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BUREAU OF LAND MANAGEMENT

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Dear Reader:

Enclosed is a draft copy of the Twin Peak Allotment Evaluation Report. You have been mailed this document because either you are a grazing permittee in the allotment; or, State Agency having lands or responsibility for managing resources within the allotment; or, you have been identified as an Interested Public.

Please review the report and provide us with your comments by ~~August 28, 2000~~. Your review and written comments of this document are important for the management of public rangelands. If you would prefer to discuss this matter with us, please call for an appointment so that we may respond to any comments or questions you may have.

Your comments will be considered in the final evaluation report, and into the proposed multiple use decision for the Twin Peaks Allotment. These documents should be mailed to you in September, 2000.

Mail comments to the BLM, Eagle Lake Field Office, Attn: Steve Surian, 2950 Riverside Drive, Susanville, CA, 96130. Any questions in this matter should be directed to Steve Surian, or John Bosworth at (530) 257-0456.

Sincerely,

Linda D. Hansen
Field Manager

Enclosure: as stated.

United States Department of the Interior
Bureau Of Land Management
Eagle Lake Field Office

July 17, 2000

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DRAFT 2000 MONITORING EVALUATION REPORT
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TWIN PEAKS ALLOTMENT DRAFT 2000 MONITORING EVALUATION REPORT

1. Introduction and Background Planning Information

The purpose of this evaluation is to determine if the existing grazing management of livestock, wildlife and wild horses and burros is meeting, or if satisfactory progress is being made toward meeting Land Use Plan, activity plan objectives, and Rangeland Health Standards. This evaluation will also review the allotment carrying capacity for livestock, wild horses and burros. Where Land Use Plan objectives or Rangeland Health standards are not being met, subsequent management actions will be implemented in the context of a multiple-use decision.

Management levels, goals and objectives for livestock, wildlife, wild horse and burro grazing were established in August 1982 by the Record of Decision (ROD) for the Cal-Neva Management Framework Plan (MFP). The ROD and a subsequent management decision issued in June 1983, established the Twin Peaks Allotment and provided guidance for the Allotment Management Plan (AMP) which was issued in March 1985. In 1992, an addendum to the AMP modified livestock grazing practices on certain riparian and wildlife habitats. The Twin Peaks Allotment is the highest priority for the Cal-Neva area and the ROD selective management category is Improve (I).

The monitoring process for the Cal-Neva area was initiated by the ROD and the 1983 Livestock Management Decision stated in pertinent part:

"When an AMP is implemented BLM will commence monitoring studies which will include actual use, utilization, precipitation and range trend. The studies will provide data for evaluating progress toward meeting objectives for the allotment and determining modification of grazing use. Such as, amount of use, the season of use, areas of use . . . Of specific concern will be livestock trampling of saturated soils. If monitoring studies justify changing livestock use, your [permittee] authorized use will be modified by subsequent decision . . ."

On August 21, 1995, the Secretary of the Interior issued a final rule for grazing administration which codified fundamentals of rangeland health. Permitted livestock management is required to conform with, or make significant progress toward meeting regional standards for rangeland health and guidelines for livestock grazing. In 1997, an initial determination was made for standard attainment. All allotments were screened, and classified into categories based on existing monitoring information and professional judgement. The Twin Peaks Allotment was placed into rangeland health standard categories one and four, which means livestock grazing and other factors may be contributing to not meeting all the standards. Regional standards and guidelines for Northeastern California and Northwestern Nevada have been approved by the Secretary of the Interior .

1.1 Allotment Evaluation Status

This evaluation will review riparian functional assessments and upland health assessments information collected since 1995, and traditional monitoring information such as rangeland utilization, precipitation, actual use data and trend/frequency data collected since 1983. An overview of the evaluation process, the multiple use decision process, and a glossary are contained in Appendix 1. The following reference documents contain additional information related to the management of the allotment. The documents are available at the Eagle Lake Field Office.

1.1.1 Reference Documents

Cal-Neva Management Framework Plan, March 3, 1982 (MFP)

Cal-Neva Planning Unit Land Use Plan Summary, Rangeland Program Summary, and Grazing Environmental Impact Statement Record of Decision, July 9, 1982.

Cal-Neva Livestock Management Grazing Decision, June 24, 1983.

Twin Peaks Allotment Management Plan, April 17, 1985 (AMP).

Twin Peaks Herd Management Area Plan, June 30, 1989 (HMAP).

Environmental Assessment CA-026-92-07: Concerning Grazing in the Twin Peaks Allotment, Decision Record, March 6, 1992.

Twin Peaks Allotment Grazing Decision, March 6, 1992 (AMP Addendum).

Removal and Initial Structuring of the Twin Peaks North Home Range of the HMAP, decision, and gather plans, concerning FY 1993, Environmental Assessment CA-026-93-09.

1992-1993 Twin Peaks Allotment Evaluation Summary.

1996 Twin Peaks Allotment Projects Environmental Assessment CA-026-95-07.

Standards for Rangeland Health and Guidelines for Livestock Grazing Management on BLM Administered Lands in Northeastern California and Northwestern Nevada, Final EIS, April 1998; and ROD, December 1998.

Report to the Fish and Game Commission, An Assessment of Mule and Black-tailed Habitats and Populations in California, Collaborative Effort and Document preparation, February 1998.

1.2 Allotment Profile

The Twin Peaks Allotment (allotment) is located in eastern Lassen County and west-central Washoe County, and encompasses 379,628 acres of public land, 24,388 acres of private land and 280 acres of state land. The allotment boundaries are generally the Surprise Field Office division fence and Tuledad allotment to the north, and the west boundaries are the Deep Cut and Observation allotments. Honey Lake Valley, and Smoke Creek Desert are the south and southeast. The east boundary is the Winnemucca Division fence and the Buffalo Hills allotment.

Elevation varies from 7,600 ft. in the Skedaddle Mountains in the southern end of the allotment, to 7,200 ft at Rowland Mountain in the northern end of the allotment. Elevation in the majority of the allotment is between 4,500 ft. and 6,000 ft. Approximately 15% of the allotment is below 4380 ft. which was maximum shoreline elevation of Pleistocene (pluvial) Lake Lahontan about 18,000 years ago. This area includes Honey Lake Valley and Smoke Creek Deserts. Vegetation influenced by Lake Lahontan is generally described as salt desert shrub. Landforms and soils developed by this lake include terraces, gravel bars and desert playas. The soils in the remainder of the allotment were primarily influenced by volcanic activities that produced basalt, andesites, and rhyolitic ash-flows tufts. The topography consists of numerous drainages with steep side slopes and narrow ridges, combined with rock outcrops, talus flows and volcanic rims make the terrain extremely rough in much of the allotment. In the northwest portion of the allotment topography consists of undulating plateaus and small basins.

1.3 Allotment Acreage by Pasture and State (based on GIS data, includes private land).

<u>Pasture</u>	<u>Acres</u>	<u>Allotment %</u>	<u>California Acres</u>	<u>Nevada Acres</u>
North Pasture	223,067	54.56%	36,909 (9.03%)	186,158 (45.53%)
South Pasture	185,827	45.44%	92,462 (22.61%)	93,365 (22.83%)

Total allotment acreage is 408,894 acres.

1.4. Riparian/Wetland Habitat

Riparian habitats are relatively common in allotment. During 1995 and 1996, 117 riparian/wetlands sites were inventoried, representing more than 52 miles of streams, and 70 springs or seeps. Smoke Creek and Buffalo Creek and their tributaries are the allotment's primary perennial creeks. There are numerous creeks with perennial reaches that can become intermittent or ephemeral. The majority of the creeks are generated from springs and are greatly influenced weather cycles.

The 1983 Upper Smoke Creek Aquatic Habitat Management Plan applies to the public land portion of Smoke Creek upstream from the private lands of Smoke Creek Ranch. The primary goal of this plan is to protect and enhance seven miles of stream and riparian habitat critical for wildlife. A determination was made that this goal would be accomplished by constructing several fences, in combination with natural barriers to exclude livestock and wild horses from the creek. This corridor fencing completed was in 1997.

1.5 Wilderness Study Areas (WSAs)

The Federal Land Policy and Management Act of 1976 (FLPMA), Section 603 (2) directed the BLM to review areas of public lands determined to have wilderness characteristics and to report their suitability or not suitable for preservation as wilderness to the President. In determining wilderness characteristics, the law directed the Bureau to use the criteria given by Congress in the Wilderness Act of 1964. To accomplish this mandate, BLM adopted

the Wilderness Review Program consisting of three phases: inventory, study and reporting. The study included consideration of all values, resources, and uses to make preliminary determinations of land suitability for wilderness designation. The Secretary of the Interior reported his recommendation to the President in January 1992 regarding the suitability of Wilderness Study Area (WSA's) for wilderness designation. The U.S. Congress has taken no action to decide when and which WSA's or portions thereof will be designated as wilderness. In accordance with the provisions of FLPMA, WSAs are managed by Interim Management Policy - Guidelines For Lands Under Wilderness Review and other applicable laws and policies until released from interim wilderness management or designated as wilderness by Congress. The interim policy states that livestock grazing may continue at existing levels. However, any changes in grazing use must not cause a decline in range condition or cause degraded conditions to an extent which would affect a WSA eligibility for wilderness designation. New projects such as water developments, fences, or other structural improvements within WSA boundaries must enhance wilderness values. Wilderness designation could constrain future project development and the maintenance of existing range facilities. The Final Intensive Inventory (December 1979) for the Cal-Neva planning area identified six WSAs in the area that later became the Twin Peaks Allotment. The WSAs are summarized in Table 1.5.

Table 1.5 Allotment WSA Acreage

WSA Name	Acres	Percentage of WSA in Twin Peaks Allotment
Five Springs	49,206	36% (17,904 acres)
Skedaddle	62,010	70% (43,693 acres)
Dry Valley Rim	94,308	100%
Buffalo Hills	37,823	82% (31,015 acres)
Poodle Mountain	142,050	18% (26,182 acres) administrated by the Winnemucca field office
Twin Peaks	90,791	100%
// // // // //		WSA 303,893 acres in the allotment

1.6 Special Status Plants

There are no known threatened or endangered plant or animal species within the Twin Peaks Allotment. There are three Special Status plants known to occur within the allotment. These plants require management consideration under BLM policy. This means that any proposed activity in the allotment should not contribute to the need to list any of these plants and threatened or endangered. There presently are no known impacts from livestock to the special interest plants known to occur within this allotment under the existing grazing practices. The Special Status Plants within the allotment are listed in table 1.6:

Table 1.6 Special Status Plants and Special Interest Plants

Plant Name (Special Status Plants)	Plant Location
Silverleaf milkvetch (<i>Astragalus argophyllus</i> var. <i>argophyllus</i>)	near Rush Creek
Suksdorf's milkvetch (<i>Astragalus pulsiferae</i> var. <i>suksdorfii</i>)	near Three Springs
Holmgren's skullcap (<i>Scutellaria holmgreniorum</i>)	east of Shinn Ranch

There are also several special interest plants that are also known to occur within the allotment. These plants are of concern only in the California portion of the allotment. Although BLM policy does not require specific management consideration for these plants, their presence should be acknowledged and managed for where possible. Some of the plants have the potential to become listed as BLM Sensitive Plants. If they do become listed as BLM Sensitive, management considerations would then be required.

The following special interest plants are known to occur within this allotment:

- Great Basin onion - *Allium atropubens* var. *atropubens*
- Pine Creek evening-primrose - *Camissonia boothii* ssp. *alyssooides*
- Great Basin downingia - *Downingia laeta*
- Bailey's ivesia - *Ivesia baileyi* var. *baileyi*
- Raven's lomatium - *Lomatium ravenii*
- Spiny milkwort - *Polygala subspinosa*
- Entire-leaved thelypody - *Thelypodium integrifolium* ssp. *campanulatum*

There presently are no known impacts from livestock to the special interest plants known to occur within this allotment under the existing grazing practices.

1.7 Noxious and Invasive Weeds.

Noxious weed introduction and proliferation are growing concerns in the region. Noxious weeds are nonnative invasive plants that have a variety of negative impacts on the environment. The weeds can reduce native plant diversity and production, and under the right circumstances can dominate habitats varying upland rangelands to wetland meadows. Most weeds on the allotment tend to occur on roadside areas, and are apparently being spread by vehicles or by weed infested hay. There are several noxious weeds that require active control treatments to slow potential expansion. Perennial pepperweed (tall whitetop) and yellow star thistle are widespread in Honey Lake Valley, and probably have the greatest potential for future expansion and impacts. Currently these weeds are isolated to sites of less than 1/4 acre. However, large infestations of wavy leaf thistle were recently found on the allotment. Control treatments and mapping of newly infested sites is on going. An integrated weed management plan was written by more than two dozen of agencies to address the control and eradication of weeds in Northeastern California. Control treatments are being actively applied to the noxious weeds listed in Table 1.7.

Table 1.7, Treated Weeds on the Allotment.

Weed Name	Weed Locations
Bull thistle	various spring sites throughout allotment
Scotch thistle	near Horne Springs
wavy leaf thistle	east of the Shinn Ranch
Yellow Starthistle	Horne Springs, and Rush Canyon Spring
Perennial Pepperweed (Tall Whitetop)	Bull Flat
Russian Knapweed	Antelope/Jenkins Springs, and Bull Flat

Medusahead rye (*Taeniatherum asperum*) is an exotic annual grass that is invasive on clay textured soils and on shrink-swell soils. Rangelands dominated by Medusahead and other annual grasses will likely increase the natural wildfire frequency. Following burning these weeds can out compete native plant species and can dominate the site. Medusahead is slightly palatable for livestock when it first emerges but it quickly develops fine spines and becomes unpalatable. This weed can reduce the carrying capacity of rangelands by 40 to 90 percent. Early spring grazing (when the soils are wet) on high shrink-swell may damage soil structure, and can contribute to weed expansion. This is no proven revegetation technique for rangelands dominated by Medusahead. There are number of research efforts underway to determine rehabilitation methods for rangelands degraded by Medusahead, and other non-native annual grasses.

2. ACTIVITY PLANS AND STOCKING LEVELS

2.1 Wild Horse and Burro Management.

The 1989 Twin Peaks Herd Management Area Plan (HMAP) guides the management of wild horses and burros within the Cal-Neva EIS area. The Twin Peaks Allotment comprises approximately 60% of the HMAP. In 1988, Buffalo Hills Technical Review Team recommended that HMAP be divided and managed as five individual sub herds or home ranges. This recommendation was based primarily on limited exchange of horses between herds because of the topography barriers and allotment fences. The Twin Peaks Allotment encompasses all of the Twin Peaks North home range, the majority of the Dry Valley Rim and the Skedaddle home ranges.

Wild horses and burros generally occupy the same areas throughout the year. Wild horses tend to inhabit higher elevation areas in the home range and their greatest concentrations tend to be in remote areas. Wild horse will migrate to lower elevation areas during periods of snow cover. The burros tend to occupy the lower elevations on a year-long basis. Refer to map 1 (attached) for wild horse HMAP boundaries.

The Dry Valley Rim and Skedaddle home ranges Appropriate Management Level (AML)

Table 2.1, Wild Horse and Burro Appropriate Management Level (AML) and Population Information

Management Unit	Appropriate Management Levels (numbers)		Population and Census Information (numbers)					
	Horses Management Levels	Burros Management Levels	Horses (mules)	Burros	Horses (mules)	Burros	Horses (mules)	Burros
HOME RANGE/PASTURE			1999 Population Census* Adults & Foals > 6 months		August 1997 Census Adults/Foals		Prior Census Information	
Twin Peaks North/North Pasture	82-169	22-42	608 (+8 mules)	80	370/97=467	12/6=18	132 Jan 1995	20
Skedaddle/South Pasture	75-108	10-15	350 (+2)	10	182/24=206 (9)	8/1=9	156 (13) Oct.1994	11
Dry Valley Rim/South Pasture	50-72	15-22	304 (+26)	35**	205/37=242 (3)	10	98 (5) Oct.1994	37
Totals	207-349	47-79	1262 (+36)	125	757/158 = 915	30/7 = 37	404	68

* Population estimates are based on a December 15, 1999-helicopter census.

** During October 1999, 47 burros were gathered from the Dry wildfire area to allow for vegetation rehabilitation.

was establishment in the LUP pursuant to the forage allocation described on page 23 of the Initial Rangeland Program Summary. Horses were last gathered in these home ranges in 1991. The Twin Peaks North home range AML was redetermined by monitoring analysis in 1992. The Twin Peaks North home range was last gathered in 1995. The combined wild horse and burro AML for all three home ranges within the Twin Peaks Allotment are 428 animals or 5,136 AUMs. Refer to Table 2.1 for home range AML and current population levels.

The primary HMAP objective is to manage wild horses and burros as a viable population of healthy animals. This is accomplished primarily by determining AML by the monitoring process. The goal is to gather excess animals from time to time to maintain the population within the AML ranges. The animals gathered are considered excess and entered into the BLM adoption program. The current policy is to return wild horses older than 5 years back to the home range following the gather. Horses less than five years old are entered into the adoption program. This selective removal policy is intended to reduce the length of time the horses spend in BLM holding facilities, because younger horses are more desirable by adopters.

2.2 Wildlife Use

2.2.1 Native Species

Habitat management for wildlife use is guided by the Rangeland Health Standard for native species (43CFR § 4810.1). Criteria which indicates success in meeting this standard were established by the Northeast Resource Advisory Council under the Biodiversity standard. A listing of wildlife species is found in Environmental Assessment CA-026-92-07: Concerning Grazing in the Twin Peaks Allotment and Decision (BLM, 1992).

2.2.2 Flagship Species

Mule Deer

The Interagency Report on Mule Deer in California stated mule deer populations in northeastern California steadily declined since the late 1970s. The population appears to have bottomed out during the winter of 1992-1993. Since then there has been a small but steady increase in mule deer numbers (Appendix 3). This decline was most dramatic in California. Nevada reported similar declines but recovery appears to be more rapid than northeastern California.

Pronghorn Antelope

Pronghorn populations appear to mimic mule deer. There has been some recent overall recovery (Appendix 3) in both California and northwestern Nevada. It has been reported that pronghorn populations in northeastern California remain lower than expected (Frank Hall, CDFG personal communication).

Sage Grouse

The BLM and State wildlife agencies have identified 36 sage grouse leks in the allotment. There are 24 active lek sites in the south pasture and there are 6 active leks in the north pasture. The Skedaddle Mountains is considered to have outstanding populations of sage grouse. Generally sage grouse numbers are up in recent years (Skedaddle Springs Wildlife area, Conceptual Area Acquisition Plan CDFG). Sage Grouse population estimates were not available for this evaluation. There is building concern for the loss of sage grouse habitat, particularly the loss of large big sagebrush/perennial grass habitats. During preliminary rangeland health analysis approximately substantial acres of potential big sagebrush/perennial grass habitat has been converted at this time.

Mountain Sheep

There have been discussions between CDFG, the John Espil Sheep Company, Inc., and the BLM concerning the potential for reintroduction of mountain sheep in to the Skedaddle Mountains. The potential expansion of a reintroduced population of mountain sheep extends from the Skedaddle Mountains north to Shinn Mountain, west to highway 395, and east to the western edge of the Smoke Creek Desert. A Draft Release Plan is being prepared during 2000 setting objectives to be met before such a reintroduction can occur. This Plan will be reviewed by all parties involved.

