

BAR X, HAIGLER CREEK and YOUNG ALLOTMENTS

Management Plan
1981-1985

Pleasant Valley Ranger District
Tonto National Forest

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Bar X Management Plan

I. Allotment Description

The Bar X Ranch is currently comprised of the Bar X, Ox Bow unit of the Haigler Creek and Young Allotments, hereinafter referred to as the Bar X. The Bar X is in the first year of a downward adjustment in livestock numbers by decision of the Acting Forest Supervisor of October 1979. The Acting Forest Supervisor's decision also provided direction for the implementation of the management system identified as the Forest Service preferred alternative in the Environmental Analysis Report, Placement of the Bar X, Colcord, Young, and Haigler Creek Allotments Under Management, 7/79. This management system excludes the Turkey Peak Unit of the Haigler Creek Allotment, and Colcord Allotment from grazing. The former grazing permit allowed for a total of 468 adult cattle year long plus the natural increase until 10/31. The permit adjustment resulted in a grazing permit modification being issued for 59 adult cattle yearlong. Under the adjustment action, 20% of the livestock permitted prior to the modification of the former permit are removed each year.

The Bar X Ranch sold in the spring of 1980. The current term permit is held by Dr. George H. and Sharon Yard of Flagstaff, Arizona. The current permittee has chosen to adjust the current stocking to 59 adult cattle yearlong and fully implement intensive management.

Previous management has been directed on a year-to-year basis in the annual permittee plan. Livestock were grazed on the area south of Naegelin Rim during the fall, winter, and early spring, and on the area north of Naegelin Rim during the late spring and summer months. This use was the result of the adjustment schedule allowing numbers above the estimated capacity to be grazed until January 1, 1985.

The total area of the Bar X comprises approximately 22,600 acres.

The topography of the Bar X is quite variable, ranging from gently undulating hills dissected by several minor drainages and canyons to rock bluffs, outcroppings, and 70% to 90% slopes along Haigler Creek and Naegelin Rim.

The local climate of the Pleasant Valley Ranger District is characterized by mild summers and winters. Average annual precipitation is approximately 19 inches. Late winter-spring (Feb.-May) moisture averages about 4 inches, while summer (July-Sept.) rainfall averages 8 inches per year. The month of June is usually dry and very warm.

Winter and spring moisture are important to the growth and development of cool season grasses such as western wheatgrass (Agropyron smithii), muttongrass (Poa fendleriana), Kentucky bluegrass (Poa partensis), bottlebrush squirrel-tail (Sitanion hystrix), and plains lovegrass (Erogrostis intermedia). Desirable browse species such as mountain mahogany (Cercocarpus brevifloris) and ceanothus (Ceanothus spp.) rely on winter and spring moisture. Moisture received during the summer is utilized most effectively by warm season grass species such as sideoats grama (Bouteloua curtipendula), blue grama (B. gracilis), hairy grama (B. hirsuta), and cane beardgrass (Andropogon barbinodis).

Vegetative types present on the Bar X are: 1) pinyon-juniper, 2) ponderosa pine, 3) grassland, 4) chapparral, and 5) riparian.

Range conditions across the Bar X are in poor condition with a downward trend. In addition, small areas of fair as well as very poor condition range may also be found with a downward trend. The woodland (Pinyon-juniper)/grassland areas have rapidly deteriorated under previous stocking levels. The prolonged history of overstocking and mismanagement has depleted the range resource to a very critical point. Desirable cool season species such as bottlebrush squirreltail, mutton grass, and western wheatgrass have been reduced to a very minor component of the grass plant community. Most areas still have an existing seed source of some desirable warm season species such as blue grama, hairy grama, and sideoats grama. Due to the past history of overstocking and unsatisfactory management, the vigor of these species is low. Resource conditions within the pine type are in advanced stages of deterioration. Ground cover is predominantly ponderosa pine needle cast. Grass and desirable forb species within the pine type have been severely overgrazed resulting in a deteriorated plant community in terms of desirable species composition. The absence of fire cannot be overlooked in the process of range deterioration. The browse resource is in poor condition due to hedging and overuse of desirable browse species. Under previous stocking levels, steep slopes and areas which would normally be ungrazed with proper stocking, were utilized extensively due to the lack of sufficient forage in the more accessible areas.

