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conservationist





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Volume 35, Number 12

2

SNOWMOBILE
TRAILERING
TIPS

3

THE GREAT
CONTAINER
CONTROVERSY

4

RED ROCK
WILDLIFE UNIT

6

CLEAR LAKE
IOWA'S COLD WEATHER
HOT SPOT

8

GUTTENBERG FISHERY
MANAGEMENT
STATION

10

HEDGEROWS
FOR QUAIL

11

CARING FOR DEER
MEAT

14

WARDEN'S DIARY

15

CLASSROOM CORNER

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Photos by Jerry Leonard

Snowmobile Trailer Tips

By James E. Horan

BOATING-SNOWMOBILE SAFETY COORDINATOR



Most Iowans travel at least a short distance to do their snowmobiling. Many venture out-of-state, particularly when the winter season yields little snow, as was the case in '75-'76. Wherever you are headed, trailering a snowmobile is a breeze as long as you remember a few, simple rules.

First, all trailers pulled on a public highway must meet the Department of Transportation's licensing and safety requirements. This includes proper lighting, coupling, safety chain, and the annual trailer license. Although not required, a heavy duty directional flasher is better than standard equipment for towing any trailer.

Snowmobile trailers must be tilted in one way or another for loading and unloading. Unloading is easy enough, but driving the machine onto the trailer is tricky and dangerous. To prevent inadvertently running the snowmobile over the front or side of the trailer (don't laugh, it happens), we recommend the following loading procedures: (1) use a winch; (2) get help to drag or push the machine into place; or (3) being extremely careful, walk the snowmobile, with the aid of its own power, onto the trailer.

The majority of the weight (about 60%) of the machine should sit slightly forward of the axle. Once in position, fasten the machine securely to the trailer. Use metal bars or heavy chain tie downs—don't use rope, plastic or rubber which may stretch or tear. However the bed tilts, be sure it's locked back into place before leaving. It's a good idea to cover your snowmobile when traveling. A few minutes covering and uncovering save hours of cleaning and polishing.

As with all trailers, check the lights before leaving, make sure your wheel bearings are properly packed and, because your trailer tires may be difficult to replace, buy a spare and carry it. When on the road, be conscious of that trailer behind you, but drive normal highway speeds.

A snowmobile, properly loaded on a safe and secure trailer, makes for a worry-free winter adventure.

The Great Container Controversy

By Bill Schneider

Photo by Jerry Leonard

A new concept that conserves tremendous amounts of energy and natural resources, reduces litter, protects thousands of acres of wildlife habitat, creates jobs, helps keep land open to hunting and fishing, saves consumers and industries money and has little, if any, long-term impact on the economy *should* enjoy an easy ride to reality. But when the concept requires a fundamental change in American life styles and a short-term restructuring of industrial logic, the ride is definitely *not* easy.

So it is with vital legislation banning nonreturnable/nonrefillable beverage containers. Everything about the famed "bottle bill" seems basically appealing. But several industries have put forth supreme efforts to block it.

Faced with resource shortages, an energy crisis, a proliferating litter problem, increased posting of private land and disappearing wildlife habitat, it seems totally appropriate to start *reusing* beverage containers. Nationwide it would mean nine million tons of trash (mostly basic resources) the country could *reuse* each year. This is unquestionably better than digging up thousands of acres to extract these resources year after year. And, according to former Oregon Gov. Tom McCall, a national bottle bill would annually save the equivalent of energy used by nine million people in New England.

It would also help clean up America's roadsides, trails, beaches, parks, streams and lakes which too frequently are littered with beer cans or broken bottles. Indeed, it would

be nearly impossible to find anyone who isn't against this "trashing up" of America.

However, breweries, glass and can manufacturers, aluminum processors, supermarket chains and soft drink companies prefer to continue producing and distributing *60 billion to 80 billion* throwaway beverage containers *every year*. That's about *one throwaway per day, year round, for every U.S. Citizen*—many of which end up in landfills, along highways and wilderness trails, in lakes and streams and on beaches or other recreational areas.

The container controversy first reared its head when the Oregon Legislature approved the nation's first bottle bill. Although there were environmental overtones, the basic force behind the bill was litter reduction.

McCall flatly states that lobbyists "... worked against that bill more ferociously than any lobby we have ever had in this state."

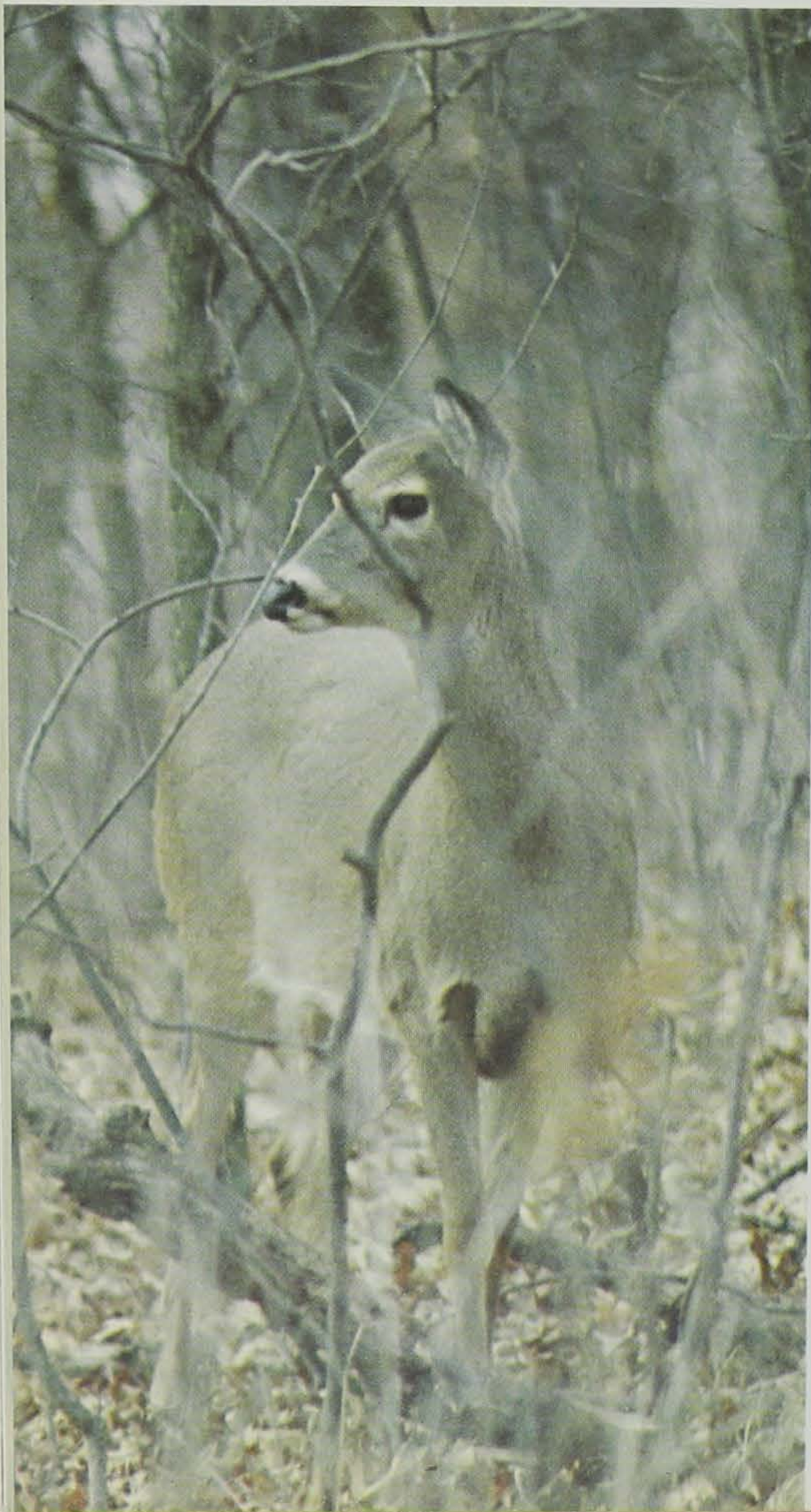
Basically, Oregon's bottle bill contains these provisions:

- Carbonated beverages (beer and pop) can't be sold in nonreturnable cans or bottles.
- The container must be clearly marked with the deposit value (i.e., five cents).
- A basic deposit value of five cents per container was imposed.
- A two-cent deposit was allowed on some "certified" bottles that conformed to a standard size and shape. These can be collected and reused by several companies, thus simplifying the entire storage and handling process.

