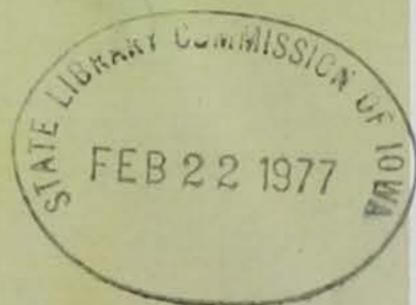




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Julius Satre, Contributing Editor
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From atop milkweed pods a pair of white footed mice survey thier world. By artist Jim Landenberger of Cedar Rapids, Iowa.

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Iowa's Big Opportunity — A Bottle Bill

By Fred Priewert

DIRECTOR, IOWA CONSERVATION COMMISSION

SO OFTEN we, as sportsmen and concerned citizens, adopt concepts and ideas which for one reason or another are not supported by preservationists, Sierra Clubbers or other outdoor oriented groups. This is unfortunate since we share so many of the same goals.

Now, however, we are interested in supporting legislation which enjoys wide spread support among these entities. That goal is the passage of a "bottle bill" for the state of Iowa.

The banning of nonreturnable/nonrefillable beverage containers first gained national attention in 1971 when the state of Oregon passed such a bill despite several industries' supreme efforts to block it. It is interesting to note that just two years after Oregon passed their bill, a study showed that drink container castoffs decreased 83% and all litter by 39%. Now, after five years, Oregon officials are proud of the fact that their pioneering bill is a success in nearly every way.

Since that time Vermont, Maine, Michigan and South Dakota have passed bottle bills along with some local communities. It is my hope that Iowa may join the list as soon as possible. Litter is a problem that offends everyone and yet it is seemingly impossible to stop. Landowners complain about fishermen leaving litter around their ponds. Picnickers, campers, hunters and hikers often leave debris on both public and private areas. Nearly all people who enjoy the outdoors, especially the motoring public, have been guilty of littering Iowa's outdoor recreation areas. It is hardly necessary to point out that most often that litter contains beverage cans or bottles. In fact beverage containers make up from 20% to 40% of all litter. With this one new law we can cut, according to the U. S. Department of Commerce estimates, between 70% and 80% of our beverage container litter problems.

It is interesting to note that the 3.5 million member National Wildlife Federation recently resigned its membership on the advisory council of the country's largest anti-litter group, Keep America Beautiful. Thomas L. Kimball, NWF Vice President, said that his organization quit Keep America Beautiful because that organization "is dominated by the beverage, container and packaging industries." He states that KAB continues to advocate picking litter up after it is thrown there rather than attack the problem where it exists - the American throwaway ethic.

Supporters of the bottle bill believe that a national beverage container deposit law could save consumers \$1.8 billion annually. Despite all of the publicity about recycling in recent years, we are currently recycling a lower percentage of our nonrenewable resources than ever before in our history. It is my opinion that we should be able to purchase products which can be used over and over again and products that can be produced without unnecessary waste of materials and energy. Some say that this concept would cost many people in the container industry their jobs. Independant studies indicate that contrary to opponent's arguments, a bottle bill projects a net increase of over 100,000 jobs and total labor income increases approaching a billion dollars a year. All this and save the consumer money in addition.

A national bottle bill may someday be a reality but don't count on it happening too soon. What we can do is begin action in this state right now. The people of Iowa should join in an effort to make the bottle bill a top priority objective.



Trail groomer

SNOWMOBILERS BENEFIT FROM COST SHARING PROGRAM

By James E. Horan
SNOWMOBILE SAFETY COORDINATOR

Photo by the Author

COUNTY CONSERVATION BOARDS are making good use of state snowmobile registration funds. Since 1975 approximately half of the annual snowmobile registration fees received by the Iowa Conservation Commission has been returned to individual counties through a cost sharing program. These funds are used for a variety of facilities and programs which benefit Iowa snowmobilers.

County conservation boards in Cerro Gordo, Dickinson and Howard counties, for example, have established extensive trails with bridges, gates and ditch crossings. These counties have also purchased groomers for trail maintenance, and their safety programs include the purchase of ambulance sleds and the placing of elaborate systems of signs along the established trails. Snowmobile clubs in those areas have worked closely with the county boards and this cooperation has resulted in more and safer snowmobile facilities in those regions.

While these and other counties already have well-established snowmobile programs, some county conservation boards are just beginning to take advantage of cost

sharing funds. In July of each year a meeting is held between representatives of the State Snowmobile Association, County Conservation Boards and the Commission. At that time, facilities to be cost shared for the next season and the relative priority for each are determined. Then a letter with application is sent to all county boards describing the cost sharing program. Applications received by the Commission prior to a date set in the letter are reviewed by both staff and field personnel. If the project is approved, the county board then receives the funding.

By making use of this and several other cost sharing programs provided by the Conservation Commission, more and more county conservation boards are assuming a leadership role in planning for and providing a variety of outdoor recreation to the people in their area. This role, when combined with the voluntary efforts of enthusiastic snowmobilers, is the key to success in developing a local snowmobile program. County programs and trails along with state facilities are providing ever-expanding opportunities for Iowa snowmobilers. □



Photo by Ron George

WINTER COVER: A Matter of Life or Death

by Ronnie R. George
WILDLIFE RESEARCH BIOLOGIST

BY THE TIME the icy blasts of the season's first major winter storm roll across the Iowa landscape, a host of Iowa summer residents, both avian and human, have made the big move and are enjoying tropical vacations in the sunny southlands. For the year-round Iowa resident, however, preparation for winter could mean either the installation of storm windows and snow tires or the selection of vital winter cover. For human beings, preparation for winter may be merely a pain in the neck, but for many forms of wildlife, proper selection of safe winter cover means the difference between life or death.

Luck may play a part in the selection of winter cover, but there is evidence that wild animals can sense impending weather changes and instinctively select those areas that afford the best protection. William Green, an early Iowa pheasant researcher, reported in 1938 that Winnebago County farmers could accurately predict coming snow storms by observing pheasants concentrating near farm groves, sloughs, willow clumps and other types of winter cover.

Pheasants and other farmland wildlife use a variety of cover types during the winter

months. During the fall and early winter, hayfields, grassy waterways, roadsides, and standing corn fields provide roosting, loafing, and feeding sites for pheasants. Later, as the weather turns colder and these areas drift full of snow, pheasants seek denser vegetation such as cattails, prairie cordgrass (slough grass), willow bats, and brushy or weedy farm groves for roosting and loafing.

