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September, 1969 Volume 28 Number 9

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Thinking About Deer . . . And The 1969 Season

By Paul D. Kline Game Biologist

Yesterday a touch of autumn freshened the air. T'was a cool northwest breeze. I just had to take a walk in the woods, even though squirrel season hadn't arrived.

The timber was quiet. It was too early for the raucous blue-jays and redheaded woodpeckers to be quarreling over acorns. That would come in another month.

A few early-fallen leaves littered the trail. I could tell this trail hadn't been used recently because the little spinybacked woods spiders had it laced with their webs.



A fallen log offered a good spot to sit and watch. Maybe an old tom turkey would pass by if I was quiet. The Conservation Commission had stocked them here two years previous. Several broods of chicks had been reported since.

A whitetail doe crossed the trail about 80 yards upwind. She flicked her tail nervously and eyed me. Her red summer coat shone in the sun. It would soon be replaced by the heavy "blue" winter coat.

I didn't move. A pair of good-sized fawns entered the trail. Their spots had faded. Giving me a final suspicious look, the old doe, followed by the fawns, melted in the brush. Their passing set me to thinking about deer and the season we had set for 1969.

About thirty years ago the Conservation Commission had stocked deer in this area. Before that for many years there were none. They had been wiped out prior to 1900 by excessive hunting and through forest clearing.

The tiny herd introduced in the late thirties had prospered, just as deer had over much of Iowa. By 1953 they had actually become pests in some areas. The herd was estimated at 12,600 then, a seven-fold increase in six years.

A five day hunting season was held in about half the state to reduce deer

(Continued on page 68)

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CIRCULATION

COMMISSION MINUTES

July 1, 1969

Held at Des Moines

Dr. Keith A. McNurlen, vice chairman, administered the oath of office to Jim D. Bixler, Joan Geisler and Leslie L. Licklider who have been appointed to the Commission for six-year terms beginning July 1, 1969 through June 30, 1975.

Dr. McNurlen was elected chairman of the Commission for the ensuing year and Earl E. Jarvis was named vice-chairman.

IOWA CONSERVATIONIST

Our Readers Write . . .

Dear Sirs:

We would just like to comment on the roadside parks in your state. They are clean with lots of facilities. We would like to thank you and all the people concerned. It was a real pleasure to use them.

Thank you,

The Peterka Family Somerdale, New Jersey

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Dear Sirs:

Although I have moved to another state I read regularly the IOWA CONSERVA-TIONIST and enjoy reading about the things I enjoyed doing in my state for so many years—hunting, fishing, hiking, boating, and picnicking.

It was with interest that I read the article of "Habitat Up—Ducks Down" in the July issue. I definitely agree with the last paragraph in the article, but I don't think it goes far enough. I would like to see the duck season closed for as long as it takes to bring the breeding stock up to a level of no great concern from year to year.

Controlled hunting with restricted limits won't work. People just can't tell a teal from a wood duck; and rather than miss taking a duck home, they shoot at anything that flies.

The special teal season is the worst solution to the problem I can imagine. Many a young mallard or "woody" has fallen as a "teal" because it meant meat in the pan.

At the same time, does it do any good to limit or close the season in Iowa, or North Dakota where I now live, when a state like Arkansas has such liberal hunting regulations?

No!! The only way to prevent controlled slaughter and enjoy good duck hunting in the future is to control the season federally.

Until this is done, I will buy my license and fill my limit as many times as is legal during a season—just like everyone else.

Sincerely,

Lawrence E. Cook Grand Forks, North Dakota

The Black Hawk County Conservation Board — Hickory Hills — Development project was approved for submission to the Bureau of Outdoor Recreation for qualification only, to be activated when sufficient funds become available.

Two land purchase options on the Volga River Lake Project in Fayette County totaling 228.5 acres were approved.

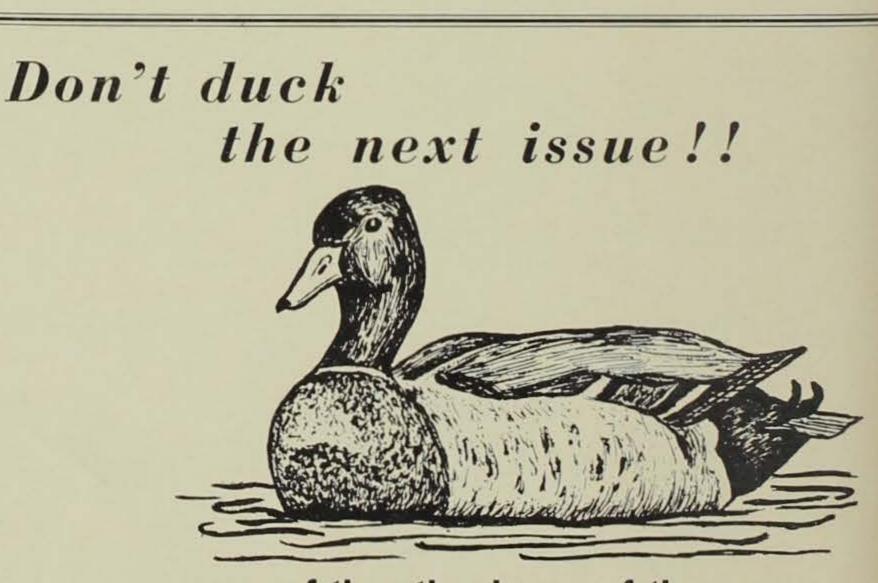
Three land purchase options on the Walters Creek Watershed totaling 340 acres were approved.

