

Mooney Mountain Allotment Management Plan (AMP)

Flagstaff Ranger District

Coconino National Forest

Prepared by: 
Gary Hase, Jr.
Rangeland Management Specialist

Date 8/27/2014

Agreed to/
Reviewed by: 
Manterola Sheep Company, Inc.
Permittee

Date 8/27/2014

Approved by: 
Micah Grondin
Flagstaff Deputy District Ranger

Date 8/27/2014

I. Introduction

This Allotment Management Plan (AMP) is designed to update the existing 1984 AMP for the Mooney Mountain Allotment. Only minor changes in the 1984 AMP were necessary based on an environmental analysis of grazing use and the Decision Notice and Finding of No Significant Impact (DN/FONSI) for the Mooney Mountain Allotment that was signed by Fred Trevey, Forest Supervisor, Coconino National Forest, on October 20, 1995. As a result, this AMP includes management direction provided in the 1984 Allotment Management Plan as well as additional management actions required by the October, 1995 Decision Notice and Finding of No Significant Impact.

II. 1984 Mooney Mountain Allotment Management Plan

A copy of the August 22, 1984 Allotment Management Plan for the Mooney Mountain Allotment is attached. Allotment management direction provided in this document is relevant to the management and operation of the Mooney Mountain Allotment unless modified by additional management actions required by the October, 1995 Decision Notice and Finding of No Significant Impact (see Section III).

III. Additional Allotment Management Direction

Additional management actions required by the October, 1995 Decision Notice and Finding of No Significant Impact include:

1. Continue with the current permitted grazing season of three months (92 days) during the summer season.
2. Permitted use of 1,840 head of sheep (ewes) for the National Forest portion of the allotment and 400 head of sheep (ewes) for the State Trust land portion of the allotment.
3. Livestock grazing will be controlled by management to allow adequate regeneration or grasses and forbs in mountain grassland areas (meadows).

MOONEY MOUNTAIN-GARLAND PRAIRIE-POMEROY ALLOTMENTS
INTERIM MANAGEMENT PLAN
1984-1988

ARIZONA STATE LAND DEPARTMENT
and
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
SOUTHWESTERN REGION
COCONINO NATIONAL FOREST - FLAGSTAFF RANGER DISTRICT
and
KAIBAB NATIONAL FOREST - CHALENDER RANGER DISTRICT

Prepared by: *Donald M. Case* 4-2-87
DONALD M. CASE, Range Conservationist Date

Prepared by: *Jerry W. Bradley* 4/3/84
JERRY W. BRADLEY, Range Conservationist Date

Prepared by: *Jose A. Manterola* 4/2/84
JOSE A. MANTEROLA, Manterola Sheep Co. Date

Submitted by: *Dick Pellissier* 4/2/84
DICK PELLISSIER, District Ranger Date

Submitted by: *Max C. Reid* 4/3/84
MAX C. REID, District Ranger Date

Reviewed by: *Vernon E. Zarlingo* 4/13/84
VERNON E. ZARLINGO, Forest Range Staff Date

Reviewed by: *Mark Otter* 8/13/84
BOB SCOPA, Natural Resource Manager, AZ State
Land Dept. Date

Reviewed by: *Gerald L. Mundell* 9-20-84
GERALD L. MUNDELL, Forest Range Staff Date

Approved by: *Leonard A. Linnquist* 4/12/84
LEONARD A. LINQUIST, Forest Supervisor Date

Approved by: *Neil R. Paulson* 4/24/84
NEIL R. PAULSON, Forest Supervisor Date

Approved by: *Robert Lane* 8/22/84
ROBERT LANE, Commissioner, AZ State Land Dept. Date

This Management Plan is a tool to be used to achieve better range resource management. Like any tool, if it is not the right tool for the job it should be revised or changed so that the job can be properly accomplished in the most effective and timely manner.

