

ANTELOPE BUTTE MANAGEMENT
ALLOTMENT

We have proposed a four treatment rest rotational grazing system, and are considering two grazing formulas.

The dates for flowering, seed ripe, and regrowth are generally backed by supporting literature, from our own state and surrounding states, with adjustments being made for elevation and latitude changes.

The allotment has no division fences at the present time. We have divided the allotment according to predicted carrying capacities, which involves some guesswork. The allotment is part of a study area on land treatment practices and we are not sure what land treatments will be applied and what the results will be.

The grazing season is approximately 5 months beginning May 15 to Oct. 20. Stocking rate for the 1967 grazing season will be 262 AU'S or 1310 AUM'S. According to past utilization figures we have predicted carrying capacity by direct proportion. Based on 65% utilization there are 3,055 AUMS of forage in the total allotment. Each pasture having approximately 764 AUMS with a total of 2292 AUM'S available per grazing season.

The problems we have are; (1) The late flowering dates of the warm season grasses and (2) The short grazing season. One pasture has to carry 262 AU'S untill flowering (2½ Months) or 655 AUM'S. With the short grazing season we must consider increasing the stocking rate to fully utilize

the available forage and to get a trampling effect in treatment B. An increase in stocking will result in a shortage of forage in the pasture receiving treatment A.

The two grazing formulas we are considering are; (1) Formula #1 which is a standard grazing formula based on plant requirements, and (2) Formula #2, the standard formula modified to meet stocking rate increases, and most of the plant requirements.

Formula #1 will not require any livestock adjustments, but will leave at least one-third of the forage available after the grazing season. Also treatment B will receive little trampling.

Formula #2 has the turn on date advanced two weeks in treatment D. The question I have is; is it more desirable to set the date earlier for turn in on treatment D or treatment B?

The other alternative is not to altar the basic formula but make the adjustment from year to year as needed, with the adjustment included in the management plan.

Maybe we have overlooked some of the alternatives which would be more desirable for the increase in stocking. We will be glad to accept any suggestions or comments that you may have.

RANGE INVENTORY, ANALYSIS, AND MANAGEMENT PLAN

Project Number _____ Compiler J.L.Schild Date Jan. 17, 1967

Allotment Antelope Butte Unit Little Beaver

District Miles City State Montana

Name of Permittee Russell Gilmore

Field Examination (Date) Summer & Fall 1966

Personnel: Name Position

Jack L. Schild Range Conservationist

Clyde E. Brewer Project Manager

Rex Cleary Chief of Resource Management

Antelope Butte

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)
52% Grassland	20 %	M	74/26	60%	1.0"	1%
48% Sagebrush	23%	M	60/40	50%	2.0"	12%
Allotment average	21.1% ✓	M	67/33	55%	1.28"	8%

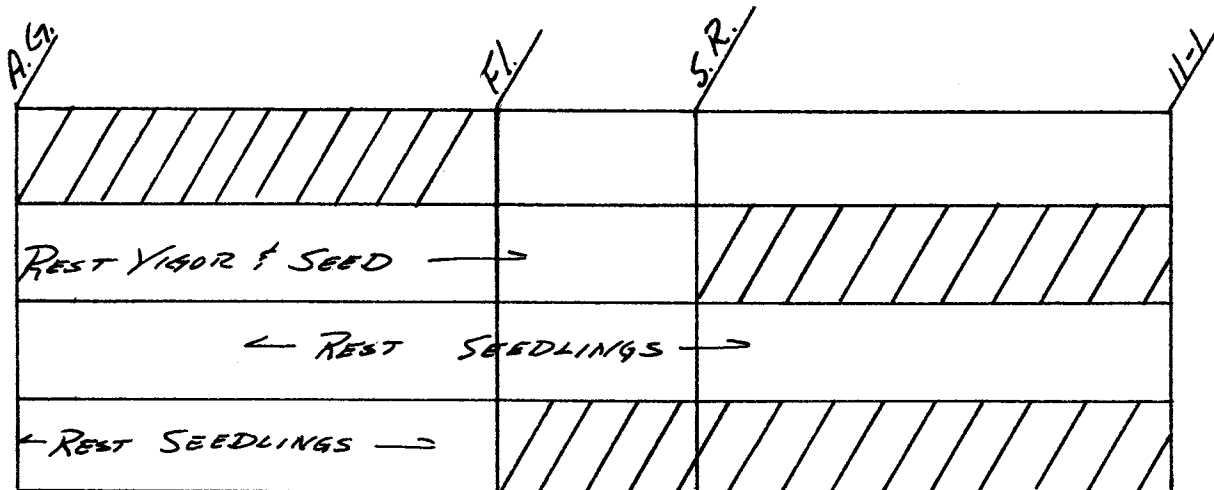
1/ List treated areas (reseeded, sprayed, etc.) under appropriate vegetation types.
 2/ L = low, M = moderate, H = high.
 3/ From Table 2 Excellent and good species = good; fair and poor species = poor.