Researchers in Wisconsin and other midwestern states have found that herbaceous ground cover without an overhead canopy seems to be most preferred by pheasants as roosting cover, while a woody canopy with a minimum of ground cover is usually selected for loafing. Dense ground cover may help roosting birds retain body heat at night while open, brushy areas allow the birds an opportunity to sun themselves on clear winter days. However, differential selection of cover types could also be an adaptive response to both nocturnal (night-time) and diurnal (day-time) predation. Mammalian predators, which generally hunt at night, represent the most serious threat to roosting birds, and selection of grassy

roosting cover with a minimum of overhead obstructions which might block flight has distinct survival advantages. During daylight hours, on the other hand, birds of prey are a more serious threat to pheasants than mammalian predators, and a dense overhead canopy without ground level obstructions would be a definite advantage to a pheasant on the ground. Plum thickets, willow bats, cattails, standing corn, and dense farm woodlots provide high quality pheasant wintering areas.

Quality is certainly an important consideration when discussing wildlife winter cover, but quantity can be equally critical. The severe blizzard which ravaged northwest Iowa during January of 1975 caused eighty percent losses among pheasants in a twenty-five county area directly in the path of the storm. From observations taken immediately after the



Photos by Tom Neal

storm and in the weeks to follow, it became apparent that substantial wildlife losses had occurred even in the immediate vicinity of good quality winter cover areas. Many of the traditional pheasant wintering areas in northwest Iowa are small farmstead windbreaks. They range in size from a fraction of an acre to several acres in size, and while they may provide good cover during the "average" winter, the smaller ones are simply inadequate during a major blizzard. Under blizzard conditions, they drift full of snow leaving pheasants and other wildlife exposed to the fury of the storm. Some animals merely freeze to death when

caught in this situation, but pheasants often die of suffocation when blowing snow fills their nostrils, and their throats become clogged with ice. However, insufficient winter cover by itself cannot be blamed for the pheasant decline in northwest Iowa.

There is certainly a need for safe winter cover, but wildlife biologists feel winter cover is not the primary limiting factor for midwestern pheasants at the present time. John Gates, a Wisconsin pheasant specialist, conducted a detailed analysis of pheasant winter cover requirements in certain types of wetland habitat. In a 1970 publication, he stated that four pheasant wintering areas per township (36 square miles), each twenty to thirty acres in size, would be ideal. He also stressed that other types of cover should be included in habitat development projects. While his recommendations are not directly applicable to the situation in northwest Iowa, they at least give us an idea of the acreage required for "ideal" winter cover, and they point out the fact that other types of cover are also important. Iowa Conservation Commission personnel believe the need for safe nesting habitat is even more critical than the lack of winter cover in much of northern Iowa. In any case, it may be financially impractical to provide eighty to one hundred twenty acres of winter cover per township in areas of northern Iowa where land values now exceed two thousand or even three thousand dollars per acre.

If winter cover is not the major limiting factor for pheasants in northern Iowa at the present time and acquisition of vast amounts of land for winter cover is impractical, why would anyone work to acquire, establish, and improve pheasant winter cover? The answer is quite simple. Certain types of pheasant winter cover double as protective cover for a wide variety of wildlife throughout the year. Cattails and other wetland plants provide nesting areas for waterfowl, shorebirds, marsh wrens, and red-winged blackbirds. Deer utilize woody cover throughout the year, and numerous

passerine (perching) birds nest in the cover provided by farm groves and windbreaks. So these types of cover are extremely important even if there are no pheasants in the immediate vicinity. In addition, if we ever hope to restore pheasants to their former abundance in northern Iowa, we will need a considerable improvement in winter cover conditions as well as a marked increase in pheasant nesting cover.

What can the Iowa landowner do to improve winter cover conditions on his or her property? The most practical approach is probably the establishment or improvement of farmstead windbreaks. Not only will wildlife benefit from this practice, but a good windbreak helps protect livestock, keeps snow from drifting around farm buildings, and even helps with fuel bills. In addition, a good windbreak will attract a wide variety of song birds to your yard and bird feeder.

Improvement of existing windbreaks could range from the addition of a couple rows of honeysuckle along the north and west sides of existing trees to a major renovation of an old windbreak. One of the most effective windbreaks I have ever seen was developed by adding additional rows of white spruce every five years or so to both sides of an old Norway spruce windbreak. This particular windbreak had trees stair-stepping up in size from those that had just been planted to the oldest trees that exceeded forty feet in height.

Planning a new windbreak may seem a simple matter, but proper selection of woody species and correct spacing for rows and individual plants is sometimes confusing. For assistance in planning a farmstead windbreak which will double as a wildlife cover area, you should contact your nearest Wildlife Management Biologist.

Even though your windbreak may not have any effect on statewide pheasant populations, it can provide you considerable enjoyment, and a good windbreak can mean the difference between life and death for wintering wildlife. □

Rabbit and pheasant may have had a chance if they lived near this well-planned windbreak.

