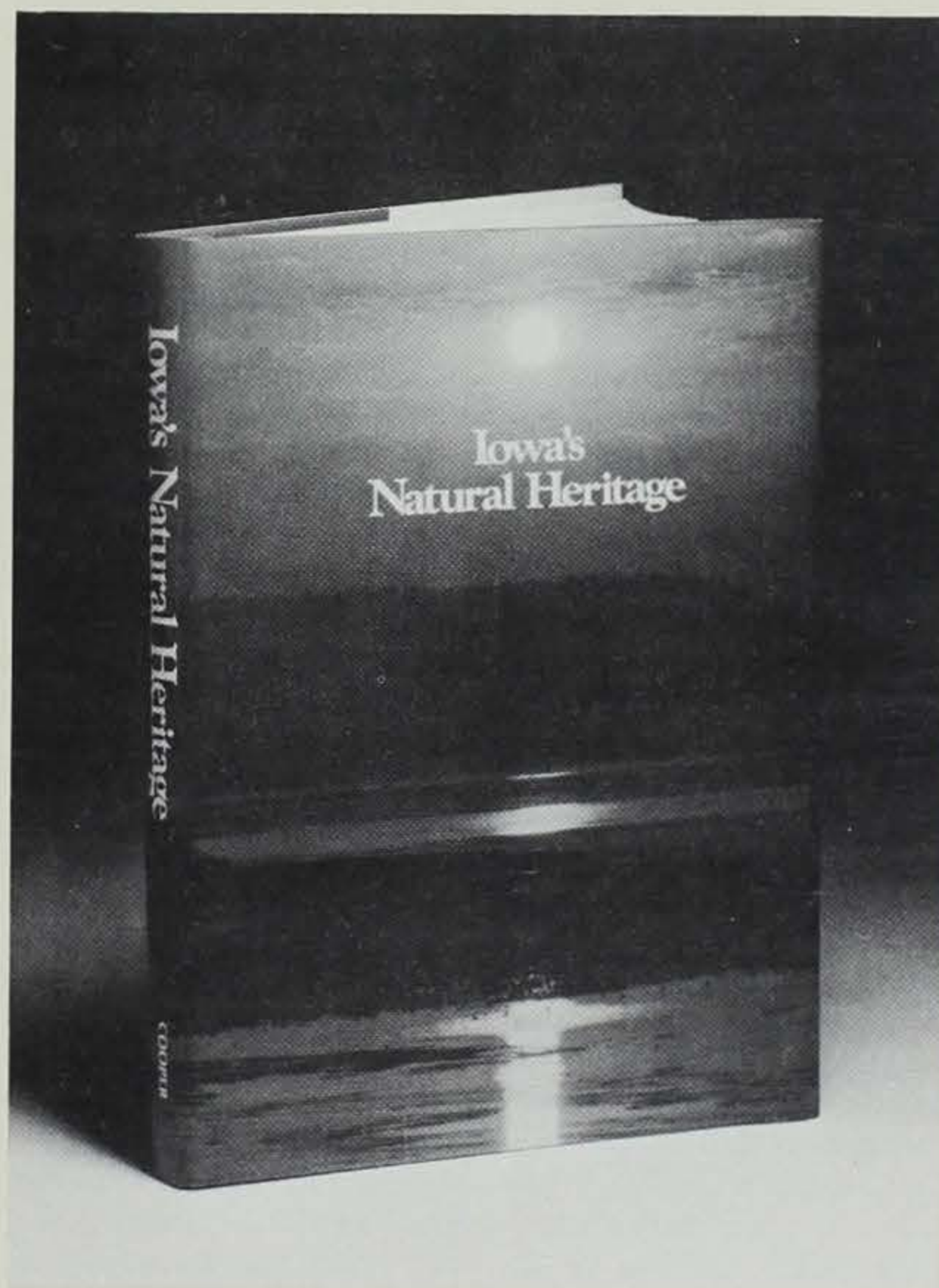
Iowa's Natural Heritage is an extremely well-designed book presenting an intimate look at nature and natural history in Iowa. The book combines the efforts of 32 authors from numerous organizations and agencies.

Subjects of the fourteen chapters are geologic history of Iowa, glaciers in Iowa, water, soils, weather, plant-life, prairies, forests, wetlands, aquatic life, wildlife, early Iowans, exploration and settlement, and conservation in Iowa. It consists of 342 pages and has taken two years to complete. The book was edited by Tom C. Cooper, a native of Ames and former editor of *Arizona Highways* magazine.

Two contributing authors from the Conservation Commission are Dean Roosa, Ecologist, and Richard Bishop, Wildlife Research Supervisor. Roosa covered several topics such as endangered species and the philosophical reasons for saving them.

In a chapter called "*Saving the Pieces*" Roosa compares rare, natural communities to parts of a watch in which all must be preserved to make the whole function. Roosa also covers natural biographical regions of Iowa and relict areas - holdovers from other climatic periods.

Bishop's specialty is wetlands in Iowa, and the chapter is very well presented. He discusses the status of wetlands from pioneer days until now, including the dramatic loss of marshes and back-



waters with highlights on what remains. He covers the types of wetlands and the vegetation and wildlife found there. Bishop writes about the tremendous benefits of marshlands to Iowans and about ways these areas must be preserved. He emphasizes the need for protection as he looks into the future.

The various chapters have been edited into a very readable format, making the final product an attractive, non-technical publication. The book is beautifully illustrated with hundreds of color

pictures from more than 45 photographers.

The book is published jointly by the Iowa Academy of Science and the Iowa Natural Heritage Foundation. A third organization, the Iowa Bankers' Association, is assisting with the sale and distribution of the book for the next three months.

Persons desiring copies may obtain them from their local bank. Cost of the volume is \$34.95. For the first three months it will be available at an introductory price of \$24.95.

IT'S TOUGH TO BE A GOOSE

By Jim Hansen
WATERFOWL BIOLOGIST

It was noon on May 29, 1981, and I was flying in a Boeing 737 at 33,000 feet. The pilot's voice came over the speaker and told us that at our destination there was light snow, a temperature of 32 degrees, and northly winds of 20 mph. What kind of a summer vacation is this?

It was definitely no vacation! I was on my way from Winnipeg to Churchill, Manitoba, to assist with a Canada goose study near Cape Churchill, on the western edge of Hudson Bay. This area is part of the nesting grounds for the Eastern Prairie Population (EPP) of Canada geese, which migrate through Iowa and winter primarily at Swan Lake National Wildlife Refuge in Missouri. This population provides many of the geese for Iowa hunters each fall and for "goose watchers" during both fall and spring migrations.

Breeding grounds studies of the EPP Canada geese have been conducted on this area since the late 1960s, with funding and manpower provided by several states including Iowa, the U.S. Fish and Wildlife Service, Canadian Wildlife Service, and Manitoba. By locating and monitoring goose nests, banding geese, and conducting aerial surveys, it is possible to predict what the production and fall flight will be. This information is used in setting hunting regulations so that the population will not be overharvested.

After spending the first night in Churchill, I, along

with five others from various agencies, was flown out to the goose camp 30 miles east of Churchill. The pilot had never been there before, but fortunately one of the other fellows had and was able to help find the camp and landing strip. On the way out to camp we made an aerial mail drop on our "next door" neighbors at the snow goose camp, about 10 miles from our camp. At our camp we met the graduate student and his assistant with whom we were to work, and the eight of us got settled in a 20-by-40 foot shelter that we were to call home for a few weeks.

