ENVIRONMENTAL ASSESSMENT REPORT

SEARS-CLUB--CHALK MOUNTAIN ALLOTMENT

ANALYSIS AND MANAGEMENT PLAN

CAVE CREEK RANGER DISTRICT

TONTO NATIONAL FOREST

REGION 3

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METHODS

In 1982 and 1983 field work for Range Analysis was conducted on the Sears-Club Allotment. This was the first field trial of the Sonoran Desert Scorecard. Some changes are forthcoming in the scorecard at this time - in the appendix is the "second approximation", devised by District personnel, based on the scorecard as it was given to them and incorporating changes they felt were appropriate after use and study of the original.

The new scorecard differs from the Parker 3-step method of measuring condition in that it rates range in two separate ways: Ecological condition and commodity rating. For each Type 16 mapping unit, there are two condition labels - the first is ecological condition, the second is commodity rating. Ecological condition is determined by the presence in relative abundance of indicator species. The premise is that, as ecological condition deteriorates, certain species disappear. This may be due to a variety of factors, such as changes in macro- or micro-climate, overgrazing, or regression to an earlier successional stage following fire. Thus, the more indicator species are present, the higher the ecological condition. Commodity rating indicates how much forage is produced on a given area. It was originally based solely on abundance and vigor of jojoba. The scorecard has been changed since this analysis so that other palatable species are considered in addition to jojoba.

Capability was determined largely on the basis of slope, since no soils data were available. FC is full capacity range. PC (potential capacity) range is range that may be converted to FC in the future - reasons for classification as PC include poor range condition (lack of sufficient ground cover to prevent accelerated erosion) or distance from water. NC (no capacity) range is that which is inaccessible to cattle. PC and NC units are labeled as such and delineated on the maps by solid lines; FC range, delineated by dotted lines, includes all mapping units not labeled PC or NC.

ALLOTMENT DESCRIPTION

The Chalk Mountain Allotment was recently acquired by the Johnson Ranch Partnership to use in conjunction with Sears-Club and a new permit was issued. The Chalk Mountain Allotment will be discussed briefly in this narrative. For more detailed information on Chalk Mountain, refer to 2210 Chalk Mountain Allotment Analysis, approved in 1981.

Topography and Vegetation

The Sears-Club Allotment covers 72,591 acres, 239 of which are private land. Topography varies from level floodplain adjacent to the Verde River to spectacular rugged canyons and rock formations on the east side of the allotment.

Slightly over half the allotment is Upper Sonoran Desert; the other half is divided nearly equally between mountain browse/chaparral and juniper-associated grassland. Riparian and grassland communities and barren rock make up small percentages of the total. Approximately half of the desert range is in a moderate or low commodity condition class and has a low ecological rating. For more details on vegetation condition, see Forms 2200-57 (Acreage Computation Worksheets). Use levels observed during the survey exceeded 50% on most of the range. Desert adjacent to the river had been used to the extent that little forage remained up to ¼ mile away from the river.

Cattle foraged over the entire allotment, leaving only the most inaccessible range untouched. On peaks such as Davenport and SB, there was a distinct grazing line where the slope steepened - below the line half-shrubs, curly mesquite and 3-awns were dominant. Above the line was a good stand of desert stipa. A few cattle had made their way up the west end of Table Mountain, but there wasn't much sign they had stayed long on top. Junegrass, sideoats and squirreltail were abundant there and range condition was fair. Condition lines are indicative of present grazing levels - historic and current use was low on fair condition range (moderately high commodity and ecological condition), and heavy on poor and very poor range (moderate and low commodity and ecological condition).

Wildlife

Sears-Club encompasses the wildest and most remote country on the District. Consequently, the area exhibits high quality habitat and great potential for a wide diversity of wildlife species. Bear and mountain lion were sighted during the course of the survey. The permittee frequently hunts lion, and every year declares some livestock loss to predators.

Now that the Chalk Mountain Allotment is no longer grazed by sheep, (see section on ranch operation), Arizona Game and Fish is one step closer to being able to re-introduce bighorn sheep to the Mazatzals. The Tangle Creek Sheep Driveway is nearly the last stronghold of the sheep industry on the Tonto.

Gila topminnow, on the Federal Endangered Species List, have been planted by Forest Service and Arizona Game and Fish in Fig Spring on the Sears-Club, and Dutchman's Grave and Horse Creek drainages on the adjacent Chalk Mountain Allotment. Other springs on these allotments may be identified for upcoming minnow plants.

Rugged cliffs in the eastern portion of the allotment and along the river have been identified by the Forest Service as potential habitat for peregrine falcons. Habitat surveys are scheduled to begin next year.

