ALLOTMENT MANAGEMENT PLAN

VERMILION ALLOTMENT

(Formerly Telegraph Unit Allot. 3A & 3B, and Johnson Unit Allot 1C)

VERMILION RESOURCE AREA
PLANNING UNIT #3

I. GENERAL INFORMATION

A. Map and Description - attachment #1 and #2

B. Location and Area

The Vermilion Allotment is located approximately 21 miles east of Kanab on Highway 89 in the south central part of Kane County. Part of the allotment lies above the Vermilion Cliffs (Nephi Pasture Segment) and part below them (RCA Segment). The entire allotment is in the Vermilion Cliffs Planning Unit which is a type I Planning Unit.

The elevation on the allotment varies from 5400' at the north end of the Kaibab Plateau on the south to 6500' on the north above the Vermilion Cliffs. The Vermilion Allotment has approximately 27,150 acres of grazing land broken down by status as follows:

Table I

Public Land	23,510	acres
State Land	3,360	acres
Private Land	1,240	acres
	28,110	acres total

C. Vegetative Types - ocular reconnaissance range survey was completed in the Telegraph and Johnson Units in 1963 and 1964. The vegetative types are defined on aerial photo's and the unit range survey maps. The acreage and grazing capacity by type of the Vermilion Allotment is as follows: (This shows the carrying capacity of Federal Range only)

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Table II

Type	Acreage	AUM's Wildlife	AUM's Cattle	Total AUM's
Seeding	4510	281	844	1125
Native Range	19000	657	1317	1974
			2161	3099

2. Condition and Trend

a. There have been no intensive condition and trend studies in this allotment to date. Trend plots were established on key areas in the allotment in 1967. (See map for trend plot locations)

b. From a general observation standpoint, the following condition and trend exists:

Table III

Pasture	Condition	Trend
Nephi Knolls	low, fair	up
Finn Little	low, fair	up
Nephi Point	low, fair	static
RCA 1	excellent	static
RCA 2	excellent	static
RCA 3	excellent	static
Petrified Hollow	poor	up
Fossil Wash	excellent	static
Government Reservoir	excellent	static
Paria Road	poor	static

3. Soils and Topography

The soils in the lower bench area are medium textured loamy sand soils. There are some outcrops of gypsum in local small areas. The soils vary in depth from shallow aeolian deposits on the rolling ridge tops to deep alluvial deposits along the drainage courses. These soils show no evidence of alkali or saline conditions. The soils in the upper bench area are generally lighter textured aeolian deposits from the White Cliffs. These are sandy loams to loamy sands. The sandy soils are generally more productive than the heavier soils. This is probably due to the reason that the heavy soils in-

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filtration rate is slow and most of the moisture falls in high intensity summer storms causing a large portion of the moisture to be lost as runoff in overland flow.

4. Climate

The closest weather station located at Kanab shows the average growing season to be 151 days, the annual precipitation to be 12.6 inches. Since the allotment is at a slightly higher elevation than Kanab, probably the growing season would be a few days shorter, the precipitation a little higher, and the average temperature a little lower.

D. Existing Projects

The existing range development and improvement projects are shown on the allotment map and tabulation below:

Table IV

Project No.	Project Name	Date Completed	Quantity Units	Condition	Maintenance Responsibility
CCC 105	Government Reservoir corral and fence	1938	1 ea.	fair	operator
4 - 18	Farnsworth Reservoir	7-15-47	1 ea.	fair	operator
6 C-86	Petrified Hollow Fence	4-10-46	1.2 mi.	poor	operator
6 C-97	Ladder Canyon Drift Fence	4-30-46	.25 mi.	poor	operator
6 C-98	Finn Little Drift Fence	5-20-46	.75 mi.	fair	operators
338	Telegraph Flats Fence	8-2-54	10 mi.	fair	operators
339	Telegraph Flats Erosion Control	5-11-54	2 ea.	fair	B. L. M.
U-11-R-38	Norris Brown Fence #1	5-30-63	2.5 mi.	good	operator
U-11-R-42	Norris Brown Seeding #1	8-31-64	4510 ac.	excel.	B. L. M.
U-11-R-49	Norris Brown Seeding #2	9-30-65	4510 ac.	excel.	B. L. M.
U-11-R-43	Norris Brown Seeding Protective Fence	10-15-64	3.8 mi.	good	operator
U-11-R-91	Alvey-Brown Fence	12-30-65	2.2 mi.	good	operators
U-11-R-135	Vermilion Reservoir #1	8-1-66	1 ea.	good	operator
U-11-R-136	Vermilion Reservoir #2	8-1-66	1 ea.	good	operator
U-11-R-146	Seaman Wash Pipeline	4-20-68	56,620	fair	B. L. M.
U-11-R-202	Government Reservoir Fence	2-5-68	1.7 mi.	good	operator

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E. Livestock Management and Qualifications

1. Qualifications - The Vermilion Allotment is the result of purchase and consolication of 3 adjoining allotments, previously used by 4 separate permittees as follows:

Table V

Unit	Allotment	AUM	From	Date
Telegraph	3A	132	Sec. 7b from F. B. Hamblin	1-16-56
Telegraph	3A	162	Sec. 7a from Cornell Hamblin	8-28-57
Johnson	1C	282	Sec. 7a from Cornell Hamblin	8-28-57
Johnson	1C	384	Sec. 7a from Isaiah Hamblin	8-28-57
Telegraph	3A	162	Sec. 7a from Isaiah Hamblin	8-28-57
Telegraph	3A	54	Sec. 7b from Floyd Maddox	12-3-59
Johnson	1C	630	Sec. 7b from F. B. Hamblin	2-28-61
Telegraph	3B	180	Sec. 7b from Floyd Maddox	1-25-65
		1986	'TOTAL AUM's	

These allotments were purchased and consolidated as one allotment by Norris Brown. Mr. Brown is the only permittee with qualifications in the Vermilion Allotment at the present time.

Mr. Brown is currently operating a base herd of 200 Hereford Cattle. He has only recently built his herd up to 200.

F. Coordination

1. Watershed - A large portion of the Petrified Hollow drainage lies within this allotment. This drainage has severe gulley erosion with washes from 5 to 15' wide and 30 to 40' deep over most of the area. Heavy livestock use, and the encroachment of pinon-juniper and sagebrush has depleted the area of desirable watershed vegetative cover. This has vastly increased the amount of overland flow and reduced the amount of usable water yield from this watershed. The water yield from this watershed contains a high percentage of silt and soluable salts which greatly reduces its suitability for any productive use. Therefore the grazing system will need to be designed with this watershed problem in mind.

2. Wildlife - There is considerable amount of deer use throughout the allotment at various times each year. This use is primarily made during the winter months. The grazing system will need to be coordinated with the deer needs. Carrying capacities will need to be evaluated with consideration being given to deer use.

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There are other wildlife species in this allotment such as quail, chukar partridge, doves, and cottontail rabbits. Increase in ground cover for watershed, and forage for livestock will increase the food and cover for these smaller game species. Watering facilities will be developed with these wildlife species in mind.

3. Recreation - The primary outdoor recreation use in the allotment is deer hunting. The upland game birds attract only slight hunting pressure. There are no hunter camps in the allotment at present and none planned. Plans for this will be developed as the need arises.

4. Forestry - The only forest products in the allotment are juniper posts. These are available only on the N. P. segment in any saleable quantity. There is currently a lack of interest in the Kanab area for cutting juniper posts except by people who may be temporarily unemployed. These people may request a permit for from 100 to 500 posts.

5. Minerals - There has been a limited amount of uranium mining activity during the uranium boom (1954 to 1957). There are no other known valuable minerals in the allotment. There are some deposits of petrified wood of varying quality at the base of the Vermilion Cliffs.