Our shelter was surrounded by a seven-foot high fence to discourage polar bears, but the building still had the scars from a polar bear that was not easily discouraged in a previous year. On June 10, the snow drifts around camp were still so deep that I could step over the fence instead of using the gate. Of course a bear could also step over the fence! Polar bears are rarely seen here early in the summer. We had not seen one yet but someone at the snow goose camp did see one a few days earlier.

Temperatures here had been from about 28 degrees to 42 degrees. In general, it had been very cloudy and windy, and there was nothing to provide a windbreak. The only trees around were a few very widely scattered, stunted, four-foot tall spruce trees. On June 9 a near-blizzard left about two inches of snow.

In spite of the harsh weather, the Canada geese were nesting. We had slogged



through miles of muskeg and located a number of nests and had succeeded in trapping quite a few geese and marking them with neck collars for future identification. We had to carry heavy packs with trapping supplies and shotguns for protection against polar bears, and it's not easy work. I was the only one of our group who had not yet tripped or slipped and filled his hip boots with icy water. I suppose my turn was coming!

It was too early to predict how good the production would be for either the Canada geese or the snow geese. The aerial surveys had not started yet, and the first nests would not hatch until about June 21. There were fewer geese nesting because a late snow cover had delayed nesting. The drought on the Canadian prairies had resulted in the geese arriving

in poorer than average physical condition. The results of the cold, snow and wind June 9-10, remained to be seen. If the bad weather continued, some geese, especially those in poor condition, might abandon their nests.

I think I have always had a high degree of respect for our wild creatures. Seeing first-hand the harsh conditions with which the geese and other wildlife must contend has heightened that respect. Our shelter was not particularly comfortable, but compared to a goose sitting on five eggs and weathering a near-blizzard in the open, we had nothing to complain about. One couldn't blame them if they decided to pack up and head back to Missouri! On June 2, there was a heavy migration of snow geese and Canada geese bound for places even farther north. I don't mind admit-

Author



CLASSROOM CORNER

By Bob Rye

ting that after seeing how tough it is to be a goose, my eyes were a bit moist as I silently wished them well on their northward journey.

If conditions are so harsh, why do geese nest in these arctic-like conditions? An easy answer is that they nest there because their parents did, and they come home to where they were raised. I won't (mainly because I can't) try to explain how or why the first geese got to this area. There must be some advantages to nesting there, or the geese would not continue to do so. I think the great conservation writer Aldo Leopold focused on when he wrote about geese and referred to the annual barter of "winter warmth for summer solitude." Solitude is one commodity that is present in abundance here. Except for an occasional arctic fox, gull or for a few geese, an occasional nosey biologist, there is little but the problems of weather and food to confront the geese. Though these problems are formidable, this vast area is free of forces that have destroyed habitat farther south. We need to provide migration and wintering habitat and guard against overharvest, but at least the nesting grounds are quite secure at present.

While it seems that the Canada geese and snow geese have "chosen" a tough way of life, whatever they are doing seems to work. Goose populations, in general, have increased considerably from what they were 10 to 20 years ago. May they continue to prosper!

The Conservation Education Center was designed in 1968 to aid teachers in teaching natural resources conservation. This program continues to be a major part of the center's activity.

Two up-coming programs at the Center are the Hunter Education and Lifetime Shooting Sports workshop to be held July 18-21, 1982 and the Iowa Conservation Education Council's workshop, "Stalking the Basics in the

Outdoors," on October 8-9, 1982.

Information on this workshop may be obtained by contacting the Hunter Education Coordinator, Iowa Conservation Commission, Wallace State Office Building, Des Moines, Iowa 50319.

The Iowa Conservation Education Council sponsors fall and winter workshops for teachers and youth instructors. The fall workshop will include the following topics of conservation education: Iowa Natural Areas Inventory, puppetry, photo-

graphy, cooking with nature, winter art ideas, soils, and Iowa history from an early pioneer's point of view. Complete information may be obtained by writing the Conservation Education Center, R.R. 1, Box 53, Guthrie Center, Iowa 50115

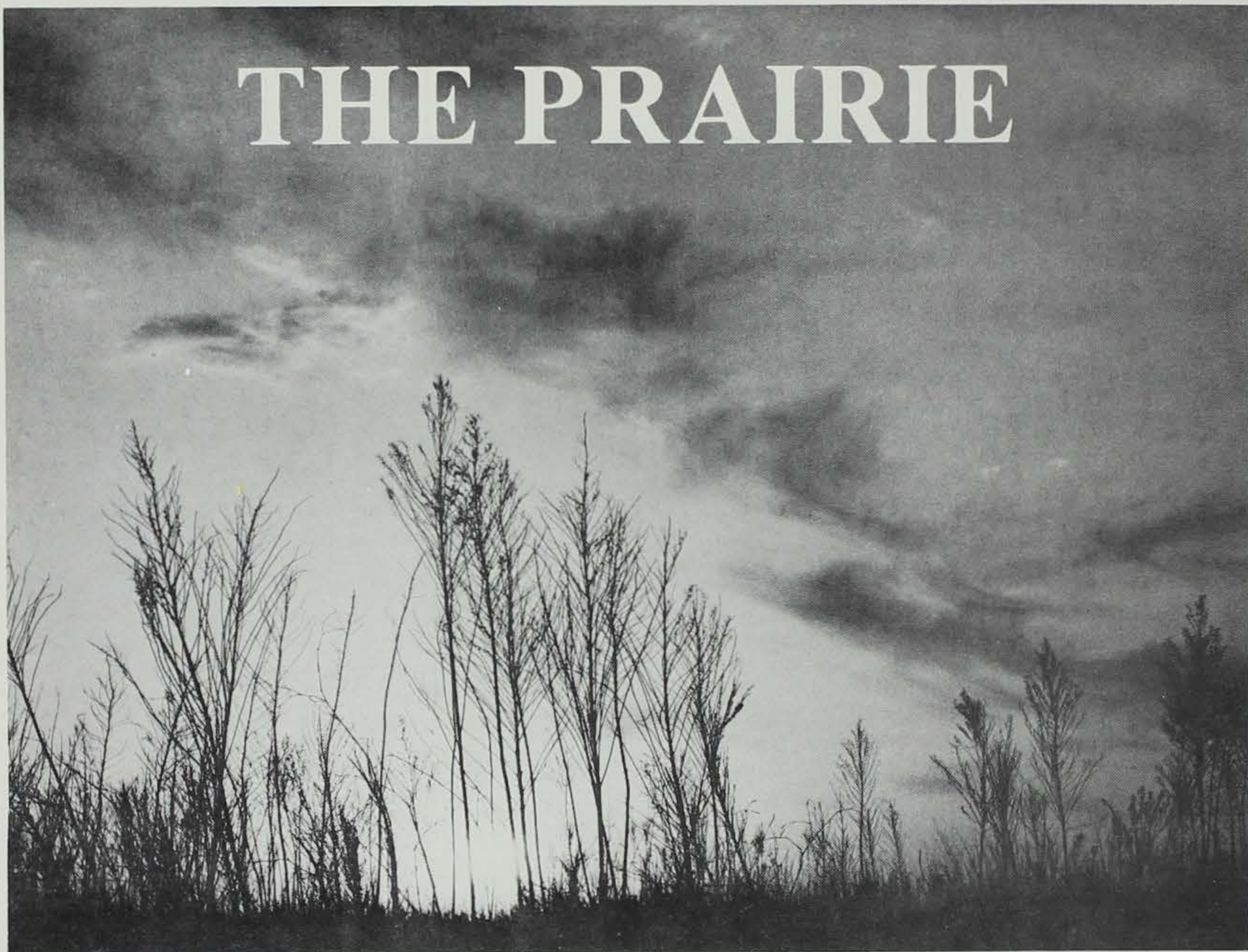
Informational materials are provided participants at the workshops including background information, motivational items, field trip information, or actual lesson plans.