(Continued on Page 12)



Red Rock Wildlife Unit



By Chuck Kakac

WILDLIFE MANAGEMENT BIOLOGIST

The Red Rock Wildlife Unit includes Polk, Warren, Jasper and Marion counties. Rolling tree and crop covered uplands border the Des Moines River flood plain that meanders through the unit. Near highway 14 and the "mile long bridge" one can observe the red sandstone bluffs that gave the unit its name. The Des Moines River empties into Lake Red Rock which at conservation pool is 9,000 surface acres of water. This is the 2nd largest body of water in the state. Within this unit there are four game management areas - Red Rock Area, Banner Area, Hooper Area and the Pella Area. These areas comprise 26,345 acres of public land. The Red Rock Area is the largest contiguous management area in the state.

The topography of the land in the south half of the unit is steep to rolling. Corn fields broken up by brushy draws and small tracts of timber are common. The land in the north half of the unit can be characterized as gently rolling. The fields are large and trees and brushy draws are not as common.

The southern half of the Red Rock Unit has suitable habitat for good quail, rabbit, deer, raccoon and coyote populations. Small crop fields, brushy draws, timbered creek bottoms and suitable nesting cover, make this part of the unit an excellent area for most upland game species. Quail and rabbit are the species most often hunted. Deer and coyote hunting are also very popular. The northern half of the unit is better suited to pheasant hunting. Corn fields bordered by brushy draws or weedy fence rows are the places to find pheasants.

Waterfowl hunting on private land is mainly restricted to farm ponds or rivers. These areas receive very little hunting pressure and can offer excellent hunting for wood ducks and mallards. Corn field mallard shooting is also popular late in the waterfowl season. Large concentrations of ducks build up on the Red Rock refuge. They feed in corn fields in the morning and evening. Often they will use the same field several days in a row. The "educated" hunter can find these fields and have some quality duck hunting.

Squirrel hunting is very popular in the Red Rock Unit. Small tracts of hardwood timber usually have an abundance of squirrels. They can offer the hunter many hours of outdoor recreation.

Jerry Leonard



Ken Formanek



Bob Runge

The management of the 25,542 acre Red Rock Area is directed primarily toward ducks and geese. Large fields of corn, beans, and wheat are planted for food for waterfowl. There is also a refuge present on the area that serves as a resting place for waterfowl. This combination of crop fields and refuge can attract large numbers of ducks and geese to the Red Rock Unit. While the area is primarily managed for waterfowl hunting, there are other forms of hunting available. Several thousand acres of upland are managed for quail, pheasant, deer, squirrel and other upland and forest game species. Deer hunting on the area is very popular. During the shotgun season the hunting pressure is heavy. Bow hunters are also increasing in numbers.

The 276 acre Pella Area is an abandoned strip mine. A good example of how these mines can be recovered is demonstrated here. Quail, squirrel and deer hunting are popular on this area. There are several small ponds present and some waterfowl hunting is available.

The 207 acre Banner Area is another example of strip mine reclamation. Squirrel and rabbit hunting are popular on this area. Also available here is an informal pistol range that has provided

thousands of hours of recreation for the shooter. Several ponds offer limited waterfowl hunting.

The 276 acre Hooper area is managed for quail, pheasant and rabbits. Many small fields and brushy draws provide adequate cover for most upland game species. There is some mature timber on the area that provides squirrel and deer hunting. There is a small lake on the area that provides some waterfowl hunting.

In addition to providing the above lands, the Iowa Conservation Commission also employs a Wildlife Management Biologist to manage the public lands and to provide technical assistance to the public located in the management unit. The duties of the biologist include developing wildlife plans for private land owners, speaking to civic and private organizations, providing technical assistance to farm pond owners, providing technical information on all phases of wildlife management and generally encouraging good conservation practices.

The Wildlife Biologist may be contacted at Box 423, Indianola, Iowa 50125, 515-961-7406. Hunting and fishing licenses as well as information about each area are available at this office. □

Ken Formanek



Iowa's Cold Weather Hot Spot...

CLEAR LAKE

by Steve Schutte
FISHERIES MANAGEMENT BIOLOGIST

FISHING IN CLEAR LAKE has progressed a long way from the late sixties when the majority of the fish taken by anglers was stunted yellow bass. Today, Clear Lake embraces excellent populations of bullheads, white bass, yellow bass, crappies, bluegills and muskies. In addition, the lake rates near the top as one of Iowa's best walleye and yellow perch waters. And now is the time to be fishing for those lunker "bug-eyes" and yellow perch!

Clear Lake's ice fishing pressure and angler catch success have increased rapidly over the last four years. Ice fishing houses that once sparsely dotted the 3,600 acres of ice are now present in numbers large enough to appear as small "shanty-towns" across the lake. Fishermen sitting in small, portable windbreaks and brave souls perched atop metal pails, unprotected from the elements, are common sights on the lake any time of the day. Snowmobiles and automobiles are becoming very popular methods of travel to and from fishing sites.



Photo by Ken Forrianeck

How To Catch 'Em

Each angler has his own "favorite" or "special" baits for each fishing occasion. He also has his own technique with which he fishes each bait. These "pet" baits and techniques have undoubtedly produced results for the angler and he should continue to use them. It's not the author's intention to tell any angler how to fish or what bait to use, but he can attest to the fact that the following tips have put many very palatable fillets in the deep freeze!

Winter baits that have fooled many yellow perch include small kastmaster, Swedish pimples, tear drops, mini-jigs with plastic skirts and small lead heads. No matter which bait is chosen, the scrapping yellow perch will find it much more appetizing if the hook is garnished with wax worms, acorn worms, "mouses", cut bait, goldenrod grubs or a perch eyeball.

All of the petite perch baits should be fished with light monofilament line no stronger than 5 pound test (preferably 2-4 pound test), and no leaders should be used. The bait should be fished from five to eight inches above the bottom. A *small* ice fishing cork or plastic bobber may be used, or the line can be fished "tight." The Clear Lake perch find a gentle jiggling action of the bait followed by a brief, motionless "rest" period irresistible. Bites will come as short, rapid jerks at which time the hook should be set quickly. It doesn't take long for the crafty, yellow and black barred critters to clean the meaty morsels from your hook! Chances are good that once you catch that first perch, more action will be close at hand as yellow perch are usually schooled during the cold winter months.

The author's favorite perch "rigging" consists of a one-eighth ounce silver and blue Kastmaster suspended by four pound monofilament line. The factory attached treble hook is removed and replaced with a number six single hook. A perch eyeball dangling from the hook adds the finishing touches. Many limits of Clear Lake perch have fallen prey to this outfit!



Photo by Sonny Satre

Perch fishing in Clear Lake can offer many surprises as crappies, yellow bass, silver bass and bluegills often find the small baits extremely delicious. And these fish are just as desirable in the frying pan!

Outsmarting the big Clear Lake "bronze backs" requires much patience and cunning from the angler. The lunker walleyes find larger baits very tantalizing. Popular jigging lures for the Clear Lake "bug-eyes" include one-half ounce Kastmasters and Swedish pimples, one-quarter ounce or larger lead heads and three-inch jigging rapalas, among others. The hooks can be fished plain or dressed with a walleye eyeball or cut bait.

