Iowa CONSERVATIONIST

lume 23 December, 1964 No. 12

White-tailed Jack Rabbit. Jim Sherman Photo.

THEM OL' JACKS

Paul D. Kline
Game Biologist

He's there, I know he is." I was the doubter and my hunting part- was trying to assure me that a big, white jackrabbit lay in a ved field to the north of the road where we were parked. The issue settled in a minute with the use of binoculars—in my companion's or. Not one, but two jacks could be seen from our vantage point. 'e pulled off the road and began to stalk across wide open, flat, ved ground. No use hiding from those jacks. They had all the ıntages, except one: They were not sure we had seen them. Our que approach was intended to add to their uncertainty. Experience taught us not to make a direct stalk, but to approach obliquely to oint within 20 to 40 yards of a big hare; then, as our intention was hoot them (or at them) running, walk directly and slowly toward n with guns ready.

'e were still a hundred yards or so from the first jack when one pre- sly unseen jumped only a few yards to our right. Like a big white st he hopped slowly away—slowly it seemed. Actually he was mak- about 12 feet per leap and was out of reasonable range in 10 sec- s or less. We each hurried off half-a-dozen poorly aimed shots, then watched him disappear over the horizon. Feeling a little cheated at the surprise we turned away to find our shooting had spooked the closest jack of the two we really were after. So we carefully began our stalk of the second. With gingerly placed steps, balancing on the clods, rifles ready, and a determination not to be surprised again, we approached about 20 feet apart—so as not to interfere with each oth- er's shooting.

We reached our closest point on the oblique, about 30 yards distant, then turned toward Mr. Jack. He jumped immediately, as they so often do, and tumbled end over end after a volley of shots.

Before tossing him in the car trunk we marveled at his white outer fur, sprinkled with brown and grey on his back; buffy underfur; and black eartips. Fine for staying unobserved in a snow covered land- scape, but poor for hiding in bare, black plowed fields. His salvation in such circumstances was his habit of scratching out a form and crouching in it, out of sight from a reasonable distance and angle ex- cept for the very top of his head. His eyes were placed high, almost

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COMMISSION MINUTES

November 5, 1964

COUNTY CONSERVATION ACTIVITIES

Chickasaw County received approval for the addition to Saude Park 2.84 acres of land at a total cost of $496 for the purpose of improving the parking area and increasing the size of the existing camp area.

Sioux County received approval for the acquisition of 52 acres of land called the Rock Valley Access Area, located in the northwest section of the County on the Rock River at a total cost of $4,500 primarily for use as river access and wildlife habitat.

Washington County received approval for the acquisition of 27 acres of land called Iowa Township Park, approximately 40 per cent by a 50 year lease at a cost of $1.00 per year and the remaining 60 per cent by a direct purchase for a total cost of $3,800 located near the town of Riverside and to be used as a multiple use area.

Winnebago County received approval for the acquisition of 11.3 acres of land to be used in addition to the Grant Township Wildlife Area at a total cost of $1,500 to provide good public access.

Buchanan County received approval for the acquisition of the Klumpar Access Area consisting of 75 acres of land at a total cost of $7,500 and located on the Wapsipinicon River and to be used for picnicking, river access and for wildlife habitat.

Audubon County received approval for a development plan for the Littlefield Recreational Area to be used primarily as an outdoor class room and a small part of the area to be used for picnicking and camping.

Monroe County received approval for a development plan for the Georgetown Highway Safety Rest Area located immediately south of the town of Georgetown, 7 miles west of Albia on Highway 34.

LANDS AND WATERS

Approval was given for the renewal of a construction permit for work at Lake Manawa to Julius Novak of Omaha.

A construction permit was approved for work on a ditch at Lake Cornelia by the Wright County Conservation Board.

The Commission met with Robert Goodwin and heard a request that the State acquire 93 acres of land adjacent to the Herbert Hoover Memorial at West Liberty for the purpose of creating a State Park.

Approval was given to an order for the removal of boats from Iowa Waters and additional property within 30 days after publication of this notice.

Approval was given to Christoffersen and Christensen Construction Company for the construction of water and sewer lines at Lake Anita for a total cost of $8,442.

A report was given by the Superintendent of Parks on a bill to be proposed jointly with the Board of Control and the State Conservation Commission for the creation of a mobile prison labor camp at Williamson near Stephens State Forest.

Approval was given to exercise an option for 70 acres more or less of land at $50 an acre on Tyson Bend on the Missouri River.

Approval was given to an agreement for fencing and clearing at Louisville Bend which involved 2,300 feet of boundary.

Authorization was given to fencing and boundary line establishment at Soldier Bend on the Missouri River.

Approval was given to the establishing of the Nursery Stock Price List for the 1965 season at the same level as last year's prices.

A use permit was approved for Iowa State University for use of 382 acres of State Forest land in Davis and Appanoose Counties.

A proposal by the Storm Lake Country Club to lease land for golf course use at the Storm Lake State Park was not approved.

A preliminary report on the Guttenberg Access Area was given by the Superintendent of Engineering.

Approval was given to a request to allow camping at Mill Creek State Park.

FISH AND GAME

A report was given on the status and condition of the fish hatcheries at Lansing and Sabula.

Approval was given to a lease at no cost for 95 acres of ground at the junction of Highway 80 and the Des Moines River from the Highway Commission as an addition to the Flint Access Area.

A report was given concerning Badger Lake and English Slough on the Missouri River in Monona County.

Approval was given for the sale of the remaining three lots adjacent to Muscatine Slough in Muscatine County at the rate of $300 per acre.

A proposed development plan for the Silver Lake in Worth County was discussed.

The Chief of Fish and Game gave a progress report on negotiations concerning Green Bay Lake in Lee County.

Approval was given for the trapping of muskrats at Round Lake in Clay County through the usual permits.

An additional green and white hunting area sign was authorized to clarify the meaning and use of public hunting areas.

A report was given on Missisippi River Dredging Operations and future work of this kind was discussed.

The Commission approved support of legislation to establish Civil Service for all Commission employees.

Approval was given to exercise an option on 200 acres of land at a total cost of $40,000 for marsh land near Union Slough in Kossuth County and the Commission authorized a transfer of funds from another project to carry out this option.

GENERAL

Approval was given for travel to the State Foresters' Midwest Region Meeting at Milwaukee, Wisconsin; the Midwest Wildlife Conference at Bloomington, Indiana; the Mississippi Flyway Council Duck Flouroscoping Study at East Alton, Illinois; the Bureau of Outdoor Recreation Liaison Officers' Meeting at Chicago; the Army Engineers' Office at St. Paul, Minnesota; the Office of Surplus Materials at Jefferson City, Missouri and the Federal Communications Meeting at Kansas City.

