

May 16, 1966

POWDER RIM REST-ROTATION SYSTEM
SHELL CREEK UNIT
RAWLINS DISTRICT

Background

The Shell Creek Unit consists of approximately 600,000 acres of land, of which between 2 and 3% is private and State land. The land is predominately sagebrush grass type; however, there are three other major types, salt-bush, browse-grass, and juniper-grass. All of the vegetation is characteristic of the Great Basin and most of the plants are cool-season plants.

The topography varies from flat to semi-mountainous to eroded badlands. The elevation is 6500 to 7500 feet. The climate is generally semi-arid with an annual precipitation of less than 12 inches. The frost-free period averages approximately 90 to 100 days. Major run-off occurs as a result of snow-melt in late winter or early spring, however significant run-off results from high intensity summer storms. The soils are primarily clays and silts with some areas of sand.

The Unit is primarily used for grazing as winter sheep range, however there are some areas of summer cattle use. Wildlife numbers are minor in most of the Unit, limited to antelope and deer. However, there is a winter migration of deer into the Shell Creek Unit from the south and the east. In the past use has been extensive and the range was over-obligated and trespass livestock added to the general depletion of the range resources. The primary problems were over-obligation resulting in over-grazing, lack of water development resulting in concentrations of livestock, lack of control of livestock resulting in concentrations, and trespass use resulting in over-grazing.

In 1941 a range survey was made and the area was adjudicated and allotments were established. This work was completed by 1947. It was evident in later years that additional work was needed and the Shell Creek Unit resource inventory was completed in 1963. The Shell Creek Unit adjustment program was begun on the basis of this survey in 1964. The first adjustment was instigated in 1965 and the second adjustment was instigated on May 1, 1966.

There are 36 allotments. These allotments are used by some 30 operators at various times during the year. This varied use required the integration of some 62 license periods with other parts of an operator's set-up. There are only a few operators who operate entirely in the Shell Creek Unit and these operators have at least two allotments in the Shell Creek Unit. The adjustments range from 15 to 63%, averaging some 45 to 48%.

Powder Rim Area

This area is made up of some three different sheep operations with four different cattle operations' use as over-ride in the summer. There are some 46,500 acres of Public land and approximately 1000 acres of private land. The primary problem in this area was a concentration of sheep and cattle use in the late winter and early spring. The livestock were concentrated on the east or lower area along the Snake River due to winter conditions and the lack of water development in the higher areas to the west.

The range survey indicated that there were 4350 AUMs available for livestock and the total demand of sheep and cattle use in the area was 8722 AUMs, 34% of the total use was cattle and 66% was sheep. The comparison of the survey results and the total demand indicated a 50% reduction in grazing use. In considering the pattern of use and the potential of the area with sagebrush spraying, revegetation, wells, stock-water reservoirs, and other practices in mind, it was believed that if the area could be developed into a rest-rotation system and approximately 25% of the area rested each year the total reduction would not be necessary. The operators were consulted and in their opinion some reduction was necessary. The operators agreed to a 25% reduction in grazing use with 25% suspended pending the determination of the effect of the rest-rotation system.

Attached is a chart showing the improvement practices installed and the costs both to the Bureau of Land Management and to the cooperators. Also attached is a projected program for 1967 and a summary of demand and use in AUMs on the area, and a grazing schedule. The original schedule was adjusted somewhat the winter of 1965-1966, and the 1966 grazing schedule reflects those adjustments.

It is estimated that there is a resident antelope population of 75 to 100 animals and a resident deer population of 150 to 200 animals. There is a winter migration of deer into the area of approximately 100 animals. After the range survey was made proper use factors were assigned to the predominant forage plants and the forage production for wildlife was estimated and it was determined with this minimal population that there was no wildlife forage problem. It is felt that the development of water for wildlife utilization is one of the more important problems. It is planned that utilization studies will be conducted to determine the proper herd limits for big game and livestock. Wildlife considerations have affected the fence standards and the interior fences are of a lower standard, 26 inch woven wire with one strand of barbed wire four inches above the woven wire, than normal to determine if the fences will hold livestock and provide for game needs. The exterior allotment fences are mostly six-strand barbed fences.