Soils within the Bar X have been seriously affected by past overstocking and mismanagement. Excessive utilization of grass by livestock has resulted in a loss of plant vigor and grass plant die off. Effective ground cover is currently less than required to protect the soil, allowing accelerated sheet erosion and gullyng. Livestock trampling has also caused soil compaction, which has compounded runoff problems caused by over-utilization. Excessive runoff has also reduced plant available moisture in the soil. Extensive areas of vertisol* activity have developed as a result of top soil and plant loss caused by excessive forage utilization.

The Bar X contains numerous developments such as fences, pastures, developed and natural stockwaters. Several units have been combined to provide three major grazing units of similar grazing capacity. In the process of combining pastures and forming major grazing units, several livestock management benefits are provided. Each major grazing unit is composed of at least two pastures which will allow management alternatives such as bull pastures, weaning pastures, or specialized breeding pastures. However, full implementation will require the development of several new structural improvements.

* Vertic soils in this instance, are soils which are high in content of montmorillonitic clays, which have a tendency to shrink and swell (churning process) when unprotected by adequate vegetative cover or have the top soil horizon eroded away. The process usually precludes the establishment or maintenance of desirable bunchgrasses native to the area.

which were classified as Full and Potential Capacity*, as well as some No Capacity areas (Bar X Soils Report, 1977 and 1978 Bar X Range Analysis). The allowable uses established for the Bar X range from 0 to 20%. These allowable use levels were determined to be necessary to provide for grass seedling establishment, litter accumulation, and overall increase in desirable forage plant density and improvement in range condition.

Approximately 30% of the Bar X is gently rolling hills dissected by several major drainages. This portion of the allotment is readily accessible to livestock and consists of the key areas on the Bar X. These key areas will receive the bulk of livestock use, actual use will range between 20% and 30%. The steeper rocky slopes will be grazed by livestock; however, use will undoubtedly be lighter (5% to 15%) due to the terrain and distance from water. During the winter months (Nov.-Feb.) livestock may utilize the south-facing slopes heavier than at other times of the year. The remainder of the Bar X is composed of rock bluffs, outcrops and 70%-90% slopes along Haigler Creek and Naegelin Rim. The physical characteristics of these areas tend to preclude significant livestock use. Incidental use may occur in isolated pockets. However, use will be light (0% to 5%).

The Bar X contains a considerable number of developments such as fences and waters. There remains a need for the construction of a small number of additional improvements in order to ensure proper control and distribution of livestock.

The current northern boundary of the Bar X is considered to be the bluffs along Haigler Creek. These bluffs do not provide an adequate barrier to livestock, and natural drift is common. In order to fully implement the management system and exclude livestock from the areas closed to grazing, a boundary fence is required.

Distribution of livestock will be enhanced by the construction of water lots around existing dirt stock tanks and the development of additional livestock waters. These additional livestock waters will consist of the development of a trick tank, and storage and pipe line for an existing windmill. The trick tank will replace a water on private land which is no longer available to livestock. The current storage for the windmill is in total disrepair, and the existing drinker is improperly placed, which will not provide for proper livestock distribution. One additional pasture division fence will be required to effectively utilize the available forage.

*Three categories of grazing capability are outlined in the Allotment Analysis Handbook R-3, 1978 - "Full Capacity" range is terrain which is presently stable because effective ground cover is holding soil loss to an acceptable level. "Potential Capacity" is terrain presently undergoing accelerated erosion due to insufficient ground cover to protect the soil. These areas have the potential to recover. "No Capacity" is terrain which is incapable of being grazed by domestic livestock on a sustained-yield basis under reasonable management goals.

II. Kind and Breed and Class of Livestock

The Bar X Ranch has been operating with a commercial cow-calf-yearling herd. Yearlings were cross bred with Angus cow and Limosine bulls. Replacement heifers were kept out of the yearling herd.

