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RESULTS OF SUPPLEMENTARY ANALYSIS OF 1966 BROWSE
SURVEY ON ACADIA NATIONAL PARK

Introduction

—The following analysis of the 1966 browse survey was performed to satisfy objectives which were not in conjunction with the scope of the study for which the survey was conducted. The objectives of the analysis are: 1) locate areas on the Park which are experiencing heavy browsing; 2) establish areas in the Park where cedar is utilized excessively; 3) compare results of surveys conducted in the past to results of the present survey and, 4) locate cedar areas on the Park. It should be emphasized that the 1966 browse survey was not designed to meet the above objectives, but was intended to unbiasedly reveal the browse situation on the entire Park. Contrary to previous surveys, all browse plots of the current survey were randomly distributed throughout the Park. Locations for browse plots were selectively chosen in earlier surveys to measure browse conditions in localized areas and consequently do not represent browse conditions on the whole Park.

Methods

Each block which was used to stratify the study area was subdivided into smaller blocks (see cover type map). Plots which fell into the respective blocks were analyzed separately from all other blocks. Each of the key species were analyzed

separately in each of the 14 blocks (Table 1). Subsequently, an attempt was made to evaluate browsing conditions in each block for comparative purposes.

To correlate the 1966 browse survey with previous surveys, individual plots of the various surveys which were located near one another were compared to gain more knowledge of ecological relationships between deer and vegetation of the Park. Earlier surveys used for comparative purposes were conducted in 1960, 1961, and 1965.

RESULTS

To facilitate a logical presentation of the results, each block will be discussed separately followed by a general summary of all blocks.

A1

Only a small portion of the Park is located in this block. According to the current survey, striped maple, red maple, and sweet fern were moderately* browsed. Balsam fir was utilized 0.4%. Other key species were browsed only slightly. Twenty-six of the 720 plots (3.6%) were located in block A-1.

Whalesback

April, 1961-- Very little food available and receives little use by deer. Found heavy browsing on red maple by deer.

*browsing conditions

0-25% utilization = slight usage

26-50% utilization = moderate usage

>50% utilization = heavy usage

April, 1966 - Very little food available. Found heavy browsing on sweet fern. A moderate amount of deer sign was seen.

A2

Fifty-two (7.2%) plots were located in the block in the 1966 survey. There appeared to be very little use of this area by deer. There was no recorded browsing on cedar, striped maple, or red maple. Browsing on other species was light, however, 1.3 per cent of the fir counted was browsed.

Lake Wood

May, 1961 - There is an over-population of deer here presently. Heavy browsing on red maple and red oak.

March, 1966 - The area appears to be receiving light use as indicated by lack of sign and browsing.

Witch Hole

May, 1961 - Heavy browsing on red maple and red oak (70-90%). Light browsing of striped maple and paper birch-moderate to heavy browsing on sweet fern. Few droppings-one set of tracks.

May, 1962 - Red maple browsed approximately 40% and red oak-25%.

May, 1965 - Light browsing on red maple, sweet fern and red oak.

April, 1966 - Very little sign seen in area. Light browsing on sweet fern and paper birch. The area does not appear to be overbrowsed presently.

Great Hill

May, 1961 - Heavy browsing on red maple, red oak, and sumac. Fresh tracks and old droppings seen.

April, 1966 - Moderate amount of old signs seen.

Heavy browsing on sweet fern which is about the only food available. Most of the understory vegetation is dead from natural pruning.

A3

Light browsing was reported for all species during the current survey. Ninety-eight plots (13.6%) were located in this block. Although white cedar was generally abundant only 0.8% of the twigs were browsed. Striped maple and red maple were browsed 10.2% and 16.6% respectively.

Brewer Mountain

May, 1961 - Very little good browse growing except sweet fern which has received moderate browsing. Very little signs seen.

April, 1966 - moderate to heavy browsing on red maple. Moderate amount of sign seen. Very little available preferred browse.

Aunt Betty Pond-Hardwood Hill

May, 1961 - Very little browse available except sweet fern which was browsed moderate to heavy. Red maple and red oak browsed about 70%. Striped maple browsed 15%.

May, 1962 - Very little preferred food available.

Sweet fern browsed about 70% and willow browsed averaged 60%.

May, 1965 - Very little food available. Where a available, red maple, sweet fern and red oak usually browsed moderate to heavy.

April, 1966 - This area now receives only moderate use except in local areas. A lot of hare browsing on red maple was noted. Very little deer sign was seen.

Northwest slope of Cadillac Mtn.

May, 1961 - Lack of deer sign and browsing indicates limited use.

April, 1966 - Very little sign or current browsing noted. Heavy old browsing occurred on witherod, paper birch, cedar, and fir which are available in limited quantities.

Summit of Cadillac Mtn.

May, 1961 - Area shows signs of intensive use. Heavy browsing occurred on witherod and mtn. ash.

May, 1962 - Witherod slightly browsed. Heavy localized browsing on mtn. ash, and witherod.

April, 1966 - Very little browsing on mtn. ash, witherod and paper birch which were moderately abundant.