2.3 Livestock Management

2.3.1 Livestock Forage Amounts

Permitted livestock use is 13,063 Animal Unit Months (AUMs). Permittee mandatory terms and conditions as stated on their permits are as follows:

John Espil Sheep Company Incorporated:

<u>Number</u>	<u>Kind</u>	<u>Period of Use</u>	<u>% PL¹</u>	<u>Active AUMs</u>
971	Cattle	03/01 to 12/31 ²	100	9,769
4000	Sheep	04/01 to 05/30	100	1,578
2000	Sheep	06/01 to 06/30	100	395
2000	Sheep	09/16 to 09/30	100	197
4000	Sheep	10/01 to 10/25	100	658

Laver Ranches:

¹ PL means the allotment is permitted as 100% public land. There is no exchange of use agreement for unfenced and intermingled private lands.

² In 1995, by agreement the period of use has changed to 04/01 to 01/31

<u>Number</u>	<u>Kind</u>	<u>Period of Use</u>	<u>% PL</u>	<u>Active AUMs</u>
102	Cattle	04/16 to 10/31	100	667

2.4 Grazing Management Background.

The 1964 range forage survey adjudicated livestock use and established seasons of use based primarily on elevation. The Cal-Neva permittees grazed livestock in common on either the summer or winter allotments. However, there was very little internal fencing to management cattle use. This contributed to unacceptable conditions on variously areas of the allotment. Unauthorized grazing use was also identified as an ongoing problem. In 1979, the Soil Vegetation Inventory Method classified most of the rangeland in the Cal-Neva area as either in poor or fair condition, because perennial grasses were generally lacking. Based on this information, the primary goal of the Cal-Neva ROD was to improve range condition by enhancing the vigor and production of perennial grasses. This required greater control and management of livestock, and resulted in the division of the Cal-Neva Common Summer allotment into Twin Peaks, Observation, and Deep Cut allotments. Allotment management plans were written to identify grazing guidelines and implementation schedules for range improvement projects. The former Cal-Neva Winter Range Allotment was divided into the Winter Range Allotment and the Twin Peaks Allotment. The Twin Peaks Allotment Management Plan (AMP) was issued in 1985. The plan was implemented in 1986, when allotment boundary fences and water developments were mostly completed.

Shortly after the AMP was implemented, it became apparent following several severe winters that winter range habitat for mule deer was inadequate to sustain the population. In 1987, the Buffalo Hills Technical Review Team (TRT) was formed to review the AMP grazing practices and resource conditions on the allotment. Interested parties believed a revision in the AMP grazing practices could improve wildlife habitats and lessen the chance of future catastrophic die-offs of mule deer. The TRT agreed upon several recommendations concerning wilderness study area consideration, range improvements, wild horse and burro management. In 1989, a follow-up group consisting of permittees, state agencies and members of the public formed the AMP review committee. The primary focus was vegetation potential on winter ranges. The "Seven Step Objective Setting Process" was used to establish resource objectives and key plant species were identified on a sub unit basis. The sub unit boundaries were delineated through the use of soils, vegetation inventory data, and field trips. The long term objectives developed by the committee were integrated into the AMP by the 1992 Decision Record for the Environmental Assessment concerning grazing on the Twin Peaks allotment.

In March 1992, an addendum to the AMP modified livestock grazing practices on certain upland browse communities, aspen communities, on the three highest priority riparian streams (Lower Smoke Creek, South Fork of Parsnip Creek and North Fork of Buffalo Creek), and on sage grouse leks. An interdisciplinary monitoring action plan was also written to document the schedule, and monitoring techniques for the allotment.

In 1992, and 1994 monitoring reports indicated that most riparian areas on the allotment

were overutilized by livestock, and/or wild horses. In 1993 and 1996, decision records were issued directing construction of riparian management fences for 10 streams or stream reaches and to build eighteen riparian spring exclosures. The decision records also implemented grazing provisions for the Chimney area, and stated that livestock, wild horse and burro use would be excluded within the exclosures. The riparian fences were completed by 1998. The AMP review committee subunit boundaries are listed below and identified on Map 2.

The AMP Addendum Subunits:

North Pasture Sub unit: Rowland Mountain, Stony Clay Basin, Buffalo Creek*, Buffalo Hills, Painter, Painters Flat, Black Mountain and Big Springs Burn, Mixie Flat, *critical crucial* Deer Winter Range.

South Pasture Sub unit: Bull Flat**, Skedaddle Mountains**, Lower Smoke Creek, Dry Valley Rim, and Dry Valley Winter Range.

* Sub unit contains AMP- Parsnip Management Area.

**Sub unit contains portions of the AMP- Bull Flat/Skedaddle Management Area.

2.4.1 AMP Basic Cattle Operation

The AMP grazing provisions guides livestock management activities on the allotment. The two permittees graze in common. The allotment grazing system is a two-pasture (north and south pastures) deferred-rotation. The deferment date is July 1, based on the key grass species phenology stage of seed dissemination. After July 1, cattle may be herded to the deferred pasture, except for certain areas as provided for in the AMP grazing provisions.

Typically operation is on or after April 1, Espil's cattle are turned in groups of 40 to 200 on the lower elevations of the allotment. Cattle turnout is ordinarily completed by May 1. Following turnouts, cattle are herded to various areas as provided for in the AMP grazing provisions. During the grazing season, some cattle may be herded to private lands for livestock husbandry reasons. In October and November, cattle are gathered from the summer ranges and herded to the winter ranges. Cattle are removed from the allotment by the end of grazing period. In 1995, an annual operating plan was initiated for improving management and communication among BLM, permittees and interested public. This plan considers previous years' utilization levels and patterns, waters conditions and other resource information for determining the intended grazing on the allotment.

Laver Ranches often delays the turnout of cattle, sometimes as late as July 1. Recently the Laver's have preferred to graze in the south pasture on Five Springs Mountain and Skedaddle Mountain.

2.4.2 Allotment Grazing Provisions

Livestock grazing provisions stated in the 1985, AMP, 1992, AMP addendum, and the 1996, Projects Decision Record (EA CA-026-95-07).

2.4.3 AMP Grazing Provisions

- During north pasture turnout years, cattle can be turned out in any location of the north pasture except the Parsnip Management Area, but are generally turned out east of Buffalo Creek and northeast of Burro Mountain.
- After July 1, cattle may be moved to the deferred pasture.
- In even numbered years, [south pasture turnout year] up to 225 Espil cattle will be authorized to graze in the north pasture from April 15 to December 31 provided that the total number of Espil cattle grazing the allotment does not exceed the numbers provided for in the basic operation and flexibility sections of the AMP.
- In even-number years, any cattle using Rowland Mountain Sub unit will be placed east of Rowland Mountain, including the Hole-In-The-Ground with minimal use of the Norton Place. Cattle movement and drift to the west largely will be restricted by rim-rocks on the east side of Rowland Mountain.
- In odd-numbered years, any cattle using Rowland Mountain Subunit will be placed on the west side of Rowland Mountain, thus avoiding east Rowland Mountain and the Hole-In-The-Ground area with some use of the Norton Place.
- Up to 200 cattle will be authorized to use Lower Smoke Creek area from March 1, to April 30, annually, subject to the terms and conditions of the permit.
- Chimney Area (Chimney, and East Fork drainages) grazed in April and/or May, every other year, for approximately six weeks, with 200-400 cow/calf pairs. In mid-October, drift fence gates are opened, and the cattle are gathered periodically to remove strays.
- Grazing by cattle and sheep is excluded within area enclosed by fences for the following areas: Wild Horse Spring, Morgan Springs, Three Springs, Two Springs, Washtub Spring, Sheep Trail Spring I and II, Jenkins Trough Spring, and the area enclosed by the East Upper Smoke Creek Fence.

2.4.4 Cattle Grazing Provisions for South Pasture Turnout Years.

- Prior to April 1, all cattle both Espil and Laver are to be turned out in the area east of Dry Valley Rim and south of Burro Mountain.
- Prior to June 1, Laver's recommended turnout areas are either East Fork of Skedaddle Creek and/or Spencer Basin.
- Prior to June 1, no cattle can be turned out in the Bull Flat/Skedaddle Basin Management Area.

2.4.5 Sheep Grazing Provisions (allotment-wide)

Sheep use the allotment primarily for spring lambing and secondary for fall trailing. Sheep can use the entire allotment except for the following management provisions:

- When cattle turn out in the south pasture and a lamb band can stay through the full season (7/1 to 9/15), one band will not be able to use the management areas (Parsnip, Bull Flat/Skedaddle) before June 1.
- The 500 head dry band may use Skedaddle Mountains every other year between June 15, and August 1. Alternate areas of use are Dry Valley Rim, Five Springs Mountain, and the north pasture of Twin Peaks Allotment.
- Sheep will not be driven into bedded or shaded in aspen stands.
- Sheep camps and bedding grounds shall not be located on known active sage grouse strutting grounds.
- In the Rowland Mountain Sub-Unit, Sheep use will be restricted after July 15 to a total of 10 days trailing through the subunit.

3. MANAGEMENT EVALUATION, SUMMARY OF STUDIES DATA

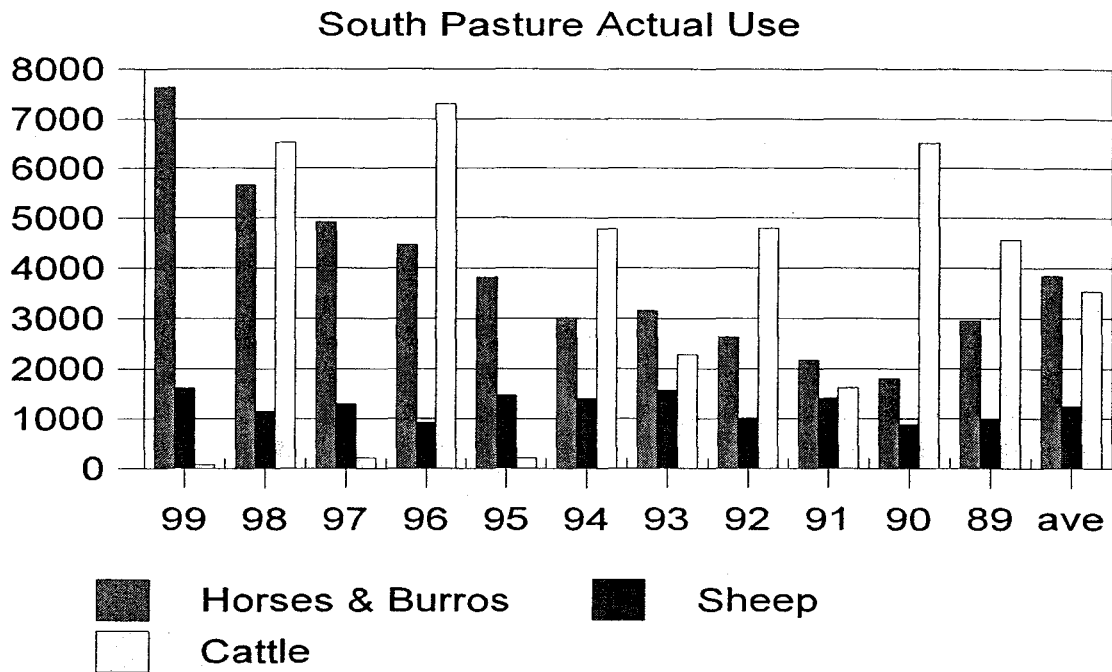
3.1 Livestock Actual Use

Livestock actual use is determined from certified actual use reports submitted by the permittees, or from grazing billing and field compliance records. During the evaluation period, annual use by sheep has increased slightly, while cattle use has decreased slightly. The majority of the cattle actual use tends to occur in the turnout pasture while the deferred pasture often receives limited cattle use. Since 1995, the south pasture was mostly rested from cattle use during north pasture turnout years. Sheep use is about 10% higher in the north pasture. A summary of allotment actual use is contained in Appendix 2 for 1989 to 1999.

3.2 Actual Use from Wild Horses and Burros

Determination of wild horse and burro actual use is based on periodic helicopter census information conducted on a home range basis. Based on local experience, census accuracy varies from 85% to 95% for wild horses, and about 50% to 90% for burros. Annual AUM use is determined by multiplying the number of wild horses and burros counted during the census by 12 months. An AUM is one adult wild horse or one mare and foal of than less 6 months old. Census information indicates that the Twin Peaks herd population increases at an average rate of 17% annually, and the herd can double in four years. Survival rates are influenced by periods of prolonged snow cover, such as the winter of 1992/1993, when death losses of 10-15% occurred. These types of died-offs usually include high percentage of young, and older horses. During mild snow free winters the death loss is 3-4%. Long term death loss averages 5-7%. Since 1993, there has been a considerable increase in the number of wild horses on the allotment because of mild winters, above average annual precipitation, and improved forage production.

The following chart shows livestock, wild horse and burro actual use by pasture and home range since 1989. This information is also contained in Appendix 2. Twin Peaks South Pasture, Skedaddle and Dry Valley Rim Home Ranges Actual Use (AUMs)



Twin Peaks North Pasture, and Twin Peaks North Home Range Use (AUMs)

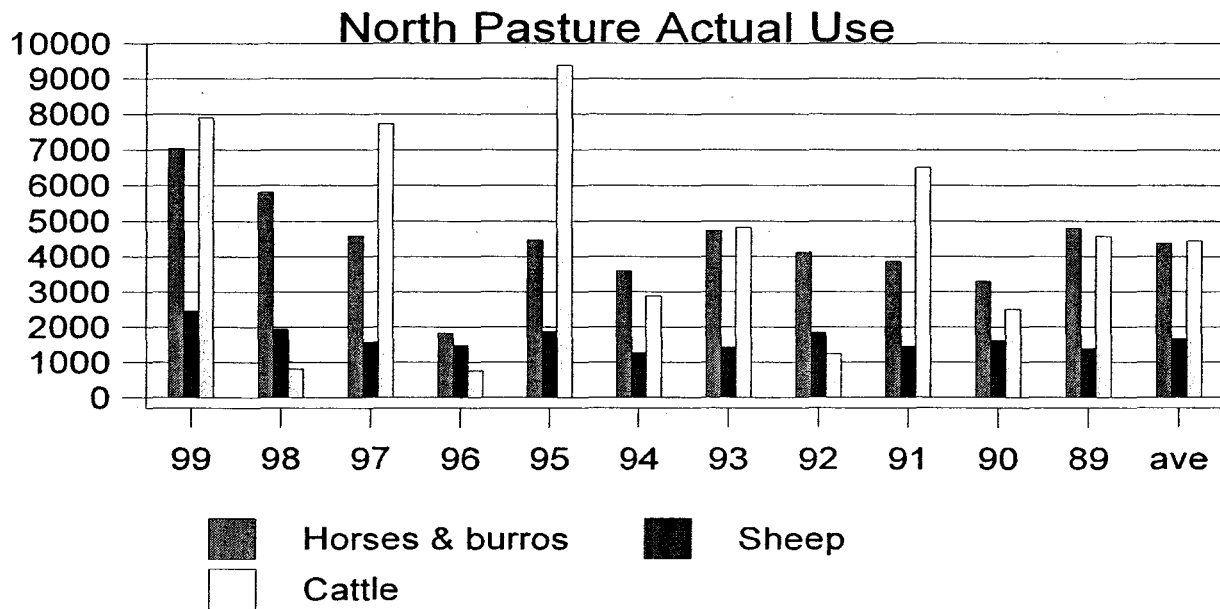


Figure 2

3.3 Wildlife Use

3.3.1 Native Wildlife

A comprehensive analysis of potential species diversity within the Twin Peaks Allotment is being prepared using the California Wildlife Habitat Relationships Data Base. Results of this analysis will be available by the end of Fiscal Year 2000.

3.3.2 Flagship Species

Mule Deer

The California Department of Fish and Game (DFG) estimated deer population by Deer Assessment Units (DAU) for the period 1990-1996. Annual variation in specific deer population estimates may be quite high due to localized changes in environmental conditions, so it is more appropriate to have at least a several-year period upon which to evaluate trends (stable, upward, or downward). The DAU system fits reasonably well with the late 1940's assessment conducted by Longhurst et al. (1952), and their estimate of population is included for each of the specific DAU sections (Longhurst numbers do not reflect the ultimate high point deer numbers that continued to increase into the 1960s, then began trending downward to present levels) The population was declining in DAU 2, (Twin Peaks Allotment is in DAU 2, and which includes California management unit X5b and Nevada Unit 015) (Appendix 3).

Pronghorn

Refer to Appendix 3 for an analysis of population fluctuations.

Sage Grouse

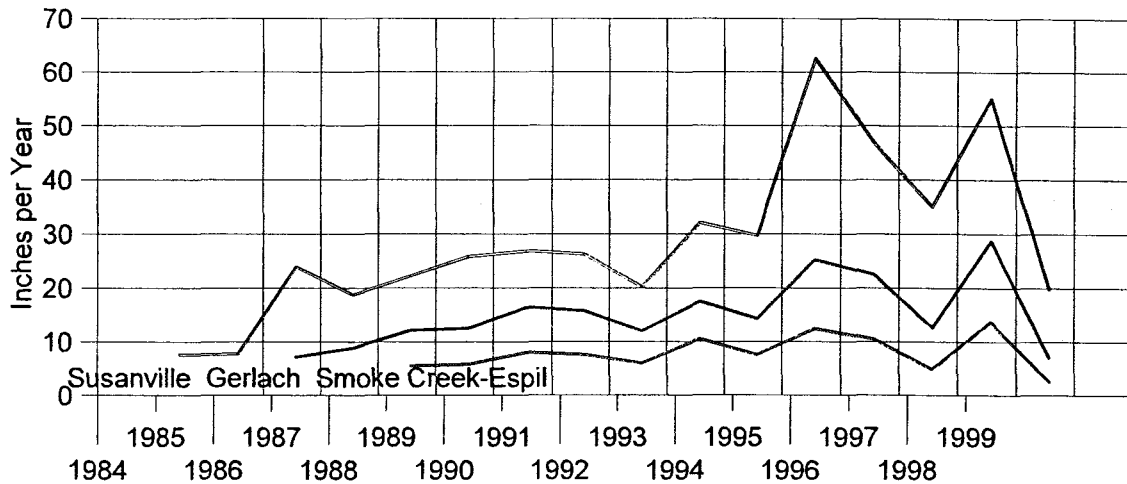
As reported earlier in this document sage grouse numbers are down. This decline is believed to be most affected by the loss of big sagebrush/perennial grass habitat. The CDFG has taken the lead in preparing and implementing a Conservation Plan in cooperation with the BLM. We will include the Northeast California Resource Advisory Council and all affected interests. The Eagle Lake Field Office is currently field testing a remotely sensed analysis of potential important sage grouse habitats throughout its area, including the Twin Peaks Allotment.

3.4 Precipitation Data

Precipitation information from the Susanville Airport Weather Station was used to represent regional weather trends on the Twin Peaks Allotment. Long term weather records are also available from this station. From 1987 to 1992, precipitation was 72% of the long term average. This is considered the driest period recorded in the western Great Basin. Since 1993, precipitation has averaged 158% of normal or about 22.82 inches per year, significantly above the long term average of 14.5 inches per year. The wettest years with

an abundance of spring growing precipitation were 1995 and 1997. Precipitation in 1995 was 37.29 inches, which broke the 1889 record of 36.26 inches. The following chart contains annual precipitation for Susanville, Gerlach, Smoke Creek-Espil stations during the evaluation period. Appendix 8 contains precipitation history dating to 1889, and average weather information.