The line should be from 8 to 12 pound test monofilament. Leaders are not necessary, however, some anglers feel a little more confident using them. The ice fishing pole used for walleye should be equipped with a reel as "hand-over-handing" the strong fighting walleyes, perch style, is asking for trouble.

As in ice angling for yellow perch, the jigging baits should remain within a foot of the bottom and they should be fished "tight-line" style. The bait can be jigged with somewhat more vigor than perch baits. When a walleye strikes, the angler definitely knows it! The one or two hard jerks should be followed by a hard setting of the hook. That tooth-filled mouth is tough! Care should be taken so as not to winch a big one up too fast as the walleyes are extremely strong. It's better to tire them out awhile than to risk a snapped line. When a big "bug-eye" is brought head-first into the hole, always reach down and take a hold of the fish—never try to lift the fish out with the line. Many "trophy" Walleye still remain in Clear Lake because of that little mistake!

Another popular method of capturing the big walleyes from Clear Lake involves the use of tip-ups. These are small, collapsible riggings that fit over the ice holes. They require no jigging and for that reason are usually baited with large, live chubs. Wise anglers use a fairly heavy leader on the end of their 8-10 pound test line as line shredding northern pike find this type of meal tasty too. The "chub" is usually hooked through the mouth with a number four hook attached to the leader. This bait is then lowered through the hole and allowed to go to the bottom. To prevent the "chub" from pulling the line off the reel of the tip-up, the reel is locked into position using a small spring clip. The big walleye chomping on the "chub" and running with it trips the spring clip and a little red flag pops up alerting the angler that he'd better get over there! The walleye is usually allowed to run with the "chub" until the angler is convinced that he has the bait swallowed. Then the hook is set hard and the fighting "bronze-back" is slowly reeled in.

Where And When To Catch 'Em

Yellow perch and other panfish are quite easily taken through the ice at many locations on Clear Lake. Popular winter perch hotspots include the "Little Lake" area west of McIntosh State Park, the north shore between Venetian Village and McIntosh Park, and the east shoreline near the lake's outlet. At times the schools of perch can be located at almost any area of the lake. A good way to pinpoint the immediately active hotspots is to note the area of heavily concentrated ice fishing houses, automobiles, and/or "bucket-sitters". Ice fishermen will group together when the fish are hitting in a given area and will spread out to scout new territory as fishing slows.

From the middle of the morning until mid-afternoon the perch usually take a siesta. The early hours of morning and late hours of afternoon provide the best winter perch angling. However, the unpredictable cousins of the walleye have been known to surprise anglers at all hours of the day. Almost without exception, the perch will cease their quest for food as the setting sun disappears below the horizon.

The walleye, being primarily a nocturnal feeder, begins the search for food as nightfall approaches. Deep water off the north side of the Island and Dodges Point are good producers of lunker walleyes during the dark hours prior to midnight and the pre-dawn hours. The submerged rock reefs along the north and east shores also harbor their share of wall-hanger size "bug-eyes".

Walleye fishermen usually headquarter their angling activities in an ice fishing shanty, or, if the ice is safe enough, in their automobiles as night fishing gets a mite nippy on the 'ol body. The time between strikes can be quite lengthy, but when the action comes, the angler is amply compensated for his patience!



Photo by the Author.

Have Fun But Be Careful - Simple Precautions

The winter of 1975-76 saw a documented twenty automobiles and thirty-one snowmobiles fall through the ice at Clear Lake. Luckily no one was killed. The moral of this short story is — be sure of the ice conditions before you venture out with any heavy machines, or even your body!

Wear plenty of heavy clothing—even if it seems mild outside. The wind can really whip up a bone-chilling gail across the ice on even the warmest winter days. If you're too warm, you can always remove the outer layers. But if you get cold, it's hard to put on additional clothing that is neatly tucked away in a closet back home.

Always ice fish with a buddy. If one of you gets in trouble or has a problem, the other is there to assist. Never forget this when searching for big walleyes at night. Many ice anglers have had car batteries discharge while fishing the "late shift". The added security and help of a partner is deeply appreciated during the long, cold, dark, walk for assistance. Don't forget to have at least two good flashlights along too.

Oh, and if the snow cover on the ice is light, don't forget ice creepers. They prevent broken bones!

Come To Clear Lake and Ice Fish!

Ice fishing last winter produced countless limits of large yellow perch and many pails of yellow bass, silver bass, crappies and bluegills. Hundreds of walleyes were taken, with many of them weighing from 4 to 8 pounds—even up to 11 pounds! So head up to Clear Lake - Iowa's Cold Weather Hotspot, for some relaxing, freezer-filling, recreation.

For "up-to-the-minute" reports on ice angling hotspots and baits, contact the State Fish Hatchery, 1204 North Shore Drive, Clear Lake, Iowa 50428 (Phone: 515-357-3517). □



The U. S. Department of the Interior lowered its flag in 1974 when the Iowa Conservation Commission assumed management of the old fish hatchery and aquarium located along the banks of the mighty Mississippi River at Guttenberg, Iowa. The state

resumed operations and established the Upper Mississippi River Fisheries Management Station in 1974. A lot has happened since then.

The Guttenberg Fishery Management Station

By Gary L. Ackerman
FISHERIES BIOLOGIST



Ken Formanek

Public Aquarium

One stop you will want to make while touring northeast Iowa is the free public aquarium managed by the Conservation Commission. On exhibit you will see many of the fish, reptiles, and freshwater mussels common to the Mississippi River. The facility is open daily from May to October with daily hours from 8:00 a.m. to 8:00 p.m. Group tours are available by writing for advance reservations.

Northern Pike Culture

Brood northern pike are netted in April from backwater ponds and sloughs of the Mississippi River for propagation of this fish. At capacity about 18 million northern pike eggs fill the incubators to produce from about five million fry annually at an expected survival of thirty percent. Most fry are distributed through Iowa to stock lakes and rivers; some are reared to larger, fingerling sizes and others are exchanged for striped bass eggs with the State of Virginia.

Jerry Leonard



The Sny Magill Fish and Wildlife Area

Through the provisions of the Open Space Program, the Conservation Commission acquired over 1,500 acres of land encompassing two quality trout streams. It is located in Clayton County near McGregor within a deep river valley that contains Sny Magill and North Cedar trout streams. The area provides sportsmen with excellent trout fishing; deer, squirrel and raccoon hunting; and access to the Mississippi River.

Our principal objective is to manage the natural resources for sportsmen with emphasis on the management of the two unlike trout fisheries. North Cedar trout fishery is being managed as a "Walk-In" fishery. Access is allowed only by foot. A long trail connects two parking lots to provide the user with a three-mile long hunting, fishing and hiking trip through the out of doors. On the other hand, Sny Magill Creek is being managed as an intense catchable stream. Trout plants are made weekly or more often to provide fishermen with every opportunity to take a limit from the 12,000 rainbow and brown trout stocked annually. Parking lots are conveniently located along the streams and are interconnected with foot trails and corridors of natural vegetation.

The Mississippi River

The management of the vast and varied natural resources of the Upper Mississippi River is our principal goal. The river with its bountiful and seemingly inexhaustible resources has had relatively little attention in the past. But now, people have become aware of the river's value. The total resource constitutes Iowa's finest natural resource in terms of size and quality.

What management tools can be applied to have effects upon the resource? And what is the Conservation Commission doing about it? Here are some of the projects we are actively involved in:

The Commercial Fishery

Commercial fishing statistics are compiled annually from reports submitted by fishermen to our staff at Lansing, Iowa. Our purpose is to record long-range trends and changes in the catch rates to better manage the commercial fish resources of the river.