The present ranch operation is a commercial cow-calf operation. The herd consists of Angus and herford cattle. Calves are herford angus cross.

The permittee has indicated a desire to eventually replace the existing cattle on the ranch and may replace the cattle with a registered herd.

III. Type of Operation

The current permittee plans for fall calf sales with the present commercial herd. Any replacement heifers needed will be kept from the calf crop. Calves will be selected by the permittee to ensure only quality calves are kept.

IV. Animal Husbandry

The permittee intends to practice controlled breeding to facilitate a uniform calf crop for fall sale. Cows will be bred in April, prior to and after breeding bulls will be separated from cows. The Grasshopper, Dry Creek, and Westhole pastures will be utilized as calving pastures under the proposed management system. The Steer, Roscoe, and +Y pastures will be utilized as bull pastures. The permittee is also seriously considering developing his private land as a special purpose pasture.

V. Permitted Numbers

The 1978 Bar X Range Analysis and Evironmental Analysis Report, Placement of the Bar X, Colcord, Haigler Creek, and Young Allotments Under Management established the current estimated capacity of 710 AUM's (59 adult cattle yearlong) which is reflected in the current term permit. Each grazing unit is comprised of two or three small pastures. The three major grazing units are of similar grazing capacity.

VI. Season of Use

The Bar X will be grazed yearlong (1/1 to 12/31). However, the management system will provide for spring-summer rest two years out of three for each of the major grazing units. This will provide sufficient periods of rest during the critical growth periods for both cool and warm season grasses.

VII. Range Limitations and Allowable Use

Estimated carrying capacity was determined based upon three years of Production-Utilization Studies and the 1978 Bar X Range Analysis. This grazing capacity does not incorporate soils data in the determination of grazing capability. Consequently, the estimated carrying capacity allocates capacity to all areas

VIII. Problems and Conflicts

The previous history of overgrazing and improper management has seriously depleted the grass plant community. The density of desirable forage species has been significantly reduced, vigor is low, and desirable cool season species have been reduced to a minor component of the grass plant community. The system of management should provide sufficient periods of rest (two spring-summer growing seasons back to back) to ensure meeting the physiological growth requirements of the desirable cool and warm season species. The allowable use levels should also provide for sufficient litter accumulation to improve the existing micro-climate for seedling establishment.

The poor state of health of the grass plant community in conjunction with protection from fires has resulted in an increase in density of alligator juniper. Research has shown that as the density of alligator juniper increases, forage production declines. Although approximately 2000 acres of juniper was controlled during the late 60's, reinvasion has occurred, and may well continue in the near future. Juniper control will be integrated into the management plan to ensure that optimum forage production can be maintained. The most cost-effective method to control the early stages of reinvasion is through the use of fire. However, the effectiveness of fire is governed by the availability of fine fuels. Range conditions must improve considerably before sufficient fuels are available to effectively utilize fire. Prescribed burning plans should provide the opportunity for burns every 5 to 7 years. Other methods to be considered in control of larger juniper will include fuelwood cutting followed by chemical treatment of the stump, and chemical treatment of trees which are too large to be effectively controlled by fire, yet too small for fuelwood.

The past history of overuse of grass and browse on the Bar X has severely damaged habitat for the wildlife resource. Of the three basic needs of wildlife, (food, water, and cover), food and cover have been severely depleted for many species.

The fisheries resource of Haigler Creek has also suffered due to overutilization by domestic livestock and siltation resulting from unsatisfactory watershed conditions upstream. Desirable stream bank vegetation, both herbaceous and woody, which provide shade, nutrients and essential habitat for insects is inadequate. Siltation of the stream bed is detrimental to the spawning requirements of trout.

Selective overuse of cool season grass species by livestock in the woodland zone has seriously affected the grass plant community diversity necessary for viable wildlife populations.

The rest provided by the management system should improve wildlife habitat and browse conditions. Herbaceous cover and food supplies should also improve.