I. INTRODUCTION

This Management Plan is to provide range resource coordination and management direction for the Garland Prairie, Mooney Mountain and Pomeroy Grazing Allotments for the 1984 to 1988 grazing seasons.

The Garland Prairie and Pomeroy Allotments are located on the Kaibab National Forest, Chalender Ranger District. The Mooney Mountain Allotment is located on lands of the Coconino National Forest, Flagstaff Ranger District and lands of the State of Arizona. Although these Allotments are separated under three administrative offices, it is recognized that the three Allotments are best managed for livestock grazing as a single entity. Management of the three Allotments as one will benefit the resource and livestock management objectives by providing greater flexibility of grazing use and overall resource management.

The three Allotments are grazed under 10-Year Term Permits issued by the Forest Service to the Manterola Sheep Company, Incorporated. Permitted numbers are 1,840 sheep. They also have a State and Private Land permit of 400 sheep and eight (8) burros. The permitted season of grazing use for the Allotments is June 1 to October 15. The Mooney Mountain Allotment has a total of 3,181 acres of State of Arizona leased lands. These leased acres are incorporated with the Forest Service land under on "On and Off" Grazing Permit.

The permittee also has a 10-Year Term Permit for the Beaverhead-Grief Hill Sheep Driveway. Permitted numbers on the Driveway are 2,670 sheep. The permitted season of use is May 1 to May 31.¹

Permitted livestock carrying capacity on the Allotments are within current proper allowable forage use capacities. Resource management and sheep distribution can be improved to achieve better grazing use efficiency. The proposed Management Plan is designed to obtain better resource management thereby resulting in improved upward trends in range resources.

II. PROBLEMS AND CONFLICTS

1. All three Allotments need the development of new water sources and maintenance of existing waters. New water sources will be located within areas of light or no grazing use.

2. Many open meadows have been historically over-utilized by sheep for bedding and bucking areas. These areas should be revegetated and heavy grazing use deferred to a once over-lightly concept of grazing use. New areas for bucking will be reviewed with the permittee to reduce the concentration of sheep within certain areas the same time each year.

III. MULTIPLE USE COORDINATION

The following describes foreseeable resource uses, valued and activities which may affect the grazing management of the three grazing Allotments.

¹As per FSM 2233.15-2, 7/81 R-3 Supp. 93*

A. Timber Harvests

The Half Moon Timber Sale, within the Mooney Mountain Allotment, is scheduled for harvest within the near future. This Sale, a multi-product (sawlog and pulpwood) sale, sold in the fall of 1983 and may be harvested as early as 1984-1985, depending upon future economics and lumber supply and demand.

The Dutton Timber Sale, another multi-product sale, is also in the northeast corner of the Mooney Mountain Allotment. This Sale is scheduled for harvest in 1984.

These timber sale activities will affect grazing management of the Allotment. The Permittee and District Range Staff will coordinate prior to and during these activities, making adjustments in grazing schedules and improvement construction or maintenance schedules.

No timber sales are scheduled on the Garland Prairie or Pomeroy Allotments within the next five (5) years.

B. Timber Reforestation

The pine seedling reforestation sites on the Montoya Unit of the Garland Prairie Allotment and the Railroad Fire (Forest Service lands only) are still closed to sheep grazing. Each Forest will notify the Permittee as to any change in the status of these sites.

C. Land Exchange

Currently, the Coconino National Forest is in the process of proposing a land exchange with the State of Arizona. This proposal involves the State-owned sections within the Mooney Mountain Allotment. The objective of the proposal is to consolidate land ownership to better facilitate administration of resources within the area. The time frame and status of this exchange is not known at the present time. The results of such an exchange could affect the ownership of range structural improvements on the State lands, but the management and permitted grazing capacity of the Allotments will not be affected by the exchange.

D. Fire Management

During periods of high-to-extreme fire danger, the Permittee and his sheepherders will adhere to each Forest's wildfire management restrictions and closures.