In 1974 the catch was the second highest on record. The estimated value of the commercial fishery was \$509,174.00—the highest on record—and this is only for the Iowa boundary waters with much more fish being taken by Wisconsin and Illinois fishermen.

Paddlefish Management

Providing fishermen the opportunity to use a non-utilized fishery resource is a prime example of how a simple change in regulations can give sportsmen a new fishery. Formerly, paddlefish were harvested only by commercial fishermen. Then, the law was changed to allow sport-fishermen to use snagging methods to catch them. Now snag fisheries have developed below most of the closing dams found along the river. And this year, the law was expanded to allow fishermen to take and to keep rough fish obtained by snagging.

Northern Pike Management

Northern Pike are currently being investigated to give sportsmen more opportunity to utilize another under-harvested resource. For years "pickerel" were heavily exploited by commercial fishermen. Eventually, public pressures resulted in legislation to place them on the game fish list and commercial exploitation of them was stopped. Since then their populations have steadily increased, yet harvest of them remains relative low by sportsmen.

How can sportsmen catch more northern pike? Currently, a study is in progress to evaluate the use of tip-ups for increasing catch rates. Winter ice fishermen typically seek panfish by using light jigging rods equipped with tiny hooks, light weight line and small baits. Even when a northern pike is hooked, it most often breaks the line. Iowa law now provides for the use of two poles.



Ken Formanek

Providing the use of tip-ups is feasible and does increase fishing opportunity, legislation will be drafted to change our laws so sportsmen can use the two poles now allowed and have the opportunity to use several additional tip-ups for taking northern pike. Perhaps fishermen will soon have another means to take northern pike from the bountiful river.

Freshwater Mussel Study

New interest in the clam resources of the Mississippi River have been kindled by the development of a market for shells in Japan. The Japanese use the mother-of-pearl for making nuclei for the manufacture of artificial pearls.

Clam populations of the river were sampled with a crow-foot clam bar in an interstate study headed by the Upper Mississippi River Conservation Committee. Specimens were collected from most pools along the river and were sent to a specialist at Ohio State for identification and further analysis of distribution of species, population changes and other factors which have changed since the impoundment of the river by closing dams in the 1930's.

Additionally, Iowa has mapped known clam beds on navigation charts and inaugurated a new reporting system to record the harvest of clams by clammers. A recap of the fishery in 1975 indicates 72.5 tons of clams valued at \$6,482.00 were taken along Iowa principally from pools 10, 16, 17, and 19. The principal kinds taken were three-ridge, washboards and maple-leaf.

Management of the Non-Renewable Resources

Preserving and protecting the Mississippi River habitat from mis-use by man are vastly important functions of our Fisheries Management Program. Installation of riverine maintenance devices, closing dams, channelization, dredging and spoil deposition practices that are normally employed by the Corps of Engineers to maintain the navigation channel of the Mississippi River have resulted in extensive loss of irreplaceable natural resources of the river. The slack water areas in the pools of the impoundments above closing dams are slowly filling with sediments, shallowing and changing. Backwater lakes and sloughs are filling with sediments, eutrophication and succeeding. Access sloughs leading to productive backwaters have been blocked by sand. Prime fishing spots like wing dams have been buried by sand forever. Productive marshes for fish production, waterfowl and furbearers have been filled with sand. And under the water surface, many thousands of acres of productive mixtures of silts and gravels have been replaced with relative sterile sands.

(Continued on Page 15)



HEDGEROWS for QUAIL

By Dale D. Humburg and Ronnie R. George,
Wildlife Research Biologists

Photos by the Authors



Hedgerows provide wildlife habitat throughout the year (top); Hedge apples shredded by squirrels (left); Below: Bobwhite in Osage-orange hedgerow.



On a bright November day, two quail hunters were working their way along an osage-orange hedgerow in southern Iowa. Peg, the faithful black and white setter, was padding along well up ahead when suddenly, in mid-stride, she locked down on one of her classic "No fooling, Boss" points. The yet unseen object of her attention was a covey of bobwhites tucked away in the grass under an overhanging branch. As her master moved into shooting position, he spoke quietly to the dog and cautioned his hunting companion on the opposite side of the hedge to get ready. As the covey rose and penetrated the hedge with a whirl of wings and a blur of motion, both hunters tried desperately for a clear shot but had to settle for a single bird, a shower of small twigs, and a final glimpse of the departing covey.

Yes, quail hunting in hedgerows can be exciting, rewarding, and thoroughly enjoyable. But, hedgerows are also important in other ways. Osage-orange or hedge apple, a medium-sized tree native to northern Texas, southeast Oklahoma, and southwest Arkansas, was widely planted throughout the midwest as living fences before the advent of barbed wire. In addition to controlling livestock, these hedgerows provide wind erosion protection for crop fields, and the rugged trunks provide remarkably durable wood for fence posts. The dense tangle of thorny branches and the large pulpy fruit (hedge balls) provide cover and food throughout the year for a variety of wildlife including quail, pheasants, cotton tails, and songbirds.

In early spring, a pair of quail may select an osage-orange hedgerow as their center of activity. At that time of year, much of the land is being plowed and planted, and vital escape cover is in short supply. In addition, grassy or weedy ground cover often associated with hedgerows gives the pair a safe nesting site that won't be destroyed by hay mowing activities later in the season.

While wood cover is not as important in the summer when the Iowa landscape is covered with growing crops, adult quail and their broods continue to use hedgerows as loafing sites during the heat of summer afternoons. Birds move easily from loafing sites in the hedges to feeding areas in nearby crop fields where there is a good supply of insects and weed seeds for the young birds.

Harvest of crops during the fall again puts woody cover at a premium in much of Iowa's quail range, and the birds must spend more time in the vicinity of permanent cover. At this time of year, quail often use hedges as travel lanes in order to move safely from one part of their home range to another. When grain crops are being harvested, food is seldom in short supply, but quail and other birds will occasionally utilize the scattered seeds of hedge apples in the fall and winter after squirrels have shredded the fruit searching for nutritious morsels.

As winter approaches, quail begin to rely more and more on dense woody cover. In northern portions of the bobwhite's range, adequate winter cover is often the difference between survival and death. Research in Wisconsin documented the striking relationship that exists between number of wood hedgerows and quail abundance. This study found that quail populations averaging twenty-six birds per mile of hedge were eliminated from the study area when wood cover was reduced to less than a mile of hedge per section. Lack of good winter cover is probably the primary limiting factor for quail abundance and distribution in Iowa as well. A severe winter similar to that of 1962-63 could drastically reduce Iowa's quail population in conjunction with the continued loss of woody cover. A recent study revealed that twenty-five percent of the choice woody upland game cover in one southern Iowa county was "renovated" (bulldozed) during a twelve year period. This was done in order to facilitate the construction of new fences, place more land in crop or pasture production, or "improve" appearance. While landowners may feel economically justified in this action, they should keep in mind the increased potential for wind erosion in crop land and the almost certain loss of other wealth measured, not in dollars, but in autumn days and spring whistles.

Caring for Deer Meat

By Vern Craig

MONTANA DEPARTMENT OF FISH AND GAME

Conservation Commission Photos

Should the hide be left on a deer carcass while it's aging? There are about as many arguments for as against this and other questions concerning the care of game meat. A number of studies have been done that should help lay such arguments at rest. One such study was conducted on deer at the University of Wyoming Meat Laboratory. Their findings answer some of the more common questions about the care of deer meat.

-1. Should a carcass be aged for tenderness?

Researchers found that, "Deer loin roasts cut from the carcass one day after the kill were acceptable tenderness in 9 of 12 deer" tested. They concluded that most deer shot in warm weather and chilled outdoors will be tender without aging. Meat aged for two weeks at 38°F was considered overly tender. The proper aging time for deer was considered to be about seven days at 38°F. It was considered also that longer aging periods cause a poor meat texture, more weight lost due to shrinkage and greater bacterial growth. It was also stated that, "A shorter aging period will increase the time fat can remain in frozen storage without becoming rancid."