Exclusion of the northern portion of the Bar X should provide for the improvement of the upper portions of the Haigler Creek watershed. As watershed conditions improve, siltation will be reduced, thereby improving spawning habitat.

The reduced stocking rate and periods of rest should alleviate overuse of

streamside vegetation and provide sufficient rest for desirable herbaceous and woody vegetation. This should also improve grass plant community diversity and improve riparian conditions.

Soil conditions on the Bar X have been severely deteriorated as a result of past overgrazing. The major soils on the Bar X contain expanding lattice clays (Montmorillonite) which present unique problems for management and use. These soils also present extreme limitations on mechanical range improvement where soil disturbance is likely to occur.

Many areas on the Bar X contain vertisols, or "churning soils." These soils are usually artificially created by man's abuse of the land. The churning characteristic of these soils severely impacts the productive capability of the soil.

The combination of proper stocking and implementation of the selected management system should provide for an increase in grass plant density, and litter accumulation. As effective ground cover (vegetation and litter) increases, current erosion rates should be reduced, and arrest the expansion of vertisols. In addition, the management system will provide opportunities for the possible reclamation of existing vertisols.

Watershed conditions on the Bar X are the result of past abuse and mismanagement of the range resource. Accelerated erosion and water pollution are prevalent on the allotment.

The pinyon-juniper and riparian vegetative communities have suffered the most extensive damage. Soil loss in the form of sheet and gully erosion in the pinyon-juniper type is severe due to the lack of adequate vegetative cover.

Soil loss exceeds the losses which would be expected as a result of natural geologic processes. Two types of damage are currently occurring in the riparian areas. First, the soil does not have adequate vegetative ground cover. Consequently, accelerated erosion is occurring. Secondly, the sediment from deteriorated lands upstream is degrading and polluting the aquatic environment.

The reduced grazing impacts resulting from the lower stocking rate will provide for the accumulation of litter to protect the soil from raindrop impact. The rest provided by the management system for the grass species to meet their physiological growth requirements will provide for seedling establishment thereby increasing grass plant density. With the increase in vegetative cover surface runoff will be reduced.

Goals

1. Reverse the downward trend in range condition.
2. Meet the physiological growth requirements of desirable cool and warm season grasses such as bottlebrush squirreltail (Sitanion hystrix), western wheatgrass (Agropyron smithii), muttongrass (Poa fendleriana), cane beardgrass (Andropogon bardinodis), and sideoats grama (Bouteloua curtipendula) to improve range condition.

3. Improve and enhance wildlife habitat by improving food and cover for both game and non-game species.
4. Improve aquatic habitat along perennial streams, especially those which support a fisheries resource.
5. Improve deteriorated watershed conditions through increased litter accumulation, grass plant density, and reduction of soil compaction by livestock trampling and raindrop impact.
6. Improve soil conditions by controlling soil erosion and arresting the expansion of vertic soil through an increase in effective ground cover (vegetation and litter).
7. Provide opportunities to increase current livestock numbers to a level which is commensurate with the resource's capability to support livestock grazing on a sustained yield basis.

Objectives

The following management objectives identify the specific action which will be attempted during the life of the plan in an attempt to reach the long-term goals.

1. Increase desirable forage production on areas suitable for grazing from the current average of 200 pounds per acre to 400 pounds per acre.
2. Increase desirable forage plant density and effective vegetative ground cover in critical areas within the juniper and grassland type from the current 20% (vegetation and litter) to 30% (vegetation and litter).
3. Regenerate desirable riparian vegetation, both woody and herbaceous species, along major stream courses (currently there is little or no reproduction).
4. Achieve 30% allowable use on key forage species in key and critical areas during the grazed cycle.
5. Arrest the expansion of vertic (churning) soils and allow for possible reclamation of existing vertic areas (Soil Unit 68).
6. Improve vigor of desirable browse and grass species and provide for seedling establishment.
7. Provide adequate herbaceous cover and food to meet the needs of indigenous wildlife species.
8. Improve plant community composition by allowing desirable cool and warm season species to become reestablished (bottlebrush squirreltail, western wheatgrass, nut-ton grass, cane beardgrass, plains lovegrass, and sideoats grama).
9. Provide adequate periods of rest during critical periods for desirable forage species.