II. OBJECTIVES

The general objectives of this plan are to protect, manage, and regulate the use of the multiple resources in a combination that will meet the various resource users needs, without impairment of the productivity of the range land watershed on general scenic attraction of the area. Specific objectives are:

a) Livestock Forage - To produce at least enough forage on a sustained yield basis to satisfy the Class I qualifications of Norris P. Brown (1986 AUM's)

b) Watershed Stabilization - To maintain the protective cover of grass on all of the seeded areas on the lower bench area. And specifically to reduce soil loss and erosion in Petrified Hollow, Fossil Wash, Government Reservoir and Paria Road Pastures by 60 per cent.
To continue to increase the grass and protective cover on the Nephi Pasture area to prevent soil loss.

c) Wildlife Habitat -
1. To provide forage and habitat for an unkn own number of deer in the Paunsaugant herd using the allotment primarily during the winter (November to March).

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2. To improve the habitat, feed and watering facilities for the existing quail and chukar populations and the mourning doves on the lower bench area.

d) Recreation Opportunities

1. Provide deer hunting opportunities during the hunting season throughout the allotment, without undue livestock disturbance or hunter caused livestock loss.

2. Provide increased hunter opportunities for upland game birds and mourning doves.

e) Livestock Objectives

The major objective from a livestock standpoint is to increase the calf crop from 75 percent to at least 90 per cent.

III. GRAZING MANAGEMENT

A. The key species and their average growth stages are listed by pasture:

Table VI

Nephi Knolls Finn Little Nephi Point	Start Growth	Flower	Peak of Flower	'Seed Ripe	Seed Disseminate	Regrowth
Agsm	4-1	5-1	5-15	NA	NA	8-15
Putr	4-1	5-15	5-25	6-15	7-1	NA
RCA 1, 2, 3 Fossil Wash Gov't. Reservoir						
Agcr	4-1	4-30	5-15	6-15	7-1	8-15
Petrified Hollow Old Paria Road						
Agsm	3-15	4-15	4-30	5-30	6-15	8-15

B. Grazing System

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The following pasture names have been set up for this grazing system.

Nephi Knolls	RCA #1
Nephi Point	RCA #2
Finn Little	RCA #3
Petrified Hollow	Fossil Wash
Government Reservoir	Paria Road

These pastures are identified on the map. (Attachment #1)

The Nephi Knolls, Nephi Point and Finn Little pastures will be used in the summer. These pastures will not be set up in a rotation grazing system as yet, due to lack of sufficient volume of water in each of the pastures. As soon as sufficient water is developed, a simple deferred rotation grazing system will be implemented.

The RCA 1, 2, 3, and Petrified Hollow Pastures will be used for spring grazing on a rotation system as outlined below.

The Fossil Wash and Government Reservoir pastures will be used during the fall and winter season as outlined below.

Therefore the grazing system will be as outlined below until additional developments or studies indicate a needed change.

Table VII

Time	Pasture
(1) Oct. 16 - Jan. 15 Jan. 16 - Feb. 15	Fossil Wash - Government Reservoir Base Property
(2) Feb. 16 - May. 15 May 16 - May 31	RCA 1, 2, 3, and Petrified Hollow Base Property
(3) June 1-Sept. 30 Oct. 1 - Oct. 15	Nephi Knolls, Nephi Point, Finn Little Base Property

(1) The Fossil Wash - Government Reservoir pastures will be grazed as follows:

Pasture		
Government Reservoir	Graze - early winter	Graze - late winter
Fossil Wash	Graze - late winter	Graze early winter

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(2) The RCA 1, 2, 3, and Petrified Hollow Pastures will be grazed as follows:

Pasture	1st Year	2nd Year	3rd Year	4th Year
RCA #1	GES	Rest	GLS	GMS
RCA #2	GMS	GES	Rest	GLS
RCA #3	GLS	GMS	GES	Rest
Petrified	Rest	GLS	GMS	GES

a. GES - Graze early spring Feb. 16 - Mar. 15
b. GMS - Graze mid-spring Mar. 16 - Apr. 15
c. GMS - Graze late spring Apr. 15 - May 15
d. Rest - No grazing

(3) There will be approximately 20 head of heifers which will be placed in a separate one of these pastures for six weeks with an Angus Bull. The Nephi Point pasture will be used for this special breeding pasture beginning June 1 each year.

The Paria Road Pasture will be used by the bulls when they are to be kept out of the herd, until such time as this pasture is seeded.

C. Flexibility

The operator will be allowed two (2) days to move from pasture to pasture in accordance with the grazing system outlined above. When the cattle are to be moved between the Nephi Pasture area and the RCA, Petrified area, five (5) days will be allowed to make the move. In the event that unforseen adverse weather conditions such as drought or heavy snow, the cattle may be left in a certain pasture longer, moved to a different pasture earlier or later than is outlined in the grazing system.

In the event that extremely adverse weather conditions, primarily heavy snow, occur, the cattle may be put in the Government Reservoir pasture or left there for a longer period of time even though proper use may already have been made. The reason for this is that this pasture seems to have a warmer less adverse climate and therefore the cattle will be able to maintain themselves during periods of heavy snow. Also, the Buckskin Mt. Breaks, remain open longer and open up quicker after heavy snowfalls.

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The use of base property for one month from January 15 to February 15 may start up to 15 days sooner or 15 days later than indicated in the grazing system after approval by the BLM Area Manager.

The base property use may be deferred during years when seedings have been completed on the said base land and need protection from grazing to establish the new seedlings. This also must be approved in advance by the BLM Area Manager.

IV. EVALUATION

Range Studies will be conducted to determine the effectiveness of the AMP.

A. Actual Use - Mr. Brown will keep accurate records of numbers and dates of movement between pastures, and these records will be made available to the District Manager at the end of each grazing season. (February 28)

B. Key Area - Key areas have been designated on all seeded pastures and all pasture in the NP segment. Key areas will be located in the Petrified Hollow segment after it has been seeded. (The BLM will assist Mr. Brown and the SCS in selecting Key Areas and developing range studies on those portions of his private land, that are grazing lands only.)

1. Utilization - studies will be carried out using the ocular estimate by plot method.

2. Trend - studies will be conducted according to BLM trend manual.

C. Climate - Temperature and precipitation records are available at Kanab for use in analyzing the effectiveness of the AMP.

Two rain gauge stations have been installed on the allotment to assist in the above analysis. (See map for location)

V. POTENTIAL IMPROVEMENTS

There is a potential for additional range improvements. (See attachment #3).

VI. MODIFICATION

This plan may be modified if data from range studies and experience gained in plan operation indicate that changes are necessary. Modification will

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be made with the concurrence of the parties concerned, indicated by initialing and dating of pages revised. In the event that agreement for modification cannot be reached, the District Manager, Bureau of Land Management will make the final decision for change based on governing laws and regulations.

Increases will be made to the operator, Norris Brown in accordance with 43 CFR 4111.4-2.

VII. BILLING

The operator will be billed annually at the beginning of the grazing year for 1986 AUM's. The license will indicate that these grazing privileges will be used according to the grazing system outlined in this Management Plan. There is an additional 120 AUM's on unfenced state and private land which qualify for exchange of use. This will allow a total of 210 cattle for 10 months, i.e. 198 regular license and 12 on exchange of use.

VIII. AGREEMENT

The undersigned hereby agrees to and does accept this Allotment Management Plan. It is also agreed and understood that the grazing privileges authorized herein are subject to all provisions of the Taylor Grazing Act, and the Grazing Regulations for Public Lands 4110 and 4120. It is also agreed that this plan supersedes any previous management agreements pertaining to this allotment.

Plan Written By: Marvin O. Jensen, Area Manager — May 6, 1969 Date

Plan Agreed To By: Norris P. Brown — May 6, 1969 Date

Plan Approved By: Fred P. Howard, District Manager — May-7-69 Date

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May 2, 1969

Attachment #3 NEEDED IMPROVEMENTS BY PRIORITY

1. Nephi Knoll Well and pipeline
2. Nephi spring - canyon bottom
3. Water canyon spring
4. Extension of Seaman Pipeline to Petrified and Paria Road Pasture
5. Petrified seeding
6. Paria Road seeding
7. Chain Nephi Point and Finn Little Point
8. Nephi çanyon trail - rebuild
9. Spray Nephi Pasture country
10. Finn Little water

VERMILION ALLOTMENT

MANAGEMENT

PLAN

Operator - Norris P. Brown

Written May 2, 1969

Revised February 25, 1971

VERMILION ALLOTMENT MANAGEMENT PLAN

I. General Information

A. Description

1. Location - The Vermilion Allotment is located approximately 21 miles east of Kanab, Utah on Highway 89 in the south central part of Kane County. See attachments #1 and #2.