POWDER RIM REST-ROTATION ALLOTMENT

Summary of Demand & Use (AUM's)

<u>Cattle Operators</u>	<u>Qualified Demand</u>	<u>% Reduction Scheduled</u>	<u>Range Survey Share</u>	<u>Rotation Share (25% Reduction)</u>
Brazell	950	49	485	713
Martin Brothers	600	49	306	450
Evans	399	49	203	299
Jones	<u>1,020</u>	<u>49</u>	<u>520</u>	<u>765</u>
Total Cattle	2,969	49	1,514	2,227
<u>Sheep Operators</u>				
Spicer (109 A)	1,336	31	927	1,002
4-Mile (111 A)	1,783	53	839	1,337
Smith (102 B)	452	48	235	339
Jolley (103 A)	<u>2,182</u>	<u>62</u>	<u>837</u>	<u>1,637</u>
Total Sheep	5,753	51	2,838	4,315
	(Cattle Use 34% of Total -- Sheep Use 66% of Total)			
Grand Total	8,722	50	4,352	6,542
	(AUM's of Adjustment Suspended by Rest-Rotation System <u>2190</u>)			

Projects Completed Prior to 1965

<u>Project Name</u>	<u>Units</u>	<u>No.</u>	<u>BIM</u>	<u>Cooperators</u>	<u>Total</u>
*Powder Rim Fence	Mile	7.3	4,724		4,724
*Dinah's & Jack's Fence(Part)	Mile	4.0	1,200	1,800	3,000
*Sand Creek Division Fence	Mile	13.5	9,553		9,553
Jolley-Spicer Addition(wire only on above fences)	Mile			<u>3,535</u>	<u>3,535</u>
		<u>24.8</u>	<u>15,477</u>	<u>5,335</u>	<u>21,412</u>

*These fences are allotment-boundary fences and only 50% of the value is chargeable to Powder Rim Allotment.

Projects Completed 1965--Fences and Wells

Powder Rim Cattle Fence #1	Mile	6.8	6,537	0	6,537
Horse Trap Fence	Mile	6.4	5,163	0	5,163
McPherson Spring Fence	Mile	5.8	4,761	329*	5,090
State Line Maintenance			<u>55</u>	<u>50</u>	<u>105</u>
Total Fences		19.0	16,516	379	16,895
Cattleguards	---	7			
*Gulf Oil Company Contribution for Cattleguards					
Little Snake Well #1	No	1	1,098	840	1,938
Little Snake Well #2	No	1	909	780	1,689
Sand Creek Well #1	No	1	799	630	1,429
Rotten Springs Well	No	<u>1</u>	<u>2,127</u>	<u>150</u>	<u>2,277</u>
Total Wells		4	4,933	2,400	7,333
Total for 1965			21,449	2,779	24,228

Programed for Spring 1966



Sagebrush Control

Pasture A, 1507 A.	Acres	1,906	5,718	0	5,718
Pasture C, 399 A.					