Annual Precipitation from Susanville, Gerlach, Smoke Creek-Espil



3.5 Utilization Information

Upland plant utilization is determined by the Landscape Appearance Method (formerly Key Forage Plant Method). In 1984 and 1985, 20 upland key areas were established to measure trend, and utilization. Key areas are a monitoring point to represent portions of allotment, and the information collected is intended to reflect current grazing management. Key area utilization data, along with actual use and climatic information is interpreted to assess trend direction. To increase reliably estimates of utilization, small 4 ft cages were placed at key areas. In 1992, a three-way exclosure was established on Rowland Mountain to determine relative utilization by livestock, wild horses and mule deer. In 1994, bitterbrush browse use information was collected using the Cole Browse Method. Riparian utilization was determined by using stubble height method. In 1992, seven stream reaches were identified for annual utilization determinations.

During the evaluation period, utilization levels measured at key areas generally declined, except for in 1999, when the objective was exceeded on three key areas. The majority of the allotment was in the slight to light class (5% - 40%), and the moderate utilization objective (41% - 60%) was not exceeded in 1998 on sites measured. Appendix 4 contains key area utilization information.

3.5.1 Use Pattern Mapping

From 1987 through 1994, and from 1998 through 1999 portions of the allotment were use-pattern mapped in conjunction with key area utilization measurements. Mapping intensity varies from four classes to eight utilization classes, as follows: no use (0-5%), slight use (6-20%), light use (21-40%), moderate use (41-60%), heavy use (61-80%), severe use (81-100%), low production or annual production, and area not mapped. Use pattern mapping information is employed to identify stocking rate problem areas, and can identify opportunities to improve livestock distribution. The standard time to conduct use pattern mapping is at the end of the grazing season.

The majority of the allotment has been mapped in the slight class and light class. Upland utilization exceeds moderate utilization on less than two percent of the acreage sampled during most years. Utilization levels tend to be higher in the turnout pasture on the uplands than on the deferred pasture. The acreage of heavy use has increased recently in the south pasture uplands, and is sometimes noted adjacent to riparian areas where horses and cattle tend to concentrate during hot and dry conditions. The south pasture was mostly rested by cattle during 1995, 1997, and 1999. But riparian areas described as isolated, scattered springs and small creeks were impacted by wild horses. The use pattern data is displayed at a scale of either one half or one inch to the mile is available at the Eagle Lake Field Office. Small scale maps are attached to the evaluation. Appendix 4 is a utilization summary for the allotment.

3.6 Upland Trend Information

3.6.1 Upland Frequency Data³

The Modified Pace Frequency Method was used to determine presence or absence of vegetative species as outlined in the Twin Peaks AMP. This method also includes collecting vegetation cover, litter cover, canopy height, and taking photographs. This information is collected at 3-10 year intervals.

At the key area transect, attribute changes are determined such as an increase in frequency indicates that new plant individuals may have become established, or are being lost. An increase of key species would be interpreted as an upward trend when other more specific data such as ecological site status has gathered and interpreted. Climatic and utilization information as well as management activities such as season of use, class of livestock, wild horse and burro populations are all considered in determining the probable cause of changes in trend. Appendix 8 summaries of key area analysis and pertinent features of key areas.

Key plant species were identified when the sites were established in 1983 or 1985. On May 24, 1990, the AMP Review Committee listed additional key species and verified the original key species. The 1992 AMP addendum and decision record approved key species

³ The Interagency Technical Reference, Sampling Vegetation Attributes (1996, National Applied Resources Sciences Center) contains description of Modified Pace Frequency Method that BLM employs at these sites.

on the sub unit basis.

There are 20 upland study sites in the Twin Peaks Allotment. Initial data (frequency, etc.) were collected on 19 sites in 1983, and during 1985, the same data were collected on all 20 sites. All sites were again sampled in 1991 and 1994. In 1994, ecological status baseline data was also determined at the key areas establishing a basis for trend analysis. See Appendix 9 for the site characteristics for the Twin Peaks upland trend sites.

3.6.2 Rangeland Ecological Status

Ecological status refers to the kinds and amounts of vegetation that the rangeland currently produces relative to the potential vegetation the site could produce. Soils, topography, and climate are the primary elements of site potential. Each ecological site supports a native plant community typified by an association of species that differs from that of other range sites in the kind or proportion of species or in total production. The Potential Natural Community (PNC) is referred to as the potential climax vegetation rating in the absence of abnormal disturbances and physical site deterioration. The ecological status condition classes are early seral, mid-seral, late seral, and PNC. Ecological status is expressed as percentage, for example PNC is 76-100%. The ecological status rating refers to the specific plant community's status in relation to its potential and may not reference management goals or values produced.

The overall site potential for the allotment, accounting for natural events such as fire and drought is generally 50-80% grass, 10-15% forbs, and 10-25% shrubs. In 1979, much of the allotment was classified in early and mid-seral ecological status, or poor and fair condition, respectively, because of low perennial grasses composition, and high shrub composition.

3.7 Range Survey Data

The 1979 Soil and Vegetation Inventory Method (SVIM) indicated there are 20,243 AUMs available for livestock, wildlife, wild horses and burros grazing. The SVIM is described in BLM Technical Reference 4400-5, Section XI of Supplemental Studies (USDI-BLM, 1992). This document is available for review at the Eagle Lake Field Office.

3.8 Rangeland Health Assessment

The Upland Rangeland Health Assessment process is a qualitative (non-measurement) assessment that relies the functional state of up to 20 indicators to recognize signs of healthy or unhealthy rangelands. A summary rating from the indicators and comments is made to arrive at a degree from departure from the ecological site description and/or ecological reference area. This process can provide early warning of resource problems, or areas of concern that needs special attention or monitoring. The rangeland health assessment procedure requires an experienced interdisciplinary team of soil, vegetation, wildlife or habitat specialists. In 1999, the Eagle Lake Field Office conducted an upland range health assessment on the Twin Peaks Allotment that represented about 70,000

acres. The results of the survey are discussed in conclusions section, page 20.

3.9 Riparian Trend

In 1992 and 1993, stream riparian trend transects were established using the greenline method as outlined in Technical Reference 1737-8. The greenline method provides a general impression of quality and condition of riparian habitats for a particular reach of stream. The transects were established for the following creeks: Chimney Creek, Painter Creek, Parsnip Wash, Lower Smoke Creek, Middle Fork Buffalo Creek, North Fork Buffalo Creek and West Fork Buffalo Creek. The Greenline transects are scheduled to be read this year to determine what changes may have occurred since 1992/1993.

3.9.1 Riparian Functional Assessment Inventory

The process of assessing riparian-wetland functioning condition requires an interdisciplinary team of vegetation, wildlife and soil specialists. BLM Technical Reference 1737-9 and 1737-11 (USDI-BLM, 1993 and 1994) describes this technique, and provides the definition of proper functioning condition as: "when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality, filter sediment, capture bedload, and aid floodplain development . . . the functioning condition of riparian-wetland areas is a result of interaction among geology, soil, water and vegetation." Properly functioning condition is the *minimum standard*. This condition does not imply desired plant community or that desired vegetation structure is occurring on the riparian/wetland area.

Starting in 1995, 117 riparian/wetland sites were inventoried, representing about 90% of the riparian sites on the allotment. While the inventory was not complete, it does provide an overview of riparian wetland functioning conditions. In addition to determining functioning condition for each riparian wetland, the Eagle Lake Field Office collected plant structure and habitat condition information, developed a plant species list for each riparian site, and photograph the area. Riparian location, stream length and acreage were determined by global positioning system (GPS).

Figure 3, summarizes riparian functioning condition with trend determinations for the allotment. Legend for the chart: FR: functioning at risk, NF: nonfunctional, FRC Properly functioning condition. Springs/seeps and creeks are combined.

Riparian Condition - Twin Peaks

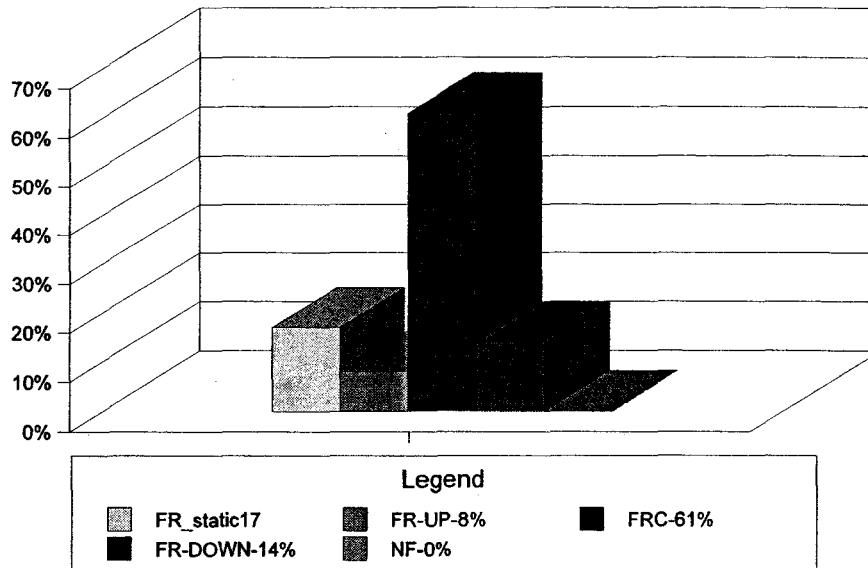


Figure 4

4. CONCLUSIONS-OBJECTIVE ATTAINMENT DETERMINATION

The conclusions section discusses attainment of the land use plan objectives, activity plan objectives and rangeland health standards affected by livestock, wildlife, wild horses and burro grazing. Approved by the Secretary of the Interior are the Northeast California Resource Advisory Council, Standards for Healthy Rangelands, and Guidelines for Livestock Grazing, modified version.

4.1 Rangeland Health Standards

1. Upland Soil: Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and landform, and exhibit functional biological, chemical and physical characteristics.
5. Biodiversity: Viable, healthy, productive and diverse populations of native plants and desired plant and animal species, including special status species, are maintained.

Findings.

Soil Erosion - Based on Rangeland Universal Soil Loss Equation monitoring conducted at range trend sites no site showed significant erosion. The "A" values (soil loss in tons/acre/year) generally were about a magnitude less than the "T" value (NRCS Tolerance Value) for the soil being evaluated. Observation throughout the allotment also confirmed that upland erosion was not an issue.

Soil Productivity - Based on Upland Health Assessments there has been little to know loss of productivity resulting from current management. The one area of concern is associated with medusahead invasion. Studies have indicated that there has been as much as 50% reduction in microbial numbers and diversity. A BLM study suggests a comparable 50% reduction in nutrient availability. Another study by Young and Blank demonstrates the importance of maintaining the aeolian venier on soils that exhibit this characteristic.

In 1999, upland health assessments were completed on approximately 70,000 acres in the Twin Peaks Allotment. The acres reported in table 4.1 (below) are inventoried applicable acres. This acreage may be small in comparison with the total allotment acreage, but is a representation of the rangeland health conditions on the allotment. Field assessment locations were stratified into those areas where the interdisciplinary term believed additional information was needed based on soil and rangeland health issues identified in the past. Additional field assessments on the allotment are scheduled during the summer of 2000. Appendix 5 contains the results of the inventory, and interprets other monitoring data such as utilization information, actual use, ecological condition, frequency, and trend data for determining if standards 1 and 4 are being met.

The rangeland health assessment contains the following attributes: 1) soil/site stability, 2) watershed function, and 3) integrity of the biotic community. Functional status is determined by the level of departure from the ecological site description and/or ecological reference area. Acreage assessed "at risk, or improperly functioning or unhealthy" are not be meeting the standard. Trend and probable cause of rating was determined by examining monitoring information. Functioning or healthy acres are considered to be meeting the soils and biodiversity standards.

Table 4.1. The 1999 Upland Health Assessment Acres Inventoried.

Twin Peaks Allotment	Physical Environment (Acres)			Biotic Integrity (Acres)		
	Functioning	At Risk	Improperly Functioning	Healthy	At Risk	Unhealthy
Total applicable acres- 69,463	65,042	4,421	0	41,407	27,283	773
Trend Up		4,421			14,443	773
Trend static					12,840	0
Trend down					0	0
Acres Not Responsive to Management within 30 years					6371	0

Note: Acres not responsive to management are trend static acres, and in all likelihood will not show an upward trend in condition within 20 years, even under the most intensive grazing management system or with no grazing. These sites often a lack native plant seed

source, and/or dominated by exotic annual plant species.

Conclusions

Based on monitoring information and the 1999 Rangeland Health Assessment, the standard 1 was met on the allotment, and standard 4 was not achieved on 12,840 acres. The primary reason the standard was not met, was low composition of native perennial grass in comparison with potential composition stated in the ecological site description and/or ecological reference area for site write-up area. The assessment also considered the absence of perennial grass recruitment, and the relative composition of nonnative grasses such as cheatgrass and Medusahead. These exotic annual grasses can inhibit native species recruitment and effect natural ecological systems by increasing frequency and size of wildfires. Burned rangelands below 5,000 feet in elevation are often dominated by exotic annual species. But their influence tends to taper off with increasing elevations. In some instances early spring grazing can reduce the composition of exotic annual plants. However, grazing management actions may not significantly improve sites dominated with exotic annual plants because of long recovery periods.

In recent years, slight to light utilization occurred on those areas not meeting the Rangeland Health Standards. The low composition of native perennial grasses is the result of heavy historic livestock grazing use. Permitted stocking levels on the public lands in the Twin Peaks Allotment was not identified as significant factor in failing to achieve standards 1 and 4.

Rangeland Health Standards (continued)

2. Streams: Stream channel form and function are characteristic for the soil type, climate and landform.
3. Water Quality: Water will have characteristics suitable for existing or potential beneficial uses. Surface and groundwater complies with objectives of the Clean Water Act and other applicable water quality requirements, including meeting the California and Nevada State standards, excepting approved variances.
4. Riparian and Wetland Sites: Riparian and Wetland areas are in functioning condition and are meeting regional and local management objectives.

Findings.

Criteria to meet standards 2 and 3, were based on riparian/wetland functioning condition assessment, and utilization data collected since 1995. Stream function is a component of the riparian-wetland functioning stream (lotic) assessment process. During the riparian/wetland assessment the following condition categories were classified: 1) properly functioning condition (PFC), 2) functional-at-risk (FR) (with trend determinations), and 3) nonfunctional condition (NF). The survey found that the 83 riparian/wetland riparian sites on the allotment are in properly functioning condition or are functioning at risk with an

upward trend. Not meeting the standard were 33 riparian/wetland (lentic) sites functioning at risk with static or downward trends, and one stream reach is functioning at risk with a static trend. This stream reach was delineated from confluence of Parsnip Creek and Buffalo Creek downstream to the unfenced private lands on Buffalo Creek. During the assessment most sites not did meet the standard because of riparian vegetation impacts from livestock and wild horses, and several sites are impacted by roads. The proposed management strategies to improve the 34 riparian/wetland sites not meeting riparian standards are listed in Appendix 6. Several of the proposed changes in management have already been implemented. The proposed management changes listed in Appendix 6 would be implemented on effective date of Multiple Use Decision for the Twin Peaks Allotment. Table 4.1.1 contains a summary of the riparian sites assessed on the Twin Peaks Allotment.

Table 4.1.1 Twin Peaks Allotment Riparian Functioning Condition Summary

Riparian Site Rating	Trend (Applies to sites functioning at risk)	Number of Sites	% of Total
Riparian Sites Meeting the Standards			
PFC - Properly Functioning Condition		72	62%
FR - Functioning at Risk	UP	11	9%
Riparian Sites Not meeting the Standards			
FR - Functioning at Risk	STATIC	19	16%
FR - Functioning at Risk	DOWNWARD	15	13%
NF - Non-Functioning		0	0

Findings, Standard 3.

Water Quality - Grab samples for water quality were collected extensively in the early 1980s and again in the early 1990s. A comparison of the data did not indicate a significant change. This would indicate that both state's antidegradation policy was being met. However, condition and trend of the riparian and upland areas (as indicated by the Riparian Assessments and Upland Health Assessments) suggest that there has been an improvement in water quality over the years. It should be noted that the grab sampling scheme used was not meant to evaluate individual water bodies rather it was designed to provide a general characterization of the range of water quality conditions in the Resource Area.

There is only one waterbody classified as "impaired" by the state: Skedaddle Creek. While the Lahontan Water Quality Control Board lists Skedaddle Creek as a low priority impaired watershed due to Coliform bacteria levels resulting from livestock, they apparently have no

documentation suggesting that there has ever been any actual impairment. BLM also has no documentation to support the impairment status. The distribution of livestock makes it unlikely that Coliform bacteria levels could exceed state standards.

Smoke Creek has received increased water quality monitoring since the development of the Habitat Management Plan. Temperature, Dissolved Oxygen, turbidity, and bacteria samples indicate that while the water entering BLM administered lands exceeds Nevada state standards, the water quality improves through the BLM administered section in Nevada. It should be noted that the degraded water quality is a draining a private ranch where livestock are concentrated. Further, while livestock numbers and duration are limited, subsurface inflow water is likely partially responsible for the improved water quality through the BLM section. Additional monitoring will be needed to identify that contribution.

Conclusions

Grazing management of cattle and wild horses on the Twin Peaks Allotment is a significant factors in failing to achieve or to progress toward meeting standard 3 on 30 riparian/wetlands sites (since the assessment, 4 sites are believed to have an upward trend and are now meeting the standard). The proposed management practices being applied would lead to significant progress toward meeting riparian standards, and are in conformance with the regional grazing guidelines. The existing population of wild horses and burros would also be reduced. The appropriate management levels are shown in Table 5.3.2 in the technical recommendation section of this evaluation

The riparian sites functioning at risk with static or downward trend have highest management priority because these sites generally have the greatest potential for vegetation response. Management actions are also necessary to prevent these riparian areas from crossing over into non-functioning condition. Since the assessment, various management actions have been implemented that caused an upward trend for several riparian sites functioning at risk. The management actions include: 1) enclosure fences were constructed on four riparian spring sites, 2) drift fences were constructed for several stream reaches, 3) improved livestock management, by herding cattle out of riparian areas during the hot season.