Can you find the 17 names contained in this puzzle. Words may be backward, diagonal, forward, horizontal, or vertical and some may overlap.

- Opossum -Gray Fox -Mink
- Woodchuck -Gray Wolf -River Otter
- Beaver -Raccoon -Spotted Skunk
- Muskrat -Least Weasel -Striped Skunk
- Coyote -Long-Tailed Weasel -Badger
- Red Fox -Short-Tailed Weasel

B	H	A	O	C	Z	G	R	A	Y	W	O	L	F	L	F	I	S	W	R	A	S	G
G	L	U	S	B	U	F	J	T	N	H	B	G	E	U	L	O	A	H	G	T	H	O
Y	B	A	D	G	E	R	O	C	E	S	X	U	B	V	S	Z	A	K	I	R	O	P
L	A	L	N	Q	O	A	K	J	W	L	E	T	O	I	S	A	L	E	J	O	R	R
G	B	O	F	Y	B	E	V	P	K	Y	A	V	O	A	H	E	X	J	N	P	T	I
C	G	N	M	K	F	I	S	E	B	Y	R	E	G	X	K	K	E	M	O	R	T	R
K	S	G	O	E	M	H	M	R	R	U	I	M	H	E	W	A	R	U	P	E	A	H
N	O	T	L	E	V	O	I	D	H	L	R	S	T	O	H	F	E	S	G	C	I	A
U	S	A	C	A	T	G	N	P	J	K	N	T	G	O	I	J	O	S	C	W	L	C
K	I	I	E	B	K	I	K	K	S	G	O	K	F	X	C	E	A	O	N	K	E	U
S	S	L	N	Y	P	O	G	U	B	R	V	R	L	A	F	Q	O	P	E	J	D	E
D	Y	E	K	N	U	K	S	D	E	P	I	R	T	S	A	N	F	O	O	T	W	S
E	I	D	W	Y	H	I	O	V	V	Z	O	D	U	A	F	A	W	E	U	H	E	T
T	R	W	A	E	R	L	I	Z	K	C	H	H	I	K	E	O	E	T	R	S	A	E
T	X	E	F	O	J	R	H	R	X	A	G	V	C	Q	A	F	E	Q	P	R	S	F
O	C	A	D	A	T	U	S	V	S	F	R	D	C	N	D	A	J	O	K	R	E	O
P	E	S	W	F	O	G	J	B	K	M	A	B	E	P	I	E	W	S	U	M	L	T
S	E	E	V	M	O	I	M	E	C	O	Y	K	V	A	B	A	U	L	T	C	N	E
S	I	L	R	I	G	X	E	L	F	M	F	T	C	D	T	M	O	I	B	T	A	G
A	Y	F	W	P	B	A	P	U	S	C	O	Y	O	T	E	P	A	F	D	M	C	A
T	W	O	O	D	C	H	U	C	K	Z	X	K	Y	N	P	W	B	E	F	L	Q	N
A	R	J	R	H	L	O	R	C	M	U	B	L	J	M	S	T	P	O	B	Q	A	D
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M	K	U	R	A	A	R	Y	L	P	A	Q	L	E	A	S	T	W	E	A	S	E	L
E	W	T	P	B	R	K	B	J	Z	M	P	N	U	V	P	W	S	A	K	L	V	O

THE PRAIRIE



Photos by Author



Switchgrass

I have gone to the prairies many times.

They are a link with what once was.

I go and I find a patch of big blue stem and I sit.

I can see no trees on the horizon, no farm buildings, no rows of corn or beans.

I see only the endless miles and miles of purple coneflowers and whorled milkweed, of little blue stem and prairie clover, of thimbleweed and Indian grass that once were there.

The sun is warm and the wind blows through the grasses. They bend and rustle in the wind. I hear birds call and insects drone against the background of the wind.

And I sit and think of the land once covered - seemingly forever — with grasslands.

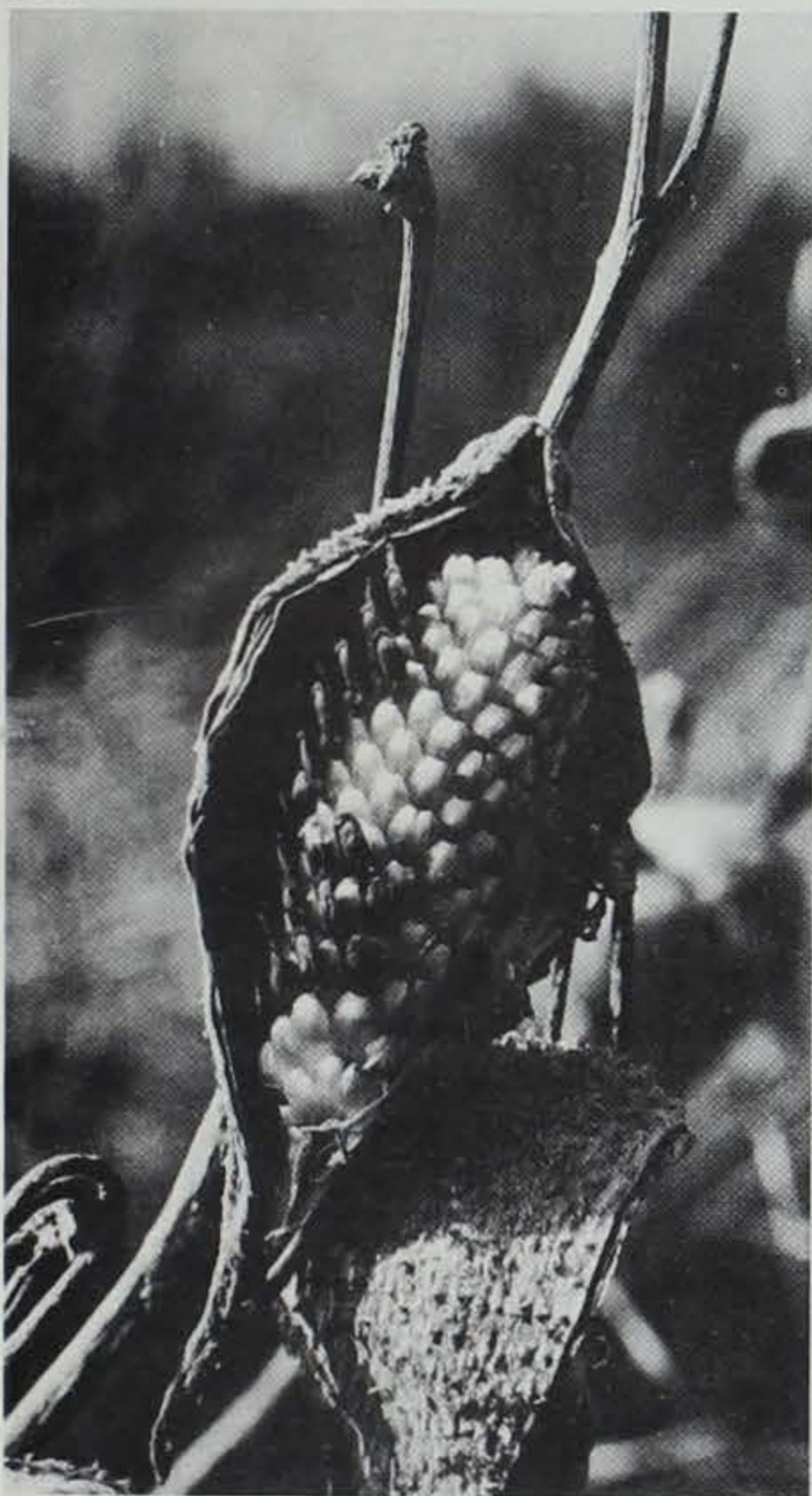
I think of the settlers wading through the taller-than-a-man grasses, turning over the beautiful black sod for the first time, digging in to escape the grass fires.