Work of the Legislative Committee was reviewed.

The Superintendent of Engineering gave a report on a proposed artificial lake site on the Volga River in Fayette County which indicated that the site was not feasible.

A report was given on the Lizard Creek Lake site in Webster County.

Approval was given for an imprint on the face of Hunting and Fishing Licenses which states "Respect private property; ask the farmer first."

The Superintendent of Engineering gave a report on the possibility of establishing highway impoundments in cooperation with the Highway Commission through the design of proper road fills.

The Superintendent of Engineering was authorized to ask the Army Engineers to establish a take-line for a state area to be located on the Red Rock Reservoir.

A report on recent B.O.R. National Meeting was given by the Director of Planning.

CANOEING PROBLEM—A QUESTION OF COOPERATION, NOT LAW

A canoe trip, like a hunting or fishing trip, is a pleasurable moment away from the daily routine of our working hours. To enjoy the beauty of Iowa's streams and rivers, and to experience the thrill of handling a lightweight craft in both still and surging waters, is a soothing therapy common to all outdoor recreational sports.

The rules of good sportsmanship in canoeing, as in other outdoor sports, are fairly simple. Be water safety conscious, respect the rights of others, remember that we each, individually, represent all members of our sport in our contacts with the public and the landowners along the streams we travel.

The moral laws of decency, courtesy, and respect for the nature we are seeking to enjoy, are irrevocably linked to our legal obligation not to damage private property, to refrain from littering, and to request permission before venturing onto private lands.

Canoeing is a challenge—a challenge to the canoeist's ability to handle his craft, but more important a challenge to the canoeist to use a stream or river and leave the waterway in the condition he found it.

The majority of Iowa's streams and rivers are classed as non-meandered waterways. The stream bed and all adjacent lands to these waterways are the property of the landowner through whose land the water flows. Appreciate the fact that you are able to use the waterways. Respect the landowner and his property. Fences may inconvenience you at times but remember, the landowner is required by law to construct a fence across a non-meandered stream to keep livestock within his property lines.

Try your utmost to cooperate with landowners. Whenever possible ask permission if you know you will have to portage or cross fences enroute. Obtaining permission is doubly important if you plan to picnic or camp.

On meandered waterways, all of the stream bed is owned by the state. The lands adjacent to the water may be state-owned or privately owned. But no matter who owns the land along these meandered waterways, you, as a canoeist, are obligated to respect the property and leave it in the condition you found it.

These are not unreasonable rules. We faithfully practice them in hunting, fishing, and other sports. It is not too much to expect that we practice them just as faithfully in canoeing.

It seems equally logical that the cooperation we extend as sportsmen will be met with the same measure of cooperation on the part of the landowner himself.

Max Schnepf
Jack Kirstein

Jack Kirstein Photo.

Managed woodlots prevent soil erosion.

VOODLAND'S PART IN WATERSHED CONTROL

Bruce Plum
District Forester

A watershed or drainage basin is area of land from which a eam receives its supply of wa- . A watershed may be small :h as the area that drains into farm pond or it may be large :h as the Mississippi watershed ich comprises most of the cen- l portion of the United States. atever the size of the water- :d the land is the natural reser- r that collects and stores the ter as it falls.

Some of the factors that control collecting and storing of rain d snow water include: soil types, gree of slope of the land and the getative cover that occurs on land. This cover may be grass, odland, cropland or maybe bare d. Water falling on the surface the land will soak into the soil, off or evaporate. Probably thing that is of greatest con- n to conservationists is the rap- y of runoff.

Watershed Cover

Of the various cover types mak- up a watershed, a properly naged woodland will detain re rainfall than grassland or pland. Of course, our Iowa tersheds must be protected in er ways besides with forest cov-

However, where forest cover urs in a watershed it can be de to do more than its share in aining water. In a well man- d forest there is a good supply litter and humus on the surface the ground as well as a good wn cover overhead. The litter nade up of dead leaves, twigs, nches and other dead vegeta- matter. Beneath the litter a nus layer is found. The humus he litter of past years partially ayed. Beneath the layers of er and humus is a layer of neral soil with quantities of de- cayed organic matter incorporated into it. Under this layer of soil is the subsoil with no organic matter. Finally under this layer is bedrock which occurs at varied depths beneath the surface.

Managed Woodlands

Let us follow the path of a raindrop falling into a well managed woodland. First it hits the crown of a tree and is broken into small droplets. The force of the impact has been mostly absorbed by a leaf or branch of a tree. One of the droplets may adhere to the tree and find its way to the ground in running down the trunk of the tree. The remaining droplets fall toward the ground in a heavy mist or drippings. They in turn hit smaller plants and finally hit the forest floor so gently they do not disturb the soil or material upon which they alight.

Some of the droplets of water which have landed on the litter will he held here and later be taken up through evaporation as dry weather follows the rain. Other droplets will find their way to the soil. These particles of water will be held here until taken up by the roots of the many plants living in this woodland. The water will be held in the plant tissues and used in the growing process or taken up into the leaves and transpired into the atmosphere.

In a heavy rain many droplets will find their way to the pores developed in the soil by decaying roots and burrowing animals, insects and worms. Some of this water will be held in the subsoil and used by plants with deep penetrating roots. Some of the water will infiltrate to the water table and be carried to stream valleys where it will be discharged from springs as clean clear water. Some of the water will find its way to the deep underground porous rock layers to replenish the underground pools of water which are tapped by deep wells.

In contrast let us follow a drop of water falling into a woodland abused by livestock grazing and poor cutting practices. This forest will have a greatly decreased crown cover and little or no humus and litter on the forest floor. Falling directly on bare ground the impact of the raindrop tends to puddle the soil so it will not absorb water readily. Most of the water drop will start flowing down hill carrying with it particles of soil as it goes. As it joins other drops of water the force of water flowing down hill is built up to where it carves a rill. The rills lead into gullies. The torrent builds up in velocity carrying with it more and more soil particles. The higher the velocity the larger are the soil particles that will be held in suspension. As the gullies empty into the swollen stream the volume of water builds up beyond the capacity of the stream banks to hold it and flooding occurs. As the flood subsides the velocity of the stream is lowered. This allows the larger soil particles to precipitate out to the bottom of the stream. Reoccurring floods eventually fills the stream bed with silt. The raising of the streambed makes it ever increasingly easy for the stream to flood.

Flood control begins where the rain drop falls. Man's manipulation of the land resources determines what happens to each drop of rain whether it falls on crop land, pasture land or woodland.