E. Recreation

The Sycamore (Recreation) Trail passes through the Pomeroy Allotment (see attached map). Herders will not trail sheep on this trail or within its immediate vicinity. This restriction includes the recreational parking areas along Forest Road 109 and the end of Forest Road 56.

F. Lands/Special Uses

The Raymond Pit may be used again by the Arizona Department of Transportation. This pit area could be closed to grazing if the ADOT decides to reopen and use the materials. No future plans as of this document, are scheduled to reopen this gravel pit.

There is a road closure, south of the powerline and east of the log road, within the Pomeroy Allotment (see attached map). This closure is necessary to protect soils and watershed conditions within the area.

IV. GOALS AND OBJECTIVES

A. Long-Range Goals and Objectives

Long-range goals of the Allotments in which this Plan will direct management are:

1. Improve the vegetative community so that the forage composition is enhanced, resulting in upward trends in range condition and plant vigor.
2. Increase vegetative cover and litter to the level necessary to stabilize the soil and watershed conditions.
3. Maximize red meat and wool production from these Allotments consistent with the resources, uses, and activities on the Allotments.

B. Short-Range Goals and Objectives

The short-range objectives of this Plan which will be achieved during the life of this Plan are:

1. Maintain permitted numbers in balance with the grazing capacity of the Allotments, thereby implementing a system of herding with better sheep bedding and salting practices.
2. Implement a deferred rotation grazing system. This grazing system will allow livestock and wildlife forage utilization to occur in proper balance with available forage. This objective will be measured by comparing actual grazing use with prescribed allowable use on key areas and key perennial forage species. Each pasture will receive "once over lightly" grazing in all suitable grazing areas of each Allotment.
3. Intensify the range improvement maintenance program and develop needed range improvements.
4. Minimize the timber reforestation impacts on the Allotments' range resource and management.
5. Minimize any adverse impacts on the Allotments' range resource and management - should a land exchange occur.

V. GRAZING MANAGEMENT

A. Proposed Management

The proposed system of management is to graze the Allotments under light use deferred rest-rotation system. Reference the attached R-3, 2200-19, Grazing Schedule for specific grazing numbers and use periods.

B. Permanent Camps

As determined by the Permittee or the Forest Service, when utilization of key forage species within one-quarter mile radius of the camp has been reached,

the camp will be moved to another area that has not been used during the current grazing season. This is approximately 2 days in one camp site.

C. Distribution

1. Salt - Salt will be placed in areas of good feed at a reasonable distance from water. These areas should be located away from previous salt ground so that the same areas are not used year after year.
2. Water - Sheep should be openly herded to and from watering to prevent excess trampling of soil and vegetation. Portable watering sites can be used for 3 days or until utilization on key forage species within 1/4 mile reaches 30 percent. Accordingly, herds should not be left to linger at watering sites.
3. Bedgrounds - Sheep can be bedded down in the same vicinity as previous bedgrounds, but not in the same location (as determined by the Permittee and/or the Forest Service), all bedding and herding within that area will be discontinued and sheep moved on to another site. The use of old bedgrounds where soil and vegetation is beat out will be discontinued to allow these areas to rehabilitate. These are shown on the enclosed map and also include areas identified as erosion hazards in the soil and water report.
4. Waterhauls - In the event waterhauls are to be established, the District will be notified; and time permitting, will establish these sites with the permittee. These hauls can be an effective tool in grazing distribution if properly placed. Sites previously used will not be re-used unless permission is given by the Forest Service.
5. Herding - Sheep will not use the same location for grazing more than once during a year without advance permission by the District. Areas in which there is ample forage should be sought out and utilized. This can often be accomplished through proper location of waterhauls as described above.

VI. RANGE IMPROVEMENTS BY PRIORITY - KAIBAB NATIONAL FOREST

Following is a schedule of new improvements and heavy maintenance needed on the Garland Prairie and Pomeroy Allotments. They are by priority and their completion is subject to availability of Government and Permittee funds. (See attached maps for locations of improvements.)