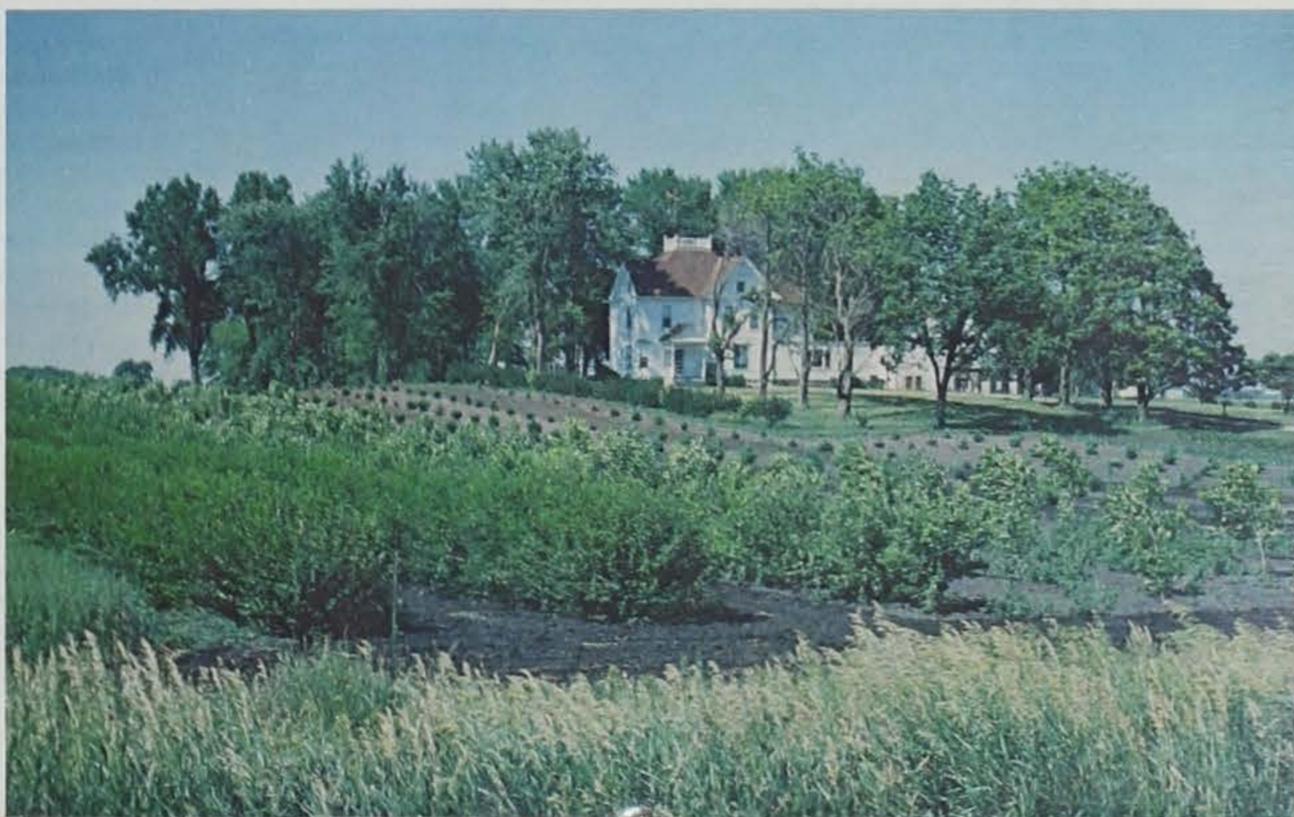


Photo by Ron George

By Jim Christianson
FISHERIES BIOLOGIST

AFTER the moans and groans of man and machine have abandoned the once bustling, noisy quarry area, a more serene and tranquil atmosphere inhabits the scene. This quiet, peaceful time may soon give way to man and wildlife. The screeches and clamor of people taking a cool refreshing plunge in the old swimmin' hole or the pleasant shrill scream of a red-tailed hawk voicing his opinion of the area and the frightening splash of old "Mr. Bucketmouth" bass feasting on an amphibious delicacy may be heard.

These historic glacial deposits of sand and gravel left along avenues of glacial retreat serve the human species well. When the need for improved road systems arose, man searched for a suitable material for surfacing these transportation routes. He soon found a suitable material. Gravel deposits are located exposed to the earth's surface or buried beneath topsoil deposited through the ages by nature's forces. With men and machines, these glacial deposits are excavated and used for road surfacing and concrete. These gravel deposits are not endless and when the materials run out, the area is abandoned usually leaving an excavation filled with ground water.

These ponds and adjacent land soon become life support systems for a variety of inter-related animal communities, both terrestrial and aquatic. As the vegetative community of the area changes so does the number and types of animals. For example, as trees become established, tree nesting birds invade territories used previously by ground nesting varieties. As clams and amphibious life become established, raccoons soon follow and etc. A similar evolution occurs in the aquatic environment. Aquatic vegetation becomes established, minute plant and animal organisms arise, aquatic insects and various insect life stages appear, and amphibious creatures become evident. This aquatic environment begins a process of primary production, utilization of the sun's energy, filtering this energy and nutrients to different levels of the community and establishes a life and death process. Eventually to this aquatic habitat fish are introduced and it is this link in the aquatic energy flow that is of prime concern to the establishment of a fishing recreation.

The fisheries potential of these quarry pit ponds is quite variable due to the differing fertility levels and physical characteristics of the basin. Pond fertility is a basic function of the underlying soil types and run-off. Therefore, quarry ponds with little run-off contamination and an underlying soil of mainly sand and gravel are typically less fertile than the average Iowa small pond.

The simple but factual comparison of an area of sandy soil yielding generally less than good rich, black soil is analogous to the pond situation, i.e., carrying capacity (ponds per acre) of fish is typically less in the pond with a sand bottom compared to a rich bottom full of organic matter and other rich soil components.

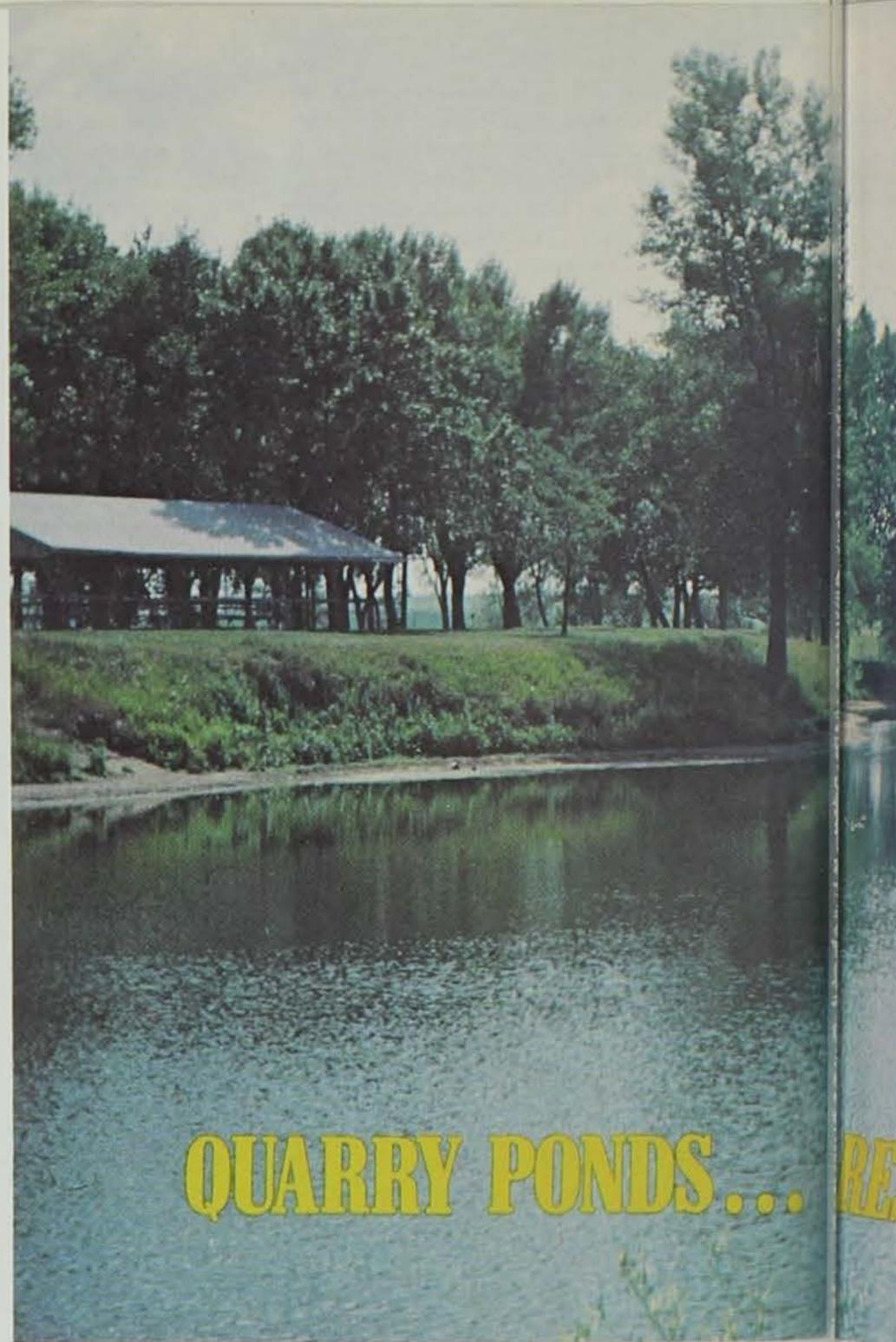
Pond age and shape influence the fishery both directly and indirectly. Pond age has an indirect influence on the fishery by directly affecting pond fertility levels. Generally older gravel pit ponds are more fertile, mainly because of the buildup of organic matter.

