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COVER: Missouri River backwaters are again full, offering hunting opportunities to waterfowlers. (See story on page 18.) — Photo by Ron Johnson.

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NATURAL BACKYARDS

By Doug Reeves

Some folks have beautiful backyards and spend hundreds of hours each year keeping them beautiful. The rest of us somehow don't manage to keep ours quite as nice. Still we can enjoy a lot of natural beauty without investing a great amount of time, energy and money. The key is making the yard attractive to wildlife. Let's look at the natural beauty in a backyard planned with wildlife in mind. We will approach it from the senses of sight, smell, hearing and taste.

Beautiful Sight

In a backyard that contains plantings, feeders, or other wildlife attractants, there are plenty of beautiful sights. Some of the most colorful visitors are birds like the rose-breasted grosbeak, northern oriole, American goldfinch, red-headed woodpecker, ruby-throated hummingbird, and even blue jay.

Several beautiful insects also live in backyards. Moths like the Cecropia, Polyphemus and Luna, are among the most gorgeous of wild creatures, but are seldom seen unless specifically looked for. Butterflies are close rivals in beauty and are much more easily seen. The same trees and shrubs that provide fruit for wildlife to eat also provide nectar for butterflies when in blossom. If there is a wet spot in your yard, look for dragonflies and damselflies with pale blue or red bodies and distinctively marked wings.

Mammals, while not having quite the color variety that many other kinds of wildlife are blessed with, nevertheless do provide beauty. Remember the baby cottontails just out of the nest? A chipmunk with his cheeks full of food provides some comic relief.

Plants, of course are the foundation of the backyard

wildlife scene. The crab apple trees you planted are beautiful when in bloom and also attract beautiful birds. Many of the other fruiting trees and shrubs also have pretty blossoms. In fact, many of the fruits are colorful, for example, blueberries, mountain ash berries, highbush cranberries and autumn olive fruits. Of course the trumpet creeper, columbine and other plants that attract hummingbirds also have pretty blossoms. The tender new growth on yews, pines, and spruces are also a pretty, bright green.

Beautiful Sounds

The same orioles, rose-breasted grosbeaks and goldfinches that are so colorful also provide us with beautiful song. Add to them the robins, cardinals, song sparrows and other common birds, and the backyard chatter becomes a symphony. Sometimes you have to get up a little early in order to fully appreciate the

beauty of birdsong, but it is well worth the inconvenience. A breeze blowing through conifer limbs produces a soothing sound on a spring evening. Dense plantings also serve as a buffer for nearby street or farm noises. Furthermore, they provide a place for songbirds to get away from cold winter winds.

Pleasant Odors

We all enjoy the smell of a bakery or Easter lily, but we also appreciate apple, cherry and plum blossoms, lilacs and the scent of pine or cedar. The same plants that provide food, cover and nest sites for wildlife also treat us to these pleasing scents. When you stop and think about it, a lot of businesses use these pleasant scents to sell their products. How many times have you purchased products containing pine, lilac or berry scent? Those of us who don't have allergies should be grateful that we can appreciate the smell of spring flowers and pines.

Good Tasting Too

Yes, you can even taste the beauty of a backyard designed for wildlife. My neighbor planted some blueberry bushes in her backyard and although birds get many of the berries, she gets some for herself. Lots of people share apples with a lot of different wildlife species. Other fruits that can be shared with birds and animals include cherries, raspberries, serviceberries and highbush cranberries. Nut trees like oaks, hickories and walnuts are also beautiful in their own way and provide additional fruits that you can share with wildlife.

You see, you *can* experience beauty in your backyard without spending hundreds of hours on upkeep or hundreds of dollars for materials. In fact, sometimes you can do a lot to enhance wild beauty by doing less intensive yard work. All it takes is a little planning and a little planting.



Jerry Leonard

Predation at Your



By Doug Reeves

Doug Reeves is the urban wildlife biologist for the commission. He holds an M.S. degree from Michigan State University. He joined the commission in January of this year.

Every now and again we get calls from people who have just witnessed a hawk or shrike taking a bird from their feeder. Invariably the people are upset with the hawk and somewhat distraught that the event occurred in *their* yard. We also get calls from people who feed cottontails and discover that great-horned owls and barred owls prey upon the rabbits at night. They too, are upset that their favorite wild friends are being preyed upon by other wild creatures. Those of you who have these concerns, please consider the following.

1. Predation is a way of life for raptors.

By their very nature hawks and owls have to kill other animals in order to survive. Although you may think differently these birds are not filled with malicious intent when they take another bird or mammal. They are just hungry. Raptors are at the top of the food chain and are an integral part of nature's sys-

tem of checks and balances. They provide a valuable function by helping to assure that populations of species lower on the food chain do not become too large for the habitat. Just as the cardinals, juncos, chickadees and other birds that come to your feeder must eat the sunflower and millet seeds to survive, so too, the hawks and owls must eat. But they cannot survive on fruits and seeds, they must eat other birds and animals.

2. Songbirds will concentrate in areas where food is plentiful.

As songbirds, rabbits and squirrels discover your feeders they come to rely on this source of food. They concentrate around your feeders. The result is that prey for hawks and owls is concentrated around your feeders, too. It is only natural that predatory birds locate these concentrations of food items and hunt there.

This is not to say that you should stop feeding the birds and animals you care for. Indeed, if you stop providing food midway through winter you will cause much more devastation than any predators. Whereas a hawk, owl or shrike may take a bird or two, many songbirds may die from starvation or exposure if you quit feeding them midway through winter.

3. Predation usually does not threaten the populations of birds and animals using your feeder.

Although predators do eliminate individuals they do not endanger populations, even locally. For example, if a Cooper's hawk takes a cardinal from your yard, that does not endanger the cardinal population in your neighborhood because there are several more cardinals nearby. In fact, had you not seen the act, you probably would never have missed the individual cardinal that was killed. Sometimes shrikes will kill more birds than they can immediately eat. They store these items by hooking them in the crotch of a branch or on a thorn. However, the shrikes usually do return to use these foods if they are not driven away.

4. Other factors are important.

Other factors are much more important to populations of songbirds than is predation. Did you recently remove a dead tree that really was not any danger to your house or property? Did you cut or poison the brush out of a fence row? Do you mow a lot more yard than you really need to? If so, you have done more to limit the populations of songbirds than the predation that occurs around your feeder. If you really want to help the songbirds and animals in your backyard, plant some shrubs and conifers for them to nest in and find protection from winter weather. They can also hide from predators in these plantings. Habitat is the key to wildlife populations. The better the overall habitat, the more stable the population.

5. Learn about predatory birds.

In most cases birds and mammals that utilize feeders are not subjected to any greater level of predation than are others that do not regularly attend feeders. So if you witness an incidence of predation, the best thing to do is realize that your feeder is operating at a new level. That is, you are feeding carnivores now, too.



Ken Formanek

Profile of an Endangered Species

Wild Rice (*Zizania aquatica*)

r Feeder

Learn about the hawks, owls or shrikes that you observe and learn to appreciate them. In general these birds experience a much more precarious existence than do the more numerous songbirds. Remember the hardships imposed on raptor populations by DDT and other pesticides? Many predatory bird populations are still declining. In short, they need your help at least as much as the songbirds do. As breeding birds; Cooper's hawks, red shouldered hawks, and Northern harriers (marsh hawks) are endangered in Iowa. Some other species of hawks and owls are threatened. The point is, we are concerned about their populations and should not begrudge them a bird or two.

6. There may be some exceptions.

Now, there are some instances where feeding can result in increased predation. If the feeder is placed a considerable distance from protective cover, visiting birds and mammals are unnaturally vulnerable because they cannot get to a refuge in a "normal time." Although the songbirds usually wouldn't use such feeders, they will be attracted to them during times of food shortage, which means winter. In these cases, the thing to do is relocate your feeder near protective cover or plant some shrubs near the feeder. Temporary cover can be made by putting a used Christmas tree near the feeder. Be aware though, that you might be trading one problem for another. House cats are predators, too, and they often use trees and shrubs as ambush points. Usually a happy medium can be achieved by putting feeders 8-12 feet from protective cover. This allows songbirds a quick escape from aerial predators and keeps them away from cats.

Predator-prey relationships are as old as time. Nothing we can do will change that. What we really need to do is preserve and enhance the habitat that all wildlife needs to survive. Only by doing this will we be assured that we can see and appreciate each of the species we have with us today.



Doug Reeves

By Dean M. Roosa and Bill Pusateri

Like so many other wetland plants wild rice, *Zizania aquatica*, nearly vanished from Iowa with the draining of the wetlands. It now persists in only a few places, notable small areas in Emmet, Black Hawk and Hamilton Counties. It grows in shallow water where it must seed every year, as it is an annual and lives only one growing season.

The plant has the male and female flowers separate, the upper branches forming an erect brush of pistillate spikelets, the lower spreading branches bearing drooping staminate spikelets.

The spikelets shatter easily so reseeding of the population is assured; but in Iowa, many of the seeds are destroyed by a weevil. Water quality seems to be important in germination of the seeds with clear water necessary. These factors combine to cause Iowa populations to be in some danger of disappearing.

It has long been sought after as food for Indians, settlers, hunters and migra-

tory waterfowl. It can easily be distinguished from other grass of the marshland by its swollen stem (about one-half inch thick at the base) and a course-looking plume-like seed head. With age, the seeds become long and dark in color and are contained within hairy husks. After husking and drying, the black seeds can be bathed in cold fresh water to remove the natural smokey flavor which may be unpleasing to the taste. Wild rice is usually harvested in either September or October. In fact, some Indian tribes referred to the September harvest moon as the Rice-Is-Ready-To-Harvest Moon.

Indian rice was used as a major source of food by both Indian tribes and early settlers. It was a known remedy for stomach trouble, high blood pressure and heart problems. Hearty doses of rice porridge was used to cure cholera along with tonics of willow and poplar bark which contained an aspirin-like product.

We are interested in learning of new populations in Iowa.

“Down Year”



John Ford

” Bird Hunting

By Roger Sparks



Okay, we had a rough winter and a terrible spring nesting season. We know pheasant numbers are down a little and quail are down a lot. Now what? Do we bird hunters go about business as usual? Hang up our shotguns when it snows? Hunt down that small covey? Quit entirely?

Concerned sportsmen ask themselves these and other questions everytime weather deals wildlife a bad hand and bird populations dip to low levels. We have often been told that long hunting seasons have no detrimental effect on wildlife, but is that true during a real “bust year,” particularly for quail, like this one?

An interview with Jim Wooley, upland wildlife research biologist, sheds some interesting light on the subject, and may help us harvest some birds while making responsible decisions this fall and winter.

Quail

A study including the use of radio telemetry to monitor quail movement and mortality has been underway for two years.

“This study will tell us more about quail in the future,” Wooley said, “but early information suggests several things. Quail coveys are likely to mix or combine at least during mild-weather periods in the early portion of hunting seasons. For example, it appears to be common for a 4-bird group to move some distance, join a 12-bird group, whistle-in another pair and become an 18-bird covey. This is important since many quail hunters are reluctant to reduce a covey to only several birds for fear when they are bunching together for warmth during cold spells, the birds might perish. Therefore, pursuing a small covey during mild weather at least would apparently have little effect on the quail population in that area.”

Wooley noted that this may not be the case during severe weather periods.

“Our quail move less during cold, snowy weather and much less mixing occurs. In addition, flushing them during very severe weather might stress the

birds. If birds are already stressed by weather, lack of food or poor cover, it is possible that pushing a small covey could result in complete loss of the group."

All right then, the answer would seem to be if the weather gets rough, let the small coveys go, or maybe even hang up the shotgun. Not necessarily, said Wooley.