A. Structural

1. Water Developments

a. Garland Prairie Allotment

- 1) Maintain south Gray Tank.

- 2) Bentonite stock tanks that are presently leaking. Permittee will submit a listing to the District of these tanks.
- 3) Identify existing waters as to condition and maintenance responsibility on acquired land.
- 4) Construct a water development in northeast part of Gray Unit.
- 5) Construct a water development in southeast part of Montoya Unit.

b. Pomeroy Allotment

- 1) Construct a water development in approximately center of the Pomeroy Unit.
- 2) Seal Double Tanks.

2. Other

- a. Remove old homestead fences, as approved by District.
- b. Assist in future construction of Garland Prairie/Big Springs boundary fence.

B. Before action is taken on any of the projects, an on-the-ground inspection must be made to determine feasibility. In the event that any of the new construction projects are approved, a cooperative agreement must be drawn up before construction is begun. Before any other construction projects are authorized, they must be part of this Management Plan, via amendment thereto.

VII. RANGE IMPROVEMENTS - COCONINO NATIONAL FOREST

The following is a list of range improvements for the Mooney Mountain Allotment. The improvement projects are listed by priority of need. These projects are subject to available Forest Service and Permittee funds. The improvements listed below are all within Forest lands.

A. Non-Structural Revegetation

1. Pope Tank - T20N, R5E, SE $\frac{1}{2}$ Sec. 9 - 150 acres.
2. H & H Tank - T20N, R5E, SE $\frac{1}{4}$ Sec. 15 - 40 acres.
3. Mooney Mountain - T20N, R5E, SW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 6 - 45 acres.
4. Little Spring Draw - T20N, R4E, W $\frac{1}{2}$ E $\frac{1}{2}$ Sec. 13 and W $\frac{1}{2}$ E $\frac{1}{2}$ Sec. 12 - 125 acres.
5. Powerline - T20N, R4E, N $\frac{1}{2}$ N $\frac{1}{2}$ Sec. 2 and Sec. 3 - 100 acres.

6. Sheep Camp Flat - T20N, R4E, SE $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 2 - 20 acres.
7. Poison Springs Draw - T20N, R4E, NE $\frac{1}{4}$ Sec. 9 - 20 acres.

B. Structural - Road Pit Tanks Construction

The following structural improvements are proposed within the Half Moon Timber Sale Transportation Plan and K-V Wildlife Plan. These proposed improvements, all or in part, are scheduled for development as road borrow sources and multiple use waters. They will indirectly benefit wildlife and livestock. K-V funding for these improvements is not available until after the timber sale starts. It is possible that only a portion of the improvements may be completed with K-V funds, and transportation funds. If this occurs and only a portion of these waters are completed via timber sale generated funds, the remaining improvements should be completed with range improvement funds under this Allotment Plan. Complete or partial construction of the structural improvements listed below will be dependent upon available permittee and Forest Service range resource funds.

1. Little - T20N, R5E, SE $\frac{1}{4}$ NE $\frac{1}{2}$ Sec. 7.
2. Flat - T20N, R4E, NE $\frac{1}{4}$ Sec. 2.
3. Volley - T20N, R4E, NE $\frac{1}{4}$ Sec. 1.
4. Jose - T20N, R4E, SE $\frac{1}{4}$ Sec. 12.
5. Camino - T20N, R5E, SW $\frac{1}{4}$ Sec. 7.
6. Guide - T20N, R4E, SE $\frac{1}{4}$ Sec. 13.
7. Rola - T20N, R5E, NE $\frac{1}{4}$ Sec. 17.
8. Rienco - T20N, R5E, NW $\frac{1}{4}$ Sec. 19.
9. Tie Hack - T20N, R5E, SE $\frac{1}{4}$ Sec. 19.
10. Strahan - T20N, R4E, NE $\frac{1}{4}$ Sec. 25.
11. Red Hill - T20N, R5E, SE $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 31.
12. Caboose - T20N, R5E, SW $\frac{1}{4}$ Sec. 19.