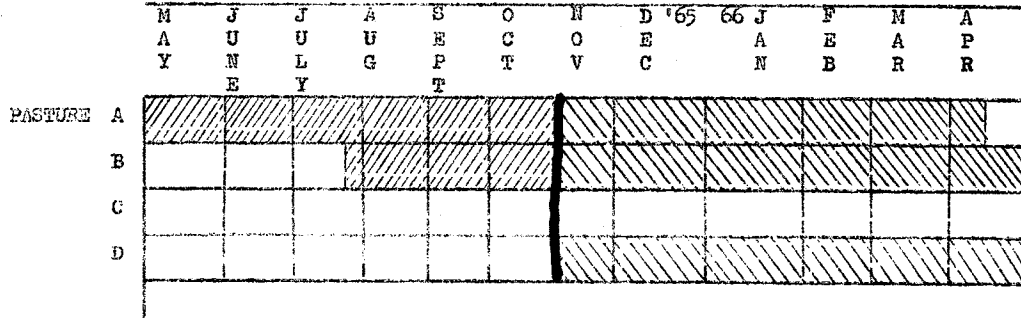
Programed Projects for FY 1967

<u>Type of Project</u>	<u>Number of Projects</u>
Reservoir Construction	5
Sagebrush Control	1,000 Acres
Reservoir Maintenance	5
Reservoir Bentoniting	4
Well Pits for Water Storage	4
Spring Maintenance	6
Spring Development	2

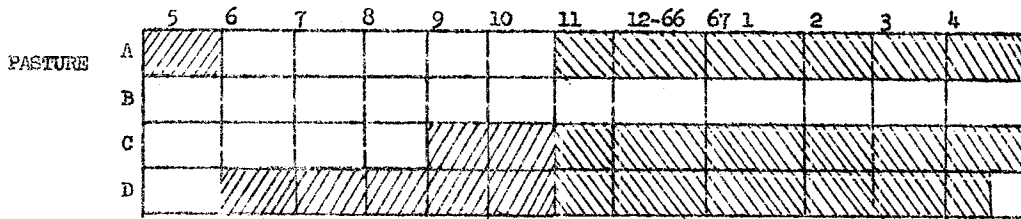
(This is subject to change depending on money and priority of projects.)

 CATTLE GRAZE
 SHEEP GRAZE

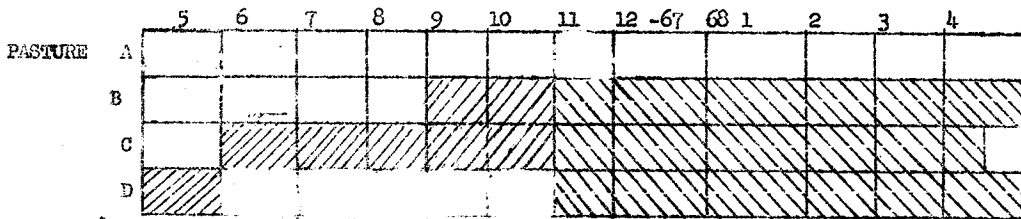
1965 GRAZING SCHEDULE



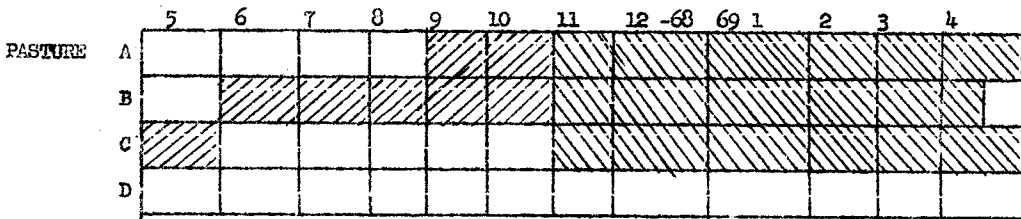
1966 GRAZING SCHEDULE



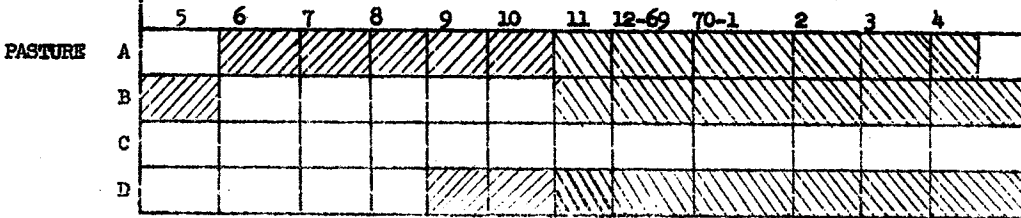
1967 GRAZING SCHEDULE



1968 GRAZING SCHEDULE



1969 GRAZING SCHEDULE



Sept 21, 1966 Powder River Rest Rot. Grazing System

BLM {
Dail Elliott
Vic Pritchard
John McCormick
Dalen Northrup
Carl Larson

Neil Morck
Gus Hormay

operators {
(present) Wayne Martin cattle
"Dutch" Brazell cattle

operators {
(not present) O. Marion Jones cattle
Earl Martin cattle
Joe Evans cattle
Stan Jolley sheep
Bill Spicer sheep

