DEVELOPING THE FORMULA

The following date were used to determine the best formula for the Farr allotment rotational grazing system:

1. Number of cattle: 637.

2. Season of use:

637	C	4-1	to	5-30
352	C	6-16	to	9-30
637	C	10-1	to	12-31

For the period 8-1 to 10-30, about 100 head of cattle included in the above figures will be in Bean Flat Meadow. (See proposed formula for Grazing System).

3. Key Species: Oryzopsis hymenoides, Stipa comata, Sitanion hystrix, Eurotia lanata, and Poa secunda.

4. Seed ripe dates: From July 15 to July 20 for most types in this allotment. (See inclosure 3).

5. Percent of use desired: 100%.

Percent of use probable: 90%.

OUTLINE OF FARR OPERATION

The general way in which livestock are handled is outlined as follows: All cattle are turned out on the Federal Range the first of April from the winter feeding fields on their patented lands. They remain on the range until June 1 when all cattle are placed in small private meadows next to the Forests lands where the calves are branded and bulls are put in. The cattle are in these fields until June 15 when 285 head are moved to the Forest, the rest being turned back out on the range where they remain until the last of December. The 285 head on the Forest are returned to the Federal Range on October 1 where they, too, remain through December.

PROPOSED OPERATION

The following outlined operation is proposed using the attached formula developed for a rotational grazing system in the Farr allotment:

Cattle come off the winter feed grounds April 1 and are put into a crested wheatgrass seeding, the use of which is being rotated. All cattle (637) remain in the seeding until May 30 at which time they are moved to the patented meadows where the calves are worked and bulls put in. On June 16, 285 head are moved out to the forest which is adjacent to the meadows, the remaining 352 head are then moved to the pasture that is to be used for spring use that year. All these cattle remain in this pasture until seed ripe time (about July 15) at which time they are than placed in the two pastures to be used simultaneously for fall use and trampling. The forest cattle return to the federal range on October 1 and are placed with the other cattle in the two pastures being used for fall use. At this same time (October 1) some cattle may be separated and taken to Bean Flat Meadow where they will remain for a month.

On November 1, all cattle are placed in the crested wheatgrass pasture designated for use that winter where they remain until January 1. All cattle are then supplemented on private feeding ground for three (3) months (January, February and March).

CONSIDERATIONS IN FENCING PASTURES

In general, topography played the major role in the establishment of the four native range pastures. Each pasture has relatively the same topography, slope and vegetation complex.

The following carrying capacity figures were derived using the range survey data and utilization studies. Probable maximum utilization is considered to be 90% under a rotational grazing system. These figures also include the proposed improvements to be made in the native range pastures.

Grimes Pasture	860 AUMs
Jackrabbit Pasture	875 AUMs
Hillside Pasture	950 AUMs
Twin Springs Pasture	1200 AUMs

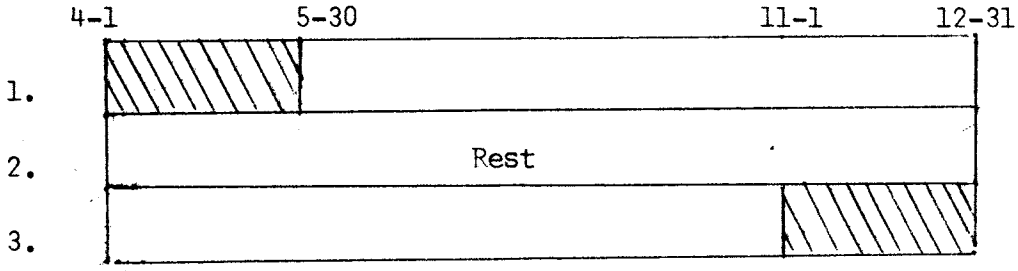
Each of the three crested wheatgrass seeding will have approximately 1300 AUMs for forage.

The Bean Flat Meadow, which can only be used in the fall, will support 350 AUMs of use.