Several riparian sites have improved without fencing. In 1996, several reaches of lower Buffalo creek were rated as non-functioning condition (not included in the above table). In 1999, the creek was reassessed, and it was determined to be functioning at risk with an upward trend. Improved cattle management and increased stream flow contributed to this improved rating. Red Rock Spring 2 in the south pasture, rated in 1995 as functioning at risk with static trend, has significant vegetation improvement since the assessment. However, three other riparian sites same vicinity as Red Rock Spring 2, have not improved. These springs were negatively impacted by wild horses in 1999. Unlike livestock, wild horses and burros are not subject to grazing management actions recommended for improving riparian conditions shown Appendix 6. The current population of wild horses and burros must be reduced and maintained within the recommended appropriate management levels to alleviate their impacts. Fencing may an be option for several riparian/wetlands

areas impacted by livestock, wild horses and burros. The following livestock management actions that are (not already in place) are proposed:

1. Exclosures were constructed for three riparian spring areas since the assessment. These sites are now believed to meeting the standard.
2. Drift fences were constructed for 5 riparian spring sites since the assessment. Management actions are to deferred livestock use during the hot season.
3. The Parsnip/Buffalo Creek reach functioning at risk with static trend was fenced in 1995. To improve the condition of this reach of creek, 2 years of rest is recommended.
4. On the West Fork of Rush Creek, four wheel drive road that contributed to functioning at risk rating is scheduled for closure.
5. Deferment periods would be implemented for 11 unprotected riparian spring sites. Specific management actions will be addressed in the annual operating plan.
6. Riparian sites functioning at risk with static or downward trend (identified in Appendix 6) would be subject utilization guidelines consistent with Rangeland Health Guideline 16. A 4-6 inch minimum stubble height will remain at the end of the growing season in most riparian areas. The utilization levels will be applied unless and until a current site-specific analysis is completed and new utilization levels are developed and documented in the allotment management plan.

4.2. Cal-Neva ROD/Activity Plan Objectives Determinations and Rationale

- (1) Utilization: The short term objective is to have utilization levels of key forage species not exceed 40-60% (LUP Decision 10). This is further defined in the Grazing EIS (1982) for two-pasture deferred rotation grazing systems such as is implemented on the Twin Peaks Allotment as having objective utilization levels not to exceed 60% in the early use pasture and 40% in the late use (deferred) pasture.

Objective Attainment Determination and Rationale: partially met.

At key areas the moderate utilization objective was exceeded on 3 of 20 transects measured in 1999. Use pattern data indicates that the objective was not achieved on Mixie Flat, Horse Corral Spring/Burn Spring area, and in the vicinity of Buffalo Well in the north pasture. The heavy utilization was attributed to a combination of cattle, sheep and wild horse grazing. During 1998 and 1999, in the south pasture, heavy utilization occurred in the Spencer Basin, the southern end of Dry Valley Rim, and near Three Springs. This utilization was contributed to wild horses. In 1998, cattle contributed to heavy utilization in the upper Skedaddle Creek area. However, during 1997 and 1998, the utilization objective was not exceeded on key area transects measured. From 1993 to 1999, use pattern mapping information indicates that the acreage of heavy use has increased from 1% to an

estimated 5% of the allotment. This increase of utilization levels is contributed to lower forage production in 1999, and doubling of wild horse population since the early 1990's. However, the majority of the allotment was use pattern mapped in the slight use class during this period. Utilization information is summarized in Appendix 4.

(2) Trend: The long term objective is to improve 28% of the 176,155 acres in poor to fair range condition, and 36% of the 158,180 acres in fair to good, and maintain 25,165 acres in good and excellent range condition. Allow winter livestock grazing at levels to minimize conflicts with wintering wildlife. (ROD/AMP)

Objective Attainment Determination and Rationale: partially met.

Trend determinations were based on comparing the 1994 key area ecological status (ES) data with the 1979 Soil Vegetation Inventory Method (SVIM) Ecological Status stratification map. There were some difficulties with this comparison because the locations of 1994 ES key areas are different than 1979 SVIM transect sites. In spite of this, the comparison of ES information provides an indication of upland trend on the allotment. The initial correlation indicates that approximately 7,500 acres (4%) have improved from poor to fair condition (from early seral to mid seral stage), approximately 34,877 acres (22%) have improved from fair to good condition (mid seral to late seral stage), and approximately 5,000 acres (3%) have improved from poor to good (early seral to late seral stage). The 25,165 acres in good and excellent condition were maintained. Approximately 10,000 acres remained in fair condition and 54,155 remained in poor condition. This accounts for only about 35% of the entire allotment. The condition of the remaining 65% of the allotment had not been determined.

In analyzing the ES data, there is no discernable correlation between changes in ES, and either elevation, precipitation zones and site productivity. There was no strong correlation between trend and utilization measured at key areas.

Trend-Frequency Information

Frequency information gathered and analyzed from 1983 to 1994 showed that allotment wide there is a general decline in shrubs, forbs increased, and grasses were static. The following frequency summary is of perennial plant grouping by number of key area transects.

<u>FREQUENCY</u>	<u>FORBS</u>	<u>GRASSES</u>	<u>SHRUBS</u>
Moderate Increase	5	-	-
Strong Increase	1	-	-
Static (not apparent)	14	19	11
Moderate Decrease	-	1	9

Strong Decrease - - -

Further analysis of frequency information is included in Appendix 7, 1983 to 1994 Summary of Trend Frequency information for the Twin Peaks Allotment.

(3) AMP Objective - Riparian Stream Utilization:

On the North Fork of Buffalo Creek, South Fork of Parsnip Wash and Lower Smoke Creek, utilization of riparian associated plant species is 40% of current year's growth.

Objective Attainment Determination and Rationale: partially met.

Riparian streambank utilization determinations were based on the stubble height method as alternative to percentage of forage removed. The stubble height method is widely used for riparian areas, because the method is accurate, and easy to perform. Stubble height of 4-6 inches at the end of the growing season is generally considered adequate for plant vigor and streambank protection during high flows. The stubble height measurement taken at key area transects for the above listed creeks has varied. In 1999, 1 inch stubble heights were measured on the lower transects of north fork of Buffalo Creek, this utilization was attributed to wild horses. On the South Fork of Parsnip Wash, the upper transects had a stubble height of 2.5 inches, and this utilization was attributed to cattle and wild horses. On Lower Smoke Creek the objective has been met during most years. In 1994 the utilization level was exceeded on 3 of 5 transect measured on priority streams. Based on use pattern mapping, utilization levels were exceeded in 1992 and 1993. Additional stream riparian transects were established on Chimney Creek, West and Middle Forks of Buffalo Creek, and Painter Creek. This utilization information is contained in Appendix 4.

(4) AMP Objective - Key Mountain Browse Utilization:

Utilization of key mountain browse and grass species in the upland habitats shall not exceed 60%.

Objective Attainment Determination and Rationale: partially met.

In 1999 utilization of key browse species (*bitterbrush*) was exceeded on two key areas transects measured. Utilization on bitterbrush was not determined from 1995 to 1998. In 1994, utilization was determined on 18 Cole Browse Transects, and the objective was exceeded on 3 transects. Also in 1994, mule deer use on bitterbrush was 33% in the Pilgrim Lake area (Rowland subdivision). In 1993, bitterbrush utilization did not exceeded on the measured transects (see Appendix 4). In 1992, utilization objectives for bitterbrush were exceeded on nearly all transects. Spring grass and forb production was extremely low in 1992 due to very dry conditions, contributing to browse overuse.

An updated habitat rating has not been conducted for the Twin Peaks Allotment since the MFP was issued, but it is believed that the mule deer transition and winter habitat may be

in less than optimum condition. The decline of shrubs in during the late 1980's and low thermal cover because of low site potential on some winter ranges affects mule deer habitat rating. Other factors contributing to the low habitat rating include an increase in cheatgrass, and other annual plants, particularly on lower elevations following wildfire. On some summer ranges, there has been a subsequent decrease in preferred forage species i.e., primarily sagebrush or antelope bitterbrush, and corresponding increase in perennial grass species. The overall site potential that accounts for natural events such as fire and drought is generally 15-30% shrubs, 10-15% forbs, and 50-80% grass on the allotment.

Deer numbers from 1978 to 1999, for the East Lassen Management Area are shown in Appendix 3 (Note that Twin Peaks Allotment includes approximately 28% percent of the East Lassen Area). Following a sharp decline during the winter 1992/1993, there has been a gradual increase in numbers. While there are many viewpoints for the mule deer decline on the allotment and across the region, the 1979 numbers may be inordinately high when considering habitat changes within the allotment and that the current mule deer population appear to be at a sustainable level.

Pronghorn antelope numbers have increased since 1993, in North Washoe County Management Areas 011-015. In 1999, a high recruitment rate of 50 fawns per 100 does was reported in 015 unit by Nevada Division of Wildlife.

No determination was made for as to whether mule deer and pronghorn antelope Land Use Plan population "objective" numbers are being met. The greatest difficulty in determining whether the objectives are being met is that BLM administrative boundaries and the state agency's game unit boundaries do not match. The management decisions established in the LUP and field assessments are completed on a allotment basis.

Utilization information indicates most of the allotment is in the slight to light class, this suggests that forage availability is not limiting the herd population size. A mule deer forage quality study is currently being carried out within the Nevada portion of the Eagle Lake Field Office area in cooperation with the Natural resources Conservation service, and Texas A&M University. Quantifying the actual available habitat based upon wildlife use has not been determined. Factors affecting habitat for mule deer objective numbers include loss of the habitat shrub component because of wildfires such as the Big Springs burn and the Twin burn of the 1980's. The higher elevation Big Springs burn is recovering naturally, and the reproduction of bitterbrush and sage brush is increasing. However, the lower elevation Twin burn is still dominated by exotic annual plants, and generally sage brush and other shrubs have not re-established on the burned area.

The analysis of frequency data suggests that shrubs as a group are downward on 45% of the sites. This is supported by the 1994 Cole Browse studies, which indicates there is currently a high percentage of decadent bitterbrush. The decline in sagebrush canopy cover combined with loss of perennial grass understory has had a negative affect on sage grouse populations.

(7) Wildlife Habitat - Enhance and maintain aspen groves in good condition.

Several management actions are specific to pastures or subdivisions or subunits.

5.1 Allotment Issues

- ▶ Rangeland health standards 1 and 3 are not being met on thirty (30) riparian/wetland stream sites that are functioning at risk with a static or downward trend. This determination is based on riparian functional assessment data and utilization information collected at riparian/wetlands areas (springs, seeps and streams) on the allotment. Existing livestock management, and the current population of wild horses and burros have contributed to not meeting the riparian standards on the allotment. The following Table 5.1, shows actual use by livestock and wild horses and burros.

Table 5.1, 1989 to 1999 Actual Use Summary for Livestock, Wild Horses and Burros.

Twin Peaks North Pasture, and Twin Peaks North Home Range Use (AUMs)

User	99	98	97	96	95	94	93	92	91	90	89	ave
Horses Burros	7036	5820	4584	1824	4464	3588	4728	4116	3861	3300	4794	4374
Sheep	2448	1935	1577	1482	1874	1273	1427	1846	1452	1614	1395	1666
Cattle	7901	808	7728	763	9378	2878	4817	1252	6497	2499	4565	4440

Twin Peaks South Pasture, Skedaddle and Dry Valley Rim Home Ranges Actual Use (AUMs)

User	99	98	97	96	95	94	93	92	91	90	89	ave
Horses Burros	7631	5664	4920	4468	3819	3012	3156	2619	2173	1804	2952	3838
Sheep	1614	1145	1299	919	1476	1410	1567	1008	1415	889	983	1248
Cattle	80*	6528	212	7305	213	4781	2274	4795	1624	6515	4565	3536

* estimated unauthorized use by a non-permittee

- ▶ Use pattern mapping data indicates that the heavy utilization on the upland rangelands increased from approximately 1% in 1992/1993 to 5% in 1999. Actual use data indicates population of wild horse population has doubled during the 1990's, while livestock actual use was unchanged and wildlife use was down. However, upland key area utilization is generally in the slight to light class during the 1990's. The acreage of heavy utilization would be less by reducing the current population of wild horses and burros to the recommended AML. Increasing existing livestock management would also reduce areas of heavy utilization.
- ▶ Significant portions of the allotment are classified in low or mid seral ecological status condition. The lack of perennial grass composition and/or recruitment perennial

Objective Attainment Determination and Rationale: partially met.

In 1992, the Eagle Lake Field Office initiated an inventory of the quaking aspen (*Populus tremuloides*) communities within the Cal-Neva Planning Unit. This inventory was designed to determine: 1) understory composition, 2) understory cover, 3) stand area, 4) stem density, and 5) size of trees and the condition of those trees. This study included nine aspen stands in the planning unit. See this report for findings and assessment of aspen communities.

(8) Aquatic Habitat Management Plan Objectives for Upper Smoke Creek

Objective Attainment Determination and Rationale

The goal is to restore and maintain the capability of the Upper Smoke Creek to provide habitat suitable for the survival and reproduction of trout and to increase habitat quality for all species associated with riparian habitats. The general management goal is intended to provide for full riparian vegetation expression based on site potential, and to increase the woody plant composition. Protecting riparian vegetation fencing was completed by 1997, to exclude livestock and wild horses was completed on approximately 99% of the public land portion of the creek. Water gaps were constructed in the fence to allow access for livestock and wild horses to water. In 1995, the Riparian Functional Assessment Survey was completed on Upper Smoke Creek, and the creek was determined to be in properly functioning condition. But, this condition does not mean desired habitat conditions are present on the creek. Habitat information collected during the survey found that the riparian/wetland area is dominated by herbaceous vegetation and that shrubs and trees were generally scarce along the creek

(9) Twin Peaks Herd Management Area Objectives

The long term objective is to manage the wild horses and burros in the Twin Peaks HMAP as a viable population of healthy animals.

Objective Attainment Determination and Rationale: partially met.

Wild horses and burros appear to be in good condition with minimum death losses and high reproduction rates. The latest census information confirms this. Through the evaluation period wild horses and burros have increased at an average rate of 17% per year. The herd has doubled since the early 1990's, despite two gathers in the Twin Peaks North Home Range. This high recruitment rate implies that wild horses and burros have a high survival rate and are very well adapted to the habitat in this HMA. However, if populations are not controlled, the horses have the capability to destroy their habitat, as well as capacity of habitat to support other animals.

5. TECHNICAL RECOMMENDATIONS

This section lists identified issues, and proposed management actions for the allotment.

grass, and invasive non-native plants have contributed to this condition.

- ▶ Certain AMP grazing provisions allow for cattle grazing in the north pasture each year during the growing season are not consistent with the Cal-Neva LUP. These grazing provisions can be contributing to lower perennial grass vigor and composition.

In 1983, the Twin Peaks Allotment was segregated from the Cal-Neva Planning Unit. The management decision made was to divide the allotment into two pastures, and to implement a deferred grazing system. The deferred pasture can be grazed after July 1, until the end of the permitted season of use. These management actions generally implemented ROD goals and have resulted in observable improvement on the higher elevations of the allotment. In 1992 the AMP was modified to allow 225 cows to enter the north pasture on April 15, during south pasture turnout years.

5.2 Short Term Solutions- Changes to AMP Grazing Provisions

The following management actions amend, repeal, and add provisions to the 1985 Twin Peaks Allotment Management Plan, as amended; therefore, existing grazing provisions proposed to be deleted are printed in ~~strikeout~~ type and new provisions proposed to be added are printed in *italic type* to indicate that they are new.

AMP B. Goals and Objectives (page 7)

AMP 3. Allotment Specific Objectives

a. Forage Utilization

Utilization of key forage species shall not exceed moderate use level of 40-60% ~~exclusive of water sacrifice areas.~~

AMP C. Grazing System (page 8)

AMP 3. Cattle Operation

Basic Grazing Season, ~~March 1 to December 31.~~ *April 1 to January 31.*

Espil 991 Cattle ~~3/01 to 12/31~~ *4/01 to 01/31* 9910 AUMs

AMP Basic Grazing System (page 9)

North Pasture (*turnout years*)

~~Prior to April 1, all cattle, both Espil's and Laver's are to be turned out in the area east of Buffalo Creek and northeast of Burro Mtn. (see enclosed map 2 for Espil's north pasture turn-out area).~~ After April 1, cattle can be turned out in ~~any location~~ of the north pasture ~~except the management area (see enclosed map 2 for location)~~ *based on Annual Operating Plan (AOP) basic grazing system guidelines.* After July 1, cattle can be moved to the south

pasture.

South Pasture (*turnout years*)

~~Prior to April 1, all cattle both Espil's and Laver's are to be turned out in the area east of Dry Valley Rim and east and south of Burro Mtn. (see enclosed map Espil's south pasture turnout area). Prior to June 1 and after April 1, Laver's recommended turnout areas are either E. Skedaddle Creek Drainage and/or Spencer Basin (see enclosed map 2 for locations of both areas). No cattle are to be turned out in the Skedaddle Management Area prior to June 1 (see enclosed map 2 for location). After July 1, cattle can be moved to the north pasture. Espil's cattle are to be turned out based on the AOP basic grazing system guidelines.~~

The Annual Operating Plan for Intended Livestock Grazing. Guidelines for North Pasture Subdivisions

Buffalo Subdivision

During north pasture turnout years cattle would be turned from April 1 through May 31 in the Buffalo Subdivision. The actual date of movement out of subdivision would depend on soil moisture conditions at the higher elevations where cattle would be herded. Some cattle would drift to the higher elevations after turnout, because of a lack of fencing. However, all cattle would be herded from the subdivision by May 31. Because stray cattle will tend to concentrate on riparian areas during the hot season, and this use may not allow for regrowth and continued recovery of riparian systems in the subdivision. The cattle would be trailed across the subdivision in the fall as they are removed from the higher elevations of the allotment.

Sheep use the Buffalo Subdivision for lambing in April and May. During this period the sheep are spread out across the landscape and the use is not concentrated. Sheep actual use in the subdivision varies annually, depending on precipitation and temperature. Sheep are also trailed through this subdivision in the fall for about 15 days.

Buffalo Hills Subdivision

Cattle and sheep use the lower slopes of this subdivision in conjunction with the Buffalo Subdivision. During the summer period, several higher elevation drainages such as Crooked and Trail canyons receive cattle use. However, most of this subdivision has limited cattle use because of steep slopes and rocky terrain. Sheep also use Horse Canyon, and adjoining areas during the spring lambing.

Black Mountain

During north pasture turnout years, cattle use would be delayed until June 1. During south pasture turnout years the Black Mountain subdivision would be rested.

One band of sheep will use this subdivision in late May for about 2-3 weeks. Majority of the sheep

use occurs in the western portion of the subdivision. In the fall, about 2000 sheep are trailed across the subdivision, en route to the winter ranges.

Painter Subdivision

Cattle use would be deferred each year until about July 1, or the approximate seed date for perennial grasses on the uplands. Deferring use each year would maintain the vigor and production of perennial grasses. It will be necessary to control cattle use by riding and herding to prevent over grazing on certain riparian and upland areas located from Rocky Table Spring to Mixie Flat.

Sheep use consists approximately 1000 ewes with lambs from about April 15 to June 15. In the fall about 2000 sheep will trail through the subdivision, en-route to the winter ranges

Dry Valley and Salt March Subdivisions

The Dry Valley and Salt March subdivisions would be used as winter range from approximately November 1 to January 31. Cattle use could also occur in early April, when the cattle are herded through the subdivision. Otherwise the subdivision would be rested from cattle use from February, 1 to October 31.

The AOP Livestock Grazing Guidelines for South Pasture Subdivisions

Dry Valley Rim Subdivision

The Dry Valley Rim subdivision would be grazed by cattle from April 1 to July 1 during south pasture turnout years. The subdivision would be rested during north pasture turnout years. The Dry Valley subdivision is also used for lambing during months of April and May. On rare occasions the dry band will use the subdivision during the late spring or summer months.