NATURE'S ENGINEER

The unmistakable slap of the tail, a danger signal, is as close as most stream and river walkers ever get to nature's remarkable engineer, the beaver; but tree cuttings, bank slides, dams and other signs of his ambitious activities are present along nearly every stream and river in Iowa.

Scientifically known as *Castor canadensis,* this largest rodent of North America may reach a length of four and one-half feet and weigh 60 pounds or more. He is characteristically identified by a stout body, blunt head, webbed hind feet and a horizontally flattened tail. Coloration of both sexes is dark brown with somewhat lighter underparts and a black tail.

The engineer tag is the result of the beaver's tree cutting and dam building ability. His long incisors are capable of falling a sizable sapling in a matter of minutes. Three or four trees fall victim to his gnawing in a week's time. Once the trees are downed, the smaller limbs and branches are trimmed and used in dam and lodge construction. Dams are an attempt by the beaver to stabilize water levels. Construction usually occurs in the fall, but repair work takes place the year 'round.

In areas of running water, beavers usually live in bank dens consisting of a chamber several feet across which lays a foot or two above the normal water level. Access is by tunnel with an entrance usually below water level. In ponds or marshes they generally build a lodge of small limbs and branches plastered with mud. The lodge has a single chamber above the water level with two floor openings leading to passageways: a winding passageway for the beaver clan's personal use and a straight passageway for bringing in branches and twigs. Construction work on the lodge continues as long as it is occupied.

Beavers are primarily bark-eaters; however, they make good use of the abundant corn supplies available in many areas. Often these rodents store food in piles near the underwater entrance to their den.

Following a three to four month gestation period, female beavers bear a single annual litter of three of four young, usually during April, May or June. The young beavers are born completely furred with eyes open and incisors visible. They are able to swim immediately, but seldom leave the den for several weeks. Female beavers have the sole responsibility of caring for the young animals, who remain with their parents for approximately two years.

Although beavers still comprise a significant segment of Iowa's fur market, their importance has dwindled since the time in early American history when a beaver pelt was the standard of trade. Last year, the state's trappers took 9,-294 beaver with a total fur value of $60,596.88.—M.S.

BEGINNER'S BASIC

One of the best exercises to assure the novice rifle shooter's development of proper sight picture is called "Triangulation." Though the exercise requires the assistance of another person, it is simple.

The only equipment needed, besides an unloaded rifle, is a sandbag, or other steady rest and a three-inch disc of metal or cardboard. Punch a hole in the center of the disc and attach a short strip of wood for a handle. Tack a sheet of paper to any flat surface on a level with the unloaded rifle's muzzle.

Now, the assistant, armed with disc and pencil stands by the target while the shooter assumes his position behind the rifle. Sighting on the center of the paper, the shooter directs the assistant to move the disc right, left, up or down, until it appears properly aligned as a bull's eye in his stationary sights. Through the hole in the disc, the assistant makes a mark on the paper with his pencil, then shifts the disc to another position.

The process is repeated twice more. Straight lines are drawn between each pencil mark to form a triangle. If the triangle cannot be covered by a 25-cent piece, the shooter has not developed a proper sight picture and needs more practice.—*Winchester Proof.*

Jack Kirstein Photo.

Night lighting rig with full crew.

SPOTLIGHT ON RINGNECKS

Max Schnepf

Night lighting, the scourge of game wardens, has gone scientific and in a legal form. Iowa's State Conservation Commission is using this technique to capture pheasants for use as brood stock at its game farm near Boone.

Four nights of this legal spotlighting in September and October produced 250 ringnecks—150 hens and 100 roosters. Hopefully these pheasants along with 150 hens held over from last year will produce approximately 2,000 chicks for stocking next year.

Night lighting operations centered in Adair and Union Counties, an area with an unusually high pheasant population. This area was chosen not only because of the high pheasant population, but also because it was felt the birds taken from this southern area might adapt better to southeastern Iowa, where concentrated releases are being made in hopes of establishing a pheasant population.

The night lighting rig, a copy of one built by the Cooperative Wildlife Unit at Iowa State University, is built on a pickup truck equipped with a four-wheel drive transmission. A plywood platform constructed over the pickup's cab supports a bank of floodlights. Power is supplied by a gas-run generator.

With the floodlights illuminating the path ahead, the pickup is driven back and forth across clover and alfalfa fields that are known pheasant roosting areas. When a ringneck is spotted, two men riding on the platform cut the power to the floodlights and pinpoint the bird with powerful spotlights. Simultaneously, the netter closest to the bird springs from a metal tractor seat attached to the front fender. Swiftly he circles the momentarily blinded pheasant and attempts to snare the bird with a huge dip net. Frequently, several ringnecks roosting near each other enable the netters to score a couple times apiece within a few seconds.

To speed the operation, a back-up man removes the bird from the net and places it in a temporary holding crate on the pickup. Care is taken to protect the captured pheasants who become quite excited amid all the noise and activity. The special holding crate is covered with a gunney sack which restricts the birds' movements and calms them down until they can be transferred to wooden crates for the trip to the game farm.

Commission biologists first decided to give night lighting a try more than a year ago. Before that time, winter bait trapping was used to collect the brood stock.

(Continued on page 94)

Max Schnepf Photo.

A back-up man speeds the operation by removing birds from the net.

LONG RANGE PLANNING PROGRAM

Editor's Note: This is the f part of a series of articles on the S Conservation Commission's long-ra planning program.

River straightening is a st that was all too familiar in expansion days of agriculture Iowa. Countless miles of sn creeks and rivers throughout state were irreparably sacrifi on that altar of progress.

What has been done in the p can't be undone. We're just st with it. To argue academic about the justification of char straightening of thirty or fo years ago is comparable to beat a dead horse.

What is valuable is a contin awareness of the damage cau by this practice, and a vigila against any further inroads be made on the comparatively miles of natural stream beds t are left in Iowa. To this end, people of Iowa who are interes in conservation have given enth astic response to a couple of ideas: river bend conservation wild river areas.

River bend conservation se as an immediate answer to an mediate problem. The State C servation Commission is using as a coordinating tool with wh they can assist local, state, federal agencies in acquiring developing flood plain to hill tracts for generations to co It is a spot program that is be successfully used in preserv crooked stretches of streams t are impressive in their scenic recreation potential. Conserv these streams will guarantee t ing access and game habitat.

Conservation of countless th sands of acres of natural str bed which would be eliminated channelization can be justified a cost basis alone. A man m lake, for instance, costs from to five thousand dollars per a An acre of natural water c about seventy dollars per acr

This is a savings that ha been ignored in Iowa. Lea conservationists have lauded progress made in providing str access through acquisition of along our streams. Such prog has been made through a wise of Dingle Johnson Federal Funds, State Fish and G Trust Funds, Pittman-Robi Funds, and Capital Improver Funds.