Fifteen miles of the Verde River flow through the allotment. River flow is dictated by S.R.P. releases from Horseshoe Dam, at the north end of the allotment. Normally, the lake level rises with winter and spring storms; summer water releases cause the lake to diminish to a slow-flowing river.

Besides peregrine habitat, the river provides unique habitat for the endangered southern bald eagle, and State listed river otters. There are two eagle nests within the allotment boundary along the river. Every year a "Nest Watch" program employs volunteers to record movements and behavior of the eagles. Most recently, attempts have been made to determine the eagles' home range.

A small population of river otters was introduced to the Upper Verde in 1981 and 1982. They have since been located along major tributaries, and this summer one was sighted along Horseshoe Lake in the vicinity of a bald eagle nest.

T&E Plants

T&E plants known or suspected to be present on the Sears-Club and Chalk Allotments include Cheilanthes pringlei, Erigeron pringlei, Eriogonum ripleyi, and Agave arizonica. Agave arizonica is the only Federally listed endangered species; the other 3 species are in Category 2 status on the current Notice of Review. Agave toumeyana var. bella probably occurs on the allotments - it is not officially protected, but it is a sensitive plant.

For discussion of T&E plant and animal species known or suspected to be present on the allotment see the "Biological Evaluation" in the appendix.

Visual Resource

Visual quality objectives vary from "modification" and "partial retention" in areas that are background from the Verde River, to "retention" adjacent to the river, to "preservation" in the Wilderness.

Wilderness

49,000 acres or approximately 2/3 of the Sears-Club portion of the allotment is part of the Mazatzal Wilderness. 26,000 acres or slightly over half of the Chalk Mountain portion is Mazatzal Wilderness. The recently passed Arizona Wilderness Bill did not affect Wilderness boundaries on Sears-Club and added only one 300 acre parcel of Chalk Mountain west of the river to the Mazatzal Wilderness.

Special Areas

Private Land

There are three parcels of private land on the Sears-Club and Chalk Mountain Allotments. They are: KA Ranch - (b)(6) and serves as the headquarters for the Sears-Club Ranch; JS Ranch, purchased by (b)(6) when the Chalk Mountain Allotment was acquired; and the HK property, owned by the previous permittee on Chalk Mountain, Manterola Sheep Company. The (b)(6) is part of the base property for the Sears-Club-Chalk Mountain Allotments and is located within the boundaries of the Mazatzal Wilderness. Access by the landowner is by primitive road. Access by motorized vehicles and maintenance with motorized equipment is described in another NEPA document.

Sheep Driveway

The Tangle Creek Sheep Driveway runs through 9,500 acres of the Chalk Mountain Allotment west of the river. Currently permitted on the driveway are Manterola Sheep Company: 5960 sheep and 32 horses and burros April 16-25, and Paradise Sheep Company: 3000 sheep and 18 horses and burros April 10-20. Only forage in excess of that required for sheep is available for Sears-Club cattle.

Ranch Operation

The (b)(6) run cattle on two allotments: on Sears-Club as (b)(6) (b)(6) and on Cartwright as (b)(6) These are two distinct entities with different brands. Partners on Sears-Club are (b)(6) (b)(6) Partners on Cartwright Allotment are (b)(6)

In May 1984 (b)(6) acquired the adjoining Chalk Mountain Allotment and waived the permitted numbers associated with it.

Sears-Club is currently a cow-calf-yearling operation. Permitted numbers are 746 adult cattle yearlong + 398 yearlings 1/1-5/31. The allotment has one cross-fence, but it is not used to create pastures for a grazing system. Cattle graze the entire allotment yearlong, so that none of the allotment receives periodic rest.

Permittee's attempts to rest portions of the allotment have been ineffective since rest isn't scheduled on a regular basis, and "grazing unit" boundaries are not tight enough to hold cattle.

At some time from October-February, calves are moved to the KA Ranch for a 30-day weaning period. After this, they are put back out, usually onto the river, to take advantage of fresh annual growth. Yearlings are removed by May 31.

Precipitation

Annual precipitation at Horseshoe Dam, the nearest recording station, has averaged 16.2 inches over the last 11-year period, ranging from a low of 10 inches in 1975 to over 32 inches in 1978. Precipitation amounts recorded for 1972-74 at Bar T Bar, just east of the allotment, average 30% higher than those at Horseshoe. This station is probably representative of higher elevations at the northeast end of the allotment.

ALLOTMENT HISTORY

Summary

From 1927-1940 the entire Sears-Kay Allotment (which encompasses the present day Sears-Club and surrounding desert allotments) was grazed by sheep during the winter season. Prior to 1949 the Sears and Club Ranches were operated as separate entities. There were several permit transfers over these years, with a 10% "transfer reduction" in cattle numbers with each. From 1949-1960 the permit was for 806 adult cattle yearlong + N.I. 1/1-5/31. Since 1960, permitted numbers on the Sears-Club have been 746 adult cattle yearlong + N.I.