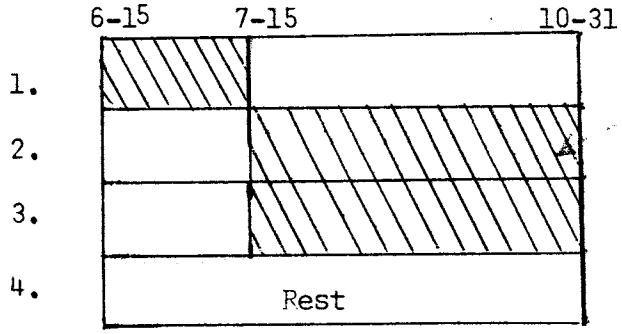
PROPOSED FORMULAS FOR GRAZING SYSTEM

Two separate grazing systems will be used in this operation. One system will provide spring and fall use on crested wheat grass pastures on a three year rotation basis. The other system will cover summer and fall use on native range pastures.

I. Crested Wheat Grass



II. Native Range Pastures



III. Bean Flat Meadow

This area is unique in character which makes it difficult to include in a rotation system. The meadow (see map and overlay) remains wet every spring and early summer until early in July. Fall use is the

only practical time to use this field. It is, therefore, felt that this field should be used every year as a buffer area for fluctuations in annual forage production in the fall native range pastures. It may be advantageous to divide this meadow and rotate it separately at a later date when forage on the native range has increased to the point permitting more limited use in Bean Flat.

Farr Battle Mt Nevada

Distribution livestock

Private Range	Federal Range
Jan 1 - April 1	April 1 - June 1 BLM
June 1 - 15 branding	June 15 - 285 hd to NF
	June 15 - remainder to BLM until Dec. 31
	Oct 1 - 285 hd on NF back to BLM

Season on BLM April 1 - Dec 31

Operation

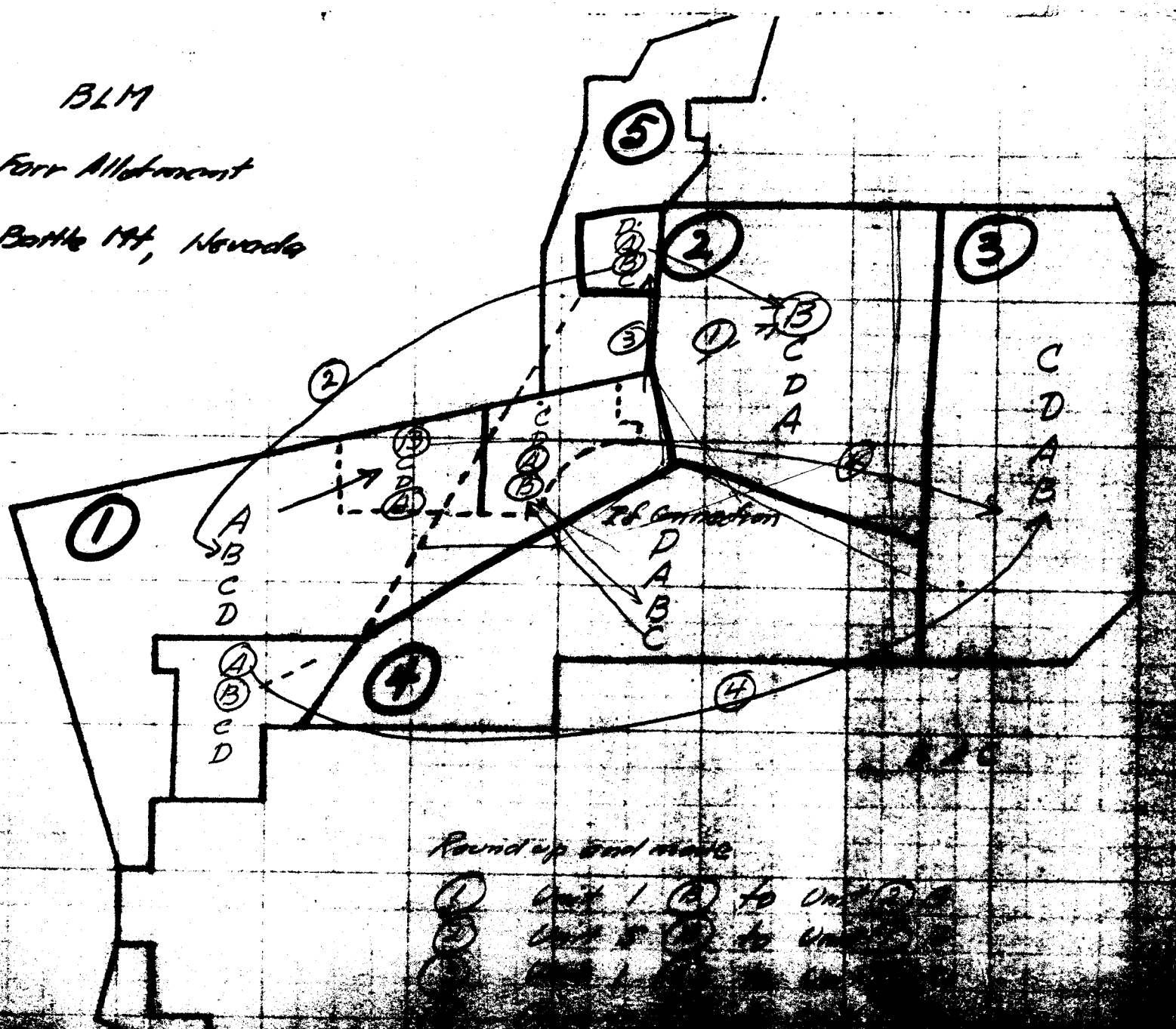
April 1 onto circle wheat (63 hd) - rotation fields until May 30 - three units