2. Elevation - The elevation varies from 5400 feet at the north end of the Kaibab Plateau on the south to 6,500 feet on the north above the Vermilion Cliffs.

3. Precipitation - The estimated average annual precipitation is 13 inches. The closest weather station located at Kanab shows the average growing season to be 151 days, the annual precipitation to be 12 inches. Since the allotment is at a slightly higher elevation than Kanab, probably the growing season would be a few days shorter, the precipitation a little higher, and the average temperature a little lower. Two rain gages are located on the allotment. (See Attachment #1).

4. Land Status - The allotment has approximately 28,000 total acres with the following land status:

Public Land	State Land	Private Land	Total
23,510 Acres	3,360 Acres	1,240 Acres	28,110 Acres

B. Resource Information

1. Vegetative Types - An occular reconnaissance range survey was completed in the old Telegraph and Johnson Grazing Units in 1963 and 1964. The vegetative types are defined on the aerial photos, the range survey maps and now on the Vermilion Cliff U.R.A. There are 4,510 acres of crested wheatgrass seeding and 19,000 acres of native range on public lands. The native range is primarily pinon-juniper and sagebrush (Big sage and Old Man Sage).

2. Soils - The soils in the lower bench area are medium textured loamy sand soils. There are some outcrops of gypsum in local small areas. The soils vary in depth from shallow aeolian deposits on the rolling ridge tops to deep alluvial deposits along the drainage courses. These soils show no evidence of alkali or saline conditions. The soils in the upper bench area are generally lighter textured aeolian deposits from the White Cliffs. These are sandy loams to loamy sands. The sandy soils are generally more productive than the heavier soils. This is probably due to the reason that the heavy soils infiltration rate is slow and most of the moisture

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falls in high intensity summer storms causing a large portion of the moisture to be lost as runoff in overland flow.

3. Erosion - The Vermilion Cliffs U.R.A. shows the erosion classification of the allotment. The erosion above the Vermilion Cliffs is primarily wind erosion in the sandy soils. Erosion has been very well arrested on the seeded areas. Erosion is still seriously active on the heavier soils that have not been treated.

C. Existing Projects

Project Number	Project Name	Date Completed	Quantity Units	Condition	Maintenance Responsibility
0190	Government Reservoir corral and fence	1938	1 ea.	fair	operator
0036	Farnsworth Reservoir	07-15-47	1 ea.	fair	operator
0160	Petrified Hollow Fence	04-10-46	1.2 mi.	poor	operator
0176	Ladder Canyon Drift Fence	04-30-46	.25 mi.	poor	operator
0179	Finn Little Drift Fence	05-20-46	.75 mi.	fair	operators
0386	Telegraph Flats Fence	08-02-54	10 mi.	fair	operators
0387	Telegraph Flats Erosion Control	05-11-54	2 ea.	fair	BLM
U-11					
R-38	Norris Brown Fence #1	05-30-63	2.5 mi.	good	operator
0085	Norris Brown Seeding #1	08-31-64	4510 ac.	excel.	BLM
0099	Norris Brown Seeding #2	09-30-65	4510 ac.	excel.	BLM
0087	Norris Brown Seeding Protective Fence	10-15-64	3.8 mi.	good	operator
0169	Alvey-Brown Fence	12-30-65	2.2 mi.	good	operators
135	Vermilion Reservoir #1	08-01-66	1 ea.	good	operator
0234	Vermilion Reservoir #2	08-01-66	1 ea.	good	operator
0250	Seaman Wash Pipeline	04-20-68	56,620	fair	BLM
0309	Government Reservoir Fence	02-05-68	1.7 mi.	good	operator
0250	Seaman Wash Pipeline (Cark Ranch Ext.)	04-20-68	1 mi.	excel.	operator
4043	N. Brown Pipeline Ext.	04-03-70	1 mi.	excel.	operator

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D. Grazing Qualifications

1. Present Qualifications. The Vermilion Allotment is the result of purchase and consolidation of 3 adjoining allotments, previously used by 4 separate permittees as follows:

Unit				
Telegraph	3A	132	Sec. 7b from F. B. Hamblin	01-16-56
Telegraph	3A	162	Sec. 7a from Cornell Hamblin	08-28-57
Johnson	1C	282	Sec. 7a from Cornell Hamblin	08-28-57
Johnson	1C	384	Sec. 7a from Isaiah Hamblin	08-28-57
Telegraph	3A	162	Sec. 7a from Isaiah Hamblin	08-28-57
Telegraph	3A	54	Sec. 7b from Floyd Maddox	12-03-59
Johnson	1C	630	Sec. 7b from F. B. Hamblin	02-28-61
Telegraph	3B	180	Sec. 7b from Floyd Maddox	01-25-65
		1986	TOTAL AUMs	

These allotments were purchased and consolidated as one allotment by Norris Brown. Mr. Brown is the only permittee with qualifications in the Vermilion Allotment at the present time.

2. Increases in grazing capacity will be apportioned in accordance with the Grazing Regulations for Public lands and the BLM manual.

E. Correlation

1. Watershed - A large portion of the Petrified Hollow drainage lies within this allotment. This drainage has severe gulley erosion with washes from 5 to 15' wide and 30 to 40' deep over most of the area. Heavy livestock use, and the encroachment of pinion-juniper and sagebrush has depleted the area of desirable watershed vegetative cover. This has vastly increased the amount of overland flow and reduced the amount of usable water yield from this watershed. The water yield from this watershed contains a high percentage of silt and soluable salts which greatly reduces its suitability for any productive use. Therefore the grazing system will need to be designed with this watershed problem in mind.

2. Wildlife - There is considerable amount of deer use throughout the allotment at various times each year. This use is primarily made during the winter months. The grazing system will need to be coordinated with the deer needs. Carrying capacities will need to be evaluated with consideration being given to deer use.

There are other wildlife species in this allotment such as quail, chukar partridge, doves, and cottontail rabbits. Increase in ground cover for watershed, and forage for livestock will increase the food and cover for these smaller game species. Watering facilities will be developed with these wildlife species in mind.

3. Recreation - The primary outdoor recreation use in the allotment is deer hunting. The upland game birds attract only slight hunting pressure.

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4. Forestry - The only forest products in the allotment are juniper posts. There is currently a lack of interest in the Kanab area for cutting juniper posts except by people who may be temporarily unemployed.

5. Minerals - There has been a limited amount of uranium mining activity during the uranium boom (1954 to 1957). There are no other known valuable minerals in the allotment. There are some deposits of petrified wood of varying quality at the base of the Vermilion Cliffs.

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II. Objectives

A. Livestock

To produce at least 1986 AUMs on a sustained yield basis to satisfy the Class I qualifications of Norris P. Brown.

B. Watershed

1. To maintain the existing vegetative cover of the 3 grass key species (Crested wheatgrass, Western wheatgrass and Sand dropseed) on all of the existing seeding.

2. To reduce soil loss and erosion in the Petrified Hollow and Paria Road Pastures by increasing the ground cover (including litter) by 150%.

3. To reduce soil movement above the Vermilion Cliffs by increasing the ground cover (including litter) by 100%.

To determine achievement of the watershed objectives refer to the allotment evaluation summary. The maintenance or increases listed in the objectives are based on information obtained at the time the trend studies were established.

C. Wildlife

To improve deer forage by increasing the present bitterbrush density by 50% on that portion of the allotment above the Vermilion Cliffs. Present density has not been determined. A belt transect will be established in connection with an existing trend study in this area.

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III. Grazing System

A. Key Species

The key species are crested wheatgrass, Indian ricegrass, sand dropseed and bitterbrush. The phenological data for these species is shown on Form 4112-2, Attachment #3.

