MEETING OF GREAT LAKES DEER GROUP
LUTSEN, MINNESOTA Feb. 14, 15, 16, 1956.

Meeting convened at 7:30 PM on Feb. 14, by Chairman L. Krefting. Welcome to Lutsen by George Nelson Jr. and brief early history of resort--the first in Minnesota. History and description of Jonvik Deer Yard by L. Krefting. The original yarding area was approximately 5,000 acres in size and attracted deer from a distance of ten miles. Conifer cover and abundant mt. maple on the south facing slope of the Sawtooth Range paralleling the lake are the attractions to deer.

Discussion of 1955 hunting seasons

Ontario H. Lumsden

On a 46 sq. mile study area, 3 deer have been harvested for two years. and two deer in 1955 for each section. Hunter pressure of six per sq. mile.

J. K. Reynolds

Hunting success figures determined by a commercial market research company. Every fourth license sale name contacted by letter. Contacted 24 hours later by reminder followed in five weeks by letter followed by telephone call. Resulted in 72.6% voluntary return plus telephone calls. Cost was 50¢ per ballot or $500. A carborundum sharpening stone was given as gift to induce more returns.

Western Region--good season. About 77% success. Sudbury-North Bay Region--not much change from 1954. Lindsey District--too wet for good hunting Algonquin Park--good hunting.

(General statistics provided on mimeographed sheets passed to those in attendance.

Michigan I. Bartlett

Michigan buck seasons began in 1921. First liberal season in 1952--a three day doe season during last three days of 15 day season. 100,000 does were taken in the upper part of the lower peninsula. 1955 was a good season. Snow covered Upper and Lower peninsulas for first time in five years. Deer herd in upper part of lower peninsula is nearing ceiling of carrying capacity again. (General statistics provided on mimeographed sheets)

Wisconsin B. Dahlberg

Generally a good season in 1955. First liberal season in 1943--four day buck season and four day doe season. Three liberal seasons in 1949, 1950, and 1951 during which 450,000 deer were harvested. Back to fork horn buck in 1952. Compulsory registration of all deer began in 1953. A dead deer check in spring of 1948 showed one starved deer per 26 acres and one illegally killed deer per 26 acres on sample $\frac{1}{4}$ mile wide and 12 miles long. (General statistics on mimeo. sheets)

Minnesota V. Gunvalson

A very successful season in 19 5. Probably best since 1947. Snow up to 18" deep over all of northern area. Success at four major highway check stations shows increase in success from 21% to 38%--1954 to 1955. The Mc Grath Refuge, a chronic starvation area, was opened for the first time over considerable local opposition. Harvest of 14 deer per section was

recorded over 118,000 acres. (General statisitcs provided on typed sheets)

8:00 AM to 12 M. Feb. 15 Field trip through Jonvik Deer Yard

First Stop 1936 Deer Exclosure
Area 55' by 220' was clear cut in cedar swamp. West half planted to 57 white cedars, 76 mt. maple, and 114 red ozier dogwood. Fence 50 feet square was placed in middle so that half of enclosure was planted and half was not. By 1950 no cedar was alive outside the fence. There was 83% survival inside and stems were 5.4 feet high. With mt. maple there was 50% survival inside the fence and 38% outside but stems were 11.0 feet high inside and 2.5 feet high outside. With dogwood there was 50% survival inside and 58% outside, but stems were 7.8 high inside and only 2.3 outside.

Second Stop Management discussion. Area to be managed for game with forestry second. Cutting of mature balsam and spruce badly needed to open up areas now heavily shaded. Scattered cover necessary to provide travel routes between feeding areas. Proposed management includes cutting on contour in strips. Spruce and balsam containing more than two sticks to be taken. Cedar not considered important at present because of heavy winter concentration of deer. Aldous method surveys conducted in 1940 and again in 1949 showed 50% reduction in amount of food available during that period. Also heavier reliance on poorer foods. Mt maple is most important single food in yard.