Dingle Johnson Federal Funds are those monies colle from the tax on the sale of fis tackle. The State Fish and G Trust Funds result from the of licenses in Iowa. The Pittm Robinson funds come from the eral tax on the sale of guns ammunition.

In the long range plans, "wild river areas" concept rem the prime target. Through

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HOW STRONG IS ICE?

Russell McKee

The thickness of ice on a lake stream is not always a good easure of its strength.

Unless ice is obviously thick ough to be very safe, cars should t be parked in one place any ger than necessary. Parked ve-les should stay farther apart n moving vehicles.

Cars moving over ice cause asonance waves" in the ice it-f, and when one or several cars low one another, these "waves" y crack ice that otherwise uld normally be safe for travel.

The bearing capacity of ice is based on the fact that ice is hter than water, but on its re-tance to bending under a load. ter under the ice gives much of strength needed to support vy loads.

The bearing capacity of ice is stantially higher than the load it produces the first cracking nds.

These are some points of inter- gathered in a long series of gineering studies on the strength l performance of ice. These dies have been carried on in ious ways for several decades, were given a formal focus ne years ago when the U. S. my Corps of Engineers set up organization called SIPRE-rt for Snow, Ice, Permafrost search Establishment—at Wil-tte, Illinois. Since then, SIPRE published a large number of earch and technical papers and nslations of foreign language dies dealing on these same sub-ts. Much of the research has n carried out to aid the armed ces in their Arctic area activi-s, as in construction of aircraft ding strips on frozen lake and waters.

Ice Strength

With respect to ice strength, a nt of much importance to ice ermen, ice boaters, skaters, and ers, SIPRE finds that you can't ays tell the strength of ice ply by its look, or its thick-s, or the daily temperature, or ether or not the ice is covered h snow. The strength of ice, in t, depends on these four factors s a number of others, including th of water under the ice, sur-e size of the body of water, mistry of the water, the dis-ution of any load placed on the and local climatic factors that y considerably from place to ce.

n general, however, new ice will much stronger than old ice. formed by direct freezing of e or stream water will be nger than ice formed from ting snow, or than from re-zen ice, or than ice made of er that bubbles up through cks and then freezes on the sur-e. In other words, clear new is generally stronger than ice clouded with air bubbles. And a couple of inches of this new ice may be strong enough to support you while a foot of old ice, or so-called "rotten" ice, will not.

Water Supports Ice

Another point of interest to fishermen is the strength given to ice by water under the ice. This matter is given frequent and careful study by country school kids, young scientists who may be seen on any given winter afternoon engaged in attempts to cross any puddle covered by thin ice. The ice, you will note, often bends under the weight but does not break through very satisfactorily, so considerable lively hopping is necessary before the ice gives in. If you look at this ice carefully after its breaks, you will note how thin it can be while still offering quite a bit of support.

However, SIPRE also says that if you drive your car onto a lake, parking in one spot tends to weaken ice, and at times when the thickness of ice is marginal, prolonged parking in one spot is not recommended. Vehicles should be moved around and parked at alternate locations from time to time to allow ice to recover its earlier, or "normal," shape and position. A car parked on a foot of ice will depress that ice about an inch in a saucer-shaped area 200 feet in diameter. In other words, cars parked close together on such ice may increase the weight enough to pass the point where it will do any more bending. However, SIPRE then notes that this bending under weight gives added buoyancy by making the ice somewhat boat-shaped. But if ice has many large cracks, the buoyancy of this boat-shape is lost. In fact, a car surrounded by ice cracks has only the buoyance of that single piece of ice to support it. In any case, when driving across ice that has frequently cracked and refrozen, try to cross cracks at right angles, and then be sure not to park near cracks.

The matter of "resonance waves" is also important to anyone driving on lake ice. Ice is really a film across the surface of water, and this film bends up and down as weight moves across its surface. This bending up and down takes the shape of long waves, which roll outward and away from a car as it is driven along the ice. If you drive your car at what is called the "critical speed," you may crack this ice by the wave action, somewhat as the end of a long rope will crack when the other end is whipped up and down. You can drive either slower or faster than this critical speed and substantially reduce the danger of cracking. However, driving faster than the critical speed is dangerous for other reasons in most depths of water, so slower driving is recommended except over very shallow water. Also, don't follow close behind other cars, as you may interrupt their wave action with your own, thereby causing a breakthrough in what would otherwise be safe ice. The "critical speed" for various depths of water is shown below.

Other points of interest about ice:

Shore ice is often broken and refrozen during the winter because of the constant buckling action of ice on a lake. Such ice, near shore, is always weaker than "refrozen" ice.

Ice along the south and southwest shores of lakes in Michigan, in general, disappears first and is normally weakest because wind blows most often from this direction carrying warmer land air currents onto the ice at those points and also blowing float ice away from those shores.

On cold days, or still evenings, the ice on a lake may be heard to crack more or less continuously. This doesn't mean the ice is dangerous; merely that it is changing its shape as the temperature changes.

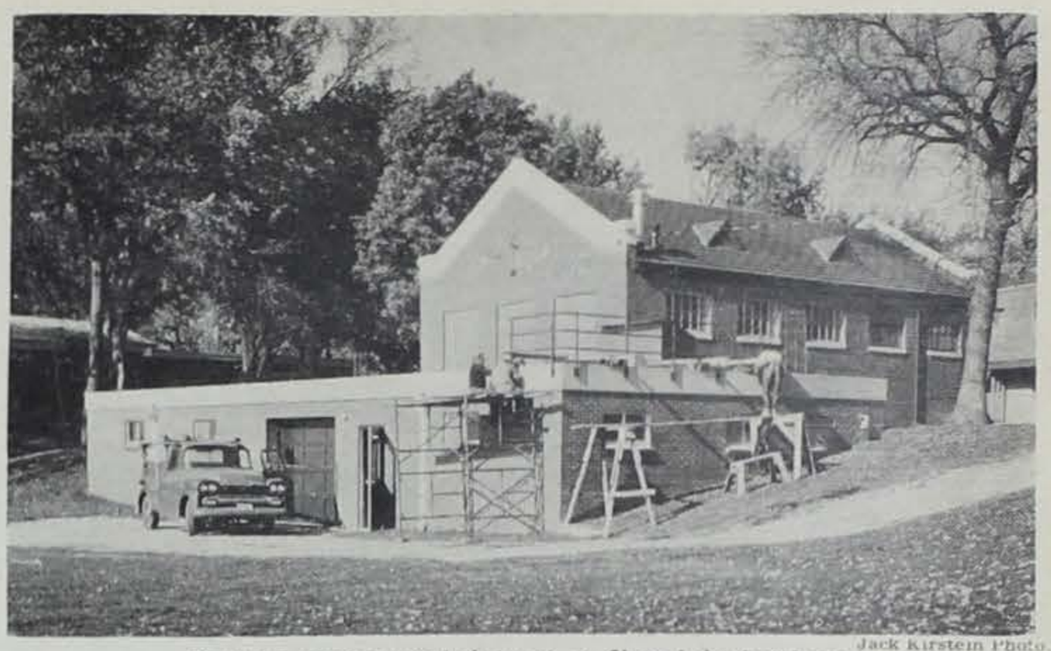
Finally cars often establish roadways from shore to the favored fishing grounds. These roads can be weakened by repeated use, and should not necessarily be considered the safest route to a fishing spot.

