

DEERYARD INVESTIGATIONS  
Upper Peninsula  
1938

The Game Division has been carrying on deeryard investigations in varied degrees of intensity since 1927. Until 1936 only one or two men were assigned to this work mapping a few yards in detail and collecting data from conservation officers. Last year, however, four men from the Lansing office, together with eight refuge keepers, were assigned to deeryard work. This year the same setup was employed with the addition of one extra refuge man.

Owing to the increasing public interest and especially to the sportsmen's clubs' critical attention, it was decided to vary our methods slightly in order to watch developments more closely. Thus, the refuge men were instructed to continue making maps of the yards visited, while the regular deeryard men spent more time making hurried inspection trips visiting as many yards as possible, making contacts and conducting sportsmen's deeryard trips.

As soon as the yarding conditions became serious in January, the regional office of the Field Administration Division at Marquette instructed each district supervisor to submit a report of deeryarding every two weeks. This information was available to the regular deeryard men and proved to be very useful, especially in organizing the sequence of our investigations.

Weather Conditions

During the last half of November, 1937, deer hunters encountered snow ranging in depth from 10 inches to 2 feet in the north and west portions of the Upper Peninsula. This was sufficient to start deer toward their yarding areas and by December 15 deer were actually yarding in the deep-snow area. The rest of the Upper Peninsula experienced about an average early winter with no concentrated yarding of deer during December and most of January. But snow continued to fall in the north portions. A trip from Trout Lake to Newberry to Cusino January 14 and 15 revealed considerable concern on the part of conservation officers who predicted a hard winter for deer in those yards where suitable browse is scarce. That considerable losses would undoubtedly occur seemed fairly certain when a severe blizzard on January 24 and 25 swept the country piling up from 1 to 3 feet of fresh snow. At this time Game Division snow gauges showed record snow depths in many places. These readings ranged from 3.2 feet at Gould City to 5.2 feet at Cusino. Although progress on snow shoes was difficult, deer could be run down in a few rods. They were confined to small areas and apparently did not attempt to travel much for several days.

Investigations after the storm showed that its effects were not all detrimental to the deer. Thousands of branches and many trees were blown down and the weight of snow lowered other branches; thus providing food previously unavailable. After 10 days of the difficult snow conditions, a thaw and subsequent freezing produced a heavy crust on which deer could travel easily. This changed the prediction of certain tragedy to one of hope that the crust would remain firm. If the crust softened, the outlook would be darker than ever.

But there was no marked thaw and the crust stayed firm throughout the Upper Peninsula. Reports from each conservation district showed the unusual crust condition to be of great aid to deer and that it undoubtedly averted abnormally heavy losses. In the Bass Lake Yard on Drummond Island, which has been "browsed out" for several years, deer were able to reach some food by standing on their hind legs on top of the crust. In general, heavy concentrations were spread out and the food shortage was alleviated because deer could now work out onto the high land and into portions of the yards not otherwise used during the deep-snow period. Deer were observed outside their yards in February during part of the day and in some cases were found to be staying in areas where it was known they were not yarding prior to February 10th.

Light snows followed occasionally, but the snow depth gradually decreased until March 20 when the spring breakup began. Again the weather was unusual. Normally, the breakup occurs by stages of thawing by day and freezing by night. This year there was very little freezing weather at night and thawing was very rapid during the day. Thus, minor floods occurred in many areas, swamps were covered with water, and no one knows how many deer were trapped in the tangle of down timber, water, half melted snow and ice. It was impossible to make investigations at this time, and some scheduled dead deer census drives could not be made.

However, dead deer census drives were made at the Escanaba River Tract and at Cusino. ~~A table summarizing these drives is attached to this report.~~ They were made under difficult conditions and perhaps do not show the maximum loss for those areas driven. An average of 12.43 dead deer per square mile was found on the Escanaba River Tract where snow depths ranged up to 3 feet and 26.8 dead deer per square mile at Cusino where snow was more than 5 feet deep after the big storm. It is estimated that possibly five times as many deer would have died except for the crust which so greatly facilitated yarding activities. Under conditions that did exist, the winter losses in the Upper Peninsula are thought to have been in excess of 5,000. Even this figure may be too low when it is considered that approximately 50% of the yards examined proved to be in poor or overbrowsed condition.

### Progress

During the 1938 yarding season considerable additional information was obtained. This included location and data on about 50 new yards, pertinent knowledge of the condition of many yards about which little was previously known, and elimination of some yards erroneously reported or subsequently abandoned. The Game Division field men were aided in gathering this data by the U. S. Forest Service and conservation officers. Two hundred seventy-three (273) deeryards are now on record as compared to 222 yards reported for the Upper Peninsula last year. The information on these yards has been compiled

to show relative browse conditions based on the population as compared to the permanent carrying capacity. Two tabulations were also made showing the status of investigation by counties. Details are given on the attached charts.