Conners Nubble

May, 1961 - Light browsing on striped maple. Lot of current sign seen.

May, 1962 - Light to moderate browsing on preferred species. About same amount of sign as previous year.

April, 1966 - Moderate to light browsing on striped maple and sweet fern. Lot of old sign but very little fresh sign.

Beaver Dam near Great Hill

May, 1962 - Red maple browsed 70%, red oak 50%.

Heavy browsing in most of the area.

April, 1966 - Area still receives moderate use but there does not appear to be more deer using the area than it can support.

West Slope of Cadillac Mtn.

May, 1962 - Light browsing on cedar and striped maple.

April, 1966 - Very little available browse in most of the area. Moderate amount of sign seen.

A4

Twenty-eight of the plots (3.8%) were located in this block. Browsing was light on all species counted. None of the species were browsed more than 4%.

North of The Tarn

May, 1961 - Browse plentiful (red maple and red oak) - very little browsing noted.

April, 1966 - Heavy browsing on witch hazel. Moderate browsing on red oak and paper birch.

B1

Very little browse available on the plots measured

except sweet fern, which was browsed moderately (43%). However, only 16 plots were located in this block.

Hodgdon Brook

May, 1962 - Very little preferred food available.

April, 1966 - Most of this area is boggy. Preferred food was scarce, and little sign was noted.

B2

Moderate Browsing occurred on cedar and sweet fern as determined from 48 sample plots. Although relatively abundant, striped maple, red maple, and witherod were browsed very little. Cedar was more abundant than any other species counted.

Northeast slope of Norumbega Mtn.

April, 1961 - Heavy browsing on sweet fern. Striped maple browsed only lightly. There were few current tracks noted in the area.

May, 1966 - This area now receives only moderate use except in local areas. Deer sign was scarce. Striped maple, red maple paper birch, and sweet fern offer a moderate amount of food.

B3

According to 98 plots (13.6%), this area is presently presently receiving more use than any of the blocks discussed thus far. Cedar, striped maple, paper birch, witherod, and sweet fern were moderately browsed.

Seal Cove Pond

May, 1962 - Very little deer use. Little or no browsing on preferred species.

April, 1966 - Deer sign was very scarce. There was a lack of preferred browse but was heavily browsed where it occurred.

B4

This block, in conjunction with B3, is receiving moderate use. Acadia Mtn., St. Sauveur Mtn. and Valley Peak are areas receiving the greatest use. However, the 46 sample plots (6.4%) indicate that browsing pressure is light in the area as a whole.

Valley Peak

May, 1961 - A large deer yard is located here. Cedar is relatively abundant and browsed moderate to heavy.

May, 1962 - Browsing on cedar averaged 70%. An abundant amount of old and new sign was noted.

April, 1966 - This area received moderate to heavy use in 1965-66 but only limited use in 1966-67.

Browsing throughout the area was moderate to heavy on cedar. The area presently appears to be supporting deer at its carrying capacity.

C1

This area has an abundance of available cedar, striped

maple and paper birch as determined from 70 sample plots (9.7%). However, all species except red maple were only lightly browsed, which was browsed 63.1%.

Bubble Pond

May, 1961 - There was an abundance of striped maple in the area which was browsed about 50%.

April, 1966 - Heavy browsing was noted on Ilex and cedar. Most of the cedar is unavailable to deer. A lot of sign was seen in the area.

C2

All species in this block received light browsing except witherod, which was browsed 41.4%. Twenty-two of the sample plots fell into this block (3.0%).

C3

Forty-eight plots (6.7%) were located in this block. All available twigs were browsed lightly.

C4

Very little can be said about this block since there were only 10 plots located in it.

D1

Ninty-six (13.3%) plots were located in this block but, very few twigs were counted. Balsam fir had a relatively high incidence of browsing (1.2%) while sweet fern was browsed 18.1%.

D2

Ground juniper, lambkill, fir, and sweet fern were browsed heavier in this block than in any other block with sweet fern being browsed as heavy as 71.7% and fir 22.9%. This trend in browsing indicates that there is a lack of other preferred food in the area. Heavy browsing was also noted on highbush blueberry. Sixty-two plots (8.6%) were located in this block.

Summary

Browsing pressure in areas where comparisons were made between the current survey and previous surveys is, for the most part, less than the reported pressure of the past. This trend does not apply to the winter areas such as Valley Peak. Blocks A, B, and C had the most available browse. Sub-blocks A1, B3 and C1 received the most browsing on all key species. Sub-block B3 had the highest browsing pressure on cedar (30.9%) while B2 was second highest (27.4%). Sub-blocks D1 and D2 appear to rank lowest with regard to available preferred browse. They also had the highest degree of fir browsing. The deer in these blocks also browsed heavily on highbush blueberry while deer in other sections of the Park rarely browsed blueberry.

Cedar Areas

Cedar areas on the Park were plotted largely from observations

made in the field by the author and Roy Stamey, Park Ranger.
These areas are shown on the cover type map, cross-hatched
in green.

Respectively submitted by:

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December 29, 1967

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