What percent of the livestock forage on the range is used by game? 3%

What are the principal foraging game animals? Antelope & Deer

PROPOSED FORMULA #1

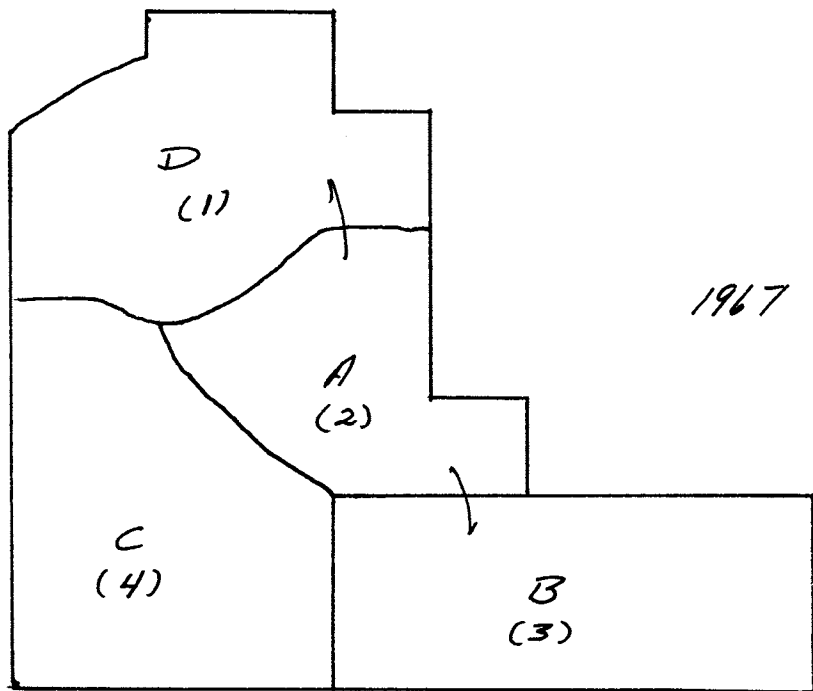
End #8



PASTURES

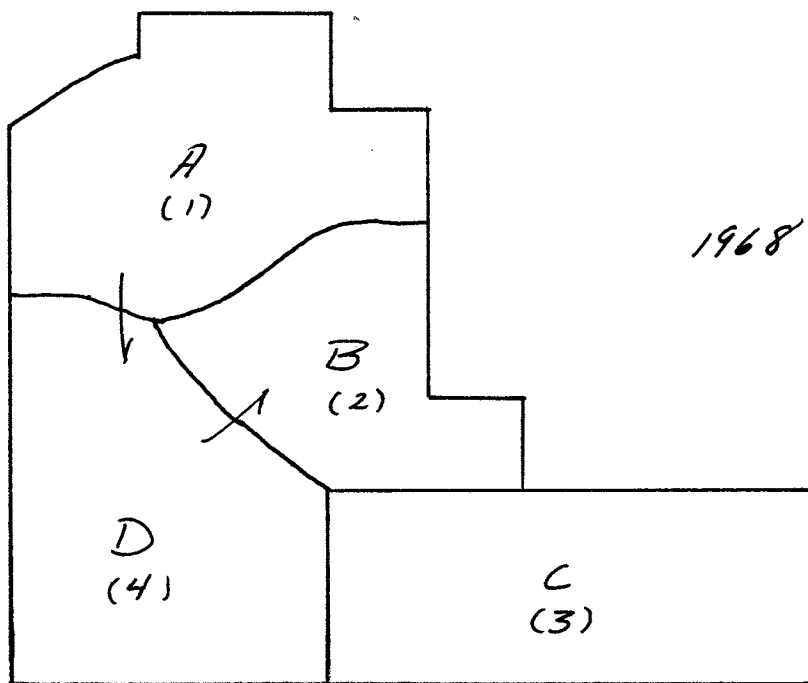
