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JANUARY 1978

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D. RAVER



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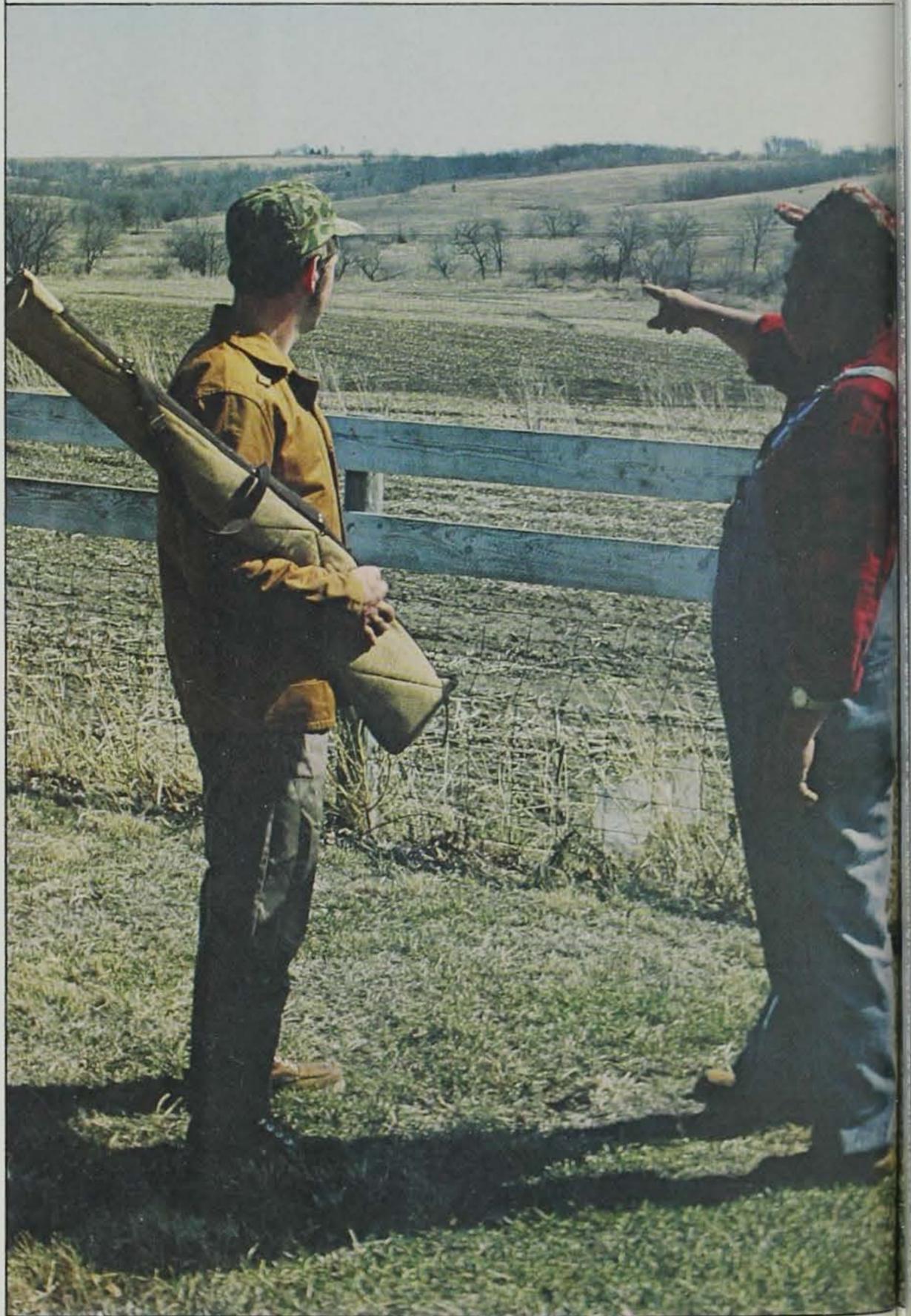
Published monthly by the Iowa Conservation Commission, State Office Building, 300 4th Street, Des Moines, Iowa 50319. Address all mail (subscriptions, change of address, Form 3579, manuscripts, mail items) to the above address. Subscription price: one year at \$2.00; two years at \$3.00; four years at \$5.00. Second class postage paid at Des Moines, Iowa and other points.

Editorial

The Responsible Hunter

Provided as a public service by The National Shooting Sports Foundation

Photo by Ken For



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by Ted McCawley, Jr.

MANAGER, PUBLIC RELATIONS
REMINGTON ARMS COMPANY, INC.

MOST SPORTSMEN enjoy hunting with congenial companions who speak the same language. However, they live in dread of getting stuck with some thoughtless or careless character who either doesn't know or ignores the basic rules of good manners and how to behave in the field. They make that sort of mistake with the same individual only once.

Yet, unfortunately, such thoughtless or careless hunters do exist and, though their numbers are few, their actions are all too often viewed as typical by critics of the sport.

The hallmarks of a responsible hunter and a good companion afield go way beyond just obeying the formal laws relative to trespass, bag limits and seasons. In essence, they involve a basic respect for the bird or animal being hunted. For example, it might not be against the law to shoot a pheasant on the ground, but a true sportsman wouldn't do it.

Such a person tries to learn as much as possible about the game he or she hunts. Waterfowl identification is especially important to insure that only species that are legal are taken and that the hunter stays within the point system where it applies. Knowledge of wildlife management is also helpful. The responsible hunter takes an interest in programs to improve habitat through planting of food and cover crops in the areas he or she hunts.

Equally important is skill with firearms to insure quick, clean kills. In addition, such people regard game as a delicacy for the table and never waste it. If hunting on private property, they make it a point to share game with the landowner.

A responsible hunter who wants to be invited to hunt with others more than once should also follow a few unwritten rules of field demeanor. With experience, they will come naturally; but novices, in particular, should make a conscious effort to follow them.

Above all, never take a chance. Observe all the rules of

safety, even if your companion doesn't. You will impress him with your caution.

Give your companion all the breaks. The accepted practice is to alternate on single shots. The easiest way to irritate your partner is to try to "wipe his eye."

Find out which side your companion shoots from, and then take the other side. Never shoot at birds flying his or her way. It's an act of real discourtesy to shoot across another gunner's front unless you know he or she has an empty gun. Even then, you should explain your action afterwards.

Claiming birds you didn't actually hit is another "no-no." If there is the slightest doubt, give it to your companion rather than being branded as a "claimer."

Don't try to handle your companion's dog and never criticize the animal's shortcomings. Praise good dog work and ignore the bad. Give the dog a chance to retrieve your birds and look for them yourself only if absolutely necessary.

A cardinal rule is never to hunt in your friend's favorite spot which he has shown you unless he is along or has given his consent. Violation of this courtesy could lead to the end of a fine relationship.

There is an old saying to the effect that, if you want to find out about a man, get him in a poker game or take him hunting. Remember that when you accept an invitation, and see that you conduct yourself so that you will want a return engagement.

