

Report on the Meeting Held by the Great Lakes Deer Group at
Nestor Falls, Ontario, January 29th - February 1st.

1951

The following deer workers were present:

L.V. Krefting, Chairman
A. de Vos, Secretary
A.B. Erickson, Minnesota
U. Gunwalson, "
L.F. Magnus, "
W.H. Petraborg, "
C.H. Stenlund, "
R. Guettinger, Wisconsin
J. Keener, "
I.H. Bartlett, Michigan
D. Douglass, "
C.D. Fowle, Ontario
R.D. Passmore, "
A.T. Cringan, "

H.F. Olson, U.S. Dept. of Agriculture

Dr. Severinghaus and Mr. Darrow from New York were guests. Several officials of the Dept. of Lands and Forests, Ontario, were present during part of the meeting Dr. DeLury, statistician, was also present.

No report will be presented on field trips, only minutes of meetings were recorded.

Minutes of the Meeting Held at 7.30 P.M. on January 30th, 1951.

During this meeting some field trips held during the day were discussed. Some remarks were made regarding possible causes for the decrease of the deer population of North Western Ontario.

1. Rinus Lake Trip

This trip led through a part of the Pipestone Crown Game Preserve, which had a high deer population three years ago and is in a badly overbrowsed condition.

V. Gunwalson remarked that there was much evidence of old browsing, but little of current browsing. Browsing was noticed mainly on hazel, and a little on balsam-fir. He considered the range very poor, and not a yarding area. This range is utilized by the deer during open winters. There are only few desirable browse species present and their availability is low.

2. Trip into Pipestone Game Preserve, across Larson's Camp
This trip led through mature second growth timber types of aspen-white birch and even aged jackpine. All agreed that this is extremely poor range and that most available browse had been heavily utilized in the past.

3. Factors Affecting the Deer Population in North Western Ontario.

Hunting: de Vos gave an explanation of the hunting pressure. Very little hunting takes place more than 5 miles away from highways and major water routes. As the deer population apparently decreased similarly within Pipestone Game Preserve as around it, hunting pressure can hardly be accounted for to be the major influent causing a decrease in population.

Cover: de Vos explained the cover situation in the settled part of the Fort Frances district. Cover, according to some present, might be of short supply in this settled country. Deer without sufficient cover will have to consume too much fat while moving about. Cedar swamp management might be a necessity for the most settled section around Fort Frances.

Low temperatures: Bartlett remarked that research work undertaken in Michigan indicated that low temperatures have some effect on the amount of food consumed and the survival of deer. It possibly has the same effect as deep snow. Gunwalson said that wherever there is a storm coming up, deer are very active but they are not active at all when the storm has arrived.

Availability of browse: Gunwalson stated that in the Mud Lake area in Minnesota deer seem to survive on very few palatable species, such as willows and aquatics, which they dig from under the snow. de Vos commented on the fairly extensive browsing by deer on Juniperus and Usnea, and on the practical absence of cedar in the Woodland Caribou Game Preserve, near Red Lake, where there is a fairly high population of deer at present.

Competition between Ungulates: de Vos mentioned that there is competition for browse between moose and deer in some parts of Ontario, and that there is also a possible slight competition for browse between these species and woodland caribou. Cringan referred to R.L. Peterson's theory that if deer are present in large numbers in an area before the moose tries to invade it, their potentially higher reproduction rate will keep the moose out.

Dr. De Lury made the statement that the discussion indicated that the deer workers, similarly to other field biologists, were rather shaky in their approach to and analysis of the problem they wished to consider. He stressed the necessity of better planning and fact finding.

~~A. de Vos~~

Minutes of the Meeting Held at 7:30 P.M. on January 31st, 1951.

(1) The business portion of the meeting consisted of a discussion of the possible time and location of the next field meeting of the group. It was agreed that the next meeting should be held in conjunction with the 13th Midwest Wildlife Conference. Details are to be arranged and members informed. The field meeting will be held immediately before or immediately after the Conference, which is to be in Minnesota.

(2) Chairman Krefling spoke of the great interest which deer workers were showing in the techniques recently developed in New York State. He called upon Dr. Severinghaus to speak to the members about the techniques employed and their uses in deer management.

Dr. Severinghaus began by saying that the institution of proper management methods for the deer of New York State had long been hampered by a public too well educated to the "buck law". The cost of a detailed analysis of browse conditions, for use in public relations work, seemed prohibitive. Some less expensive methods of convincing the public of the need for herd reduction was desirable.

About this time Dr. Cheatum had been working on a problem involving a study of the time and duration of the breeding season of deer, and in doing this was collecting embryos. An analysis of average embryo counts per female, showed differences between three regions of the states.