Skedaddle Subdivision

The Skedaddle Subdivision would be grazed by cattle from June 1, to October 31 during south pasture turnout years, and may be grazed by cattle from July 1, to October 31 during north pasture years. Sheep use this subdivision on an annual basis from approximately May 1, to June 15, as per AMP grazing provisions.

Five Springs Subdivision

Cattle turnout in the Five Spring subdivision would be delayed on Medusahead prone areas until soils are sufficiently dry to prevent to soil structure damage from trampling.

(Continue to manage Rowland Mountain, Chimney, and Stone Corral Subdivisions as described in the AMP grazing provisions).

AMP 4. Sheep Operation

Season of use: ~~March 1 to December 31~~; *April 1 to October 25*

AMP E. Administration (page 25)

AMP 2. Flexibility/Requirements

A. ~~Adjustments in use without BLM approval~~

- ▶ ~~Increase livestock numbers up to 15% from basic operation~~
- ▶ ~~Reduce livestock numbers up to 30% from basic operation~~

Adjustments in grazing use from the basic operation will be made by the permittees on the Annual Grazing Application, Form 4130-3a. This form will be provided to the BLM prior to livestock turnout.

The combined number of maximum cattle AUMs and sheep AUMs stated in the basic operation section of the AMP cannot exceed active preference as stated on their grazing permit.

AMP Addendum Changes

C. Management Refinements

1. North Pasture

~~In even numbered years, up to 225 Espil cattle will be authorized to graze in the north pasture from April 15 to December 31 provided that the total number of Espil cattle grazing the allotment does not exceed the numbers provided for in the basic operation and flexibility sections of the AMP (This grazing provision is deleted in its entirety, see rationale below).~~

2. Lower Smoke Creek Sub-Unit

Up to ~~200~~ 300 - 350 cattle will be authorized to use Lower Smoke Creek area from ~~March 1, to April 30~~ *April 1 to May 5*, annually, subject to the terms and conditions contained within this addendum. Since the grazing capacity for this area . . .

D. Terms and Conditions Refinements

2. Except for trailing along the Smoke Creek Road, no use shall be made in the Smoke Creek Subunit after ~~April 30~~ *May 5*. Maximum allowable use levels on the Lower Smoke Creek riparian areas are 40 percent (*or 4-6 inch minimum stubble height*) of total current's production, *as determined at the end of the growing season.*

Considerations - Smoke Creek Subunit has few physical barriers. The permittees will make diligent effort to remove and keep the livestock from this subunit after April 30 May 5, and be promptly responsive to notification from BLM.

4. After April 30, should estimated utilization of riparian-associated plants in the publicly owned portions of the North Fork of Buffalo Creek drainage and Parsnip Creek drainage be determined to be approaching or to be reached 40 percent utilization, (or 4-6 minimum stubble height) as determined by the BLM . . .

Additional Management Refinements

Implement management actions specific to riparian/wetland sites identified in Appendix 6, for the purpose of improving the functional condition of riparian/wetlands not meeting the rangeland health riparian standards.

Grazing by cattle and sheep is excluded within area enclosed by fences for the following areas: Stone Corral Enclosure, Rocky Table Spring, Parsnip Springs, South Twin Springs (2), Phone Springs, Pilgrim Reservoir, and Coyote Springs.

Rationale for Implementing the Annual Plan of Operation Grazing Guidelines.

The Annual Operating Plan (AOP) is written after reviewing monitoring data and other information available for immediate adjustment to grazing use. The AOP improves communication and coordination along BLM, the permittees, and the interested public. The management guidelines would be implemented on sub unit or subdivision basis. The AOP would provide for rest periods within the pastures for the purpose improving plant vigor. The existing AMP can allow for season long grazing pasture on certain areas of the allotment. This grazing is not consistent with the Cal-Neva grazing EIS. The AOP guidelines conform with a draft holistic management package developed for the Twin Peaks Allotment in 1994. The draft document was developed in 1993 and 1994, by Cooperative Extension advisors from California and Nevada, the BLM, Twin Peaks Allotment permittees, and other interested parties.

Rationale for AMP Grazing Provision Changes

Short term monitoring information suggests that the allotment's existing infrastructure is a significant factor that contributes to overuse on many riparian/wetland areas. The large allotment, is without major internal structures such as fencing, and natural barriers, to provide for area-specific management. There are several management opportunities that can be used to reduce the effects of livestock and wild horses in riparian areas, and without additional structures. Because of the regrowth that occurs in riparian areas particularly if grazing ends before July 15, an area open to grazing in the spring and rested the remainder of the year would result in sufficient residual vegetation to improve riparian conditions. Riparian areas generally are least affected during the spring season by cattle, because upland forage tends to lush and draws cattle away from the riparian areas. This management strategy was implemented in 1992, for Lower Smoke Creek area where

grazing use occurs in April. The stream is rested the remainder of the year to allow vegetation regrowth and to provide for stream banks stability during periods of high runoff. The Chimney Creek area is also used spring season (during April and May), and then rested to allow for regrowth during the summer (hot season) then grazed late in the fall season and early winter (after mid-October). However no grazing system has been devised for ensuring proper use of small riparian meadows within extensive upland range. The riparian area is fenced and water is provided off site, this has implemented for 25 springs. Where total exclusion is the option - corridor fencing is used on streams for restoring and maintaining streamside vegetation, this strategy was implemented at upper Smoke Creek. Although grazing strategies have proven valuable, with grazing management often there are increased costs associated with fence construction and maintenance, and herding.

In the Black Mountain subdivision the clay soils on the north and east benches above Upper Smoke Creek are of concern. These clay soils are prone to exotic plants invasion and dominance by cheatgrass and Medusahead. Cattle would be turned out when soils are sufficiently dry to prevent damage to soil structure by trampling. The Medusahead soils also occur on the lower benches of Five Springs Mountains. Cattle turnout would occur after April 15. These grazing guidelines are consistent with AMP range condition objectives (3.B.g.) preventing the expansion of Medusahead.

The effects of these management actions in the long term (20 years) would be the existing perennial grass, grass-like plants, and forbs would increase in vigor and productivity. Use pattern information indicates that stocking levels may be adequate for each pasture with improved management.

Rationale for season of use changes.

The revised season of use would reduce the likelihood of trampling damage to soils, and would reduce cattle grazing during the early growing season on salt desert shrubs. Winter use areas would correlate with the Dry Valley and Salt Marsh subdivisions. The majority of the grazing in the winter range would occur during plant dormancy having relatively little impact on the vegetation, particularly for grasses. The revised season of use is consistent with the Cal-Neva Land Use Plan directives, and the Twin Peaks AMP, preventing the introductory spread of medusahead through the allotment by vegetation manipulation and grazing management techniques (B.3.g.).

Rationale Eliminating the flexibility in the existing 2-pasture deferred grazing system.

Retain the existing the grazing system but eliminate flexibility in the AMP that allows cattle use in the deferred pasture before the deferment date of 7/1. This flexibility is not consistent with LUP decision that requires one season of growing season rest, for each grazing season. The deferred grazing system does not provide for adequate rest on several areas in allotment because of considerable grazing overlap by cattle, sheep, wild horses and burros. Eliminate the flexibility in the existing 2-pasture deferred grazing system that allows cattle use in the deferred pasture before the deferment date of 7/1.

Rationale for Riparian Stubble Height Utilization Guidelines

Determining Riparian utilization by the stubble height method or the height of ungrazed herbage provides reliable information between samplers. The stubble height of 4-6 inches is generally considered adequate for streambank protection and plant vigor.

5.3 Allotment Carrying Capacity

The allotment carrying capacity for livestock and wild horses on public lands is 19,994 AUMs. The allocation for cattle and sheep is 13,430 AUMs and for wild horses is 5,616 AUMs and for Burros is 948 AUMs..

5.3.1 Livestock Carrying Capacity

The livestock forage allocations and mandatory terms and conditions are shown in below:

John Espil Sheep Company Incorporated:

<u>Number</u>	<u>Kind</u>	<u>Period of Use</u>	<u>Permitted AUMs</u>
971	Cattle	04/01 to 01/31	9,769
4000	Sheep	04/01 to 05/30	1,578
2000	Sheep	06/01 to 06/30	395
2000	Sheep	09/16 to 09/30	197
4000	Sheep	10/01 to 10/25	658

Laver Ranches:

<u>Number</u>	<u>Kind</u>	<u>Period of Use</u>	<u>Permitted AUMs</u>
102	Cattle	04/16 to 10/31	667

5.3.2 Wild Horse and Burro Management

The wild horse and burro appropriate management levels are identified in Table 5.3.2. The lower population level is based on a four year gather cycle. The current population of wild horse and burro would be reduced to the minimum levels, and then allowed to increase to the high range.

Table 5.3.2 Twin Peaks Allotment Wild Horse and Burro Appropriate Management Levels

MANAGEMENT UNITS and APPROPRIATE MANAGEMENT LEVELS		
Home Range	HORSE RANGE	BURRO RANGE
Twin Peaks North	165 - 288	22 - 42
Skedaddle,	62 -108	10 -15
Dry Valley Rim	42 - 72	15 - 22
Allotment Totals	269 - 468	47 - 79

Rationale for Management Levels

Monitoring information indicates that current yearlong population of wild horses is contributing to overgrazing and trampling of certain riparian/ wetland areas on the allotment. The current population of wild horses has also resulted in overgrazing key perennial grasses on certain upland areas in the allotment. In several instances, overgrazing occurred during when the pasture was rested from cattle use. This has slowed the recovery of native perennial grasses, and the recovery of several riparian spring sites. As the wild horse and burro population increases, these impacts can become extreme, particularly during the hot dry season as animals tend to concentrate on riparian spring sites. The reduction in the current population of wild horses and burros is necessary to progress towards meeting resource objectives, and rangeland health standards and guidelines. To alleviate this overuse the current population of wild horses and burros must be reduced, and the population would be managed as identified in Table 5.3.2. The wild horse and burro Appropriate Management Level (AML) maximum range represents the optimum number of wild horses and burros of each home range. These AML's are the same as those identified in the Twin Peaks Herd Management Plan. The minimum number is based on a four year gather cycle, and an annual recruitment rate of approximately 17percent. The recommended AML would continue to provide for viable herds, and would also provide for a thriving natural ecological balance in the home ranges. These conclusions are based on the analysis and interpretation of monitoring data such as utilization information and precipitation information, actual use, riparian functional assessment, and rangeland health assessments. In the rested pasture some riparian areas would continue to receive heavy use from wild horses and burros, however the acreage of heavy utilization levels would decrease overall in the rested pasture.

Monitoring information indicates that with improved livestock management practices that Rangeland Health Standard and ROD objectives would be met under recommended

stocking levels for livestock and wild horses and burros. The proposed changes to the AMP would improve native plant vigor and ensure sufficient residual vegetation for rangelands to improve water infiltration and maintain soil moisture. The proposed grazing guidelines reduce the likelihood of grazing impacts on vertisol soils.

5.3.3 Wildlife Management

Wildlife habitat management strategies will be established in accordance with the appropriate (Native Species or Biodiversity) Rangeland Health Standard. Mule deer, and sage grouse issues are being addressed on a regional basis, with regional input, and will include recommendations for reaching habitat objectives. The updated Guidelines for Sage Grouse Management, which includes updated habitat requirements and guidelines will be applied by the BLM were feasible. Feasibility will be determined based on providing healthy sagebrush/perennial grass habitats, and legislative direction .

5.4 Proposed Projects - Long Term Solutions

Skedaddle Mountain Aspen Project: Proposed project includes fencing and burning two acre aspen stands to promote regeneration of this decadent stand.

Chimney Area Rehabilitation Project: Trail seed approximately 75 acres of the 1985 Twin wildlife area dominated by exotic annual plants. Native seed mix would consist primarily of shrubs.

Five Springs Medusahead Control and Restoration Project: On 2 small plots on Five Springs Mountains, researchers will study the effects of soil amendments, fire regimes, and native seed mix on medusahead control and site restoration. Study is over a 3-year period.

5.5 Future Monitoring and Evaluations.

The Eagle Lake Field Office will continue to monitor all existing studies and establish additional studies shown below for purposes of measuring vegetation and other resource attributes. The monitoring data collected in the future would provide necessary information for to determine the level of progress in meeting management objectives, and Rangeland Health Standards. If monitoring information identifies resource problems, changes would be made on an annual basis.

- > Assess existing upland key areas for adequacy of information gathered.
- > Reassessing ecological status on key areas, and continue to collect cover and litter information at 5-7 year intervals using the appropriate methodology described in BLM technical references. Frequency data will not be collected in the future because this information is of limited utility in assessing Rangeland Health. Frequency is nonabsolute because it is easily influenced by plot size, and, in reality is limited to providing presence or absence data. Cover and litter are important vegetation characteristics for determining habitat conditions, and for determining the integrity of the biotic community.

- > Continue to collect riparian "Greenline" information for assessing riparian condition and trend.
- > Reexamine riparian sites determined to functioning at risk with static or downward trends in 1995/96. Collect addition riparian functionality data on sites not assessed.
- > Utilization pattern mapping would continue to occur on the allotment for at least 1 grazing cycle, following the implementation of the purposed management changes.
- ▶ Continue to collect utilization data on the priority and key riparian spring wetlands, and streams.

6. Consultation

In August 1996, the Twin Peaks Allotment interested public list was updated by soliciting to all known interested public a request requiring positive written response reaffirms their desire to be involved with the allotment management. Based on the response to this letter, eight entities are recognized as interested public, not including permittees and state agencies.

Conclusions of this allotment evaluation were based upon monitoring data collected and consultation, cooperation, and coordination from the livestock permittees, wild horse and burros interests, state wildlife agencies and other interested parties.

7. NEPA Review

A NEPA review will conducted to determine if the management actions developed through the evaluation process are in conformance with the range of alternatives identified in the Cal-Neva Land Use Plan Final Environmental Impact Statement, the Environmental Assessment CA-026-92-07: Concerning Grazing in the Twin Peaks Allotment, Decision Record, March 6, 1992. The Rangeland Reform '94 Final Environmental Impact Statement.

Appendix 1, Land Use Planning Information and Glossary

A. Land Use Plan Objectives:

• 1. Twin Peaks Herd Management Area Plan Objectives

"Adjust wild horse and burros populations to 600 horses and 75 burros. Allow populations to build to 850 and 110, respectively, when range condition improves."

The Land Use Plan did not address any other management constraints for wild horses or burros. The following is a list of other Land Use Plan decisions which may affect the management of wild horses and burros in the Cal-Neva Planning Unit:

- Divide the Cal-Neva Summer Allotment into three use areas [allotments].
- Implement intensive grazing systems on the Cal-Neva Summer, Cal-Neva Winter, Spanish Springs AMP, and Shinn Mountain Individual Allotments. Develop systems to give particular consideration toward improving and maintaining riparian, wetland, and meadow habitat to enhance and protect wildlife and watershed values. Monitor key areas to determine to what degree the systems are meeting the resource objectives.
- Provide a minimum of one season's rest from cattle during the growing season for every year's grazing during the growing season.
- Establish grazing seasons to meet plant and soil needs.
- Establish moderate use limitations of 40 percent to 60 percent use during the grazing season.
- Authorizations near existing livestock use of 25,248 AUM's for cattle and 4,766 AUM's for sheep. Adjust future stocking levels as range conditions and trend improves and production increases.
- Allow partial conversion of cattle to sheep use.
- To allocate forage for "reasonable" and "objective" wildlife populations (deer -12,900 winter and 10,700 non-winter, and antelope - 2,000 winter and 1,300 resident non-winter) as determined by the Nevada Department of Wildlife and the California Department of Fish and Game.
- To maintain or enhance soil, within its potential as a growing medium for range plants, to provide for the sustained yield of desirable range plants. Generally on range lands, 2 tons/acre/year are considered tolerable surface soil loss.
- 2. General Land Use Goals for the Twin Peaks Allotment
 - Develop an intensive grazing system which will eventually achieve the following: Fair ecological range condition and upward trend or stable trend on those sites already in good condition.
 - Improve water distribution to obtain better dispersement of livestock, horses and burros.
 - Provide habitat for objective deer and antelope populations as well as maintain or improve condition of fawning and kidding grounds.
 - Improve important wildlife habitat including riparian and meadow areas.
 - Maintain or enhance soil to provide for the sustained yield of desirable range plants with no more than 2 tons/acre/year soil loss.
 - Manage wild horse and burro populations to assure healthy herd condition as well as to prevent undue destruction of the range from over population.

- Maintain or increase water quality and quantity.
- Protect archaeological resources and areas potentially suitable for wilderness consideration as required by law.

B. Standards and Guideline Implementation Process.

- 1. Introduction

BLM uses the monitoring process to determine whether there is satisfactory progress toward meeting resource objectives, and Rangeland Health Standards. The monitoring process involves the analysis and interpretation of resource data, and should establish cause and effect - determining what animal is causing a specific resource condition or resource deterioration. Monitoring is intended to be a continuing land use planning process, whereby new monitoring data will be used to periodically update the forage allocation decisions for wild horses, wildlife and livestock. Management objectives dictate the types of monitoring studies are initiated. The evaluation process recommends management actions that are needed to meet the objectives to accomplish specific management objectives. Such conclusions apply to the planning purposes, and in particular, for determining management actions and establish new or revised management objectives.

- 2. Implementation Process

Implementation of Rangeland Health Standards and Guidelines will follow four basic steps, including initial screening, management change, monitoring and additional inventory or assessment. Monitoring information is used to determine if allotment specific objectives and standards are being met. Any changes in permitted use and/or the terms and conditions of the grazing permit are supported by monitoring, field observations, ecological site inventory or other data acceptable to the authorized officer. Monitoring is conducted in accordance with procedures and methodologies identified in BLM and Interagency Technical References and the 1992 Twin Peaks Allotment Monitoring Action Plan.

It is not possible to complete assessments of rangeland health and to take the appropriate corrective action as necessary on all public rangelands. BLM prioritized allotments based on management needs and by using the Selective Management system established in Cal-Neva EIS ROD.

- 3. Allotment Screening and Categories.

Each allotment was classified into categories, based upon available data, and professional judgement of the staff. There is a total of four allotment categories:

1. Areas where one or more standards are not being met, or significant progress is not being made toward meeting the standard(s), and livestock grazing are a significant contributor factor to the problem;
2. Areas where all standards are being met, or significant progress is being made toward meeting the standard(s);
3. Areas where the status for one or more standards is not known, or the cause of the failure to not meet the standard(s) is not known;
4. Areas where one or more standards are not being met, or significant progress is not being made toward meeting the standard(s), but some factor other than livestock grazing is the primary contributor to the problem.

C. Background Information for the multiple use decision process

- 1. Permitted Grazing Use.

The amount of grazing use authorized by the BLM is based on available forage as established in the land use plans, activity plans or decision and is expressed in animal unit months (AUMS). This is referred to as Permitted Use. Permitted use is specified in grazing permits or grazing leases. It includes all authorized use, and any suspended use. Active use or authorized grazing use made by a permittee annually may include a portion or all of the permitted use. Active use may also vary by grazing year and could be less than the permitted use. Any changes required to the amount of grazing use are made from permitted use. Changes could include an increase or decrease in permitted use and/or modification to management practices.

Changes to permitted use are implemented through a documented agreement or by decision. BLM consults with the affected permittees, and the interested public prior to making changes to permitted use.