Above all, emphasize the basics of hunting ethics to all of your associates and to youngsters who may just be starting the sport. Responsible hunter behavior may not change the vitriolic antihunter's point of view, but it will certainly go a long way towards persuading the general public that hunters are decent people who do care about wildlife. The irresponsible few, on the other hand, do us all great harm. □



The Average Fisherman

Part of a \$100 million business!

by Marion Conover

FISH MANAGEMENT SUPERVISOR

IF YOU ARE 30-49 years of age, fish mainly inland streams, and catch an average of four fish each time out, you may classify yourself as a typical Iowa angler. You are a part of the nearly 500,000 licensed resident Iowa anglers who average 21 fishing days each per year, for a total of more than 10 million fishing days. According to the best information available, Iowa anglers spend about 10 dollars per fishing day for fishing gear, bait, food, lodging, transportation, and license. Fishing in Iowa is a 100 million dollar business!

This information is but a small portion of that gained in a 1976 survey of Iowa anglers designed to obtain accurate and up-to-date knowledge regarding fishing practices and preferences of Iowa fishermen. Data was collected by means of structured and systematic telephone interviews with a sample of resident, licensed anglers drawn from each of the 99 counties. A total of 2,989 anglers were interviewed.

This is the first statistically-sound survey that has been conducted on Iowa angler practices and preferences. Survey results were grouped into 12 management districts and totaled on a statewide basis. Fisheries Section personnel are using the survey information to help determine program needs. The benefit to you, the Iowa fishing public, is a professional Fisheries program directed to your practices and preferences.

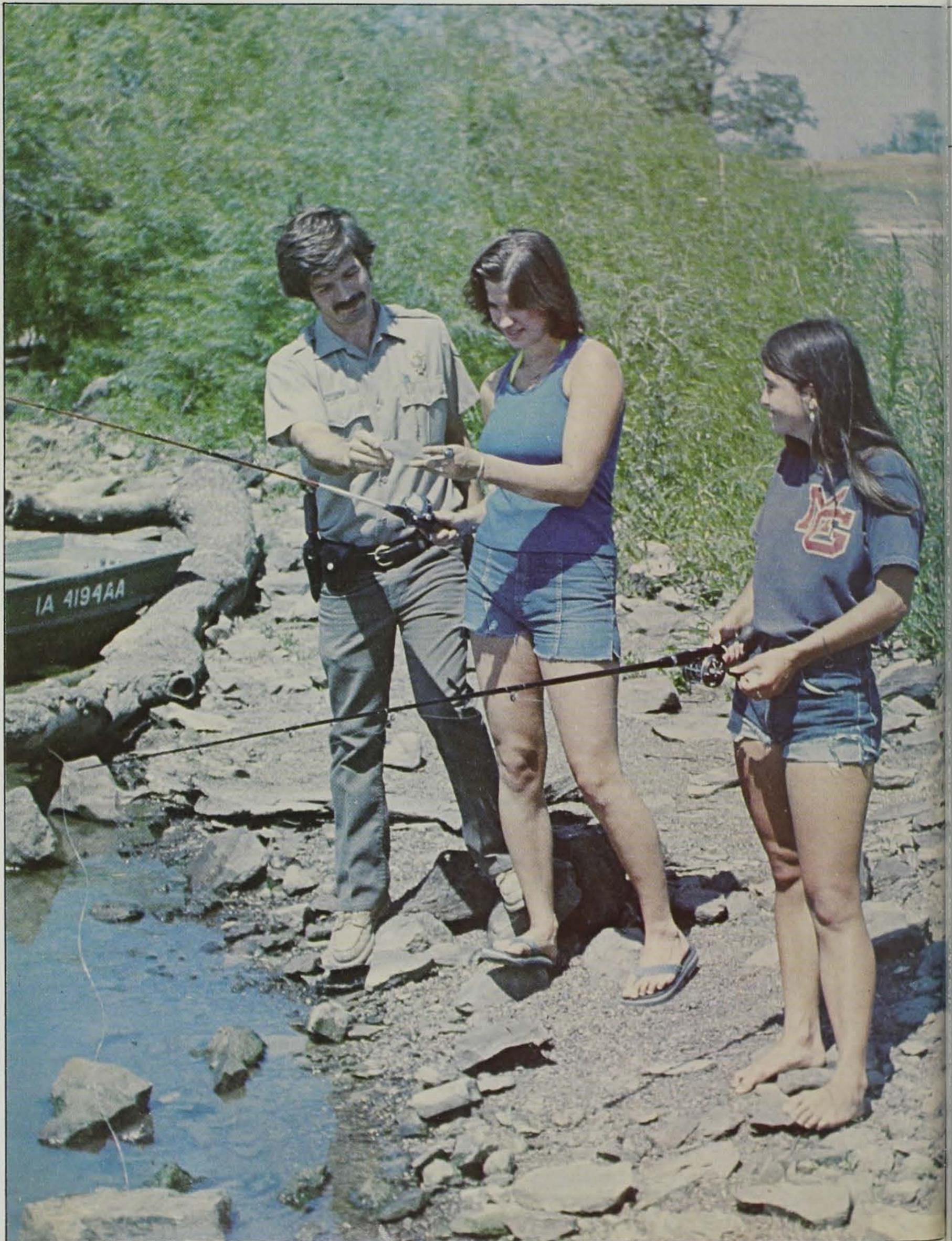
Here is a quick look at some of the other facts discovered through the survey:

For the year the average catch was 95 fish per angler. Over 43,000,000 fish were caught statewide. Bullhead are caught in the largest proportion statewide (22 percent), but account for 42 percent of the total catch in the natural lakes area. Crappie (17 percent), catfish (16 percent), and bluegill (15 percent) along with bullhead, account for 70 percent of all fish caught in Iowa.

As opposed to those fish species actually caught, Iowa anglers prefer most to catch catfish (21 percent), followed by walleye (20 percent), bullhead (10 percent), largemouth bass (9 percent), and trout (7 percent).

The largest proportion of fishing effort is directed toward inland streams (30 percent). The Mississippi River, man-made lakes, and natural lakes all provide 16 percent of the angling days. Farm ponds account for 11 percent of the fishing activity by licensed anglers, and up to 47 percent of all fishing trips in one eight-county district in southwest Iowa.

If you see yourself somewhere in these figures, then you're not as odd as the neighbors think.



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Iowa's Fish & Game Conservation Officers

by Bob Mullen, CONSERVATION OFFICER

THE DUTIES OF today's conservation officer are many. Gone is the image of the "game warden," a man who only patrolled looking for fish and game violators. Today's conservation officer is a state peace officer and man of varied duties. His is a uniformed and highly trained law enforcement position. With public interest in ecology and our natural resources, the officer's importance in protecting our resources is more evident to the public each day. While protecting the state's natural resources, the officer helps ensure everyone the equal opportunity to enjoy outdoor Iowa.

Today's officer still checks hunting and fishing licenses, and patrols for fish and game violations, but this is just a portion of his duties. Public relations is a very important aspect of his job. Through education, the officer can make people aware of the reasons behind our laws, and prevent violations committed in ignorance. The state's conservation officers are responsible for hunter safety education. The officers and volunteer instructors certify about 14,000 students each year. Hunter safety teaches proper gun handling in the home and field, resulting in reduced firearm accidents. Another aspect of this course is teaching principles of conservation and respect for private property while hunting.

The officers conduct a waterfowl identification course, making hunters more knowledgeable of the many different migratory game birds. Officers conduct fishing clinics, boating safety meetings and put on programs on various phases of conservation when requested by schools, civic organizations or business groups. If a group or organization is interested in an educational program on any conservation related subject they should contact the state conservation officer in their area. If he can't supply a program himself he can probably guide you to a speaker who can.