Then 285 hd to NF and 352 into 4 unit BLM summer rotation

BLM

Fort Allotment

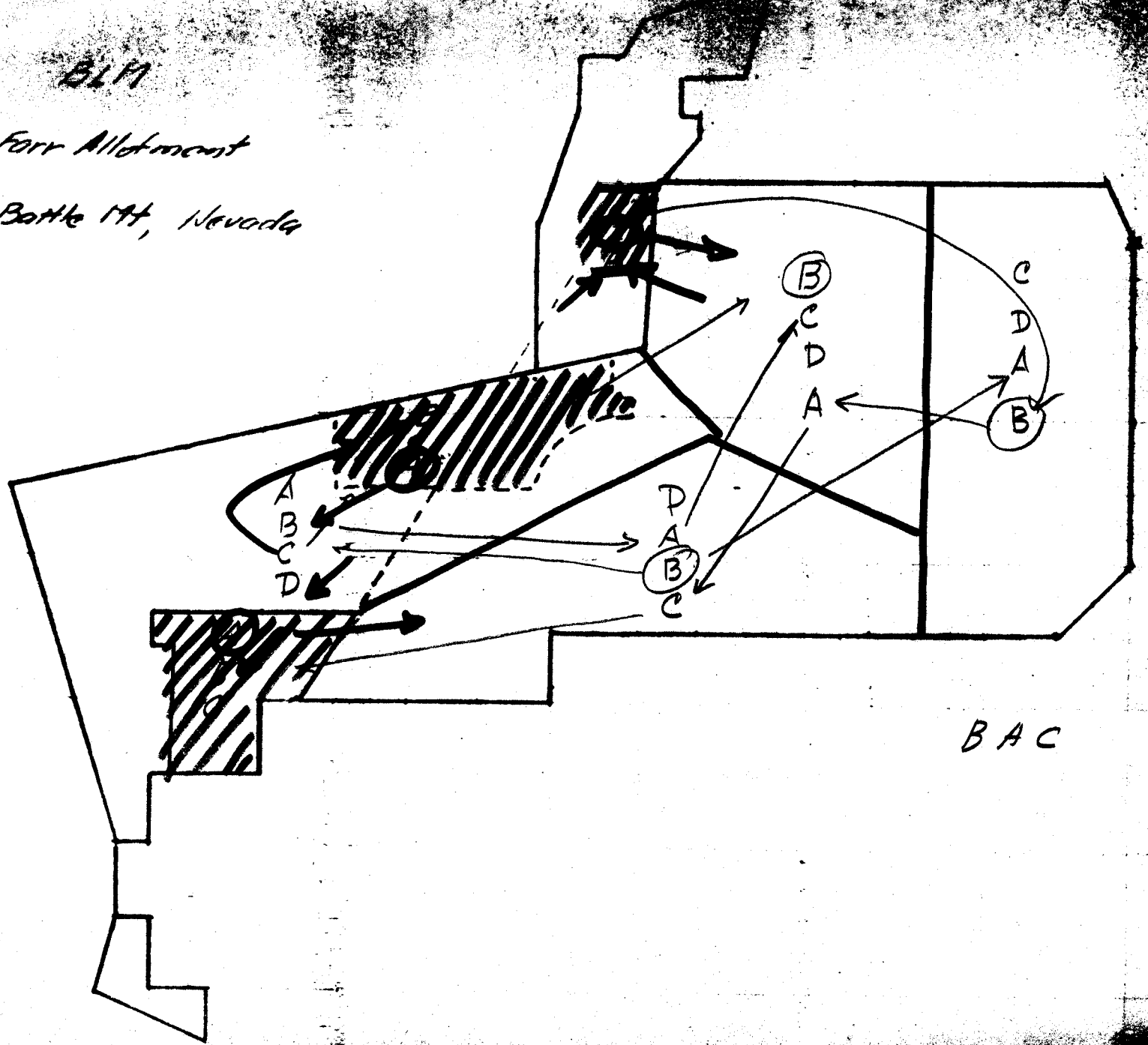
Battle Mt, Nevada



BLM

Forr Allotment

Battle Mt, Nevada



BAC

Nevada

Enclosure 1

RANGE INVENTORY, ANALYSIS, AND MANAGEMENT PLAN

Project Number ____ Compiler Satterfield Date June 15, 1965

Allotment Farr Unit ____

District Battle Mountain State Nevada

Name of Permittee Rudolph & Clyde Farr

Field Examination (Date) June 2, 1965

Personnel: Name	Position
Kenneth A. Satterfield	Range Conservationist
Charles Hamby	Range Conservationist

DESCRIPTION, INVENTORY AND ANALYSIS OF ALLOTMENT

Class of stock Cattle Stocking (AUs) 637 (AUMs) 3828

Season of grazing (Dates) April 1 to December 31

Character of topography Level to moderate slopes

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

Vegetation types and culturally treated areas 1/	Total area of type		Area grazed by livestock		Area grazed by game	
			At present	30 years from now 2/	At present	30 years from now 2/
(name)	(acres)	(percent)	(acres)	(acres)	(acres)	(acres)
4 Artr Arno	42879	67	42879	38879	2100	1500
9 Juut Pimo	7837	13	7837	7837	7837	7837
15 Eula	675	1	675	675	-	-
14 Save	1784	3	1784	1784	-	-
4 Artr (Sprayed)	4520	7	4520	5920	1000	2400
1 Agcr	3805	6	3805	6305	200	750
2 POA	2010	3	2010	2010	-	-
Other						
Allotment Total	63510	100	63510	63510	11137	12487

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) 1 Agcr (Crested Wheatgrass Seeding).

Species	Amount in cover 2/	Forage value				Utilization ave.	Development				
		Ex	Gd	Fr	Pr		Start growth	Flowering	Seed ripe	Regrowth 3/ Leaves -twigs	Regrowth 3/ Flower stalk
Grasses & Grass-like	(percent)	(check one)				(Percent a/)	(date)	(date)	(date)	(date)	(date)
Agcr (Seeded)	98	X				70	3-15	6-1	6-20	5-15	5-1
Total	98										
Forbs											
Total											
Shrubs and trees 1/											
Artr	2				X	5	4-15	6-20	7-20	5-10	5-1
Total	2										
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?