	(1)	(2)	(3)	(4)
1 st	D	H	B	C
2 nd	A	B	C	D
3 rd	B	C	D	A
4 th	C	D	A	B

ACTIVE GROWTH - 5-15 to 6-1
 FLOWERING - 8-1 to 8-15
 SEED RIDE - 9-1 to 9-15



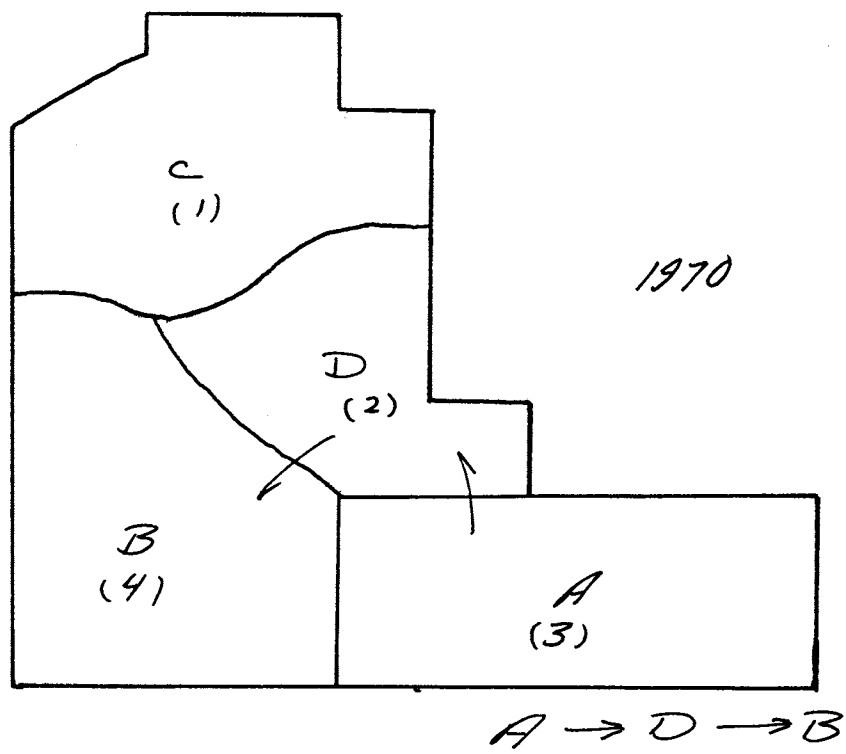
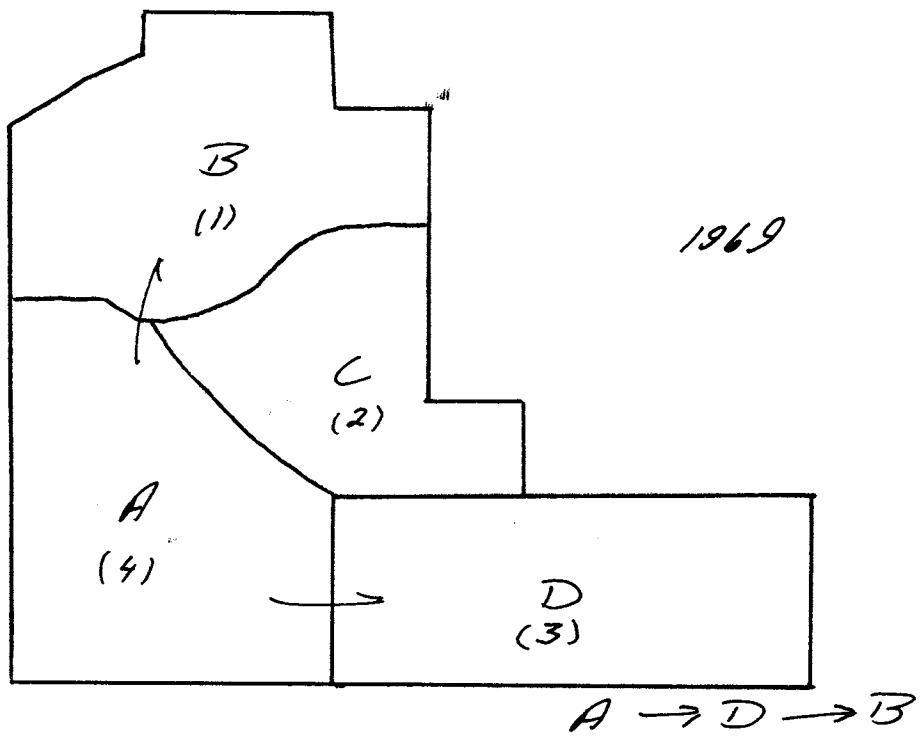
1967