The fish and game conservation officer's day doesn't begin at 8:00 a.m. and end at 5:00 p.m. like most other jobs. His day might start well before sunrise working on a game survey route, or out on a waterfowl marsh during the fall. During the day he might be checking licenses at a lake or

conducting a program for a school group. Midnight may find the officer out on patrol for illegal hunting or fishing activity. The hours are long and frustrating at times, but an officer wouldn't put in these long hours if he didn't have a great interest in preserving our wildlife and natural resources for all to enjoy.

In addition to the officer's regular patrol, he is on call twenty-four hours a day, seven days a week. The officer has no set hours of patrol, but works during peak hours of activity. The 60 conservation officers in Iowa patrol the approximately 55,640 square miles in the state. This comes to about 894 square miles per officer. Included in these figures are many miles of rivers, streams, and lakes that need to be patrolled.

Today's conservation officer must possess a wealth of knowledge. He must know and understand every law

he enforces. He must know his territory thoroughly, and be aware of game populations and areas most productive to sportsmen. His presence in the area acts as a deterrent to would-be violators.

The mainstay of the officer's equipment is his patrol vehicle. It is equipped with a two-way radio allowing him to be in contact with state police, sheriff's office and some local agencies. Probably one of the quickest ways to contact the conservation officer in your area is through the sheriff's office. They can contact the officer if he is in his vehicle, or leave a message at his residence. The second most important piece of equipment is his boat. This may vary from a car top canoe to a large lake or river patrol boat.

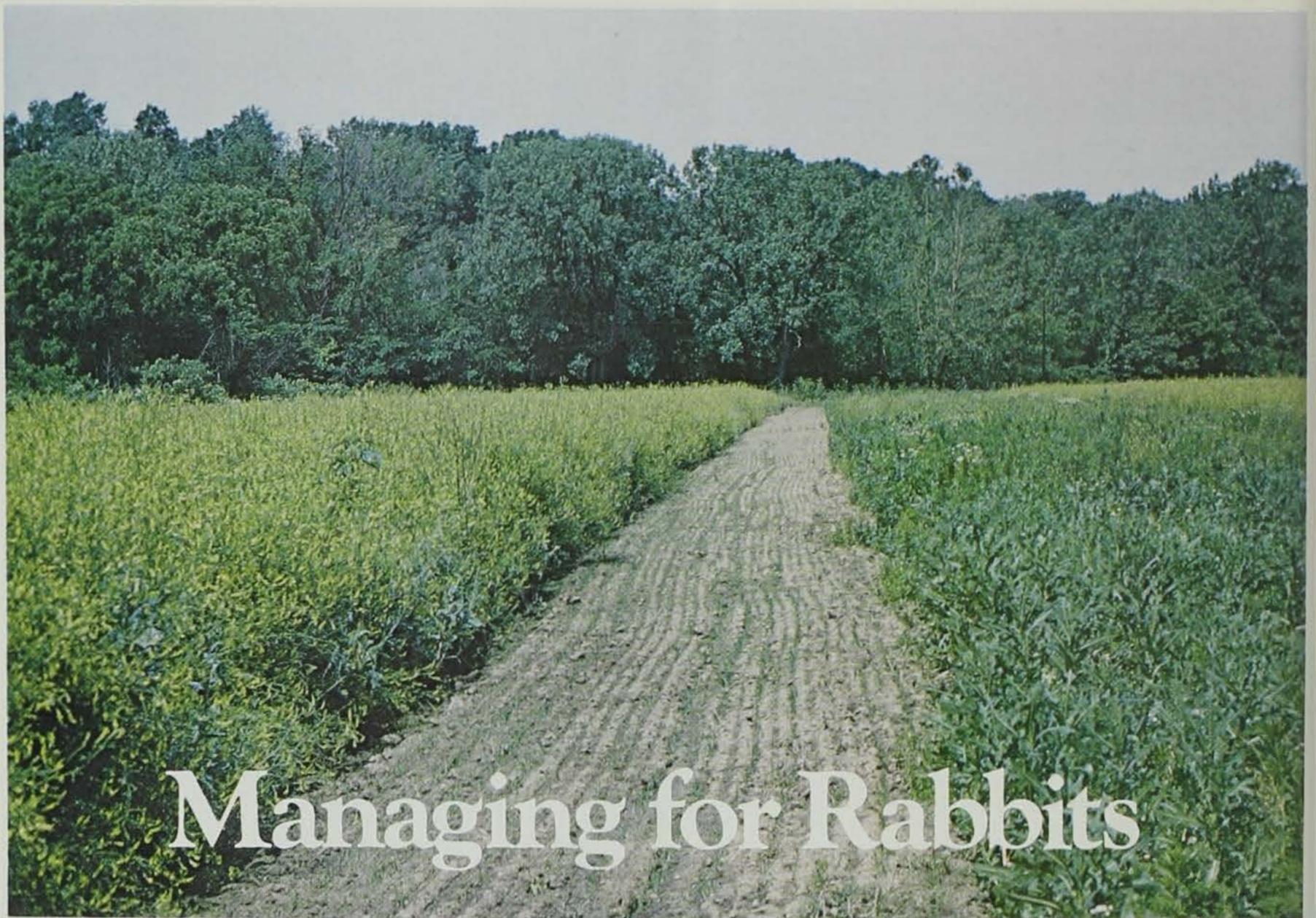
The role of a state fish and game conservation officer is anything but routine, and includes many long hours. The job has rewards that very few other jobs have. The conservation officer is in a position to be aware of the natural beauty and the interaction of animal and plant life in our state. The officer puts in such long hours because he is aware of the natural resources we have and is concerned about preserving them for others to enjoy. The next time you see a state conservation officer, remember he is working for you. He is there to protect your interest in the outdoors. □

Wendell Simanson



Bob Mullen





Managing for Rabbits

Sweet Clover.

Sorghum.

Red clover/timothy.

by Robert Kurtt

WILDLIFE MANAGEMENT BIOLOGIST

HOW MANY TIMES have you heard, "Well, that old elm up on the north 40 finally went over last night. Guess I'd better get up there and clean that mess up." or "Hey, Johnny, the big cottonwood in the south pasture dropped a big bunch of limbs yesterday in that awful wind; why don't you get on over there and stack 'em up so we can burn 'em."



But wait! You just might be missing a good chance to provide some 'Instant Rabbit Habitat.' There's no quicker way to bring back rabbits in an area than by building brushpiles. Cottontails feel secure in and around brushpiles, because they can get immediate shelter from their natural enemies such as the red fox or great-horned owl. Brushpiles also provide homes for many other types of wildlife.

In addition to offering good escape cover, brushpiles can also provide a source of food to cottontails, particularly during the cold, snowy months when other food supplies are scarce. The furry critters get good nourishment from the small twigs and branches in the brushpile.

But even after rabbits have eaten most of the small twigs and branches, brushpiles can still serve as useful habitat for years to come just by placing them in the right location. For example, a brushpile next to a plowed field could spell disaster for cottontails, since they would be forced to range out in the open to find food and would become easy prey for predators. On the other hand, a brushpile located in a well-managed pasture or next to a hayfield would provide excellent cover in an area where rabbits could also find ample food and nesting cover.