But most of all, use common sense. The Conservation Department always encourages all kinds of fishing activity, but always deplores the annual loss of automobiles through the ice. Unbuckle seat belts, keep car windows open, and be ready to bail out. The cars can be replaced; the fishermen cannot.

Critical Velocity of Moving Loads on Ice Over Shallow Water of a Given Depth

Water Depth (feet)	4	6	8	10	15	20	30
Critical Velocity (mph)	9	11	12	14	17	19	22

From *Michigan Conservation*



Jack Kirstein Photo.

Finishing touches are being put on Clear Lake hatchery.

ADDITION TO CLEAR LAKE HATCHERY

K. W. Madden
Superintendent of Fisheries

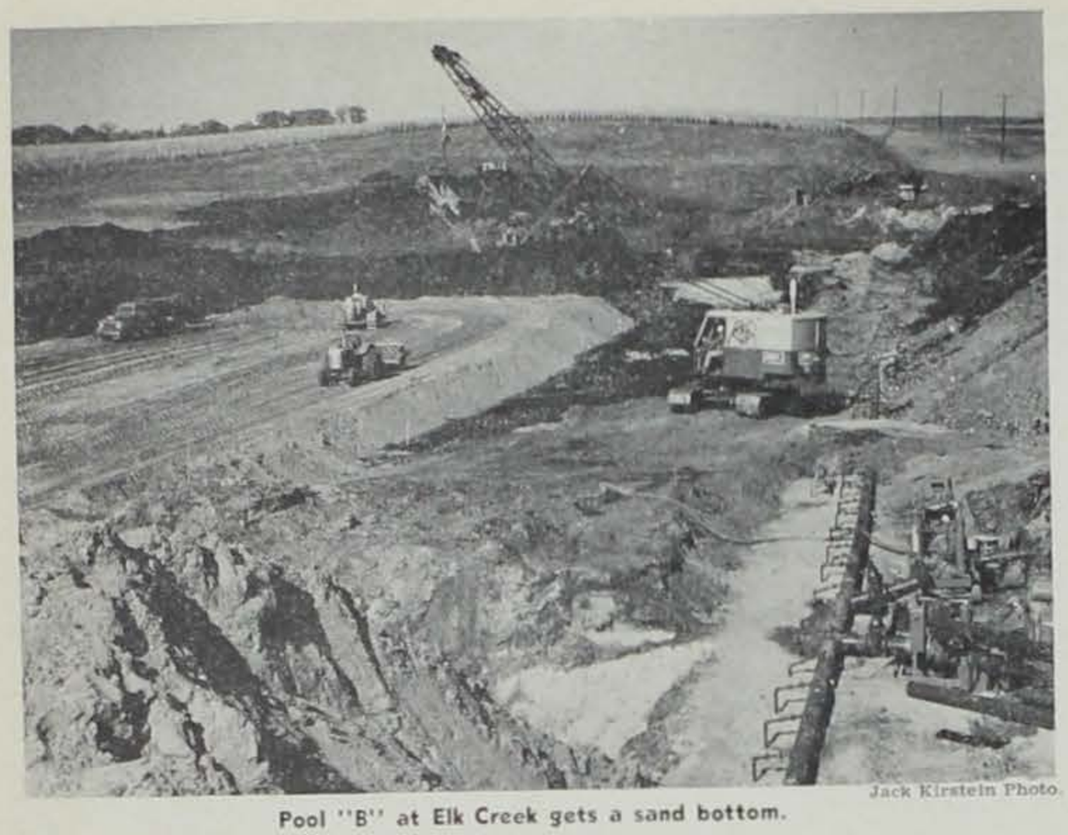
The new Clear Lake fish hatchery and attached aquarium building will provide a modern, efficient and economical northern pike and walleyed pike fish hatchery operation. The new unit will combine the functional new fish production unit, a native Iowa fish aquaria display and an observation deck for public use. The new hatchery building and exhibit is designed to cut fish culture costs, accommodate greater numbers of hatchery visitors and provide year around fish displays without interference to fisheries workers. A separate public information office will economically serve as a fish management and biology office, conference room and biology laboratory. Other work sections of the Commission may also use the remodeled space in this building next to the hatchery and exhibit building.

The split-level building utilizes the old structure at the street level as the aquaria, exhibit and model hatchery. The basic purpose of the aquaria and exhibit room is to perpetuate, through educational exhibits of native Iowa fish, public knowledge of fish habits and interest in angling.

The new hatchery addition is joined at lake shore level. Hatching capacity is provided for annual production of approximately 30,000,000 walleyed pike fry. Design allows for modern labor-saving portable brood fish holding tanks and fry tanks and a 25 percent space increase to meet future fish management needs.

The specially built flat hatchery roof provides an observation deck from which to view the beautifully landscaped hatchery lawn, enjoy the cooling Clear Lake breezes and to watch the panorama of water recreational activities.

The new hatchery and exhibit building, parking and information center will express Commission interest and effort to conserve Clear Lake resources and stimulate public appreciation and use. Fishing license funds were exclusively used for construction of the new hatchery and educational unit to improve public angling and supplement general outdoor recreation activities for residents and tourists.



Jack Kirstein Photo.

Pool "B" at Elk Creek gets a sand bottom.

WORK PROGRESSES AT ELK CREEK MARSH

Heavy earth moving equipment is altering Elk Creek in Worth County from a sluggish valley stream to a rich wild-life marsh. When construction is completed, Elk Creek Marsh will be about eight and a half miles long, average three-fourths mile in width, and cover 1,600 acres. The marsh will have three water impoundments totaling 845 surface acres of water, or about half the area, and have a 20 mile shoreline.

The pool "B" impoundment structure is now nearing completion. When finished it will hold back 229 surface acres of water. Already in operation is the 176 surface acre pool "A." It is hoped that the 100 acres still needed to complete the total acreage of the marsh can be secured soon so that pool "C" can be built in 1965.