The following County Conservation Board Land Acquisition projects were approved: Poweshiek County Conservation Board—Arbor Lake County Park, 36 acres; Scott County Conservation Board —Buena Vista—Wapsipinicon River Access, 164 acres.

The following County Conservation Board development plans were approved: Carroll County Conservation Board — Dickson Timber Preserve; Monroe County Conservation Board — Miami Lake County Park Revision; Pocahontas County Conservation Board — Northwest Recreational Park; Marion County Conservation Board — Roberts Creek County Park Revision.

The Commission reviewed the master development plan for Lake Manawa, Pottawattamie County.

Accepted an option for 400 acres in the Riverton Area, Fremont County.



or any of the other issues of the IOWA CONSERVATIONIST.

Renew your subscription today. 24 issues for a "bill" (\$1). It's just what it's "quacked up" to be! GREAT! !

IOWA CONSERVATIONIST



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Ever wonder what Iowa would be like without wildlife? It's possible some people wouldn't even notice any change. But, there are over 674,000 licensed hunters and fishermen plus thousands of others who have vital stake in Iowa's wildlife resources.

The recreational and economic values of wildlife leave their mark on practically every citizen of the state. Farmers and businessmen benefit to an extent that few realize.

To begin with, hunting and fishing offer an excellent opportunity to enjoy the great outdoors, to become better acquainted with nature and the land we love.

Hunting and fishing are part of our heritage—a heritage that helped make this country great. As forms of outdoor recreation today, they give people a break from routine work with a day of fun and excitement in the fields and woods or on the streams and lakes.

But there is a definite economic side of this healthful recreation. According to a national survey, the average hunter and fisherman spends \$80 and \$90 respectively each year in pursuit of his outdoor pastime. Now, this kind of spending certainly has an effect on our economy. (Just multiply \$80 or \$90 by 674,000!)

The typical nimrod will spend an average of eight and a half days at his sport each year and he will travel about 200 miles to get where the game is. Anglers put in about nine and a half days and average 300 miles annually.

Aside from ammunition, guns, rods, reels and other equipment sold chiefly at sporting goods stores, these hardy outdoorsmen plunk down millions on other items.

Clothing and boat manufacturers get a big share of the outdoor dollar. With the average hunter taking about five trips and the angler eight each year, all phases of the transportation industry share in the windfall. Hotels, motels, restaurants and room-and-board facilities provide meals and places to sleep while away from home.

This all adds up to a sizeable chunk of money in the economic stream. It proves that Iowa's wildlife and natural resources not only give people pleasure, fun and sport, but also contribute to the economic balance and business success of the state. -de

'New' Waters Spark Planning For 1970 Sports

If you are wondering why you are reading an article about water recreation in the middle of September, just try to think of yourself as a person with a lot of foresight.

Consider next spring and summer and how you are going to take advantage of the 25,000 new acres of watertime fun that is being added to Iowa by the Red Rock and Rathbun Reservoirs.

The waters section of the Iowa Conservation Commission has no choice but to be foresighted. It must prepare for over a million visitors to these new reservoirs next season.

Plans for this winter include construction of a permanent waters station and several boat launching ramps at each reservoir. There will also be new camping, picnicking and swimming facilities waiting for next season's visitors.

The Army Corps of Engineers and the Iowa Conservation Commission in a cooperative effort are establishing these public use areas so that visitors can appreciate the outdoor entertainment which Iowa has to offer.



Pr. Keith McNurlen (right), chairman of the Iowa Conservation Commission, preented special awards of merit to Bill Horine of Nevada (center) and George Iarzeck of West Burlington, at a recent Commission meeting. The awards were rom the American Association of Conservation Information, of which the Iowa 'ommission is a member. Horine was cited for "stimulating awareness in the imortance of conservation on his radio and television programs, Outdoor Talk." Iarzeck received his award for "creating greater public interest in conservation nd the outdoors in his column, "Sportsman's Corner" and encouraging the teachng of conservation in schools." With the new areas attracting all these people there is a higher risk of boating and swimming accidents.