"On our private-land study areas, only 4 to 7 percent of the preseason quail population has been taken by hunters in two years of study. Public-land hunters bagged 18 to 32 percent of the preseason count during the same period. Of the total number of quail harvested each year on all areas, only 8 to 12 percent are taken in January according to the Commission's small game harvest survey."

"Even though there is less cover late in the season making birds somewhat easier to find, there are fewer hunters in the field," Wooley added. "While pursuing a small covey late in the year might be discouraged, it is not known if even that would limit the overall quail population in a given area. On a regional basis, such an occurrence would be very unlikely."

"It is known that hunting losses are compensatory to other mortality factors, to a large extent," said Wooley. "Data from specific study areas and statewide show that quail populations recover quickly, sometimes within two years from very low numbers. In 1979, quail numbers dropped to an all-time low level statewide, but recovered to excellent levels the next year due to good winter survival and nesting conditions. This occurred despite continued hunting of quail during the period of low numbers."

"As the study progresses, we'll learn a great deal more about this bird and the effects that hunting and other causes of mortality have on it," said Wooley. "Meanwhile, those diehards willing to face long, cold walks for a crack at a few nice coveys can enjoy the January season."

Pheasants

The hardy ringneck fared better than the bobwhite. Hunters will notice little, if any difference in much of southern Iowa. In the limited cover of northern Iowa, though, birds were susceptible to weather conditions, particularly in December. Numbers are down some 6 percent from last year across the Cash Grain Region in north-central and north-west Iowa. What can be done to reduce these losses in the future?

"First, reducing the season on cock pheasants is *not* the answer," Wooley said. "That's been tried just across the border in Minnesota with absolutely no success."

"Basically, a pheasant flock depends on two things," he said, "protective winter habitat and adequate nesting cover. In northern Iowa, limited amounts of each are available, so populations like those now found in southern Iowa and previously in the northern part of the state probably cannot be achieved."

There is, however, some hope for improving the northern Iowa situation.

"In 1980 and 1981, we carried considerably higher numbers of birds in northern Iowa than we now have. Those years were characterized by relatively mild winters. This and data from previous years suggest that even the limited nesting cover available could produce more birds. If so, establishing more winter cover alone could significantly increase the pheasant

population in that area. However, to do that will take time."

Why not try to increase both?

"The only way to increase cover of any kind on private land is to provide incentives to the landowner," Wooley said. "Developing nesting cover means converting cropland into alfalfa or grassland, and that would be very expensive. The development of some winter cover through a farmstead windbreak or shelterbelt program may be possible, though. The Minnesota and South Dakota conservation departments cost-share in the development of windbreaks that benefit the farmer as well as provide vital winter protection to pheasant flocks. We are investigating the creation of a similar program in Iowa."

Good Hunting

Wooley said fewer birds statewide doesn't necessarily spell poor hunting.

"Some areas will have good numbers of pheasants and quail. Even in places where birds are fewer, I hope landowners realize hunting won't hurt the pheasant and quail populations. Likewise, hunters should respect the feelings of landowners who are protective of the birds and limit the amount of hunting they allow on their places."

"Ultimately," Wooley said, "we should all hope for mild winter and flood-free spring. Weather will be the major determining factor in 1985's bird numbers."



Pheasant and quail, on previous page, done by John Bald of Davenport.

WARDEN'S DIARY

By Jerry Hoilien

Yawn — How come everything a game warden's really interested in happens either real early in the morning or darn late at night? When you're snuggled down in a nice warm bed, it's hard to imagine what it's going to be like just before dawn on the marsh. There's a temptation to hit the alarm button on the clock and roll over to drift back into slumberland, but you don't.

The headlights bounce back off the fog as you slow for the lowlying areas on the road. Man, it's black out tonight. No stars at all. On the cloudy mornings we have less problems with early duck shooting than on clear mornings because they just plain can't see them. The shooting hours start a half hour before sunrise and it's darn hard to see a duck, much less identify what species and sex it is.

I agree with and like the point system. If you kill a high point bird, your limit for the day can be shortened considerably, and you're not illegal if you retrieve and identify each bird as you shoot it.

Both state and federal regulations require you to retrieve your waterfowl and add them to your daily bag. Under the point system teal are only ten points and with your dialy limit set at one hundred, you could legally take ten teal — either green- or blue-wing. Wood ducks are 70 points so if you drop one of them your limit is shortened considerably. You could take two wood ducks in a day and you would still be legal because you exceeded your 100 points with the last duck.

Don't be like the bunch we watched one morning, banging away at the ducks. They were dropping them right and left. Great shooting — fast and furious. The four men had stationed themselves around a small pond in the flooded area of Riverton, one of our game management areas. We went on point when we noticed they weren't retrieving their birds as they shot them.

Not retrieving their birds, these hunters had no idea where they stood on their limit. This didn't stop the group and they just kept banging away. Pretty soon the flight stopped and they began gathering up their ducks. I heard one yell,

"How many points is a woody?" "Seventy," came a reply from the woods. "Thanks, these are blue-wing woodies," he laughed. "I don't think so," I said stepping up next to him. I watched his buddy trying to stuff several ducks under the weeds. My partner gathered up the other two and judging from the time it took him to write them up, I suspected we had some "no license" cases as well as "over limit."

The next pond was a different story. As a duck flew into the pond area and circled you could hear one of the hunters shout "wood duck" and the bird flew directly over several of his partners without a single shot being fired. They didn't want those high point birds so early in the day, too many others were flying. As I watched, a small group of mallards cupped their wings and slipped in toward their decoys. Soft notes from an experienced waterfowler coaxed them in close, wings locked. Then they flared. Three shots rang out and three greenheads rolled over in the air and hit the water dead. Two hen mallards flew off. Good shooting! (Drakes are 25 and hens are 70). My partner and I moved off toward another pond, not much use in wasting time checking those guys.

I'd checked these guys before; there were only two in the party early one black morning and they set up right in front of me in the darkness. (I didn't tell them I was there you see). I could hear them putting out decoys and setting up the blind on their boat. From the splashes, they must have put out a hundred decoys. Finally they settled down and I could hear one of them remark. "It's almost shooting time — what's your watch say?" They were discussing the point system and duck hunting in general when a whistle of wings passed directly over me, heading for them. "What were those? I can't tell." "Looked big. Listen, they're coming back. Is it time?" "Yeah, take 'em." Bang — Bang! Splash — Splash! I could hear one of them jump from the boat and start wading out. "Son-of-a-gun," he mumbled and waded back. "What's the matter?" his buddy asked. As I heard his partner start to gather up the decoys, I guessed what had happened.

After they got going back toward the landing, I stopped and checked them. "Two nice canvasbacks — 100 points each too!" I remarked. "Yup," the older one replied. "That will teach us to shoot first and identify later. We came for all day and we're done in the first five minutes. Even if you can shoot a half-hour before sunrise it's a good idea to wait!" "Another suggestion I might make," I added. "Always set up with your back to the sun. That puts the light on the ducks for easier identification, otherwise you're shooting at a silhouette." Anyway, it made me feel good to check and talk with some good hunters.

Well, things have slowed down and it's time to call Don. A few raps on a willow tree with my old coffee pot will bring Don Priebe, conservation officer stationed at Shenandoah, from anywhere on the marsh. Soon I heard his motor start and head our way as I lit the stove and put the coffee on. Bacon and eggs will taste good this morning. Hope Don brought some rolls. He's about one of the best waterfowl men I know. He gets lots of practice in this area, and like some other wardens I've known, one of the finest men who walks out-of-doors!

Got to tell you about the "beginner" who was talking with the old deer hunter who was bragging about the big beautiful ten-point buck he had gotten the year before. "Gee," the novice said, "You must have been hunting a lot of years. This is my first year and all I got is a license for a forked antler."

Venison Spaghetti Sauce

1½ lbs. ground venison
½ lb. ground pork
3 cloves garlic (minced)
2 T olive oil
2 cups chopped onion
1 cup chopped pepper
2 qts home canned tomatoes *or* 8 fresh tomatoes peeled, seeded and chopped *or* 2 large cans tomatoes.
2 - 12 oz. cans tomatoe paste
2 T dried basil *or* 4 T fresh
1 T dried oregano *or* 2 T fresh
2 T dried parsley *or* 4 T fresh
2 T sugar
Salt and pepper to taste

In four quart kettle heat olive oil, add onion and pepper and saute gently. Add minced garlic and meats, stir and brown meat until no red shows and it is crumbly. Add tomatoes, tomatoe paste and 1½ cup water. Add seasonings and turn heat down to simmer 3 to 4 hours, partially covered until quite thick. Serve over cooked spaghetti.



HEROLD'S, COLEMAN DONATE CAMPER



Melvin Herold of Herold Trailer Sales, Indianola, recently presented a 1985 Aspen fold-down camper to the Iowa Conservation Commission. Herold Trailer Sales and the Coleman Company donated the camper to be given to some lucky visitor at the 1985 Iowa State Fair. Adults attending the state fair will be able to register for the camper at the Commission's parks exhibit.

BOATING SAFETY BEGINS AT HOME

The Iowa Conservation Commission has developed a home study boating safety program which is ideal for ages 12 and older. You may study and learn at your own pace. Furthermore, all course materials are available at no cost to you!

A 50-question exam is included in your "Iowa Better Boating" manual. Each person who successfully passes the test (must answer 40 or more questions correctly) will receive an Iowa Safe Boater certified patch and a certificate of competency from the Iowa Conservation Commission. The certificate can be used to receive a discount on your boating insurance from several companies.

Do your part to make Iowa boating a safe, enjoyable pastime — become an educated and responsible boater. And be sure to practice what you learn!

If you are interested in taking this course, please contact the Iowa Conservation Commission, Safe Boating Course, Wallace State Office Building, Des Moines, Iowa 50319; telephone 515/281-6824 or 281-8652.

Attention School Teachers

This same course is available for classroom instruction. Materials available free from the Commission include an instructor manual, student manuals, registration cards, boating regulations and two 16mm films.

These materials can provide four to 10 hours of instruction. For further information, contact the Iowa Conservation Commission, Boating Safety Education, Wallace State Office Building, Des Moines, Iowa 50319; telephone 515/281-6824.