Chronology

1908 - Beginning of Tonto. Sears-Kay had Allotment #62, which encompassed most of present day Sears-Club, Bartlett and St. Clair Allotments.

1914-1927 - Sears-Kay numbers ranged from 500-4750 head of cattle yearlong.

1927 - (b)(6) (later Ashfork Livestock Company) bought out Sears-Kay. Changed preference to sheep. Carrying capacity determined to be 77,070 sheep months.

1933 - (b)(6) traded with (b)(6) the portion of the allotment west of the river for the Club Range.

1940 - (b)(6) bought part of Ashfork (the Club Range). Capacity was 500, - 50 (10% transfer reduction) = 450 head cattle yearlong.

1941 - Ashfork sold the remaining allotment to (b)(6) had it 18 months, grazed Feb.-May with 1480 head of steers. Also grazed 19 sections outside the Forest.

1942 - (b)(6) sold out to:

1. (b)(6) 1920 sheep 5 mos.
2. 1547 sheep 5 mos.
3. 3800 sheep 5 mos.

36,335 sheep mos.

4. (b)(6) - remainder (40,735 sheep mos.) converted to cattle yearlong. Allotment called Sears. Preference for 747 cattle yearlong, no N.I. A standard 10% transfer reduction changed the 747 head to 672.

1943 - (b)(6) permit further reduced by 19 head due to trespass. Preference now 653.

Dec. 1943 - (b)(6) transferred his half of Club Allotment to (b)(6)

1944 - Club preference renewed for (b)(6) for 427 head cattle.

1946 - (b)(6) permit changed to 652 head. No explanation.

1947 - (b)(6) took 71 head nonuse, Class II.

1948 - (b)(6) took 100 head nonuse, Class II. Discussed splitting Sears Allotment. ½ - (b)(6) ½ - (b)(6) Letter from Ranger Nelson to Forest Supervisor Lillevig stating capacity of ½ allotment = 200 CYL + N.I. Would issue new permit for 445 CYL + N.I.

1949 - Club Allotment transferred from (b)(6)

1949 - Sears permit transferred to (b)(6) (b)(6) 200 head. (b)(6) 245 head. Condition -- nonuse for protection of the resource.

Sears and Club Allotment run together (b)(6) 806 head CYL
206 -- (b)(6) 25%
600 -- 75%

1950 - Permit issued to [(b)(6)] as follows:

642 CYL adults
260 N.I. 1/1-6/1
164 nonuse 1/1-12/31 (20%)

1956 - [(b)(6)] 600 CYL + N.I.
206 CYL + N.I.

1960 - Allotment called Sears-Club for first time. New permit issued for 746 CYL + N.I.

[(b)(6)] - 540 head + N.I. (10% transfer reduction)

[(b)(6)] 206 CYL + N.I.

Now called [(b)(6)]

Composed of: [(b)(6)]

1966 - Permit read 746 head CYL + 545 yearlings 1/1-5/31

1973 - Permit transfer to [(b)(6)]
[(b)(6)] - 746 CYL + N.I.

1975 - [(b)(6)] 746 CYL + 398 head N.I.

PREVIOUS INSPECTIONS AND STUDIES

This report will summarize range inspections and studies, including the 1969 Range Analysis Report. Inspections prior to 1969 are summarized in that document.

April 1968

Gary Wittman conducted a P.U. Survey of the Sears-Club Allotment. Data from this survey was included in the 1969 Range Analysis, but was not used to set a carrying capacity since four months of the grazing year remained at the time of the survey. The conclusion drawn from the study was that since average use for the allotment was acceptable, the average stocking rate for the last 8 years must also be acceptable. Computations for the 1968 survey were based on methods such as estimating pounds/acre production and averaging mapping unit actual use levels for the entire allotment. The data and P.U. map can lead to other conclusions, which follow.

1968 P.U. figures indicate approximately 30% of the forage bank was removed in 8 months. When grazing at this rate is extrapolated to a full year, use levels would be closer to 44%.

On the map, use levels of 30 and 40% were common in the higher country on the east side of the allotment. A large mapping unit of 50% use covered most of the desert country. A use zone of 75% extended along the entire length of the river and part way up Davenport Wash.

19-22 October 1970

Glenn Reagan, Range Technician, inspected the portion of the allotment south of Sheep Creek with (b)(6) (b)(6) (b)(6) discussed splitting the allotment at Sheep Creek and running 200 head of cattle on the south end.

Reagan observed abundant water (most of which was not developed) and a diverse community of perennial grass species on most of the area.