C. Non-Structural - Revegetation

1. During the Half Moon Timber Sale, an estimated 3,800 acres of slash will be treated, piled and burned or broadcast burned. If non-structural range improvements or wildlife K-V funds are available, portions or all of the slash treated areas should be seeded with introduced forage species. Soils of the highest potential productivity will be seeded first priority and those of moderate potential productivity will be seeded last.

VIII. ESTIMATED COST INVESTMENT OF RANGE IMPROVEMENTS DEVELOPMENT - COCONINO NATIONAL FOREST

The estimated costs listed below are evaluations of the improvements listed in the previous VI. Range Improvements - Coconino National Forest. The estimated costs below also break out Forest Service and Permittee investment.

A. Non-Structural - Revegetation

1. Five hundred (500) acres of broadcast seeding with seed-bed preparation by sheep trampling. The Forest will provide seed and the Permittee will apply it. Total cost per acre = \$12.60.

<u>Forest Service Cost</u>	<u>Permittee Cost</u>
Ten (10) pounds seed per acre @ \$.80/lb = \$4,000.00	Application labor and equipment = \$1,500.00
Support Cost = \$800.00	

2. Three thousand eight hundred (3,800) acres of broadcast seeding. Forest Service to provide seed and Permittee to apply seed. Total cost per acre = \$8.76.

<u>Forest Service Cost</u>	<u>Permittee Cost</u>
Eight (8) pounds seed per acre @ \$.70/lb = \$21,280.00	Application labor and equipment = \$12,000.00
No support cost	

B. Structural - Road Pit Tank Construction

Construction of twelve (12) road pit tanks. Permittee labor and equipment for construction. Total cost per pit tank = \$1,083.33.

<u>Forest Service Cost</u>	<u>Permittee Cost</u>
Support Cost = \$500.00 Seed Cost = \$500.00	Labor and equipment = \$12,000.00

C. Estimated Cost Investment Summary for Total Proposed Improvement Development

<u>Forest Service Cost</u>	<u>Permittee Cost</u>
\$27,080.00 (51.5 Percent)	\$25,500.00 (48.5 Percent)

IX. FOLLOW-UP ACTION

The following items must be checked on a yearly basis to determine that the objectives of this Management Plan are being attained:

- A. Livestock distribution through the use of routing plans is being followed and is effective.
- B. Sufficient water is available; if not, plan waterhauls.
- C. Length and dates of grazing are compatible with range resource conditions and trends.
- D. Noxious and undesirable plant species are not increasing and that percent ground cover by vegetation is not decreasing.
- E. Soil condition classes and trends are not downward.
- F. Conflicts with other resources, uses, and activities are not occurring.
- G. Excessive forage competition is not occurring between the sheep and big game species.
- H. Old beat out areas are avoided and allowed to recover their original vegetative composition.
- I. Annual permission to use Gray Place.
- J. Keep sheep out of tree plantations, and from Sycamore Trail.
- K. Generally, daily movement of sheep camps.

X. ADMINISTRATION

A. Inspections

A general allotment inspection will be made annually with vegetation and soil trends closely observed by the Permittee and the Forest Service.

B. Livestock Move Dates

The Permittee will notify the Forest Service five days in advance of the date that livestock will be placed on or removed from each of the Allotments and planned move dates between grazing units.

C. Maintenance Responsibilities and Maps

Enclosed are copies of CPO 2200-5 listing permittee maintenance responsibilities and grazing allotment map with the

Permittee's maintenance responsibilities outlined in red. It may be to the advantage of the permittee from a total allotment management standpoint to do minor maintenance on all allotment range improvements, wheater or not they are assigned to him. This management-maintenance would be up to the Permittee and should be with the agreement of the adjacent private landowner or permittee.