IX. Management System

The management system to be employed is a variation of the "Santa Rita Three Pasture System." This system will provide spring-summer rest for each major grazing unit two years out of three. Each major grazing unit is composed of at least two pastures which will provide opportunities such as bull pastures, breeding pastures, etc. The year will be divided into two periods, spring-summer (May-October) and fall-winter (November-April). Livestock will graze each unit during the fall-winter period after the first spring-summer rest. This will provide for the scattering and trampling of seed. The second spring-summer rest period will provide for seedling establishment.

Although desirable cool season species such as bottlebrush squirreltail,

muttongrass and western wheatgrass have been reduced to a minor component of the grass plant community their importance to livestock as well as wildlife cannot be overlooked. Consequently, one objective of the management plan is to increase the density of desirable cool season species. Critical stages in the growth and development of cool season grasses are early and late spring (April through May). During this period growth is initiated and seed production begins. Food reserves which are stored in the roots are low during this growth period. Seed ripe is usually completed by late May or early June.

The rest periods provided by the grazing system will ensure protection of desirable cool season species during the critical growth and development period.

Key warm season species such as blue grama, hairy grama, sideoats grama, and cane beardgrass initiate the major period of growth after the start of the summer rains, usually in July. Seed production usually begins in August, and is completed in late August or early September. These warm season species green up earlier in the spring provided sufficient soil moisture is available. However, limited growth occurs during this period. The initial growth period following dormancy and period of seed development are the two most critical periods for key warm season growers. Implementation of the management system will provide sufficient rest for warm season species to fully meet their physiological growth requirements.

X. Grazing Schedule

The grazing schedule for 1981 to 1985 is shown graphically on the following page. Should range conditions or water availability warrant any changes in the attached schedule prior written approval must be obtained from the District Ranger.

XI. Distribution Aids

The majority of major grazing units on the Bar X have sufficient waters, and fences to distribute livestock use. However, some additional development will be required to improve current patterns of livestock use. The following are the needed developments and their locations:

- Trick tank in northwest corner of Windmill Pasture
- Installation of pipe line, troughs and adequate storage facility for existing windmill in Windmill Pasture
- Development of water lots around existing dirt stock tanks in Ox Bow, Windmill, and Steer Pastures
- Interior division fence to encourage use of rougher terrain in the Dry Creek Pasture

Proposed locations are indicated on the range improvement map in the appendix.

In addition to these developments, salt will be utilized effectively to motivate livestock to utilize under-used portions of the allotment. (See salting plan in appendix) Salt will be relocated periodically to prevent trampling and trailing damage. Riding and herding of livestock will also be necessary to relocate cattle away from concentration areas. This will be a time consuming process in the early stages due to repeated moves necessary to break

livestock away from habitual feeding areas. Replacement of the current herd with new cattle should help reduce the herding time and may improve livestock distribution.

XII. Range Improvements

The following list of improvements were determined to be necessary for the success of the management plan in attaining the goals and objectives. Although the 1979 Environmental Analysis indicated it was likely no structural improvements were necessary, subsequent on-the-ground analyses of the Bar X with the permittee indicated the need for these improvements.

The following improvements are listed by priority and year of accomplishment. It must be fully understood that during the initial management planning process with the permittee, it was assumed that the permittee would proceed with the adjustment schedule more or less as indicated by the decision of the Acting Forest Supervisor. As a result, no funding was planned for these improvements until 1983. Since the permittee has decided to voluntarily adjust current stocking to the approved capacity of 710 AUM's, it is hoped that funding will be available in 81 and 82 to accomplish these improvements. If funds do not become available, projects must wait until FY 1983.