ALL-TIME TOP TEN RACKS

*new top ten entries

Shotgun Typical

Name	Address	Year	County Taken	Total Score
Wayne A. Bills	Des Moines	1974	Hamilton	199%
George L. Ross	Ottumwa	1969	Wapello	195%
*Gregg Redlin	Iowa City	1983	Johnson	187%
Dennis Vaudt	Storm Lake	1974	Cherokee	187%
Randall Forney	Glenwood	1971	Fremont	186%
Jack W. Chidester, Jr.	Albia	1976	Monroe	186%
Franklin Taylor	Blencoe	1976	Monona	185%
Taylor Wilson	Exira	1982	Audubon	185%
Marvin Tippery	Council Bluffs	1971	Harrison	185%
Cecil Sitzman	LeMars	1957	Plymouth	184%

Bow and Arrow Typical

Name	Address	Year	County Taken	Total Score
Lloyd Goad	Knoxville	1962	Monroe	197%
Robert Miller	Wyoming	1977	Jones	194%
Richard Swim	Des Moines	1981	Warren	190%
Gary Wilson	Cherokee	1974	Cherokee	175%
Gordon Hayes	Knoxville	1973	Marion	175%
Don McCullough	Conesville	1980	Muscatine	174%
Jack Douglas	Creston	1974	Union	173%
Ardie Lockridge	Amara	1965	Iowa	172%
Ambrose Beck	Goose Lake	1963	Jackson	171%
*Dennis Lent	Dubuque	1983	Dubuque	171%

Shotgun Nontypical

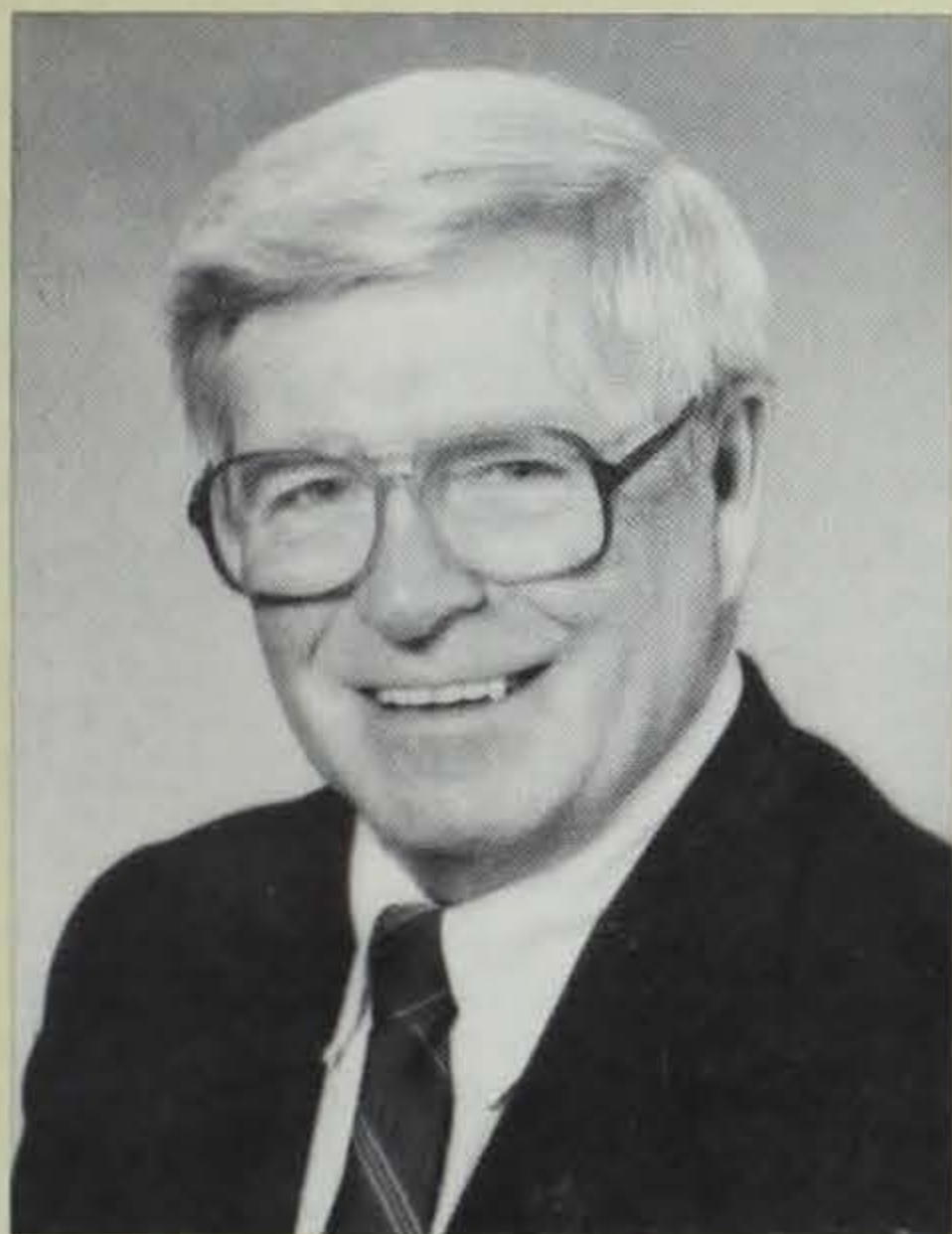
Name	Address	Year	County Taken	Total Score
Larry Raveling	Emmetsburg	1973	Clay	282%
Carroll Johnson	Moorhead	1968	Monona	256%
David Mandersheid	Welton	1977	Jackson	253%
Duane Fick	Des Moines	1972	Madison	228%
LeRoy Everhart	Sumner	1969	Van Buren	224%
Todd Hawley	Panora	1982	Guthrie	224%
Donald Crossley	Hardy	1971	Humboldt	221%
Mike Pies	Ackley	1977	Hardin	221%
George Foster	Creston	1968	Union	220
John Meyers	Council Bluffs	1969	Pottawattamie	218%

Bow and Arrow Nontypical

Name	Address	Year	County Taken	Total Score
Jerry Monson	Clear Lake	1977	Cerro Gordo	220%
Blaine Salzkorn	Sutherland	1970	Clay	218%
*Chris Hackney	Alberton	1983	Wayne	211%
Phillip M. Collier	Burlington	1978	Des Moines	203%
Bill Erwin	Sioux City	1966	Woodbury	202%
Dorrance Arnold	Oelwein	1977	Clayton	200%
Dennis Ballard	Iowa City	1971	Johnson	197%
Marsha Fairbanks	Martelle	1974	Jones	197%
Tim Digman	Dubuque	1981	Lee	190%
Jim Monat	Waterloo	1981	Clayton	189%



Leaders in Conservation



BOB WILBANKS

In 1976, Iowa Conservation Commission officials approached a large radio station, WHO, in Des Moines, in an effort to gain some air time for fish and wildlife subjects. The concept appealed to WHO's Bob Wilbanks, and his enthusiastic promotion of the idea to station management resulted in a regularly scheduled, call-in show, "Sportsman's Notebook."

In 1983 Wilbanks was named Conservationist of the Year by the Iowa Wildlife Federation for his outstanding radio program. Wilbanks dedication to the continuation of the show has resulted in its being aired each Wednesday evening at 6:30 for the past eight years. The program has received top ratings since its inception.

A graduate of Indiana University's College of Arts and Sciences in radio and television, Bob interrupted his college career to enlist in the Marine Corps, where he served as a member of the Armed Forces Radio Service. Following graduation, he was appointed news director of

WBIW, Bedford, Indiana. While there, he regularly returned to the Indiana campus to do television news. Later he moved to WMIR in Marion, Indiana, as news director; then to Sioux City, Iowa as assistant news director of KTIV-TV. In 1960, he joined the WHO News Department as a news editor. He was later named night managing news editor and in 1965, was appointed news director.

Bob has always been an innovative, resourceful newsmen. In 1966, he spent four weeks in South Vietnam, covering the war from an Iowan's standpoint and interviewing Iowa servicemen. This trip was the first of its kind for an Iowa newscaster.

Organizational interests include the Izaak Walton League and Ducks Unlimited, as well as numerous radio and television associations. Bob and his wife Mary Jane live in Des Moines. When he is able to break away from his extremely busy schedule, he enjoys some bird hunting and fishing.

IOWA ASSOCIATION OF NATURALISTS

The Iowa Association of Naturalists is a nonprofit group of professional naturalists and others who promote the development of skills and education within the art of interpreting natural and cultural environments. Interpretive naturalists reveal the meanings and relationships of nature to all ages through nature walks, exhibits and displays, news media, slide talks, and other audio-visual media. There is a major focus in most programs to do nature-oriented activities for children either at natural areas or in the school. These activities vary from nature awareness and ecological understanding, to clarifying values regarding environmental issues, to providing opportunities for older students to solve environmental problems. In Iowa, naturalists are most often employed by county conservation boards, although they also work for other conservation agencies, private nature centers and education agencies.

The IAN gives interpretive naturalists opportunities to exchange ideas and methods. It also provides lines of communication between interpreters and related organizations.

Three, two-day meetings are held each year, usually at different nature centers across the state. These workshops allow naturalists to share interpretive techniques and resources. The IAN publishes three newsletters annually; also A Guide to Interpretive Services in Iowa, which lists interpretive/environmental education personnel and a brief description of interpre-

tive facilities and programs in the state; and a Naturalist's Book List.

Other recent projects include sponsoring a two-day workshop for college interns planning to work as naturalists for the summer, and coordinating members to evaluate each other's programs. Future goals include educating members about environmental issues and legislation, and keeping abreast of current research in environmental education and interpretation.

The Iowa Association of Naturalists is a young organization which represents a change in the conservation movement. Many conservation agencies have recently realized the effectiveness of hiring a naturalist or environmental educator to help citizens learn about the wise use of natural resources. The IAN was formed as a result of the growth of this group.

The IAN president Gail George, program coordinator at the state's Conservation Education Center, commented on her five years in the IAN: "This group has been valuable to me both in providing training and as a supportive network of people who share their ideas, enthusiasm and solutions to problems they've encountered."

Membership in the IAN is for all who want to share their interest in nature interpretation and glean from the experience of other naturalists. To join, annual dues of \$3.00 may be sent to: Vern Fish, Secretary/Treasurer, Hartman Reserve Nature Center, 657 Reserve Drive, Cedar Falls, IA 50613.



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Artwork by Rex Heer

Nature Tale for Kids

By Dean M. Roosa

Bubo

It was snowing. The mother owl was setting on her newly-laid eggs in a cavity of an old tree, but was still getting covered by snow. She patiently waited until the snow stopped falling then jumped to the edge of the nest and shook her feathers vigorously, gently turned the two round white eggs, and carefully settled down to incubate. It was February, and the bird — a great-horned owl — had selected this woody, scrubby valley for her territory earlier in the winter. Residents heard her and her mate calling to each other most of the winter. Then, in mid-February, the woods fell silent as the mother owl completed her clutch of two eggs and began incubation.

The smaller male always remained close, perched in an inconspicuous spot, ready to warn of any intruders. Each evening at dusk he left his shelter to hunt. Owls' eyes are especially adapted for seeing in dim light, and dusk is when mice are most active. He carried food to his mate in the old hollow elm tree. Occasionally the mother owl would leave the cavity to fly around the valley because even the most caring mother got bored and tired of sitting in one position for long periods.

In mid-March a faint peeping came from deep in the nest. This caused great excitement in the mother owl, and soon a tiny beak broke through the shell of one egg. A day later, the second egg was pipped. The next day, two tiny, helpless owls huddled in the warm feathers under the wings of the mother owl. The father sensed the importance of this event and increased his hunting activities, bringing many more mice than the young could eat. The mother tore the prey into tiny bits and held each morsel close to the tiny beaks. Almost by reflex action, the young owls grabbed the morsels. The owlets grew fast, because the parent owls were the best parents in owl history. Soon the young were fat, downy white, and about the size of a softball. Their eyes were open, and they were occasionally seen peering over the edge of the nest.

In late March a snowstorm hit the valley. For twelve hours it howled and snowed. When the weather cleared, the young seemed as healthy as ever despite no food for more than a day. The father now brought in slightly bigger prey. A starling from the nearby farm and an early-season grackle each made a day's fare.

The cavity sloped toward the front of the tree. Often the young, still weak,

would tumble toward the nest's edge; but they had always managed to clamber to safety. One day, however, the youngest owlet tumbled from the nest and fell fifteen feet to the frozen ground. Unhurt, his hunger cries attracted his parents' attention, and they flew down to feed him for two days. His cries also attracted the attention of a marauding striped skunk. Despite the talons of loving parents, they were now left with only one baby owl.

In early April, Bubo, the remaining young, had lost his downy feathers and gained in their place dusky brown barred feathers. Bubo spent much of his time alone since he was too big to cuddle under his mother. The waterfowl flight was at its peak, and occasionally his parents brought him a blue-winged teal or sora rail, but his favorite was hen pheasant.

Bubo grew fast, and by late April he was as big as his father. He was braver each day and climbed to the edge of the cavity and hopped to nearby branches, always returning to the cavity at night. In the days that followed, Bubo took short flights to nearby trees, and his wings became stronger. Soon he was following his mother up and down the valley, pestering for food and making hunger calls. She showed him how to hunt, how to silently glide across the landscape at twilight to capture unsuspecting rabbits. Bubo learned fast and was soon on his own.