- D. Use of Gray Place - The Gray Place is an administrative horse pasture, located on previously beat out acquired land. It is well watered and divided up into several small pastures. Presently, the Gray Place is getting very little use by the Forest Service. Accordingly, the Permittee can use this pasture upon annual authorization of the District. Use will be in accordance with this Management Plan. It will be used as part of the Gray grazing unit for a specific period of time approved by the District.

E. Fire Protection

The Permittee is required to take all reasonable precautions to prevent, make diligent effort to suppress, and to report all fires on or endangering Forest Service administered lands. All internal combustion engines used by the Permittee must be equipped with Forest Service approved spark arresting devices. No open campfires will be permitted on National Forest lands during periods of fire closures.

F. Vehicular Travel

In the event roads within the Allotments are closed due to fire danger, saturated soil conditions, or for any reason, the Permittee will be required to obtain a permit from the appropriate District office. No off-road (cross-country) vehicular travel will be allowed; only established roads may be used. Roads which were used for timber harvests and which have been blocked, drained, and seeded, must not be opened.

F. Littering

Dumping or burying of refuse on State of Arizona or National Forest lands will not be allowed. All cans, bottles, and any other unburnable material which has been carried in, must be carried out. Burying of trash at sheep camps is not an acceptable alternative. Be sure herders are instructed about this.

XI. INTERIM PLAN REVISIONS

This Plan can be modified and/or altered at any time to improve the efficiency of economics, timetables, and benefit to the management of resource or livestock. Revisions can be accomplished through mutual cooperation and approval of the Arizona State Land Department Commissioner, the Coconino and Kaibab National Forest Supervisor, and their designated representatives, and the Permittee.

XII. RANGE IMPROVEMENT ECONOMIC ANALYSIS

An economic analysis was developed for the proposed range improvements on the Coconino National Forest.

A. Economic Analysis Assumptions

1. Assume the improvements will have a twenty-five (25) year life.
2. Assume a discount factor of four (4) percent is used throughout the economic analysis.
3. Assume standard of five (5) sheep equal one (1) cattle AUM in the analysis.
4. Assume AUM value of each Forest is based upon Gee's Ranch-Livestock Study - U.S.D.A. Research Study - U.S.D.A. Research Service, Ft. Collins, Colorado.
 - a. Coconino National Forest AUM value = \$10.57.
5. Assume Hunter Visitor Day value is determined from each Forest's LMP Recreation/Wildlife Hunter Use data average values.
 - a. Coconino National Forest HUD average value = \$23.70.
6. Assume that the HUD days estimated at year zero (0) will double over the twenty-five (25) year time stream. This one hundred (100) percent increase is attributed to projected population growth and use days for the State of Arizona and northern Arizona. (Assumption reference for the Forest's Land Management Plan Wildlife and Recreation Use Data.)
7. The AUM increase and sustainment of the Allotments permitted grazing capacity is based upon current analysis evaluations, historic grazing use, current range resource surveys and inspections, and professional judgement.