$A \rightarrow D \rightarrow B$

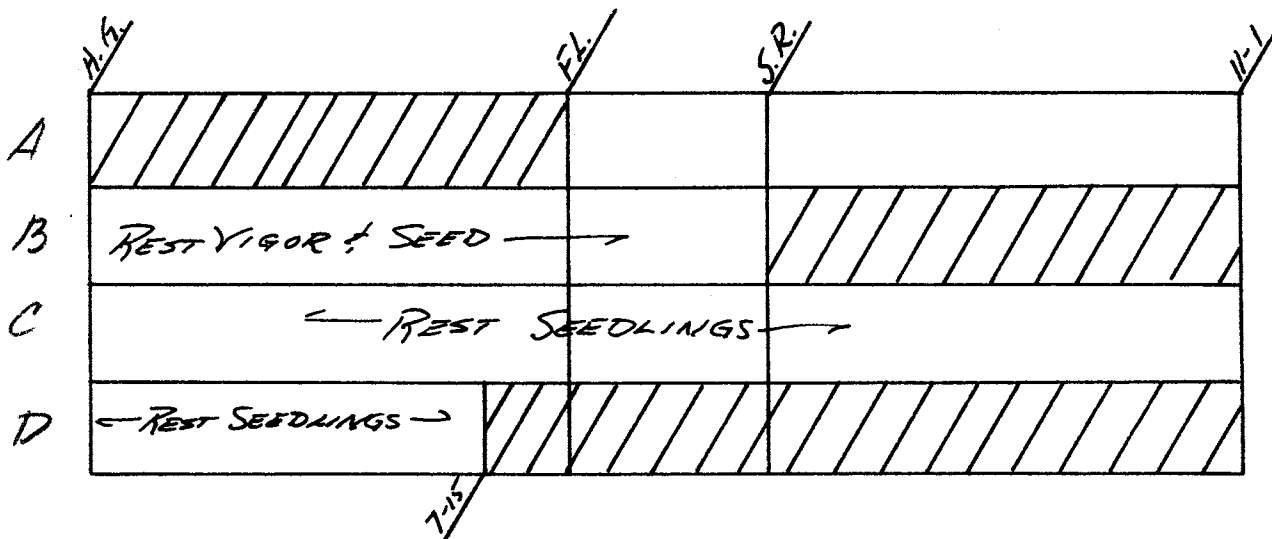


1968

$A \rightarrow D \rightarrow B$



PROPOSED FORMULA #2

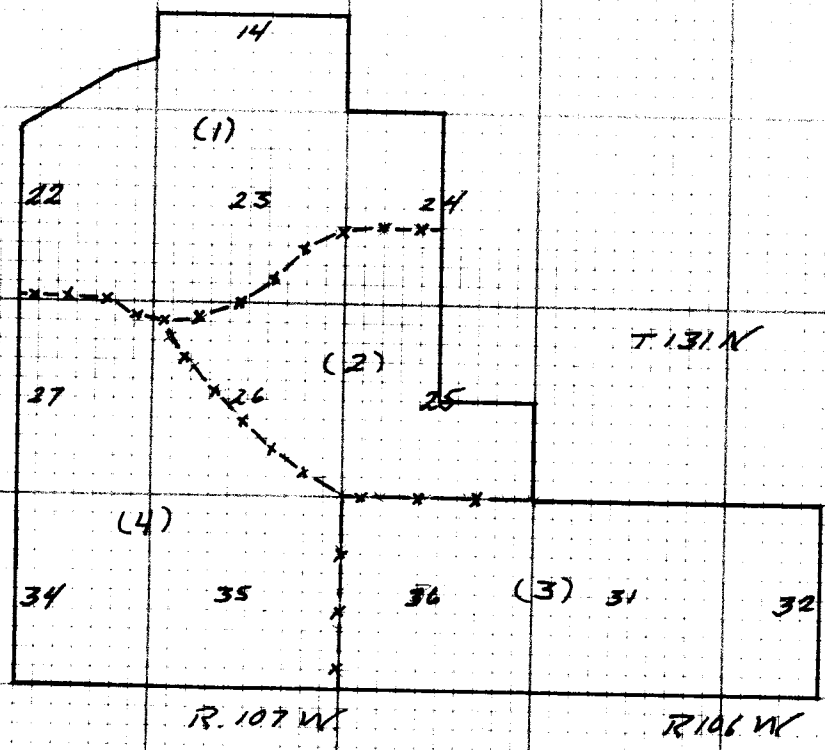


PASTURES

	(1)	(2)	(3)	(4)
1 st	D	A	B	C
2 nd	A	B	C	D
3 rd	B	C	D	A
4 th	C	D	A	B

ACTIVE GROWTH 5-15 to 6-1
 FLOWERING 8-1 to 8-15
 SEED RIFE 9-1 to 9-15

Antelope Butte Allotment



- x-x- Proposed Fences
- Existing Fences
- (1) Pasture #

(Antelope Butte)

Marlana Miles City

DESCRIPTION, INVENTORY AND ANALYSIS OF ALLOTMENT

Class of stock Cattle Stocking (AUs) 262 (AUMs) 1310Season of grazing (Dates) June 1 to Oct. 15 - 30Character of topography Gently Sloping to hillyTable 1. Area of natural vegetation types and culturally treated areas grazed by livestock and by game

Range Site 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>
Type (name) Range Site	(acres)	(per- cent)	(acres)	(acres)	(acres)	(acres)
1- Grassland						
Shallow Clay	1328	24				
Shale	950	17				
Silty	290	5				
Dense Clay	130	2				
Clay Pan	90	1.5				
Thin Breaks	90	1.5				
Sandy	40	1				
TOTAL	2918	52%	2918	2918	2918	2918
4- Sagebrush						
Shallow Clay	1453	26				
Shale	730	13				
Clay Pan	350	6				
Dense Clay	160	3				
Other TOTAL	2693	48%	2693	2693	2693	2693
Allotment Total	5611	100	5611	5611	5611	5611

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

- TB — THIN BREAKS
- SC — SHALLOW CLAY
- S — SHALE
- CP — CLAY PAN
- DC — DENSE CLAY
- Sa — SANDY
- Si — SILTY
- X- Existing fence
- 1- GRASSLAND
- 4- SAGEBRUSH