B. Grazing System

1. Pastures - The following pastures are already in existence:

Nephi Knolls	RCA #1	Fossil Wash
Nephi Point	RCA #2	Government Res.
Finn Little	RCA #3	Old Paria Road
	Petrified Hollow	

These pastures are shown on the attached allotment map.

2. Type of system - The Nephi Knolls, Nephi Point, and Finn Little Pastures will be used jointly during the summer. Water is insufficient in any one of these pastures to water all the cattle. After sufficient water is developed, a 3-pasture rest-rotation system will be followed or the three pastures will be combined with the Sand Spring Allotment and a rest-rotation system implemented. The area is not being properly grazed and additional water should be developed as soon as possible so a better system can be implemented.

A rest-rotation system will be followed on the other pastures during the fall, winter and spring.

An identified need to improve the grazing system was the reason for revising this plan. The Petrified Hollow Pasture could not be used as outlined because of water shortage and the calves were not thriving satisfactorily when they grazed Petrified Hollow Pasture.

Studies revealed that vegetative vigor was not adequate on the spring-winter-fall use areas, so the system was changed to allow periodic complete year rests for all pastures.

Studies also revealed that browse, primary bitterbrush was not making satisfactory improvement because it was being grazed every year which reduced vigor and restricted seed production. The complete years rest will allow for seed production and improve vigor.

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3. Grazing treatments - The following explains the grazing treatments on the RCA #1, RCA #2, RCA #3, Fossil Wash and Government Res. Pastures (See Attachment #3).

a. Graze in the fall following seed ripening of key species.

b. Rest during the entire year.

c. Graze during spring growth of crested wheatgrass. Livestock will be moved from this pasture on or prior to May 31.

d. Graze during last part of winter and early part of spring.

e. Rest until plant is dormant. This is a winter use pasture.

(2) Grazing treatments on Old Paria Road and Petrified Hollow. Use of these two pastures will depend on grazing cycle of adjacent seeded pastures. Because of a water shortage these pastures cannot be grazed by themselves at this time and must be grazed in conjunction with adjacent pastures; therefore it is impossible to design a grazing treatment schedule. These pastures will be rested three years out of every five.

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4. Grazing Sequence for all pastures

June 1, 1971 to May 31, 1972

1st	Nephi Knolls - Nephi Point - Finn Little Pastures
2nd	RCA #2 Pasture
3rd	RCA #3 "
4th	Fossil Wash Pasture
5th	Government Res. Pasture
	Rested pastures - RCA #1, Petrified Hollow and Old Paria Road

June 1, 1972 to May 31, 1973

1st	Nephi Knolls - Nephi Point - Finn Little Pastures
2nd	RCA #3 - Petrified Hollow Pastures
3rd	Fossil Wash - Old Paria Road Pastures
4th	Government Res. Pastures
5th	RCA #1 Pasture
	Rested Pasture - RCA #2

June 1, 1973 to May 31, 1974

1st	Nephi Knolls - Nephi Point - Finn Little Pastures
2nd	Fossil Wash
3rd	Government Res.
4th	RCA #1
5th	RCA #2
	Rested pastures - RCA #3, Petrified Hollow and Old Paria Road

June 1, 1974 to May 31, 1975

1st	Nephi Knolls - Nephi Point - Finn Little Pastures
2nd	Government Res. Pasture
3rd	RCA #1 - Petrified Hollow Pastures
4th	RCA #2 Pasture
5th	RCA #3 Pasture
	Rested Pastures - Fossil Wash and Old Paria Road

June 1, 1975 to May 31, 1976

1st	Nephi Knolls - Nephi Point - Finn Little Pastures
2nd	RCA #1 Pasture
3rd	RCA #2 "
4th	RCA #3 "
5th	Fossil Wash - Old Paria Road
	Rested pastures - Gov. Res. & Petrified Hollow

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The cycle will be repeated every 5 years as shown below:

1976 to 1977	same as	1971 to 1972
1977 to 1978	same as	1972 to 1973
1978 to 1979	same as	1973 to 1974
1979 to 1980	same as	1974 to 1975
1980 to 1981	same as	1975 to 1976
1981 to 1982	same as	1971 to 1972
1982 to 1983	same as	1972 to 1973
1983 to 1984	same as	1973 to 1974
1984 to 1985	same as	1974 to 1975
1985 to 1986	same as	1975 to 1976

Bulls will be separated from the cows approximately February 1 to April 30. The bulls can be placed in any pasture that is scheduled for grazing that year, during the time they are separate.

C. Management practices

Providing salt and protein supplement will be optional with the operator. However, if salt is provided, it must not be placed near water and must be located in such a manner as to attract livestock to areas that are normally lighter grazed.

D. The BLM will make periodic inspections to insure compliance with the provisions of this plan. The BLM will also meet at least once annually with the operator to discuss and work out problems that may have developed through the operations of this plan and will invite the operator to accompany the BLM on at least one annual inspection tour of the allotment.

E. Normal operation

The normal number of cattle is:

198	cattle, 10 months,	1980 AUMs	- Public lands
12	cattle, 10 months,	120 AUMs	- Exchange of use
210	cattle, 10 months,	2100 AUMs	- Total

The normal season of use is:

Public lands

October 16 - January 15
February 16 - May 15
June 1 - Sept. 30

Base Property
January 16 - February 15
May 16 - May 31
October 1 - October 15

Written May 2, 1969
Revised February 25, 1971

F. Flexibility

1. Pasture Rotation - The order of pasture rotation for each year will be as shown above under Grazing System. The operator will determine when to change pastures, but will notify the area manager prior to changing pastures so utilization studies can be timely completed by BLM. Once the livestock are moved from a pasture to a new pasture they cannot be returned to that pasture until a following year as scheduled. This does not apply to moving on to base property. It is permissible to move the cattle to base property and then return to the same pasture to finish grazing it. Any change in the order of pasture rotation must have written approval in advance by the area manager.

2. Base Property Use - The operator has 3 separate parcels of base property: Clark Ranch, Gov. Res. Property and farm land south of Kanab, Utah. He can use the base property however he desires. For example, all livestock may be placed on a given piece of property for a short period or a small number may be placed on any of the property for a long period of time. In other words, livestock do not have to be placed on base property for a 2-month period. Base property use will be the equivalent of 2 month rather than a given 2 months.

Because the pastures are unequal in forage production, the operator will need to make more than 2 months use of base property on certain years. Consequently he will be allowed to use base property less than 2 months on other years. Base property use will be computed as an average for each 5-year cycle of the grazing system. During each 5-year cycle base property use will average at least 2 months.

3. Amount of Use - The average amount of use will not exceed an average of 2100 AUMs/year for each 5-year cycle, but there is no limit on the amount of nonuse taken.

On the years when the actual use exceeds the operators base qualifications it will be considered as non-renewable temporary use. When the actual use is below the base property qualifications it will be considered as regular authorized nonuse and will not need to be shown on the billing.

4. Season of use - No livestock will be on the Nephi Knolls - Nephi Point - Finn Little Pastures prior to June 1st, otherwise there is no restriction on season of use. The season of use of public lands and base property is strictly up to the operator as long as the order of pasture rotation is followed and the above mentioned June 1st restriction is adhered to.

Written May 2, 1969
Revised February 25, 1971

5. Horse Use - The operator will be allowed to run 3 horses in place of 3 cows any time he desires. Between October 1st and February 1st the horses can be run with the cattle or in a pasture that has been grazed by the cattle. Between February 1st and October 1st, the horses must be in the same pasture with the cattle. The horse use will be included in the actual use information furnished by the operator and the grazing fee will be double the rate/AUM charged for cattle.

The above flexibility was included in this plan because of the cooperativeness and the management abilities demonstrated in the past by Mr. Brown.

If Mr. Brown should happen to dispose of his interests in this allotment or abuses the flexibility allowed him the grazing system and the flexibility will be modified.

Written May 2, 1969
Revised February 25, 1971

IV. Billing Procedures

1. A grazing application will not be filed, and a grazing license will not be issued to the operator. This allotment management plan is the grazing authority for the public lands included.