One important point to remember when making brushpiles is that it is almost impossible to over-build them. The tendency is to make a brushpile eight to ten feet across and four to five feet high. The problem is that after a few months of snow and rain, and freezing and thawing temperatures, the branches begin to rot and the brushpile will start to flatten out. Then your four to five foot brushpile may be down to only a couple of feet high and offer very limited escape cover for rabbits or anything else. So, in general, try to make brushpiles at least 15-20 feet in diameter and eight to ten feet high. Also, several of these medium-sized brushpiles spaced around a pasture are a lot better than one huge pile in the center of an open pasture.

Aldo Leopold, in his classic work *Game Management*, stated that ideal range requirements for cottontails would consist of one-fourth cultivated land, one-fourth grassland, one-fourth

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brushland and one-fourth woodland. With this in mind, a 12-acre tract of land to be managed primarily for rabbits would consist of the following:

3 acres of cultivated land. This could be corn, oats, hay, grain sorghum or other small grain. Three 1-acre fields scattered over the tract would give more diversity and *edge*.

3 acres of grassland. This could be undisturbed bluegrass, or grass-legume mixtures such as orchard grass-red clover. Again, scatter the grassland throughout the tract to give more diversity.

3 acres of brushland. This could consist of man-made brushpiles scattered between the crop fields and grassy areas, or "living brushpiles" such as plum thickets, blackberry patches, or other natural and planted clumps of brush.

3 acres of woodland. Maintain timberland in sustained yield condition, with a mixture of mature trees, pole-sized stands, and young saplings. Old trees in the timber that have dropped branches or have completely fallen should be piled along the edge of the timber to provide added escape cover.

This, of course, has been an ideal description of what could be done. The important thing to remember is the *interspersions* of cropland, grassland, brush and timber.

There are many factors that reduce rabbit populations, including predators, weather, and diseases. But one thing is for sure, you can't have a bumper crop of cottontails without good habitat. *Habitat* is still the key in rabbit management.

What are some of the other factors involved in good rabbit management? If one word could be used to sum up the management of habitat to produce more rabbits, it would probably be *interspersions*. This term means the intermingling of various cover types and is very important in managing all upland game species, especially rabbits. This concept is also known as the *edge effect*. For instance, the area where a bluegrass pasture and a small woodlot meet is called the *edge*. This is also where you will probably find rabbits, because the woodlot offers escape cover and the bluegrass provides nesting cover and food. You probably

won't find rabbits out in the middle of the pasture (unless you've constructed a brushpile there), and chances are the rabbits will not be in the middle of the woods either. Where you find them will most likely be near the *edge* of the woodlot, where they find most of their living requirements in a small area.

The more *edge* that you create in rabbit management, the higher will be the *carrying capacity* of the land. Carrying capacity is the maximum number of rabbits that a particular tract of land can support. An overgrazed cow pasture has a very low carrying capacity for rabbits. The same pasture, with lush grass and scattered patches of shrubs and brush, has a much higher carrying capacity for both cottontails and cows.

Don't get the idea that you have to use good farmland to produce more rabbits. Even intensively cultivated farms have odd areas, such as ditches, waterways, around farm ponds, fencerows, and even old dumps that could be put into better cover to produce more bunnies. Planting shrubs in clumps of 25-50 plants each in these odd areas could provide much improved wildlife habitat. Some of the best shrubs to use in Iowa include ninebark, honeysuckle, wild plum, autumn olive, dogwood and osage-orange. In other words, plant "living brushpiles" to enhance an area for rabbits.

Mixed conifer plantings consisting of red pine, white pine, or scotch pine scattered throughout a grassy hillside or in clump plantings around a pond also make attractive areas for rabbits. Plant the pines far enough apart to enable grass-legume mixtures to flourish between the trees. Grass-legume combinations such as orchard grass-red clover or brome-alfalfa make good nesting sites and also provide food and protection.

Range limitations play an important part in land management for rabbits. Cottontails can exhibit quick bursts of speed, but only for relatively short distances. Therefore, all living requirements must be met in a small area. This is the main reason why the average cottontail spends his entire life in an area of about 10 acres. □

Photo by Roger Sparks



RUSH LAKE

by Thomas J. Neal

Photos by the Author

IN THE SOUTHWEST PART of Palo Alto County lies 460 acre Rush Lake. Really not a lake, but a marsh, it is one of a few remaining marshes in the "prairie pothole" region of northwest Iowa. About 98% of the marshes in this region have been drained for agricultural purposes. This makes the proper management of the remaining areas critically important to wildlife. Much of the management of this area has consisted of manipulating water levels in order to provide the best possible habitat for wildlife.

Marshes such as Rush Lake typically go through "cycles" which are related to rainfall and muskrat populations. A typical "cycle" of water, vegetation and muskrat populations is as follows: During a drought, the marsh goes completely dry. This causes plants such as cattail to germinate and a dense growth covers the marsh. No muskrats are present. Then, when the drought ends, water refills the marsh. The flooded plants are still too dense to provide good wildlife habitat.

The muskrats then return to the marsh and begin to cut cattails for food and houses. The openings they create attract ducks, blackbirds and other wildlife. When open water and vegetation reach a 50:50 ratio, wildlife populations are at the maximum.

But as the muskrats continue to reproduce and destroy more and more plants, habitat for all species begins to disappear. Finally, the muskrats destroy practically all the vegetation, and there is no habitat left for any wildlife, including the muskrats themselves.

Without intervention by man, periods of open water (or no water) may last many years, and wildlife habitat suffers. The purpose of managing water levels is to get as many years as possible in the intermediate stages with about a 50:50 ratio between open water and cattails.

A brief history of Rush Lake will show how water level manipulation has been used to benefit wildlife. Prior to 1937, Rush Lake had excellent vegetation and good waterfowl hunting.

Between 1937 and 1940, all vegetation disappeared as a result of high water and muskrats.

In 1941, the marsh was drained, and both vegetation and muskrats increased through 1945. By 1946, vegetation was declining noticeably, particularly in an area where no muskrats were trapped. By 1949 little vegetation and few muskrats remained.

Rush Lake was drained again in 1952, vegetation came back, and muskrats increased until 1957. By 1962, the marsh was again open water, and was drained in 1963 and 64. This time habitat remained good until 1972, when it was drained again. Habitat for all species has remained good up to the present.

A study showed that Rush Lake contained the following populations of nesting birds when habitat was good: 132 pied-billed grebes, 66 least bitterns, 66 ducks (mallards, redheads and ruddies), 550 coots, 200 black terns and 5,000 yellow-headed blackbirds. Nesting populations of all these birds disappeared when the marsh reached an open water stage.

Drainage might not need to be as frequent if muskrat populations could be controlled. But even with annual harvests as high as 5,000 to 7,000 in some years, muskrats have not been trapped at a high enough rate to prevent overpopulation and destruction of the habitat.

In addition to trapping, Rush Lake provides excellent waterfowl hunting. An estimated 1500 duck hunter trips were made to this marsh in 1975, and the average hunter bagged about one duck per trip. A small amount of upland on the south side provides some hunting for squirrels, deer and pheasants. Songbirds are abundant in this area, and it is an excellent place for observing them. Other people use the area for canoeing, nature study and hiking.

