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THE MICHIGAN DEER HERD

One of the most aggravating and difficult problems in the northern portions of the state and one that has a great deal of dynamite in it concerns the Michigan deer herd. The preservation and management of this species and its wise use is of much concern to thousands of hunters, tourists, farmers, and resort and cottage owners. Its abundance affects millions of dollars of investments in hunting camps, hunting gear, and resort development.

The original pine forest cover of Michigan formed a dense canopy that shut out the light from the ground and made it practically a game desert. The hardwood forests were somewhat better than the pine forests since more light came through and there was more ground cover. Many people believe that in the old days there was a deer behind every tree, but this is far from true. On Drummond Island there were no deer until about 35 years ago. Following the cutting of the timber and the growth of ground cover, the deer came to Drummond Island and have increased until now they constitute a serious problem.

We also used to believe that all the land would eventually be used for the production of crops, but later we learned that some of the cutover land would never be suitable for agriculture and would always be reserved to forests. In these areas the forest fires brought the deer herd to a very low ebb. The protection of our second-growth cutovers from the ravages of forest fires, the shortening of

hunting seasons, the complete legal protection of does and fawns, and better law enforcement and better law observance have permitted the deer to increase in many parts of Michigan until practically all of the suitable cover has a fair to good stocking of deer.

We have a heavy deer population in the Upper Peninsula and in the northern part of the Lower Peninsula where the summer range of deer is probably as good now as it ever was. The critical period is from January to April when the deer concentrate in certain protected areas known as deeryards. These winter deeryards are the limiting factor as far as food is concerned.

Deer behave differently in different parts of Michigan; in one place the deer yard in the gullies in a hardwood forest, and fifty miles away in a country where there is a lot of hardwood the deer yard exclusively in the swamps. During the summer the deer range over 20,000,000 acres of cutover land in Northern Michigan, but in the winter there are about 1,500,000 to 2,000,000 acres of deer yarding territory. Thus we find that the deer spend about one-fourth of their time in less than one-tenth of their range. That is the situation we are dealing with in regard to deer.

Deer drives conducted in many areas by the aid of conservation officers and Civilian Conservation Corps camps showed an unbelievable deer population. Typical areas were selected in various parts of the deer territory of the state,

and CCC boys were stationed on lines around these areas to count the deer that passed between them and the individual on the right. These drives were conducted on each national forest and taken three times each on 28 widely separated areas on state game units (12 in the Upper Peninsula and 16 in the Lower Peninsula). From the evidence available, the Game Division believes that these drives are fairly representative of the deer territory. At Gwinn there is an average of 26 deer per square mile, in the Mackinac State Forest there are 5.8 per square mile, and at the Ogemaw State Forest 39.6 per square mile.

Every time we have been able to check on the deer population we have had to multiply our estimates by two, three or four on the best estimates we could make by talking with local people and conservation officers. After checking we have always had to revise our figures upwards. In Europe, where the deer management situation is centuries old, it is generally conceded that any deer population in excess of 16 deer per square miles is too high if that population is to be kept at its maximum without too much damage to the forest cover. When we have 40 or more per square mile, not only is the forest cover destroyed but the deer themselves are unable to survive.

Under favorable conditions deer increase in geometric progression; i.e., the herd increases by a common factor such as 2, 6, 18, 54, 35 etc. It is a well-known fact that a normal fawn crop can be expected when there are as many as 8

or 10 does for every buck, and twin fawns are more common than singles. The reduction in the number of bucks does not materially reduce the number of fawns and the herd keeps increasing in about the same ratios. This was clearly shown on the George Reserve near Pinckney. The Reserve comprises 1200 acres fenced in, and 4 does and 2 bucks were placed there in 1928. In 1934 there were 160 deer.