Pond basin shape will directly affect the fish population. For example, steep sided ponds with little attractant and escapement cover due to little vegetative growth and lack of spawning habitat is not well suited to maintain a well structured reproducing fish population.

Considering physical features and differing levels of fertility, fisheries potential in the quarry pond ranges from a sustainable fishery typically yielding slightly below other small Iowa ponds to one of little significant yield.

People often ask, "What types of fish are suited to these gravel pits?" Others will first try stocking, everything from bullhead to rainbow trout, and then ask what species and why?

Through experimentation and research findings, the ICC has found that the largemouth bass-bluegill and channel catfish combination of species is best suited to maintain a sustainable fishery in a small pond environment. The largemouth bass acts as



Photos by the Author

the primary predator and biological control of the bluegill population. Approximately four pounds of food is required for a bass to gain one pound of flesh. Therefore, a large poundage of forage is necessary for good bass growth. Because of this forage requirement, the bluegill is ideal and unsurpassed as the forage base for small ponds. These sporty panfish usually spawn twice annually providing different-sized forage to a well structured largemouth bass population.

Both these species are nest builders and guard their eggs during incubation. As a result of having this particular trait, a well structured population, and available spawning habitat, the bass-bluegill combination should maintain a healthy fishable population for years when properly managed.

This proper management will primarily be in some form of harvest restrictions for the largemouth bass. A length limit would serve as the main form of harvest restriction, thus protecting the bass less than the imposed length for use as a biological control of the panfish population. This bass fishery would consist of take-home legal-sized fish and a catch and release sub-legal fish.

The bluegills provide the bulk of the fishery in this combination. These panfish are both sporty, fairly easy to entice onto a hook, and a very tasty reward.

The third species to consider is the channel catfish. This species fills an entirely different niche than either the bass or bluegill. Feeding habits and life style make "old whiskers" capable of taking advantage of food stuffs not utilized by the other two species. This catfish fishery will consist of both trophy sized individuals and some pan sized delights. Maintenance stocking of



... RESOURCE WITH A HISTORY & A MYSTERY

this specie is necessary because of little to no reproductive success observed in small ponds with other fish species present.

Other species often thought of by the public for stocking in these areas are walleye, northern pike, crappie and bullhead. These species are not well suited for the small pond environment. The walleye and northern pike are predator species and compete with the largemouth bass. These two species do not maintain a high standing crop (pounds per acre at a particular time) in small ponds and are usually reproductively unsuccessful in this type of environment, making them unsustainable populations.

The white or black crappie will grow and reproduce in the pond situation but are rather cyclic, producing one year and not the next, making them a bit unstable as a dependable forage base. Also the crappie do compete with the largemouth bass for food.

The bullhead is very popular with the average fisherman, but is very unpopular with the small pond manager. Because of their prolific reproductive capabilities and feeding activities, the bullhead in sufficient numbers will muddy up the water, impair feeding activity of sight-feeding fish and disrupt incubation success of the more desirable bass and bluegills.

Some various recommendations for consideration (depending on the area) to improve the fishery potential may be fertilization, cage rearing of channel catfish, initial stocking density variations, supplemental feeding, habitat additions, pier and/or jetty construction, boat launching facilities, shoreline alterations and vegetation control. These various activities could be considered in various forms and degrees after an evaluation of particular needs is made.

A quarry pit fishery can mean the difference between a short trip compared to a long night's drive or a multiple day outing for some fishing recreation. But remember, un-like the old adage of smoke and fire, where there is water there is not always the potential for a harvestable hook-and-line fishery. □



"FIRE IN THE HOLE!"

by Maurice Anderson, Fisheries Technician & Gary L. Ackerman, Fisheries Biologist

IT WAS a crisp early winter morning on the ole Mississippi River below the Bellevue Dam. Water was surging through the dam heaving fishing boats to and fro. In one of the boats, a man was piloting the craft while another, using a heavily built rod and reel, was employing a snagging motion. It looked as if he were trying to set the hook into something that wasn't there. Suddenly, there rang out a yell "Fire in the Hole!" The fight was on! At first the reel's drag grudgingly doled out line. The fisherman held firm and frantically wrestled with the reel's crank. More line was stripped from the reel. The see-sawing action continued for the next ten minutes. Finally the smooth-skinned gray monster became exhausted and rose to the surface. The fight was over, but the excitement of landing a thirty-three pound "spoony" would be imprinted in this novice fisherman's mind for eternity.

Paddlefish, commonly called spoonbill cat or simply "spoonies", are found in the Mississippi and Missouri Rivers and some of their larger tributaries. They have a smooth scaleless skin, which is slate gray in color above, fading to white below. The snout, from which their name is derived, is elongated and paddle-shaped. Their tail and large toothless mouth give them a shark-like appearance. The elaborate filtering system on the gill arches enable the paddlefish to strain from the water minute plantonic plants and animals upon which it depends for food.

Though paddlefish have long been considered a sport fish, their food habits prevent their capture by conventional sport fishing gear. Now with the use of snagging equipment, anglers can catch their legal daily limit of two fish with a reasonable amount of effort.

Until November of 1974 it was illegal to snag for paddlefish in Iowa. Previous harvest of this species in Iowa was almost exclusively done by commercial fishing. Commercial harvest averages nearly 30,000 pounds annually.

