

REPORT ON ANTELOPE CREEK BUFFALO PASTURE

The Antelope creek buffalo pasture was established and stocked in the spring of 1935 and in the fall of that year one intensive range survey was made of that area which resulted in fixing the carrying capacity at 32 head of mature buffalo. But, because of allowances made for other factors, such as the daily driving of the buffalo to the corral, which was responsible for tearing up the range, and the use of the pasture by other game animals, the carrying capacity of the pasture was further reduced to 25 head. It was felt that this was a very conservative figure, the more so as in obtaining it the forage requirement of the buffalo was computed at 125% of that of domestic cattle, while it is generally conceded that the forage requirement of buffalo does not exceed that of cattle.

Coincidentally with the stocking of this pasture with buffalo, range study plot #20 was established in the lower and northwest end of the pasture and this plot has been charted during the month of July of each succeeding year. The location of the site of this plot was conditional upon its invisibility from the nearby road and therefore a truly representative site for all of the pasture could not be selected, though the present site is representative for a very large portion of the pasture.

In the fall of 1936 two plots, numbers 1 and 2 were established in areas considered representative of the more heavily used portions of the pasture. These plots were charted for density alone in September of 1936 and 1937 after the buffalo had been liberated from the pasture. The following table reflects the changes in densities occurring in the three plots, as well as the approximate area of the buffalo pasture of which each is representative.

<u>Year</u>	<u>Plot #20</u> <u>65% of area</u> <u>Densities-Change</u>	<u>Plot #1</u> <u>25% of pasture</u> <u>Densities-Change</u>	<u>Plot #2</u> <u>10% of pasture</u> <u>Densities-Change</u>
1935	.096		
1936	.070 -16.3%	.057	.133
1937	.086 +23.6%	.034 -40.6%	.0554 -59%
Change from 1935 =	-10.4%		

It is obvious from the above table that, while the major portion of the pasture as represented by plot #20 shows a fair increase in density and improvement over the preceding year, the remainder of the area, represented by plots #1 and #2, shows a very sharp decline in density for the same period and consequent ability to produce forage. This despite the fact that 1937 was a very good forage year from a climatic point of view.

Causes and Proposed Remedies.

In the order of importance the time of stocking of the pasture is placed first. At the elevation of the pasture, somewhat over 7000 feet, the location being on a general north slope, vegetative readiness practically never occurs before the middle of June. Grazing of the range before the plants have properly developed invariably results in the weakening of the plant system and poor recurrent growth and, when repeatedly done, in the destruction of the plant. Aside from this, considerable damage to the range will occur from the sharp hoofs of the buffalo if they are placed on the range when it is still in a moist condition, as it is likely to be early in June. Dates of the stocking of the pasture for the last three years were, June 15, 1935, May 25, 1936, and June 1, 1937. It is recommended that the buffalo pasture should not be stocked before June 15, 1938. If no facilities are available at the Buffalo Ranch to keep the buffalo there that long, it might be found expedient to keep them in the small corral at Antelope creek and feed them until the proper time for liberating them into the larger pasture. This may be expensive, but will be well justified by the results. In this manner the early visitors will have a good opportunity to view the buffalo on the Loop road instead of having to drive to the Buffalo Ranch.

Distribution.

The picture afforded by the foregoing table clearly shows that damage to the buffalo pasture is chiefly due to maldistribution. This maldistribution is brought about by seasonal factors. One of these is annoyance by tourists along the west side, which causes the animals to seek the protection of the more timbered east side of antelope creek. Also there is a knoll in the southeast corner which is attractive to the animals because the winds there afford relief from bothersome insects.

Since most of the damage to the range has occurred on the east side of Antelope creek, it is suggested that a two-strand barbwire electric fence be constructed from the lower corral following the course of Antelope creek south to a point where the creek turns southwest and from here to the east side of the gate in the south fence which runs east and west. It is not contended that this fence would withstand a stampede of buffalo, but rather it will act as a very effective deterrent and will permit of a very desirable management of the pasture, inasmuch as the west side of the creek may be used during the heavy tourist season, while the east side may be pastured before and after this time.

The use of salt for the purpose of keeping the animals on the west side of the creek was only partially successful last year and the use of 50 pound blocks resulted in the animals rolling the blocks about, causing long and unsightly scars on the slopes. Also the large available supply of salt enabled the animals to satisfy their craving for salt in a short time, after which they would not need to come back until after a long interval. It is suggested that only small amounts of salt be placed in boxes staked down and let in flush with the ground. These boxes should be inspected about every ten days and the supply replenished as needed. It is believed that this will cause the buffalo to more frequently visit these boxes and at the same time use the range near their locations.

Overgrazing.

Despite the large number of buffalo within the Antelope creek pasture in 1937, it can not be contended that the area as a whole was overgrazed. For the too heavy use of the pasture was mostly confined to approximately one-third of its area. However, in order to afford the range a chance to recover from the damage sustained the past year, as illustrated by the density charts, it is recommended that the number of buffalo placed in the pasture in 1938 should not exceed 25 head. By the installation of the aforementioned electric fence the buffalo will be forced to use the better and largely unimpaired range on the west side of Antelope creek, where they will be at all times visible from the Canyon-Tower Falls road. In this manner as many or more buffalo may be seen by the tourists, though the herd be smaller, than were seen in 1937, when the area was stocked much heavier, and the animals had the unrestrained use of the pasture.

It is believed that the enactment of the above outlined program of the management for the Antelope creek buffalo pasture will prove beneficial to the range thereon without seriously affecting the enjoyment of the visitors.

Respectfully submitted,

Rudolf L. Grimm
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Park Ranger

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