He suggested seeding some benches in the S.B. area with a rangeland drill or a small tractor with a spring tooth harrow.

Cattle appeared healthy[1], with a 65-70% calf crop. Reagan concluded that the area could easily support a herd of 200 cattle year-round.

25-29 January 1971

Glenn Reagan inspected the Club portion of Sears-Club. Composition and vigor of perennial grasses was good in the area, with use levels of 40% in the Sheep Creek area acceptable.

Reagan made some recommendations:

1. Move cattle from the Sheep Creek area to Deadman, where use has been low in the past. Leave 150 head of cattle here during the dormant season for two months. The move from Sheep Creek to Deadman would be a difficult one.

2. Close off Club Pasture to grazing, except during round-ups when it could serve as a holding pasture.

22-26 September, 5-8 October 1971

Glenn Reagan and Jimmy Hibbetts (District Ranger) inspected the Club portion of the allotment.

Purpose: To count livestock using the area, since Anderson was conducting a round-up at the time.

Summer growth had been good, and forage plant composition was good: curly mesquite, sprangletop, hairy and sideoats grama, menodora, calliandra and ceanothus. They estimated perennial grass production to be 550-600 pounds/acre. Most use was in the Sheep Creek area (40-45% on key species).

Only one spring was found that was accessible to the Cypress Basin area (south of Sheep Creek Cabin).

Range improvements were not maintained. They didn't find one spring development in working condition. Most fences and corrals needed wire stretched and stayed.

They proposed use in the Club area (north of the division fence) by 250 head of cattle for 6 months, using it a different season each year.

During the 2 weeks' inspection, 133 cattle were counted: 100 cows, 5 calves, 13 bulls, and 15 yearlings and 2-year olds. Reasons discussed for low calf crop were dry weather (causing cows not to breed) and predation on calves by lion and bear.

19 June 1975

W. G. Weinel, District Range Staff, inspected the portion of Sears-Club around Canyon Creek and Lower Davenport. He was checking on allotment boundary fences and range improvements.

The permittee was nearing completion of a new pasture fence at the (b)(6) Cabin.

Weinel named and assigned an improvement number to Fig Spring (at (b)(6) cabin). He observed that the area around S.B. cabin was in surprisingly good condition, but that level flats and benches easily accessible to the Verde were in a degraded condition because of historic heavy grazing.

17-19 October 1977

Buck McKinney, Range Technician, inspected the Lower Davenport area for condition of water developments, fences,and vegetation. None of the four springs he looked at were in working condition. Of two tanks, one held water and one was breached. Utilization was difficult to measure due to sparse perennial grass cover.

7-11 November 1977

Buck McKinney inspected portions of the Club unit. The primary prupose was to inspect range condition and to look at range improvements.

The area from Club Cabin to the Sheep Creek Pasture was in poor condition, with

most plants in poor vigor. On the east side of the divide, toward the south fork of Deadman, brush density increased and condition improved. Generally, use levels were high except in areas distant from water.

Dog and Mesquite Springs were not maintained. Midway Pasture and Spring were in good condition.

5-8 December 1977

Buck McKinney inspected the Copper Camp Creek/Lion Mountain area with permittee, (b)(6) The dominant grass was curly mesquite, which was generally in low vigor, with 50-60% use. More desirable grasses such as sideoats and squirreltail grew only in protected areas.

Browse species had not produced much leader growth and were heavily hedged in most areas.

13-15 October 1978

Ken Rodgers (District Range & Wildlife Staff) and Buck McKinney inspected the allotment in the Davenport trail area.

They estimated use on perennial herbaceous forage (curly mesquite the dominant species) to be 50-60%. They observed high use on areas distant from water, indicating cattle had been forced to rim out due to lack of feed in easier areas.

They made observations on vegetation types and forage production.

A proposed management plan involved fencing the east half of the allotment into 3 pastures, and using the west half for winter yearling use only.

12-13 June 1979

Jerald Tower, District Ranger, inspected the portion of the allotment along Forest Trails 88, 89 and 90. The purpose of his inspection was mainly to look at Sheep Creek Seep for maintenance needs, and secondarily to observe range conditions and discuss management with the permittee.

Perennial grasses were vigorous following heavy rains of the previous winter.

The permittee suggested constructing a short section of fence between Mazatzal and Bear Creeks to split the area into 2 grazing units. Also discussed was the possibility of the (b)(6) acquiring a cattle grazing permit on the Chalk Mountain Allotment. Chalk Mountain would be used during the winter only by Sears-Club weaner calves.

