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6/6/39DEER BROWSING CONDITIONS IN ACADIA NATIONAL PARK AND
ADJACENT AREAS OF MT. DESERT ISLAND

May 23 to 25 inc., 1939

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When the last browse study was made by Pearce and Aldous January 30 to February 1, 1939, it was decided that one more such trip should be made into the Park area to determine the final winter browsed conditions. In cooperation with Mr. O. B. Taylor, Mr. Aldous spent three days on the Park and adjoining areas on May 23 to 25 inclusive.

Itinerary and Party

May 23 -- Wildlife Technician O. B. Taylor, Ranger Thompson, L. Lawrie Holmes, an interested sportsman, and C. M. Aldous.

In the afternoon the party visited the area in the vicinity of Richardson Brook and Aunt Betty Pond (see map).

May 24 -- The party in the forenoon consisted of O. B. Taylor, Warden Smith, L. Lawrie Holmes, Maurice Sullivan, Park Naturalist, and C. M. Aldous. The afternoon party was made up of O. B. Taylor, Smith, and Aldous.

Places visited -- Pretty Marsh, Seal Cove and Cadillac Mountain (See map).

May 25 -- Sullivan, Taylor, and Aldous.

Places visited -- Sargent Mountain, Around-Mountain-Drive, east side of New Mill Meadow road and intersection of Witch Hole and Eagle Lake roads (see map).

Present Browsing Conditions

The present follow-up study has little to add to the January report as far as heavy browsing is concerned. On the high, rocky ridges to the north paralleling Richardson Brook, the oak sucker growth shows severe browsing, and, unless the deer pressure is relieved here in the near future, the oak reproduction will be gone. The acorns from the few patches of mature or near mature trees are probably largely consumed as mast by the deer. There was no evidence found of where any of the acorns had started to

grow. On this ridge also was a heavy scattering of young aspen which had been so heavily browsed that all of it had been killed within the last two years. Not over five or six of these young aspen suckers had escaped being browsed. It is quite evident that aspen cannot withstand browsing to the same extent as can the oak.

Very little sumac was present, but this, like the oak and aspen, was very heavily browsed. The black cherry was also relatively heavily nipped, although it was present in limited quantities. Wherever willows were present they showed heavy browsing. The red maple sucker growth was eaten back almost as heavily as the oak.

Sweet fern was moderately heavily browsed, while the wild raisin and gray birch were only lightly attacked. Beech sucker growth had been left untouched. White cedar had been so heavily browsed along Richardson Brook that there was a distinct deer line present. There is now a complete absence of any cedar available as food in this area. Here, also, the red squirrels have begun their work of cutting off the end buds of the balsam fir.

One dead yearling fawn was found along Richardson Brook. The cause of death could not be determined.

Pretty Marsh area -- East of Round Pond on the Drisco lot, a bald rocky ledge, there was evidence of moderate browsing on black cherry, red maple sucker growth, aspen, wild raisin, and high-bush blueberry, while the white cedar, sweet fern, and low-bush blueberry were lightly eaten. On or over this tract, there is an abundance of white cedar, and not in a single instance did we find this cedar even moderately browsed. The available cedar browse is adequate for the number of deer present. Where cuttings had been made in the hardwoods of this area, the sucker growth, especially of the birches, was quite heavily nipped. With the estimated 50 deer over this 3-square-mile area, there is no immediate danger of a shortage of either summer or winter food.

Seal Cove area -- On the low, more or less level lands, there is evidence of heavy browsing on aspen, black and pin cherry, wild raisin, willows, and sumac. The latter was very heavily eaten back and is present in relatively large quantities.

Plants showing light browsing were alder, white ash, and serviceberry. The area as a whole showed relatively heavy browsing. Very little white cedar was present, but where it was found it was eaten back quite heavily.

Cadillac Mountain area -- Along the Cadillac Mountain road from the bottom to about two-thirds the way to the top, the deer have utilized the white cedar to such an extent as to show a distinct deer line. The mountain ash and sumac have been browsed rather heavily but not to the same extent as the cedar. Other plants

being utilized, but not to the danger point, are gray birch, service berry, willow, and wild raisin. The presence of deer here adds considerable to the esthetic attractiveness. Many people drive the mountain road just for the thrill of seeing these deer. Even though some of the plants are being severely damaged, this area could support what deer are now present, but any increase of these animals would present a situation calling for a reduction in their numbers. This, then, is another area that should be carefully watched in the future.

