

Range Management Case History No. 2 <sup>1/</sup>

Subject: Continuous grazing.

Allotment: Quartz Hill.

Location: On the Wise River Ranger District of the Beaverhead National Forest only a few miles south of Wise River, Montana.

Vegetative Types:

- (1) Idaho fescue - blue bunch wheatgrass - carex.
- (2) Lodgepole pine and/or Douglas fir.
- (3) Big sagebrush - grass (Idaho fescue, blue bunch wheatgrass).

Pasture System:

None, except that the management system provided for dividing the stock at the time they are placed on the range. See tabulation following:

<u>System of Use</u>			
Quartz Hill	130 head	7/1 to 10/5	412 A.M.
Swamp Creek	90 head	7/1 to 10/5	285 A.M.

History and Schedule of Use:

<u>Year</u>	<u>Cattle No.'s</u>	<u>A.M.</u>	<u>Season</u>
1957	220	697	7/1 to 10/5 (3 1/6 months)
1958	220	697	7/1 to 10/5
1959	220	697	7/1 to 10/5
1960	220	697	7/1 to 10/5
1961	220	697	7/1 to 10/5
1962	220	697	7/1 to 10/5
1963	220	697	7/1 to 10/5
1964	220	697	7/1 to 10/5
1965	220	697	7/1 to 10/5
1966	220	697	7/1 to 10/5

1/ Based on Actual Range Management Experience. Beaverhead National Forest  
Beaverhead National Forest - Montana.

2/ By: Donald W. Nelson, Range Conservationist. Prepared as reference material  
for Range Management Training on September 12-13, 1966.

The range survey in 1942 gave a grazing capacity estimate as follows:

	<u>S.A.</u>	<u>F.A.</u>	<u>A.M.</u>	<u>Recommended Season</u>
Quartz Hill	5838	957	439	6/1 to 10/15
Swamp Creek	6036	1127	518	6/1 to 10/15

Ranger "Black" <sup>3/</sup> prepared a management plan in February 1943. He suggested a season from June 1 to September 30. He recognized two main problem areas: (a) Swamp Creek (b) Knoby Park. Riding control by construction of short drift fences, more water developments, and salting was suggested as a solution to prevent concentrations of cattle on Knoby Park and Swamp Creek. Permittees were to ride twice a month to prevent concentration on Knoby Park. Other areas were under-utilized due to lack of water.

Ranger "White" <sup>3/</sup> revised the management plan in April 1948. Prior to 1948 the season was June 1 to October 15. "White" changed the season (in 1948) and made it July 1 to October 5. Up until this time it had been an "on and off" permit. A new boundary fence (Quartz Hill) corrected this situation. "White" noted that, "The records indicated this range to have been overgrazed in the past". Also that "It has always been characterized by a spotty utilization pattern". He said, "Knoby Park and adjacent six types. . . . are a chronic SORE THUMB".

He noted that, "Open parks in . . . . Swamp Creek have been habitually overgrazed resulting in a deterioration and breaking up of the sod in patches, while the north end is usually under-utilized according to past records, while open parks . . . . in Spring Gulch have been overgrazed".

"White" suggested more riding on the part of the permittees to insure proper control in the future. He judged the salt plan adequate saying, "The present plan will need to be kept up to date and changed currently as the need becomes evident".

He recommended that the electric fence around the reseeded area in Knoby Park be placed in operation before the cattle go on; checked and maintained in operation throughout the season. Also to maintain the Quartz Hill boundary fence and water developments to aid distribution.

"White" suggested the construction of a stock driveway from Keystone Gulch to Swamp Creek to aid distribution.

Ranger "Green" <sup>3/</sup> revised the management plan in March 1953. The same old problems were still present, namely:

(a) Distribution poor

1. Need more water development.
2. Need more riding (He noted that no riding had been done by the permittees in the past two years).

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<sup>3/</sup> Name is fictitious.

3. Better salting. Ranger "Green" started "a study" on how to improve salting.
- (b) Knoby Park overgrazed.
- (c) Other areas undergrazed.
- (d) The construction of a stock driveway recommended to improve distribution.