#### General Yarding Conditions

Compilation of data gathered this year in conjunction with information obtained in the past reveals a downhill trend in the general condition of the Upper Peninsula deeryards. While it is true that 51 additional yards were located, they were not necessarily new yards and many of them were in poor condition. Furthermore, the total yarding area was only increased by 52 square miles. The reason for this small increase was that more accurate information on other known yards showed them to be smaller than previously reported in many cases. Approximately 1160 square miles of winter deer range have now been investigated. Of this 137 square miles or 12% has a winter population which is lower than the carrying capacity and the general food and yarding conditions are good. The population is approaching or is now equal to the carrying capacity on 435 square miles or 37%. Surplus food in this group of yards is decreasing and if present trends continue there will be a shortage of food in a few years. 588 square miles or 51% are already overpopulated and overbrowsed and the yarding conditions are serious.

The great majority of the overbrowsed yards are located in the north and west portions of the Upper Peninsula. This might be better described as that portion lying north of a line drawn from the south end of Dickinson County north and east through Loretto, Northland, Chatham, Shingleton, Newberry, Trout Lake to Brimley. This distribution of overbrowsed deeryards is comparable to and conforms remarkably with the deep-snow area of the Upper Peninsula. A state outline map showing the general status of deeryards is attached.

It is to be expected that yards in which heavy concentrations are forced by reason of deep snow should be the first to become overbrowsed. However, it does not follow that those yards in the lighter snow belts will always remain in good condition; as witness the sadly overbrowsed condition of many yards in the Lower Peninsula, Drummond Island, and Blaney Park. Thus it seems that developments relating to deer and deeryarding in the Upper Peninsula are simply a few years behind those in the Lower. The reason for the lag may be explained in part by a higher ratio of winter deer range to summer range in the Upper Peninsula with 8% of its total area in yards as compared to less than 3% for the Lower Peninsula. But a more apparent reason is the fact that census drives reveal approximately 20 deer per square mile above the Straits as compared to nearly 50 deer per square mile below.

Summary

1. 273 deeryards totaling 1369.7 square miles or about 8.4% of the total area of the Upper Peninsula.

2. Good condition - 11.8% (27 yards - 137.2 square miles).  
Medium condition - 37.5% (97 yards - 435.3 square miles).  
Poor condition - 50.7% (82 yards - 587.2 square miles).

In addition 67 yards (210 square miles) not classified due to insufficient information.

3. 42 more yards in poor condition this year than in 1937.

4. Yarding conditions severe January 25 to February 10 when relieved by the formation of a heavy crust which permitted wide range of deer and which lasted until the spring breakup.

5. Dead deer census drives revealed a loss of 12.4 per square mile on the Escanaba River Tract and 26.8 at Cusino.

6. Deeryarding situation in the Upper Peninsula appears to be only a few years behind that in the Lower Peninsula.

Conclusion

It is evident that the deeryarding situation is becoming more serious each year. Whenever the majority of deeryards in a given area (in the Upper Peninsula) become browsed out, the deer herd suffers. It is an indication that the peak of their population has been reached or will shortly be. Thereafter a sharp drop in numbers is to be expected, not from excessive hunting pressure or violations of the one-buck law, but simply because there is no longer sufficient food to support them. There may still be an abundance of summer food for many more deer, but the fact remains that winter with its deep snow and cold weather forces them to concentrate in about 8% of their summer range; and if this comparatively small area is lacking in food, some deer are bound to die. Consequently, it is believed that removal of these excess deer should be effected by hunters during a short antlerless deer season following the regular deer season in overbrowsed areas.

In the interest of good game management it would be desirable to extend such herd control to many other areas which are not yet overbrowsed in order to maintain a more satisfactory ratio between the deer population and their winter food supplies. In this way also a higher carrying capacity could be maintained than would be possible if the yards were permitted to be completely browsed out before instigating herd control.



Summary of Deeryards  
Upper Peninsula

YARDS EXAMINED  
May 1938

County	Yards Examined			Yards Not Examined			Totals		
	No.	Acreage	% County Yard Area	No.	Acreage	% County Yard Area	No.	Acreage	% U. P. Yard Area
Alger	10	68,990	89.2	4	8,350	10.8	14	77,340	8.9
Baraga	8	20,660	59.5	10	14,240	40.5	18	34,900	4.0
Chippewa	15	115,900	81.8	10	25,760	18.2	25	141,660	16.2
Delta	21	32,730	72.0	8	12,730	28.0	29	45,560	5.2
Dickinson	20	14,820	70.0	4	6,340	30.0	24	21,160	2.4
Gogebic	19	110,440	100.0	0	0	0	19	110,440	12.6
Houghton	12	8,900	66.8	2	4,440	33.2	14	13,340	1.3
Iron	22	35,310	72.5	7	13,440	27.5	29	48,750	5.6
Keweenaw	2	7,500	84.3	1	1,400	15.7	3	8,900	1.0
Luce	8	80,960	98.4	3	1,300	1.6	11	82,260	9.4
Mackinac	10	47,040	77.8	4	13,440	22.2	14	60,480	6.9
Marquette	21	43,535	80.4	6	10,600	19.6	27	54,135	6.2
Menominee	11	40,980	89.3	4	4,920	10.7	15	45,900	5.2
Ontonagon	10	64,980	78.9	4	17,360	21.1	14	82,340	9.4
Schoolcraft	17	49,435	100.0	0	0	0	17	49,435	5.7
Total Upper Peninsula	Acres Sq. Mi.	206 1159.7	742.230 84.7	67	134,370 210.0	15.3	273	876,600 1369.7	100.0