Sargent Mountain and Around-Mountain Drive -- On the west and north side of Sargent Mountain along the carriage trail, white cedar, black cherry, and mountain ash were very heavily browsed. The cedar, while quite plentiful, was severely damaged by the deer. Very little of the leafy parts are now within reach of even adult deer. There are a few mature red oaks here but an entire lack of reproduction. Species showing moderate browsing are raspberry, white and gray birch, honeysuckle, blueberry, striped maple, and mountain holly. It is quite evident that this area is considerably over-browsed. This part of the Park has been well worked over by crews cleaning up the underbrush on either side of the carriage road built by Mr. Rockefeller. Through this expansive program of clean-up, a great deal of potential deer food has been removed. Here, as in the area along Richardson Brook, the deer herd should be reduced to the carrying capacity of the land.

Along the mountain road west of Jordan Pond, browsed conditions are not as extensive as they are on the north and west sides of Sargent and Parkman mountains.

East side of New Mill Meadow Road -- This area was visited by Pearce and Aldous in June, 1938, and was found to be more heavily browsed then than it was on the present trip. Especially is this true of the cedar. This plant has made a noticeable come-back during the last year and shows only light browsing for the past winter.

Intersection of Witch Hole and Eagle Lake Road -- White cedar, while not plentiful, was heavily browsed. Red maple and gray birch sucker growth was also heavily eaten, especially where clean-up work had been done. This area was being browsed about as heavily as it could stand, and any additional deer would no doubt cause a serious situation in the winter foods present. It would be well to carefully watch this area for evidence of over-browsing.

Summary

Heavy deer browsing was apparent in the area around Richardson Brook and Aunt Betty Pond. Cedar, aspen, oak, and willow were severely browsed. The deer herd should be reduced.

In the Pretty Marsh area, conditions are satisfactory at the present time.

At Seal Cove, heavy browsing on sumac, aspen, and willow was noticeable. There are probably too many deer for the available winter browse.

The browse on Sargent and Parkman mountains is far too heavily utilized and winter food of deer is decidedly lacking. The deer herd should be reduced.

On the lower slopes of Cadillac mountain, on the west side, the cedar has been heavily browsed, but there is still some available for the deer. This area should be carefully watched in the near future.

Along Around-Mountain-Drive the deer still have sufficient available food. The white cedar in the vicinity of the New Mill Meadow road is making a good come-back and is not now in danger of being over-browsed unless the deer should congregate here in large numbers during the coming year.

At Witch Hole there is enough winter food available for the present number of deer, but any marked increase of these animals will no doubt put this area in a precarious condition.

Name of area	Date	Map Location	Degree of Browsing
Richardson Brook or Southwest Valley	6/23	1	Very heavy
Pretty Marsh	6/24	2	Light
Seal Cove	6/24	3	Mod. to heavy
Cadillac Mountain Road	6/24	4	Moderate
Sargent Mountain	6/25	5	Very heavy
Around-Mountain-Drive	6/25	6	Light
East side of New Mill Meadow Road	6/25	7	Moderate
Witch Hole	6/25	8	Moderate

Recommendations

1. A Wildlife Technician should be employed by the Park Service to assume leadership in all wildlife matters and to make systematic and careful check-ups of all the areas in the Park in order to establish policies and practices that will prevent any future over-browse conditions.

2. There should be at least six areas established for making deer counts. Each of these areas should be not less than a mile square. These areas should be so established as to represent conditions of varying degrees of browsing. In recommending reduction in deer numbers, it is necessary to know the deer population in advance so that the numbers to be taken off will be adequate to relieve the serious situation at hand.

3. Sprouted acorns or nursery seedlings should be planted wherever conditions will warrant it. This planting, together with a reduced number of deer, should favor the possibility of a successful stand of these trees. There is a possibility that in some of the cut-over areas where oak planting is advisable that an electric fence could be employed to protect these seedlings for a year or two, or until such time that the seedlings are at least four or five feet high.

4. In the hardwood or mixed hardwood stands surrounding the areas that are heavily browsed, some release cutting should be done. This cutting should be heavy enough to encourage sucker growth so that the deer would be drawn away from the areas now too heavily browsed. These cuttings will in most cases be back away from roads and trails so that it should not be objectionable from an esthetic standpoint.

5. There should be an orderly reduction of the deer populations at several strategic locations in order that the over-browsed plants might again become productive, the method of removal to be left with the Park Service and the Department of Inland Fisheries and Game.