a/ Controlled

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

Type or treated area (name) 15 Eula

Species	Amount in cover 2/	Forage value				Utilization ave.	Development				
		Ex	Gd	Fr	Pr		Start growth	Flowering	Seed ripe	Regrowth Leaves -twigs	Regrowth Flo- -tal
Grasses & Grass-like	(percent)	(Check one)				(Perc't	(date)	(date)	(date)	(date)	(date)
Orhy	1	X				70	5-1	7-1	7-15	5-20	5-10
Sihy	1		X			70	4-1	6-15	7-10	5-20	5-10
Total	2										
Forbs											
Annu	1			X		30	4-15	5-25	7-15	NA	NA
Total	1										
Shrubs and trees 1/											
Eula	92	X				90	6-15	8-1	9-1	7-1	7-1
Artr	3				X	0	4-15	6-20	7-20	5-10	5-1
Arsp	2			X 1/		10	3-20	4-10	5-1	4-10	4-1
Total	97										
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?

1/ Fair for winter feed.

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

Type or treated area (name) 14 Save

Species	Amount in cover 2/	Forage value				Utilization ave.	Development			Regrowth 3/	
		Ex	Gd	Fr	Pr		Start growth	Flowering	Seed ripe	Leaves -twigs	Flo stal
Grasses & Grass-like	(percent)	(Check one)				(Perc't	(date)	(date)	(date)	(date)	(date)
Sihy	1		X			45	4-1	6-15	7-10	5-20	5-10
Elco	15		X			5	4-1	6-20	7-15	6-1	5-10
Dist	9			X		10	4-15	6-15	7-10	5-15	5-1
Total	25										
Forbs											
Annu	T										
Total	0										
Shrubs and trees 1/											
Save	50				X	5	4-20	6-15	7-15	6-1	5-15
Artr	5				X	2	4-15	6-20	7-20	5-10	5-1
Chna	20				X	0	-	-	-	-	-
Total	75										
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?

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

Type or treated area (name) 9 Juut-Pimo

Species	Amount in cover 2/	Forage value				Utilization ave.	Development			Regrowth	
		Ex	Gd	Fr	Pr		Start growth	Flowering	Seed ripe	Leaves -twigs	Flow stal
Grasses & Grass-like	(percent)	(Check one)				(Perc't	(date)	(date)	(date)	(date)	(date)
Orhy	2	X				15	5-15	7-10	7-20	6-1	5-1
Stco	2	X				15	5-1	7-1	7-20	6-1	5-1
Pose	9			X		10	4-15	6-1	7-1	5-15	5-1
Sihy	2		X			10	4-15	7-1	7-15	6-1	5-15
Total	15										
Forbs											
Phlo	2				X	2	5-1	6-1	8-1	NA	NA
Total	2										
Shrubs and trees 1/											
Artr	63				X	5	4-20	7-1	8-1	5-20	5-5
Arno	10			X		5	4-20	7-1	8-1	[illegible]	5-1
Chvi					X	5	5-15	7-15	8-15	6-15	5-25
Pimo	-					NA	-	-	-	-	-
Juut	-					NA	-	-	-	-	-
Total	83										
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?

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

Type or treated area (name) 4 Artr (Treated-Sprayed 1964)

Species	Amount in cover 2/	Forage value				Utilization ave.	Development Start growth	Flowering	Seed ripe	Regrowth Leaves -twigs	Flow- stalks
		Ex	Gd	Fr	Pr						
Grasses & Grass-like	(percent)	(Check one)				(Perc't	(date)	(date)	(date)	(date)	(date)
Orhy	20	X				45	5-[illegible]	7-1	7-15	5-20	5-[illegible]
Stco	30	X				45	4-[illegible]	6-20	7-15	5-20	5-[illegible]
Sihy	10		X			40	4-1	6-15	7-10	5-20	5-[illegible]
Pose	20			X		40	4-1	5-25	6-20	5-5	[illegible]
Agda	7		X			40	4-15	7-1	8-1	5-20	5-[illegible]
Total	87										
Forbs											
Phlo	2				X	5	4-15	5-25	7-15	NA	NA
Erio	1				X	5	5-1	6-15	7-1	NA	NA
Total	3										
Shrubs and trees 1/											
Artr	5				X	10	4-15	6-20	7-20	5-10	5-1
Arno	2			X		20	4-14	6-15	7-20	5-10	5-1
Pimo	-					-	-	-	-	-	-
Juut	-					-	-	-	-	-	-
Chvi	3				X	15	5-1	7-1	8-1	6-1	5-[illegible]
Total	10										
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?