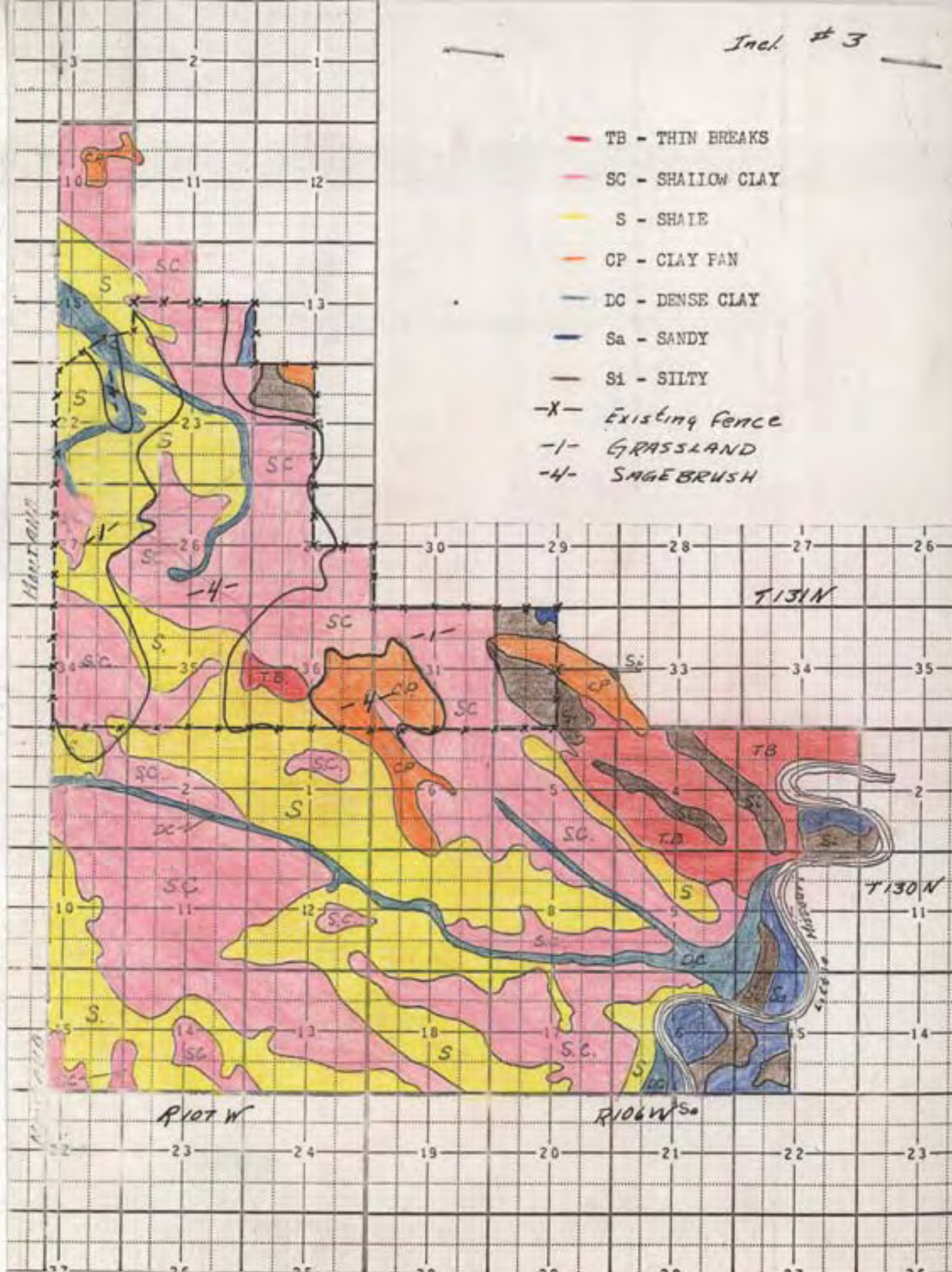


Table 2. Composition, value, use and development of plant species in natural vegetation type or culturally treated area