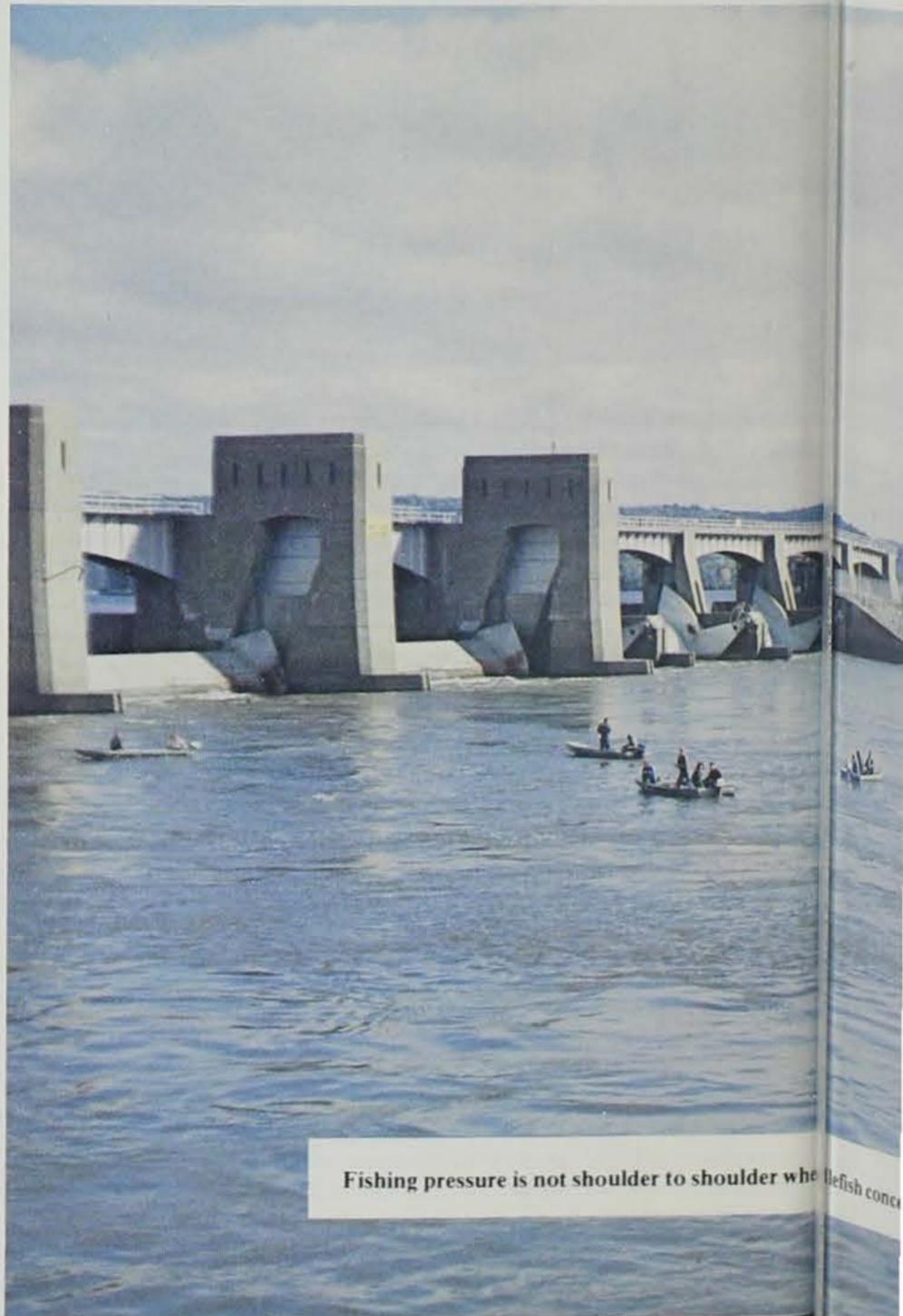
Those opposed to snagging have argued that numerous game fish and other species would fall victim to the snag hook. Commission research findings show otherwise. Five hundred and seventy hours of snagging effort at Bellevue resulted in the capture of 710 paddlefish and only 24 fish of other species. Of these 24 fish, only one was a game fish (walleye). The rest were commercial or forage fish.

Although lighter tackle enhances the sporting aspect, heavier equipment such as light salt water or heavy fresh water is typical and a reel with a good drag system is invaluable. Monofilament line of 20-30 pound test, treble hooks size 4/0 to 8/0 and 4 to 8 ounce weights are standard. Two hooks are placed varying distances above the weight which is tied on the end of the line. Rigging varies with seasons and turbulence. More weight is used during periods of swift water and in the winter when fish are schooled near the bottom.

Techniques used are many and varied, however, three are most common. Trolling perpendicular to the current is most productive. Anchoring and casting plus drifting downstream with the current are used to a lesser degree.

Catch success changes seasonally. In the warmer months, paddlefish are loosely schooled and dispersed both horizontally and vertically, making them difficult to locate. In winter months, they form tight schools and tend to remain near the bottom. When these compact schools are located, limits are taken in a matter of minutes. Studies indicate catch success at Bellevue ranges from four fish per hour in February and March to one fish for every four hours effort in mid-summer.

Photo by Don Helms



Fishing pressure is not shoulder to shoulder when paddlefish concentrate in schools.

A typical outfit for snagging paddlefish. Line is 20 pound test monofilament, weight is 4 ounce, and a 6/0 treble hook tied into line about two feet above weight. Reel is bait casting type with good drag system. Rod is stiff musky action.



Photo by Ken Farmanek

As opposed to the Missouri River where snagging takes place in deep holes near pile dikes and in oxbows, snagging on the Mississippi occurs largely within 900 feet of the navigation dams. One should be aware of a 100 foot restricted area immediately below the gate system of the locks and dams. Flashing red lights on the lock walls define this boundary. Because of extremely turbulent water and dangerous undertow below these dams you must have a seaworthy boat, reliable outboard motor and proper safety devices.

Lock and Dam #12 at Bellevue, is the "hot spot" for paddlefish, followed by Lock and Dam #16 at Muscatine, Lock and Dam #19 at Keokuk and Lock and Dam #17 at New Boston.

The Iowa Conservation Commission is currently studying paddlefish in the Mississippi River. Some of the study objectives are to determine the current harvest rate by sport and commercial fishermen and potential yield. Population estimates are being made and information compiled concerning growth and movement. As part of this study over 1,500 paddlefish have been tagged (see picture).

Photo by Don Helms



A fishery biologist tagging a paddlefish with dart tags. Please watch for and report all tagged fish to the Conservation Commission.

Since success of this study is largely dependent on information returned from tagged fish, anyone capturing one of these tagged paddlefish is requested to report tag numbers, date of capture and location captured to the Iowa Conservation Commission. Cooperators will be playing a vital role in contributing to the future management of this unique resource.

Whether boiled, deep-fried, or smoked, the mighty paddlefish with its white, firm, boneless meat makes excellent table fare.

If it's a trophy-sized fish you're seeking, Iowa can offer plenty of action with these ancient giants. The paddlefish may not have the fight or stamina of the Great Lakes' salmon, but the sheer tackle-busting size and strength of this fish presents a challenge few can resist. Even you will yell "Fire in the Hole" when hooking into 50 pound of lean gray dynamite. Bet you can't catch just one! □

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fish concentrate in the Mississippi River.

SWEET MARSH

Fowl, Fish & Furbearers

by Jim Zohrer

WILDLIFE MANAGEMENT BIOLOGIST

Photos by Ken Formanek

SWEET MARSH is a truly unique public hunting area located in Bremer County. It is one of the few public waterfowl marshes in northeast Iowa.