In late summer, his parents began to establish a territory and chased him from the valley. He flew from valley to valley dodging other owl territories. Eventually, tired and discouraged, he found a quiet woodland close to a small farmstead. Rabbits and ground squirrels were plentiful, but still hard to catch, and Bubo occasionally went a night without eating. One evening, he flew to a pole near the farm and saw white birds going into a small barn. He flew down and easily carried away a young chicken. He returned night after night until the farmer finally noticed the flock becoming smaller. He waited to see who the predator was and saw the owl glide down and disappear with yet another young chicken. The farmer tried to scare Bubo away, but he persisted. Finally the only solution was two loud reports from his shotgun. Bubo lay in the barnyard. The farmer sadly picked up the young dead owl.

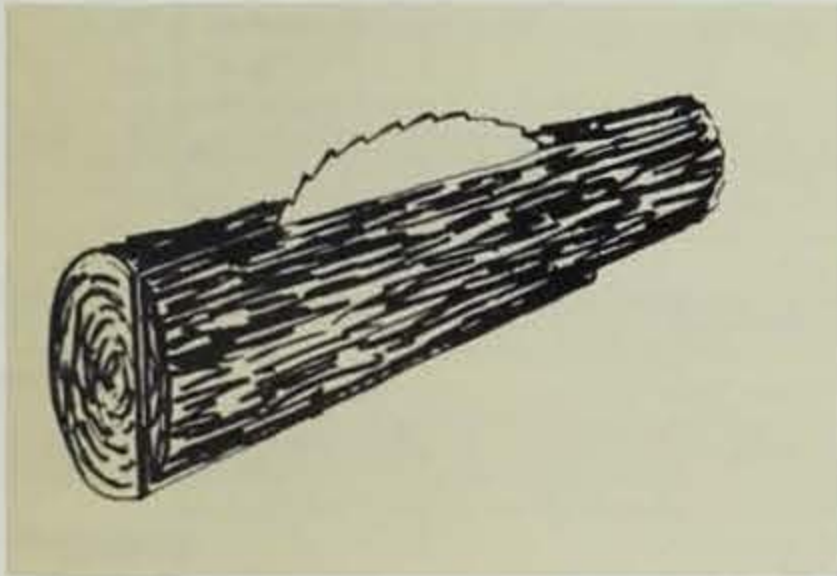
It was snowing back in the valley where Bubo hatched, and his mother was sitting on two freshly-laid eggs in a cavity of an old tree.

IOWA CONSERVATION COMMISSION

1985

APPLICATION FOR SEEDLINGS

Reforestation provides continual forest products.



Habitat improvement means more wildlife.



Erosion control improves water quality.



Proper planting improves survival.



Our State Forest Nursery grows tree and shrub seedlings for conservation uses on Iowa lands. We offer these seedlings as a service to encourage you to plant for reforestation, wildlife habitat and erosion control. In keeping with these objectives, you must sign the statement on the application when you order, agreeing to use these plants for the purposes mentioned above. You must also order at least 500 plants in multiples of 100 plants, unless you are completing the previous year's planting or are ordering the Wildlife or Songbird Packet (which may be purchased by themselves).

Early orders have preference. The sooner you send your application, the better our chances of being able to serve you. You can find out what species are currently available by calling 515/294-9642 for a recorded message.

To place an order, you must complete the attached application and send it to us. Following the instructions at the head of each section should make the application easy to complete. Please make sure each section has been filled in; if the application is incomplete, we may have to return it to you. You can make a copy of what you order on the other side of this sheet for your records.

DON'T SEND MONEY when you mail your application. If we have the plants you want when we receive your application, we'll deduct them from our inventory and send you a bill for the correct amount. This bill is our acknowledgement of your order. **YOU MUST PAY THIS BILL WITHIN 15 DAYS;** otherwise we'll cancel your order and make the plants you requested available for other orders. The Nursery reserves the right to make substitutions if sufficient stock is not available.

We begin preparing orders as early in the spring as possible. Unfavorable weather (rain, snow, etc.) can cause delays. The Nursery gets each order ready as quickly as possible, but we can't guarantee availability by any specific date. You can get information about our shipping schedule in the spring by calling 515/294-9642 for a recorded message.

For pickup orders, you will receive a postcard saying it's ready. Bring the postcard with you when you come.

PLEASE REMEMBER that ordering your plants is only the first step in establishing your plantation. Your seedlings must be properly planted. Protection from weeds which can overtake them as well as from livestock which can trample or eat them. Without this care, your plants will probably not survive.

If you have any questions, you can write the Nursery at 2404 South Duff Avenue, Ames, Iowa 50010, or call 515/294-4622, from 8:00 to 4:30, Monday through Friday. We would be happy to send you more information about planting and weed control or to talk to you about these important steps in growing your seedlings.

Weed control improves growth.



Grazing within plantations results in failures.



Conservation is our business...and yours.

SUGGESTED SPACING

Species	Reforestation	Wildlife	Erosion Control
Pines and other conifers	8' x 6' (908 plants/acre) — for timber 5' x 5' (1,742 plants/acre)— for Xmas Trees	same (High density makes good cover)	same
Walnut and other hardwoods	8' x 8' (681/acre) to 12' x 12' (302/acre)	8' x 8' (681/acre) to 16' x 16' (170/acre)	8' x 8' to 12' x 12'
Russian Olive		6' x 6' (1,210/acre) to 12' x 12'	same
Autumn Olive and other shrubs		3' to 5' between plants within rows; 5' to 10' between rows, range from 2,900 plants/acre (3' x 5') to 871' (5' x 10'). Or plant in clumps 4 x 4 or 6 x 6.	

GENERAL INFORMATION

Species	Mature Size Range	Moisture			Light		Remarks	#Ordered (For Your Records)
		Dry	Well Drained	Moist	Full Sun	Some Shade		
White Pine	50-80'		X	X	X	X	Intolerant of air pollutants. Good timber tree. Adaptable to most sites. Native to NE Iowa.	
Scotch Pine	30-60'	X	X		X		Hardy. Adaptable.	
Red Pine	50-80'		X		X		Requires cool sites. Good timber tree.	
Ponderosa Pine	60-100'	X	X		X		Recommended for Western Iowa only.	
Jack Pine	35-50'	X	X		X		Hardy and adaptable. Good cover for coal spoil banks.	
Red Cedar	40-50'	X	X	X	X		Tolerates poor, gravelly soils; prefers airy site. Very drought resistant. Good wildlife food and habitat. Native.	
Black Walnut	50-70'		X		X		Valuable wood products tree. Good firewood. Requires deep, rich, well-drained soil. Native.	
Green Ash	50-60'		X	X	X		Valuable wood products tree. Very good firewood. Native.	
White Ash	50-80'		X		X		Valuable wood products tree. Very good firewood. Native to all but NW Iowa.	
Shagbark Hickory	60-80'		X		X		Wood products. Excellent firewood. Native to all but NW corner of state.	
Silver Maple	60-80'		X	X	X	X	Bottomland sites. Valuable wood products trees. Good firewood. Native.	
Red Oak	60-80'		X	X	X		Valuable wood products tree. Excellent firewood. Native to all but NW corner of state.	
Bur Oak	70-80'	X	X	X	X		Adaptable to various soils. Excellent firewood. Staves and railroad ties. Native.	
White Oak	50-80'		X	X	X		Valuable wood products tree. Excellent firewood. Native to all but NW corner of state.	
Mixed Oak							May contain red oak, white oak and bur oak in varying proportions.	
Russian Olive	12-25'	X	X		X	X	Very hardy plant. Good food for wildlife. Drought resistant.	
Autumn Olive (Cardinal strain)	12-18'		X		X	X	Good wildlife food and habitat. Plant on protected site.	
Tatarian Honeysuckle	10-12'	X	X		X	X	Very hardy. Dense growth. Good wildlife habitat and food for birds. Fruit available July-August.	
Amur Honeysuckle	12-15'	X	X		X	X	Occasional winter killing of branches in northern Iowa. Fruit available in September-November. Good wildlife habitat and food for birds.	
Ninebark	5-9'		X	X	X	X	Very hardy. Good wildlife habitat. Native to most of state.	
Redosier Dogwood	7-9'		X	X	X	X	Producers cluster of stems from ground. Good wildlife food and habitat. Native to NE Iowa.	
Gray Dogwood	10-15'	X	X	X	X	X	Hardy. Forms large colony of plants from original. Good cover. Native.	
Osage Orange	20-40'	X	X		X		More adaptable to southern Iowa. Withstands poor soil extremely well. Thorny, useful for wildlife habitat.	
Common Lilac	8-15'		X		X		Hardy. Shrub border or in groupings. Good wildlife habitat.	
Common Chokecherry	20-30'	X	X	X	X	X	Hardy. Good food for wildlife native.	
Hybrid Poplar	40-60'	X	X	X	X		Mixed hybrids of cottonwood selected for Iowa. Good for fuelwood plantations.	
Mixed Hickory	60-80'		X		X		May contain shagbark, shellbark, and bitternut hickory in varying proportions.	
Wildlife packet							200 plants valuable to wildlife. 50 conifers, 50 hardwoods, 100 shrubs chosen by the nursery.	
Songbird Packet							Mixed variety of 20 shrubs beneficial to songbirds.	

1. Fill in the "number wanted" column.

PLANTS AVAILABLE

Wildlife and songbird packets can be ordered separately.

	Cost/ Packet	Code	Number of Packets Wanted	Office Use Only
Wildlife Packet	\$17.00	96		
Songbird Packet	10.00	95		

Species	Height	Cost/ Hundred	Code	Number of Units Wanted 100/Unit	Office Use Only
(Do not order less than 500 plants, and order in units of 100)					
White Pine	5-12"	\$7.60	30		
Scotch Pine	5-12"	7.60	20		
Red Pine	6-14"	7.60	17		
Ponderosa Pine	5-12"	7.60	15		
Jack Pine	6-14"	7.60	10		
Red Cedar	6-12"	7.60	16		
Black Walnut	10-18"	7.60	24		
Black Walnut (top pruned)	8"	7.60	94		
Green Ash	8-18"	7.00	8		
White Ash	8-18"	7.00	28		
Shagbark Hickory	4-12"	7.00	52		
Silver Maple	8-18"	7.00	21		
Red Oak	8-18"	7.00	41		
Bur Oak	8-18"	7.00	4		
White Oak	8-18"	7.00	29		
Mixed Oak	8-18"	7.00	51		
Russian Olive	8-16"	7.00	19		
Autumn Olive	8-16"	7.00	3		
Tatarian Honeysuckle	6-12"	7.00	23		
Amur Honeysuckle	8-16"	7.00	1		
Ninebark	8-16"	7.00	12		
Redosier Dogwood	8-18"	7.00	18		
Gray Dogwood	6-12"	7.00	7		
Osage Orange	8-16"	7.00	14		
Common Lilac	6-12"	7.00	47		
Choke Cherry	6-12"	7.00	39		
Hybrid Poplar (rooted cutting)	8"	7.00	53		
Mixed Hickory	4-12"	7.00	64		

1985 APPLICATION FORM



2. ADDRESS

(Please Print)

(LANDOWNER NAME — PLEASE PRINT)

(MAIL ADDRESS)

(CITY) (STATE) (ZIP)

(PHONE NUMBER)

3. Check pickup or ship box.

- I will pick up my order at the nursery when notified.
- I want my order shipped to the address below:

SHIPPING ADDRESS

(If different from above)

(NAME — PLEASE PRINT)

(MAIL ADDRESS)

(CITY) (STATE) (ZIP)

(PHONE NUMBER)

4. Please Answer Each Question

1. These trees are to be planted in _____ County.
2. Are you a tax-exempt government? Yes No
3. Have you purchased plants from the Nursery before? Yes No
4. I RECEIVED ASSISTANCE IN PLANNING THIS ORDER FROM: 1. No one, 2. Soil Conservation Service, 3. ASCS, 4. County Extension Service, 5. District Forester, 6. Conservation Officer, 7. Wildlife Biologist, 8. County Conservation Board, 9. State Nursery
5. MAIN PURPOSE OF PLANTING: 1. general forestry, 2. wildlife habitat, 3. erosion control, 4. other.
6. THE PLANTING LOCATION IS: 1. farm, 2. city, 3. acreage, 4. government land, 5. other.