Pool "C," with 440 surface acres of water, will be the largest of the three impoundments. Water behind the control structure will be backed up for nearly four miles. It is expected that water depth behind the dam will be sufficient to provide limited fishing. This is not the case with the other two pools where water levels will always be too shallow for good fishing habitat.

Since the Elk Creek stream bed drops only 2½ feet per mile, it was a "natural" for marsh development. Always known for its sluggish habits, the creek has become even more so over the years as silt added increased impediments to its flow. Portions of the valley floor had deteriorated to such a boggy state that cattle no longer could find suitable pasturage.

Prior to the start of construction, students from Iowa State University started a Marsh Management Techniques project using Elk Creek as a model. Continued surveillance of the valley is expected to contribute materially to all areas of marsh management in Iowa. The students report that the upper portion of the marsh is already becoming a nesting place for such waterfowl as teal, mallards and pintails.

With the completion of Elk Creek Marsh, Iowa's hunting heritage and outdoor life will be vastly richer. The marsh itself will become an increasingly attractive resting and nesting place for waterfowl. And since the entire valley is bordered by glacial moraine hills that are covered with burr oak, a generous population of deer and squirrel can be expected. In addition, Elk Creek is located in what is already considered prime pheasant country, and the refuge the birds will find at nesting time should add sparkle to the fall harvest of birds.—J.H.

PLANNING—

(Continued from page 92)

preservation of stream beds as they now exist, the people would be guaranteed access to water and hunting areas along vast stretches of major rivers in the state.

Wild rivers offer an excellent opportunity to preserve strips of marginal land along river bottoms that would forever continue to be a major source of game. They would also offer a "release area" for our present facilities that are already in danger of being overused by an ever increasing population of outdoor enthusiasts.—J.H.

Rattlesnakes, contrary to belief, do not seek to avenge the death of a mate. They are probably attracted to the death scene by scent.

The average adult lynx weighs between 20 and 35 pounds. One record weight was recorded at 44 pounds. However, this is exceptional.

The grebe, unlike most water birds that build their nests in the sand or rocks on shore, builds hers on the water.

SPOTLIGHT ON RINGNECKS—

(Continued from page 92)

The success of bait trapping, however, depends entirely on snowfall each winter. If snowfall is heavy and the snow remains on the ground, pheasants have a harder time scratching for food; consequently, they are easily lured into the baited wire cages. If snowfall is light and food is readily available to the birds, bait trapping becomes almost impossible.

Success varied considerably from year to year. At times not enough brood stock could be obtained. Other times snowfall was so heavy that it was impossible to get to the traps regularly to check them. When these trapping failures occurred, brood stock was held over to compensate. This, however, presented further problems.

Although hatching success was high among the hold-over birds, the pen-raised chicks whose ancestors had been in captivity for several generations did not possess the wild quality that is present in birds raised under natural conditions. Furthermore, the survival rate of the chicks and the old brood stock was low once the birds were released. The low survival rate became very evident in 1961 when about 700 adult pheasants that had served as brood stock for several years were released. Within two years following their release, surveys indicated that very few, if any, of the birds had survived. To further evaluate the fect that holding brood stock o from one year to the next has, hens from last year are being tained so their chicks can be co pared to the chicks from pheasants captured this fall.

Trying to establish a pheas population where none exists difficult, even with birds that f possess the wild trait. After 1961 episode, biologists decided only practical answer was to tain new brood stock each y Since winter bait trapping proved inconsistent, night light seemed to be the next best thi To date it has proven more ef tive and much less time cons ing.

Last year's brood stock was first obtained using the night lig ing technique. Undoubtedly, qu tity will be sacrificed if quality emphasized, since hatching succ is high among hold-over birds; quantity is worthless if the ph ants cannot survive once they released.

And what significance does ni lighting and this scientific mani lation hold for the Iowa sportsm Hopefully it will some day re in a shootable pheasant popula in southeastern Iowa, an area closed to pheasant hunting.

Although the wolf is a sav powerful killer, there is no kir or more devoted mate in the w of North America.

Jack Kirstein

Pheasants are transferred from the temporary holding crates to wooden crates for transportation to the game farm.

HEASANT HUNTING DURING THE HOLIDAYS

Eugene D. Klonglan
istant Superintendent of Biology

ast year for the first time it possible for Iowa's pheasant ters to enjoy their particular rt during the Christmas-New r holiday period. This exten- of the pheasant hunting sea- has been continued again this r. Results of the 1963-64 sea- definitely showed there were ll effects on the pheasant from additional hunting pressure article "The Hardy Ringneck," October issue).

ow important to the hunter this inclusion of the holiday od within the open season? On ostcard survey of hunters taken r the close of last year's sea- one of the questions asked for ils on pheasant hunting dur- the 12-day period (Saturday re Christmas through New r's Day). The hunters' answers ainly showed that this added rtunity was both appreciated utilized. Nearly 135,000 hunt- went afield in pursuit of the neck at some time during these ays. This is almost half of the 400 who hunted pheasants at e time during the entire sea- and over 40 per cent of all ers in the state (see article w Did Iowa Hunters Do Last r?" in October issue).