Originally called Plum Creek Marsh, this area has been developed since 1950 to serve primarily as a public waterfowl hunting area. At

the time of its development, it was the first attempt by the State of Iowa to create a large marsh area where none previously existed. Before the marsh was built, this area was composed of several small potholes and large expanses of grasslands within the Wapsipinicon River floodplain. With the con-

struction of a dike system totaling eight miles in length, a segmented marsh area was created that we now call Sweet Marsh.

As the area exists today, Sweet Marsh covers 1925 acres with approximately 1098 acres of true marsh and open water, and an additional 827 acres of timber and grassland. The marsh lies at the confluence of Plum Creek and the Wapsipinicon River. The heart of the marsh is the 200 foot dam across Plum Creek. This serves to back water into a reservoir which is used as the water supply for three other segments of the marsh. In addition, there is a series of five subimpoundments along the east side of the marsh which provide seasonally flooded areas for waterfowl hunters.

Development of the marsh and its management have continued to





evolve since the initial construction. The dike system has been improved and lengthened, boat ramps have been constructed and thousands of

trees and shrubs have been planted annually. Major changes in management over the years have included the use of water level draw downs to stimulate the marsh vegetation, and a shift in the location of the refuge segment to an area that will benefit both the waterfowl and the hunter to a greater extent.

Waterfowl management on the area revolves around regulating water levels to provide an optimum condition of available food, cover and open water. Water levels are normally lowered in late spring so that food and cover producing plants can grow on the marsh bottom. Then, early in the fall, the area is flooded to make these plants available to waterfowl. In addition, corn, buckwheat and winter wheat food patches have been planted in the refuge to attract and hold a large concentration of waterfowl. Waterfowl use will reach 10,000 ducks a day and 600 geese a day during peak migration periods.

In addition to waterfowl management, suitable sections of Sweet Marsh are being maintained to provide food and cover for upland and forest game such as pheasants, rabbits, deer and squirrel.

Furbearers such as muskrat, mink, beaver and raccoon provide another important wildlife resource at Sweet Marsh. Trapping is very popular on the marsh. On a normal year trappers will harvest as many

as 2,000 muskrats from this one area.

The entire area is open to hunting and trapping except for a 370 acre refuge which has been set up south of the dam. The remaining 1555 acres is open to hunting, trapping and all other non-conflicting uses.

Fishing is also very popular at Sweet Marsh. Because the marsh is not specifically designed as a fishing area we often have problems with low oxygen levels in the water and high rough fish populations. Even with these draw backs, there is always some hot spot on the marsh where you can pick up five pound bass or ten pound northerns. Ice fishing is also popular on the area, and many five gallon pails of bluegills and crappies have been taken from the marsh in recent years.

Sweet Marsh is a popular area for nature study enthusiasts such as bird watchers, nature photographers, hikers and canoeists. It is also used extensively as an outdoor educational area for students through the university level.

This area is financed by the sportsmen of Iowa for everyone to enjoy. If you are over our way, stop by and see Sweet Marsh. How many other areas can you think of where you can catch bass from under your duck decoys and then hunt pheasants on the way back to your car?



MY TWENTY YEAR-OLD CAR heartily complained as we bounced along the ungraded, county line road. It almost seemed as if it knew we could have taken the blacktop around and come in on good gravel. But ever since I was a boy, I liked to travel this old dirt road with its bushy fence rows tangled with blackberry vines interrupted only by sentinel walnut trees and an occasional box elder.

Little shadows danced across my face from the afternoon sun peering through the dusty, bug-spattered windshield. But my mind was, as it always is when I am on that road, thinking of the bobwhite conveys, cottontails, ghosts of foxes, and a hodgepodge of other warming memories. Suddenly I was brought back to reality by a different complaint from the old buggy. This time she was serious; cough, sputter, a shudder and she set lifeless beneath the old cottonwood snag that somehow had always been there. I got out, looked under the hood, gave a tire a swift kick and then looked up at the cottonwood to see if a descendant of my favorite old red-tailed hawk was there watching and judging my character and mechanical ability. It is a sore spot with me, my mechanical abilities that is, because those talents were all given to my brothers and I was left with only a passing knowledge of what made an engine tick.



One Piece at a Time

"Well Sam," I said, "It's not too critical." I was sure my older brother, Ben, would be plowing beans on the I60 that lay next to the T-road and was only $\frac{3}{4}$ mile down the pike. I knew I would enjoy the walk and it would give me a little more time to reminisce over the many great experiences I had had along this rather sacred stretch of wildlife haven.

I've hunted, fished and hiked every bit of this 12 square miles of prime Iowa real estate and it permits recall of some of the finest times in my life. To many people racing down the highway only three miles away, this is nothing more than a little river valley bordering by gentle hills of corn and beans without much character or excitement. But to reveal the true treasures hidden here, one must get off the hard road and look a little deeper. There are so many things here to feed the soul that it would take several lifetimes to enjoy.

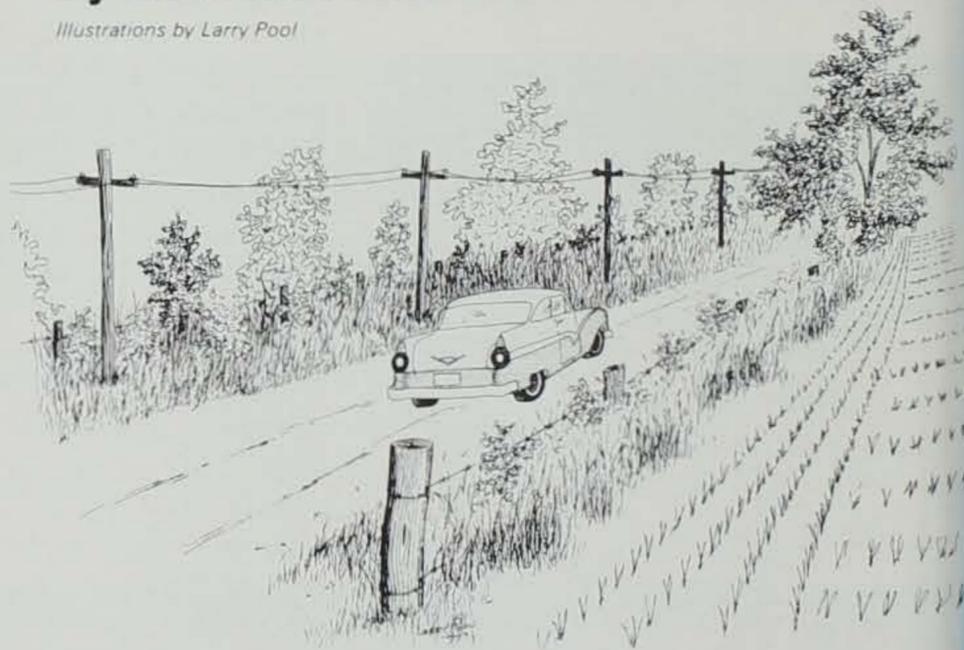
Dust puffed in little clouds each time my foot hit the road and the fragile scent of wild roses drifted to my nostrils on the light southerly breeze. I would have picked a couple just to capture that smell for awhile, but they were protected by a healthy clump of poison ivy twining around an old hedge fence post. Just a little further and I could see the tell-tail signs of a tractor at work. If my calculations were as good as they used to be, the tractor would just about be at the road at the next round by the time I got there.