This discovery came as other workers were searching for a "condition factor" which would serve as an index of herd conditions in any area as early as 1939 three possibilities were investigated. Live and dressed weights were found to depend too much on range conditions. Skeletal size difference showed some promise, but the material for measuring was difficult to obtain. Reproductive rates were found to be accurate as a condition factor, and material could be obtained from hunters.

The three natural regions showing differences in reproductive rate in Dr. Cheatum's study were "a", the Adirondacks, "b" the Catskills and "c" western New York.

In area "c" this early work shows that 10 does were producing 16 fawns, and that 36% of the year old does were producing fawns. Lately, after heavy hunting, the reproductive rate has increased to 10 does: 19 fawns.

In area "b" the reproductive rate was dropping from 10:16 to a 10:12 average, with a low of 10:10 in the Central Catskills.

In area "a" the reproductive rate remained fairly constant at 10:10. Winter mortality has been common there for many years. As many as 21 carcasses per square mile have been found.

In area "b" winter mortality is less serious. In the peripheral Catskills overbrowsing is not really apparent, although many of the more palatable hardwood species are being held in check. Dr. Severinghaus gave other examples of the effect of overbrowsing followed by herd reduction through increase hunting, on reproductive rate.

1. In an 87 acre enclosure, a reproductive rate of 10 does; 19 fawns dropped to 10 does: 4 fawns as overbrowsing reduced the amount and nutritional value of the food available.

2. In Allegany State Park the reproductive rate increased from its 1944 average of 10 does: 14 fawns to 10 does: 20 fawns in 1948 as hunting reduced the population.

3. One area in the central Adirondacks, in which 34 dead deer per square mile had been found in 1934, had its population thinned out by hunting in 1945. In 1946 a lumbering operation increased the amount of food available. In January and February of 1947 it was found that the reproductive rate had increased from an earlier rate of 10 does: 7 fawns to 10 does: 18 fawns.

All evidence seemed to point to the conclusion that the reproductive rates of a deer herd is a good indicator of the browse condition prevailing in that area. It is fairly well established that deer do pick out, in their feeding, the plants which supply the necessary nutrients if these plants are available. It has also been shown that the reproductive rate of domestic animals is directly related to the adequacy of their diet. Why should the same not be true of deer?

In attempting to relate the age of bucks as determined by the teeth to antler development as expressed by Cahalane's measurement of beam diameter, the data collected showed small measurements in the $1\frac{1}{2}$ and $2\frac{1}{2}$ year old bucks from area "a" and largest measurements from area "c". During the years 1945 - 48 there were more $2\frac{1}{2}$ year olds than $1\frac{1}{2}$ year olds recorded from the central Adirondacks during the buck season. A check during the antlerless deer season held earlier in the season showed that more than 50% of the $1\frac{1}{2}$ year old bucks and 15% of the $2\frac{1}{2}$ year old bucks did not have legal (3") antlers

A more complete breakdown of antler size classes for the $1\frac{1}{2}$ year old bucks of New York State shows for central Adirondacks.

105% (50% with less than 3" antlers
 (31% " more " 3" spikes
 20% with 3-5 points
 4% " 6-8 "

In the Catskills:

51% with more than 3" antlers
 40% with 3-5 points
 9% with 6-8 points

In western New York:

None without legal antlers

14% with spikes
 43% with 3-5 points
 40% with 6-8 points
 3% with 9-13 "

Dr. Severinghaus went on to explain that in public relations work in New York State the hunters are told of the condition of the deer rather than of the browse. They seem to understand the logic of lowered productivity on poor range. Frequently the example of pruning an orchard as a means of getting more and better fruit from fewer branches, is used in public relations work.

Other north eastern states have used the reproductive rate of their deer herds as an indication carrying capacity.

In Massachusetts, Sam Shaw finds a high reproductive rate in the central area with 60% of 1.5 yearling does carrying fawns. In the unhunted area the reproductive rate was low. Over most of the hunted portions of the state, reproductive rate is good, but not as high as in western New York.

In Vermont the average weight of deer in the northern, lightly hunted part of the state was found to be heavier than in the southern heavily hunted portion. These figures, seemed to disprove modern concepts, until ageing studies were begun. These showed that the average age of northern deer was greater than that of the southern deer, but that when age-classes were compared, southern deer were considerably heavier.

Dr. Severinghaus concluded by saying that reproductive rates offer a unit of comparison between widely separated areas which is much superior to a comparison of browse conditions because differences in palatability make the latter very difficult.

(3) The meeting was adjourned after a brief discussion period, following which Dr. Severinghaus explained and demonstrated his ageing techniques using a number of jaws from Wisconsin and the head of a wdf-killed deer found near Nestor Falls the same day.

February 8th, 1951.

A. deVos.
 Secretary.