And I sit in a patch of big blue stem and I see only the grasses and flowers bending in the wind — for miles and miles.

I do not see what is today. I see what once was.

Cecelia A. Smith Burnett

Milkweed



Blue-eyed grass (iris family)

Hunters Did Well in 1981

Iowa hunters fared quite well during the 1981-82 seasons, increasing their harvest on most species, according to statistics compiled by Iowa Conservation Commission wildlife officials.

Iowa's favorite game bird, the ring-necked pheasant, provided the most recreation with 255,000 hunters bagging an estimated 1,448,000 roosters. That's an increase of about 19,000 from the previous season.

Other increases in harvest from the previous year in-

cluded rabbits, squirrels, quail, ruffed grouse, wild turkeys, and deer.

According to Bob Barratt, superintendent of wildlife for the commission, the increase in harvest was attributed to a healthy game population due to mild winters in 1979 and 80 and favorable spring weather during those years.

The average hunter made 12 trips during the year. Following is a comparison of the hunting statistics from the previous year.

1980

242,000 hunters took
1,429 pheasants

115,000 hunters took
855,400 rabbits

111,000 hunters took
845,000 squirrels

73,000 hunters took
524,500 quail

3,200 hunters took
988 turkeys

6,500 hunters took
17,300 ruffed grouse

Gray partridge - no change.

66,700 gun hunters took
18,857 deer

13,440 bow hunters took
3,800 deer

1981

255,000 hunters took
1,448,000 pheasants

151,000 hunters took
1,134,800 rabbits

118,000 hunters took
949,700 squirrels

97,000 hunters took
563,600 quail

3,997 spring turkey hunters
took 1,439

1,843 fall turkey hunters
took 813

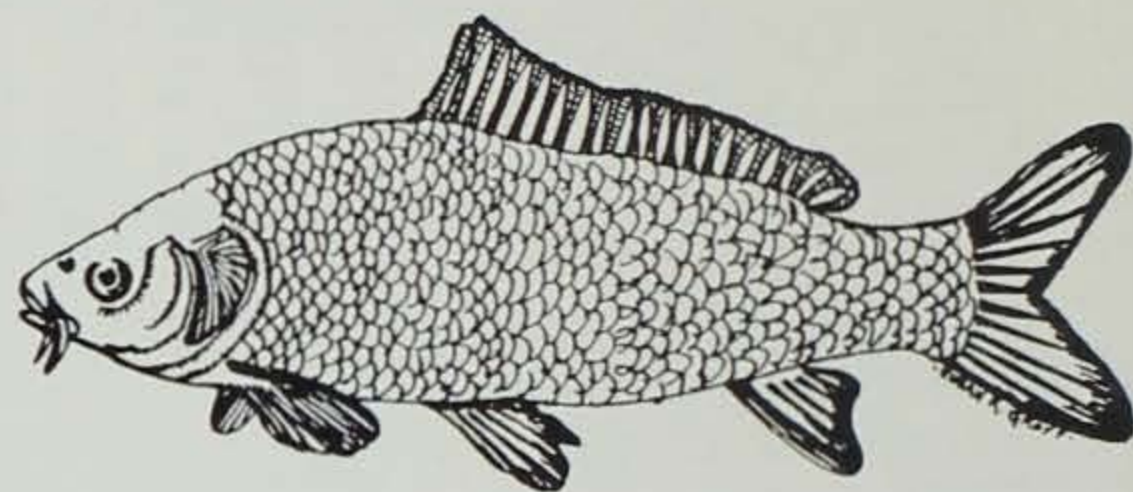
7,000 hunters took
24,000 ruffed grouse

29,000 hunters took
70,700 gray partridge

73,289 shotgun hunters took
21,578 deer

16,465 archers took
4,368 deer

Canned Carp Cuts Costs



By Gary L. Ackerman

The inflationary spiral has gripped tightly the pocketbooks of every American. As the cost of protein continues to escalate, there is a simple way to cut some food costs: utilize our overabundant and inexpensive fishes as protein substitutes for more expensive ones.

Expanded use of inland commercial fishes offers this potential. Carp is one species which has great potential as they are readily available throughout Iowa. Carp are relatively easy to acquire and are inexpensive. Carp are delicious when they are obtained from unpolluted water providing they are properly prepared. The carp's bad reputation is totally incorrect.

Have you ever tried canned carp? Wouldn't you rather substitute a 50-cent can of home-canned carp instead of \$2.50-\$3.50 for a can of salmon in your favorite recipe? It's easy and here is how.

High quality carp may be purchased from Iowa commercial fishermen from 5-15 cents per pound alive. Or you can catch, spear, snag or net your own as Iowa's rules and regulations are most liberal when it comes to harvesting carp. If you have the opportunity of choice, select large female carp over ten pounds as their flesh is of finer quality. Carp over ten pounds tend to yield thicker, meatier and better quality fillets. The meat is juicy, sweet and rather fine textured. It sometimes tends to crumble when over-cooked. As a rule of thumb, you will get approximately one pound of fillets for every five pounds of live carp. You will need approximately 18 pounds of fillets to can 18 pints, the capacity of most large pressure cookers.

The easiest way to prepare carp for canning is by filleting the fish. Use a long bladed fillet knife to cut the fillet from each side of the fish leaving the rib bones and backbone intact. You may want to remove the lateral line tissue (the dark colored meat) from the fillet by cutting an oblique "V" of flesh

from the fillet, although this isn't necessary. Turn the fillet over and remove the skin and scales with the knife. Cut the fillets into jar-sized chunks and you are ready to begin the canning process.

Use one-pint glass jars. It is not recommended to home can fish in metal containers as few people have the necessary equipment and knowledge to safely perform the seaming operations. Jars larger than one pint should not be used as they require much longer cooking times than recommended. Follow the manufacturer's instructions. All jars should be thoroughly washed and inspected for cracks and nicks that might prevent a proper seal. Use new, single dome-type lids which indicate whether a proper seal is obtained.

Fill the jars as follows: Pack raw fish chunks tightly into jars, skin side toward the outside of jar. Use smaller pieces to fill empty spaces or voids in jar. Add one teaspoon of salt to each pint. Leave a head space of $\frac{3}{4}$ to $1\frac{1}{4}$ inches on top of the jar. Process in a pressure cooker at 10 pounds of pressure for 110 minutes. Some recipes may call for less time.