DISCUSSION OF STOCKING RATE

Use levels such as those experienced along the river during the 1968 P.U. Survey and continuing up to the 1982 Range Analysis are unacceptable under any type of management system. Allowing livestock to congregate in this area during spring and summer months inhibits successful perpetuation of the riparian plant community. Under continuous yearlong use, even if the stocking rate were reduced by a factor of 10, use levels would most likely remain unacceptably high along the river.

An appropriate allowable use for suitable range on a yearlong unfenced allotment is 10% (see Range Handbook Sec. 53.3). With production levels the same as in 1967-68, allowable use of 10% provides for an allotment capacity of 2450 AUM's. Since 50,176 acres were classified as "suitable range", the resulting proper stocking rate would be 18 suitable acres/AUM.

The stocking rate recommended in 1981 for the Chalk Mountain Allotment (both north and south units) was 900 head of yearlings for 6 months on 48,904 suitable acres. This equates to 13 acres/AUM.

Stocking rates approximate 7 acres/AUM on allotments such as Red Creek and Skeleton Ridge, where options to intensify management are not as limited by Wilderness constraints.

Stocking rate on Sears-Club at the time of this analysis was 4.6 acres/AUM. The management of Chalk Mountain Allotment and the Sears-Club Allotment as one management entity will significantly reduce the stocking level to 8.1 suitable acres/AUM.

PURPOSE AND NEED

The Sears-Club Allotment has been managed in the past as a yearlong continuously grazed cow-calf-yearling operation. The resource has suffered as a result, with severe deterioration of range conditions, wildlife habitat and watershed values. In turn, the existing dispersed recreation experience and Wilderness environmental quality have deteriorated due to livestock concentration, trampling and trailing near water facilities and around riparian habitats, that commonly occurs on overstocked continuously grazed ranges. (b)(6) the permittee, has expressed a willingness to enter into a management system with existing Sears-Club permit numbers on a new combination allotment, the Sears-Club--Chalk Mountain Allotment. Addition of the new country alone will somewhat alleviate grazing pressure on Sears-Club.

Range Analyses have been completed on both the Sears-Club (1985) and Chalk Mountain (1981) Allotments. Vegetation type and condition class maps were used in delineating pasture boundaries for the alternative management systems that were considered.

Two major concerns on the Sears-Club--Chalk Mountain Allotment make existing management unacceptable and are major determining factors in selecting an appropriate management plan. They are: (1) Wilderness quality of the allotment - 75,000 acres, or nearly 2/3 of the allotment is classified as Wilderness; and (2) the "Action Program for Resolution of Livestock-Riparian Conflicts on the Salt and Verde Rivers" (1979) commits the Forest Service to reduction of livestock grazing and improvement of wildlife habitat along the lower Verde River.

GOALS & OBJECTIVES OF MANAGEMENT

Management systems to be discussed in this report were devised based on the following objectives:

A. Utilize the forage resource to its maximum sustainable potential without damage to associated watershed, wildlife, and Wilderness values.

B. The allotment must be managed under a non-intensive system, to comply with Wilderness standards.

C. The management system must be one that is practical for the permittee.

Management alternatives were formulated after extensive survey of the allotment during the analysis period and subsequent consultation with the permittee.

EVALUATION CRITERIA

The following evaluation criteria were developed to evaluate and select a management alternative that best attains all 3 goals.

1. Reduce heavy grazing pressure on major riparian communities.

2. Provide for seasonal rest for all of the allotment at some time during the year, preferably by providing two consecutive years of rest during the growing season.

3. Meet the physiological growth requirements of forage plants.

4. Facilitate improved animal husbandry practices, such as regular culling, breeding seasons, etc.

5. Minimize livestock grazing impacts on recreation trails and dispersed recreation opportunities.

6. Maintain and/or improve Wilderness quality on the Sears-Club--Chalk Mountain Allotment.

7. Meet or mitigate visual quality objectives of the Mazatzal Wilderness.

ALTERNATIVES & EFFECTS OF IMPLEMENTATION

A. No change in existing management of Sears-Club and Chalk Mountain Allotments.

The current standard of management on Sears-Club is unacceptable to the Forest Service. Use levels observed during the analysis period were excessive on nearly all full capacity range, indicating too high of a stocking rate under current management.

The Sears-Club permit would be grazed by 746 head of cattle yearlong + 398 yearlings 1/1-5/31. The Chalk Mountain permit would be 630 head of yearlings November 1-April 30. Management of Chalk Mountain would be according to the new Chalk Mountain AMP approved in 1983. The permittee would need to acquire yearlings every year to put on Chalk Mountain. The west side of the river should be lightly grazed, especially in poor years, to ensure enough feed for sheep on the driveway in April.

The allotment boundary with Pole Hollow Allotment has an old fence that is in poor condition. New wire, steel posts and stays and some wood posts are needed for reconstruction.

