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ABSTRACT

MOBILITY OF SOUTH DAKOTA DEER BETWEEN BADLANDS NATIONAL MONUMENT AND SURROUNDING AREAS

Fifty-eight deer were trapped in the vicinity of Badlands National Monument during the winter of 1970-71. Fifty-seven deer were marked and 41 of these were recaptured. Deer were marked with collars of canvas belt webbing covered with vinyl overlay.

Seventy observations of collared deer have been made. Movement involved distances of 1-12 miles. Of 70 deer observed on the study area in late June, only seven were collared.

Trapping will continue at least one more season in an attempt to mark and recapture deer in major drainages outside of Badlands National Monument.

MOBILITY OF SOUTH DAKOTA DEER BETWEEN BADLANDS NATIONAL MONUMENT AND SURROUNDING AREAS

by
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INTRODUCTION

Traditionally deer concentrations have occurred within the Badlands National Monument and surrounding areas. In the past, moderate to heavy hunting pressure occurred in areas adjacent to the Monument. Some areas, particularly land administered by the United States Forest Service, have received heavy hunting pressure and a resultant high deer kill. Deer move in and out of the Monument, particularly during the fall and winter months, but the extent of this movement is unknown. An extensive trapping and marking program will assist in determining seasonal movement patterns and may also shed light on the origin of deer causing chronic crop damage complaints on private lands bordering the Monument. Defined movement patterns will also be of value when recommending deer seasons in areas adjacent to the Monument.

OBJECTIVES

Determine daily and seasonal movement of deer within and between Badlands National Monument and surrounding areas, and relate harvestability of deer as influenced by the presence of the restricted hunting area.

PROCEDURES

Wintering deer herds were located during late fall and early winter and trap sites were selected in the Sage Creek and Big Buffalo Creek drainages. Traps were located within Badlands National Monument, on National Grasslands and on private lands adjacent to the Monument. When possible, sites were selected in areas of minimal human disturbance.

Second-cutting alfalfa and ear corn were used to attract deer to the selected trap sites. When possible, traps were located near alfalfa stacks or winter wheat fields which attract deer. Deer showed a definite preference for alfalfa, and because snow often covered corn, the traps were baited with alfalfa.

Fourteen clover traps were used during the trapping period. In most instances only one trap was used at each site. When set, traps were checked each morning. Traps located on private land had to be moved frequently when domestic livestock used the area.

Deer were marked with collars and ear streamers. Collars were made of canvas belt webbing covered by a plastic or vinyl overlay. Numbers or symbols observable at distances of one half mile, were stitched on the vinyl. Four color combinations were used for the collar and symbols. Collars were four inches wide. Doe collars were 20 inches long with ends stitched together. Buck collars were 22 inches in length and were fastened with three harness snaps. Plastic ear streamers 5-7 inches long were used on immature bucks. Metal ear tags, denoting return address, were put on all captured deer.

FINDINGS

Ninety-eight deer were trapped during January, February and early March, 1971. Fifty-seven deer were marked and 41 of these deer were recaptured. Collars were put on all trapped deer with the exception of five immature bucks which were ear marked.

Twenty-eight deer were marked on the Big Buffalo study area and 29 deer were marked on the Sage Creek area. Sex and age characteristics of marked deer are shown in Table 1. One trap fatality occurred. Traps were set 28 days with the highest capture rate attained during periods of cold weather and a 6-10 inch snow cover. As the season progressed, the number of recaptures increased.

Recaptured deer, particularly fawns, caused some problems as they were vulnerable to traps and prevented marking additional deer in the area.

Seventy observations of marked deer have been made, and it appears that the presence of the collar does not hinder the animals. Collars taken from road-killed deer and examination of collars from recaptured deer indicated little wear weathering of the collars.

During the winter months, very little deer movement was noted. Movement during April and May involved distances of 1-12mi. During late June, 50 man-hours were spent surveying the study areas in an attempt to locate collared deer on their summer range. All inaccessible areas were surveyed on horseback. Of 70 deer observed, seven were collared. Deer were difficult to observe due to dense vegetation in the drainages and lush growth of sweet clover on the uplands. Daily temperatures approached 90 degrees and probably contributed to the lack of deer observations. All of the collared deer observed inhabited areas

Table 1. Sex and age characteristics of marked deer

Big Buffalo Study Area			
<u>Mule Deer</u>			
Male-Adult	Male-Fawn	Female-Adult	Female-Fawn
5*	7	5	5
<u>Whitetail Deer</u>			
<u>Male-Fawn</u>		<u>Female-Fawn</u>	
3		3**	
Sage Creek Study Area			
<u>Mule Deer</u>			
Male-Adult	Male-Fawn	Female-Adult	Female-Fawn
13	4	5	7

* 2 known fatalities
 ** 1 collar recovered

within five miles of their winter capture site. Three collars have been returned. One deer was killed on a highway, one became entangled in a fence and died, and one collar was found in a hay field.

RECOMMENDATIONS

Trapping operations be continued at least one more season in an attempt to trap deer in major drainages outside of the Badlands National Monument.

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