Wyoming Rawlins

Enclosure 1

RANGE INVENTORY, ANALYSIS, AND MANAGEMENT PLAN

Project Number _____ Compiler Logosz Date 6/11/65
Allotment Powder Run Unit SHELL CREEK
District RAWLINS State Wyo.
Name of Permittee SEE BELOW*
Field Examination (Date) MAY 6 & 7 1965

Personnel: Name Position

LLOYD EISENHAUER RANGE CONSERVATIONIST

ALROY LOGOSZ " "

* W. A. & RICHARD BRAZEL

O. MARION JONES

MARTIN BROTHERS

JOE EVANS

FOUR MILE & SPICER SHEEP CO'S.

STAN JOLLEY

SMITH RANCHO INC.

DESCRIPTION, INVENTORY AND ANALYSIS OF ALLOTMENT

Class of stock SHEEP ~~CATTLE~~ Stocking (AUs) 9400 ~~324~~ (AUMs) 3,373 ~~1928~~

Season of grazing (Dates) Cattle May 1, to Oct. 31, SHEEP Nov. 1 to APRIL 15 Tot. 5,301

Character of topography ROLLING FOOTHILLS

Table 1. Area of natural vegetation types and culturally treated areas grazed by livestock and by game

Vegetation types and culturally treated areas <u>1/</u>	Total area of type		Area grazed by livestock		Area grazed by game	
			At present	30 years from now <u>2/</u>	At present	30 years from now <u>2/</u>
(name)	(acres)	(per- cent)	(acres)	(acres)	(acres)	(acres)
SAGEBRUSH	34,900	73	34,900	34,900	34,900	34,900
JUNIPER	9,300	20	9,300	9,300	9,300	9,300
GREASEWOOD	2,600	6	2,600	2,600	2,600	2,600
UNSABLE	400	1	0	0	400	400
Other						
Allotment Total	47,200	100	46,800	46,800	47,200	47,200

1/ List culturally treated areas under appropriate vegetation types.
2/ Under improved management.

Table 2. Composition, value, use and development of plant species in natural vegetation type or culturally treated area

Type or treated area (name) SAGEBRUSH

Species	Amount in cover	Forage value				Utilization ave.	Start growth	Development		Regrowth Leaves - twigs	Flow stalk
		Ex	Gd	Fr	Pr			Flow-ering	Seed ripe		
Grasses & Grass-like	(percent)	(Check one)				(Perc 't)	(date)	(date)	(date)	(date)	(date)
<i>Agropyron dasystachyum</i>	10	✓				50	4/20	6/25	7/25	7/1	6/15
<i>Agropyron spicatum</i>	4	✓				30	4/20	4/25	7/25	7/1	6/10
<i>Poa secunda</i>	5		✓			60	4/15	6/10	7/1	7/1	6/20
<i>Carex filifolia</i>	5	✓				60	4/15	5/15	7/1	6/20	6/1
<i>Oryzopsis hymenoides</i>	2		✓			50	4/20	6/20	7/20	7/1	6/15
<i>Sitanium hystrix</i>	3		✓			40	4/20	4/20	7/25	7/1	6/15
<i>Stipa comata</i>	6		✓								
Total	35										
Forbs											
<i>Phlox</i>	2				✓	0					
<i>Aplopappus</i>	3				✓	0					
<i>Eriogonum</i>	2				✓	0					
<i>Astragalus</i>	1				✓	0					
<i>Lupinus</i>	1				✓	0					
ANNUALS	1				✓	0					
Total	10					10					
Shrubs and trees 1/											
<i>Artemisia tridentata</i>	30				✓	5	4/20	10/1	11/1	10/1	10/1
" <i>nova</i>	5				✓	5	4/20	10/1	11/1	10/1	10/1
<i>Atriplex confertifolia</i>	5	✓				30	4/20	6/10	7/15	7/1	6/15
<i>Atriplex nuttallii</i>	5	✓				60	4/20	6/5	7/15	7/1	6/15
<i>Chrysothamnus vicidiflorus</i>	5				✓	0					
<i>Graya spinosa</i>	2				✓	10	4/20	4/5	7/15	6/15	6/1
<i>Eurotia lanata</i>	1	✓				50	4/20	6/15	7/25	6/25	6/1
<i>Koeia</i>	1				✓	0					
Grand Total	53										