A. Structural

Name and Type of Improvement	Location	Planned Year (FY) of Accomplishment	To Be Accomplished By:
1) Bar X Boundary Fence (Allotment Boundary)	Sec. 5, 6 T10N R14E & Sec. 31, 36 T10 $\frac{1}{2}$ N R13E	1981 <i>done</i>	FS to provide material, manpower to construct 1/3 of fence, and contract 1/3 of fence. Permittee will construct 1/3.
2) Trick Tank	Windmill Pasture	1982 <i>dropped</i>	FS
3) Pipeline, Troughs, & Storage Tank for Windmill-	Windmill & Steer Pasture Sec. 12, T9N R13E	1983 <i>done FY85</i>	Permittee (FS to supply material)
4) Ox Bow, Windmill, & Steer Waterlots #1, 2, and 3	Ox Bow Pasture Sec. 10, 11, 16 T10N R13E	1983 <i>done</i> <i>Steer pasture - August tank</i> <i>Trapped in '88</i> <i>FS material</i> <i>and const.</i>	Permittee (FS to supply material)
5) Dry Creek Division Fence	Dry Creek Pasture Sec. 13, 19 T10N R13E	1983 <i>done</i> <i>split into 3 units</i>	Permittee (FS to supply material)
6) *Round Mt. Boundary Fence	Round Mt. Pasture Sec. 22, 23, 24	1984	FS (Contract)

*May not be required with lower stocking level or stocking with a new herd of cattle.

Name and Type of Improvement	Location	Planned Year (FY) of Accomplishment	To Be Accomplished By:
7) Relocation of Bar X Dry Creek Pasture Division Fence & Installation of Cattleguard	Bar X Dry Creek Pastures Sec. 13, 14 T10N R13E	1984	Permittee & FS FS to Survey & Supply Material
8) Dry Creek-Grasshopper Division Fence Reconstruction Pasture Division Fence	Sec. 23, 24, 25 T10N R13E	1984 <i>done 1987</i>	Permittee (FS to supply material)
9) Windmill Pasture Boundary Fence Reconstruction Allotment Boundary Fence	Windmill Pasture Sec. 7, 18, 17 T9N R14E, Sec. 12, 13, 14, 24 T9N R14E	1985 <i>done</i>	Permittee (FS to supply material)
10) Reconstruction of Silt Traps Mexican Tank	SE $\frac{1}{4}$ Sec. 7 T9N R14E	1984 <i>Not dropped</i>	FS
B. <u>Non Structural</u>			
1) Ox Bow reseeding 150 acres	Ox Bow Pasture Sec. 15, 16 T10N R13E	1983 <i>done</i>	FS
2) Westhole Fuelwood Sale & Reseed 100 acres	Westhole Pasture Sec. 14, 23, 24 T10N R13E	1983 <i>done</i>	FS & Permittee (FS to supply seed/ Permittee to sow seed)
3) Juniper Control Windmill and Steer Pastures Control of young age class juniper invasion 100 acres Herbicide or handgrubbing	Windmill & Steer Pastures Sec. 7, 8 T9N R14E	1984 <i>done</i>	FS
4) Prescribed Burn Bar X Pasture - 400 acres	Bar X Pasture Sec. 11, 12, 13, & 14 T10N R13E	1985	FS
5) Prescribed Fire Grasshopper Pasture 700 acres	Grasshopper Pasture Sec. 23, 24, 25, 26, 35 T10N R13E	1986	FS
6) Reseed Vertisols on Grasshopper Pasture			

changed to Juniper grubbing FY 86
Cancelled

Environmental Assessments will be prepared for the above mentioned improvements prior to planned accomplishment.

XIII. Maintenance of Improvements

Proper maintenance of existing improvements has been lacking in the past. Many fences are in need of maintenance (replacing posts, stays, and wire) to ensure their effectiveness in controlling livestock. Other fences will require total reconstruction during the life of the management plan. Several dirt stock tanks are in desperate need of cleaning to improve their water holding capability. Much of the problem with dirt stock tanks is directly related to unsatisfactory watershed conditions and accelerated erosion which hastens the natural siltation process. Renovation of existing stock tanks should incorporate silt traps to protect the tanks. The lack of proper maintenance of an existing windmill has resulted in failure of this improvement to function properly.