Third Stop Natural deer browsing on 50 test clumps of mt. maple.
Measurements made in fall of summer's growth and again in spring to get amount browsed by deer during winter. Three year's records--1952 to 1955 show that growing conditions such as amount of food produced by clumps during summer despite heavy browsing on twigs during previous winter. During winter 52-53, 50% of food was removed. The following summer 17% less food was produced than in the summer of 1952. During winter of 1953-54, 88% of food was browsed but the following summer there was an increase of 16% in the amount of food priduced. Similarly in 1954-55, 84% of food was browsed but there was an 11% increase over 1954 in the amount of food produced in the summer of 1955.

Simulating deer browsing by clipping
Two fenced areas each with 28 test clumps of mt. maple are clipped in the fall when the stems are dormant to simulate deer browsing. Clipping is done randomly and not uniformly on each clump. Clumps have 20%, 40%, 60%, 80%, and 100% of summer's growth removed. Three clumps are used as controls in each area. It is hoped that growth rates will eventually show how much browsing mt. maple can stand and what rate of browsing produces the most food over the longest period of time. Studies over a period of six years by Aldous indicate heavy browsing is best on mt. maple. General observations over a period of ten years do not indicate this.

Fourth Stop MT. maple hand cutting test
Hand cutting of maple during the winter was begun during CCC days in the area. It showed good promise in that food was immediately made available to deer and resultant sprouting from the stump and roots was good. To get present costs, five acres were cut with hand axes on Feb. 2 and 3, 1956, by three men, two of whom were experienced and one was not. The number of old stems cut per acre averaged 578. On that basis one man could cut about

2 acres per 8 hour day. In addition, the tops provided 280 pounds of good browse immediately. At $1.25 per hour for labor, this would amount to $5.00 per acre.

Fifth Stop Treatment of mt. maple by herbicide and fire.

On May 18 and 19, 1954, 85 clumps were treated with 2, 4-D and 2, 4, 5-T at concentrations of 4, 8, and 12 lbs. acid per 100 gal. of diesel oil. Oil alone and a propane gas torch were also tried. Acids were sprayed basally and breast high. On Oct. 26, 1954, 35 more clumps were sprayed breast high. Hand cutting at ground level and oil alone were also used. On April 26, 1955, 50 more clumps were sprayed with concentrations of 8, 12, and 16 lbs. acid per 100 gallons 2, 4-D and 2, 4, 5-T. A flame thrower was also tested.

Results Spraying at breast height with either acid at a concentration of 12 lbs. per 100 gallons oil significantly increased regrowth. Oil alone or propane torch failed. Breast high applications were better than basal. Deer show no aversion to browsing treated clumps. (Details provided in Minn. Forestry Notes No. 42, dated July 15, 1955, School of Forestry, U. of Minn., St. Paul, Minnesota, provided for all those in attendance)

Wednesday Afternoon Session--Lutsen Resort

Discussion of field trip

Proposed timber sale in Jonvik Yard--N. Nelson, Forest Ranger.

About 500 acres of yard proper will be included in a proposed timber sale by the U. S. Forest Service. Pulpwood, Saw-logs, and veneer will be harvested. All balsam larger than two sticks (100 inches to stick) will be removed.

Herbicides in game and forest management--B. Jenkins, leader.

First use of herbicides for game management began with sharp-tailed grouse. Controlled burns did not prove practical at that time. Aspen 1"-4" DBH was aerial sprayed. Top kill was good but sprouting was heavy. Spraying is now being done for sharptails in the Upper Peninsula, Michigan, and for deer in the Lower. First spraying cost $4.50 per acre but costs are now down to $2.50. Ground spraying is slower and requires more men and equipment. On sharptail areas, resprouting of aspen occurred after two treatments of 2# of 2,4-D. For deer a concentration of 1½" was used. Results of recent tests with differing concentrations are not yet available.

H. Hansen Areas in Itasca Park, Minnesota, covered by hazel were sprayed to induce white pine reprod. 2, 4-D has little effect on Rubus sp., in fact the species showed great increase. There was, however, complete kill of hazel followed by sprouting. 2, 4-D is selective and therefore has value in plant control. Detailed study of life history of hazel shows following: growth of seedling is slow. 5-10 years needed to grow 4-5 feet in forest conditions.