1/ Including conifers

2/ For trees and shrubs include estimates only for species that can be changed or removed in a range improvement program.

3/ How late in spring can the species be grazed and still produce grazable leaves or twigs or seed-producing flower stalks?

* MOST DATES ARE ESTIMATES

Table 2. Composition, value, use and development of plant species in natural vegetation type or culturally treated area

Type or treated area (name) JUNIPER

Species	Amount in cover	Forage value				Utilization ave.	Start growth	Flowering	Development Seed ripe	Regrowth Leaves - twigs	3/ Flower stalks
		Ex	Gd	Fr	Pr						
Grasses & Grass-like	(percent)	(check one)				(Perc't)	(date)	(date)	(date)	(date)	(date)
<i>Poa secunda</i>	6		✓			60	April 15	JUNE 10	July 5	JULY 1	JUNE 20
<i>Oryzopsis hymenoides</i>	2		✓			40	4/15	6/25	7/25	7/1	6/15
<i>Agropyron dasytachyon</i>	6	✓				50	4/20	6/25	7/25	7/1	6/15
<i>Stipa comata</i>	3		✓			40	4/20	6/20	7/25	7/1	6/15
<i>Sitanion hystrix</i>	2		✓			40	4/20	6/20	7/25	7/1	6/15
<i>Agropyron spicatum</i>	5	✓				30	4/20	6/25	7/25	7/1	6/15
<i>Carex filifolia</i>	6	✓				60	4/15	5/15	7/1	6/20	6/1
Total	30										
Forbs											
<i>ERIOGONUM</i> sp.	1				✓	0					
<i>PHLOX</i>	1				✓	0					
<i>XYLORRHIZA</i>	1				✓	0					
<i>Adopappus</i>	2				✓	0					
Total											
Shrubs and trees <u>1/</u>	5										
<i>JUNIPER</i>	20				✓	0					
<i>ARTEMISIA FRIDENTATA</i>	25				✓	10	4/20	7/1	11/1	10/1	10/1
" <i>NOVA</i>	5				✓	10	4/20	10/1	11/1	10/1	10/1
<i>ATRIPLEX CONFERTIFOLIA</i>	3	✓				30	4/20	6/10	7/15	7/1	6/15
<i>ATRIPLEX NOTTALLII</i>	2	✓				60	4/20	6/5	7/15	7/1	6/15
<i>CHRYSOTHAMNUS VICIDIFLORUS</i>	5				✓	0					
<i>CERCOCARPUS MONTANUS</i>	2				✓	20	4/20	6/20	7/25	7/1	7/1
<i>PURSHIA TRIDENTATA</i>	3				✓	60	4/20	6/15	7/25	7/1	7/1
Grand Total	65										

1/ Including conifers

2/ For trees and shrubs include estimates only for species that can be changed or removed in a range improvement program.

3/ How late in spring can the species be grazed and still produce grazable leaves or twigs or seed-producing flower stalks?