Type or treated area (name) Grassland

Species	Amount in cover	Forage value				Utili- zation ave.	Start growth	Flow- ering	Development Seed ripe	Regrowth Leaves -twigs	3/ Flower stalks
		Ex	Gd	Fr	Pr						
Grasses & Grass-like	2/ (percent)	(Check one)				(Perc't)	(date)	(date)	(date)	(date)	(date)
*Agropyron smithii & dasystachum	30	x				20	E/4	M/7	E/8	E/8	M/6
Bouteloua gracilis	20	x				15	M/4	M/7	M/8	M/8	L/6
Carex filifolia	10	x				40	E/4	E/5	M/6	E/6	L/4
*Andropogon scoparius	6	x				20	E/5	E/8	L/8-E/9	M/8	L/6
Muhlenbergia cuspidata	5			x		5	L/4	M/8	E/8	L/7	M/6
Distichlis stricta	4			x		5	L/4	L/7	L/8	M/8	M/7
Stipa viridula	2	x				80	E/4	M/6	E/7	E/7	L/5
Spartina gracilis	1		x			80	M/5	M/8	L/9	L/8	E/8
Total	78%										
Forbs											
Eriogonum multiceps	3			x				M/6			
Opuntia polycantha	2				x						
Phlox hoodii	1				x		M/3	M/4	M/5		
Astragalus spp.	1			x				M/6			
Misc. Annuals	3			x		10					
Total	10%										
Shrubs and trees ^{1/}											
*Rosa arkansana	3			x		5	L/4	M/6			
Artemisia tridentata	3			x			L/4	E/9	E/10	E/8	E/7
Artemisia frigida	3		x			10	E/4	L/8	E/9		
*Atriplex canescens & nuttallii	2	x				40	E/3	M/5	E/9	L/9	E/5
Chrysothamnus nauseosus	1			x		30	M/5	L/7	E/9		
Total	12										
Grand Total	100										

^{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?

*Denotes Key Species

Note: E-Early -Month#
M-Middle -Month#
L-Late -Month#

Antelope Butte
 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				Utili- zation ave.	Start growth	Flow- ering	Development Seed ripe	Leaves -twigs	Regrowth 3/ Flower stalks
		Ex	Gd	Fr	Pr						
Grasses & Grass-like	2/ (percent)	(Check one)				(Perce't)	(date)	(date)	(date)	(date)	(date)
*Agropyron smithii & dasystachum	27	x				40	E/4	M/7	E/8	E/8	M/6
Bouteloua gracilis	12	x				20	M/4	M/7	M/8	M/8	L/6
*Andropogon scoparius	6	x				15	E/5	E/8	E/9	M/8	L/6
Distichlis stricta	5			x		5	L/4	L/7	L/8	M/8	M/7
Carex filifolia	2	x				60	E/4	E/5	M/6	E/6	L/4
Muhlenbergia cuspidata	2			x		5	L/4	M/8	L/8	L/7	M/6
Spartina gracilis	1	x				80	M/5	M/8	L/9	L/8	E/8
Total	55%										
Forbs											
Eriogonum multiceps	10			x				M/6			
Opuntia polycantha	3				x						
Phlox hoodii	2				x		M/3	M/4	M/5		
Kochia scoparia	1	x				50		E/8			
Mis. Annuals	3			x		40					
Total	19%										
Shrubs and trees 1/											
Artemisia tridentata	10			x		5	L/4	E/9	E/10	E/8	E/7
*Atriplex canescens & nuttallii	9	x				40	E/3	M/5	E/9	L/9	E/5
Artemisia frigida	2		x			20	E/4	L/8	E/9		
*Rosa arkansana	2			x		10	L/4	M/6			
Gutierrezia sarothrae	2				x		M/5	L/7	E/9		
Chrysothamnus nauseosus	1			x		30	M/5	L/7	E/9		
Total	26										
Grand Total	100										

- 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?

* Denotes Key Species

Note:

- E-Early - Month #
- M-Middle - Month #
- L-Late - Month #