Sure enough it was Ben. I could tell by those white teeth shining through the dirt blackened face. "What're you walking for? Did they confiscate that machine of yours to display at Old Settlers Day," he shouted. I explained my circumstances and I knew he could fix it or at least figure out what the problem was. Ben smiled again and said, "Jump on, I've got two more rounds and I'll be through and then we will see to it."

As we topped the hill near the end of the field, I looked down at the mallard pond and I almost fell off the tractor. "Who is responsible for that? That's not your doing is it?" I fired questions so fast at Ben, he didn't have a chance to answer. Finally, after several grimaces he said, "Well, you know John. He got tired of working around it and it will raise good corn. John feels it's too valuable to just sit there." "You realize Ben, we'll never shoot another mallard here," I poked sharply. "Don't you remember that Thanksgiving when we got into all those greenheads? How many early fall mornings have we spent in that old willow blind? It's got to mean something to you. I just don't see how you could let him drain it." Ben looked hard into my eyes and said, "Do you know how much those ducks have to be worth? We still can hunt the river and the Cut-off Slough. This one little marsh isn't going to stop all of our duck hunting for the family or the kids muskrat trapping." Ben finished by asking, "Could you justify the value of the mallard pond as it was to that of its production potential? You know, some of us are still farmers. You talk to John."

By Sam Williams

Illustrations by Larry Pool



I remember that day with all the vividness as if it were only yesterday. A family confrontation over memories, desires for my sons and nephews, and a little piece of mallard habitat.

Just one piece at a time and someday we will destroy it all. I couldn't answer Ben's questions over the value of those mallards or the experiences that we shared as brothers. That little mallard pond, 5.4 acres on the SCS aerial photos, had great value but just how much was it worth? I did not have a ready answer. In dollars and cents that could be earned by raising corn, I could see it made very expensive mallards and muskrats. But it wasn't the dollars that caused me to come out on the short end of the family argument with John. It was the fact that this little piece of marsh, lost to the plow, would not stop our duck hunting or the kids opportunity to take guns and traps afield. One piece at a time. We can't justify their existence, but what happens when 1,000 little pieces are gone and what if old Cory drains Cut-off Slough and all the other areas we hunt are drained and plowed? It's not our neighbors responsibility to save it for us. With John's attitude, one day our children won't have that opportunity and maybe brotherly ties won't be as strong, nor the reverence for the land and maybe the law.

The coil that failed in my car was rather inexpensive and it sure was a small part of what Ford Motor Company calls a car. But that day, the loss of it made me walk. Each little piece does have its value as it fits into a large scheme across our state. □

Wildlife Management Biologists

Douglas Harr
Big Sioux Wildlife Unit
SCS Office Bldg.
Rock Rapids, Iowa 51246

Jack Coffey
Rathbun Wildlife Unit
Agriculture Bldg.
Hiway 34, By Pass
Chariton, Iowa 50049

Chuck Kakac
Red Rock Wildlife Unit
Box 423
Indianola, Iowa 50125

Chuck Lebeda
Saylorville Wildlife Unit
Boone Co. ASCS
718 8th Street
Boone, Iowa 50036

Thomas Neal
Ruthven Wildlife Unit
SCS Office Bldg.
Cherokee, Iowa 51012

Art Roseland
Odessa Wildlife Unit
ASCS Office Bldg.
220 N. 2nd
Wapello, Iowa 52653

James Ripple
Upper Iowa Wildlife Unit
ASCS Office Bldg.
911 S. Mill St.
Decorah, Iowa 52101

Chuck Steffen
Wapello Wildlife Unit
ASCS Office Bldg.
1309 E. Mary
Ottumwa, Iowa 52501

Ronald Howing
Ingham-High Wildlife Unit
SCS Office
2109 Murray Road
Estherville, Iowa 51334

Donald Pfeiffer
Coralville Wildlife Unit
ASCS Office Bldg.
517 Southgate Avenue
Iowa City, Iowa 52240

Bob Sheets
Maquoketa Wildlife Unit
Farm Bureau Bldg.
Pershing Road East
Maquoketa, Iowa 52060

Neil Heiser
Missouri River Wildlife Unit
SCS Office Bldg.
Onawa, Iowa 51040

Robert Moore
Riverton Wildlife Unit
SCS Office Bldg.
Malvern, Iowa 51551

Robert Kurtt
Otter Creek Wildlife Unit
USDA Office Bldg.
203 W. High Street
Toledo, Iowa 52342

Glenn E. Jones
Black Hawk Wildlife Unit
SCS Office Bldg.
Rockwell City, Iowa 50579

Rockney Bridges
Rice Lake Wildlife Unit
SCS Office Bldg.
706 1st Ave. N
Northwood, Iowa 50459

George Cox
Bays Branch Wildlife Unit
ASCS Office Bldg.
Box 247
Guthrie Center, Iowa 50115

James Zohrer
Sweet Marsh Wildlife Unit
ASCS Office Bldg.
911 E. Bremer
Waverly, Iowa 50677

Melvin Moe
Mt. Ayr Wildlife Unit
SCS Office Bldg.
RR #3
Mt. Ayr, Iowa 50854

CLASSROOM CORNER

by Robert Rye

THE BLUFFS of the west, the rolling plains, glacial moraines, and river bottoms are examples of Iowa land formations which have had some land use decisions made about them in the past.

Have you ever stopped to think about why trees are found in some places and not others? What about locations of farms, houses, or parks and wildlife areas?

Each area is best suited for one or another possible land use. Well drained, flat, non-rocky, fertile soils are very well suited for farming. You find some of the qualifications for best farming conditions changed to only acceptable by the absence of one of those factors (it may have rocky areas which can be removed). In these cases the problems must be offset by the potential results.

A lake or a pond can be used as a study area. Why is it located where it is? Man has had little influence on natural lakes. For man-made lakes and ponds some trade-off has been made such as the cost of pond construction or loss of farm land. Recreational area or water for domestic or wild animals may be the trade-off which made the project worthwhile.

Other land use possibilities for study areas are housing, roadside care, recreational areas, scenic or historical areas, highway planning, dredging, and urban sprawl. Your Iowa Conservation Commission is involved in many of these decisions.

A project or activity which is used at the Conservation Education Center is the study of land use. In making a land use study there are certain procedures which must be followed.

First a survey must be conducted. Where is the land? What surrounds this piece of land? What has been on this land in the past and is there any indication for type of future development?

Let's assume you are looking at your school or backyard. Survey the ground to see what resources are presently available, what environmental problems are there and what modules of conservation and beautification can be constructed?