5. Sign the agreement.

Fill in your mailing address.

I agree to plant and use the nursery stock requested upon the described property for establishing or improving existing forests, erosion control, game or water conservation, with these restrictions: I agree NOT to resell or give these plants away with roots attached to any person, firm, corporation or agency nor to plant any of them for new windbreak, shade, or ornamental purposes. I agree to protect all plantings from fire and domestic livestock grazing. I agree to forfeit for destruction any trees planted or used in violation of the above restrictions.

Signature

Detach this sheet, fold and staple twice. Attach postage to preaddressed side and mail. Do not send money with this order.

Keep up with the latest in Iowa's fish and wildlife resources, parks, forests, recreation areas and more. Subscribe **now** to the *Iowa Conservationist* magazine.

Yes — please bill me later for:

- 1 year (12 issues) \$5
- 3 years (36 issues) \$10
- I am a new subscriber.
- renewal.

FORESTRY SECTION IOWA CONSERVATION COMMISSION

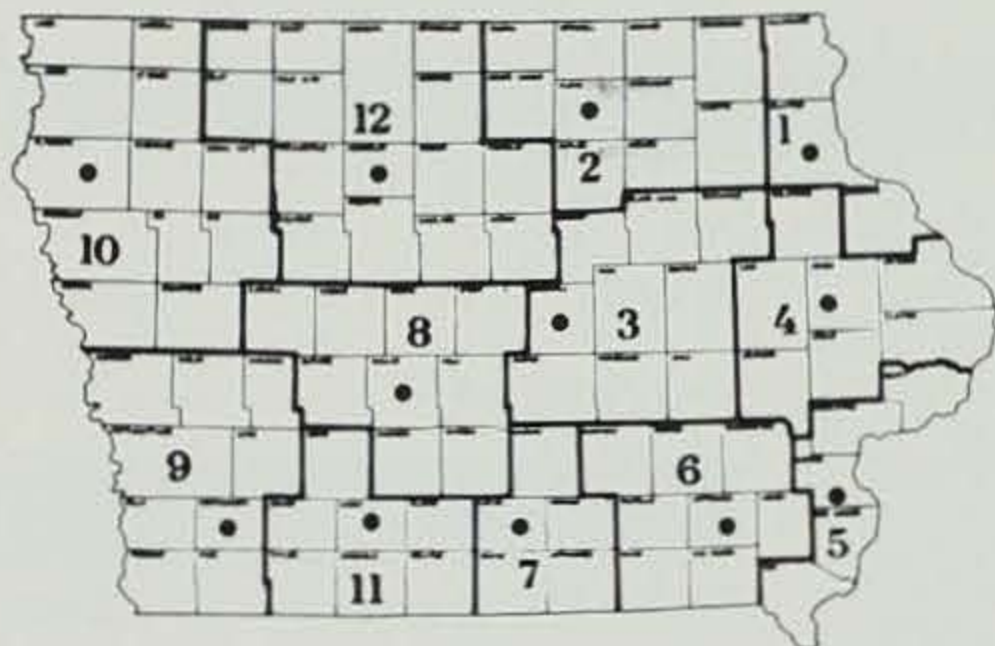
The Forestry Section of the Conservation Commission assists the people of Iowa to enhance the woodland resources by following this broad objective: To foster environmental protection and strive to insure, for present and future generations, the greatest economic and social benefits from trees, forest land, and related resources. The Forestry Section works toward these objectives through forest management, tree planting, forest protection, timber processing improvement and demonstration of woodland values. These services are available to all landowners, public and private.

For planting information and other assistance concerning the management, harvesting, marketing

and utilization of your woodlands, contact the District Forester serving the county in which your land is located (see map on back of application). This is a free service, and we urge you to contact them before you plan any special or extensive plantings.

Similar management advice for wildlife is available from Wildlife Management Biologists (also listed on the back of the application). Planting assistance may also be available from your County Conservation Board. A list of pamphlets about various aspects of forestry are available from Forestry Extension, Iowa State University, Ames, Iowa 50011. Write them for a copy.

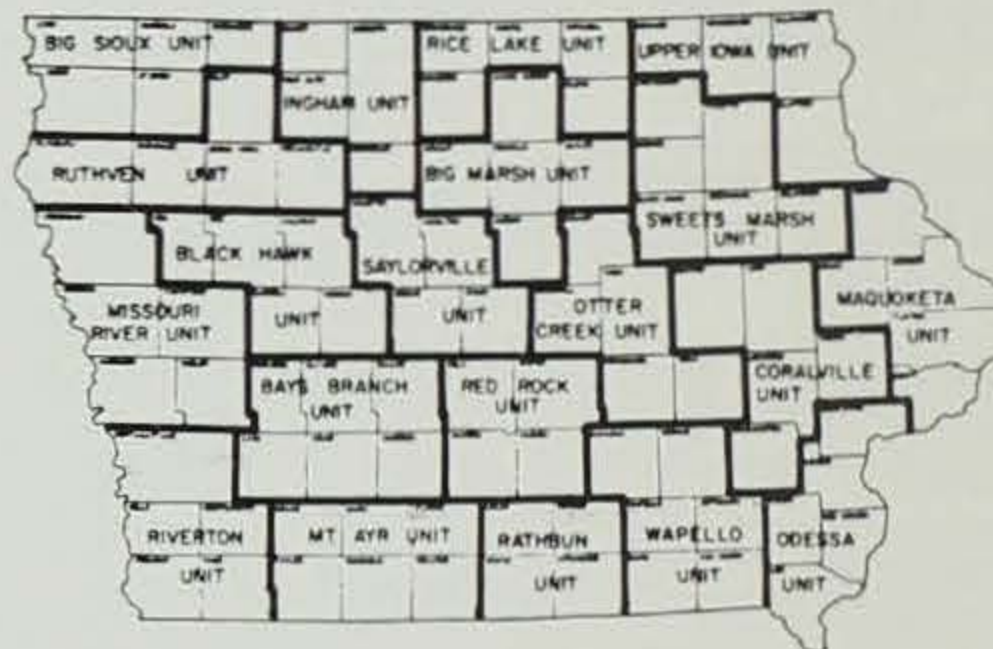
DISTRICT FORESTER ADDRESSES



- | | | |
|-----------------|------------------------------------|----------------|
| 1. ELKADER | Box 662, 52043, | (319) 245-1891 |
| 2. CHARLES CITY | Box 4, 50616, | (515) 228-6611 |
| 3. MARSHALLTOWN | Box 681, 50158, | (515) 752-3352 |
| 4. ANAMOSA | Box 46, 52205, | (319) 462-2768 |
| 5. WAPELLO | Box 62, 52653, | (319) 523-8319 |
| 6. FAIRFIELD | Box 568, 52556, | (515) 472-2370 |
| 7. CHARITON | Stephens State Forest, RR 3, 50049 | (515) 774-4918 |
| 8. ADEL | Box 175, 50003, | (515) 993-4133 |
| 9. RED OAK | Box 152, 51566, | (712) 623-4252 |
| 10. LE MARS | Box 65, 51031, | (712) 546-5161 |
| 11. CRESTON | Box 2, 50801, | (515) 782-6761 |
| 12. HUMBOLDT | 102-8th St., S., 50548, | (515) 332-2761 |
| | State Forest Nursery | (515) 294-4622 |

WILDLIFE MANAGEMENT BIOLOGIST ADDRESSES

- | | |
|---------------------------------|---|
| 1. Bays Branch Wildlife Unit | (515) 993-3911 |
| | 801 Court, Courthouse, Adel, 50003 |
| 2. Big Marsh Wildlife Unit | (515) 456-3730 |
| | ASCS Office Bldg., 115 - 2nd Ave. N.W., Hampton, 50441 |
| 3. Big Sioux Wildlife Unit | (712) 472-3751 |
| | SCS Office Bldg., Rock Rapids, 51246 |
| 4. Black Hawk Wildlife Unit | (712) 657-2639 |
| | Box 815, Lake View, 51450 |
| 5. Coralville Wildlife Unit | (319) 354-1074 |
| | ASCS Office Bldg., 517 Southgate Ave., Iowa City, 52240 |
| 6. Ingham Wildlife Unit | (712) 362-7222 |
| | SCS Office Bldg., 2109 Murray Rd., Estherville, 51334 |
| 7. Maquoketa Wildlife Unit | (319) 652-2456 |
| | Pershing Rd. E., Maquoketa, 52060 |
| 8. Missouri River Wildlife Unit | (712) 423-2426 |
| | SCS Office, Lindley Bldg., Onawa, 51040 |
| 9. Mt. Ayr Wildlife Unit | (515) 464-2220 |
| | SCS Office Bldg., RR 3, Mt. Ayr, 50854 |
| 10. Odessa Wildlife Unit | (319) 523-8319 |
| | ASCS Office Bldg., 220 N. 2nd St., Wapello, 52653 |
| 11. Otter Creek Wildlife Unit | (515) 484-3752 |
| | USDA Office Bldg., 203 W. High St., Toledo, 52342 |
| 12. Rathbun Wildlife Unit | (515) 774-4918 |
| | RR 2, Box 310, Chariton, 50049 |
| 13. Red Rock Wildlife Unit | (515) 961-2587 |
| | Box 423, Indianola, 50125 |
| 14. Rice Lake Wildlife Unit | (515) 324-1819 |
| | SCS Office Bldg., 706 1st Ave. N., Northwood, 50459 |
| 15. Riverton Wildlife Unit | (712) 624-9063 |
| | SCS Office Bldg., Malvern, 51551 |



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|-------------------------------|--|
| 16. Ruthven Wildlife Unit | (712) 262-9326 |
| | SCS Office Bldg., 306 - 11th St., S.W. Plaza, Spencer, 51301 |
| 17. Saylorville Wildlife Unit | (515) 432-4320 |
| | ASCS Office Bldg., 718 8th St., Boone, 50036 |
| 18. Sweet Marsh Wildlife Unit | (319) 425-4214 |
| | 816 Washington Ave., Fayette, 52142 |
| 19. Upper Iowa Wildlife Unit | (319) 382-4895 |
| | ASCS Office Bldg., 911 S. Mill St., Decorah, 52101 |
| 20. Wapello Wildlife Unit | (515) 682-3552 |
| | ASCS Office Bldg., 1309 E. Mary, Ottumwa, 52501 |

Fold Here

From: _____

**Nursery Forester
State Forest Nursery
2404 South Duff Avenue
Ames, Iowa 50010-8093**



Robert Carter

Rod McKlevey of Ottumwa holds this year's top nontypical deer taken with a shotgun.