One reason for predicting an increase in accidents is that recreationists think of the reservoirs as either a long, narrow lake or a wide, slow-moving river. Actually, the reservoirs combine the characteristics of both and produce situations that do not occur in either a lake or stream.

During the spring and early summer, flooding rivers bring the worst hazards of all—floating and partially submerged trees, limbs, barrels, and anything that is washed into rivers by heavy rains.

Part of the debris that comes into the reservoirs is washed up on the shore, some sinks to the depths, and some ends up stuck through boat hulls of unwary navigators.

Once the current is slowed down in the pool of the reservoir, snags remain until they sink or are washed to shore. There isn't a powerful current to concentrate snags into small bunches or break up the snags and wear them down into less threatening obstacles.

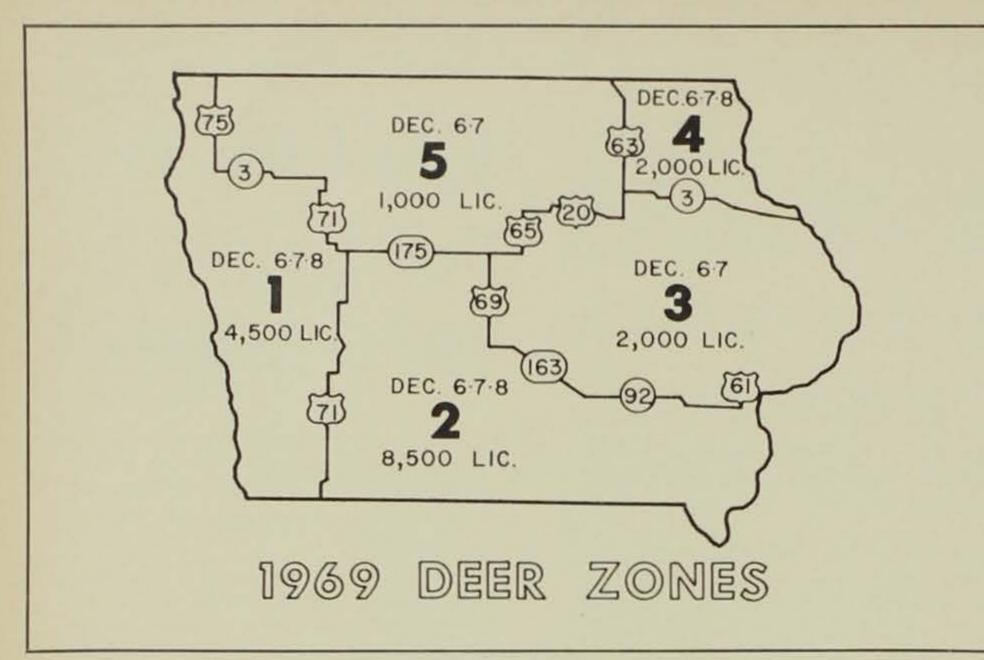
Usually by the middle of summer the snags get caught on the banks. As soon

(Continued on page 69)

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IOWA CONSERVATIONIST



Deer Management (Continued from page 65)

Some

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Thoughts

Above: The map shows the zones, dates, and number of licenses per area approved for the 1969 season. numbers where they were too prone to help farmers harvest crops. About 4,000 deer were killed and the remainder were dispersed.

Another season, with a few more counties opened, was held in 1954. Since then we have had annual statewide seasons.

During these 16 seasons, archers have harvested 5,907 deer, gunners 91,775. In 1968 the total harvest was 13,771. An additional 1,315 deer were killed on roads and highways in collisions with vehicles.

Despite this annual harvest the herd has increased. The pre-hunting season estimate for 1969 is 32,659, nearly three times the 1953 estimate. could support somewhere between 65 and 130 thousand deer. If they were that numerous, chances are they would become an intolerable nuisance to farmers.

The Conservation Commission must, live with one inescapable fact: The maximum number of deer we can have in Iowa will depend not on what the habitat will support, but primarily on what people will tolerate. This population lies somewhere between the number we have now and the 65 to 130 thousand theoretically possible.

With this thought in mind we have adjusted deer hunting regulations for 1969 to permit a modest increase in the herd. Gun hunter quotas have been cut by 2,500 in Zones 1, 2, and 5; and the number of days hunting reduced from three to two in Zones 3 and 5.

Below: Sighting a doe, like this one, can set anyone to thinking about the joys of Nature and what She provides for Iowans.

Deer inhabit most woodland habitat in Iowa. But in most localities they are not as abundant as they could be. They are more dispersed than in 1953.

Probably the habitat available in Iowa



This should permit a harvest of near 12,000 deer, about 1,800 fewer than in 1968. The anticipated herd increase for 1970 will be about seven percent.