Two dormant buds become active at 7 years. They may become underground or aerial stems. Takes 15-20 years to produce average colony of hazel. (Mimeo. data provided)

Public relations--H. Lumsden, leader.

Education of people who "know nothing" is relatively simple. Re-education, however, is difficult. If material conflicts with people's views they will disagree or discard the idea completely. If they agree--you have a strong proponent of your ideas.

People should be converted to new ideas in groups rather than as individuals. Example: Attempts were made in World War II to convert people to eating poorer grades of meat. Direct lectures proved worthless. Group discussions in which a leader made suggestions were more successful. Individual instruction is also poorer than group instruction. Groups should not be larger than 6 or 7, as they will split into factions which have various ideas. (Mimeo. data provided)

I. Bartlett--New group in conservation in Michigan is organized labor. Need much education as unions have taken little or no part in conservation previously.

Wednesday Evening Feb. 15.
Business meeting

Next meeting of group will be in Michigan, February 12, 13, and 14, 1957. I. Bartlett was chosen Chairman and B. Jenkins, Secretary, under the policy of having the officers in the host state or province. Tentative discussion porgram will consist of following:

1. Effect of snow on deer. R. Hepburn, leader.
2. Use and/or significance of age class structures in deer herds as shown by deer kill data. J. Hale, leader.
3. Effects of soils and forest succession on deer populations and yields. V. Gunvalson and N. Ordal
4. Deer in multiple use forests. J. Keener and a guest forester.
5. Ways and means of getting adequate harvests on specific areas. H. Olson
6. Possible guest speaker from Maine, New York, or Colorado.

There was some discussion of the group putting out a brief history of management in the Lake States and Ontario and summarizing problems and solutions common to all.

Discussion also of necessity for range inventories in areas for beginning basic deer management plans. Much data along this line is available from Forest Surveys by States and U. S. Forest Service.

Thursday AM Feb. 16.
Methods of evaluating habitat--J. Keener, leader.

Most of Wisc. is overbrowsed. Need for range appraisal became apparent following three liberal deer seasons. New type of survey devised. (Mimeo. copies provided) The results of the survey give absolute data on stocking and density of browse and overstory. Also data (pellet count) on stocking of deer and relationship between deer numbers and browse. An area of ¼ million acres was sampled in one day by 13 men. Survey is run by teams of two men each. Data are actual measurements rather than estimates. This new survey method shows great promise.

Browsing tolerance--L. Krefting, leader

D. Switzenberg--A square mile was fenced in 1951 with 22 deer. Cedar was gone after 3 years. Apparently in this area, no cedar can be maintained with any deer pressure. (about 60 acres in cedar). Deer use upland in winter but tend to concentrate in cedar. Ground Hemlock disappeared in one winter. Hardwoods are holding their own. Hares are important factor in destroying cedar.

W. Marshall--Cloquet Exp. Forest, Minn. Refuge until 1946. Cedar swamp in poor condition at that time. Deer pop. of about 10 per section.

Take has been about 3 per section. Cedar is not recovering but hardwoods are. Hare was not important during years of observation.

Studies by Aldous indicate cedar can stand only light browsing pressure. (15 to 20 per cent)

Aging deer jaws--D. Switzenberg. Leader

Some 50 jaws of known age at Cusino. Some variation in these from description given by Severinghaus, but, in general, the descriptions hold fairly well. Southern deer teeth may develop faster and thereby show wear earlier.

V. Gunvalson--Generally deer over 3½ years are under-aged. 2½ and 3½ year old age classes most difficult to age.

R. Hepburn--Apparently some variation in tooth wear between regions in Ontario with tendency to overage animals from certain districts.

Wisconsin--19 known age deer jaws. Some variation again and similar to Michigan. Ten jaws from captive deer. More variation in penned deer than in wild. 2½ year olds being called 3½.