USDA - Forest Service		1. Range 03		2. Forest Coconino		3. District Flagstaff	
ECONOMIC ANALYSIS - RANGE ALLOTMENT PROJECT <i>(Ref. FSH 2209.11)</i>				4. Allotment Mooney Mountain		5. Alternative With Projects	
PART I - BENEFITS - OUTPUTS "WITH PROJECT"							
A. Benefits	B. Analysis Time Periods (Year)				C. Total AUM Present Value M\$	D. Total Resource Related M\$	E. Total Benefits Present Value M\$
	1 - 3 (a)	4 - 8 (b)	9 - 15 (c)	16 - 25 (d)			
Grazing AUM's							
1. Permitted grazing AUM's average annual/year for period.	(a) Increase	81	126	201	246		
	(b) Sustain	39	84	144	189		
	(c) Total	120	210	345	435		
2. AUM Value Coefficient \$/AUM		10.57	10.57	10.57	10.57		
3. Total Value, AUM (line 1c x 2)		1,268	2,220	3,647	4,598		
4. (a) Discount Factor @ 4%	<input checked="" type="checkbox"/> (x rate used)	2.7751	3.9577	4.3856	4.5037		
(b) Discount Factor @ 7 1/8%	<input type="checkbox"/> (x rate used)	2.6183	3.3241	3.0940	2.4871		
(c) Discount Factor @ _____ %	<input type="checkbox"/> (x rate used)						
5. Present Value, M\$ (line 3 x line 4(a), (b) or (c))		3.519	8.786	15.994	20.708	49.007	
Resource Related Benefits							
6. Watershed \$							
7. Wildlife	(a) Hunter Visitor Days	100	140	170	210		
	(b) \$ Value/HUD	23.70	23.70	23.70	23.70		
	(c) Benefit \$ (a x b)	2,370	3,318	4,029	4,977		
8. Fuelwood, other products \$							
9. Total Resource Related Benefit \$		2,370	3,318	4,029	4,977		
10. (a) Discount Factor @ 4%	<input checked="" type="checkbox"/> (x rate used)	2.7751	3.9577	4.3856	4.5037		
(b) Discount Factor @ 7 1/8%	<input type="checkbox"/> (x rate used)	2.6183	3.3241	3.0940	2.4871		
(c) Discount Factor @ _____ %	<input type="checkbox"/> (x rate used)						
11. Present Value, M\$		6.577	13.132	17.670	22.415		51.794
12. Total Benefits P.V., M\$ (line 5 + 11)							108.801
Comments							

PART II - VARIABLE COSTS

A. Budget Costs	B. Year Period							
	1	2	3	4	5	6 - 10	11 - 15	16 - 25
13. Investment Costs								
14 Forage Improvement DO 3 M Acres	(500)	()	()	(1425)	(1425)	(950)	()	()
(a) Installation \$	4,000			7,980	7,980	5,320		
(b) Support \$	800							
(c) Subtotal \$	4,800			7,980	7,980	5,320		
15. Structural Improvement DO 5 Acres	()	(2160)	(2160)	()	()	()	()	()
(a) Installation \$		250	250					
(b) Support \$		250	250					
(c) Subtotal \$		500	500					
16. Total Investment Costs (line 14c + 15c)	4,800	500	500	7,980	7,980	5,320		
17. (a) Discount Factor @ 4% <input checked="" type="checkbox"/> (x rate used)	1.0000	.9615	.9246	.8890	.8548	3.8054	3.1278	4.6838
(b) Discount Factor @ 7 1/8% <input type="checkbox"/> (x rate used)	1.0000	.9335	.8714	.8134	.7593	3.1030	2.1995	2.6643
(c) Discount Factor @ _____% <input type="checkbox"/> (x rate used)								
18. Present Value, M\$, Investment Costs (line 16 x 17(a), 17(b), or 17(c))	4.800	.481	.462	7.094	6.821	20.245		
(a) Total, P.V., M\$, Investment Cost	→							39.903
19. Operational Costs-Average Costs \$/Year/Period	C. Analysis Time Periods (Year)							
	1 - 3	4 - 8	9 - 15	16 - 25	1 - 25			
20. Analysis and Plans DO 1					1,000			
21. Resource Management DO 2					325			
22. Maintenance Forage Improvement DO 4								
23. Maintenance Structural Improvement DO 6								
24. Support					300			
25. Total Operational					1,625			
26. (a) Discount Factor @ 4% <input checked="" type="checkbox"/> (x rate used)	2.8861	4.1160	4.5611	4.6838	16.2470			
(b) Discount Factor @ 7 1/8% <input type="checkbox"/> (x rate used)	2.8049	3.5670	3.3144	2.6643	12.3446			
(c) Discount Factor @ _____% <input type="checkbox"/> (x rate used)								
27. (a) Present Value M\$, (line 25 x 26(a), 26(b) or 26(c))					26.401			
(b) Total P.V., M\$, Operational Costs	→							26.401
28. Total P.V. Budget Costs, Investment & Operational, M\$ (line 18(a) + 27(b))	→							66.304
Comments								