The present permittee has made diligent efforts to correct many of these problems. However, much work remains to be done.

The following list of improvements are assigned to the permittee as indicated in the current term permit. The list also indicates maintenance required and the planned year of accomplishment.

Inspections and Followup Action

Followup action is necessary to ensure success of the management plan and provide early recognition and solutions to any problems, conflicts, or omissions that may appear in implementing the plan. It is extremely important that the permittee participate in all of the following activities to the maximum extent he is willing or able to do so.

The following are the specific actions to be taken to monitor the plan and the year of accomplishment.

<u>FY Planned</u>	<u>Action</u>
1981	Inspection of grazed and ungrazed units. Installation of photo points. Installation of Production-Utilization Cages.
1982	Continue inspections of grazed and ungrazed units with retaking of photo points and remeasurement of Production-Utilization data from cages.
1983	Begin Production-Utilization Studies of grazed units. Continue retaking photo points and remeasuring data from cages.
1984	Production-Utilization Studies in grazed units. Continue retaking photo points, and collecting data from cages.

- 1985 Production-Utilization Studies in grazed units. Continue retaking photo points and collecting Production data from cages.
- 1986 Production-Utilization Studies in grazed units. Reread permanent 3-step Clusters. Continue photo point records and collection of production data from cages. Begin Management Plan Update.

The follow up evaluations to be conducted during the life of the management plan will include inspections of those areas which have been closed to grazing (Turkey Peak Unit and Colcord Allotment, etc.). These inspections will be for the purpose of determining the extent of resource recovery, and whether more in depth studies should be initiated.

Further coordination will be necessary during the life of the management plan, with other resource functions. This will ensure a minimum of adverse impacts resulting from other resource activities such as timber sales, road construction, or recreation developments.

ADDENDUM

Bar X Management Plan

Prior to the October 4, 1979, decision of the Acting Forest Supervisor, the Turkey Peak Unit and Colcord Allotment were an integral part of the Bar X Ranch. The October 1979 decision excluded the above mentioned area from grazing due to the lack of grazing capability and severe conflicts between grazing and other resources. Should future evaluations determine that the Colcord Allotment and Turkey Peak Unit of the Haigler Creek Allotment have recovered and are capable of supporting domestic livestock on a sustained yield basis, you or your successors will be given priority for use of the available capacity. Although this preferential status is limited to a 10-year period, as a matter of practicality it is illogical to envision adding the area to an allotment other than the Bar X complex.

RATING FORM FOR ENVIRONMENTAL & SOCIAL ANALYSIS NET BENEFIT INDEX

CAPITAL INVESTMENT PROPOSALS--RANGE ELEMENT

Forest TONTO District PLEASANT VALLEY

Allotment Bar X, Haigler Cr. & Youngs 61,73,681
 Name Number

NEGATIVE EFFECTS

POSITIVE BENEFITS

	-4	-3	-2	-1	0	+1	+2	+3	+4
Environmental Quality	Highly Significant	Significant	Mod-erate	Minor	None	Minor	Mod-erate	Significant	Highly Significant
1. Erosion & Sediment								X	
2. Water Quality								X	
3. Onsite Productivity									X
4. Visual Land Quality							X		
5. Wildlife Habitat									X
TOTAL SCORE							2	6	8

Index = Net Total Score 46 ÷ 16 = 2.875

Social Well-Being

1. Employment						X	X		
2. Income Distribution						X			
3. Community Stability							X		
4. Minority Participation						X			
5. Security of Life, Health, & Safety							X		
6. Demonstration Opportunity									X
7. Recreation Opportunity						X			
TOTAL SCORE						3	6		4

Index + Net Total Score 13 ÷ 16 = 0.8125

R-3 COST-EFFECTIVENESS SCREENING ANALYSIS, RANGE ALLOTMENT PROJECT CAPITAL INVESTMENTS
FORM II

BLOCK A Forest TONTO District Pleasant Valley Allotment Barx, Haigler Cr. & Young 61, 73, & 81