A. Boyce--Personnel tests of aging abilities. 52 tests on 50 jaws.

1½	years	0% underaged,	7% overaged
2½	"	30% overaged,	5% underaged
3½	"	12% underaged,	16% overaged
4½	"	16% " ,	17% "
5½	"	25% " ,	28% "
6½	"	43% overaged,	13% underaged
7½	"	35% " ,	5% "

In general, tooth wear method has variable factors that enter and proficiency of station personnel varies but system still has great value.

Summary of meeting--I. Bartlett.

Apparently if one state has a good season, all do, and conversely. High light of field trip was willing cooperation of U. S. Forest Service and policy "Let's not worry about details--let's cut!"

Herbicides--difficult to get root kill on aspen. Good as far as deer are concerned. 2,4-D is best acid. Herbicides have value as they are selective in their effects.

Use group methods of discussion in public relations if possible. Trappers councils are used in Ontario successfully.

Wisconsin has new and valuable approach to range appraisal. The method uses little manpower and covers large area. It is possible to cover a township in 1½ man days in the fall.

A deer population of 22 deer per section can eliminate cedar as a food within three years on a square mile area with 60 acres of cedar.

The aging of deer using the Severinghaus system has faults but it remains a valuable game management technique. The accuracy is increasing with the addition of more known aged jaws. The proficiency of deer jaw agers varies even among experienced men. The tendency is to overage young deer and underage old deer.

ATTENDANCE

Ralph Hovind	Wisc. Conservation Dept.	Woodruff, Wisc.
Stanley DeBoer	" " "	Black River Falls, Wisc.
B. L. Dahlberg	" " "	Spooner, Wisc.
John M. Keener	" " #	Woodruff, Wisc.
Milt Stenlund	Minn. Conservation Dept.	Ely, Minn.
Arnold Erickson	" " "	St. Paul, Minn.
Vern Gunwalson	" " "	Bemidji, Minn.
David B. Vesall	" " "	St. Paul, Minn.
John L. Zerichak	" " "	Brainerd, Minn.
Walt Petraborg	" " "	Aitkin, Minn.
Robert I. Benson	" " "	Glenwood, Minn.
Robert Farmes	" " "	Thief River Falls, Minn.
Norman J. Ordal	" " "	Fergus Falls, Minn.
John B. Moyle	" " "	St. Paul, Minn.
Charles Ott	" " "	Grand Marais, Minn.
Art Johnson	" " "	" " "
Earl J. Adams	" " "	St. Paul, Minn.
Earl R. Lhotka	" " "	Duluth, Minn.
Richard L. Knox	" " "	Grand Rapids, Minn.
Les Magnus	" " "	Roseau, Minn.
Bill Richards	" " "	Finland, Minn.
L. W. Krefting	U.S. Fish and Wildlife Service	St. Paul, Minn.
Jim Coutts	" " " "	" Minnespolis, Minn.
J. K. Reynolds	Dept. Lands and Forests, Ontario	Sault Ste. Marie
H. A. Lumsden	" " " "	" Maple
George Whitefield	" " " "	" Port Arthur
Robin Hepburn	" " " "	" Maple
Earl H. Stone	" " " "	" Sioux Lookout
Louis C. Hermel	U.S. Forest Service	Duluth, Minn.
David Kee	" " "	" "
Herman F. Olson	" " "	Milwaukee, Wisc.
Michael W. Kageorge	" " "	Duluth, Minn.
Rudy Hedland	" " "	Tofte, Minn.
Norman O. Nelson	" " "	Grand Marais, Minn.
H. A. Swenson	" " "	Milwaukee, Wisc.
Ilo Bartlett	Michigan Dept. of Conservation	Lansing, Mich.
B. C. Jenkins	" " " "	" "
Arlow Boyce	" " " "	Houghton Lake Heights, Mich.
D. F. Switzenberg	" " " "	Shingleton, Mich.
W. H. Marshall	University of Minnesota	St. Paul, Minn.
Henry H. Hanson	" " "	" "

Respectfully submitted,

Milt Stenlund
Secretary