"Green" recommended that the season be changed from June 1 to October 15 to July 1 to October 5. He based this on range inspections of "past years". At the same time he recorded in his management plan that:

- (a) "Swamp Creek is in good condition. It is not up to the maximum for forage production but apparently is steadily improving."
- (b) "Quartz Hill is generally overgrazed in the lower grassy parks in Spring Gulch and around Knoby Park."
- (c) "Due to lack of water in the southern . . . the Ponsonby Park areas are always undergrazed and are in very good condition."

#### Results to Date:

1. Knoby Park is still overgrazed and is a problem area. This "problem" and the range condition are still about the same in 1966 as they were in 1943 - AFTER TWENTY-THREE YEARS! In my judgement the condition of Knoby Park has continued to deteriorate and the trend of the vegetation is down.
2. No doubt other areas have continued to be overgrazed during the twenty-three year period resulting in downward trends. Still other areas are undergrazed. The distribution problem remains about the same in 1966 as it did in 1943.
3. Knoby Park has been converted from a productive bunchgrass type (Idaho fescue - blue bunch wheatgrass) to a type where blue bunch wheatgrass has largely been replaced by forbs and less desirable grasses such as Poa. Dandelions have invaded wet portions of the park.
4. The vigor of the remaining Idaho fescue is "poor" and production is estimated to be about one-fourth of what it could be under non-continuous range management.
5. It is apparent to the experienced eye that the watershed condition is much poorer than it would be under non-continuous range management.
6. Blue bunch wheatgrass has almost been eliminated from the vegetation. Plants remaining are of low vigor and small in size.
7. The harmful effects of grazing have not been overcome during the twenty-three years of management (1943-1966) of which we have records.

8. The year 1966 in Beaverhead County has been one of the driest on record. Experience this summer on this allotment indicates that continuous grazing (range management) possesses little or no ability to minimize the effects of drought. Production in 1966 on Knoby park was very low and contributed little to the "feed supply" of the Quartz Hill Allotment.
9. This historical record shows that the grazing capacity (based on permitted season) has been reduced as follows:
  - (a) Prior to 1948      6/1 to 10/15 (On and Off)
  - (b) 1948 - 1966      7/1 to 10/5

Inspection of Knoby Park and adjacent areas in 1966 indicate a need for both a reduction in numbers and season under continuous grazing (range management) as applied to the Quartz Hill Allotment during 1966 and the past twenty-three years.

10. Surely this experience over twenty-three years and longer should demonstrate that "riding" and "more riding" is not the cure for "poor distribution". Salting, water developments, and stock drive-ways are helpful. But still, they too, have not prevented range deterioration on Knoby Park. Continuous grazing (range management) on the Quartz Hill Allotment (for twenty-three years plus) did not overcome the harmful effects of grazing on Knoby Park and on other overgrazed areas of the allotment.



Photo taken July 8, 1966 (Drought year) on Knoby Park (Quartz Hill Allotment), (Thomas Lomasson 16' x 16' enclosure). Blue bunch wheatgrass abundant with excellent vigor inside and leaf-height measured 14" to 16". No Blue bunch wheatgrass found outside.

Idaho fescue with good vigor inside. Clumps 4" to 6" in diameter and leaf-height 4" to 6" tall. Outside the Idaho fescue is of low vigor; small 1½" to 2" diameter clumps with leaf-height of 1½" to 2".

Estimate eight to ten times the production (by weight) found inside as found outside during this 1966 drought year.



OUTSIDE - KNOBY PARK  
(Quartz Hill Allotment)

Vertical Photo (2' x 2' square) taken July 18, 1966. (Drought year and little, if any, grazing by cattle to date in 1966).

Idaho fescue:

- (a) Poor vigor
- (b) 1½" to 2" diameter (clumps)
- (c) 1½" to 2" leaf-height

Blue bunch wheatgrass:

- (a) None observed. Probably a few scattered poor vigor plants might be found after long search.



INSIDE - KNOBY PARK  
(Quartz Hill Allotment)

Vertical Photo (2' x 2' square) taken July 18, 1966. (Drought year) Would likely even be better if grazed under Rest - Rotation Management!

Idaho fescue:

- (a) Good vigor
- (b) 4" to 6" in diameter (clumps)
- (c) 4" to 6" leaf-height

Blue bunch wheatgrass:

- (a) Excellent vigor
- (b) 5" to 8" in diameter (clumps)
- (c) 14" to 16" leaf-height