Some caution is always necessary in home canning, especially when one processes meat. Canning is a popular method for commercially preserving salmon; however, the potential botulism poisoning in improperly canned foods is always present. It takes higher-than-boiling temperatures to destroy *Clostridium botulinum* spores. Such temperatures are only possible by processing in a pressure cooker. Water pack, boiling water or oven processing is *not sufficient* and should *never* be used for processing canned fish.

Read and follow the instructions provided by the manufacturer of your pressure cooker. Place jars in pressure cooker containing a minimum of one inch of warm water. Place cover on

cooker and apply heat. Allow all air to be vented from the cooker before closing petlock or placing weight to allow pressure to rise. Follow canner instructions for recommended venting time for your model. Begin timing process after pressure reaches ten pounds. Process at 10 to 15 pounds for at least 110 minutes. Write the starting time on paper and use a timer also. Don't guess. At the end of the cooking period, remove from heat and let the pressure drop. When pressure reaches zero remove vent weight or open petlock before removing cover. Remove jars from cooker to air cool. When cool, carefully check each jar for proper sealing. Store them in a cool place. Properly processed canned carp should keep at least two years. If the jars fail to seal or if for any reason you are doubtful as to the proper time and temperature used, reprocess in the canner for the entire time of 110 minutes at ten pounds of pressure. Or you may consume the meat from unsealed jars within a day or two, but keep them refrigerated.

You may want to add more flavor to your canned carp. The following recipes are taken from *A Fine Kettle of Fish* by Vern Hacker of the Wisconsin Department of Natural Resources. Incidentally, you may want to write for this informative and useful booklet. It gives super information and delicious recipes for utilization of our rough fish, crayfish and turtles. For one dollar you may obtain the booklet by writing: The Wisconsin Department of Natural Resources, Bureau of Fish Management, Box 7921, Madison, Wisconsin 53707. This meager investment may open up a whole new spectrum of culinary delights, save some cash and help us make wise use of our renewable natural resources.

Try it, you'll like it. Canned carp is really delicious. Try canned carp to help cut food costs as well as enjoying some delicious eating.

Gary Ackerman is a fisheries management biologist stationed at the Gutenberg Fisheries Management Station. He has been employed with the Commission for over 16 years. He is a graduate of the University of Wisconsin.

Some recipes you may wish to try:

Canned Fish (Tastes Like Salmon)

Donated by: Ms. Steve Bunders,
Prairie du Chien, Wisconsin

3 tbsp. catsup
4 tbsp. vinegar
2 tbsp. cooking oil
1 tbsp. water
2 tsp. salt

Clean fish. Remove rib cage bones. Cut in chunks. Wipe fish dry and pack in jars. Pour the mixture of catsup, vinegar, oil, water and salt over the fish. Seal with standard canning lids and pressure cook for 90 minutes at 15 pounds of pressure.

Canned Carp (Tastes Like Salmon)

Donated by: Ms. Agnes Trehey
Wauzeka, Wisconsin

To each jar add:

1½ tsp. canning salt
1 tbsp. white vinegar
1 tbsp. tomato sauce
1 tbsp. cooking oil

Fillet carp, chunk, soak in salt water overnight. Wash in fresh water; then pack in pint jars. Pressure cook for 90 minutes at 10 pounds of pressure (or 65 minutes at 15 pounds pressure). Good with crackers and beer as an appetizer.

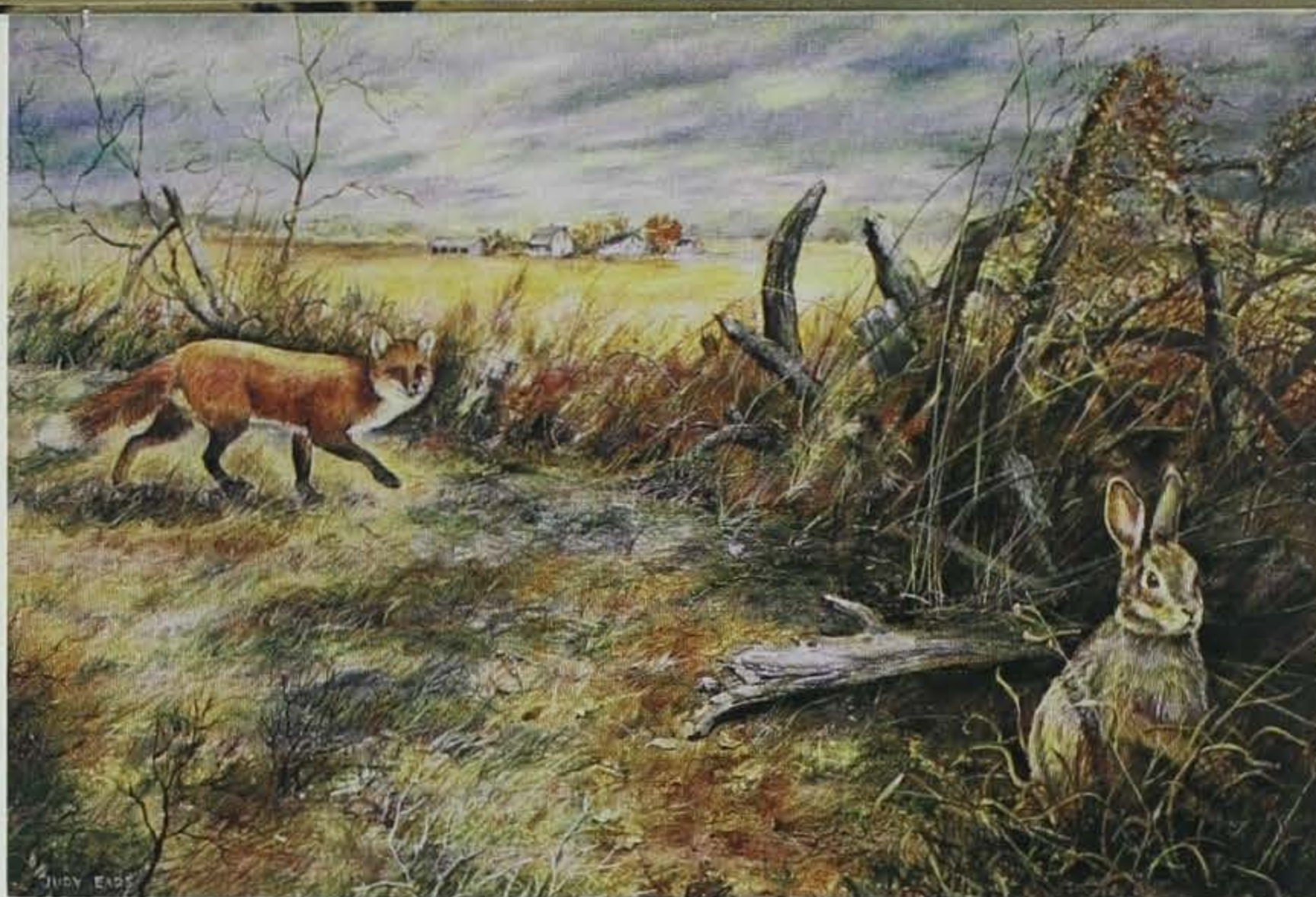
Sucker Salmon

Donated by: Mr. Frank J. Luedtke
Sun Prairie, Wisconsin

To each jar add:

1 tsp. brown sugar
1 tsp. canning salt
1 tsp. white vinegar
1 tsp. butter
1 tsp. catsup

Soak sucker or redhorse fillets for 1 hour in a salt brine strong enough to float an egg. Remove from brine, pack in pint jars to within 1 inch of the top. Add mixture. Pressure cook at 10 pounds for 70 minutes (or 15 pounds for 50 minutes). Let stand two weeks. Then open for a delicious treat.