What happens in the winter deeryards when the deer population pyramids so rapidly? A deeryard is not a fenced area; it is a place where the deer gather because it is suitable for winter protection. Last winter a rather extensive survey of the Michigan deeryards was made by the Game Division. In the ideal deeryard the cedar grows clear to the ground, it is not so thick that it cuts out the light, and there is plenty of food available for the deer. Spot browsing occurs in a number of the deeryards; i.e., some of the trees are browsed but there is still food left. This indicates that there is a deer population in the area that is eating the vegetation faster than it grows, and the available food will last for only two or three more winters.

In 1931 the hardwood and cedar swamp near Baldwin was very productive. Three years later the browse line was above the reach of the young deer and the tallest could get food only by standing on their hind legs. Investigations made by the Game Division revealed that living cedars could scarcely be found in the whole swamp. This happened in one of the most productive swamps in the state

where it was thought that the yard could not be browsed out in ten years.

The Fletcher swamp in Alpena County was one of the first areas to show this condition with 7,000 acres completely browsed out. Small cedars have been dead for some time. Dead deer have been found in the swamps for the last five years and for the last two or three years there has been a heavy mortality of fawns. These dead deer have been examined and some nosefly and lungworms have been found, but the lack of proper food is the controlling factor in most cases.

Records have been kept of the number of deer on the Turtle Lake Club territory for some years. Last year there were about half as many as the year before and about a third or a fourth as many as five years ago. At that time the Turtle Lake Club was warned that there were too many deer for the food supply but deer hunting was good and they took no heed. Now they are raising about 120 acres of farm crops for the deer, and yet the deer supply is going down and will continue to go down until the natural food becomes more abundant.

Drummond Island has as much good deeryard territory as any place in the deer country. The deer came to the island about 35 years ago and have increased until the yarding territory is seriously browsed. It was estimated that there were 300 to 500 dead fawns last spring, and later evidence indicated that this was altogether too conservative an estimate. Drummond Island has 135 square miles of territory, and 400 bucks were killed there last fall--a ratio of about three

bucks to the square mile. Even with heavy hunting on the island the herd has increased to such proportions that it exceeds the carrying capacity of the yards.

In an area north of Newaygo there is not a live cedar less than six feet high, and the brush piles have all been cleaned out by the deer. Most of the deer that are found dead have something in their stomachs; twigs as large as lead pencils in many cases--material in which there is not enough nutrition to keep them alive.

There are three or four yards in which practically no deer were found; yards that were in good condition and had a lot of deer three or four years ago. The suggestion is immediately made that the deer have moved to other areas, but the evidence we have does not indicate that the deer migrate from one yard to another in appreciable numbers but die of starvation in the browsed out yards.

There are some sections in the eastern part of the Upper Peninsula where the deeryards are reported in good condition, but these yards are in the area where there are 5.8 deer to the square mile and that is a low deer population.

Not all parts of the state have their share of yarding grounds and as a result some of the yards have been overcrowded until all of the available twigs within reach of the deer have been consumed. This means that the fawns which come to the yard next winter cannot reach food and that many of them will starve with good food beyond their reach. In the survey made by the Game Division last winter

89 deeryards in the state were reported depleted, 15 partially gone, and 73 in good condition. A number of yards reported as good yards and with heavy deer populations three or four years ago were found depleted of available feed and with few deer left.

Dead deer were found in practically all the yards reported depleted and examined in the spring after the breakup; many of the exceptions being where winter logging operations were being carried on and deer were feeding on the cuttings. Ninety-five percent of the deer found dead were fawns. Careful examination of hundreds of them demonstrated clearly that few were suffering from diseases or parasites, or shot wounds or accidents. The fat even in the bone marrow had been resorbed; and this, combined with the lack of suitable food in the yards, was ample evidence as to the reasons for these losses.

Experiences in Pennsylvania and elsewhere point out that the herds using those browsed out yards must go down to a small part of their present numbers. Death by starvation and consequent waste is nature's way of adjusting the herd to its local winter food supply. If man does not in some manner adjust the balance between the deer and their needs and the food, nature will. From a conservation point of view such wastes seem inexcusable, but the critical question is how to salvage as much as possible for the sportsmen under the circumstances.