Most yards of this type have been and will be the way they are for a long time. Some adverse conditions or improvable uses should stand out and be easily observed. This brings us to the second step of a land use study.

A list of all possible uses should be written down. List all advantages and disadvantages to the land, plants and animals, including man.

Trees can be planted in a school or backyard. These in themselves can add beauty and an additional study area. Different species can be used which will allow identification from the variety of leaves, barks or even twigs close at hand. They also may become the homes of animals which lead to further investigation.

Another possibility is that your area may best be used as it presently exists. This could allow a study of plant and animal varieties that will inhabit such an area. A study of the effect of animal travel lanes through the area could also be done.

Now start weighing all the information. What will improve the area the most?

Phase 3: once you have a final plan, you are faced with the challenge of completing it. Decide what is needed and set priorities. The actual work is the hard part. When finished, the knowledge that you have improved your area and the beauty gained makes it worthwhile.

The Official State Ground Hog



By R. Runge

JUST A FEW DAYS AGO, February 2 to be exact, all of Iowa waited breathlessly for the absolutely infallible weather prediction of the ground hog. As all of us know, if February 2 is sunny and the ground hog sees his shadow, back to the burrow he goes for another six weeks of winter. But if February 2 is cloudy and the chuck does not see his shadow, he becomes active and an early spring is assured.

The myth of Ground Hog Day began in early Christian times and is associated with the day of Candlemas, the blessing of the candles. This festival has been celebrated in Europe since around the eleventh century. In time, the weather of Candlemas Day came to have particular significance in folklore. The belief was that a sunny Candlemas presages a cold spring. There is a Scottish saying: "If Candlemas is fair and clear, there'll be two winters in the year." Soon, certain animals came to be connected with the whole process. The

common hedgehog of Europe along with the badger and bear filled the role of weather prophets.

When the myth was transplanted to America the woodchuck assumed the weatherman role in place of the hedgehog. The bear and badger, for reasons not exactly clear, dropped out of the picture.

Widespread belief still has it that woodchucks or ground hogs sleep soundly and without awakening the entire winter or at least until Ground Hog Day. This is not the case for they are sensitive to disturbances such as vibrations, noise or an intrusion into their dens. During warm periods they sometimes even rouse and eat stored food.

This year, the author and several close friends were on the scene as Iowa's official ground hog popped out for his February 2 survey. After a quick look around, down he went, scared silly by his shadow. Sorry folks! Incidentally, the official state ground hog lives on a neat little hill near Sunshine, Iowa.

FROM THE

Warden's diary

By Rex Emerson

LAW ENFORCEMENT SUPERVISOR

ONE OF THE THINGS I LIKE about this job is that anything can happen, and it usually does. No two days are the same. Today I picked up one of the other officers and we went over to the next county to testify in a court case. We had charged this man with possession of a hen pheasant during the pheasant season. He had pled not guilty and his case came up today. He had even requested a jury trial. We testified that this was the person who had the hen pheasant in his possession. We had the frozen hen pheasant tagged and in the courtroom for evidence. We had a good case and the thorough testimony took quite a lot of the court's time. You never know what the defense will bring up, so every possibility has to be covered in our testimony and evidence. I couldn't figure out what possible defense he could have.

Finally the state rested its case and it was the defendant's turn. The defendant took the witness stand in his own behalf. He told about how many years he had been hunting and how great a sportsman he was. He said that he had shot the hen by mistake and, being the sportsman that he was, he didn't want it to go to waste, so he was taking it home to eat. Then his friend took the witness stand and testified to about the same thing. He had been along that day and saw his friend shoot the hen pheasant, but he was such a good sportsman he didn't want it to go to waste.

Personally, I don't see how anyone could mistake a hen pheasant for a rooster. Oh, I've heard about the sun shining in the hunter's eyes and other similar excuses. If for some reason you can't see it good enough for proper identification, then *don't*

shoot! Where would we be if we let everyone have one or more "mistake" birds. Those hens are the ones that lay the eggs next year.

You know, it took that jury an hour to come back with a guilty verdict. You can never tell what a jury will do. He had been charged with possession of the hen, which is a clear violation of the law. We testified that he had it, and the defendant testified that he had it in his possession. Two ladies who were on the jury were overheard talking about the case after it was over. One said, "He was such a nice man. I just could hardly believe he could be guilty of anything."

The other one said, "Oh, I know what you mean."

That is a problem to contend with when there is a jury involved. But, I don't know of a better system.

On the way back home we saw four rabbit hunters in the brushy ditch along the highway. I stopped the car so the other officer could check their hunting licenses. This brushy area was about a city block wide and on the other side a rock road ran parallel with the paving that we were on. As soon as the officer stepped out of the car, one of the hunters started to run toward the other road. I did a "bootleg" turn and drove back a quarter mile so I could get over onto the rock road. When I got even with the other hunters again, the one who ran was not in sight, so I stopped for a moment.

Just then a big overfed labrador dog came along with his nose to the ground and started down the road. I just drove along behind him to see where he might go. A short distance down the road the dog went into the timber that bordered the road. There was a driveway there so I continued to follow in the car. I stopped and got out when the dog went over a log and started to wag his tail. Sure enough, behind the log was a very out-of-breath hunter. He was from out of state and didn't have a hunting license. The other officer came huffing and puffing up the trail. It seemed as if I was the only one who wasn't worn out from this big chase. Before we all went to town I said, "That dog is sure a good tracker. Is he yours?"

The hunter said the dog wasn't his and he had never seen the dumb dog before last night. Then as he got into the car he said, "Wish I hadn't patted him on the head last night!"

Christie
Hein



Christie Hein, 62, Glenwood, a Fish and Wildlife Conservation Officer for the Iowa Conservation Commission, died January 4 in Jenney Edmundsen Hospital, Council Bluffs, following a prolonged illness.

Hein served the state of Iowa for 27 years as a conservation law enforcement officer. He served in Lucas, Decatur and Wayne Counties and since 1955 he was the officer for Mills and Montgomery Counties.

Hein is survived by his wife, Ruth, two daughters and three sons.

Duck and Trout Stamp Contests Underway

DESIGNS for the 1978 Iowa duck and trout stamps are currently being accepted by the Iowa Conservation Commission.

These two contests are held each year with both winner's designs appearing on the following year's stamps. Artists have a wide latitude in choice of colors or medium. Entries are received in pen and ink, watercolor, etching, pencil as well as oils. The design must be the artist's own creation and fullest attention should be given to anatomical accuracy. Vertical as well as horizontal formats will be accepted.

Interested artists must enter their creations by April 15, 1977, and judging will take place within a month of that date. For complete information write to: "Stamp Contest", Information and Education Section, Iowa Conservation Commission, 300 4th Street, Des Moines, Iowa 50319.



Winter Scene, Elk Rock State Park by Roger Sparks