If you hunt, trap, bird-watch or just enjoy the outdoors, pay a visit to Rush Lake. And if it happens to be nothing but dry mud flats at the time of your visit . . . at least you'll know why. □

Below, left: Drawdown is periodically necessary following massive vegetation destruction by muskrats (lower right). This results in ideal interspersion of water, vegetation (below, right).



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ORDER NO.

**APPLICATION FOR OBTAINING TREES FOR ESTABLISHING OR IMPROVING EXISTING
FORESTS, EROSION CONTROL OR WILDLIFE COVER
1978**

INSTRUCTIONS FOR COMPLETION OF ORDER

Mail your application and remittance to: Nursery Forester
State Forest Nursery
2404 So. Duff Ave.
Ames, Iowa 50010
Phone No.: 515-294-4622

Payment or purchase order for the entire amount must accompany order blank. Make a check or money order payable to the Iowa Conservation Commission. (Cash will NOT be accepted.) Your cancelled check will be your receipt. You will receive a confirmation of order.

Claims for adjustment due to shortage or delay in shipment must be made within 20 days from receipt of shipping notice.

No order will be processed for less than 500 plants, except:
One (1) wildlife packet

DO NOT ORDER LESS THAN 500 IN MULTIPLES OF 100

GENERAL SHIPPING INFORMATION

(Please Print)

Ship prepaid via United Parcel to:
(Only up to 100 lbs. [This is approximately 1,500 - 2,000 plants, depending upon species] allowed to be shipped to one customer at one location in a given day.)

SHIP TO: _____
(name)

(address)

(city) (phone)

(IMPORTANT to have NAME, ADDRESS and PHONE of person at home during daytime to accept this order.)

When notified, I will pick-up stock at Nursery.

PLEASE PRINT

Code	Kind of Trees or Shrubs Wanted	Age Class	No. Wanted	Cost	Application Information
					<p>PLEASE CHECK BOX I received assistance in planning this order from:</p> <p>1. <input type="checkbox"/> No One 2. <input type="checkbox"/> Soil Conservation Service 3. <input type="checkbox"/> ASCS Office 4. <input type="checkbox"/> Co. Extension Director 5. <input type="checkbox"/> District Forester 6. <input type="checkbox"/> Conservation Officer 7. <input type="checkbox"/> Wildlife Biologist 8. <input type="checkbox"/> County Conservation Board</p> <p>Early Orders Have Preference</p>
				(Min. Order 500 Plants Except Packet) Subtotal	
				3% Sales Tax	
				Prepaid Shipping & Handling Charges (\$ 55 per 100 plants)	
				TOTAL COST	

THE LEGAL PLANTING LOCATION AND YOUR SIGNATURE IS REQUIRED

These trees are to be planted in _____ Quarter, Section _____, Township _____, Range _____, in _____ County, Iowa.
(Information found on tax assessment)

I agree to plant and use the trees ordered upon the described property for establishing or improving existing forests, erosion control, game or water conservation according to restrictions noted below. I agree NOT to re-sell or give these trees away with roots attached to any person, firm, corporation or agency nor to plant any of them as windbreak, shade, ornamental, or street trees. All areas planted with state stock must be protected from fire and domestic livestock grazing. I agree to forfeit for destruction any trees planted or used in violation of the above restrictions.

Signed: _____

Mail Address-R.F.D.: _____

City: _____

State: _____ Zip Code: _____

Phone No.: _____

GENERAL INFORMATION

(Please mark "X" in appropriate space)

- A. MAIN PURPOSE OF PLANTING: 1 General Forestry, 2 Wildlife, 3 Educational Planting, 4 Erosion Control, 5 Other _____
- B. METHOD OF PLANTING: 1 Machine, 2 Hand
- C. PLANTING SITE: 1 Sod Field, 2 Brush, 3 Sandy Field, 4 Existing Timber, 5 Crop Field, 6 Other _____
- D. ARE YOU PARTICIPATING IN A FEDERAL COST SHARING PROGRAM: 1 Yes, 2 No
- E. I AM A (OR MY LAND IS): 1 Farmer, 2 Suburban, 3 Industrial (except mining), 4 Mining, 5 Institution, 6 Municipality, 7 Other _____
- F. HAVE YOU PURCHASED PLANTS FROM THE NURSERY BEFORE: 1 Yes, 2 No

FOR OFFICE USE ONLY

Cash Sale

Purchase Order

Rec'd:

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DO NOT ORDER LESS THAN 500

**SEEDLING TREES AND SHRUBS AVAILABLE FOR DISTRIBUTION
DURING SPRING OF 1978**

Species	Age Class	Avg. Ht. in INCHES	Cost Per 100 Plants	Cost Per 500 Plants
Austrian Pine	2-0	5-12	\$3.00	\$15.00
Jack Pine	2-0	5-12	3.00	15.00
Ponderosa Pine	2-0	5-12	3.00	15.00
Red Pine	3-0	6-14	3.00	15.00
Scotch Pine	2-0	4-10	3.00	15.00
White Pine	3-0	5-12	3.00	15.00
European Larch	2-0	6-18	2.50	12.50
Autumn Olive	1-0	6-12	2.50	12.50
Dogwood	2-0	6-12	2.50	12.50
Amur Honeysuckle	1-0	6-12	2.50	12.50
Tatarian Honeysuckle	2-0	6-12	2.50	12.50
Ninebark	1-0	6-12	2.50	12.50
Russian Olive	1-0	6-12	2.50	12.50
Silver Maple	1-0	12-24	2.50	12.50
Green Ash	1-0	6-12	2.50	12.50
White Ash	1-0	6-12	2.50	12.50
Black Walnut	1-0	10-18	3.00	15.00

***SPECIAL WILDLIFE PACKET**

The SPECIAL WILDLIFE PACKET contains 200 plants, including 50 Pines, 25 honeysuckle 50 dogwood, 50 autumn olive, and 25 ninebark. Cost Per Packet: \$6.00

**PLANT A TREE TO
KEEP IOWA GREEN**

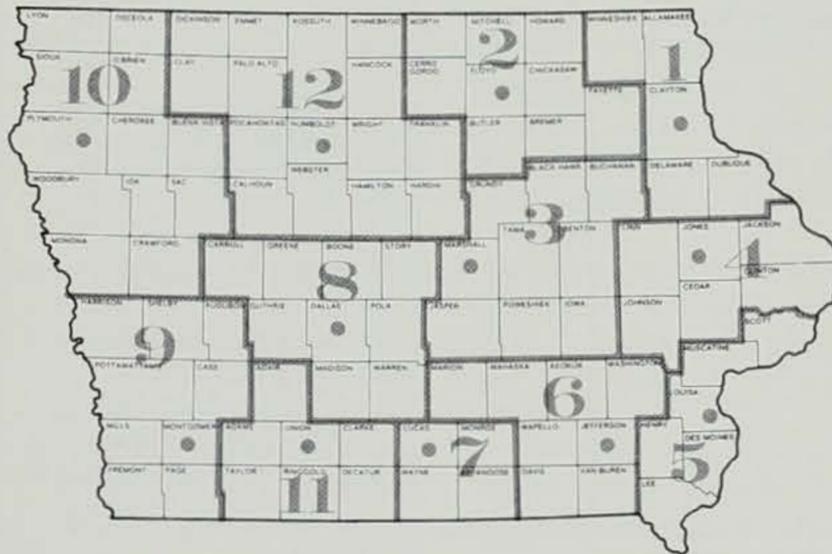
NOTE: SHIPPING CHARGES

United Parcel Shipping: \$.55 per 100 plants ordered.