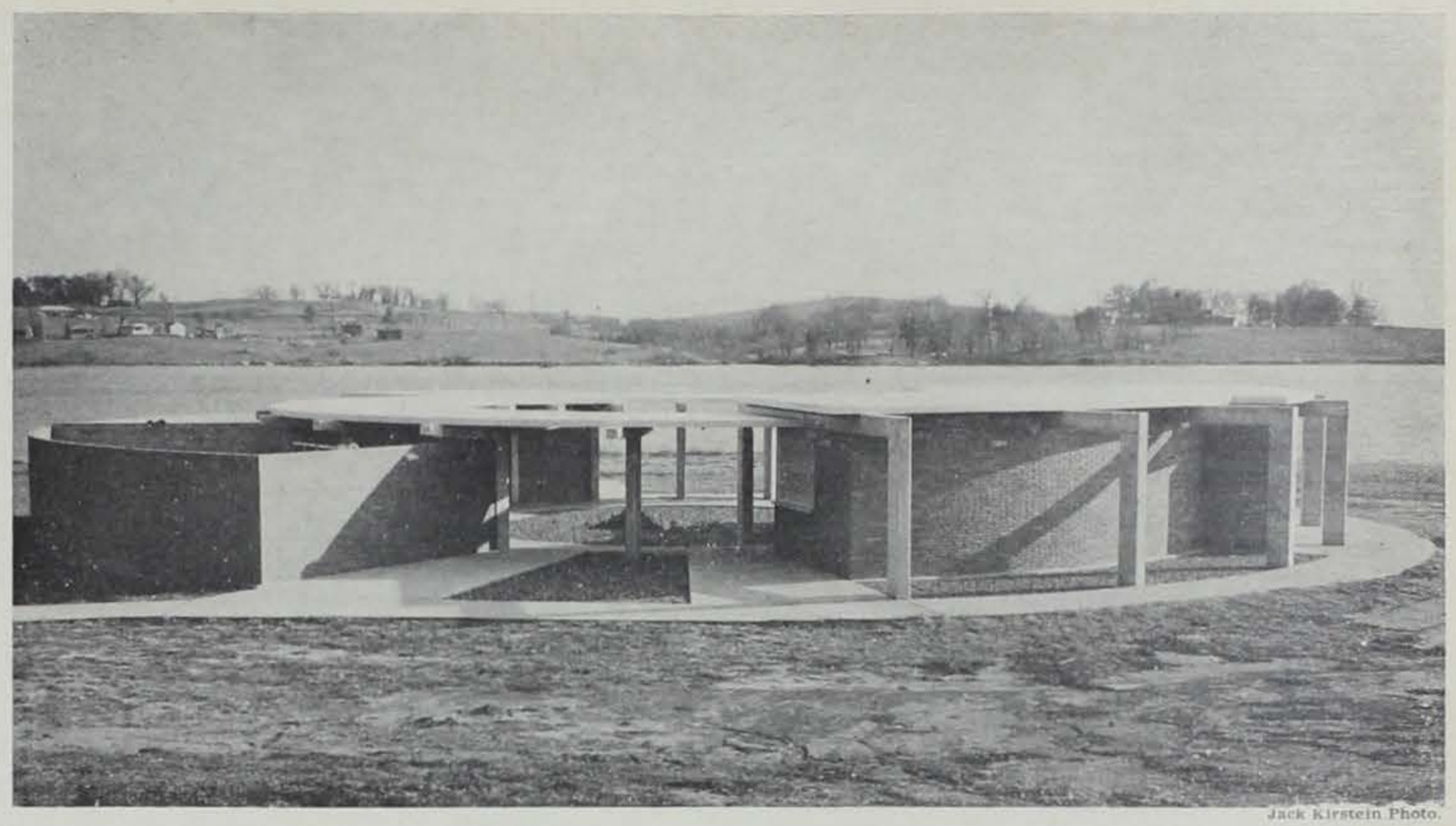
How They Fared

nd those who were willing and able to take advantage of these extra days fared rather well. They bagged almost 340,000 roosters—or about 18 per cent of the total season kill of 1,935,000. To get these birds they made nearly 320,000 hunting trips during the 12 days—or 21 per cent of all hunting trips made during the entire season. These trips involved about 1,180,000 hours—or about one-fifth of the season total. Obviously, a significant amount of outdoor recreation was afforded by this "holiday hunting."

If we break down the detailed information provided by the hunters on the postcard survey, we find that it took about 3½ hours to bag a bird during this last part of the season. This compares to 3 hours per bird for the season as a whole, and shows that roosters are harder to come by late in the season. This will suprise nobody, I am sure.

If we again consider only those hunters who hunted pheasants during the 12 days, we find that they averaged 2.4 trips per hunter during this period, involving a total of 8.9 hours. They averaged 1.1 bird per trip, or 2.6 birds for the entire 12-day interval. If we want to convert these figures into the average for all pheasant hunters, just divide them in half, since half of the pheasant hunters reported hunting over the holidays and half did not.

It is apparent that "holiday hunters" last year took considerable advantage of the added opportunity and were well rewarded for their efforts. Let us hope they can be as fortunate again this year.



Jack Kirstein Photo.

NEW ROCK CREEK BATH HOUSE

The new bath house at the Rock Creek State Park beach has recently been completed. The concrete, brick and block structure will provide bath house facilities for as many as 3,000 people on a peak day. It is anticipated that the park will attract as many as 10,000 to 12,000 weekend visitors in the future. To date, as many as 8,000 people have used the park on one day.

M OL' JACKS—

(Continued from page 89)

his head, so he could watch an intruder while exposing little of elf.

Wide Distribution

e had learned much about these hares during the past seven years, ally from hunts such as this, but mostly through researches spon- l by the Iowa Conservation Commission. We have information on lations, distribution, and habitat; on the breeding season, litter , and weights, and know something of the economic importance of e-tailed jackrabbits in Iowa.

ey occur over all of Iowa except in a few southeastern counties. Over l of this range they are relatively scarce. They appear in greatest dance on the recently glaciated soils of northern and central Iowa, n the Missouri loess soils of the west central counties. In general, ght be said that their range overlaps the pheasant range. Over etter portions of the range in Iowa populations will probably vary 5 to 15 jacks per section. Many large areas, particularly in south- owa, have much smaller numbers of hares than this. Sometimes areas hold very high populations. Near Lidderdale in Carroll ty on February 13, 1960, 90 jacks were killed on one section. An closed number escaped. During the winter of 1960-61, on one 99 jacks were killed and 15 escaped from one section near Storm

adside indices indicate jackrabbits have declined in numbers since This probably is due to greater precipitation in northern and rn Iowa than occurred in the late 1950's. The species seems to er during dry springs and summers. Perhaps too much moisture dverse effects on juvenile jacks and cuts down on their survival. e white-tailed jackrabbit is a plains mammal. It generally shuns ted areas, although woody cover is used as shelter during severe r weather. It seems to prefer wide expanses of interspersed pas- and cropland. Sloughs are used for daytime resting during winter. ntly, cultivation favors the species as high populations often occur tensely cultivated areas. Occasional high populations occur on flat and steeply rolling terrain.