Suspended use will only be shown on grazing permits and decisions for the purpose of representing historical suspended use and active use which is temporarily withheld. Historical suspended use is the suspended use which was shown on term permits and grazing billings prior to August 21, 1995. Any changes made to permitted use where permitted use has been reduced will be based on meeting or making progress toward meeting land use plan objectives and the standards for grazing administration.

* 2. Wild Horse and Burro Appropriate Management Levels (AML)

The Cal-Neva Land Use Plan established AMLs, permitted use levels, management objectives, and stated monitoring would occur on an allotment basis. At that time forage allocations were based on a one point in time inventory. In 1989 Interior Board of Land Appeals (IBLA) Decision found that AML would be established after inventory and monitoring over time, and not by a one-point in time inventory only.

D. Decision Process

The modification or changes to terms and conditions will be implemented by a multiple use grazing decision (MUD). The basis of the decision is the analysis of monitoring data collected on the allotment. This decision process will be used to establish AML's for wild horses and burros within the allotment. Any recommendations for wildlife populations or habitat management actions required, if determined that these actions are necessary. Issues of livestock, wild horses and burros grazing are all interrelated, primarily because of dietary overlap. Forage allocations are based on all the users of the vegetation resources, rather than separate adjudications. Protest or appeals of the decisions are consolidated for the purpose of a holding one hearing.

E. NEPA Compliance and Conformance

Proposed actions associated with the evaluation process are analyzed through the NEPA process. Management actions or practices developed through the evaluation process are reviewed to determine if they are in conformance with the land use plan decisions and to determine if the actions fall within the scope of the range of alternatives identified in either the Cal-Neva Management Framework Plan August 1982; and the Environmental Assessment Concerning Grazing in the Twin Peaks Allotment dated February 28, 1992; Rangeland Health Standards and Guidelines for California and Northwestern Nevada grazing environmental impact statements dated April 1998. If the proposed actions are in conformance with the land use plans, NEPA requirements are met through the use of the Plan Conformance/NEPA Compliance Record. In those cases when a proposed action is not covered by an existing NEPA document, then an environmental assessment would be conducted. If necessary, NEPA compliance would be conducted when the developments of management actions are completed. In coordination with the public consultation process, development of management actions may occur up to the point of incorporation into the final multiple use decision (FMUD).

F. GLOSSARY

The following definitions are taken from Title 43 of the Code of Federal Regulations (Revised as of October 1, 1996), Subchapter D - Range Management, Subpart 4100-Grazing Administration-Exclusive of Alaska; General, Sec. 4100.0-5 Definitions.

The "Act" means the Taylor Grazing Act (TGA) of June 28, 1934, as amended (43 U.S.C. 315, 315a-315r).

"Active use" means the current authorized use, including livestock grazing and conservation use. Active use may constitute a portion, or all, of permitted use. Active use does not include temporary nonuse or suspended use of forage within all or a portion of an allotment.

"Activity plan" means a plan for managing a resource use or value to achieve specific objectives. For example, an allotment management plan is an activity plan for managing livestock grazing use to improve or maintain rangeland conditions.

"Actual use" means where, how many, what kind or class of livestock, and how long livestock graze on an allotment, or on a portion or pasture of an allotment.

"Actual use report" means a report of the actual livestock grazing use submitted by the permittee or lessee. "Affiliate" means an entity or person that controls, is controlled by, or is under common control with, an applicant, permittee or lessee. The term

"Control" means having any relationship which gives an entity or person authority directly or indirectly to determine the manner in which the an applicant, permittee or lessee conducts grazing operations.

"Allotment" means an area of land designated and managed for grazing of livestock.

"Allotment management plan (AMP)" means a documented program developed as an activity plan, consistent with the definition at 43 U.S.C. 1702(k), that focuses on, and contains the necessary instructions for, the management of livestock grazing on specified public lands to meet resource condition, sustained yield, multiple use, economic and other objectives.

"Animal unit month (AUM)" means the amount of forage necessary for the sustenance of one cow or its equivalent for a period of 1 month.

"Annual rangelands" means those designated areas in which livestock forage production is primarily attributable to annual plants and varies greatly from year to year.

"Authorized officer" means any person authorized by the Secretary to administer regulations in this part.

"Base property" means: (1) Land that has the capability to produce crops or forage that can be used to support authorized livestock for a specified period of the year, or (2) water that is suitable for consumption by livestock and is available and accessible, to the authorized livestock when the public lands are used for livestock grazing.

"Cancelled or cancellation" means a permanent termination of a grazing permit or grazing lease and grazing preference, or free-use grazing permit or other grazing authorization, in whole or in part.

"Class of livestock" means ages and/or sex groups of a kind of livestock.

"Conservation use" means an activity, excluding livestock grazing, on all or a portion of an allotment for purposes of—

- (1) Protecting the land and its resources from destruction or unnecessary injury;
- (2) Improving rangeland conditions; or
- (3) Enhancing resource values, uses, or functions.

"Consultation, cooperation, and coordination" means interaction for the purpose of obtaining advice, or exchanging opinions on issues, plans, or management actions.

"Control" means being responsible for and providing care and management of base property and/or livestock.

"District" means the specific area of public lands administered by a District Manager.

"Ephemeral rangelands" means areas of the Hot Desert Biome (Region) that do not consistently produce enough forage to sustain a livestock operation but may briefly produce unusual volumes of forage to accommodate livestock grazing.

"Grazing district" means the specific area within which the public lands are administered under section 3 of the Act. Public lands outside grazing district boundaries are administered under section 15 of the Act.

"Grazing fee year" means the year, used for billing purposes, which begins on March 1, of a given year and ends on the last day of February of the following year.

"Grazing lease" means a document authorizing use of the public lands outside an established grazing district. Grazing leases specify all authorized use including livestock grazing, suspended use, and conservation use. Leases specify the total number of AUMs apportioned, the area authorized for grazing use, or both.

"Grazing permit" means a document authorizing use of the public lands within an established grazing district. Grazing permits specify all authorized use including livestock grazing, suspended use, and conservation use. Permits specify the total number of AUMs apportioned, the area authorized for grazing use, or both.

"Grazing preference" or "preference" means a superior or priority position against others for the purpose of receiving a grazing permit or lease. This priority is attached to base property owned or controlled by a permittee or lessee.

"Interested public" means an individual, group or organization that has submitted a written request to the authorized officer to be provided an opportunity to be involved in the decision making process for the management of livestock grazing on specific grazing allotments or has submitted written comments to the authorized officer regarding the management of livestock grazing on a specific allotment.

"Land use plan" means a resource management plan, developed under the provisions of 43 CFR part 1600, or management framework plan. These plans are developed through public participation in accordance with the provisions of the Federal Land Policy and Management Act of 1976 and establish management direction for resource uses of public lands.

"Livestock" or "kind of livestock" means species of domestic livestock-- cattle, sheep, horses, burros, and goats.

"Livestock Carrying Capacity" means the maximum stocking rate possible without inducing damage to vegetation or related resources. It may vary from year to year on the same area due to fluctuating forage production.

"Monitoring" means the periodic observation and orderly collection of data to evaluate:
(1) Effects of management actions; and (2) Effectiveness of actions in meeting management objectives.

"Permitted use" means the forage allocated by, or under the guidance of, an applicable land use plan for livestock grazing in an allotment under a permit or lease and is expressed in AUMs.

"Public lands" means any land and interest in land outside of Alaska owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management, except lands held for the benefit of Indians.

"Range improvement" means an authorized physical modification or treatment which is designed to

improve production of forage; change vegetation composition; control patterns of use; provide water; stabilize soil and water conditions; restore, protect and improve the condition of rangeland ecosystems to benefit livestock, wild horses and burros, and fish and wildlife. The term includes, but is not limited to, structures, treatment projects, and use of mechanical devices or modifications achieved through mechanical means.

"Rangeland studies" means any study methods accepted by the authorized officer for collecting data on actual use, utilization, climatic conditions, other special events, and trend to determine if management objectives are being met.

"Secretary" means the Secretary of the Interior or his authorized officer.

"Service area" means the area that can be properly grazed by livestock watering at a certain water.

"State Director" means the State Director, Bureau of Land Management, or his or her authorized representative.

"Supplemental feed" means a feed which supplements the forage available from the public lands and is provided to improve livestock nutrition or rangeland management.

"Suspension" means the temporary withholding from active use, through a decision issued by the authorized officer or by agreement, of part or all of the permitted use in a grazing permit or lease.

"Temporary nonuse" means the authorized withholding, on an annual basis, of all or a portion of permitted livestock use in response to a request of the permittee or lessee.

"Trend" means the direction of change over time, either toward or away from desired management objectives.

"Unauthorized leasing" and "subleasing" means --

(1) The lease or sublease of a Federal grazing permit or lease, associated with the lease or sublease of base property, to another party without a required transfer approved by the authorized officer;

(2) The lease or sublease of a Federal grazing permit or lease to another party without the assignment of the associated base property;

(3) Allowing another party, other than sons and daughters of the grazing permittee or lessee meeting the requirements of § 4130.7(f), to graze on public lands livestock that are not owned or controlled by the permittee or lessee; or

(4) Allowing another party, other than sons and daughters of the grazing permittee or lessee meeting the requirements of § 4130.7(f), to graze livestock on public lands under a pasturing agreement without the approval of the authorized officer.

"Utilization" means the percentage of forage that has been consumed by livestock, wild horses and burros, wildlife and insects during a specified period. The term is also used to refer to the pattern of such use.

YEAR	PASTURE	ACTUAL LIVESTOCK (AUMs)				ACTUAL WILD HORSE BURRO (AUMs)	TOTAL USE (AUMs)	REMARKS
		ESPIL SHEEP	ESPIL CATTLE	LAYER CATTLE	PASTURE TOTAL			
1990	NORTH	1614	2499	0	4113	3492	7605	South pasture turnout for cattle; wild horse and burro use estimated at 17% annual recruitment rate.
	SOUTH	889	5831	665 19 EOU	7404	3456	10860	
	ALLOTMENT TOTAL	2503	8330	684	11517	6948	18465	
1991	NORTH	1452	7282 262 EOU	545 32 EOU	9573	5040	14613	North pasture turnout for cattle; wild horse and burro use estimated at 17% annual recruitment rate. Skedaddle, & Dry Valley Rim Home Ranges gathered.
	SOUTH	1415	*	0	1415	4043	5458	
	ALLOTMENT TOTAL	2867	7544	577	10988	9083	20071	
1992	NORTH	1846	1252	0	3098	6528	9626	South pasture turnout for cattle; livestock drought closure in October; wild horse and burro use estimated at 17% annual recruitment rate. Espil EOU agreement terminated.
	SOUTH	1008	4212	499 84 EOU	5803	2702	8505	
	ALLOTMENT TOTAL	2854	5464	583	8901	9230	18131	
1993	NORTH	1427	4817	0	6244	4226	10470	North pasture turnout for cattle; wild horse and burro use was based on April, 1993 census. North home range gathered.
	SOUTH	1567	1792	444 38 EOU	3841	3256	7097	
	ALLOTMENT TOTAL	2994	6609	482	10085	7482	17567	
1994	NORTH	1273	7878	0	4151	3290	7441	South pasture turnout for cattle; wild horse and burro use was based on October 1994 census. Laver EOU agreement terminated.
	SOUTH	1410	4517	264	6191	3204	9395	
	ALLOTMENT TOTAL	2683	7395	264	10342	6494	16836	

*actual use information not available by pasture.

APPENDIX # 2, TWIN PEAKS ALLOTMENT ACTUAL USE FOR LIVESTOCK, WILD HORSES and BURROS

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YEAR	PASTURE ALLOTMENT	ACTUAL LIVESTOCK (AUMs)				ACTUAL WILD HORSE AND BURRO (AUMs)	TOTAL USE (AUMs)	REMARKS
		ESPIL SHEEP	ESPIL CATTLE	LAVER CATTLE	PASTURE TOTAL			
1985	NORTH	1900	*	0	*	1956	*	South pasture turnout for cattle; wild horse and burro use based on July, 1985 census. EOU = exchange of use; * Actual use information not available by pasture.
	SOUTH	1500	*	825 84 EOU	*	1776	*	
	ALLOTMENT TOTAL	3400	9506	909	13815	3732	17547	
1986	NORTH	1273	*	0	*	3600	*	Interim grazing system called for use in the south pasture due Big Springs & Twin wild fires in north pasture;; wild horse and burro use based on November, 1986 census.
	SOUTH	1410	*	731 84 EOU	*	1500	*	
	ALLOTMENT TOTAL	2683	10541	815	14039	5100	19139	
1987	NORTH	1256	8524 266 EOU	499 84 EOU	10629	4248	14877	North pasture turnout for cattle; wild horse and burro use was estimated at 17% annual recruitment rate.
	SOUTH	1253	*	0	1253	1770	3023	
	ALLOTMENT TOTAL	2509	8790	583	11882	6018	17900	
1988	NORTH	1585	*	0	*	4536	*	South pasture turnout for cattle; wild horse and burro use based on August, 1988 census.
	SOUTH	1073	*	597 37 EOU	*	2664	*	
	ALLOTMENT TOTAL	2658	8344	634	11636	7200	18836	
1989	NORTH	1395	8253 265 EOU	571 41 EOU	10525	4794	15319	North pasture turnout for cattle; wild horse and burro use based on August, 1989 census.
	SOUTH	983	*	0	983	2952	3935	
	ALLOTMENT TOTAL	2378	8518	612	11508	7746	19254	

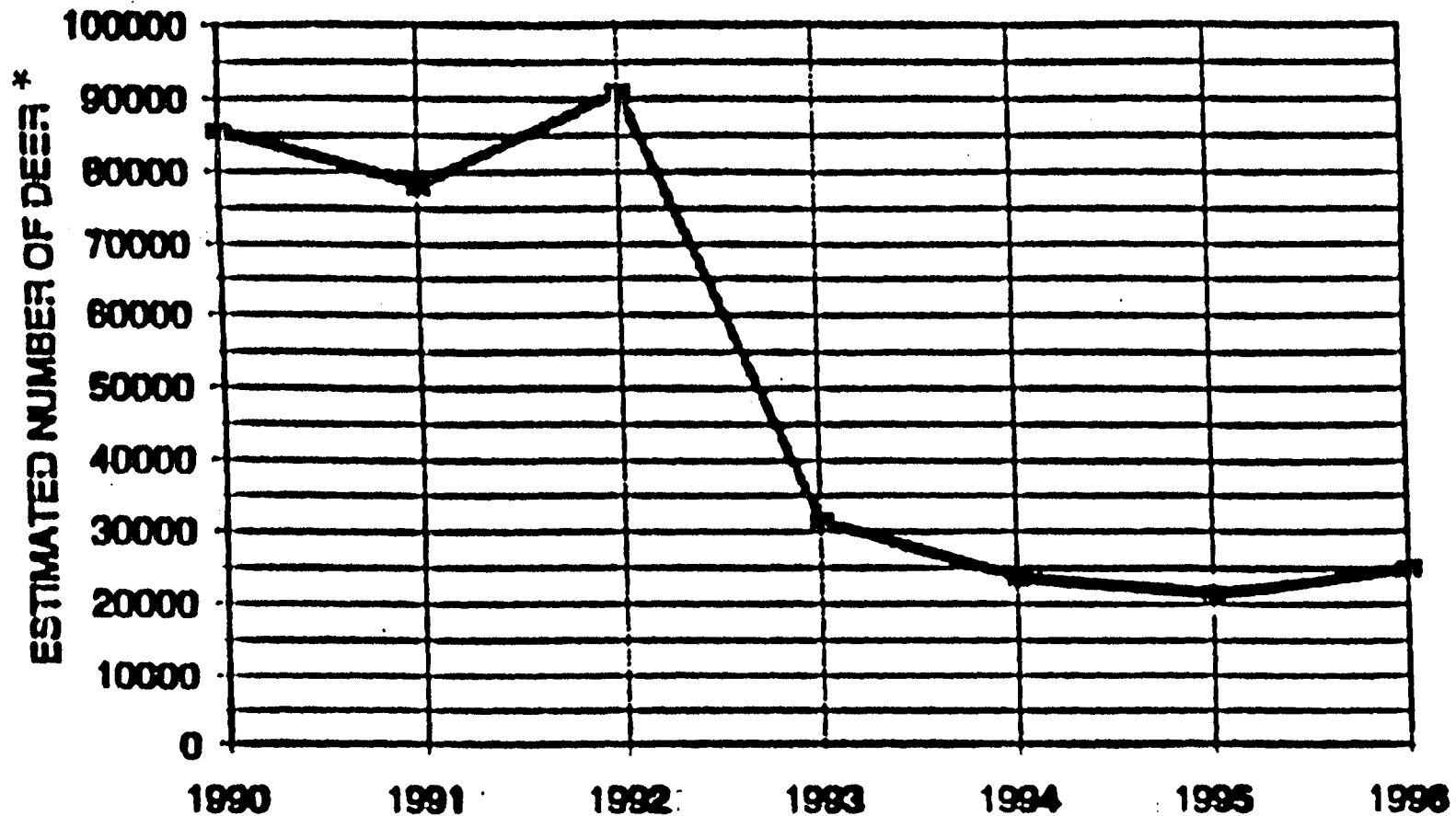
Appendix 3, Mule Deer and Pronghorn Antelope Population and Habitat Information.