2. Accurate actual use records on forms furnished by BLM will be kept by the operator for each pasture and he will submit them to the BLM by March 10, for the previous billing year. (March 1st - February 28th)

3. Following receipt of actual use information, BLM will issue a fee notice reflecting the actual grazing use made. The bill is payable within 30 days of the date of issuance. The 120 AUMs exchange of use will be deducted from the actual use in computing the billing.

If the fees are not paid within the specified 30 days, the grazing authorization provided in this plan will be automatically cancelled. All livestock must be immediately removed from public lands and any fees for grazing use made since March 1st of the new billing year will be due immediately. All livestock not removed will be trespassed.

Written May 2, 1969
Revised February 25, 1971

V. Range Studies

A. Trend

Seven trend studies are presently on the allotment. They were established in 1967, '68 and '69. See attached allotment map for locations. Each study has 2 plots, but only 1 plot per study or key area will be read and photographed in the future as per Washington Instructions. The stakes for the plots not read will be left in the ground and can be used in the future if needed.

Each pasture except Nephi Point and Old Paria Road has 1 trend study. The Petrified Hollow Study can be applied to the Old Paria Road Pasture. The Finn Little and the nephi Knolls studies can be applied to the Nephi Point Pasture.

Apparently the allotment was not stratified prior to establishing the studies. Stratification to consider are:

1. Each pasture a strata.
2. Stratification by treatment.

    a. Area above Vermilion Cliffs
    b. Five seeded pasture
    c. Petrified Hollow and Old Paria Road Pastures

All the existing studies should be maintained at the present, but part of them may be discontinued in the future if evaluation shows they are not needed.

B. Utilization

Studies to determine cattle use will be conducted by the BLM using the key forage plant method. These studies will be completed on each pasture at the close of each pasture's grazing period. Key areas will be established in the Nephi Point and Old Paria Road Pasture for utilization study purposes.

C. Precipitation

Two precipitation gauges were established on the allotment in 1968 (See Vermilion Cliffs URA for location and readings).

D. Actual Use

The operator will keep accurate actual use records for each pasture. These records will be submitted to the BLM by March 10th of each year for the previous billing year (March 1st to February 28th). The individual pasture actual use may be submitted at the close of grazing if desired.

Written May 2, 1969
Revised February 25, 1971

E. Plant Development

Phenological development will be closely observed to determine the average development stages for the key species. The dates shown on Attachment #3 are estimates.

F. Browse

A belt transect will be completed in connection with the trend study in the Finn Little Pasture to measure bitterbrush density.

G. Studies Schedule

Type of Study	Schedule	Responsibility
Trend (above Vermilion Cliffs)	Every 3 years	BLM
Trend (4 seeded pastures)	In schedule with grazing system in year pasture is rested year long (summer following rest).	BLM
Trend (Petrified Hollow, Pasture)	In schedule with grazing system in second year of 2 consecutive year long rests (summer following second year rest).	BLM
Utilization	Each pasture at the end of grazing.	BLM
Actual Use	Annually for each pasture grazed.	Operator
Precipitation	Twice annually, April 1 and October 1.	BLM

Each trend study will be photographed annually until the 1st 5-year grazing cycle is completed.

Written May 2, 1969
Revised February 25, 1971

VI. Needed Improvements

To meet the objectives of this plan the following improvements need to be completed or developed.

1. Nephi Knolls Well & Pipeline.
2. Improve Finn Little Spring.
3. Spray Nephi Pasture Area.
4. Seed Nephi Point and Finn Little Point.
5. Extend Seaman Pipeline to Petrified Hollow and Old Paria Road Pastures.
6. Seed Petrified Hollow Pasture
7. Seed Old Paria Road Pasture.

Refer to appropriate JDR's for location and units.

Written May 2, 1969
Revised February 25, 1971

GRAZING FORMULA

TREATMENT	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
A RS												
B Rest					Rest							
C G												
D RV												
E RV				Rest								

YEARLY GRAZING SCHEDULE

	MANAGEMENT UNIT	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
First Year 19	NP-NK & FL												
	RCA #2												
	RCA #3												
	Fossil Wash												
	Gov. Res.												
	RCA #1, Paria Rd. & Petrified H.				Rest								
Second Year 19	NP-NK & FL												
	RCA #3-Petrified H.												
	Fossil Wash Paria Rd.												
	Gov. Res.												
	RCA #1												
	RCA #2				Rest								
Third Year 19	NP-NK & FL												
	Fossil Wash												
	Gov Res.												
	RCA #1												
	RCA #2												
	RCA #3, Paria Rd. & Petrified H.				Rest								
Fourth Year 19	NP-NK & FL												
	Gov. Res.												
	RCA # 1 Petrified H.												
	RCA #2												
	RCA #3												
	Fossil Wash-Paria Rd.				Rest								
Fifth Year 19	NP-NK & FL												
	RCA #1												
	RCA #2												
	RCA #3												
	Fossil Wash Paria Rd.												
	Gov. Res. Petrified H.				Rest								
Sixth Year 19	NP-NK & FL												
	Repeat First Years cycle												

Prepared by Darwin Snell

GPO 844-885

VII. Agreement

I, the undersigned party concur in the management objective set forth in this plan. I will to the best of my ability, carry out the provisions of the plan. Revisions of this plan will be based on review and evaluation of the studies in addition to problems brought to the attention of BLM by the operator and will be made with the concurrence of the parties concerned as indicated by initialing and dating of page revised.

I further understand and agree that this Allotment Management Plan, when approved by the District Manager, concels and supersedes all previous agreements pertaining to this allotment, and that the grazing privileges authorized herein are subject to all provisions of the Taylor Grazing Act and the grazing regulations for NRL 43 CFR 4110-4120.

Mr. Brown accepts the allotment boundary as shown on the attached allotment map and the attached description.

SIGNED:

Norris P. Brown — 4/9/74

Norris P. Brown, Operator — Date

APPROVED:

for J. Darwin Smith — 4/9/74

Morgan S. Jensen, District Manager — Date

VERMILION ALLOTMENT

MANAGEMENT PLAN

Kanab District
Vermilion Resource Area
Vermilion Planning Unit

Cooperator
Norris Brown

Original	5/2/69
Revised	2/25/71
Revised & Updated	4/9/74

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VERMILION ALLOTMENT MANAGEMENT PLAN

I. General Information

A. General Information.

1. Location and Area - The Vermilion Allotment is located approximately 21 miles east of Kanab, Utah on Highway 89 in the south central part of Kane County.

   The allotment has an elevation variance from 5400 feet on the south to 6500 feet above the Vermilion Cliffs. It is approximately 19 miles in lenth and varies from 2-5 miles in width.

   Land Status

National Resource Lands	State Lands	Private Lands	Total
30,340 acres	4,640 acres	1,240 acres	36,220 acres