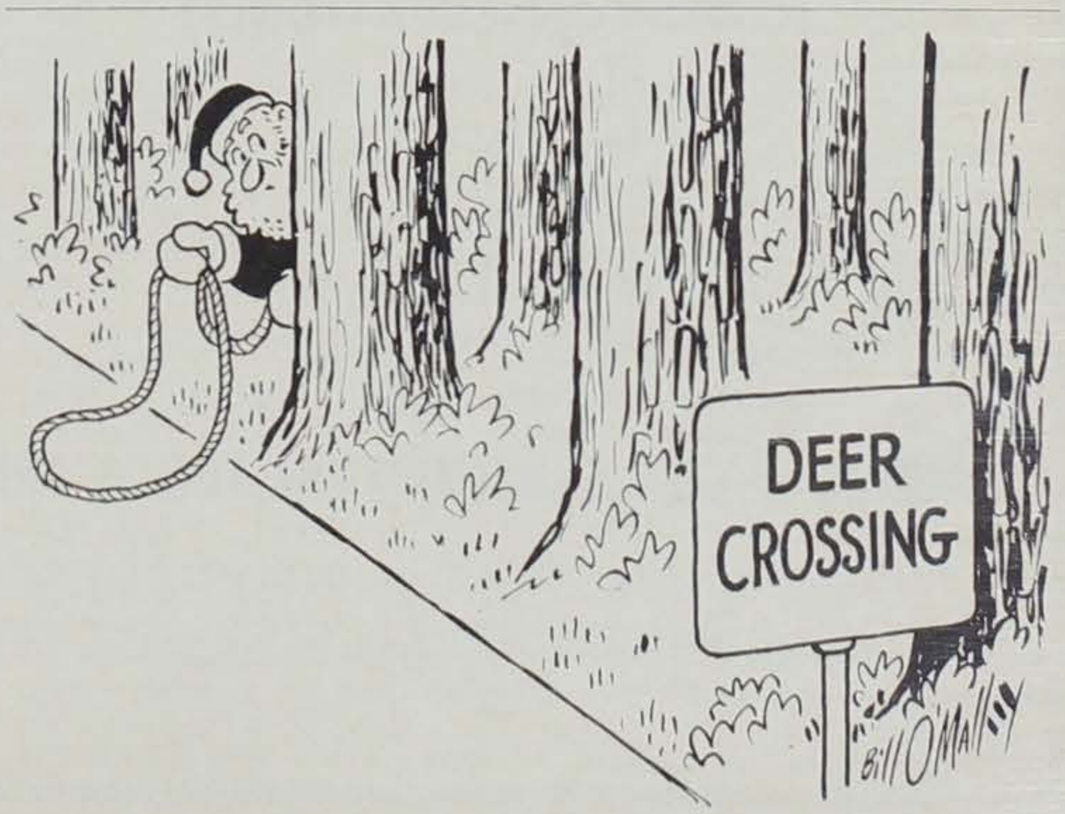
Mating Activities

merous persons have observed jackrabbits in late winter or spring ering around with their noses to the ground, alternately slowly

(Continued on page 96)

Wolf packs are made up of one or more family units with added stragglers. They cooperate in hunting and killing their food.

The red fox can swim well but tends to avoid water unless pursued.



THEM OL' JACKS—

(Continued from page 95)

hopping, then stopping for observation. At times the hares seem relatively tame. Sometimes they appear in groups, oftentimes alternately chasing one another. These activities most frequently occur during early morning and late afternoon. They may occur after dark, but that is not known. This unusual activity represents males in search of females during the mating season.

These nuptial chases seem to fall into peaks of activity. During most years the first occurs late in February or early in March; another during mid-April; and still another during the last half of May. A few observations have been recorded in early July. Some years because of deep snow and cold weather in March, the first mating period may be delayed by two or three weeks. Subsequent mating periods, consequently, are delayed also.

The young hares are born after a six week gestation period. They are deposited in a shallow hollow or nest, but soon become scattered about. They are very precocious, having their eyes open soon after birth, and are able to hop about almost immediately. They have a full coat of fur at birth. Cottontails, in contrast, are born naked and don't open their eyes for 10 days after birth. The female jack nurses her youngsters for some time, exactly how long is not known. However, she becomes pregnant again within a day or two and bears a second litter usually late in May. An adult female in Iowa will have two and perhaps even three or four litters in a single season. Litters range in size from one to five juveniles and average 3.6. Probably the juveniles do not mate during the season in which they are born.

The white-tailed jackrabbit is actually a hare. Misnomers are common in the rabbit family. Snowshoe rabbits, not found in Iowa, also are hares. The variety of tame rabbit called "Belgian hare" on the other hand is actually a rabbit. The distinction between rabbits and hares is quite simple: Those bearing young which have their eyes open with a complete coat of fur at birth are hares; rabbits acquire their coat of fur after birth and are born with their eyes closed.

About 200 jackrabbits taken during the hunting season were weighed during our researches. Males averaged 7.5 pounds and ranged from 5.8 to 9.4 pounds. Females averaged 7.9 pounds and ranged from 5.4 to 9.5 pounds. During the breeding season males averaged 6.8 pounds; females averaged 8.3 pounds. Probably the males in their traveling about during the mating season lose weight—from worry and frustratoin or from extended activity. The families in spring and summer weigh more, probably because they are usually pregnant.

Recreation Resource

Jackrabbits provide numerous hours of hunting recreation in Iowa during winter when seasons on most other game species are closed. They are taken by all types of firearms. Their white outer fur together with their habit of lying in fall-plowed fields during winter make them conspicuous targets for hunters equipped with binoculars and hig powered rifles, who travel rural roads, especially when snow cover lacking. Some hunters prefer to "walk them up" by searching c likely looking sloughs, picked corn fields, and pastures. A favor method of hunting involves circle hunts whereby promising sections a surrounded by hunters who drive the jacks toward the center of t section where they are shot. These highly organized hunts are a co mon week-end form of recreation in many communities of northe and western Iowa.

In areas of relatively good populations, jackrabbits find a ready ma ket at most fur-buyers and mink ranchers. They are sold to the buyers without skinning or other preparation. Prices seem to va according to competition among buyers—areas having consistently hi population of jacks usually support more buyers.

Pelts from the rabbits are baled and shipped to eastern marke where they are utilized in felt manufacture. The flesh is ground a mixed with fish and other animal food and fed to ranch mink. Sin jackrabbits must have their white winter pelage to be marketable, t season at which they are hunted for sport generally ranges from m December until the close of the hunting season. Iowa jackrabbits m twice yearly: First during March and early April, when they acqu their summer pelage of gray or brownish-gray; and again in Novem and early December when they acquire their white winter fur.

Farmers often regard this species as a pest. Jackrabbits are kno to eat young corn and soybeans soon after they sprout. However, t form of damage seems to be confined to early spring. They sometin nip off small trees and denude them of bark during winter stress. Th feed regularly at alfalfa hay stacks during winter when snow cov the ground. Waste corn in the fields after harvest appears to be important winter food. This certainly cannot be considered any fo of damage. Everything considered, it appears the value of this spec as a game animal and as a very interesting member of our mammal fauna far outweighs the harm it may do to agriculture.

WORLD RECORD

A world record channel catfish, weighing 58 pounds, was caught in the upper end of the Santee-Cooper diversion canal in July by W. B. Whaley of Pineville, South Carolina.

Some whitetail deer don't travel more than thirty feet from their birthplace for the first 25 days of their life.

It is estimated that rats ca an annual loss in the Uni States of almost two hundred m lion dollars. They have been kno to kill hundreds of baby chicks one evening and even gn through lead pipes to get at ter they hear running.

When hunting, coyotes h been known to play dead in or to capture their prey.