1984 Record Racks

*new top ten entries
(see Conservation Update section)

SHOTGUN TYPICAL (Minimum Qualifying Score — 150 Points)

Name	Address	Year	County Taken	Total Score
*Gregg Redlin	Iowa City	1983	Johnson	187½
Larry Almond	Gilmore City	1983	Humboldt	175
Russell Stevenson, Jr.	Lime Springs	1971	Howard	172½
Richard Tulk	Des Moines	1983	Clarke	172½
Harold Horsley	Lawton	1957	Woodbury	171½
Jimmy Pelong	Knoxville	1983	Marion	170
Charles Evans	Harvey	1983	Van Buren	168½
Ralph Hoagland	Monroe	1983	Marion	165½
Dennis Chapman	Des Moines	1983	Polk	165½
Bill Bylund	Avoca	1983	Cass	163½
Frank Brady	Guthrie Center	1983	Guthrie	163½
Neil Kingery	Casey	1983	Guthrie	163½
Mike Hicks	Montezuma	1983	Henry	162½
Robert Cox	North Hampton	1983	Allamakee	162
Ernest Buber	Glenwood	1983	Mills	161½
Bruce Petersen	Des Moines	1983	Madison	161½
George Busch	Boone	1983	Boone	161
Larry Steward	DeWitt	1983	Clinton	161
Ralph Warner	Larchwood	1983		160½
R. S. Mack		1968	Fayette	160½
Bruce Kellogg	Ionia	1983	Chickasaw	159½
Fred Henry	Magnolia	1968	Harrison	159½
Marvin Dostal	Ely	1983	Linn	159½
Tim Barnes	Mineola	1983	Mills	159
Dave Delashmitt	Onawa	1964	Monona	158½
Roy Sickels	Mount Ayr	1983	Ringgold	158½
Ed Westergaard	Adair		Adair	158½
Larry Mehlert	La Porte	1983	Benton	158½
Denny Hansen	Cedar Falls	1983	Fayette	158½
James Hollowell	Milford	1983	O'Brien	158½
Bill Ridnour	Ames	1979	Taylor	158
Craig Mittlestadt	Colo	1983	Story	157½
Tom Tesar	Montour	1983	Tama	157½
Dan Hemminger	Marshalltown	1983	Monroe	157½
Harvey Wells	Sloan	1965	Woodbury	157½
Donald Hunter	Sloan	1954		157½
Ronald Pfiffner	Dubuque	1983	Clayton	157½
Frank Salter	Modale	1982	Harrison	157
Paul Post	Albia	1983	Monroe	156½
Brad Lundquist	Corning	1983	Adams	156½
Kevin La Frenz	Kiron	1981	Crawford	156½
Robert Besch	Rodman	1983		155½
Dan Waltz	Winterset	1983	Madison	155½
J. TM. Kutzler	Sloan	1953	Woodbury	155½
Philip Henry	Logan	1982	Harrison	155½
Bob Harding	Pleasantville	1983	Mahaska	155½
Robert Nielsen	Blencoe	1982	Monona	155½
Roger Kritz	Garber	1982	Clayton	154½
Gary Koch	Peosta	1983	Jackson	154½
Joe Moyer	Hamburg	1982	Fremont	154½
Don Edgington	Mapleton	1983	Monona	154½
Don Hyman	Sheldon	1983	Fayette	154½
Dwayne Durant	Davenport	1983	Scott	154½

Jeff McMillen	Eldridge	1983	Fayette	154½
Burdette Stone, Jr.	Manchester	1983	Delaware	154½
Lyle Askelson	Decorah		Winneshiek	153½
Roger Kingsbury	Ames	1983	Story	152½
Charles Stierman	Dubuque	1983	Dubuque	152½
Donald Janssen	Northwood	1983	Mitchell	152
Richard Hamman	Mapleton	1983	Monona	151½
David Ahlberg	Des Moines	1983	Taylor	151½
Russ Oberembt	Van Meter	1983	Dallas	151
Michael Boyle	Rockwell City	1983	Cherokee	150½
Darwin Johnson	Red Oak	1983	Montgomery	150½
Fred Haller, Jr.	Muscatine	1983	O'Brien	150½
Terry Kemling	Red Oak		Montgomery	150½
Ken Dolby	Waverly	1983	Allamakee	150½
Steve Boettger	Harlan	1983	Shelby	150

BOW AND ARROW TYPICAL (Minimum Qualifying Score — 135 Points)

Name	Address	Year	County Taken	Total Score
*Dennis Lent	Dubuque	1983	Dubuque	171½
Marvin Mauch	Castana	1983	Monona	163½
Mike Bentler	Donnellson	1983	Lee	162½
Dale Clayton	Glenwood	1983	Mills	160½
Frank Sanderson	Waterloo	1983	Buchanan	154½
Robert Fassbinder	Elgin	1983	Fayette	152
Steven Puffer	Coralville	1983	Des Moines	149½
Mike Bull	Nora Springs	1983	Floyd	146½
Ron Keigan	Webster City	1983		146
Earl Goodman	Mason City	1983	Cerro Gordo	144½
Mark Dickman	Decorah	1983	Winneshiek	144½
Jody Oppenheimer	Fort Madison	1983	Des Moines	144½
Don Nettleton	Algona	1981	Kossuth	143½
Rick McDowell	Ackley	1983	Hardin	143½
Dennis Grauerholz	Nora Springs	1983	Floyd	141
Bill Brown	Chariton	1983	Lucas	140
Ned Peters	Avoca	1983	Pottawattamie	140
James Ross	Westfield	1983	Plymouth	139½
Fred Irlbeck	Westside	1983	Shelby	137½
Dennis Frye	Marion	1983	Linn	137½
Robert Purcell	Missouri Valley	1983	Harrison	136½
Keith Campbell	Webster	1983	Keokuk	136
Ken Sovers	Solon	1983	Johnson	136
Denny Steggall	Ely	1983	Johnson	136
Steven Hook	LeGrand	1983	Marshall	135½

SHOTGUN NONTYPICAL (Minimum Qualifying Score — 170 Points)

Name	Address	Year	County Taken	Total Score
Rod McKelvey	Ottumwa	1983	Wapello	206½
Jordan Larson	Ames	1983	Story	195½
John McMillen	Elgin	1983	Fayette	195½
John Kremer	Cascade	1983	Jackson	195½
Prentice Shaw	Clinton	1983	Clinton	194½
Jeff Marsh	Earlham	1982	Dallas	190½
Dale Konz	Granville	1983	Sioux	189½
Gary Whitehead	Chariton	1983	Lucas	188½
Curtis Kline	Bloomfield	1979	Davis	185½
Scott Linthicum	Creston	1983	Union	185½
Lawrence Lewis	Castana	1964	Monona	184½
Brian O'Neill	Dennison	1983	Crawford	183½
Randy Markley	Ames	1983	Story	179½
Frank Crilly	Danbury	1983	Woodbury	178
Joe Clay	Des Moines	1983	Wayne	175½
Jim Robinson	Albion	1983	Marshall	174
Roger Horsley	Lawton	1973	Woodbury	173½
David Gerlach	Clinton	1983	Jackson	172
Marty Peterson	Atlantic	1983	Montgomery	171½
Tom McCormick	Harpers Ferry	1983	Allamakee	170½
Alan Tucker	Pella	1983	Marion	170½

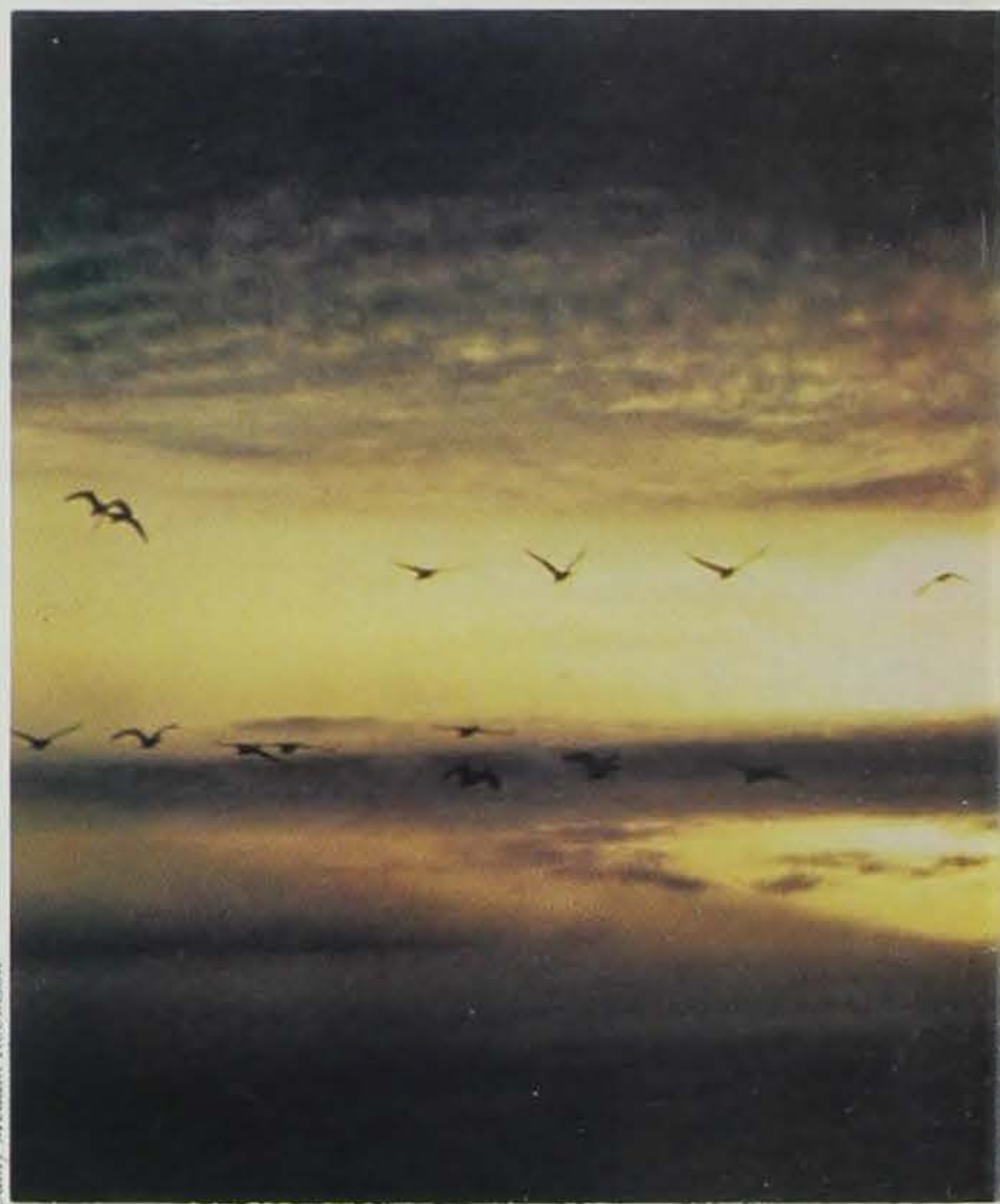
BOW AND ARROW NONTYPICAL (Minimum Qualifying Score — 155 Points)

Name	Address	Year	County Taken	Total Score
*Chris Hackney	Allerton	1983	Wayne	211½
Jack Morgan	Hamburg	1983	Fremont	184½
Ron Turner	Gilbertville	1983	Keokuk	176½
Gregory Klein	Sherrill	1983	Dubuque	175½
Steven Sims	Oelwein	1983	Bremer	164½

While the long range forecast for wildlife on the Missouri is dismal, high water from upstream reservoirs has once again filled the oxbows and cutoffs. Waterfowl find the area reminiscent of pre-channelization days.



Cathy Meddin-Robinson



MISSOURI RIVER Boom or Bust?

By Robert R. Dolan

This has been a boom year for waterfowl along the Missouri River in western Iowa. From Sioux City to Council Bluffs, waterfowl hunters have been experiencing one of their most productive seasons in years.

During the last decade, a gradual decline of water levels in the Missouri's cutoffs and backwaters has meant access has become more limited and hunting opportunities more restricted. But this year, higher-than-normal releases from upstream reservoirs by the U.S. Army Corps of Engineers have increased access to the river and its backwaters, and have provided much improved opportunities to area sportsmen.

River cutoffs such as California, Tyson and Soldier Bends in Harrison Coun-

ty, Louisville and Decature Bends in Monona County, and Snyder and Winnebago Bends in Woodbury County have been replenished by the high flows. It has been ten years since they've been in such good shape.