If we increase the herd gradually over a period of years we will eventually reach an optimum point of public tolerance. Then we can adjust regulations to maintain the herd at that level.

People have asked occasionally why we don't turn to a "bucks only" season. This certainly has been considered. If we want to increase deer numbers it would seem logical to shoot bucks only.

But, there is one hitch—hunters make errors. States that have "bucks only" seasons report that anywhere from 20 tc 50 percent of the deer killed are does and fawns shot in error. This is a serious waste of a resource.

In the public hunting portion of the Red Rock Game Management Unit, Marion County, we are trying a "bucks only" season this year. The outcome will be considered in our future management.

Actually, if we were to shoot antiered bucks only there would be many more disappointed hunters. About 70 percent of the annual kill has been does and fawns. This indicates that hunting suc-

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cess would drop from about 45 percent to 15 to 20 percent.

The Conservation Commission feels a dual responsibility. We must protect the resource—the deer—and at the same time permit maximum enjoyment from it. This means we should maintain the deer herd at a maximum level consistent with agriculture.

At the same time we must permit hunting at a level which will not deplete the herd. During the past 16 years we have successfully accomplished this.

If anyone doubts that deer management is big business they can consider these figures. It is anticipated that deer hunters will spend 700,000 hours in pursuit in 1969.

More than 23,000 licenses will be sold, and an additional 26,000 free licenses will be issued to landowners or tenants to hunt on their own lands.

IOWA CONSERVATIONIST

1969 IOWA HUNTING SEASONS AND LIMITS

GAME	SEASON	SHOOTING HOURS	DAILY BAG LIMIT	POSSESSION LIMIT	
Pheasant	Nov. 8-Dec. 31	8:00 a.m4:30 p.m.	3	6	
Bobwhite Quail	Oct. 25-Jan. 31, 1970	8:00 a.m4:30 p.m.	8	16	
Hungarian Partridge	Nov. 8-Dec. 31	8:00 a.m4:30 p.m.	2	4	
Ruffed Grouse	Nov. 1-Nov. 16	8:00 a.m4:30 p.m.	2	4	
Duck	Oct. 25-Nov. 23	¹ / ₂ hr. Before Sun- rise to Sunset	4 Check Species Laws	8	
Geese	Oct. 4-Dec. 12	½ hr. Before Sun- rise to Sunset	5 Check Species Laws	5	
Coot	Oct. 25-Nov. 23	1/2 hr. Before Sun- rise to Sunset	10	20	
Wilson Snipe	Oct. 4- Nov. 22	1/2 hr. Before Sun- rise to Sunset	8	16	
Rabbit (cottontail and jack)	Sept. 13-Feb. 15, 1970	6:00 a.m6:00 p.m.	10	None	
Fox and Gray Squirrel	Sept. 13-Dec. 31	None	6	12	
Raccoon (hunting only)	Nov. 1-Feb. 28, 1970	12 noon Nov. 1 to 12 midnight Feb. 28	None	None	
Deer (gun)	Dec. 6-7-8, check zones and restrictions	8:00 a.m4:30 p.m.	Possession and Bag Limit—One Per Year		
Deer (bow)	Sept. 27-Nov. 27	1/2 hr. Before Sun- rise to 1/2 hr. after Sunset			

Water Recreation - 1970 . . (Continued from page 67)

as the water level begins to stabilize, the reservoir becomes a lake with a very slight current.

The shoreline of the reservoir is perhaps the most important hazard to avoid, if possible. Debris, stumps from flooded forest floors, submerged rocks and countless other obstacles lie partially or completely concealed. About the only way to insure against running into one of these is to avoid the shoreline completely. At each reservoir there will be a new water station. These will be the headquarters for the water safety patrolmen and information centers for reservoir visitors. son by several temporary helpers. They will patrol the reservoir, maintain the boat ramps and try to inform boaters about water safety.

Roy Downing, superintendent of the waters section, stated very simply, "We cannot begin to regulate boating and water safety only through enforcement. The public has to be made aware of what lies in store for them if they don't take a cautious look at water recreation. "It's always much more fun to be carefree and not worry about accidents-the old 'it would never happen to me' attitude. This is the type of thinking that usually finds boats hung up on a tree stump, or a skiier with a pair of broken legs." It is chiefly through personal contacts made on their patrol that the waters officers inform the public about water safety. They are conscientious people, concerned for the welfare of water recreationists. Their stations are not only devoted to the maintenance of their equipment, but also to the need of informing the public about their area. There is always someone at the station to answer any questions from visitors. The off season is a good time for boaters to evaluate their watertime fun. Iowa provides about as large a variety in water recreation as exists anywhere in the midwest. There is no need to travel hundreds of miles to enjoy yourself. There are only a few things the Commission asks of the people who use state waters. We want them to enjoy themselves and take advantage of what Iowa has to offer but realize that our recreational facilities are for everyone, to be enjoyed now and in the future.