BLOCK C

BLOCK B

Name Number

Index based on:

BENEFITS-OUTPUTS

	Yr. 1-2	3-5	6-15	16-20	21-25	
1 Permitted grazing AUM's ave. annual/yr. for period. Pertains to current obligation on allotment.	Increase Sustain Total					Total Costs F.S. Costs Only
	<u>710</u>	<u>710</u>	<u>710</u>	<u>910</u>	<u>910</u>	Priority
	<u>710</u>	<u>710</u>	<u>910</u>	<u>910</u>	<u>1110</u>	Acres Benefited or Affected <u>22,000</u>
2a Discount factor @ 10%, AUM @ \$5.00	8.678	10.276	19.076	4.537	2.817	Backlog <u>5,000</u>
b Discount factor @ 10%, AUM @ \$3.90	6.769	8.015	14.880	3.539	2.197	Regular <u>17,000</u>
3 Present Value M \$	<u>6.2</u>	<u>7.3</u>	<u>17.4</u>	<u>4.1</u>	<u>3.1</u>	Risk Factor <u>1-10</u>
4 Grazing capacity AUM's per year, present <u>710</u>	<u>710</u>	<u>710</u>	<u>710</u>	<u>710</u>	<u>710</u>	Notes

COSTS

	Year 0		1		2		3		4		
	AC	M \$	AC	M \$	AC	M \$	AC	M \$	AC	M \$	
5 Structural Improvements (MIH D05)	<u>17,000</u>		<u>8000</u>		<u>2000</u>						
6 Installation		<u>16.6</u>		<u>7.7</u>		<u>1.5</u>					
7 Support		<u>2.1</u>		<u>1.0</u>							
8 Coop \$											
9 Subtotal M\$		<u>18.7</u>		<u>8.7</u>		<u>1.5</u>					
10 Forage Improvement (MIH D04)	<u>150</u>		<u>100</u>		<u>100</u>		<u>400</u>		<u>700</u>		
11 Installation		<u>7.2</u>		<u>1.5</u>		<u>1.0</u>		<u>5.0</u>		<u>9.5</u>	
12 Support		<u>1.2</u>				<u>.5</u>		<u>1.0</u>		<u>1.0</u>	
13 Coop \$											
14 Subtotal M\$		<u>8.4</u>		<u>1.5</u>		<u>1.5</u>		<u>6.0</u>		<u>10.5</u>	Installation Total
15 Total Costs		<u>27.1</u>		<u>10.2</u>		<u>3.0</u>		<u>6.0</u>		<u>10.5</u>	M \$ P.V.
16 Discount factor at 10%		<u>1,000</u>		<u>.909</u>		<u>.826</u>		<u>.751</u>		<u>.683</u>	
17 Present value M \$		<u>27.1</u>		<u>9.3</u>		<u>2.5</u>		<u>4.5</u>		<u>7.2</u>	<u>50.6</u>

	Yr. 2-20	Yr. 10 Only	Yr. 1-2	Yr. 3-5	Yr. 6-20	Yr. 21-25	Year
18 OMP Costs							
19 F.S. Maintenance					<u>1.0</u>		
20 Coop Maintenance							
21 Total M\$					<u>1.0</u>		
22 Discount Factor @ 10%	<u>7.605</u>	<u>.386</u>	<u>1.736</u>	<u>2.055</u>	<u>4.723</u>	<u>.563</u>	
23 Present Value M \$					<u>4.7</u>		

Total OMP P.V. M \$ 4.7

Total C P.V. M \$ 55.3

24 COST-EFFECTIVENESS ANALYSIS P. V. Benefits M \$ 38.1 B/C .68 NPW -17.2 Environmental Index 1 Social Index .8

25 COST-EFFECTIVENESS INDEX P. V. Costs M \$ 55.3 B/C Index .68 + Environmental Index 1 or Social Index .8 = 1.68