Complimenting the river cutoffs, Missouri River oxbows have also been in exceptionally good condition this fall, benefiting from two consecutive wet springs. Many have reached their highest water levels in the last 20 years. Traditional hunting areas such as Round Lake, Blue Lake and Badger Lake are again attracting scores of waterfowl and providing almost new hunting opportunities.

Could all of this mean a return to the "good old days" for Missouri River

sportsmen? Not likely! Waterfowl hunters and, for that matter, all water-based recreators along this portion of the Missouri are caught in a "catch-22" situation. Since the mid-1960's, the bottom of the Missouri River channel has been cutting itself deeper and deeper! The surface water elevation has declined as a result of this "degradation" and the backwaters and cutoffs of the river have been draining faster, back into the channel during normal years. Because degradation of the river bed lowers the adjacent water table, oxbows in the valley are much more likely to dry up during droughts.

Today, it is only during higher-than-normal river flows that cutoffs and backwater areas are replenished. The catch is that these same high flows accelerate degradation. As if to add insult to injury, high flows have turned shallow cutoffs into very effective silt collectors. Together, siltation and degradation are destroying this wetland system. The day is rapidly approaching when many of these areas will no longer attract any waterfowl.

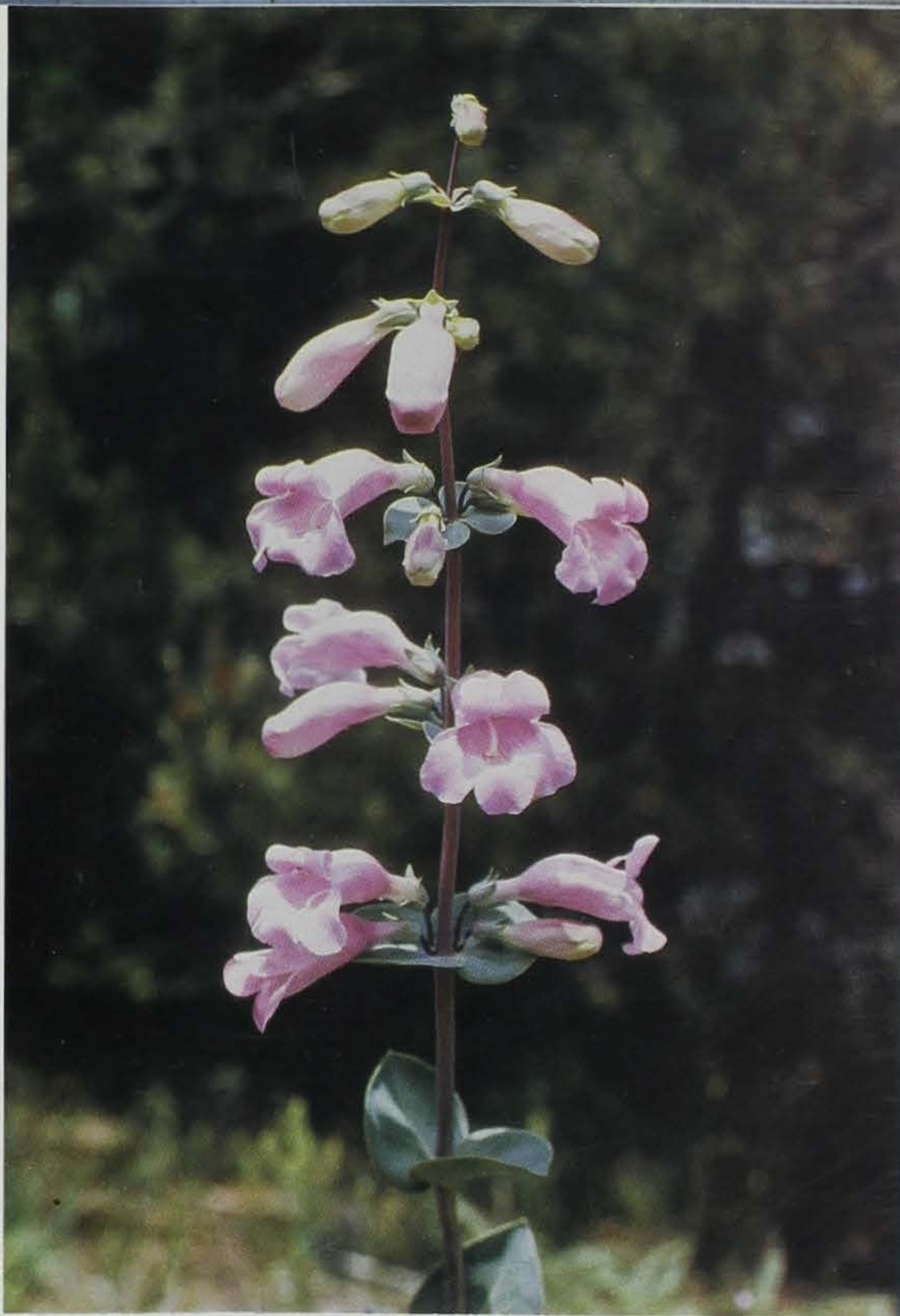
The Missouri River is not like it used to be, wide and wild. It's been converted into a narrow, swift-flowing channel — the granddaddy of all the drainage ditches. Fish, wildlife and sportsmen have not fared very well by these



changes. In Iowa alone, tens of thousands of acres of habitat have been lost.

Still, vestiges of this once great river-wetland system remain. Some cutoffs still provide critical wetland habitat. During the next few months and years decisions will be made that may determine if any of this river-wetland system will be saved. This fall the United States Congress may decide whether to fund a Fish and Wildlife Mitigation Plan. This plan, prepared by the U.S. Army Corps of Engineers, is woefully inadequate. It provides for rejuvenation of less than ten percent of documented habitat losses. It also fails to adequately address the problems of continued degradation and siltation. But, it will provide a valuable first step in the process of restoring some of the losses resulting from the Missouri River Stabilization and Navigation Project. In the future, the Iowa Conservation Commission will continue to press the Corps to provide more meaningful measures for restoring Missouri River fish and wildlife habitat.

Bob Dolan is a wildlife biologist at the Missouri River Wildlife Management Unit. Holds a B.S. degree in fish and wildlife biology from Iowa State University and has been employed by the commission for nine years.



Dean Roosa

Wildflower of the Month

Large-flowered Penstemon
(*Penstemon grandiflorus*)

By Dean M. Roosa and Bill Pusateri

One of the truly spectacular events of the wildflower year is the blooming of the large-flowered penstemon (*Penstemon grandiflorus*). It is a showy member of the figwort or snapdragon family, Scrophulariaceae, achieving a height of two feet and with lavender flowers approximately two inches long. The individual flowers are tubular and two-lipped like those of the snapdragon. The upper lip tends to be erect and has two lobes; the lower lip has three lobes.

This wildflower is found commonly in the loess hills of western Iowa and in sandy areas in eastern Iowa. It blooms in

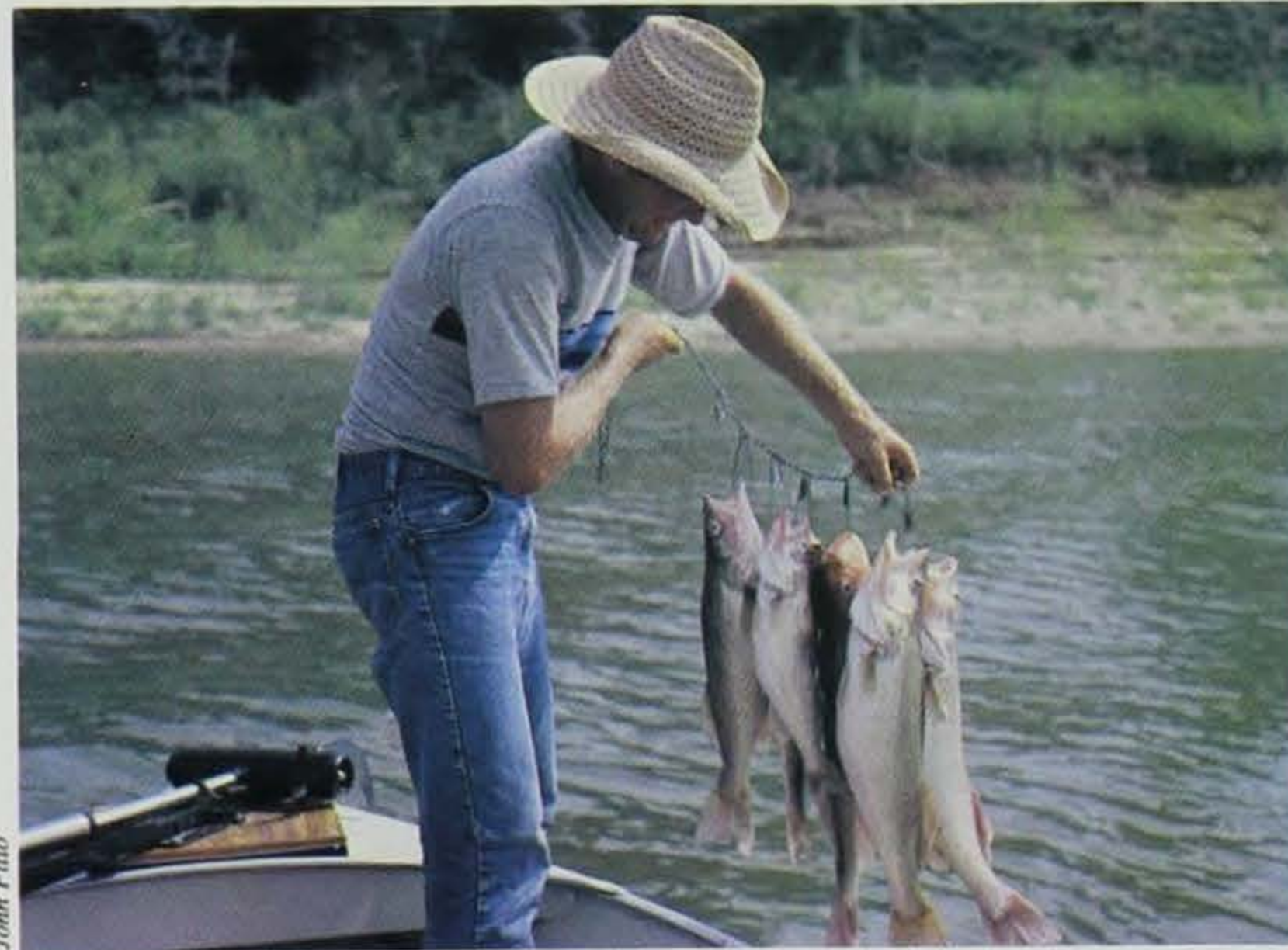
late May and June, at about the same time another spectacular event is occurring in the loess hills — the blooming of yucca.

Large-flowered penstemon is also called "beardtongue" due to one of the five stamens being modified into a hairy, bearded structure. The genus name comes from Greek "pente" meaning five, and "stemon," meaning thread, referring to the presence of the fifth stamen.

You would reap dividends by getting acquainted with this lovely flower next spring; there are none prettier.



Ron Johnson



John Pitlo



Ron Johnson

Better

Did you ever stop to think where that fish you just caught originated? If it was a walleye, channel catfish, largemouth bass, bluegill, tiger or purebred muskellunge, northern pike or trout, chances are that fish had its origin in one of Iowa's seven fish hatcheries.

But why does Iowa need fish hatcheries? Fish can reproduce by themselves, right? The answer to this question is yes, but many fish do not reproduce well enough in Iowa waters to maintain good quality fishing. A recent 1981 survey, done for the Iowa Conservation Commission by IMR/Opinion Research, showed the total number of fishing days (trips) for licensed resident anglers in Iowa increased 24 percent since 1975 to almost 13 million. Statewide figures reveal that almost 69 million fish were caught by Iowa's 427 thousand anglers. That's about 161 fish per fisherman. Hatcheries release approximately 142 million warmwater fish (catfish, walleye and bass) and 335 thousand trout annually to provide for this tremendous harvest.