Continuation of current management and heavy stocking rate on the Sears-Club Allotment would allow protracted deterioration of the range resource, wildlife habitat and the watershed resource. Ultimately this would result in deteriorated Wilderness resource values and reduce the desirability of the area for dispersed recreation use. The common problems associated with continuous yearlong grazing such as livestock concentration, trampling and trailing near water and riparian habitats will not be resolved.

No change in current management of winter seasonal grazing on the Chalk Mountain Allotment will allow resource conditions to be maintained and even improved through time, simply due to spring-summer rest and the low stocking rate.

B. Use the Chalk Mountain portion of the allotment as a winter yearling pasture for N.I. from Cartwright and Sears-Club Allotments Jan. 1 - May 31. Total permitted number of yearlings on this country was established in the Chalk Mountain analysis as 630 head Nov. 1 - April 30, or 2646 AUM's. This would be equivalent to 756 head of yearlings Jan. 1 - May 31.

Create a 4-pasture rest-rotation system on the Sears-Club portion of the allotment in which pastures adjacent to the river (Davenport and S.B.) are grazed only in the winter, and higher elevation pastures (Club and Sheep) are grazed in summer months (see map).

The permittee has already waived livestock numbers associated with the Chalk Mountain Allotment. The new Sears-Club--Chalk Mountain permit is for 746 adult cattle yearlong + 398 head N.I. January-May (the same as the old Sears-Club permit). Since this alternative uses Chalk Mountain to relieve grazing pressure on the Cartwright Allotment, it will not be available to relieve as much pressure on Sears-Club. Permitted numbers on Sears-Club would be reduced to approximately 640 adult cattle yearlong. (This is the Sears-Club permit minus numbers associated with Chalk Mountain). Chalk Mountain would again become a separate allotment and managed as such.

Additional water developments would be necessary in summer-use pastures (see map) to prevent trampling of riparian areas and ensure water for the whole herd for an entire 7-month season.

Approximately 15 miles of fence would be necessary to tie off grazing units on Sears-Club, construct holding pastures and divide Chalk Mountain Allotment. Total fence costs would be $26,750.

A large portion of the Sheep Pasture at the head of Mazatzal and Bear Creeks is classed as NC range, making Sheep Pasture the weak link in the system.

Also, the move from Sheep into SB presents logistical problems. Moving a herd of 640 head over the trail down Cypress Ridge would take a long time and be hard on stock; the other route would involve a long move back through the Davenport Pasture.

The environmental effects of implementation of this alternative are primarily beneficial. The reduced stocking rate, coupled with an improved management system, will provide the opportunity for improved forage production, plant community composition improvement, improved watershed cover, and range and wildlife habitat condition improvement.

Construction and existence of new range improvements such as the Chalk Mountain Division Fence, Mountain Springs Holding Pasture and Corral will detract from the Wilderness quality, however, range structural improvements are already common throughout the Mazatzal Wilderness. Topographic location, use of natural boundaries and screening at Wilderness recreation trail crossings are key elements that will be utilized to mitigate these effects. The overall improvement of the vegetative condition and quality of the environment also mitigate the presence of range structural improvements.

C. Combine Chalk Mountain into a management system with the Sears-Club Allotment. Manage under a 5-pasture rest-rotation grazing system where the 2 higher elevation pastures are used only in summer months and 2 of 3 lower elevation pastures only in winter. (See map and grazing schedule). Waive permitted numbers associated with Chalk Mountain so that total permitted numbers are 746 adult cattle yearlong + 398 head N.I. January-May.

The permittee has already waived livestock numbers associated with the Chalk Mountain Allotment. The new Sears-Club--Chalk Mountain permit is for 746 adult cattle yearlong + 398 head N.I. January-May.

Pastures will be arranged in a grazing cycle so that livestock moves present as little difficulty as possible.

Upper Chalk, Club and Lion would become summer pastures, and Lower Chalk and Davenport winter pastures (see map).

The Lion Pasture is adjacent to the river, and historic heavy grazing has left the entire west side of this unit in a low ecological condition with low commodity rating. This pasture needs rest more than the other pastures. For this reason, the grazing system begins with a 2-year cycle in which the Lion Pasture is not used.

Using Upper Chalk during summer and fall months, May 15-Dec. 15, is a departure from alternatives discussed in the EA for the Chalk Mountain AMP, which all proposed winter-only use of the entire allotment.

Sycamore Creek and its associated riparian community is a major drainage that comes as close to pristine conditions as any on the Tonto. Grazing pressure on the upper reaches of Sycamore Creek during summer months may result in the elimination of some species in the plant community, and subsequent deterioration in condition.