Adult Class Winner:
Judy Edges of Glennwood

Student Class Winner:
Michelle Flack of Glennwood

LOCAL ART CONTEST IS COLORFUL AND EDUCATIONAL

A few years ago, the folks at the Mills County Soil Conservation District Office came up with a neat idea. An amateur art contest, they thought, might generate some interest in conserving soil, water and wildlife in the area. They were right, and since 1968, a growing number of surprisingly talented local artists have delivered some pretty fine oil and acrylic paintings to the office for annual judging. Last year was no exception and 21 entries depicting soil, water or wildlife conservation turned up in the office before the October deadline.

Each year the contest is open to Mills County residents only and is divided into two categories — adult and student. Adults compete for a cash prize of \$100 for first place, \$75 for second, and \$50 for third. Students grades twelve and below, try for prizes of \$25, \$15, and \$5. The top three paintings in the adult division and the winner of the student class become the property of the soil conservation district and are hung permanently on the office walls, creating a striking display

to visitors interested in the agency's many services.

The most surprising facet of this unique, amateur contest is the quality of the artwork submitted. Not only have the local artists succeeded in capturing the wise resource use themes over the years, but the depth, detail and accuracy of the paintings sometimes rivals the work of professional talents.

Mills County is currently the only soil conservation district office conducting such a contest. How many other groups could sponsor a similar contest with similar results? An amateur art contest encourages aspiring painters, promotes local talent, develops worthy projects for school art classes and creates local pride. But most of all, a contest starts people thinking. Everyone who hears about the contest from local media or sees the paintings in the Mills County district office starts thinking about protecting soil, conserving water and developing habitat for wildlife. Come to think about it, that's not a bad start.



Robert Dahlgren

By Craig N. Huegel

RESEARCH ASSISTANT
Iowa Cooperative Wildlife Research Unit
Iowa State University

As June approaches and the fields and forests again have become lush with the regrowth of spring, doe white-tailed deer become solitary and secretive. The family group, consisting of the doe and her fawns born the previous spring, has traveled together since last September. But now, during the late stages of pregnancy, the adult doe seeks to avoid contact with all other deer, and she accomplishes this, in part, by driving her offspring from the previous year away from her. These yearling deer may remain in the vicinity of their mother's home range and rejoin the new family unit in the late fall or early winter. Others may travel 40-50 miles away before establishing their own territory.

Undisturbed now by other deer, she begins to search for the area where she will give birth to her fawns. The fawning site is not chosen at random. She is very selective about where her fawns will be born, and the selection process may take several weeks. Once she has chosen the site, nearly all her activity will be confined to this area until the fawns are born.

Most of Iowa's white-tailed deer fawns are born in late May and early June. Virtually every adult doe becomes pregnant in late fall and gives

birth to twin fawns; 7% bear triplets. In addition, almost 75% of Iowa's yearling does are bred as fawns in late December or January, when they are 7-8 months old. Fawns mature rapidly in Iowa because of the abundance of high-quality food available to them. Yearling does nearly always give birth to a single fawn and it is born in late June or early July. Although this cycle of birth is repeated each year, a variety of factors will determine whether these fawns will die or whether they will become adults.

The Iowa Conservation Commission began a 3-year study in 1980 with the cooperation of the Iowa Cooperative Wildlife Research Unit at Iowa State University to examine certain aspects of fawn ecology and the factors that influence fawn mortality in Lucas County in south-central Iowa. The objectives of this research are to find what causes fawn mortality, study the mother-fawn relationship and the interactions between twin fawns, determine the home-range size and movement patterns of young fawns, and to learn what type of habitat is used for rearing fawns.

Each year, we capture adult and yearling does in the winter and fit them with a radio-transmitting collar. This enables us to plot their locations throughout the year with a specially designed radio receiver and antenna system. It also helps us to determine where their fawns are likely to be. We capture the fawns when they are 1-6 days old. Fawns are given a small

radio collar that expands as they grow and falls off when they are 6-9 months old. Fawn collars also have a motion-sensing switch that determines whether the fawn has moved during the previous 3-4 hours. If there hasn't been any movement, it sends out a different signal. Usually this signal means that the fawn has died, and we investigate to determine the cause of death.

Fawns on our study area have experienced a mortality rate of nearly 42% (5 of 12 died). Many factors are responsible. Coyotes have killed two fawns during the last 2 years, not that many considering the large number of coyotes on our study area. Coyotes may kill nearly 90% of the annual fawn production in regions of some western states. When this happens, they have a significant impact on the deer population. Domestic dogs have killed one fawn and may have been responsible for the death of another unmarked fawn found in June 1980.

Dogs also have caused problems during our study by harassing the does in the spring. This disturbance indirectly could result in increasing fawn mortality. As an example, in 1981, dogs chased one of our radio-collared does nearly 3 miles from her young fawns. Although she was not injured, she did not return to her fawns for 24 hours, and they were unfed and unprotected during that period. We have recorded numerous instances of dogs chasing our radio-collared does during all periods of the year. These are not wild dogs, but collared dogs allowed by their owners to run at will. This is a tragedy because responsible dog owners could prevent this loss.

Accidents and natural disasters also are responsible for some mortality. On the evening of June 7, 1981, we received 8½ inches of rain, and flash floods

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D TIMES OF

DEER FAWNS

occurred along nearly every stream on our study area. One of our collared fawns was swept downstream from its bedsite near a small creek and drowned. Its twin, also collared, was bedded only a few yards higher up the slope and escaped unharmed. We walked into this area the next morning and found it, still bedded down. The high-water line had been less than a foot downslope from the bedsite.

Hay-mowing accidents are another source of fawn mortality. Fawns frequently bed down in hayfields during their first week and are very susceptible to being hit and killed during mowing operations. During their first week of life, fawns are more likely to try and hide from danger rather than run away. One of our fawns was struck by a mower in early June, 1981, but seemed to escape unhurt. Many fawns in Iowa are not so lucky.

Another radio-collared fawn died when it was abandoned by its mother. It had been extensively handled by a landowner who found it in a hayfield when it was 1 week old. Some does seem to be more prone to abandoning their fawns than do other does. All fawns and fawn collars are handled only with surgical gloves. We also hold our handling time to less than 10 minutes. So far, we have been successful in that none of the fawns that we have handled have been abandoned. The temptation to handle a young fawn found while walking in the fields or woods during the spring should be avoided completely.

During the first 6 weeks, fawns normally are active only when the doe visits to feed them, which she does 2-3 times a day. Fawns spend the rest of the day sleeping or lying quietly in their bedsites. Twin fawns are kept apart and may not see each other for a

week at a time. The does spend only 15-30 minutes with each fawn at a feeding period and then usually return alone to a wooded area. The doe is aware, however, of what is happening around her fawns. We have found that she stays within approximately 150 yards of the fawns and rarely strays farther.