2. Resource data

   a. Vegetative types

Types	Acreages N.R.L.	State	Private	Total
Grass Lands	4,510	---	420	4,930
Pinyon-Juniper	5,460	2,030	300	7,790
Sagebrush	1,960	---	300	2,260
Mountain Shrub & Sagebrush	16,410	2,240	220	18,870
Waste	2,000	370	---	2,370
Total	30,340	4,640	1,240	36,220

b. Erosion Classifications

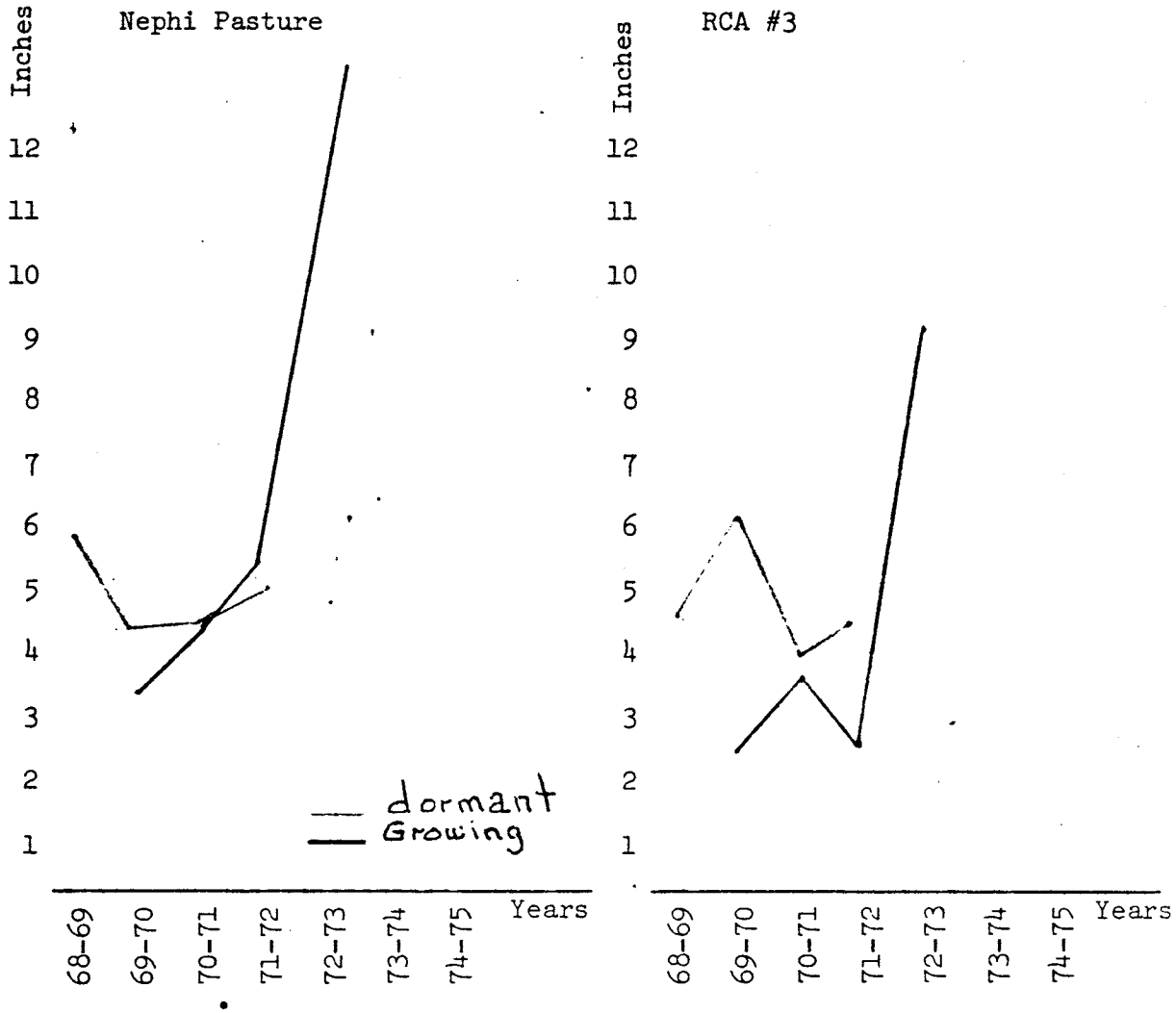
Erosion Classifications	Acreages N.R.L.	State	Private	Total
Stable	5,285	---	420	5,705
Slight	17,635	3,800	120	21,555
Moderate	20			20
Heavy	7,400	840	700	8,940
Severe	---	---	---	---
Total	30,340	4,640	1,240	36,220

A step 2 overlay in the Vermilion Cliffs U.R.A. shows the erosion classification. Erosion above the Vermilion Cliffs is primarily wind erosion. Erosion has been arrested on the seeded areas below the Vermilion Cliffs, but accelerated erosion is still serious in the heavier soils of the untreated areas.

c. Soils - The soils in the lower bench area are medium textured sandy loam soils. There are some outcrops of gypsum in localized areas. The soils vary in depth from shallow aeolian deposits on the rolling ridge tops to deep alluvial deposits along the drainage courses. These soils show no evidence of alkali or saline conditions. The soils on the upper bench areas are generally lighter textured formed from Navajo Sandstone parent loams with loamy sands near the end of Nephi and Finn Little Points. The sandy soils are generally the more productive soils. This is due primarily to the reason that the heavier soils have a slower infiltration rate coupled with high intensity summer storms causing less on site accumulation and a greater overland flow.

d. Precipitation - The closest official weather station is located at Kanab approximately 21 miles to the west. The average annual precipitation in Kanab is about 12 inches with an average growing season of about 151 days.

There are two precipitation guages in the Allotment, one in Nephi pasture and one in RCA #3 pasture.



e. Grazing capacity - The normal grazing capacity for the allotment is:

	AU's	Months	AUM's	Land Status
	243	10	2431	N.R.L.
	17	10	170	Exchange of use
Total	260 AU's	10 months	2601 AUMs	

3. Existing Projects

Project Number	Project Name	Date Completed	Quantity Units	Condition	Maintenance Responsibility
0190	Government Reservoir Corral & fence	/38	1 ea.	Fair	Operators
0036	Farnsworth Reservoir	7/15/	1 ea.	Fair	Operators
0160	Petrified Hollow Fence	4/10/46	1.2 mi.	Fair	Operators
0176	Ladder Canyon Drift Fence	4/30/46	.25 mi.	Poor	Operators
0179	Finn Little Drift Fence	5/20/46	.75 mi.	Fair	Operators
0386	Telegraph Flats Fence	8/02/54	10 mi.	Fair	Operators
0387	Telegraph Flats Erosion Control Dams	5/11/54	2 ea.	Fair	BLM
U-11-R-38	Norris Brown Fence #1	5/30/63	2.5 mi.	Good	Operators
0085	Norris Brown Seeding #1	8/31/64			
0089	Norris Brown Seeding #2	9/30/65	4510 ac.	Excellent	BLM
0087	Norris Brown Seeding Protective Fence	10/15/64	3.8 mi.	Good	Operators
0169	Ulrey-Brown Fence	12/30/65	2.2 mi.	Good	Operators
135	Vermilion Reservoir #1	8/1/66	1 ea.	Good	Operators
0234	Vermilion Reservoir #2	8/1/66	1 ea.	Good	Operators
0250	Seaman Wash Pipeline	4/20/68	56,620 ft.	Fair	BLM
0309	Government Reservoir Fence	2/05/68	1.7 mi	Good	Operators
0250	Seaman Wash Pipeline (Clark Ranch Ext.)	4/20/68	1 mi	Excellent	Operators
4043	N. Brown Pipeline Ext.	4/30/70	1 mi	Excellent	Operators
0015	Judd- Brown Fence	7/31/61	3.4 mi	Fair	Operators
U-11-R-39	Judd-Johnson Fence		4 mi	Poor	Operators
	Finn Little Spring Develop.				

4. Qualifications and Livestock Management Items

a. History of Grazing Qualifications - The present grazing qualifications in the Vermilion Allotment is the result of purchase and consolidation of several allotment. The record of acquisition is as follows:

Unit	Active AUMs	SNU	Type acquisition & from	Date
Telegraph 3A	132	0	Sec. 7b from F.B. Hamblin	1/16/56
Telegraph 3A	162	0	Sec. 7a from Cornell Hamblin	8/28/57
Johnson 1C	282	0	Sec. 7a from Cornell Hamblin	8/28/57
Johnson 1C	384	0	Sec. 7a from Isaiah Hamblin	8/28/57
Telegraph 3A	162	0	Sec. 7a from Isaiah Hamblin	8/28/57
Telegraph 3A	54	0	Sec. 7b from Floyd Maddox	12/03/59
Johnson 1C	630	0	Sec. 7b from F.B. Hamblin	2/28/61
Telegraph 3B	180	0	Sec. 7b from Floyd Maddox	1/25/65
Johnon 1C	451	233	Sec. 7b from Karl Jameson	6/29/73
	2437	233	Total AUMs	

b. Livestock Management Items

(1) Handling Practices - Mr. Brown, normally weans and doctors calves twice a year. Calves are branded, castrated, dehorned and vaccinated at Clark Ranch before they are taken to the summer pastures in early June. This same operation is repeated again in the fall when the cattle are brought from the summer range.