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

Type or treated area (name) 4-Artr

Species	Amount in cover 2/	Forage value				Utilization ave.	Development				Regrowth
		Ex	Gd	Fr	Pr		Start growth	Flowering	Seed ripe	Leaves -twigs	
Grasses & Grass-like	(percent)	(Check one)				(Perc't	(date)	(date)	(date)	(date)	
Orhy	2	X				45	5-1	7-1	7-15	5-20	5-
Stco	2	X				45	4-15	6-20	7-15	5-20	5-
Sihy	3		X			40	4-1	6-15	7-10	5-20	5-
Pose	7			X		40	4-1	5-2	6-20	5-5	
Agda	1		X			40	4-15	7-1	8-1	5-20	6-
Total	15										
Forbs											
Phlo	1				X	5	4-15	5-25	7-15	NA	NA
Erio	1				X	5	5-1	6-15	7-1	NA	NA
Total	2										
Shrubs and trees 1/											
Artr	60				X	5	4-15	6-20	7-20	5-10	5-1
Arno	12			X		15	4-15	6-15	7-20	5-10	5-1
Grsp	3		X			20	4-1	6-1	7-15	5-1	4-20
Chvi	8				X	10	5-1	7-1	8-1	6-1	5-15
Total	83										
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?

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

Type or treated area (name) 2 POA - (Bean Flat Meadow)

Species	Amount in cover 2/	Forage value				Utilization ave.	Development				
		Ex	Gd	Fr	Pr		Start growth	Flowering	Seed ripe	Regrowth 3/ Leaves -twigs	Flower stalks
Grasses & Grass-like	(percent)	(Check one)				(Percent)	(date)	(date)	(date)	(date)	(date)
Popr	20	X				60	4-15	7-1	8-1	6-1	5-20
Junc	25			X		60	4-15	6-15	7-10	6-1	5-15
ELYM	4		X			25	4-15	7-1	8-1	5-20	5-10
Sppe	2			X		60	4-15	7-1	8-1	6-1	5-20
POA	30	X				60	4-15	7-1	8-1	6-1	5-20
Dist	4			X		40	4-15	6-15	7-10	5-15	5-1
Total	85										
Forbs											
Pere	15			X		40	4-10	7-1	7-20	5-15	5-1
Total	15										
Shrubs and trees 1/											
Total											
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?

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	Range condition				
		Vigor of forage species	Ratio of good to poor forage species	Density of forage	Sheet Erosion	
					Depth	Extent
	(percent)	(L,M,H)[2]	(percent)[3]	(percent of potential)	(Inches)	(Percent of ground area)
4 Artr Arno	46%	M	83%	80	.75	60
9 Junt Pimo	30%	M	60%	75	.75	60
15 Eula	85%	M	100%	90	.25	5
14 Save	15%	H	50%	90	Sediment	80
4 Artr (Sprayed)	40%	H	67%	80	.50	60
2 POA	60%	M	75%	90	.25	5
1 Agcr (Seeded)	70%	H	100%	100	.25	5
Allotment average	✔					

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? 0.7% (.007)

What are the principal foraging game animals? Mule Deer

1) Controlled
2) % of Natural Potential

Table 6. Effect of planned cultural treatments on grazing capacity

Vegetation type to be treated	Area	Capacity at present		Capacity 30 yrs. hence due to:				Effect of cultural treatment (6) minus (4)
				Grazing management		Cultural treatment		
(name)	Acres	Ac/AUM (1)	AUMs (2)	Ac/AUM (3)	AUMs (4)	Ac/AUM (5)	AUMs (6)	AUMs (7)
Artificial reseeding								
4 Artr Arno	2500	20	125	12	208	2	1250	1125
Total								
Spraying or other treatment								
4 Artr Arno	1400	18	78	10	140	5	280	140
Total								