-2. Should the hide be left on a carcass while it is aging?

As soon as carcasses were delivered to the University Meat Laboratory (averaging about five hours after kill), they were split. One side was skinned and the other not. They were then placed in a cooler at 38°F and aged for two weeks, except for samples removed for tenderness tests. Researchers found no flavor differences between roasts from the skinned and unskinned sides.

-3. Should metatarsal glands on the lower rear legs of deer be removed?

The Wyoming researchers found that removal of the glands at the time the carcasses reached the laboratory had no effect on meat flavor. A report states, "To confirm this finding, metatarsal glands were saved from the deer and placed on top of beef roasts during cooking. Although a distinct odor was present during cooking, no differences between flavor of beef roasts cooked with metatarsal glands and control beef roasts cooked in separate ovens were noted. It is possible that the volatile substances which could have contributed to flavor escaped during dry heat cooking."

Here is how they recommend deer carcasses be handled, from kill to freezer:

1. Bleed by cutting the throat or sticking. Caution: Do not cut the throat when the head is to be mounted.

2. Eviscerate as soon as the deer is dead.

3. Hang (head up or head down) to drain and wash inside with clean water. Put the carcass on logs or rocks if it cannot be hung.

4. Transport to camp and skin if the temperature is expected to be above freezing the first night after the kill. Keep the carcass in the shade. In warm weather it is strongly recommended that the carcass be taken to a cooler the day of the kill.

5. Use cheesecloth or light cotton bags to keep the carcass clean and protect the meat from insects.

6. Make sure the internal temperature of the lean is cooled to 40°F or below within 25 hours. This will often require cooler facilities.

7. Trim fat and inedible areas from the carcass when it is cut.

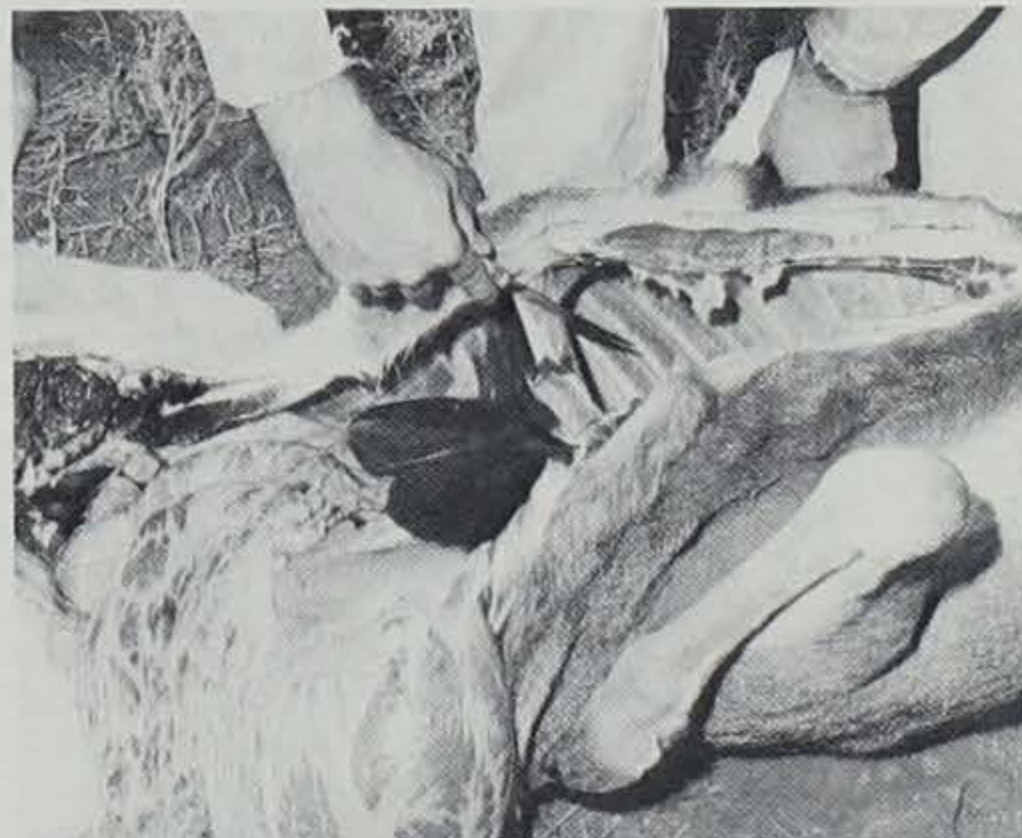
8. Cut the carcass within seven days after the kill.

9. Cure the meat or make a cooked sausage which can be eaten cold (salami, bologna, etc.) if you object to venison flavor.

10. Mix 15 percent pork or beef fat with the lean in fresh ground venison or 35 percent pork fat in fresh venison sausage.

11. Wrap all cuts (fresh or cured) in good quality freezer paper and store at 9°F or below.

12. Limit fresh venison to eight months frozen storage and seasoned or cured venison to four months frozen storage.



CONTAINER CONTROVERSY

(Continued from Page 3)

- Removable, metal ring, "pull-tabs" on cans were banned.
- All retail dealers must refund deposits (marked on the containers) to anyone presenting empty beverage containers (bottles and cans) of the kind, size and brand they sell and for "certified" bottles even if they don't sell that brand.
- All distributors must collect returnable bottles and cans from retail dealers and pay them the amount marked on the container.

"... It (the bottle bill) will prevail eventually because it's a great energy and material saver," McCall explains. "It saves consumers money. It earns the brewers and bottlers a little more. It cleans up litter... It cuts down on litter pick up costs. And on top of all that, it creates jobs."

But the opposition doesn't quite see it that way. Critics claim it will increase unemployment, rob consumers of their freedom of choice, become an "economic disaster" and have, in general, a catastrophic impact on an industry too deeply committed to the throwaway system.

Since Oregon approved this new concept in 1971, hundreds of similar bills have been introduced in almost every state and many localities. However, only three states—Oregon, Vermont and South Dakota—and a few communities have bottle bills. All other such bills were successfully beaten back by industry lobbyists. Also many of those that passed were tied up in the courts.

The Adolph Coors Co. of Golden, Colo. has been a major defector among industry ranks. Coors voluntarily started its own deposit and recycling system which has been quite successful. Apparently, other breweries won't follow this lead as William Coors estimates \$20 million will be spent this year to defeat container legislation. Obviously, the opposition is digging in its heels for a bitter battle to the end.

Briefly, the debate narrows to these basic points:

Energy—Opponents downplay energy savings, suggesting they will be minimal and hardly worth this drastic action. However, the facts prove otherwise.

Researchers in New York found the bottle bill would save, in this one state, enough energy to heat at least 125,000 homes and run more than 200,000 automobiles. Colorado researchers likewise estimated enough savings to heat 40,000 homes per year. Dr. Carlos Stern, who teaches economics at the University of Connecticut, studied the situation and concluded, "If the nation would go to a national bottle bill and to reusable containers by 1980, the annual savings in energy would equal the output of 12 nuclear power plants of the 1,000-megawatt size."

An excellent report, "Oregon's Bottle Bill: Two Years Later," by Don Waggoner, puts that state's energy savings at enough to heat 50,000 homes or to generate 130 million kilowatt hours of electricity worth \$2.8 million. And McCall claims it takes only 5% of the energy to recycle a can as it does to make a new one.

Nationally, energy savings would run about the equivalent of 39 million barrels of oil annually. Figures like this prompted John Sawhill, former head of the Federal

Energy Administration, to remark, "There are few other instances... where energy savings of this magnitude could be achieved as easily..."