There are times Mr. Brown will handle cattle when they are in the winter pastures. This can be accomodated at the Government Reservoir complex or on the School Section Ranch.

Mr. Brown has three seperate pieces of private land where necessary animal husbandry needs can be accomodated. School Section Ranch is at the southern end of the allotment. Clark Ranch is in the center portion of the allotment and Bull Head Ranch (about 160 acres) is is the north central portion of the allotment.

(2) Breeding periods - Mr. Brown's cattle will calf during the entire year with the exception of the cold winter months from about December 15 to March 15.

(3) Calf Crops - At present Mr. Brown has a calf crop ranging from about 75-85%.

5. Coordination

a. Watershed - A large portion of the Petrified Hollow drainage lies within this allotment. This drainage has gully erosion problems with washes from 5 to 15 feet deep and 30 to 40 feet wide. Pinyon-Juniper encroachment has depleated some areas of desirable watershed cover. The grazing system was designed not only to improve this problem, but to maintain and improve the vegetative cover in the seeded as well as other native pastures.

It should be pointed out here that a grazing system alone will not solve the Petrified Hollow problem. Addional seeding and gully work will have to be done.

b. Wildlife - The primary deer winter use area is north of highway 89. Petrified Hollow and the area around Clark Ranch is the heaviest use areas during heavy winters. During mild winters, deer frequent the breaks around Nephi and Finn Little Points.

The grazing system has been designed to keep cattle south of the highway during the winter months when deer frequent the area.

There are other wildlife species in the allotment such as quail, chucker partridge, dove and cottontail rabbits. Increase in ground cover for watershed and livestock forage will increase the food and cover for these smaller game species. Watering facilities will be developed with wildlife needs in mind.

c. Minerals - Limited amounts of poor quality uranium have been identified in the allotment, however, extraction would not be profitable.

Varying qualities of petrified wood can be found around the base of the Vermilion Cliffs. An inventory should be undertaken to determine quality and quantity of this valuable resource. Many rock shops and distributors in the Kanab area sell quantities of this non-renewable material.

d. Forestry - The only forest products in the area are fire wood and juniper posts. Both of these uses should be adequately restricted so that valuable watershed cover and wildlife and livestock forage are nor premanently damaged.

e. Recreation - Off road vehicle use has greatly increased in this allotment during the last years. One probable reason is the influx of people into Glen Canyon City, Utah and Page, Arizona.

If off rc vehicle use pressure continues o increase, some restrictative action may have to be imposed to protect vegetation and other scenic values in the area.

Other outdoor recreation uses in the allotment include deer, upland game bird and small game hunting. Pressure in all catagories have significantly increased the past few years.

f. Human Interest Values

Highway 89 from Kanab, Utah to Page, Arizona is the major travel influence zone in the area. Approximately 760 vehicles travel this highway daily (this is according to the Utah State Department of Highways). Therefore, aesthetics should be given paramount importance on all land uses and developments.

There are archaeological values throughout the allotment, on private,state and Federal lands that need inventoried and correlated. Maude Brown, wife of the cooperator in the Vermilion Allotment, has a vast knowledge of the archaeological values in the area and a correlated report would not be complete without her imput.

The Escalante-Dominguez expedition passed throuth this area on their historic treck through the southwest. This trail should be marked and signed for historical significance.

II. Objectives

A. Livestock

1. Increase forage production to meet the Base Property Qualification. At present the active privileges are 2437 AUM's with 233 AUM's being carried in suspended non-use.

2. The present calf crop averages about 75-85%. An increase to 90-95% is not an unreasonable goal under controlled conditions and smaller pastures. This can be achieved by better bull distribution in the summer pastures and increasing the number of bulls in the herd.

3. Increased weaning weights of approximately 25 lbs per animal can be achieved through cross breeding and better forage for the mother cows. Present weaning weights are 375 to 400 lbs.

B. Watershed

1. In the deep sandy areas north of the Vermilion Cliffs, wind erosion is the most serious problem. The major objective in this area is to change the ground cover from annual plants to perennial plants and increase the perennial cover to at least 140% of the present perennial cover. (Note: present vegetal cover is compiled from trend studies in the allotment)

2. The present cover of live vegetation in the seeded pastures will be maintained at the present level. This is 1.47% live vegetation.

3. Petrified Hollow and Old Paria Road Pastures have the most serious accelerated erosion problem, steming from Petrified Hollow Wash. The major objective in this area to reduce soil loss by eliminating head cutting in the upper reaches of the drainage.

C. Wildlife

1. Eliminate competition between cattle and deer on deer winter range. This can be accomplished by a grazing system that does not allow cattle in deer winter use areas.

2. The present fawn crop varies from about 60 to 70% in the Paunsagunt Herd Unit. This figure dropped to about 40% in 1973. A major wildlife objective is to produce enough quality browse to increase the fawn crop to 80%.

3. Develop all waters in the allotment for wildlife use. This includes, birds, and small wildlife as well as the larger game species.

D. Recreation

1. Protect scenic values in the area by holding grazing use to moderate levels. 50-70% utilization will be maximum on areas that boarder travel influence zone along highway 89.

III. Grazing Manag. ent System

A. Key Species

Pasture Name	Key Species	
Sand Springs	Indian Ricegrass & bitterbrush	Orhy Putr
Nephi	Indian Ricegrass & bitterbrush	Orhy Putr
RCA #1	Crested Wheatgrass	Agcr
RCA #2	Crested Wheatgrass	Agcr
RCA #3	Crested Wheatgrass	Agcr
Fossil Wash	Crested Wheatgrass	Agcr
Government Res.	Crested Wheatgrass	Agcr
Petrified Hollow	Curley grass & bitterbrush	Hija Putr
Paria Road	Curley grass & Indian Ricegrass	Hija Orhy

B. Grazing System

1. Evaluation - During the past three grazing seasons careful records have been kept of the progress and problems connected with the present grazing system. From the evaluation of range studies and coordination with the licensee in the allotment, it became apparent that a revision was needed to correct several problems in the existing allotment management plan. Probably the most serious problem being the summer use pasture. In order to solve this problem the licensee purchased the grazing privileges in the adjacent Sand Springs Allotment and requested that the allotment be incorporated into the Vermilion Allotment grazing system. This not only allowed for a pasture deferrment in the summer area, but it also alleviated part of the water problem.

2. Objective in meeting requirements of Key Species

   a. Summer use pastures - the summer area has a past history of continuous use. The incorporation of a second pasture and rest past seed ripe time will be afforded one pasture each year, also the shorter season of use in each pasture will provide needed rest for the key species.

   b. Spring - Fall use - This system provides for a 14 month rest for each of the 4 pastures during a grazing cycle. There is also a spring-fall sequence allowing plants additional rest to maintain plant vigor. Utilization will be held to between 50-70%.

   c. Winter use pastures - These pastures are used during periods of dormancy and are rotated by using one pasture during the early winter months one year then base property for one month then going to the second pasture during late winter for the remainder of the time cattle are in the area. This pattern is then reversed the next year with cattle going into the 2nd pasture during the early part of the winter then to base property for one month then

to pasture 1 for the remainder of the year. This allows for uninterrupted early spring growth in one pasture each year.

3. Existing Pastures

a. Summer use

(1) Sand Springs
(2) Nephi Pasture

b. Spring - Fall use

(1) RCA #1
(2) RCA #2
(3) RCA #3
(4) Fossil Wash

c. Winter use

(1) Petrified Hollow
(2) Old Paria Road
(3) Government Reservoir

4. Grazing Treatments

a. Note: Pasture references will be as follows:

1. Sand Springs - S.S.
2. Nephi Pasture - N, N_1, N_2
3. RCA Pastures - 1, 2, 3
4. Fossil Wash - F.W.
5. Government Res. - G.R.
6. Paria Road - P.R.

b. Fall - Spring Grazing Sequence

	1st year Treatment 1	2nd year Treatment 2	3rd year Treatment 3	4th year Treatment 4
Fall	F.W.	1	2	3
Early Spr.	3	F.W.	1	2
Late Spr.	2	3	F.W.	1
Rest	1	2	3	F.W.