* MOST DATES ARE ESTIMATES

Table 2. Composition, value, use and development of plant species in natural vegetation type or culturally treated area

Type or treated area (name) GREASEWOOD

Species	Amount in cover	Forage value				Utilization ave.	Start growth	Development			Regrowth 3/Flower stalks
		Ex	Gd	Fr	Pr			Flow-ering	Seed ripe	Leaves -twigs	
	(percent)	(Check one)				(Per' t)	(date)	(date)	(date)	(date)	(date)
Grasses & Grass-like											
<i>Agropyron dasystachyum</i>	2					70	4/20	6/25	7/25	7/1	4/15
<i>Poa secunda</i>	5		✓			60	4/15	6/25	7/5	7/1	6/15
<i>Stenium hystrix</i>	1			✓		50	4/20	6/20	7/20	7/1	6/15
<i>Sporobolus airoides</i>	2			✓		60	5/15	7/15	8/15	7/1	6/15
<i>Distichlis stricta</i>	5				✓	50	5/1	7/1	8/1	7/15	7/15
	<u>15</u>										
Total											
Forbs											
<i>PHLOX</i>	2					—	—	—	—	—	—
<i>ANNUALS</i>	3					70	—	—	—	—	—
	<u>5</u>										
Total											
Shrubs and trees ^{1/}											
<i>Sarcobatus vermiculatus</i>	25					30	—	—	—	—	—
<i>Atriplex nuttallii</i>	20		✓			70	4/20	6/5	7/15	7/1	6/15
<i>Artemisia tridentata</i>	10				✓	10	4/20	10/1	11/1	10/1	10/1
<i>Atriplex confertifolia</i>	5				✓	40	4/20	6/10	7/15	7/1	6/15
<i>Artemisia spinescens</i>	5			✓		20	4/20	5/25	7/1	5/25	5/1
<i>Chrysothamnus viscidiflorus</i>	10				✓	0	—	—	—	—	—
	<u>3</u>					0	—	—	—	—	—
<i>OPUNTIA</i>	2				✓	0	—	—	—	—	—
<i>KOCHIA</i>	2				✓	0	—	—	—	—	—
	<u>80</u>										
Grand Total											

1/ Including conifers
 2/ For trees and shrubs include estimates only for species that can be changed or removed in a range improvement program.
 3/ How late in spring can the species be grazed and still produce grazable leaves or twigs or seed-producing flower stalks?

* MOST DATES ARE ESTIMATES

Table 4. Estimated utilization of available forage in natural vegetation types and culturally treated areas and condition of range

Vegetation type or treated area ^{1/}	Use of total tonnage of forage in type (percent)	Range condition				
		Vigor of forage species (L, M, H) ^{2/}	Ratio of good to poor forage species (per-cent) ^{3/}	Density of forage (percent of potential)	Sheet Erosion	
					Depth (Inches)	Extent (Percent of ground area)
SAGEBRUSH	50	M	1:1	50	1/4"	20
JUNIPER	40	M	1:1	35	1/2"	50
GREASEWOOD	70	L	1:1	25	1/2"	80
Allotment average	53 ✓					

1/ List treated areas (reseeded, sprayed, etc.) under appropriate vegetation types.
 2/ L = low, M = moderate, H = high.
 3/ From Table 2 Excellent and good species = good; fair and poor species = poor.

What percent of the livestock forage on the range is used by game? LESS THAN 10%

What are the principal foraging game animals? DEER & ANTELOPE

Table 6. Effect of planned cultural treatments on grazing capacity

Vegetation type to be treated (name)	Artificial reseeding						
	Area	Capacity at present		Capacity 30 yrs. hence due to:		Effect of cultural treatment (6) minus (4) AUMs (7)	
				Grazing management	Cultural treatment		
Acres	Ac/AUM	AUMs (1) (2)	Ac/AUM	AUMs (3) (4)	Ac/AUM	AUMs (5) (6)	
Total							

Spraying or other treatment

<i>SAGEBRUSH</i>	<i>3,000</i>	<i>10-300</i>	<i>7-430</i>	<i>3.5-860</i>	<i>430</i>
Total					