To protect this and other riparian areas, additional water developments would be needed on Chalk Mountain and other summer-use pastures as in Alternative B. In addition to fence required as in Alternative A, 2 more miles of gap fencing would be necessary to create 3 pastures on Sears-Club, for a total fence cost of $25,100.

Since calves are weaned at the ranch headquarters at some time from October to February, it would be advantageous for the permittee to have the entire herd already concentrated in one pasture adjacent to the river during the winter season. After the weaning period, calves would be turned back out into a river pasture, probably at a time when winter annuals are beginning growth.

The environmental effects of implementation of this alternative are primarily beneficial. The reduced stocking rate, coupled with an improved management system, will provide the opportunity for improved forage production, plant community composition improvement, improved watershed cover, and range and wildlife habitat condition improvement. Resource improvement could be expected to occur at a more rapid rate on Sears-Club under this alternative than in Alternative B.

Construction and existence of new range improvements such as the Chalk Mountain Division Fence, Mountain Springs Holding Pasture and Corral will detract from the Wilderness quality, however, range structural improvements are common throughout the Mazatzal Wilderness. Topographic location, use of natural boundaries and screening at Wilderness recreation trail crossings are key elements that will be utilized to mitigate these effects. The overall improvement of the vegetative condition and quality of the environment also mitigate the presence of range structural improvements.

D. Combine Chalk Mountain into a management system with the Sears-Club Allotment. Manage under a 6-pasture rest-rotation grazing system where 3 higher elevation pastures are used only in summer months and 3 lower elevation pastures only in winter (see map and grazing schedule). Waive permitted numbers associated with Chalk Mountain as in Alternative B.

Upper Chalk, Club and Sheep would become summer pastures; Lower Chalk, Davenport and S.B. would be winter pastures.

Davenport Pasture would be used 2 consecutive winters the second and third years of the grazing cycle. The second year the herd would be using Davenport only the second part of the winter season in order to make a more leisurely move from S.B. back to Upper Chalk where the cycle begins again.

Water development needs would be the same as for Alternative C. Chalk Mountain would need the fence described in Alternative A; Sears-Club would require 3 miles of gap-fencing to tie off natural barriers for 4 pastures. Total fence needs would be 15.25 miles and cost $26,750.

The environmental effects of this alternative are similar to that of Alternative C, however, pasture moves are much more difficult which could result in occasional failure and breakdown of the grazing system.

EVALUATION OF ERNATIVES

CRITERIA	ALTERNATIVE A	B	C	D
Reduce heavy grazing pressure on major riparian communities in summer months.	Entire length of Verde River on Sears-Club used all summer. Verde River adjacent to Chalk Mountain rested every summer. Sycamore Creek rested every summer.	Entire length of Verde River along Sears-Club and Chalk Mountain rested every summer. Sycamore Creek rested every summer.	Lion Pasture, adjacent to river, grazed one summer from 1984-89. The rest of both allotments along the river rested every summer. Sycamore Creek grazed 2 summers in 5 years.	Entire length of river on both allotments rested every summer. Sycamore Creek grazed one summer every 3 years.
Provide for seasonal rest for all portions of allotment.	No rest provided on Sears-Club. Chalk Mountain rested every summer. Sears-Club Allotment continues to deteriorate in all resource areas.	Chalk Mountain rested every summer. Summer and winter pastures on Sears-Club grazed one year in 2.	Club and Upper Chalk pastures rested 3 out of 5 summers each through 1989; Lion Pasture used only one summer. Winter pastures grazed 2 winters out of 5 through 1989.	Summer and winter pastures used once every 3 years (except Davenport, used 1½ winters in 3 years & S.B. used ½ winter in 3 years)
Set capacity so physiological needs of plants are provided for.	Grazing levels will still exceed allowable use in lower desert pastures, along the river and on upper elevation pastures.	Chalk Mountain stocked at level recommended in 1981 Range Analysis-14 F.C. acres/AUM. Chalk Mountain permit = 756 head yearlings 1/1-5/31. Sears-Club permit = 640 head adult cattle yearlong. Stocking rate for Sears-Club = 6.5 F.C. acres/AUM. All low desert pastures receive summer rest every year. Every other years' rest for summer pastures would allow vigor on old plants to increase and new plants to establish.	Stocking rate for Sears-Chalk as one allotment = 8.1 F.C. acres/AUM. All low desert range except that in Lion Pasture rested every summer. Lion Pasture used one summer only from 1984-1989. At least 2 consecutive years rest for summer pastures would be more beneficial for plant vigor and establishment than the amount of rest provided in Alternative B.	Stocking rate the same as Alternative C. All low desert range rested every summer. Two consecutive years' rest for summer pastures as in Alternative C.