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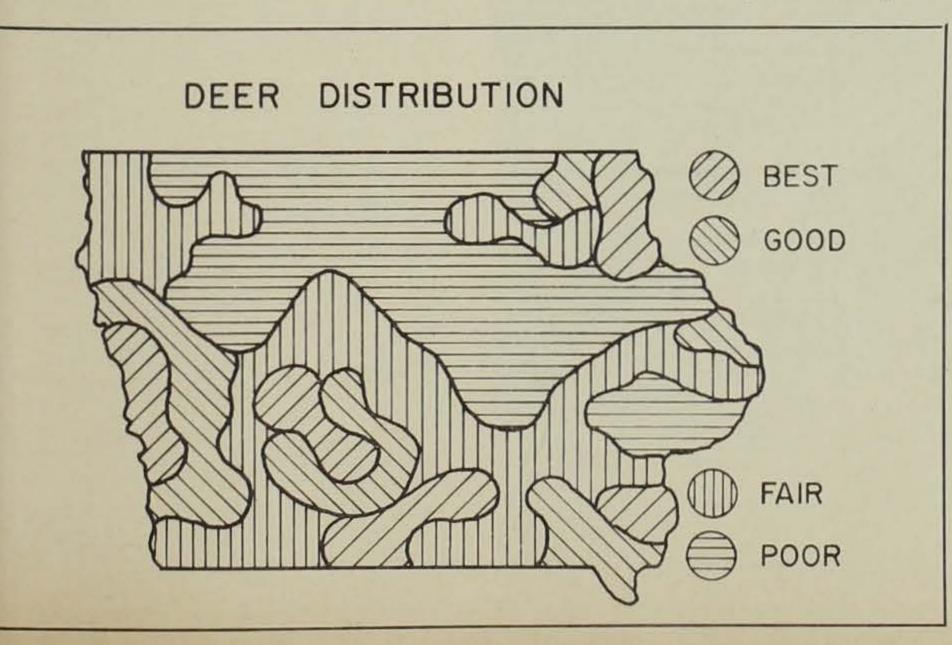
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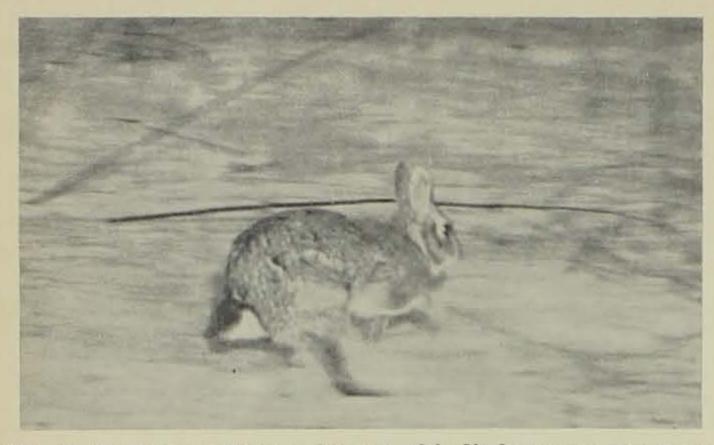
All hunters will spend an estimated 1¼ million dollars for guns, ammunition, gasoline, clothing, hotels, meals, licenses, etc. Of course there is an additional value in the knowledge that wild deer exist and can be seen in Iowa.

What value can one put on the chance to sit on a log and watch a doe and twin fawns pass unmolested through the woods?

There will be one permanent employee who will be aided during the boating sea-



IOWA CONSERVATIONIST



'Hotfoot'n Harey' In Great Shape For Another Season

Hot foot'n it away from a hunter, this little target can move at tremendous speeds for short distances.

By Ross Harrison Staff Writer

The cottontail rabbit, better known as "Hotfoot'n Harey", promises to give Iowa hunters another successful season this fall.

H. H. made his 1969 debut September 13 and for four and a half months after, his show will continue. If the season is anything like the past few years, and biologists say that it is going to be, Harey will again lead all game species in Iowa for the number taken.

The hunting season this fall allows for a daily bag limit of 10 and no possession limit. Shooting hours are from 6:00 a.m. to 6:00 p.m., and the entire state is open.

Cottontails make sport for hunters of all ages. Harey is an explosion of speed, a remarkably agile trickster, and an excellent morsel for anyone's table.

get a little out of hand. One person once said, "It's a good deal for us that those little bunnies are so good to eat, or they might wind up eating us."

This statement is a trifle absurd. It implies that rabbits are meat eaters, which isn't so, and it implies that hunters control populations of rabbits, which also is incorrect.