BCJ:WE  
6-9-38

Summary of Deeryards  
Upper Peninsula

STATUS OF INVESTIGATION  
May, 1938

County	0		1		2		3		4		Total		
	No.	Acres	No.	Acres									
Alger	4	8,350	0		4	27,560	3	38,680	3	2,750	14	77,340	
Baraga	10	14,240	2	4,700	5	8,960	1	7,000	0		18	34,900	
Chippewa	10	25,760	0		5	45,440	8	60,220	2	10,240	25	141,660	
Delta	8	12,780	14	28,420	2	720	1	400	4	3,240	29	45,560	
Dickinson	4	6,340	3	380	1	640	16	13,800	0		24	21,160	
Gogebic	0		17	84,200	0		1	24,320	1	1,920	19	110,440	
Houghton	2	4,440	0		1	1,800	3	4,700	8	2,400	14	13,340	
Iron	7	13,440	6	890	3	8,200	8	25,080	5	1,140	29	48,750	
Keweenaw	1	1,400	1	4,500	0		1	3,000	0		3	8,900	
Luce	3	1,300	1	1,360	7	79,600	0		0		11	82,260	
Mackinac	4	13,440	3	1,100	3	12,140	4	33,800	0		14	60,480	
Marquette	6	10,600	6	18,300	1	2,000	14	23,235	0		27	54,135	
Menominee	4	4,920	7	9,740	3	30,240	1	1,000	0		15	45,900	
Ontonagon	4	17,360	6	35,760	3	26,720	0		1	2,500	14	82,340	
Schoolcraft	0		0		5	18,900	3	14,000	9	16,535	17	49,435	
Total Upper Peninsula	Acres	67	134,370	66	189,350	43	262,920	64	249,235	33	40,725	273	876,600
	Sq. Mi.		210.0		295.0		412.0		389.0		63.7		1369.7
% Total U.P. Yard Area			15.3		21.5		30.5		28.2		4.5		100.0

Note: Column numbers indicate: 0 - Location of yards reported without further information.  
 1 - Yards reported by conservation officers.  
 2 - Yards investigated by the Game Division  
 3 - Yards mapped by the Game Division.  
 4 - Yards reported by the U. S. Forest Service.

Michigan  
Department of Conservation  
Game Division

Summary of Deeryards  
Upper Peninsula

FOOD CONDITIONS  
May, 1938

County	Good			Medium			Poor			Total	
	No.	Acreege	% County Yard Area	No.	Acreege	% County Yard Area	No.	Acreege	% County Yard Area	No.	Acreege
Alger	2	2,230	3.2	3	13,280	19.3	5	53,480	77.5	10	68,990
Baraga	0			2	4,700	22.7	6	15,960	77.3	8	20,660
Chippewa	3	12,640	10.9	6	29,880	25.8	6	73,380	63.3	15	115,900
Delta	3	3,520	10.7	16	28,540	87.1	2	720	2.2	21	32,780
Dickinson	4	1,380	9.3	5	4,800	32.2	11	8,640	58.5	20	14,820
Gogebic	0			7	21,220	19.2	12	89,220	80.8	19	110,440
Houghton	4	3,705	41.7	5	4,435	49.8	3	760	8.5	12	8,900
Iron	3	410	1.2	2	280	.8	17	34,620	98.0	22	35,310
Keweenaw	0			0			2	7,500	100.0	2	7,500
Luce	2	9,820	12.1	5	53,860	66.5	1	17,280	21.4	8	80,960
Mackinac	2	23,240	49.4	7	22,520	47.9	1	1,280	2.7	10	47,040
Marquette	0			17	29,580	68.0	4	13,955	32.0	21	43,535
Menominee	2	27,520	67.2	6	5,020	12.3	3	8,440	20.5	11	40,980
Ontonagon	0			3	24,940	38.3	7	40,040	61.7	10	64,980
Schoolcraft	2	3,360	6.8	13	35,575	72.0	2	10,500	21.2	17	49,435
Total Upper Peninsula	Acres 27	87,825	11.8	97	278,630	37.5	82	375,775	50.7	206	742,230
	Sq. Mi.	137.2			435.3			587.2			1159.7
Total % U.P. Yard Area		11.8			37.5			50.7			100.0
Percentage of Upper Peninsula in Deeryards											8.4

BCJ:WE  
6-10-38