The deer are very fond of hardwood, and there are many acres of trees about three feet high which look as if some huge mowing machine had run over them. This particular kind of growth produces a lot of food, but when the trees become larger and the forest begins to produce merchantable timber the ground cover is crowded out and food is not available to deer.

Deer do not eat balsam, tamarack and pine except as a last resort. Feeding experiments in New York and Pennsylvania indicate that a deer can starve to death with all the balsam he can eat because he cannot get enough nourishment from balsam to live. It is a peculiar thing that the moose take the balsam first, and where there are moose you see the browse line first on the balsam.

Experiments have been made in feeding alfalfa hay to the deer. The Conservation Department has found that it is impossible to feed deer all winter on alfalfa, but they can live on it for a month or six weeks, or for a longer period in connection with regular browse. The LeRoy Club has tried to feed the deer to supplement the browse. There is little natural food available, and last year deer died with plenty of alfalfa to eat and the members of the club are satisfied that feeding is not going to solve the deer problem.

The deer have been kept alive because of the winter cutting operations in some yards which are nearly browsed out, but most of these commercial cutting operations will be finished in four years. Experimental cutting of browse during

the yarding season has been going on for three winters in a small way. We are satisfied that a large proportion of the herd can be brought through in this manner, but it can be an emergency treatment only. In the first place most of the yards are privately owned and it would require millions of dollars to acquire the troubled yards. In the second place if this policy were followed the entire swamp would be used up within a few years. In the Baldwin Creek swamp 27 two-and-a-half acre plots were cut last winter, and there were enough deer in that area to clean up a plot in two days. It is estimated that the cost of these experimental cutting operations is about $9 per deer for the winter, exclusive of the CCC labor.

The planting of cedar in some of the swamps that are browsed out has been tried but without success since the deer eat the young cedars before they have a chance to grow.

The Conservation Department has had some experience with moving the deer into other yards, but with the present increase in the deer herd it is simply a matter of time before all the yards will be browsed out and moving the deer is only a temporary measure. Box traps have been used successfully for catching the deer, but it costs $3 or $4 per deer to transport them. A few years ago the mercy bullet--a hypodermic needle containing anesthetic--was used to catch the deer but was not successful.

The National Parks Service and the United States Bureau of Biological Survey have tried feeding of elk under similar circumstances, but after years of effort they have been compelled to reduce the elk herds to the numbers that can be carried in good condition on the winter range. Pennsylvania with over 250,000 deer hunters has trouble in the same way even though the deer do not yard in the state because the snow is not so deep. After six or seven years of experience they have a buck season in all their deer areas followed by a three-day antlerless deer season in the browsed areas.

Because it is an island and for that reason easier to keep track of the hunters who come and go, the Conservation Department would like to make some experiments on Drummond Island to find out something about the deer herd. The Conditions of the last few years have made it increasingly clear that there must be some sort of management of the deer herd if the island is to continue to be a resource to those whose livelihood depends on hunting and recreational activities. Realizing that the island will be browsed out in a short time if the herd continues to increase, the obvious conclusion is that the herd will have to be managed the same as a farmer would manage his domestic herd of sheep. Any farmer or stock man readily sees that the shooting of male deer does not cut down the annual fawn crop. Under a buck law the legal shooting of bucks only does not materially cut down the increase of the herd.

We are satisfied that we have more deer in Michigan than we can carry. We have known that this would inevitably happen, but the crisis came more quickly than we thought. One hundred of the larger deeryards are browsed out; next year there cannot be less. Unless there is some change in the present setup, the Michigan deer herd is bound to decrease. Nothing else is possible. The question is, are we going to make use of the surplus in a reasonable way as a farmer would his herd of sheep, or are we going to let them all die?

The Conservation Department is administrative rather than legislative and nothing can be done about seasons, bag limits, shooting of does in critical areas, etc., until the legislature authorizes such action. The facts are presented here to be understood and discussed by interested persons who realize that intelligent management is necessary in order to save the herd.

RJ
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