It is very doubtful that opening the island outside of the Park boundaries to hunting will materially lessen the damage being done by the deer on the Park proper. As it is, there is only one area outside of the Park that has a heavy deer population.

COMPILATION OF CENSUS DATA - 1939													
LARGE MAMMALS													
A R E A S	Black Bear	Grizzly	Wapiti	White-tailed Deer	Black-tailed Deer	Mule Deer	Moose	Caribou	Pronghorn	Bison	Bighorn	Mtn. Goat	
National Parks													
ACADIA				800									
BRYCE						200							
CARLSBAD						125							
CRATER LAKE	50		6	6	80	20							
GEN. GRANT	5					200							
GLACIER	350	100	1950	1600		1100	230				200	750	
GRAND CANYON						250			20		200		
GRAND TETON	60	10	250			225	110				20		
GREAT SMOKIES	225			40									
HAWAII													
LASSEN	20					650	150						
MAMMOTH CAVE				6									
MESA VERDE	5					com.							
MT. MCKINLEY	10	50					200	14000			2000		
MT. RAINIER	100		25		650							450	
OLYMPIC	com.		com.		com.							rare	
PLATT						4				21			
ROCKY MTN.	80		1000			1400					330		
SEQUOIA	150					1200					rare		
WIND CAVE			135			50			60	204			
YELLOWSTONE	500	300	12300			1000	700		800	850	250		
YOSEMITE	515					7000							
ZION			5			550					20		
Some of the National Monuments													
BANDELIER	5					100							
GUNNISON	3					130					55		
BOULDER DAM						115					270		
CANYON CHELLY	10												
CAPULIN MT.						20							
CHACO CANYON						3							
CHIRICAHUA				35									
COLORADO						com.				18			
CRATERS of MOON													
DEATH VALLEY						6					500		
LAVA BEDS						800			rare				
NATURAL BRIDGE						10					4		
ORGAN PIPE				50		50			10		25		
SAGUARO				15		35							
WHITE SANDS									14				

COMPILATION OF CENSUS DATA - 1939													
OTHER MAMMALS													
A R E A S	Marten	Fisher	Wolverine	Otter	Badger	Red Fox	Gray Fox	Coyote	Wolf	Cougar	Bobcat & Lynx	Beaver	
National Parks													
ACADIA						com.						200	
BRYCE					25	rare	30	30		4	30		
CARLSBAD					2		50	10		4	25		
CRATER LAKE	com.	rare		rare	rare	10		5		rare	rare	rare	
GEN. GRANT								12		4			
GLACIER	700	4	3	35	35			500	1	15	4	20	900
GRAND CANYON				rare	rare		com.	com.		5	com.	10	
GRAND TETON	com.	rare		unc.	unc.	rare		50		3		com.	
GREAT SMOKIES						150	500					unc.	
HAWAII													
LASSEN	com.	rare			unc.	unc.		unc.		3	unc.		
MAMMOTH CAVE						rare	com.						
MESA VERDE							com.			unc.	unc.		
MT. MCKINLEY	200		10	rare		200			50		*unc.	200	
MT. RAINIER	com.					35		300	1	7	200	55	
OLYMPIC	rare	rare						unc.		unc.	com.	unc.	
PLATT												2	
ROCKY MTN.	com.					unc.		125		10	unc.	com.	
SEQUOIA	unc.	rare	rare		unc.		unc.	com.		25	unc.		
WIND CAVE								5					
YELLOWSTONE	com.			unc.	unc.	unc.		com.			*unc.	com.	
YOSEMITE	300	75		150		rare	com.	com.		20	225		
ZION					15		60	10		15	50		
Some of the National Monuments													
BANDELIER							5	30		2	com.	4	
GUNNISON					com.			com.		2			
BOULDER DAM							com.	com.		5	unc.	200	
CANYON CHELLY								75					
CAPULIN MT.								3			5		
CHACO CANYON							15	50			12		
CHIRICAHUA								unc.		1			
COLORADO							unc.	com.		unc.	unc.		
CRATERS of MOON													
DEATH VALLEY					unc.		25	250		10	50		
LAVA BEDS								40		rare	60		
NATURAL BRIDGE					5		20	6					
ORGAN PIPE								25		4			
SAGUARO								25		2	10		
WHITE SANDS					15		20	40					

* indicates Lynx