There is survival value in this strategy. By remaining close, the doe is able to respond to any danger to her fawns. There are numerous accounts of does chasing coyotes and other small predators from their fawns, but there also is a danger in remaining too close to the fawns. By remaining away most of the time and spending only brief periods with the fawns, she reduces the scent and visual clues that might attract a predator. Does rarely approach humans that disturb their fawns, and people may believe from this that a fawn found alone is abandoned. This is very rarely true, and unless the mother is known to have been killed, a fawn should not be handled or taken home.

Fawns can be found in a variety of habitat types, but the bedsite is very carefully chosen within that habitat. We have found fawns in woodlots abandoned brushy pastures, and in hayfields, but their bedsites are all remarkably similar. Most fawn bedding sites have a denser canopy than the areas surrounding them.

It may be important that these sites are cooler than the surrounding sites. Daytime temperatures often are near 90° in June and July, and the fawns spend most of their day lying motionless. Thus, fawns can protect themselves from the heat of the day. Conversely, we have found that, when the daytime temperature is below 75°, fawns select bedding sites that are

A newly captured 3-day-old fawn wearing an expandable radio collar. Surgical gloves are used in handling fawns to minimize human scent. (Left)

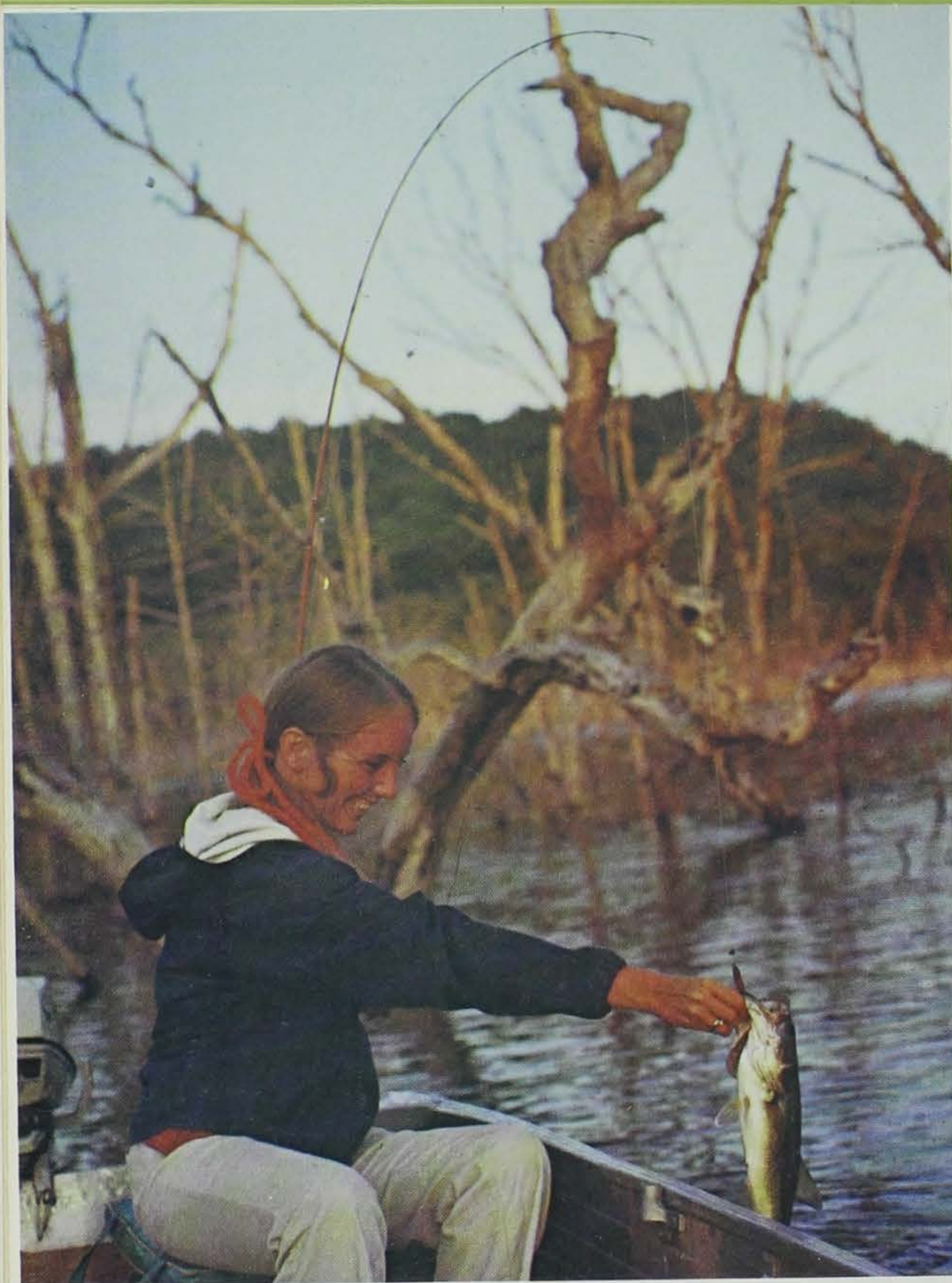
One of the research assistants takes a bearing on a bedded fawn as he tries to locate it. Getting close to a doe or fawn requires a hand-held antenna. (Below)

warmer than the surrounding areas. Because the vegetation around the site generally is denser than the areas near it, this may provide a greater degree of concealment from predators. Research in Europe has shown that fawns select bedsites without the help of their mothers. We are attempting to determine how a fawn selects its bedsite and what constitutes good fawn-rearing habitat.

Managing our wildlife population becomes increasingly complex as our human society expands and places ever greater strains on the balance of the natural world around us. It is no longer possible just to let nature take care of our wild things if we want them to continue to prosper. Iowa's deer herd is no exception. Our research is helping us to understand the habits of deer and the factors that influence them during the most secretive and least understood period of their lives.



Craig Huegel



By Al Van Vooren

Allan Van Vooren is a fisheries management biologist stationed at the Fairport Station in Muscatine County. He is a graduate of Iowa State University and has been employed with the Commission for over five years.

"Where ARE all the big ones?"

If you've spent any amount of time fishing you've undoubtedly heard this rhetorical question, or asked it yourself. Figuring out where the "big ones"

live in a lake, or where they are on any given day makes bass fishing the challenge that it is.

The Mississippi River has long been famous for its bass fishing. This reputation has been based mainly on the quantities of bass caught rather than their large size, but four pound bass from the river were not uncommon. Over the past two decades, however, the average size of bass caught in the river has declined markedly.

When this occurs it's the fisheries biologist's turn to ask himself "Where's all the big ones? Do they exist?" Sampling of almost 1000 largemouth bass from the Mississippi between Muscatine and Keokuk showed in fact only one out of five bass were larger than 12

WHERE ARE

inches, and the largest bass in the entire sample was only 19.5 inches.

When the "big ones" don't exist, the fisheries biologist must find the answers to several questions. Are growth rates sufficient to grow bigger bass? Is there enough food of the needed kinds? Have feeding conditions, such as water clarity, deteriorated? Do bass live long enough to get big? Are they dying too quickly from natural causes? Are they being harvested too quickly?

To get these answers the Fairport Fish Management Unit initiated a study of largemouth bass in the Mississippi River during the fall of 1981. Almost 600 bass were tagged and released in Pools 17 and 19, and an estimate was made of the bass population in the Big Timber backwater area near Muscatine. Scales were taken from the fish collected so growth rates can be determined. The study will continue in 1982 with examination of food habits, a creel census in the Big Timber area, and a follow-up population estimate next fall.