NOTE: The Nursery reserves the right to substitute species of a suitable type if a shortage occurs.

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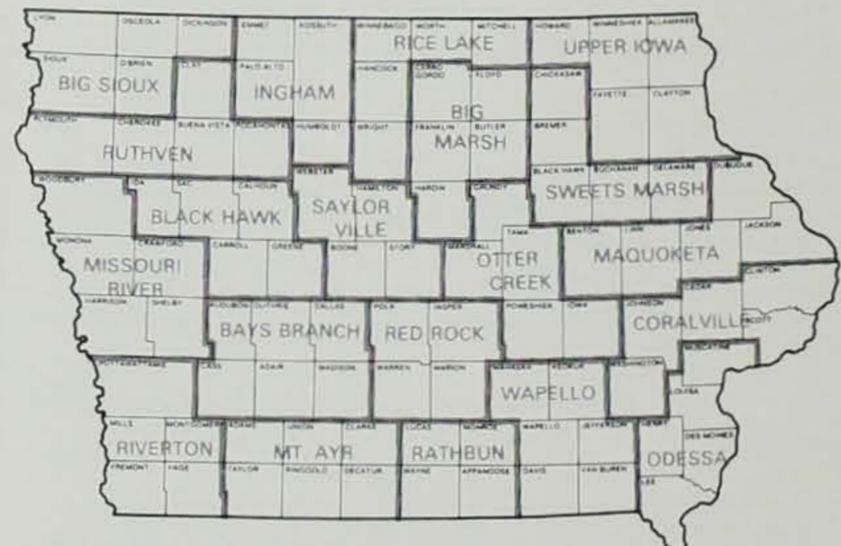
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2. CHARLES CITY Box 4, 50616, (515) 228-6611
3. MARSHALLTOWN Box 681, 50158, (515) 752-3352
4. ANAMOSA Box 46, 52205, (319) 462-2768
5. WAPELLO Box 62, 52653, (319) 523-8319
6. FAIRFIELD Box 568, 52556, (515) 472-2370
7. CHARITON Stephens State Forest, RR 3, 50049 (515) 774-4918
8. ADEL Box 175, 50003, (515) 993-4133
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WILDLIFE MANAGEMENT BIOLOGIST ADDRESSES

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ASCS Office Bldg., Box 247, Guthrie Center, 50115
2. Big Marsh Wildlife Unit (515) 456-2561
ASCS Office Bldg., Box 296, Hampton, 50441
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SCS Office Bldg., Rock Rapids, 51246
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SCS Office Bldg., 406 Main St., Rockwell City, 50579
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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
Perching Rd. E., Maquoketa, 52060
8. Missouri River Wildlife Unit (712) 423-2426
SCS Office Bldg., 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., 117 S. 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
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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
16. Ruthven Wildlife Unit (712) 225-4594
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17. Saylorville Wildlife Unit (515) 43204320
ASCS Office Bldg., 718 8th St., Boone, 50036

WILDLIFE MANAGEMENT UNITS



18. Sweet Marsh Wildlife Unit (319) 352-1113
ASCS Office Bldg., 911 Bremer, Waverly, 50677
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

Warden's diary

by Rex Emerson

LAW ENFORCEMENT SUPERVISOR

ON A COLD JANUARY DAY you can always depend on the old man who lives down by the river having the coffee pot on the stove. Today was no exception. As he sat in his rocking chair sipping some of that black stuff he calls coffee, he said, "You know, when you are young you give your money to the government so they can give it back to you after you're sixty-five." Looking up at the ceiling he said, "That's like giving a squirrel nuts after he has lost his teeth."

Even the old man's coffee tasted good after being out in the woods and having walked some distance along a small stream checking traps. The raccoon and fox trapping season will be open until January 22. Since the first of this year any of the so-called instant kill traps with a jaw spread of over eight inches are legal to use only if they are set completely under water. As in past years all licensed traps must be tagged with the owner's name and address. The only change is that now even a landowner must have such a tag on his own traps used on his land. The Landowner doesn't need a license when trapping on his own land, just the tag on each trap. Today I didn't find any of the instant kill traps that were too big to use on a land set.

I did find some box traps that were set for raccoon. They are legal now as long as they are capable of catching only one animal at a setting and, of

course, have the owner's tag on them. The box trap is supposed to be more humane than the leg hold trap. It catches the animal alive, and then you take the little fella' out and hit him over the head with a big club. That's much nicer than the old-fashioned leg hold trap, so I am told.

While I was tramping through the woods a few of nature's more hardy birds that stay in Iowa all winter were flying from tree to tree. The redheaded woodpeckers were trying to get at bugs or worms that had burrowed into tree trunks for the winter. It sure looked like a hard way to get a meal. A blue jay was letting all of the woodland residents know there was an intruder in their midst. I sat down on an old log to rest and enjoy nature for a few minutes. A great-horned owl evidently got nervous from my presence and flew from his perch in a tall oak tree. This was the time of day that he would normally rest and sleep if it hadn't been for the intrusion.

I suddenly felt as though I was being watched. Maybe it was the slight noise of a footstep in the leaves, or the breaking of a small twig. Whatever the reason, I knew that eyes were focused on me from some place. Quickly turning around proved I was right, as a buck deer snorted and bounded away. He also knew there was an intruder in the woods and had been curious enough to follow my tracks.

While sitting on the log I picked up a stick and was idly stirring among the leaves on the frozen ground, noticing that the leaves were bleached out more on top and brighter colored on the bottom side. As I got up to go on my way something near the end of the hollow log caught my eye. It was one leaf brighter than the others around it. It was obvious that leaf had been turned over recently. From experience I knew you don't inspect a spot like that with your bare hands. I poked at the leaf with my stick and a steel trap snapped shut on it. It had been well hidden. If it hadn't been for that upside down leaf I never would have found it.

There was no name tag on the trap. This was a violation of the law. I had two choices. I could legally take the trap for the state of Iowa, or I could catch the person who had set it, send him to court and then take his trap. I much prefer the latter if time permits. It saves a lot of waiting time if you know the time of day that particular person checks his traps. Some check on their traps early in the morning, some in the evening and some even at night. Trappers are usually creatures of habit and usually go out about the same time every day. I could check back about three times during the next 24 hours and have some idea when he reset his trap. Then it should take only a few hours the next day to catch him. Naturally he would be suspicious if he saw a stick stuck in

the trap so there had to be something else used. Out at the edge of the woods I remembered seeing where something, probably a great-horned owl, had dry picked a pheasant and eaten most of it. This is one of nature's ways of getting rid of the old or sickly pheasants. I took the remains of the pheasant and put it in the trap. That should have him talking to himself when he saw that.

Just as I had gotten almost to the road I heard a car stop. A young man got out and came into the woods. He walked past the tree I was standing behind and continued on toward the trap. I followed along like the deer that had followed me earlier. When he got to the trap he just stood there looking at it for a little while, then proceeded to take the pheasant out and reset it. With the wind rustling through the leaves of a pin oak nearby he didn't hear me walking up behind him. That's one nice thing about the pin oaks being late to drop their leaves.