It does, though, indicate the fantastic reproductive capabilities of Hotfoot'n Harey. Australia (whose rabbits are very close cousins to our cottontail) can testify to the destruction of grass, grain, and gardens by masses of rabbits that lack the natural enemies and predators which keep their population in check.

Without these checks their numbers increase so fast and to such great heights they caused losses of many millions of dollars to crops and pastures.

ble. These checks on the population never allow the rabbit numbers to outgrow their food supply.

Hunters take a considerably small percentage of the total population. For the past few years the harvest has been more than one and a half million annually and most of these were taken from the southern two tiers of counties. Southern Iowa has prime rabbit habitat with miles of. diverted areas interspersed with cornfields and brush.

In the early fall the rabbit population ands is higher than any other time of the year. It makes a challenging hunt to vest t try and pick out a rabbit from the colormatched grass and thickets when there isn't any snow on the ground.

As the season progresses and the first snow comes, the population begins to decline. This is not due to hunting pressure, but more from natural mortality. The snow makes the rabbit more vulnerable to man and to its natural enemies. Even though the population is usually down later in the fall, hunters turn out in greater numbers. Rabbits are easier to trail and make better targets against a white background of snow. This is an excellent time to give youngsters their first hunting experience.

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Rabbits don't require much to survive and to reproduce in the great numbers that made them famous. Food (corn and alfalfa), water and a little underbrush to hide in, and a rabbit is set up for a good life.

Their requirements are so well met in our state that sometimes their numbers

In Iowa there isn't much danger of extreme over production as there has been in Australia. Our natural predators like the fox, owl, cats, dogs, the elements, and parasites, as well as diseases, have kept the population of cottontails fairly sta-



A little tracking snow with some good cover provides excellent rabbit hunting.

A .410 is a great beginning gun for a youngster and it is very effective on rabbits. Number 6 shot gives the best results because it doesn't bring as much hair into the meat as larger sizes.

Hunting Hotfoot'n Harey is a fast moving, quick shooting sport. Find a large brush pile near a cornfield and chances are good that there will be several bunnies inside.

Beat on the brush, send a beagle in after them or just relax and wait for them to come out. Either way, once the first shot is fired, get ready for another. When one jumps, others take alarm and you'll see what the saying "off like a scared rabbit" means.

A splendid day of hunting can only be topped by a fine rabbit dinner.

For this season and for many to come, the cottontail will provide a great sport for thousands of hunters. It's easy to understand-in the field or on the table, Hotfoot'n Harey guarantees satisfaction.

IOWA CONSERVATIONIST

Bountiful Bushy-Tails Fun To Hunt and Great To Eat

By Ross Harrison Staff Writer

Squirrel City!!!

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That's what hunters call Iowa's woodands in the fall. Iowa has had some of the best "bushy-tail" shooting in the midwest the past few years and it looks as hough 1969 will be another great season.

This fall the season runs from Septemper 13 through December 31, with a bag imit of six and a possession limit of 12

After you shoot one, stay where you are. Keep an eye on the downed game, but maintain your position. Where there is one, there are probably two, three, or more.

An important reason for the successful bushy-tail seasons is the good supply of foods available. They diet on corn, acorns and hickory nuts which are abundant in Iowa.

Another explanation of Iowa's substantial squirrel population is the fact that squirrels are excellent parents. Their nests are high in trees and emergency enemy-escape routes are well planned. Young squirrels aren't freed from the nest until they can run, climb and fend for themselves almost as well as an adult. Their speed and ability to find a safe hiding place puts them out of the reach of most predators.

Small, fast and cagey, the fox squirrel makes a challenging target.

> Diseases rarely cut into squirrel populations because they live in segregated communities. They possess a strong territorial feeling that keeps them from ranging far and wide. As a result epidemics are held in check.

> With all these factors acting to supply a good squirrel season year after year, biologists believe that our timbers have just about reached the saturation point.

> For the past few years the squirrel numbers have remained fairly stable and



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after the opening day. The entire state s open to hunting.

There are two kinds of squirrels that can be hunted in Iowa-the fox and the gray squirrel. Fox squirrels are red like a fox and they live in small woodlots and in the edges of large timbers. They are nore abundant than gray squirrels.

Occasionally hunters bag a solid black squirrel. These are mutations of the fox squirrel and are identical to them in every respect but color.

Gray squirrels are a little smaller than he fox squirrel. They are colored gray and they usually live deeper in the woods.

For the past several years, squirrels lave ranked as the number three game pecies in Iowa, right behind cottontails ind pheasants. They provide a type of nunting that can be the most relaxing of outdoor sports.

For a good hunt, just sit down, relax inder a big oak tree in the early morning or late afternoon, and don't move for everal minutes. Keep your rifle handy. The squirrels know you are there, and or a short time your presence will keep hem hidden.