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Mule Deer Seasonal Use in Acres by Subdivision			Pronghorn Antelope Use in Acres by Subdivisions.			
<u>Subdivisions</u>	<u>Acres</u>	<u>Percent Use</u>		<u>Acres</u>	<u>Percent Use</u>	<u>Use</u>
Black Mountain	6,589	31%	Winter	15,851	75%	Yearlong/Kidding
	635	3%	Yearlong/Fawning	5,283	25%	Kidding/Yearlong
	13,910	66%	Summer/Transition			
Buffalo	38,347	85%	Winter	1,364	3%	Winter
	1,350	3%	Yearlong/Fawning	40,735	90%	Yearlong/Kidding
	1,701	4%	Summer/Transition	3,102	7%	Winter Concentration
	3,111	7%	Winter/Transition			
	691	1%	Little or No Use			
Buffalo Hills	7,616	44%	Winter	16,345	95%	Yearlong/Kidding
	9,342	54%	Winter/Transition	817	5%	Winter Concentration
	203	2%	Little or No Use			
Chimney	20,053	86%	Winter	3,580	15%	Winter
	2,598	11%	Yearlong/Fawning	17,796	77%	Yearlong/Kidding
	604	3%	Summer/Transition	1,880	8%	Winter Concentration
Dry Valley	20,475	52%	Winter	21,674	55%	Winter
	7,336	18%	Yearlong/Fawning	6,750	17%	Yearlong/Kidding
	11,665	30%	Little or No Use	11,052	28%	Little or No Use
Five Springs	3,007	13%	Transition	3,798	17%	Spring, Summer, Fall, Kidding
	120	.5%	Winter			
	1,235	5%	Yearlong/Fawning	11,845	52%	Yearlong/Kidding
	9,048	40%	Winter/Transition	5,114	23%	Kidding/Yearlong
	9,251	41%	Little or No Use	1,905	8%	Winter Concentration & Yearlong
Lower Smoke Creek	14,013	94%	Winter	80	.53%	Spring, Summer, Fall & General Kidding
	970	6%	Winter/Transition			
				8,015	54%	Winter
				1,995	13%	Yearlong/Kidding
			4,892	33%	Winter Concentration	
Painter	5,033	15%	Winter	22,471	67%	Yearlong/Kidding
	4,136	13%	Yearlong/Fawning	104	.31%	Kidding/Spring/

YEAR	PASTURE	ACTUAL LIVESTOCK (AUMs)				ACTUAL WILD HORSE BURRO (AUMs)	TOTAL USE (AUMs)	REMARKS
		ESPIL SHEEP	ESPIL CATTLE	LAVER CATTLE	PASTURE TOTAL			
1995	NORTH	1874	9378	0	11252	4464	15716	North pasture turnout for cattle; south pasture wild horse and burro use estimated. North home range gathered.
	SOUTH	1476	0	213	1689	3819	5508	
	ALLOTMENT TOTAL	3350	9378	213	12941	8283	21224	
1996	NORTH	1482	763	0	2245	1824	4069	South pasture turnout for cattle; wild horse and burro use estimated at the 17% recruitment rate.
	SOUTH	919	7065	240	8224	4468	12692	
	ALLOTMENT TOTAL	2634	7828	240	10469	6292	16761	
1997	NORTH	1577	7728	0	9305	4584	13889	North pasture turnout for cattle; wild horse and burro use based on 1997 census.
	SOUTH	1299	0	212	1511	4920	6431	
	ALLOTMENT TOTAL	2876	7728	212	10816	9504	20320	
1998	NORTH	1925	808	0	2733	5820	8563	South pasture turnout for cattle; wild horse and burro use estimated at the 17% recruitment rate.
	SOUTH	1145	6528	0	7673	5664	13337	
	ALLOTMENT TOTAL	3080	7336	0	10406	11484	21900	
1999	NORTH	2448	7650	0	10098	7036	17134	North pasture turnout for cattle; Espil cattle use estimated; wild horse and burro use was based on December 1999 census.
	SOUTH	1614	0	0	1614	7241	8855	
	ALLOTMENT TOTAL	4062	7650	0	11712	14277	25989	

Unit 2- NE California (X1,X2,X3a,X3b,X4, X5a, X5b,X5c)



* REPORT TO THE FISH AND GAME COMMISSION. *As Assessment of Mule and Black-tailed Deer Habitats and Populations in California. With Special Emphasis on Public Lands Administered by the Bureau of Land Management and the United States Forest Service. Collaborative Effort and Document. February 1998.*

Appendix 3, Mule Deer and Pronghorn Antelope Population and Habitat Information.

	23,514 70%	Summer/Transition		Summer/Fall
	768 2%	Winter/Transition	10,877 33%	Kidding/Yearlong
Rim	22,253 36%	Transition	3,514 6%	Winter
	32,575 53%	Winter	57,253 93%	Yearlong/Kidding
	962 2%	Yearlong/Fawning	783 1%	Kidding/Yearlong
	2,594 4%	Winter/Transition		
	3,166 5%	Little or No Use		
Rowland	12,875 99%	Summer/Transition	8,065 62%	Yearlong/ Kidding
	151 1%	Winter/Transition	4,640 36%	Kidding
			319 2%	Spring/Summer/Fall Kidding/Yearlong
Salt Marsh	17,053 40%	Winter	15,645 37%	Winter
	25,427 60%	Little or No Use	1,411 3%	Yearlong-Kidding
			11,965 28%	Winter Concentration
			13,458 32%	Little or No Use
Skedaddle	20,760 45%	Transition	<u>Skedaddle</u> 23,637 51%	Spring/Summer/Fall/ & General Kidding
	18 .4%	Winter		Winter
	7,042 15%	Yearlong/Fawning	1,690 4%	Yearlong/General Kidding
	15,164 33%	Summer/Transition	18,987 41%	Kidding/Yearlong
	3,042 7%	Little or No Use	1,711 4%	
Stone Corral	4,145 17%	Winter	<u>Stone Corral</u> 24,689 100%	Yearlong/General Kidding
	6,367 26%	Summer/Transition		
	14,217 57%	Winter/Transition		

ANTELOPE

Antelope
Units 011-015, 021, 022, Washoe County
Report by: Mike Dobel

Seasons, Tag Quotas and Harvest Results

The 1998 controlled general rifle antelope season in Units 011-015 and 021,022 extended from August 28 through September 6, 1999. Table 1 summarizes tag quotas and hunter success rates for pronghorn in these unit groups:

Table 1. Tag quotas and hunter success rates for antelope in Washoe County

Hunt	Tag Quotas			% Hunter Success		
	1999	1998	89-98 Avg.	1999	1998	89-98 Avg.
Resident Buck - 2151	237	287	454	74	68	74
Nonresident Buck - 2251	12	14	23	58	79	83
Resident Archery - 2161	29	30	68	21	7	18
Nonresident Archery - 2261	3	6	7	0	33	29

Production and Recruitment Data

1999 post-hunt antelope surveys were conducted during late-September, 1999. These flights resulted in the classification of 1,455 antelope with a composition ratio of 22 bucks/100 does/44 fawns. A complete breakdown of the data obtained during these post-season flights is as follows:

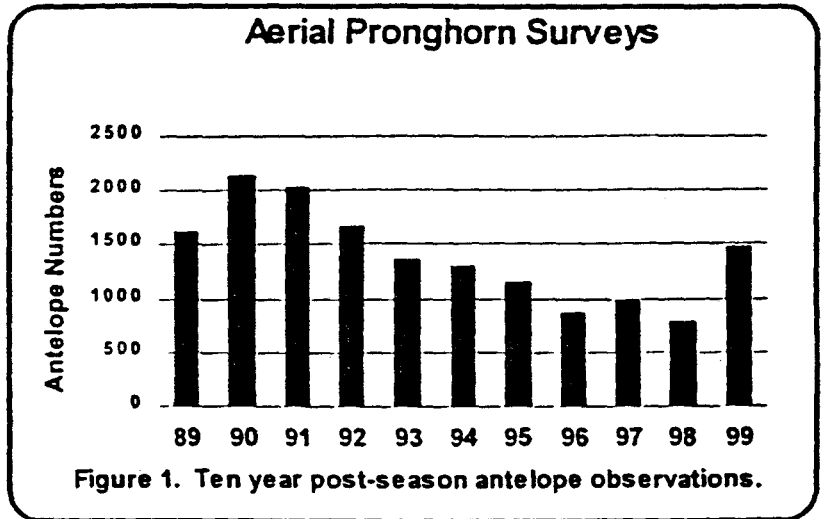


Table 2. 1999 Post-season antelope composition - Washoe County

Unit	Bucks	Does	Fawns	Totals	Bucks/100 Does/Fawns
011	30	188	37	255	16/100/20
021-014	94	367	193	654	26/100/53
015	71	319	156	546	22/100/49
022	0	0	0	0	No Data
Totals	195	874	386	1,456	22/100/44

The total number of antelope classified during this survey represents an 80% increase from the total number of antelope observed on surveys during 1998 and a 44% increase from the past five year average. Much of this increase can be attributed to an increase in the number of fawns observed this year. Figure 1 shows the number of pronghorn classified by year in these unit groups since the inception of post-season surveys. Observed fawn ratios rose above maintenance levels in all units with the exception of Unit 011. Fawn ratios have been extremely low in Unit

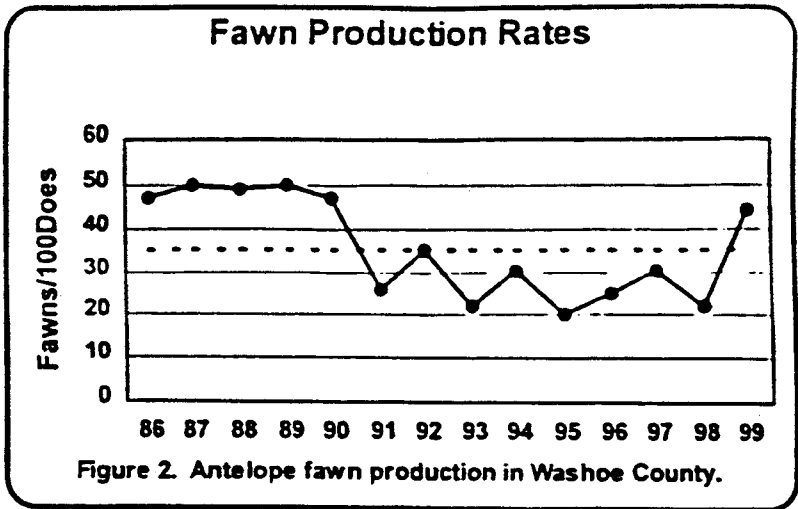


Figure 2. Antelope fawn production in Washoe County.

011 as well as adjacent Unit 033 since the winter of 1992-93. This disparity between fawn ratios from south to north continues to remain unexplained. Surveys conducted this year resulted in observation of a dramatic increase in fawn ratios in Unit 013 compared to observed last year. The same increase occurred in Unit 014 last year. It appears that surveys. Observed fawn ratios rose above maintenance levels in all units with the exception of Unit 011. with each successive year the phenomenon of increasing fawn ratios moves a little further north. If one looks specifically at Unit 013, the fawn numbers were better in the southern portion of the unit than in the northern portion. Figure 2 shows fawn ratios for these unit groups for the past fourteen years. The dotted line represents a maintenance level of 35 fawns/100 does. Fawn ratios above this level result in

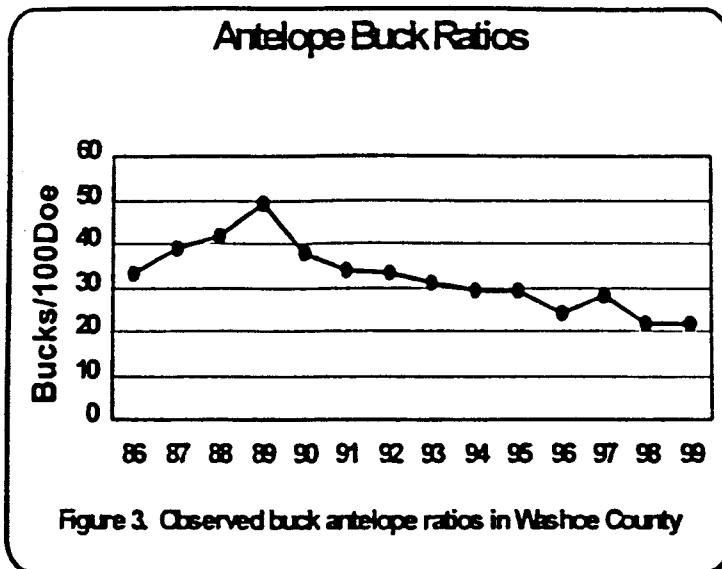


Figure 3. Observed buck antelope ratios in Washoe County

an increase in numbers while ratios below this level produce static or declining populations. With this information, the trend in antelope numbers in Washoe County is easily understood. During the seven-year-period between 1986 and 1992, six of these years exhibited fawn ratios above 35 fawns/100 does. From 1993 through 1999, again a period of seven years, fawn ratios were below 35 fawns/100 does in six of these years, resulting in a dramatic decline in numbers. Fawn ratios observed during the 1999 post-season surveys will stabilize this declining trend in all units with the exception of unit 011.

Buck ratios declined in Units 011 and 015 and increased in Units 012-014 from what was observed during the 1998 surveys. Overall, buck ratios have been in a general decline since the 1989. The current ratio of 22 bucks per 100 does falls within the parameters set in the statewide species management plan but is below the post-season buck ratio objective set during last year's season setting process. Declining trends in observed buck ratios might be an indication that we are over estimating these populations. Figure 3 shows average buck ratios obtained from aerial surveys in these unit groups since 1986.

Appendix 4, Twin Peaks Allotment Key Area Trend and Frequency Information from 1983 to 1994.

<u>TRANSECT FORB</u>	<u>GRASS</u>	<u>SHRUB</u>	
Number			
0707	static	static	downward (mod)
0708	upward (mod)	static	static
0709	static	static	static
0710	upward (mod)	downward (mod)	static
0711	static	static	downward (mod)
0712	upward (mod)	static	static
0713	static	static	downward (mod)
0714	upward (mod)	static	static
0715	static	static	static
0716	static	static	downward (mod)
0717	upward (strong)	static	downward (mod)
0718	static	static	downward (mod)
0719	static	static	downward (mod)
0720	static	static	downward (mod)
0721	static	static	static
0722	upward (mod)	static	static
0723	static	static	static
0729	static	static	downward (mod)
0730	static	static	static
0753	static	static	static

A "static" rating equates to "not apparent" as it appears in the BLM Technical Reference TR 4400-4.

 The following summary trend is intended to provide an overview of upland range condition and changes between 1979 and 1994. This trend information has limited application because the SVIM transect locations are not the same as the 1994 key area locations. Comparisons made at key areas are based on SVIM broad base condition mapping information.

<u>Key area</u>			
<u>Number</u>	<u>Range Site Name</u>	<u>1979</u>	<u>1994</u>
0707	Clay Upland 9-16" p.z.*	Fair	51 = Good
0708	Loamy 8-10" p.z.	Poor	59 = Good
0709	Stony Loam 9-12" p.z.	Poor	35 = Fair
0710	Clay Slope 8-12" p.z.	Fair	36 = Fair
0711	Stony Loam 9-12" p.z.	Poor	21 = Poor
0712	Cobbly Claypan 8-12"	Fair	58 = Good

Appendix 4, Twin Peaks Allotment Key Area Trend and Frequency Information from 1983 to 1994.

0713	Sandy 8-12" p.z.	Poor	38 = Poor**
0714	Stony Loam 9-12" p.z.	Poor	29 = Poor**
0715	Course Silty 408" p.z.	Fair	51 = Good
0716	Loamy 8-12" p.z.	Poor	16 = Poor
0717	Cobbly Claypan 8-12"	Poor	46 = Fair
0718	Loamy 8-10" p.z.	Fair	50 = Fair
0719	Loamy 8-12" p.z.	Fair^	47 = Fair
0720	Loamy 12-14" p.z.	Fair	58 = Good
0721	Churning Clay 10-14"	Fair	37 = Fair
0722	Very Cobbly Claypan 10-12"	Poor	2 = Poor
0723	Clayey 10-14" p.z.	Poor	53 = Good
0729	Loamy 4-8" p.z.	Fair	51 = Good
0730	Course Silty 4-8" p.z.	Poor	47 = Fair
0753	Stony Loam 12-16" p.z.	Fair^^	56 = Good

* "p.z." is "precipitation zone".

** Although having a numerical rating of >25, these sites were lowered one condition class due to low production. See section 305.5(a) of the National Range Handbook.

^ This site was burned by wildfire in 1984.

^^ This site was burned by wildfire in 1985.

Site Characteristics for Upland Trend Sites, Key Area Relative Amounts of Production, rainfall, elevation, and ecological status rating Comparison with frequency.

<u>Site</u>	<u>Production</u>	<u>Rainfall</u>	<u>Elevation</u>	<u>Condition Rating</u>		<u>Frequency Vegetation Group</u>
				<u>1979</u>	<u>1994</u>	
0707	mod	high	high	fair	good	shrub - down
0708	mod	mod	mod	poor	good	forb - up
0709	high	high	high	poor	fair	static
0710	mod	mod	high	fair	fair	grass- down, forb - up
0711	high	high	mod	poor	poor	shrub - down

Appendix 4, Twin Peaks Allotment Key Area Trend and Frequency Information from 1983 to 1994.

0712	low	mod	high	fair - good	forb - up
0713	mod	mod	mod	poor - poor	shrub - down
0714	high	high	mod	poor - poor	forb - up
0715	low	low	low	fair - good	static
0716	mod	mod	mod	poor - poor	shrub - down
0717	low	mod	high	poor - fair	forb - up, shrub - down
0718	mod	mod	mod	fair - fair	shrub - down
0719	high	high	high	fair - fair	shrub - down
0720	high	high	high	fair - good	shrub - down
0721	low	high	high	fair - fair	static
0722	low	high	high	poor - poor	forb - up
0723	mod	high	high	poor - good	static
0729	low	low	low	fair - good	shrub down
0730	low	low	low	poor - fair	static
0753	high	high	high	fair - good	static

Appendix 5 Upland Health Assessment Summary for Twin Peaks Allotment

U H A N O	Location- Pasture, subunit, drainage ECT	Physical Environment (Acres) No sites are in improperly functioning condition.		Biotic Integrity (Acres)			T r e n d	Rationale for Rating or Trend Direction
		Function- ing	At Risk	Health y	At Risk	Un- healthy		
1 0	North Pasture, Salt Marsh east of Burro mountain	672 ¹		672 ¹			↑	reference site
1 1	North pasture, Buffalo	1911			1911		↔	limited perennial grasses and forbs. Cheatgrass dominated
1 2	North pasture, salt marsh	3138			3138		↑	slight utilization, grasses vigorous, shrub and forb recruitment
1 3	North pasture, near the mouth of Buffalo Creek	592			592		↑	good vigor and diversity; 717, 1994 trend rating was up
1 4	North pasture, salt marsh	1026		1026			↑	recruitment of native vegetation
2 9	South Pasture, Dry Valley Rim west of wild horse reservoir	349		349			↑	recruitment of native vegetation.
3 0	South Pasture, skedaddle, near Morgan Spring	219			219		↑	utilization is slight, cheatgrass dominance puts site at risk
3 1	South pasture, Skedaddle		2369	2369			↑	key area 709, 1994 trend rating was up; slight utilization
3 2	South Pasture, Dry Valley Rim, near Gilman Spring.	145			145		↑	grasses vigorous, slight to light utilization most years.

Appendix 5 Upland Health Assessment Summary for Twin Peaks Allotment

Twin Peaks Allotment Acres summary for Each Upland Health Assessment Site From Data Gathered During 1999.