When he stood up and saw me standing there he did the Tea Berry shuffle and then said, "OK. You got me. I don't have a trapping license." Then he said, "You never would have found my trap if that dumb pheasant hadn't gotten into it. Something must have eaten most of it."

I told him, "Sure, fella'. I'll bet you're right."

After a day like that I think I'll have another cup of coffee!



SHORELINE EROSION

a search for a solution

by Jim Bruce
FISHERIES BIOLOGIST

Photos by the Author

RATHBUN is a good lake, but not perfect. A good deal of soil is washed into the lake every year from the watershed. In addition, large sections of the shoreline are eroding badly, adding to the turbidity and siltation in the lake. The bank erosion problem is accelerated by the fluctuating water level which is an integral part of any flood control reservoir. Turbidity reduces the phototrophic zone and results in less production of the lower forms of plant and animal life which form the basis of the food chain. It also decreases the ability of sight feeding fish, such as crappie, walleye, and largemouth bass, to catch their prey. As the soil particles settle out they form a fairly tight clay substrate (bottom) that is unfavorable to insect life and largely unsuitable for nest building fish (bluegill, crappie,

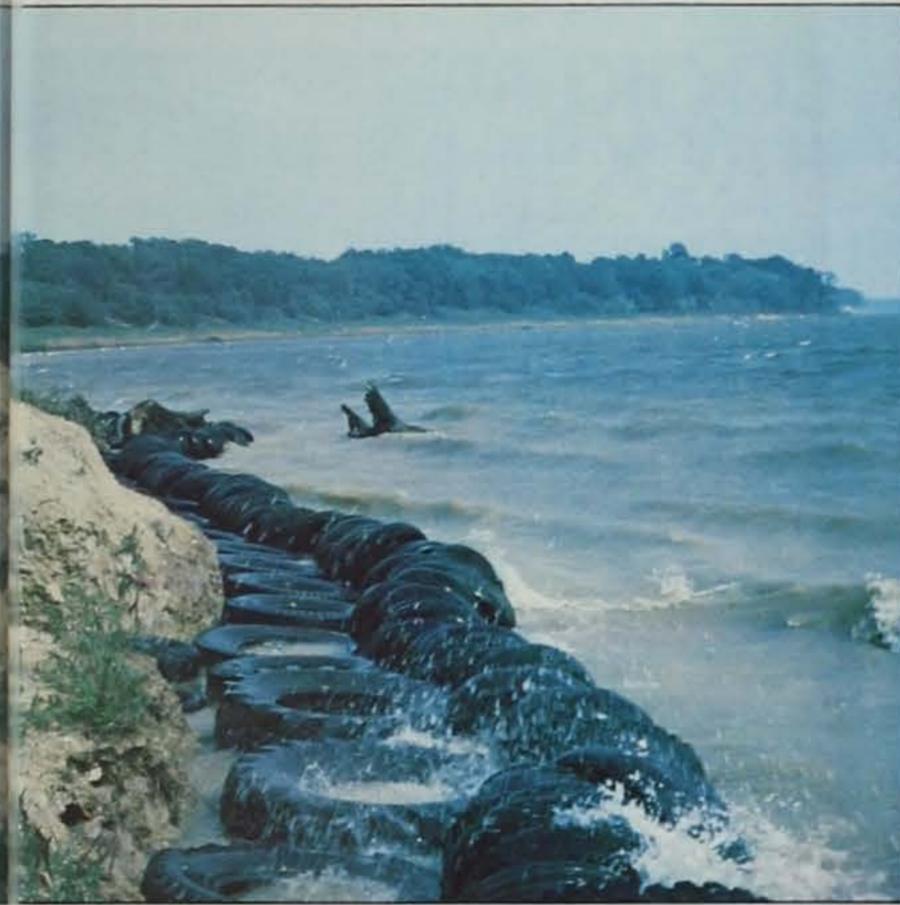
largemouth bass) or other game fish such as walleye. In addition, as this siltation occurs it can smother existing insects, as well as larval fish and fish eggs.

A number of organizations and agencies, including the Iowa Conservation Commission, Corps of Engineers, and The Rathbun Lake Association are concerned about this problem and are seeking solutions to it. Silt from the watershed can be greatly reduced by changes in farming practices. Silt retention dams would also be of benefit in reducing the amount of soil entering the reservoir every year. Neither of these actions will take place "overnight" and a great deal more soil will be moved to the lake from the watershed before the problem is alleviated.

Possible solutions to the problem of shoreline erosion which have been considered include rip-rap, revegetation, and water level control. Revegetation has been attempted by planting of willow shoots near the water line; this has met with little success. Survival of the planted willows has been good, however in the areas of major bank erosion both the trees and planting sites have washed into the lake during high water periods. Rock rip-rap has been used in critical areas such as the dam and to protect roads and camping areas. This is an effective method for controlling shoreline erosion, but it is expensive and it will take a good deal of time and money before this remedy can be applied to any significant portion of the area of serious bank erosion along Rathbun's 180 mile shoreline. Water level control is not conducive to the management of this type of reservoir.

All of this leaves us with a problem and no immediate solution. In the fall of 1976, we began considering reefs. These are basically a bunch of tires tied together and anchored in the water. Breakwaters such as these have been utilized on the East Coast to protect facilities, such as boat docks, from the ocean waves. They are designed to give with the waves and they

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have the effect of reducing the force of the waves on whatever facilities or land happens to lie directly to the leeward. Their potential for reducing shoreline erosion was evident and plans were made to place some of these in Rathbun to determine the feasibility of large scale application in this water.

During the spring and summer of 1977, approximately 200 yards of breakwater were constructed and placed along the north shore of the main body of the lake. This is located off the south shore of Honey Creek State Park, one of the most serious and spectacular areas of erosion with raw clay banks up to 50 feet in height.

Scrap tires were gathered from service stations, junk yards, and tire dealers from a radius of about 50 miles around the lake. The tires were hauled

to the Rathbun Fish Hatchery and subsections of about 20 tires were bound together utilizing 3/8 inch concrete reinforcing rod. These subsections were then taken to the lake and strung on a cable. When a 50 yard section was gathered, the unit was towed to its destination in the lake and anchored. Ten foot of slack was left in anchor lines in anticipation of increased water levels which are inevitable in a flood control reservoir. The last unit was not put in place until September. The entire structure contains some 2500 tires.

This experiment with artificial breakwaters as a means for controlling shoreline erosion and the resultant turbidity has shown the following to date.

The tire breakwaters as we have constructed them are



inadequate to withstand the forces of waves generated at Rathbun. It will be necessary to construct a more rigid unit which will be able to ride on the slack anchor line without bowing and folding in on itself. It will also be necessary to use more or better anchors.

The artificial breakwaters do reduce the force of waves hitting the shoreline and theoretically should reduce the extent of erosion, however they have not been in place long enough to measure their effect in this respect. They do not reduce the waves to the extent that shore area turbidity is significantly reduced, in fact it appears that turbidity is greater behind the reefs. Perhaps the reduced wave action decreases the amount and speed with which soil particles are carried out to deeper water and deposited beyond the depth of the wave action. This does not necessarily mean that the long term effect would not be beneficial.