Several tagged fish were recaptured by anglers within a few weeks after tagging last October, and anglers fishing in Pools 17 and 19 this year have a good chance of catching a tagged bass. The tags are made of orange plastic tubing and attached near the dorsal fin. Each tag has a serial number, as well as return address, inscribed on the tubing. Tags should be returned to the Fairport Fish Management Unit, RR 3, Box 434, Muscatine, Iowa, 52761, along with the date and location the tagged fish was caught. If the bass is released please record the serial number on the tag and the location the fish was caught, then give the information to a commission employee.

With the answers that this study can provide, the Conservation Commission

THE BIG BASS?

can determine if any of several possible management strategies would be effective in improving the size quality of bass caught in the Mississippi. But the cooperation of anglers in reporting recaptures of tagged bass is essential to the success of the study. This study is an opportunity for anglers to participate in the management of the fish populations, and ultimately improve the quality of their own fishing.

Tags of orange plastic tubing are attached near the dorsal fin. Either the tag or the recorded serial number shown on the tag plus the location of the catch should be given to a conservation commission employee.

This study gives anglers the opportunity to participate in improving their own fishing.

Left: Typical Mississippi River large-mouth.

Below: Monitoring the lives of bass like this tagged fish can help biologists improve size of fish in the river.





WILDCAT DEN STATE PARK

By Larry Davis

Twelve miles from Muscatine and eighteen miles from Davenport lies Wildcat Den, one of Iowa's most intriguing state parks. Driving to the park is an experience in itself, for river life along the Mississippi presents a striking contrast between past and present.

The original area for the park was donated to the state by the Brandt sisters who lived there at one time.

Of special interest at Wildcat Den is a grist mill located on Pine Creek. Benjamin Nye, one of the first settlers in Muscatine County, built the mill in 1850. Most of the mill's machinery is still intact but the structure itself has deteriorated over the years. The 1982 Iowa legislature appropriated \$20,000 for repair work on the grist

mill and \$15,000 for renovating the dam.

The trails in the park are well-defined through use because many of the rock formations cannot be reached except on foot. The heavily timbered terrain filled with undergrowth warns visitors not to stray from the trails. It is not uncommon to find pines and other trees growing out of the seemingly bare faces high on a bluff.

As many as 25 varieties of ferns have been found at Wildcat Den. Juniper moss, moccasin flowers, trillium, asters, and many other wild flowers are in abundance, as are every species of blossoming shrub native to the area. A few of the varieties of ferns not often found elsewhere in the state include walking

leaf, polypody, woodsia, maiden hair, Goldies' fern, small aspidium, spleenwort, and brake.

Few, if any, wildcats have been seen in the park in recent years, but the rock caves and crannies that once housed them are still in evidence.

Campers will find facilities available above the grist mill in an area shaded by walnut, oak, elm, and pine trees. No reservations are needed, but campers must obtain a camping permit from the park office. Camping is limited to two weeks.

Facilities include camping space, water, sanitary facilities, shelter, fireplaces, and tables.

A visit to Wildcat Den State Park combines the enjoyment of camping or picnicking with the interest and beauty of a scenic and historic setting.

WARDEN'S DIARY

By Jerry Hoilien

CONSERVATION OFFICER

Trout fishing in northeast Iowa is a really fine experience. There's as wide a variety of trout anglers as there is in any other sport. The game hog's there too, like the one you may have read about in your local newspaper awhile back. Conservation Officer Berl Downing of Decorah worked long and hard on this particular complaint before he could make a case. Finally, after several weeks of patience and surveillance, the right opportunity arose. He confronted the suspicious-acting angler along a trout stream and upon further investigation, struck pay dirt when he spotted a cooler built into the fenderwell of the angler's pickup that contained 24 freshly caught trout! That's five times the legal daily catch limit.

The trout program is expensive for the department to maintain. It costs lots of money to raise trout, to say nothing of the cost of hatcheries, trucks, delivery, and salaries; but the quality of a trout fishing experience is well worth it. To help offset the cost, a \$5 trout stamp is required of those possessing trout (validated by a signature across its face in ink). It used to be required for fishing in designated trout waters, but these areas have been expanded so much they now encompass some fine smallmouth streams, as well as other species. The

way the law reads now, if you accidentally catch a trout while fishing smallmouth bass and you release it immediately, you would not be required to have a signed trout stamp.

Don't try to fool those wardens, though. They're a cagey lot. John Horton, a retired officer, was walking a trout stream one morning when he noticed a lone fisherman up ahead. As he came around a large rock, a splash surprised him and he saw the man no longer had his fishing rod in hand.

Glancing down at the ever-widening circles, he could make out a rod and reel in the clear water.

"Hi", the fellow greeted him. "Just out for a stroll, like me?" "No, I'm checking fishing licenses", John replied. "Do you have one?" "No, I'm not fishing!" He came back. To make a long story short, the man finally waded out and got his pole. As John made out his invitation to court, he added, "I hope this is a good lesson, Mr. McGee — Are you up here all by yourself?" After being assured he was, John thought he would walk a bit further. Rounding the next bend, he spotted a woman fishing in a large pool. As he approached, she looked back and

promptly threw her pole into deep water. Sighing, John said, "You must be Mrs. McGee." Yup — sure enough!

Baked Trout

Clean trout and remove heads. Wash thoroughly and dry with paper towel. Dust lightly in flour seasoned with paprika, thyme, garlic salt, pepper and parsley flakes. Bake on a greased cookie sheet at 350° for 30 minutes or until flakey, basting often with melted butter and lemon juice. (It is unnecessary to turn them over.)

The backbone can be easily removed. Mumm good!



Ron Johnson

WILDFLOWERS OF THE MONTH



TWO PRAIRIE LILIES

By Dean M. Roosa and Mary Jean Huston

Wood Lily (*Lilium philadelphicum*)

ABOVE

A less spectacular and less common relative of the Michigan lily is the wood lily, found infrequently in dry open woods and clearings in Iowa. Growing to a height of one to three feet, the wood lily bears up to five showy, upright, reddish-orange flowers. These flowers have purplish-brown spots at the center. The leaves are narrower than those of the Michigan lily, and are grouped in whorls of 3 to 6 per whorl.

Native Americans supposedly dug the starchy bulb of the wood lily, and used it as a potato-like addition to their diet.

Today this showy beauty is a rarity in our state — you are lucky if you come across it.

Prairies provide a constant parade of color, starting with the pasque flower in the early spring and ending in autumn with the gentians. One of the most spectacular mid-summer events on Iowa prairies is the blooming of two lilies — one found on most Iowa prairies, the other seldom found.

The prairies, with their ever-changing array of colors, add interest and diversity to our landscape. These two lilies add grace and charm to our prairies. See if you can find and enjoy these native prairie inhabitants this summer.

Michigan Lily (*Lilium michiganense*)

FRONT COVER

One of the most graceful and lovely of the prairie plants is the Michigan lily. Growing to over five feet, sometimes with more than twenty blossoms, it is found on many wet prairies and occasionally along roads or bordering railroad tracks. The petals are strongly recurved, or bent back, and like most lilies, bear dark spots on the inner surfaces. The stigmas and deep orange stamens protrude beyond the petals. The leaves, up to six inches in length, are rather sword-shaped with parallel veins and smooth margins, and occur in whorls along the smooth stem. Sometimes this species is confused with the Turk's cap lily (*Lilium superbum*), a more eastern species.