USDA - Forest Service ECONOMICS ANALYSIS-RANGE ALLOTMENT PROJECT (Cont. Sheet) <i>(FSH 2209.11)</i>	1. Region 03	2. Forest Coconino	3. District Flagstaff
	4. Allotment Mooney Mountain		

PART III - ECONOMIC COSTS (Permittee, Cooperator)

A. Investment	B. Year Period							
	1	2	3	4	5	6-10	11-15	16-25
29. Investment Costs								
30. Forage Improvement DO3 \$	1500			4500	4500	3000		
31. Structural Improvement DO5 \$		6000	6000					
32. Total Investment Costs \$	1500	6000	6000	4500	4500	3000		
33.(a) Discount Factor @ 4% <input checked="" type="checkbox"/> (X rate used)	1.0000	.9615	.9246	.8890	.8548	3.8054	3.1278	4.6838
(b) Discount Factor @ 7-1/8% <input type="checkbox"/> (X rate used)	1.0000	.9335	.8774	.8134	.7593	3.1030	2.1995	2.6643
(c) Discount Factor @ _____ <input type="checkbox"/> (X rate used)								
34.(a) Present Value Economic Investment Costs M \$	1.5	5.769	5.548	4.0	3.847	11.416		
(b) Total Present Value M \$								32.08
35. Operational Costs (Average/year)	C. Analysis Time Period							
	1-3	4-8	9-15	16-25	1-25			
36. Maintenance								
(a) Forage Improvement DO4 \$					270			
(b) Structural Improvement DO6 \$					240			
(c) Total \$					510			
37.(a) Discount Factor @ 4% <input checked="" type="checkbox"/> (X rate used)	2.8961	4.1160	4.5611	4.6838	16.2470			
(b) Discount Factor @ 7-1/8% <input type="checkbox"/> (X rate used)	2.8049	3.5570	3.3144	2.6643	12.3446			
(c) Discount Factor @ _____ % <input type="checkbox"/> (X rate used)								
38.(a) Present Value M \$					8.286			
(b) Total P.V. M \$ Economic Operational Costs								8.286
39. Total P.V. Economic Costs, (Line 34(b) + 38(b))								40,366

Comments

PART IV – ECONOMIC ANALYSIS – SUMMARY

A. Discount Factor (X rate used in analysis)

4%

7-1/8%

Other (Identify) _____

40. Benefits Present Value (Part I, line 12) M \$ 108.801

41. Cost Present Value M \$

(a) Budget Costs (Part II, line 28) 66.304

(b) Economic Costs (Part III, line 39) 40.366

(c) Total 106.670

42. Marginal Benefit Costs = $\frac{\text{Present Value Benefit (line 40)}}{\text{Present Value Costs (line 41(c))}} = \frac{108.801}{106.670} = \text{Total} \dots\dots\dots \underline{1.02 \text{ to } 1.0}$

Present Net Value

(a) Present Value Benefits (line 40) 108.801

(b) Present Costs (line 41(c)) 106.670

(c) Total (Show + or -) +2.131

44. Allotment Project Rating

(a) Economic Efficiency Based on Marginal Benefit Costs (X appropriate box)

1. Highly Favorable 1.5 +

2. Favorable 1.0 – 1.4

3. Marginal 0.6 – 0.9

4. Unfavorable 0.5 or less

Comments

(Analysis Computed By)

JW Bradley

Title

Range Conservationist

Date

12/1/83