Litter—The Research Triangle Institute of North Carolina reports that even back in 1969 about two billion throwaways ended up along the country's roadways. And the use of throwaways has increased considerably since then. This, of course, doesn't include bottles and cans littering trails, streams, lakes, parks, etc.

Throwaways make up about 20% of 40% of all litter. Worse, a California study put that state's current litter-caused injuries at about 300,000 annually. The primary villains were broken bottles and pull-tabs.

As alternatives to the bottle bill, industry spokesmen opt for container taxes to fund trash cleanups or accelerated public education campaigns to reduce litter. However, extensive efforts to educate the public against littering haven't cleaned up America, proponents point out. Also, bottle bill supporters object to a publicly financed litter cleanup when consumers are willing to do the same thing for free.

A few opponents even claim the bottle bill doesn't really cut down litter. Again, however, research indicates the reverse.

Two years after Oregon's bottle bill took effect, beer and soft drink container castoffs decreased 83%, according to Waggoner. And all litter was reduced, 39% by piece and 47% by volume. Likewise, the Vermont Highway Dept. reports beverage container litter down by 76% and all litter by 33%.

A staff study by the U.S. Dept. of Commerce estimates a 70% to 80% reduction in beverage container litter. And finally, a study by Applied Decision Systems (ADS), conducted for the Oregon legislature, found beer and pop roadside trash down 66% and all litter down 11% one year after the law became effective.

Thus, a ban on throwaways **definitely** cuts down on litter.

For sportsmen, reduced litter means less severe landowner/recreationist problems. Many landowners post their land because of unsightly piles of trash left by a few inconsiderate recreationists.

Wildlife, natural resources and environmental quality—The primary environmental appeal of the bottle bill is conservation of energy and natural resources. A national bottle bill would conserve approximately five million to six million tons of basic resources each year, according to the Environmental Protection Agency. From a wildlife and environmental quality standpoint, this means less destructive mining, exploration and processing.

A considerable amount of the energy goes into producing throwaway containers year after year. We consume energy to produce throwaways, then throw them away and consume at least the same amount of energy the next year to produce more beverage containers to throw away. This process, of course, goes on and on.

The aluminum industry takes a big bite of the nation's energy pie. In Montana, almost one-third of the total amount of electricity consumed is used by **one** aluminum processing plant. The Anaconda Co./Aluminum Division in Columbia Falls, according to the Bonneville Power Administration. About **one-third** of the

Northwest's electrical output goes to the aluminum industry. And right now, at least two new aluminum plants are proposed, one in Oregon and another in Washington. Young's Bay Estuary, a prime wildlife area, was the industry's **preferred** site for the Oregon plant—although it has now been moved to a site near Umatilla.

The Columbia River system has been dammed forever by 135 major impoundments. Another 58 are proposed. And this doesn't consider the dams built or proposed on the Columbia's smaller tributaries.

The once fabulous salmon and steelhead fishery, dependent on yearly passage to and from the Pacific, has almost disappeared. Idaho has been forced to close the season on many salmon and steelhead waters in a last ditch attempt to retain any kind of fishery.

These dams similarly raze wildlife populations, as big game winter range, waterfowl production areas and other vital habitat ends up under water or as plantless mud flats. Montana's Libby Dam alone ruined about 42,000 acres of big game winter range.

The impact of destructive extraction and conversion of fossil fuels and other natural resources—i.e., strip mining on the northern Great Plains, oil shale development in Colorado, power projects in southern Utah, etc.—would be indirectly eased if America could only conserve. Throwaways can't be entirely blamed for these developments, but they share in the responsibility.

Consumers—Consumer savings is probably the major force in favor of the bill. Prof. Bruce Hannon of the University of Illinois studied this and concluded a national bottle bill would save consumers \$1.4 billion per year.

"Coke sold in food stores in nonreturnable packages is priced, on the average, 30 to 40 percent higher than in returnable bottles," the president of Coca-Cola, U.S.A. told Congress in 1972. Why? Soft drink cans cost about seven cents each. Compare this with the refillable system which reduces the cost per filling to about one cent, according to a Pepsi-Cola franchiser in Portland, Ore.

Opponents argue that the bottle bill denies consumers the "freedom of choice" and the "convenience" of buying throwaways. However, overwhelming consumer approval of the bottle bill refutes this. In 1970, while Oregon was considering bottle legislation, the prestigious Opinion Research Corp. surveyed Oregonians. The surveyors found 62% of men surveyed and 66% of the women in favor of a ban on throwaways. Only 29% of the men and 22% of the women disapproved.

Another survey in Oregon found that only 12% felt it was inconvenient to pay deposits and return empties. A mere 7% thought the law limited their freedom of choice for soft drinks—3% for beer. And the Applied Decision Systems study, prepared for the Oregon Legislature and discussed earlier, notes, "'Overwhelming' is virtually the only word to describe Oregon's approval of the bottle bill. Nine in ten (91%) said they approved, and only one in twenty voiced any disapproval at all."

Given this, it appears "convenient" means what's easiest for the industry and supermarkets, not for the consumer.

Opponents have also argued that the bill increases beverage prices to the consumer.

However, the opposite appears more likely since it's less costly to use returnables. Coors started its returnable program as an environmental measure, but later found the value of recaptured containers offset most costs. Waggoner says slight price increases were **not** due to the bottle bill but general inflationary trends, grain and sugar price hikes, etc.

Jobs and the impact on industry—Perhaps the most controversial aspect of the bottle bill is its impact on employment. Protesters put the job loss at about 60,000 nationwide. This may be close if one only considers the job **loss** and ignores the **gain**. Overall, the legislation creates jobs. Some industries lose, and others gain. And, it comes out on the **plus** side.

Briefly, the bill hurts the can and bottle manufacturers and helps the bottling industry. In Oregon, about 350 jobs were lost throughout the beverage industry, according to a study by Oregon State University, "The Economic Impact of Oregon's Bottle Bill." However, 140 new truck driving jobs plus 575 more in warehousing and handling were **created**, meaning a net gain of 365 full-time jobs and an increased annual payroll of \$1.6 million.

Understandably, unions representing workers on the negative side of this job shift oppose container legislation. Likewise, workers whose industries gain find their workers supporting the bottle bill — although not as vigorously as those who lose.

In Vermont, the AFL-CIO leadership could **not** get the support of the rank and file to oppose the bill. Oregon's most active teamster calls this "a Teamster bill." And the United Auto Workers favor a national bill, as do such diverse groups as the National League of Cities, U.S. Conference of Mayors, Environmental Protection Agency, the League of Women Voters and various environmental and consumer groups.

"When I was in Maryland earlier this year," McCall told the American Assn. for Conservation Information in Portland, Ore. in June 1975, "the Council of Economic Advisers noted that a switch to a returnable system would result in a net of 1,500 more jobs in Maryland, would increase the state's personal income by \$18.5 billion, would increase state and local tax revenues by \$1.4 billion and would require less expenditure for clean up."

McCall describes a similar situation in New York state. "An Oregon-style returnable system would bring about an industry investment of about \$175 billion in new capital and \$35 million in this one state in new payroll, a net gain of 4,007 jobs. Consumers would save \$40 million, as a result of lowered production costs of the industry, and a direct saving of \$2 million would result from elimination of the beverage container portion of litter in New York state."

The Dept. of Commerce study generally confirmed the contentions of bottle bill supporters on this. Nationally, the study forecast a loss of 82,000 and a gain of 95,000 to 115,000 jobs.

Large breweries bitterly complain about the bottle bill now. But ironically, little was said when the shift to **throwaways** centralized the industry and cost America 20,000 jobs, so say Earl and Miriam Selby, writing in the March 1976 Reader's Digest.

In 1960, Americans drank 95% of their beer and soda pop from bottles which were then returned and refilled just like they are now in Oregon and Vermont, according to the same article. Today, however 79% of packaged beer and two of three soft drinks are sold in cans or no deposit, no return bottles.