Then curiosity usually gets the best of hem. One will poke his head out of his tole to see if you are still there. Many imes, if you don't move or frighten them, hey will put themselves up for an exellent target.

Patience and silence are the key facors that make a good squirrel hunter. no change is expected. There haven't been any drastic changes in habitat and certainly there will be a continual supply of food as long as Iowa produces corn.

Iowa has a great deal to be proud of with its squirrel crop. Since they are found all over the state, everyone can enjoy the hunt and the excellent eating that squirrels provide.



Relaxing early in the morning in a beautiful timber area, the squirrel hunter can forget his daily routine and concentrate on his exciting quarry.

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IOWA CONSERVATIONIST

1969

DUCK AND GOOSE HUNTING HOURS SUNRISE AND SUNSET SCHEDULE

DAYLIGHT SAVING TIME

	SIOUX CITY	OMAHA	MASON CITY	DES MOINES	WATERLOO	CEDAR RAPIDS	DUBUQUE	BURLINGTON
	SR SS	SR SS	SR SS	SR SS	SR SS	SR SS	SR SS	SR SS
OCT. 4	7:25 7:02	7:23 7:01	7:14 6:50	7:14 6:52	7:10 6:46	7:06 6:44	7:03 6:40	7:04 6:42
5	7:27 7:01	7:24 6:59	7:15 6:48	7:15 6:50	7:11 6:45	7:08 6:42	7:04 6:38	7:05 6:40
6	7:28 6:59	7:25 6:58	7:16 6:46	7:16 6:48	7:12 6:43	7:09 6:40	7:05 6:36	7:06 6:39
7	7:29 6:57	7:26 6:56	7:17 6:45	7:17 6:47	7:13 6:41	7:10 6:39	7:06 6:35	7:07 6:37
8	7:30 6:56	7;27 6:54	7:18 6:43	7:18 6:45	7:14 6:40	7:11 6:37	7:07 6:33	7:08 6:36
9	7:31 6:54	7:28 6:53	7:19 6:41	7:19 6:43	7:15 6:38	7:12 6:35	7:08 6:31	7:09 6:34
10	7:32 6:52	7:29 6:51	7:21 6:39	7:21 6:42	7:16 6:36	7:13 6:34	7:10 6:30	7:10 6:32
11	7:33 6:51	7:31 6:50	7:22 6:38	7:22 6:40	7:18 6:35	7:14 6:32	7:11 6:28	7:11 6:31
12	7:35 6:49	7:32 6:48	7:23 6:36	7:23 6:39	7:19 6:33	7:15 6:30	7:12 6:26	7:12 6:29
13	7:36 6:47	7:33 6:46	7:24 6:34	7:24 6:37	7:20 6:31	7:16 6:29	7:13 6:25	7:13 6:28
14	7:37 6:46	7:34 6:45	7:25 6:33	7:25 6:35	7:21 6:30	7:18 6:27	7:14 6:23	7:14 6:26
15	7:38 6:44	7:35 6:43	7:27 6:31	7:26 6:34	7:22 6:28	7:19 6:26	7:15 6:21	7:15 6:25
16	7:39 6:42	7:36 6:42	7:28 6:29	7:27 6:32	7:23 6:26	7:20 6:24	7:16 6:20	7:16 6:23
17	7:40 6:41	7:37 6:40	7:29 6:28 7:30 6:26	7:28 6:31	7:25 6:25	7:21 6:22	7:18 6:18	7:18 6:22
18	7:42 6:39	7:38 6:39 7:39 6:37	$7:30 6:26 \\ 7:31 6:25$	$7:30 6:29 \\ 7:31 6:28$	$7:26 6:23 \\ 7:27 6:22$	7:22 6:21 7:23 6:19	7:19 6:17	7:19 6:20 .
19	7:43 6:38	$7:39 6:37 \\ 7:41 6:36$	7:33 6:23	7:32 6:26	7:27 6:22 7:28 6:20	7:23 $6:197:25$ $6:18$	7:20 6:15	7:20 6:19
20	7:44 6:36	7:41 6:36	7:34 6:21	7:33 6:25	7:29 6:19	7:26 6:16	7:21 6:13	7:21 - 6:17 7:22 - 6:16
21	7:45 $6:357:46$ $6:33$	7:43 6:33	7:35 6:20	7:34 6:23	7:31 6:17	7:27 6:15	7:22 $6:127:24$ $6:10$	$7:22 6:16 \\ 7:23 6:14$
22	7:46 6:33	7:44 6:31	7:36 6:18	7:35 6:22	7:32 6:16	7:28 6:13	7:25 6:09	7:24 6:13
23 24	7:49 6:30	7:45 6:30	7:38 6:17	7:36 6:20	7:33 6:14	7:29 6:12	7:26 6:08	7:25 6:12
24 25	7:50 6:29	7:46 6:29	7:39 6:15	7:38 6:19	7:34 6:13	7:30 6:11	7:27 6:06	7:26 6:10
20	1:00 0:25	1130 0120	1100 0.10	1500 0.10	1.04 0.10	1.00 0.11	1.201 0.00	1.20 0.10