Producing 142 million fish shouldn't be too difficult. All fish need is water to swim in and a little food to eat, right? Wrong! Keeping fish healthy is a major job. Some of the factors that influence fish health are disease organisms, food quality and abundance, the quality of the water the fish live in and the viability of the eggs and fry produced by the adult spawning fish. Hatchery personnel are continually seeking new and better methods of overcoming these problems.

Just by the nature of their environment, fish are susceptible to many types of parasitic, bacterial and viral infections. Add to this the fact that fish must be grown in large numbers and in crowded conditions in hatcheries and you have the potential for many disease problems. Improved diagnostic procedures greatly aid hatchery managers in

The catfish, walleyes and tiger musky at left got a healthy start in an Iowa fish hatchery. Keen attention to fish health helps managers produce 142 million fish annually.

Fishing for Healthy Fish

By Alan Moore

detecting and controlling disease outbreaks. Hatchery managers can microscopically detect a disease, to culture certain bacterial pathogens and to test the susceptibility or resistance to antibiotics. Once the disease is identified, many approved chemicals are available to cure the problem and help the fish recover.

Vaccines are a new method of maintaining healthy fish in hatcheries. Vaccinating fish against both parasites and bacteria is an area receiving much attention from fisheries biologists throughout the United States. Iowa is currently conducting research on a vaccine against the bacteria *Flexibacter columnaris*. This vaccine has been used experimentally on channel catfish at Rathbun Hatchery with promising results.

Fish need abundant food in order to remain healthy and quickly grow to the size necessary for stocking. While many fish are still produced on natural foods (plankton and minnows), artificial formulated feeds are slowly replacing natural diets. Artificial diets consist of the proper combinations of protein, fats, minerals and vitamins necessary for a particular species of fish. Iowa uses formulated feeds to produce all channel catfish, trout, tiger muskellunge, 5-inch largemouth bass and about 20 percent of the pure-strain muskellunge stocked in the state. Research on producing walleye fingerlings with artificial feed is in progress, and future plans indicate all muskellunge will be grown in this manner. The use of these diets not only gives the hatchery better control of the feeding and growth of the fish, but also eliminates the possibility of disease being transmitted from plankton or minnows to the hatchery fish.

Water is a very important ingredient in the life cycle of fish, but all water is not the same. If hatchery water is of poor quality or contains abundant pathogens, fish do not grow or survive well. Well water at the Spirit Lake Hatchery is passed through a special filter to remove iron and thereby improve fish egg and fry survival. Spring water at the Manchester Trout Hatchery

contains more nitrogen gas than normal. This problem puts added stress on the fish, reduces growth and reproduction and can cause death. Monitoring of gas levels and aeration of the water to remove the nitrogen helps control this problem. Lake water can be turbid and that which contains fish is usually a good reservoir for diseases. Ultraviolet units and sand filters are used at the Rathbun Hatchery to reduce the turbidity, bacteria and parasites in the water. Tests indicate that ultraviolet reduces bacteria by 99 percent, thereby lessening the chances for disease.

Brood fish are held at several hatcheries and hatchery managers must spawn these fish in order to produce the necessary fish numbers needed to maintain good fishing. Adult channel catfish at the Rathbun Hatchery and adult trout

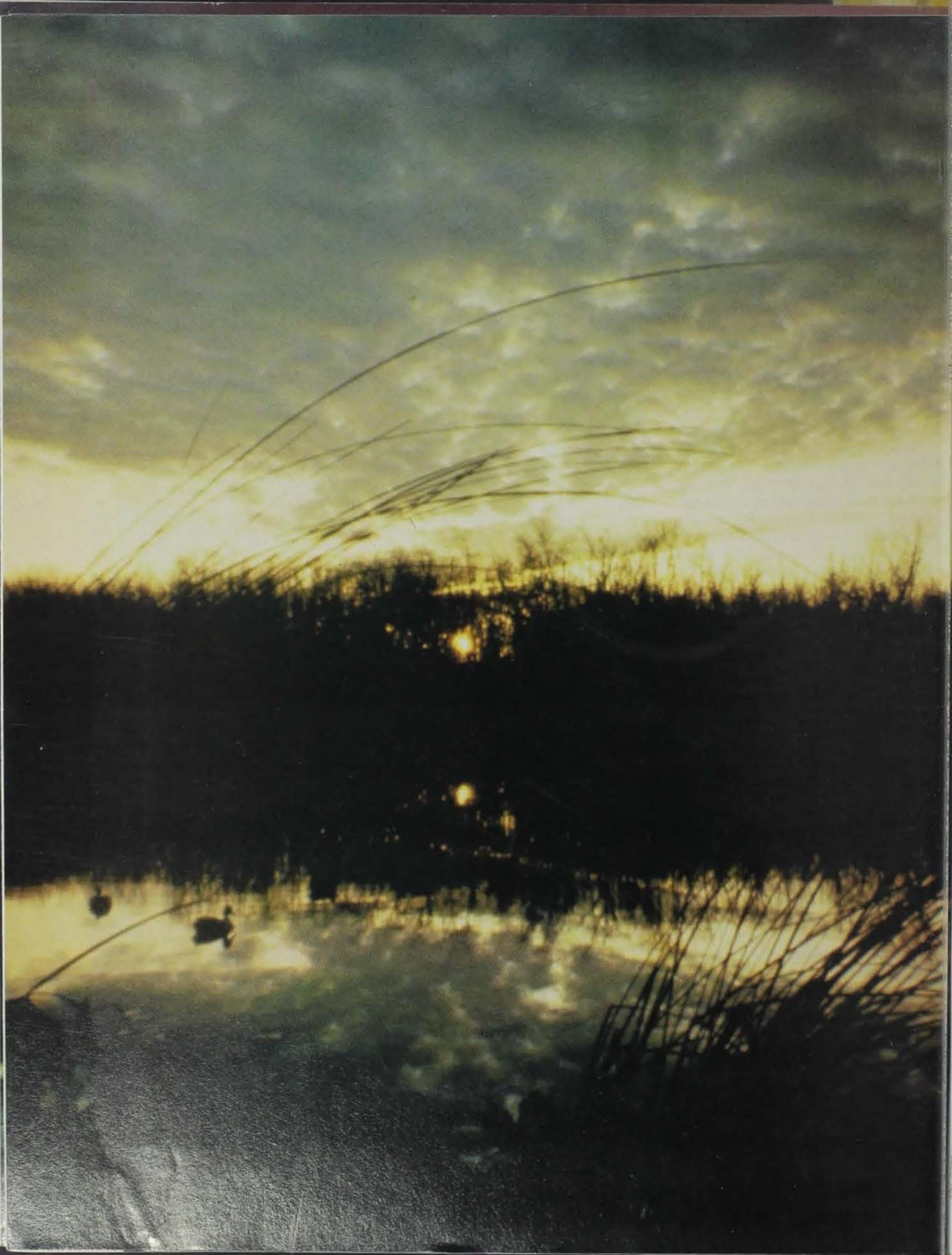
at the Manchester Hatchery are branded with an identifying number as part of a selective breeding project. Eggs and fry produced by a pair of fish are examined for quality and viability. It is hoped that more efficient spawning fish will result in healthier, faster growing fish for stocking.

As you can see, fish in Iowa's hatcheries do not just swim and eat. A constant effort is being made to raise more and better fish for Iowa waters. So, the next time you catch a fish, think about its origin. It's good health will be no accident.

Alan Moore is a fisheries research biologist located at the Rathbun Fish Hatchery. He holds a B.S. degree from Iowa State University. He has been with the commission since 1975.



Patricia Zaerr of Davenport landed this 10 pound 12 ounce state record bass on May 6 of this year. The fish measured 23½ inches and was taken from Lake Fisher in Davis County.



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Morning Hunt

By Michael Welu

The morning dew sat on the pale-green bucket seats in the boat. I turned the ignition key and the gleaming white motor sputtered to life. The boat gently backed out of its slip in the dock and headed towards the opening of the harbor. My grandfather sat in the front seat. He pulled the earflaps of his hunting cap down, anticipating the cold ride ahead.

We eased through a narrow cut. The eerie outline of dark trees loomed all around us. Light mist rose from the open channel. The bright stars were blurred images on the water's surface.

We quickly picked up speed, leaving a foaming wake. The opposite shoreline, which was just a solid dark wall minutes ago, began to take form. The outline of trees was soon upon us. We coasted along it at a steady speed. My grandfather held a lantern, searching the bank.

"There it is."

A white milk jug was illuminated in the lantern's light. This was the spot we had marked earlier in the week. The boat glided onto the sandy shore, shuddered to a halt.

We stood and stretched our still tired bodies, then climbed out of the boat.

I had awakened this morning at 4:30. I sleepily turned the alarm off minutes before it was about to ring. In the darkness, I groggily reached for my hunting clothes and slipped silently downstairs.

While sitting in the dimness of the kitchen eating a cold bowl of cereal, I heard my grandfather's '67 Chevy idle to a stop outside. He was ten minutes early as usual.

With my hunting boots now on, I met him in our garage. In the darkness, the only light was the burning ash hanging from the cigarette in Grandpa's mouth. He looked at the clear, starry sky and exuberantly claimed, "It's going to be a beautiful day."

The sky was still full of stars as we climbed the bank of the island. We entered the woods quietly. Once inside the outer edge we were again enveloped in total darkness. Grandpa whacked the old lantern with his open palm and it flickered on. The beam of light was pointed straight ahead. Grandpa led, I followed in silence.

Leaves rustled under our shuffling feet and dew dripped from the trees above. Birds began to stir somewhere around us.

I stepped over the mossy log that was decaying in the weeds. I knew that there would be more of them ahead and that Grandpa would point out every one of them. A low branch left the morning dew cold on my face. It woke me from a day dream, and I realized that we had arrived at our clearing. The woods ended and we were standing in knee deep grass. Before us was a large slough that ran down the middle of our island.

Grandpa turned the lantern off. The bright moon was all we needed to see the surroundings. A large hump of weeds loomed up the shoreline. It was our blind, made with tree branches and the brown grass that grew in the clearing.

We made our way to it, entering the construction from behind. We set our gear down and surveyed the pond of water in front of us. A dozen dark decoys bobbed on the ripples made by a light wind.

"We got twenty minutes to wait before shooting time," Grandpa said as he lit a cigarette. The flame from the lighter lit his unshaven face showing the cracked, weathered skin of many duck hunting trips.

A bright orange glow could now be seen appearing through the trees in the east. More birds were awakening and they greeted the cool morning air with their songs. Grandpa shifted his feet in the mud as the whistle of duck wings took us by surprise.

"Probably teal. Still got another ten minutes to wait. But I suppose we can start getting ready."

Grandpa reached for his black, crusty guncase. From it he withdrew a long double-barrel shotgun. He removed two red shells from his vest and slid them into his prized possession. The gun closed with a "snap." Grandpa lit another cigarette.

Ducks began to move along the slough, dark silhouettes high in the sky. Occasionally one would zip along the water in front of the blind and be gone before we realized it. The sun was starting to appear, chasing the morning stars.

"Anytime now."

Grandpa shifted the gun to a comfortable position and started watching his end of the pond more carefully. The sounds of other hunters could be heard in the riverbottoms. Their shots echoed like far away firecrackers.

"Here comes a couple."

Two small ducks dove over the trees on the upper part of the pond. They sailed low to the water and headed our way. They dipped and swayed along the far shoreline, then turned and headed toward the blind.

"Now!"

Grandpa raised up with the double-barrel at his shoulder. The two birds flared upward over the blind, their white bellies filling our eyes.

Michael Welu is a student at Iowa State University. He is originally from Dubuque.



Ken Formanek