Fall use 11/1 - 11/30
Spring use 3/16 - 5/15

c. Winte razing Sequence

	1st year Treatment 1	2nd year Treatment 2
Early W.	P.R.	G.R.
Late W.	G.R.	P.R.

Winter use - 12/1 - 3/15

d. Interim Summer Grazing System pending the development of water

	1st year Treatment 1	2nd year Treatment 2
Graze	S.S.	N
Seed Ripe	N	S.S.

Summer use - 5/16 - 10/15

e. Final summer grazing sequence

	1st year Treatment 1	2nd year Treatment 2	3rd year Treatment 3
Graze	S.S.	N_2	N_1
Seed Ripe	N_1	S.S.	N_2
Rest	N_2	N_1	S.S.

Summer use - 5/16 - 10/15

f. Winter use variances

Paria Road	Base Property	Government Res.
12/1 - 12/31	1/1 - 1/31	2/1 - 3/15
2/15 - 3/15	12/1 - 12/31	1/1 - 2/15

5. Grazing sequence for all pastures

May 16, 1974 to May 15, 1975

1st	Sand Springs	
2nd	Nephi Knoll - Nephi Point - Finn Little	Seed Ripe
3rd	Base Property	
4th	Fossil Wash	
5th	Old Paria Road & Petrified Hollow	
6th	Base Property	
7th	Gov't Reservoir	
8th	RCA #3	
9th	RCA #2	
10th	Base property	
	Rest RCA #1	

May 16, 1975 to May 15, 1976

1st	Nephi Knolls - Nephi Point - Finn Little	
2nd	Sand Springs	Seed Ripe
3rd	Base Property	
4th	RCA #1	
5th	Gov't Reservoir	
6th	Base Property	
7th	Old Paria Road & Petrified Hollow	
8th	Fossil Wash	
9th	RCA #3	
10th	Base Property	
	Rest RCA #2	

May 16, 1976 to May 15, 1977

1st Sand Springs

2nd Nephi KNoll - Nephi Point - Finn Little Seed Ripe

3rd Base Property

4th RCA #2

5th Old Paria Road & Petrified Hollow

6th Base Property

7th Gov't Reservoir

8th RCA #1

9th Fossil Wash

10th Base Property

Rest RCA #3

May 16, 1977 to May 15, 1978

1st Nephi Knoll - Nephi Point - Finn Little

2nd Sand Spring Seed Ripe

3rd Base Property

4th RCA #3

5th Gov't Reservoir

6th Base Property

7th Old Paria Road and Petrified Hollow

8th RCA #2

9th RCA #1

10th Base Property

Rest Fossil Wash

The c e will be repeated as shown be.

1978 to 1979 same as 1974 to 1975

1979 to 1980 same as 1975 to 1976

1980 to 1981 same as 1976 to 1977

1981 to 1982 same as 1977 to 1978

6. Normal yearlong operation

243 cattle	10 months	2431 AUMs	Public land
17 cattle	10 months	170 AUMs	Exchange of Use
260 cattle	10 months	2601 AUMs	Total

7. Management Practices

a. Providing salt and protein supplement will be optional with the operator. However, if salt is provided, it must not be placed near water and must be located in such a manner as to attract livestock to areas that are normally not grazed as heavy.

b. The BLM will make periodic allotment inspections to insure compliance with the provisions of this plan. The BLM will also meet once annually with the operator to discuss and work out problems that may have developed through the operation of this plan and will invite the operator to accompany the BLM on at least one annual inspection tour of the allotment.

c. Increases or decreases in grazing capacity will be opportioned in accordance with the Grazing Regulations for Public lands and the BLM manual.

d. Bulls will be seperated from the cows approximately February 1 to April 30. The bulls can be placed in any pasture that is scheduled for grazing that year, during the time they are seperate.

8. Flexability

Pasture Rotation - The order of pasture rotation for each year will be as shown above under the Grazing System. Movement from pasture to pasture will be determined by utilization studies. Once livestock are moved from one pasture to another they cannot be returned to that pasture until the following years schedule. This does not apply to the winter use pastures since the operator makes use of his base property sometime during January or February dependant upon weather conditions. If the pasture where the cattle were located before movement to base property was only partially utilized, then upon completion of the base property use, the operator may return his cattle to the same pasture until

proper utilization is reached. The BLM will be notified in these instances so that utilization checks can be made to determine movement dates. Any change in the order of pasture rotation must have written approval in advance by the Area Manager.

IV. Billing Procedures

1. A grazing application will not be filed, and a grazing license will not be issued to the operator. This allotment management plan is the grazing authority for the public lands included.

2. Accurate actual use records on forms furnished by BLM will be kept by the operator for each pasture and he will submit them to the BLM by March 10, for the previous billing year. (March 1st - February 28th)

3. Following receipt of actual use information, BLM will issue a fee notice reflecting the actual grazing use made. The bill is payable within 30 days of the date of issuance. The 170 AUMs exchange of use will be deducted from the actual use in computing the billing.

   If the fees are not paid within the specified 30 days, the grazing authorization provided in this plan will be automatically cancelled. All livestock must be immediately removed from public lands and any fees for grazing use made since March 1st of the new billing year will be due immediately. All livestock not removed will be trespassed.

4. Exchange of use agreement - Exchange of use agreements will be valid for periods of time stated on the lease agreement. If the lease for any reason is cancelled, or invalidated in any way, or the system terminated the exchange of use will no longer be in effect.

V. Range Studies

A. Trend

Seven trend studies are presently on the allotment. They were established in 1967, '68 and '69. See attached allotment map for locations. Each study has 2 plots, but only 1 plot per study or key area will be read and photographed in the future as per Washington Instructions. The stakes for the plots not read will be left in the ground and can be used in the future is needed.

One new study will be added in the Paria Road Pasture and an old study in the Sand Springs pasture will be reinstated.

All existing studies should be maintained, but may be discontinued in the future if evaluations show they are not needed.

B. Utilizati

Studies to determine cattle use will be conducted by the BLM using the key forage plant method. These studies will be completed on each pasture at the close of each pasture's grazing period. Key areas will be established in the Nephi Point, Old Paria Road and Sand Spring Pastures for utilization study purposes.

C. Precipitation

Two precipitation gauges were established on the allotment in 1968 (See Vermilion Cliffs URA for location and readings).

D. Actual Use

The operator will keep accurate actual use records for each pasture. These records will be submitted to the BLM by March 10th of each year for the previous billing year (March 1st to February 28). The individual pasture actual use may be submitted at the close of grazing is desired.

E. Plant Development

Phenological development will be closely observed to determine the average development stages for the key species. The dates shown on Attachement #3 are estimates.

F. Browse

Studies to determine trend on browse will be initiated in the allotment by FY 76.

G. Studies Schedule

Type of Study	Schedule	Responsibility
Trend (Summer use pastures)	Every 2 years	BLM
Trend (Spring-fall pastures)	In schedule with grazing system in year pasture is rested year long (summer following rest)	BLM
Trend (Winter-use pastures)	Every 2 years	BLM
Utilization	Each pasture at the end of grazing	BLM
Actual Use	Annually for each pasture grazed	Operator
Precipitation	Twice annually, April 1 and October 1	BLM

All studies will be read and photographed during the first year of the grazing system.

VI. Needed Improvements

Project Name	Location	Quantity & Unit	Priority
Nephi Knoll Well & pipeline	Sec. 23, T 41 S, R 4 W	1 well 5 mi pipe	1
Finn Little Spring Dev.	Sec. 12, T 42 S, R 4 W	1 spr.	2
Paria Road Pipeline Ext.	Sec. 24-25, T 43 S, R 4 W	.5 mi	3
Seed Petrified Hollow	See J.D.R.		4
Petrified Hollow Erosion control Dam	Sec's 11, 14, 23 T 43 S, R 4 W	3 ea	5