CENTRAL STANDARD TIME

ra:

:09	6:28	5:05	6:28	5:09	6:32	5:11	6:35	5:18	6:39	5:14	6:40	5:27	6:48	5:27	6:51	26
07	6:29	5:03	6:30	5:08	6:33	5:10	6:37	5:16	6:40	5:12	6:41	5:26	6:49	5:26	6:52	27
06	6:30	5:02	6:31	5:06	6:34	5:08	6:38	5:15	6:41	5:11	6:43	5:24	6:50	5:25	6:54	28
05	6:31	5:00	6:32	5:05	6:35	5:07	6:39	5:14	6:42	5:10	6:44	5:23	6:51	5:23	6:55	29
04	6:32	4:59	6:33	5:04	6:37	5:06	6:40	5:12	6:44	5:08	6:45	5:22	6:52	5:22	6:56	30
		4:58	6:35	5:02	6:38	5:04	6:42	5:11	6:44	5:07	6:47	5:21	6:53	5:21	6:57	31
02	6:33								6:46	5:06	6:48	5:19	6:55	5:19	6:59	NOV. 1
01	6:35	4:56	6:36	5:01	6:39	5:03	6:43	5:10			CARLON CONTRACT					140.4. 1
00	6:36	4:55	6:37	5:00	6:40	5:02	6:44	5:08	6:47	5:04	6:49	5:18	6:56	5:18	7:00	2
59	6:37	4:54	6:38	4:59	6:41	5:00	6:45	5:07	6:48	5:03	6:50	5:17	6:57	5:17	7:01	3
58	6:38	4:53	6:40	4:57	6:43	4:59	6:47	5:06	6:50	5:02	6:52	5:16	6:58	5:15	7:02	4
56	6:39	4:52	6:41	4:56	6:44	4:58	6:48	5:05	6:51	5:00	6:53	5;15	6:59	5:14	7:04	5
55	6:40	4:50	6:42	4:55	6:45	4:57	6:49	5:04	6:52	4:59	6:54	5:13	7:01	5:13	7:05	6
54	6:42	4:49	6:43	4:54	6:46	4:56	6:50	5:03	6:53	4:58	6:56	5:12	7:02	5:12	7:06	7
53	6:43	4:48	6:45	4:53	6:48	4:55	6:52	5:02	6:54	4:57	6:57	5:11	7:03	5:11	7:07	8
52	6:44	4:47	6:46	4:52	6:49	4:53	6:53	5:00	6:56	4:56	6:58	5:10	7:04	5:10	7:09	9
		4:46		4:51	6:50	4:52	6:54	4:59	6:57	4:55	6:59	5:09	7:05	5:09	7:10	10
51	6:45		6:47	4:50		4:51	6:56	4:58	6:58	4:54	7:01	5:08	7:07	5:08	7:11	11
50	6:46	4:45	6:48		6:51									5:08		
49	6:48	4:44	6:50	4:49	6:53	4:50	6:57	4:57	6:59	4:58	7:02	5:07	7:08		7:12	12
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42	6:58	4:36	7:01	4:41	7:04	4:43	7:08	4:50	7:10	4:45	7:13	5:00	7:19	4:59	7:23	21
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41	7:00	4:35	7:03	4:40	7:06	4:41	7:10	4:49	7:13	4:43	7:16	4:59	7:21	4:58	7:26	23
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	7:02		7:04						7:15	4:42	7:18			4:57	7:28	25
40	7:03	4:34	7:05	4:39	7:08	4:40	7:13	4:48			7:19	4:58	7:23		7:29	26
39	7:04	4:33	7:07	4:38	7:09	4:40	7:14	4:47	7:16	4:42		4:57	7:24	4:56		
39	7:05	4:33	7:08	4:38	7:10	4:39	7:15	4:47	7:17	4:41	7:21	4:57	7:25	4:56	7:30	27
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37								4:44	7:27	4:38	7:31	4:54	7:36	4:53	7:41	7
	7:15	4:30	7:18	4:35	7:21	4:36	7:26			4:38	7:32	4:54	7:37	4:54	7:42	8
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37 37	7:18	4:30	7:22	4:35	7:24	4:36	7:29	4:44	7:31 7:32	4:38	7:35 7:36	4:54 4:55	7:39 7:40	4:53 4:53	$7:45 \\ 7:45$	11 12
	7:19	4:30	7:23	4:35	7:25	4:37	7:30	4:45								10