"If present trends toward throwaway containers continue," N.E. Norton, president of the Dr. Pepper-Royal Crown Bottling Co., notes, "less than 2,000 soft drink bottlers will be in operation in the United States by 1980, whereas in 1960 there were over 4,500. This same process of concentration in a few large companies took place in the beer industry about 15 years ago, reducing the number of breweries in the United States from 262 in 1958 to the present 64, and to a predicted 30 by 1980."

This transition cost dearly. No longer needing to get empties back to the plant, brewers could instead ship throwaways thousands of miles. This allowed large breweries to invade the markets of their smaller rivals and gradually gobble up the competition. Today, **eight** breweries control **three-fourths** of the market. And it's these giants that would be hardest hit by the bottle bill, as the incentive swings back to the smaller, local breweries.

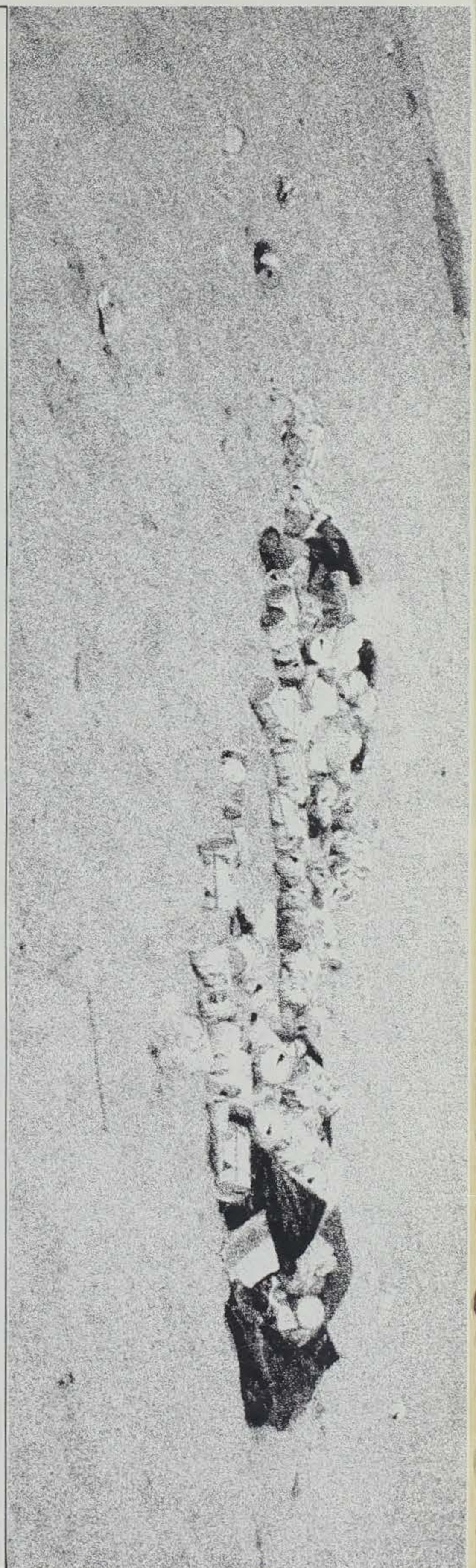
As with employment, industries have gainers and losers. Surely, the country is enmeshed in the throwaway business. And a return to the returnables would have a significant impact on certain industries. However, after a rough one-year transition, there's smooth sailing ahead.

The industry hired Midwest Research Institute (MRI) of Kansas City to determine the impact of the ban. MRI estimated aggregate impact (including new equipment and additional labor) for brewers, beer distributors, bottlers and retailers in the first year to be a loss of \$247 million. By the second year, however, lower container costs with a refillable system were seen as yielding an aggregate gain of \$37 million.

The beverage industry would rather fight than switch, though. Cutting through all the statistics, it comes down to: Throwaways make more money for the beverage industry and consumers save more money with the returnable system. The consumers want it, but the industry won't provide it voluntarily.

Considering all of this, sportsmen and other outdoor enthusiasts should be fighting mad. In Oregon, sportsmen are shocked to find a broken beer bottle or a pull-tab along a wilderness trail. But the exact opposite prevails over most of the country. Regardless of public education efforts and some interest in recycling, beverage containers continue to dot the landscape, indirectly cause destruction of vital wildlife habitat and waste energy and natural resources. Indeed, the convenience of buying throwaways **costs** us more than \$1.75 a six-pack.

But the bottle bill is more than an energy and resource conserver, litter reducer and money saver. It's a battle line for changing times. Sooner or later, "waste not, want not" must replace "no deposit, no return." America must replace wasteful, throwaway times with a conserving, husbanding society. And there is no better place to start than the bottle bill. A small deposit brings a large return. □



FROM THE

Warden's diary

By Rex Emerson

LAW ENFORCEMENT SUPERVISOR

WHAT DOES a litterbug look like? There are different species of this critter. The one that I come in contact with the most often carries a fishing pole, or sometimes is using commercial fishing gear. (Not that all fishermen are litterbugs.) There are some ways of identifying litterbugs. Since very few of them migrate, they can be found throughout the year and in many places. Quite often it is hard to see them at first glance. The warm-blooded variety sits motionless on the bank of a river or lake, or in a boat. They can blend into their surroundings like a chameleon. As the weather gets colder, their coats become heavier. In the coldest weather you can find them huddled around holes in the ice. Some even build a little house or shelter to set on the ice, and then fish through the icy floor. No matter what season of the year, you can easily tell where they have been by the bait containers, beer or pop cans and bottles, banana and orange peels, dead fish, remains of bonfires, wads of tangled fish line, etc., that are left behind. Many are of a Jekyll and Hyde type. You would imagine their home and yard to be full of garbage, but this is seldom true.

Now, before you grab your pen and paper to write the editor a nasty letter which he would probably just tear up and throw on the ground (and thus add to the problem) just let me explain that I am really only referring to approximately fifty percent of the fishermen. So, naturally, this doesn't include you!

What *can* be done about the littering problem? Prior to July, 1976, there were areas where you could legally snag paddlefish, but nothing else. What was a person to do with a carp that he had accidentally snagged? Up to that time it was illegal to snag the carp, or to have a snagged carp in possession. It is still illegal to throw a carp back into the water. So what were they to do with them? Most of them were just thrown out on the bank and left to decay. Which, of course, was littering and also illegal. The law was changed in July and now carp can be legally snagged and therefore be in the angler's possession. This has helped the smelly fish problem about ninety percent.

A few years ago I checked some carp fishermen near a sewage outlet for a hog processing plant. The smell there was always so bad the vultures wouldn't even come close to it. A man who lived in a cabin about a hundred yards up the river saw my car, and came running down the bank to complain about the dead carp the fishermen had left on the bank. I found only five dead fish there. I never quite knew how he could smell them over the odors from the hog hair, blood, and other residues coming out of that tube. That operation has since been cleaned up.

The fisherman is not the only litterbug we have by any means. A lot of litterbugs go around the country by car. And did you ever look at a sandbar beach in the Mississippi River where the boaters have had a picnic? They get to looking like city dumps before they started using landfill methods. One such group of sandbar picnickers had made their charcoal fire on the beach. Before leaving they covered it slightly with sand. A short time later a small child stepped on this hidden hot spot while barefoot. Third degree burns were suffered as the result. There was plenty of water nearby which could have put that charcoal fire out.

Farmers have litter problems around their farm ponds. That is the reason many of them won't give permission for you to fish in their ponds. Even when they are state-stocked it is up to the farmer to decide who goes on his place, and one person leaving litter on the bank will probably close the fishing in that pond to everyone.