The breakwaters act as fish attractors. During the past summer gizzard shad spawned on the tires and numerous small fish (walleye, largemouth bass, and bluegill) were observed around the structures. There was some increase in fishing pressure around the structures and angling success was fair.

Material and equipment operation costs for the structures are reasonable, with the 200 yards costing under \$500; however labor costs, as the units are presently constructed, would appear to run quite high.

Some questions remain to be answered regarding the use of tire breakwaters. The foremost question is how well these structures can withstand ice-out. Possibilities here include destruction of the structures on shore as the ice moves in or movement of the structures to deeper water if the ice should move out. It is hoped the tires, being black, will thaw out of the ice before it moves and any shift of the ice, in or out, will slide over the tires. Time will tell. As previously mentioned, we have not yet measured the effect of the structures on shoreline erosion or determined what type of bottom will develop in

the shoreline area back of the structures.

In addition to the floating breakwater, a more conventional type of bank stabilization is being evaluated. This method involves placing tires directly on the shoreline; the completed structure could be termed rubber rip-rap. Scrap tires were placed upright in approximately six inches of water. One or two layers of tires, lying flat, were placed between the upright tires and the bank. In theory the upright tires reduce wave action while the flat tires hold loose soil, gradually sloping and stabilizing the cut bank. The upright tires are held in position by a cable running through the center and tied to steel posts on each end. Approximately 100 yards of shoreline were treated in this manner during August and the effect will be evaluated during the coming year.

Material costs were less than ten dollars for the 100 yard section of "rip-rap."

As previously mentioned, Rathbun Lake is a flood control reservoir and by design has a fluctuating water level. The fluctuation is not as extreme as some, but is sufficient to create problems in the design or implementation of any bank stabilization program since whatever method is utilized must be effective throughout the potential 22 foot change in reservoir water level to be totally effective. This is one point that favors the use of a floating breakwater which would be effective throughout the span of water level change. This same fact makes it very difficult to anchor the structures adequately.

The use of tires on the shoreline as rip-rap is limited in its value at water levels over 2 feet above conservation pool level; however the brief history we have indicates that the water level will be below this elevation about 75% of the time. The fluctuating water also makes evaluation of results difficult since changes which occur may be viewed differently at various water levels.

Work will continue during the coming year to further develop and evaluate these methods of bank stabilization.

LOOKIN' BACK

in the files of
the CONSERVATIONIST



Ten Years Ago

the Conservationist featured stories on ruffed grouse and wood duck. Research underway was to lead to the first modern ruffed grouse season that fall. Biologists were satisfied that a hunting season would not harm grouse populations and they were right. Some people would like to believe that this type of research on mourning doves is wrong. Who do you believe? At the same time a bright future was predicted for the wood duck despite being returned to the hunted list. The biologists were right again.



Twenty Years Ago

the magazine featured a story on mourning dove hunting. It is easy to see that our attempts to establish a season are not new but neither are the ranks of the emotional anti-hunter. It is interesting to note that dove hunting opponents are encouraged by Iowa's largest newspaper whose pages once carried the cartoons of Ding Darling, one of Iowa's greatest sportsmen. You be the judge.



Thirty Years Ago

a report to Governor Robert Blue indicated that the Conservation Commission had made good progress along the guidelines of its twenty-five year plan. Records indicated that excellent progress was made in the restoration and improvement of natural lakes, in the planning and construction of artificial lakes and in the development of a state park system. Forestry and stream improvement programs had not fared as well, but a lack of good laws in this area made the job harder. Would a good land-use law make today's problems easier to solve?

The Return of Waterfowl in Iowa

The Iowa Conservation Commission has reprinted the popular book *Waterfowl in Iowa*. The new fifth edition contains essentially the same information as previous editions but the material has been brought up to date and names and scientific nomenclature have been changed to conform to the most recent revisions by the American Ornithologists Union.

This book is a fine addition to anyone's private wildlife library and makes a great gift for nature enthusiasts of any age. It is also a great help to hunters who must be knowledgeable on waterfowl species identification.

Waterfowl in Iowa is available for \$3.00, tax included from: The Iowa Conservation Commission, *Waterfowl book*, Wallace State Office Bldg., Des Moines, Iowa, 50319.



Postscript —

Readers of the April 1977 issue of the *Iowa Conservationist* will recall the story of the wildlife carvings, in particular the carving of the cock pheasant. Shortly after the story appeared in the magazine, the carver, Jack Hahn of Middle Amana, Iowa, sent the bird to the World Championship wildfowl carving competition in

Maryland, and it brought back a blue ribbon! The large blue ribbon hanging on the pheasant reads: "Ward Foundation World Championship Wildfowl Carving Competition 1977. Salisbury, Maryland. First in Category, Decorative, Lifesize." The pheasant is posed against a background of ribbons won by Jack in various duck decoy carving contests all over the United States. Our congratulations to the Hahn family!

— Wendell Simonson

CLASSROOM CORNER

by Bob Rye

ADMINISTRATOR, CONSERVATION EDUCATION CENTER

WINTER IS VIEWED by many as the time of year to get inside activities completed. These may include hobbies, crafts, or reading.

Outside activities such as winter camping, skiing, hunting, or ice fishing are done by many brave souls. Plants also can be studied and used at this time of year.

With all winter programs, a few minutes of planning must include how to keep warm. Some suggestions are: dress for warmth—not looks, keep moving on your hike, don't become overheated before you start your activity, and check for frost-bite.

An activity which can be done with groups using the Center or in a classroom is forced budding. My first encounter was at a winter workshop sponsored by the Iowa Conservation Education Council.

Sprouting in a classroom is an activity which can provide groups with knowledge, an "in hand" product, and a life-time hobby. Most groups are not at the center long enough to follow this program to completion as the sprouting takes time but they can also do this experiment at home or in school.

Materials required are sand or vermiculite, cans with holes in the bottom (plastic milk bottles also work), a cool area for starting, high light windows, plastic bags, and cuttings of different species.

Generally an introduction on how a plant can grow and reproduce is given. This introduction can include regeneration of missing or damaged parts such as roots and limbs or the natural loss and replacement of leaves.



Also brought into discussion is sexual vs. asexual reproduction.

The discussion is followed with field collecting—taking cuttings. Cottonwood (like the one in the photograph) is one species of tree that works well. Whatever kind you choose, use only the wood that was produced the previous summer. This means the tops of trees are the best cutting material. Younger trees usually root better regardless of the age of the wood itself. Many trees also have a chilling requirement so January makes a good month for this program.

A good place to look for such materials is along road ditches where the trees are periodically cut off and allowed to resprout.

The cuttings should be trimmed into short segments to plant. The length should

be such that 3/4ths of its length is buried in the moist soil. This way it won't dry out. The minimum length should be about 5 inches. The best diameter is pencil size or larger. These segments should be planted immediately as they will start losing moisture when cut.

Once the segments are placed in the moist sand or vermiculite, place them in a cool area with good lighting such as a breezeway. Windows in schools also work.

While the plants are doing their work, you can compare the growth rates of different types, if various types of trees were used. You can also plan to build a wind break, wildlife habitat, or even start your own forest. Whatever your plans, you have now made another use of one of Iowa's natural resources.

□



Photo by Ken Formanek