EVALUATION OF ERNATIVES

CRITERIA	ALTERNATIVE A	B	C	D
A system that facilitates improved animal husbandry.	Continued present management on Sears-Club would not provide for improvement in animal husbandry. A separate yearling herd on Chalk Mountain would divide the permittee's attentions and be an added expense.	This alternative essentially turns both Sears-Club & Cartwright into cow/calf operations, with Chalk Mountain taking yearlings off of both. Using Chalk Mountain as the yearling pasture would help in accountability of yearlings on Sears-Club & Cartwright. Driving calves to the ranch for weaning would be facilitated by having the entire herd on one river pasture for the winter. Division of the allotments into pastures could provide the basis for a breeding program.	Management of both Sears-Club and Chalk Mountain Allotments under one grazing system would allow the permittee to concentrate on one herd. Less time would be required for each roundup than under current management since cattle would already be concentrated into one pasture. Arrangement of pastures would provide other benefits as in Alternative B.	Same as Alternative C, except the pasture moves are extremely difficult and occasionally too long for young calves due to the hot part of the spring summer.
Mimimize livestock grazing impacts on recreation trails and dispersed recreation	Yearlings driven to Upper Chalk at beginning of season. No pasture moves on Sears-Club. Livestock concentrations near water and riparian continue. No new fences are construced that intersect trails.	Yearlings driven from Cartwright and Sears-Club to Chalk Mountain each winter. Pasture moves within Sears-Club are between adjacent pastures. Livestock concentration problem around riparian and water are significantly reduced. Rest from grazing allows the concentration areas to revegetate and recover. Fence construction intersects recreation trails.	Livestock concentration problem around riparian and water are significantly reduced. Rest from grazing allows the concentration areas to revegetate and recover. Fence construction intersects recreation trails.	Livestock concentration problem around riparian and water are significantly reduced. Rest from grazing allows the concentration areas to revegetate and recover. Fence construction intersects recreation trails. Cattle trailing from Sheep Unit to S.B. has some adverse effect on trails.

EVALUATION OF ALTERNATIVES

ALTERNATIVE

CRITERIA	A	B	C	D
Maintain or improve wilderness quality.	Associated resource conditions continue to deteriorate, ultimately degradating the wilderness resource further.	Associated resource conditions improve slowly resulting in overall improved wilderness quality. 10.5 miles of new pastures fence needed.	All associated resource conditions improve more rapidly than Alternative B resulting in improved wilderness quality. 9.5 miles of new pasture fence needed.	All associated resource conditions i ove more rapidly th Alternative B resulting in improved wilderness quality. 10.5 miles of new pasture fence needed.
Meet or mitigate impacts on visual resources in the wilderness.	Sears Club Allotment remains severely overstocked and grazed on a continuous yearlong basis, resulting in further deterioration of wilderness quality.	Reduced stocking and improved management which provides rest, results in improving wilderness quality. 10.5 miles of new fence is mitigated by improved resource and wilderness quality. Specific fence project mitigating measures include utilizing existing vegetation and topography as visual screening and natural barriers.	Reduced stocking and improved management which provides rest, results in improving wilderness quality. 9.5 miles of new fence is mitigated by improved resource and wilderness quality. Specific fence project mitigating measures include utilizing existing vegetation and topography as visual screen- and natural barriers.	Reduced stocking and improved man agement which provide rest, results in improving wilderness quali 10.5 miles new fence is mitigated by improved resourc and wilderness quality. Specific fence project mitigating measures include utilizing existing vegetation and topography as visual screening and natural barriers

IDENTIFICATION OF THE FOREST SERVICE PREFERRED ALTERNATIVE

Alternative C was selected as the preferred alternative for grazing management of the allotment. This alternative combines Chalk Mountain into a 5-pasture rest-rotation grazing system with the Sears-Club Allotment.

The reasons for selection are as follows:

1) This alternative provides for improved management over the present situation (no action). The combination of improved grazing management and significantly reduced stocking will provide the opportunity for improved range, wildlife habitat, riparian watershed, and wilderness resource conditions. Improved accountability of numbers, easier round-ups, and potential for a breeding program are all benefits of a rest-rotation system.

2) One pasture move in the 6-pasture system (Alternative D) is not logistically practical for the permittee. The (preferred) 5-pasture system has simpler livestock moves.

3) Resource benefits are greater under Alternative C than under Alternative B in that Sears-Club will experience lower grazing pressure. Stocking rate under Alternative B is 6.5 F.C. acres/AUM. Stocking rate under Alternative D is the same as for the preferred alternative (8.1 F.C. acres/AUM). Under Alternative A, overall stocking rate is excessive (4.6 F.C. acres/AUM) on Sears-Club and there are no pastures to control grazing on Sears-Club. Actual grazing pressure would continue to be excessive along the Verde River.

CONSULTATION WITH OTHERS

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