After checking fishermen for many years, I find they sometimes forget to take their license with them. They don't often forget the beer or pop, and groceries. The cooler is the first thing that they put in the boat, or out on the bank if they are bank fishermen. It usually goes home empty.

People who use our wildlife areas ask why we don't put out litter barrels. The Conservation Commission did have such an operation for several years. You can't believe the amount of garbage that we got. People even started bringing their garbage from home and putting it in or near the barrels. The Conservation Commission had to hire full-time employees just to haul garbage. License money from the fisherman and hunter was paying for it and that money certainly wasn't being used to improve fishing or hunting. The barrels were taken in and signs were put up asking people to take their litter with them. After all, if you have hauled it out there, you can haul the remains back with you. It should be a little lighter going back.

Don't leave your litter for someone else to pick up. This is a problem everyone can help with.

Oh yes, if you still wonder what a real, live litterbug looks like, just go look in a mirror and you *might* see one!

Dear Readers

Over the past few months we have received many letters from our readers concerning the Conservationist and its contents. We have enjoyed the compliments and reacted violently to even the slightest criticism. As a result we have decided (in a weak moment) to let you help us in making the magazine more enjoyable for all of you.

Take a few moments to write to us today. Below you will find an outline for your suggestions. With your comments we may be more able to judge just what type of articles you'd like to see in the future.

Thank you,
— The Editors

1. What type of articles do you like best?
 - A. Historical
 - B. How-to
 - C. Scientific - Technical
 - D. Editorial
 - E. Other
2. What subjects do you feel we should investigate for possible stories?
3. Who are your favorite writers and which regular features do you enjoy most?
4. What kinds of artwork and photographs do you enjoy?

CLASSROOM CORNER

By Robert Rye

ADMINISTRATOR, CONSERVATION
EDUCATION CENTER

PEOPLE CAN BE FOUND enjoying animals in many ways. Observers seek out and watch the animals in their native habitat. These people not only know what the animal looks like but also where it lives; what it eats; and who it lives with.

There are also photographers, artists, carvers, hunters, and educators who use the same information to further their interests and enjoyment.

A group whose product is used and enjoyed here at the Center is the taxidermists. Their work is an art even though the procedures and equipment they use are not expensive or elaborate. They follow tried and tested methods in their work. Their experience is what makes their mounts life-like and very educational tools.

Groups using the Center have spent hours studying the various mounts we have in our display area. (This display area was discussed in the June, 1976, article.) Other groups have had the chance to observe some actual taxidermy work in progress at the Center.

There are many different things which can be done with taxidermy. One of the simplest is with insects — yes, that is taxidermy too. A collection or an artistic display may be made. Other taxidermy projects include tanning hides, mounting mammals, birds, fish, reptiles (such as snakes and turtles) and frogs. Other people are interested in novelty taxidermy or using only parts of animals such as antlers, feet, teeth or eggs.

With such a large variety of topics that may be covered, just a few points about bird mounting will be discussed this month. Your first task is to check the game laws to learn possession rules, and then obtain as much information about the particular bird as you can. Mounting the animal can take considerable time, while merely stuffing one can be done very quickly.

Obtain your specimen, clean the outside of it and take down all body specification information. Match colors with crayons or some color chart. Measure body size, height, length, circumference, neck length and wing location. If possible, trace around the body, making several different outlines to refer to later. *No information should be left to memory.*

Now for the next step... removing the skin. Lay the bird on its back and part the feathers down the front center being careful not to break the feathers. Cut through the skin and add powdered borax to the opening cut. Borax serves both as a preservative and dries up moisture. *Do not* cut through the abdominal wall. Working down each side of the body toward the tail, separate the skin from the body with your fingers and scalpel. Force the leg up toward the body from the outside and detach legs at the lower joint.

Next, detach tail, taking care not to cut too close to the tail feathers, continue working skin down over the back, adding borax as you go. Separate both wings from the body at the ball and socket joint.

Work the skin down over neck and head - use extreme care to avoid stretching around the ears, eyes and lips. Skin down to the bill.

The body is then separated from the skin at the base of the skull. The brains are now removed from the brain cavity. Trace around the body for future reference.

With the skin wrongside out, remove all flesh and fat from base of tail, legs, skull and wings.

For the mounting, annealed galvanized wires are used for support. A body is made from excelsior, balsa wood or styrofoam. Exactly match the new body to the size and shape of the natural body - you recorded this information as you started and again when the body was removed.

Insert wires into the body and the skin. Place the artificial body in the skin. Shape the body into its natural form. This takes skill and knowledge of your bird. The facts gained by observing and enjoying the animals in their natural habitat are applied here. Sew up the opening and fasten it to a perch base. Arrange the feathers, tie down or pin them into place and allow several weeks to dry. Now restore colors with paints. Display.

If you have, or know of mounts that are no longer being used, please contact the Conservation Education Center, Route 1, Box 44, Guthrie Center, Iowa, 50115. They may possibly be some that are missing from our collection and could be used by the many visitors at the Center during their conservation classes.

GUTTENBERG

(Continued from Page 9)

These losses have the attention and concern of environmentalists and conservationists from many disciplines. The fabulously productive and scenic Mississippi River and its valley cannot be allowed to become a channelized ditch. Not little by little as is being done by the Corps, not now, not ever.

Just what is government doing about it?

The matter has the attention of Congress. It appropriated funds to formulate the Great River Environmental Action Team - (GREAT I). Congress directed federal agencies the task of developing a workable management program for the protection and logical development of the Upper Mississippi River System. The GREAT I team is a conglomerate of Federal agencies comprised of the Corps of Engineers, the Fish and Wildlife Service, the Soil Conservation Service, the Environmental Protection Agency, the Department of Transportation and *in equal partnership* with the states of Wisconsin, Minnesota and Iowa! Basically, GREAT I has directed efforts for compilation of baseline data, study of pertinent problems and some action programs involved with the short-term solutions to the dredging and spoil deposition problems the Corps has promulgated.

The Iowa Conservation Commission is participating in the effort. Representatives from Fisheries, Wildlife and Waters Sections are working through Iowa's Dredge Spoils Practices Committee and through GREAT study teams for solutions to the many problems. Here are some of our outstanding accomplishments in the last two years:

- Dredging in Iowa Boundary Waters of the St. Paul District was substantially reduced in 1975 to only one site in pool 10. Dredging in 1976 was reduced to only one site again in pool 10.

Action by Iowa deferred any dredging along the Lansing Bend Area in 1976 until further studies.

- Spoil deposition in Iowa Boundary Waters of the St. Paul District involved 37,000 cubic yards of spoils at one site in pool 10. None was deposited in 1976.

- A facility inventory was completed for the Upper Mississippi River along Iowa for input into GREAT plans for recreational developmental needs.

- A materials use inventory was completed along Iowa to determine where and how sand spoils could be put to a beneficial use by the public and private sectors.

- Priorities were determined to reopen side channels through a subcommittee of GREAT. Those selected effecting Iowa are McDonald's Slough at Harpers Ferry and Johnson's Slough at Sny Magill Boat Landing.

- Preliminary plans of design and requests for cooperative funding by Federal, State and Local Government were submitted for development of a boat landing and parking lot at Guttenberg, below lock and dam 10.

These are some of the functions, goals and programs of this Fisheries Management Station. So the flags wave on and the Great River rolls by... meanwhile, dedicated workers ponder the future of the river... some with naive optimism believing the river is invulnerable to man and inexhaustible in resource... and others with a pessimistic outlook believing man is incapable of conceiving and applying a management program to the Great River.

The newly kindled interest in the river prompted action by the Iowa Conservation Commission to create Iowa's first Fisheries Management Station at Guttenberg, Iowa. Hopefully, the contributions we few make will provide the users and the river an action program that will make better and wiser uses of it by man.

Trout Stream in Clayton County by George Marzeck, West Burlington, Iowa.