U H A N O	Location- Pasture, subunit, drainage ECT	Physical Environment (Acres) No sites are in improperly functioning condition		Biotic Integrity (Acres)			T r e n d	Rationale for Rating or Trend Direction
		Functioning	At Risk	Healthy	At Risk	Un-healthy		
1	South pasture, Dry valley near lower Smoke Creek well	1414			1414		↔	@ key area 713, 1994 trend rating was static, utilization slight to light since 1993.
2	South pasture, Dry valley lake terrace		944		944		↑	improvement of perennial grass vigor/seed production, and responding to management
3	South pasture, Dry valley lake terrace	Same as 1			Same as 1		-	site will not respond to management in 30 years; dominated by cheatgrass,
4	South pasture, Dry valley near Pipe Springs		410		410		↑	shrubs & forbs in good recruitment, perennial grasses lacking, cheatgrass dominate.
5	South pasture, Lower Smoke Creek	5986			5986*		↔	lacks perennial grass for recruitment
6	South pasture, Lower Smoke Creek	255			255*		↔	site will not response to management within 30 years
7	South pasture, Lower Smoke Creek	851			851		↑	lacking perennial grasses; recruitment of shrubs and forbs.
8	North Pasture, south of Chimney creek	4558			4558		↔	cheatgrass dominated site, low recruitment of native vegetation
9	North Pasture, Chimney	6078		6078			↑	overall diverse plant community

Appendix 5 Upland Health Assessment Summary for Twin Peaks Allotment

U H A N C	Location- Pasture, subunit, drainage ECT	Physical Environment (Acres) No sites are in improperly functioning condition		Biotic Integrity (Acres)			T r e n d	Rationale for Rating or Trend Direction
		Functioning	At Risk	Healthy	At Risk	Un-healthy		
4 2	North Pasture, Rowland Mountain	12636		12636			↑	moderate utilization by sheep and wild horses
4 3	North Pasture, Stone Corral	1944		1944			↑	slight utilization
4 4	North Pasture, Stone Corral, Wrangler reservoir	130			130*		↑	indicators on the plus side, perennial grasses vigorous lack of grass diversity put site at risk
4 5	North Pasture, Stone Corral	110		110			↑	slight to light utilization.
4 6	North Pasture, Stone Corral, near the Norton Place	750			750		↑	key area 721, 1994 trend rating was up, slight utilization in 1999.
4 8	South Pasture, Bull Flat	2629			2629		↑	light utilization in recent years, vegetative health indicators on the positive side.
5 1	North Pasture, Big Springs Burn North Pasture, Big Springs Burn	3125		3125			↑	key area 753, 1994 trend rating up; slight utilization since at least since 1993
5 2	North Pasture, near Big Springs Burn (Unburned)	Part of 51		Part of 51				see area 51.
5 3	North Pasture, ridge northeast of Painter	2365		2365				

Appendix 5 Upland Health Assessment Summary for Twin Peaks Allotment

U H A N O	Location- Pasture, subunit, drainage ECT	Physical Environment (Acres) No sites are in improperly functioning condition		Biotic Integrity (Acres)			T r e n d	Rationale for Rating or Trend Direction
		Function- ing	At Risk	Health- y	At Risk	Un- healthy		
3 3	South Pasture, Skedaddle	1239		1239			↑	health indicators in the positive category
3 4	South Pasture, Skedaddle	1197		1197			↑	indicators in the positive category
3 5	South Pasture, Skedaddle	1396		1396			↑	utilization was slight to light last 7 years.
3 6	South Pasture, Bull Flat	284				284	↑	site dominated by medusa head, utilization slight to light in recent years, squirreltail recruitment
3 7	South Pasture, Dry Valley Rim,	542			542		↑	key area 714, 1994 trend rating was up. Slight utilization
3 8	South Pasture, 5-Springs Mountains, near 3-Springs Reservoir	489				489	↑	medusa head dominates site; increase of perennial grass heavy use from wild horses in 1999
3 9	South Pasture, Dry Valley Rim,		117	117			↑	Key area 710, 1994 trend was static, utilization was slight in 1999
4 0	South Pasture, Dry Valley Rim,	974		974			↑	slight utilization most years
4 1	North Pasture, Rowland Mountain	4860		4860			↑	key area 720, 1994 trend rating was up.

- > Acres applicable to each UHA sample area are restricted to the 7.5 minute quadrangle upon which the sample site is located.
- > Each UHA sample site was tied to a specific Soil Map Unit (SMU) and soil series within that SMU. Therefore the largest acres applied to the total cannot exceed the percentage of acres which each particular soil series has a potential of occupying within the SMU.
- > For example: UHA site 1 (UH001) is on the Sheepshead Spring, Nevada 7.5' quadrangle within Soil Map Unit 210, and is found on the Veta soil series which has the potential of occupying 65% of the SMU. The particular SMU 210 polygon which encompasses UH001 has 2175 total acres. Therefore UH001 represents 1414 acres, or $.65 \times 2175$.
- > Rangeland Health is reported for both the Physical Environment and the Biotic Integrity ratings. Referring again to UH001: The 1414 acres is Functioning in relation to the Physical Environment, and At Risk in relation to the Biotic Integrity.
- > The acres reported above are inventoried applicable acres. Some may seem very small but are most likely a true representation of the approach taken for the field assessment. We focused on those areas which were in question as a result of the I.D. Team's pre-field analysis.

Trend direction was determined by analyzing utilization information, and key area range trend data, where applicable to site assessed.

Appendix 5 Upland Health Assessment Summary for Twin Peaks Allotment

U H A N O	Location- Pasture, subunit, drainage ECT	Physical Environment (Acres) No sites are in improperly functioning condition.		Biotic Integrity (Acres)			T r e n d	Rationale for Rating or Trend Direction
		Functioning	At Risk	Healthy	At Risk	Unhealthy		
54	South Pasture, Skedaddle	950		950				slight utilization- most years
55	South Pasture, Skedaddle	475			475		↓	low diversity of grasses and forbs, cheatgrass puts site at risk; slight utilization
56	South Pasture, Dry Valley Rim	1211			1211		↓	lacking perennial grass component & cheatgrass domination puts site at risk; slight utilization
57	South Pasture, Skedaddle (eastside)		581		581		↓	lacking some perennial grasses & cheatgrass puts site at risk; slight utilization in recent years.
58	South Pasture, Skedaddle (eastside)	542 ¹			542 ¹		↓	grass vigorous, slight utilization in recent years
TOTALS		65,042	4,421	41,407	27,283	773		69,463

1. These sites are also Ecological Reference Areas (ERA) located in conjunction with the Natural Resources Conservation Service (NRCS).
2. This site is a forest site rather than a rangeland ecological site.

Trend direction: up ↑; static →; down ↓.

How acreage and trend was determined.

Attached are summaries for the subject acres. These acres were determined using the following approach approved by the Interdisciplinary (ID) Team.

0015 unnamed seep (south side of Twin Peaks)	FR- static	over grazing by cattle, wild horses, burros	Overgrazing causing riparian area to decline in size; and vegetation cover not adequate to protect site. Flow patterns altered by trampling.	Management livestock as per Twin Peaks Project EA DR: hot season rest every year and spring grazing every other year.
Chimney PC (Winter Range)				
0016, Lost Springs	FR- down	over grazing by cattle, wild horses	Riparian area declining, and vegetation cover not adequate. Flow patterns altered by trampling.	Riparian site fenced after assessment, vegetation is recovering and trend is up.
Chimney PC (Winter Range)				
0017, South Twin Springs	FR-down	over grazing by cattle, wild horses and burros	riparian area declining, and vegetation cover not adequate to protect soils during high flows (site eroding) because of overgrazing	Riparian site fenced after assessment, vegetation is recovering and trend is upward.
Chimney PC (Winter Range)				
0025, Sheep Trail # 2	FR- down	over grazing by cattle, sheep, wild horses	Vegetation cover not adequate to protect soils during high flows (site eroding)	Riparian site fenced after assessment, trend is upward
Dry Valley Rim PC/Subunit				
0040, unnamed spring (near Red Rock Spring)	FR- down	overgrazing by cattle, wild horses	Site lacks vegetation composition, and excessive trampling causing headcut.	Riparian area rested from cattle use 1997 to 1999, however site impacted by excessive horse use during this period.
Dry Valley Rim PC/Subunit				
0042, Red Rock Spring # 2.	FR- Down	overgrazing by cattle and wild horses	Site lacks vegetation composition to withstand high flows, causing down cutting and erosion.	Vegetation improve at site, trend up since assessment, cattle use would be addressed in annual operating plan.
Dry Valley Rim PC/Subunit				
0044, Red Rock Spring # 1	FR- static	overgrazing by cattle and wild horses	Site lacks vegetation composition and diversity, surface flow altered by trampling.	Use adjacent to trough and outside enclosure, cattle use would be addressed in annual operating plan.
Dry Valley Rim PC/Subunit				

Appendix 6, Twin Peaks Allotment Riparian Functional Assessment (RFA) Summary of Sites Functioning-at-Risk with Static or Downward Trend.

Appendix6RiparianFRmanagementApril 11, 2000

During 1995 and 1996 117 riparian/wetland sites were assessed for properly functioning condition on the Twin Peaks allotment. From this survey the 34 riparian sites summarized below were determined to be functioning-at-risk (FR) with a static or downward trend¹. Factors contributing to FR rating are included in summary, as well management strategies to improve the condition at the riparian site. Since the assessment was completed, 9 riparian/wetland sites have been fenced, or drift fences have been constructed for livestock management purposes.

Riparian number and Name	Condition Rating and Trend	Factors ² Contributing to Rating	Comments	Management Strategy ³ and Comments
0002. Parker Lake Salt Marsh PC (winter range sub-unit)	FR-down	season long cattle grazing	Overuse on riparian vegetation on reservoir shore line	Rest during the growing season, graze during the dormant (winter) season.
0013, Burro Spring Lower Smoke Creek	FR- static	over grazing by cattle and burros	Riparian area declining, and vegetation vigor is poor	Spring located in lower Smoke Creek subunit, management addressed in AMP addendum (II. B. 3.) rest yearlong after April livestock use.
0014, unnamed spring (below Burro Spring) Lower Smoke Creek	FR- static	over grazing by cattle, wild horses, burros.	Vegetation composition and diversity not adequate to protect during peak flows, riparian area size declining because of over grazing.	Same as 0013.

¹ The Rangeland Health Riparian Standard minimum condition rating is *properly functioning condition*, or functioning at risk with an upward trend.

² Bold indicates primary factor contributing to rating.

³ Management strategy for wild horses and burros is to maintain populations within AML ranges.

0104, unnamed spring above Buffalo Spring Buffalo PC (Stony Clay Basin)	FR-down	overgrazing by cattle and wild horses	Site lacks vegetation composition to protect spring during high flows (active downcutting) and spring altered by trampling.	Defer cattle use during the growing season.
0122, unnamed spring on Skedaddle Mountains- 1 mile SE of Rag House spr Skedaddle PC	FR-static	overgrazing by cattle, sheep and wild horses	Riparian area decreasing in size and eroding, and flow patterns altered by excessive trampling.	Defer cattle use during the growing season. Grazing use would be determined annually, addressed in annual operating plan.
0123, unnamed spring on Skedaddle Mountains Skedaddle PC	FR-static	overgrazing by cattle and wild horses	Vegetation composition not adequate to protect site during runoff event and vegetation vigor is poor.	Defer cattle use every other year. Grazing use would be determined annually, addressed in annual operating plan.
0124, unnamed spring on Skedaddle Mountains Skedaddle PC	FR-static	overgrazing by cattle and wild horses	Riparian area lacks vegetation composition to protect site during runoff events, spring de-watered by excessive trampling.	Defer cattle use every other year. Grazing use would be determined annually, as stated in annual operating plan.
0135, unnamed seep (near Willow Spring) Dry Valley Rim	FR-static	jeep trail thru spring, overgrazing by cattle & wild horses	Vegetation composition not diverse and dominated by annuals species: will not protect site during high runoff events, excessive trampling has caused erosion.	Defer cattle use every other year, re-route road. Actual use would be determined annually, addressed in annual operating plan. Rested from cattle use in 1995, 1997 and 1999.
0137, unnamed spring near Jenkins Troughs Dry Valley Rim PC	FR-down	over grazing by wild horses	Riparian vegetation dominated by non-native annuals/other exotics plants; trampling has altered flow patterns and riparian area decreasing in size.	Determine AML, and maintain wild horse population within ranges. Site continues to be impacted by wild horses since assessment.

0045, unnamed spring near East Fork Smoke Creek	FR-down	overgrazing by cattle, and wild horses	Site lacks vegetation diversity, riparian size decreasing and flow altered by trampling.	Management livestock as per Twin Peaks Project EA DR. hot season rest every year and spring grazing every other year.
Chimney PC (Winter Range)				
0046, West Fork Rush Creek	FR-static	overgrazing by cattle and wild horses; trail jeep thru site	Insufficient vegetation composition to withstand high flows, and site not vertically stable, resulting in several headcuts.	Jeep trail scheduled for closure. Defer cattle use during every spring, graze during late summer and fall use.
Five Springs PC (Bull Flat)				
0074, East Fork Smoke Creek Springs	FR-down	overgrazing by cattle and wild horses	Site lacks vegetation diversity, and riparian area decreasing in size. Flow patterns altered by trampling	Management livestock by per Twin Peaks Project EA DR. hot season rest every year and spring grazing every other year
Chimney PC (Winter Range)				
0077, unnamed spring in Spencer Basin	FR-static	overgrazing by wild horses	Spring flow patterns altered by trampling, site eroding and riparian area decreasing in size.	Determine AML, and maintain population within ranges. Site continues to impacted by wild horses since assessment.
Skedaddle PC				
0087, Public land portion of Willow Springs	FR-static	overgrazing by cattle and wild horses	Site lacks vegetation composition to withstand high flows, and flow patterns altered by trampling.	hot season rest every year and spring grazing and winter grazing every other year.
Dry Valley Rim PC				
0091, unnamed spring south end of Buffalo Hills	FR-down	overgrazing by wild horses	Vegetation cover not adequate to protect site during high flows, site altered by trampling.	Determine AML, maintain population within ranges.
Buffalo PC (Buffalo Hills)				
0092, unnamed spring near Crooked Creek	FR-static	overgrazing by wild horses	Vegetation cover not adequate to protect site during high flows.	Determine AML, maintain population within ranges
Buffalo PC (Buffalo Hills)				

0160, unnamed spring complex near the Norton Place	FR-static	overgrazing by cattle and wild horses	Upper segment is trampled resulted in partial loss of riparian area, and minor headcut (lower segment is functioning).	Spring area addressed in AMP addendum - management refinements, part II.B.3., rest every other year.
Stone Corral PC				
0172, South Fork Parsnip Wash (upper reach)	FR-static	jeep trail thru site; cattle and wild horses overgrazing	road crosses stream many times: affecting sinuosity and riparian width. Vegetation composition not capable of withstanding high flow events.	Drift fence constructed in 1996 (after assessment) to improve cattle management. Re-route jeep trail.
Buffalo PC				
0174/175, Main Fork Buffalo Creek (below Buffalo Meadows Ranch)	NF, upward	overgrazing by cattle, wild horses and burros	Stream not in balance with sediment and water supplied by watershed. Sinuosity not in balance with watershed, and upland watershed contributing to degradation. Vegetation amount and type not adequate to protect banks during high flows events.	Defer cattle use after June 1, each year. Site was assessed as non-functional in 1996, the 1999 re-assessed determined site improved to functioning at risk with an upward trend.
Buffalo PC				
017-, Buffalo Creek (confluence of Buffalo and Parsnip creeks)	FR-static	cattle over grazing	Stream not in balance with sediment and water supplied by watershed, resulting in excessive erosion. Riparian zone not widening. Vegetation components not present in sufficient amounts types, age structure, and composition to protect stream banks during high flows events.	This reach was fenced in 1995 to improve cattle management. Rest from cattle use for 2 years, then rest during the hot season.
Buffalo PC				

0142, Crooked Spring	FR-down	overgrazing by cattle and wild horses	Spring flow patterns altered by trampling, riparian area decreasing in size, site dominated by annuals and exotic species	Defer cattle use every other year. Actual use would be determined annually, addressed in annual operating plan.
Buffalo Hills PC (Buffalo Hills)				
00144, Twin Springs (public land portion)	FR-static	overgrazing by cattle and wild horses	Vegetation diversity and vigor low. Spring flow patterns altered by trampling, riparian area decreasing in size, site dominated by annuals and exotics species.	Provide rest every other year, increase monitoring and compliance (unauthorized use from adjacent allotment). Gather excess wild horses.
Buffalo Hills PC (Buffalo Hills)				
0146, Stockade Canyon	FR-down	overgrazing by wild horses	Vegetation diversity and vigor low. Spring flow patterns altered by trampling, riparian area decreasing in size, site dominated by annuals and exotics species.	Gather wild horses populations above AML range. Re-assess condition following gather..
Buffalo Hills PC (Buffalo Hills)				
0148, Stockade Canyon	FR-down	overgrazing by wild horses	site lacks vegetation to withstand high flows events, trampling has altered surface and sub-surface flow events, losing riparian area.	Gather wild horses population above AML range. Re-assess condition following gather.
Buffalo Hills PC (Buffalo Hills)				
0150, unnamed seep, NE of the Norton Place	FR-static	overgrazing by cattle and wild horses	lacks vegetation components; excessive trampling has resulted in partial loss of riparian area.	Spring area addressed in AMP addendum - management refinements, part II.B.3., rest every other year.
Stone Corral PC				
0151, unnamed spring near the Norton Place	FR-static	overgrazing by cattle and wild horses	lacks vegetation components; excessive trampling has resulted in partial loss of riparian area, headcutting and channeling	Spring area addressed in AMP addendum - management refinements, part II.B.3., rest every other year
Stone Corral PC				
0154, unnamed spring near Horse Spring	FR-down	overgrazing by cattle and wild horses	Trampling has altered flow patterns and resulted in partial loss of the riparian area. Site dominated by annuals	spring area addressed in AMP addendum - management refinements, part II.B.3., rest every other year. Rest every other year
Stone Corral PC				

Appendix 7, Twin Peaks Allotment Utilization Information

<u>Year</u>	<u>1999</u>	<u>1998</u>	<u>1997</u>	<u>1996</u>	<u>1995</u>
Turnout Pasture	north	south	north	south	north
<u>Key Area # and Name</u>	<u>Utilization level</u>				
0707-Telephone Spring	Slight	Slight	Slight	Slight	no use
0708-Dry Valley Rim	Heavy	Moderate	slight	-	-
0709-Wild Horse Reservoir	Slight	Light	Light	Light	Slight
0710-East Fork Reservoir	Slight	Slight	Slight	Light	-
0711-Antelope Spring	Slight	Slight	Slight	-	no use
0712-Willows Reservoir	-	Light	Slight	-	-
0713-Lower Smoke Well	Light	Light	Slight	-	Slight
0714-Rush Creek Reservoir	Slight	Slight	Light	Light	no use
0715-Salt Works Well	Sight	Moderate	Slight	Light	no use
0716-Smoke Creek Ranch	-	Slight	Slight	-	-
0717-Tule Canyon	-	no use	Light	-	-
0718-Parsnip Wash	Slight	no use	-	-	-
0719-Burn Spring	Heavy	-	-	-	Moderate
0720-Rowland Mountain	Light	Light	-	Light	grasses-slight Bitterbrush-heavy
0721-Norton Place	Slight	-	Slight	-	-
0722-Buffalo Spring Slight	Slight	-	no use	Light	
0723-Antelope Basin No use	-	-	Light	-	
0729-Dry Valley # 1 grass	Slight Slight	Light Light	Light Light	-	-
0730-Dry Valley # 2 grass	-	Slight	Light	-	-
Shrub	-	Slight	Slight	-	-
<u>Year</u>	<u>1999</u>	<u>1998</u>	<u>1997</u>	<u>1996</u>	<u>1995</u>
0753-Big Spring Burn	Slight	Slight	Slight	Slight	Slight
0754-Painter Flat	-	-	-	-	7.5"

Appendix 7, Twin Peaks Allotment Utilization Information

Utilization determined at or adjacent to upland key area trend transect sites for the years 1987 through and 1999.

Legend for following information.

N = NO USE; S = SLIGHT USE; L = LIGHT USE; M = MODERATE USE

H = HEAVY USE; g = grass; s = shrubs; no = north pasture turnout; so = south pasture turnout

<u>Year</u>	1994	1993	1992	1991	1990	1989	1988	1987
<u>Pasture Turnout</u>	south	north	south	north	south	-	-	-
<u>Key Area#</u>	<u>Utilization level</u>							
0707	Slight	N/Slight	Slight	-	N/Slight	-	-	-
0708	Light	Slight	Slight	S/Light	M/Heavy	-	Light	-
0709	Moderate	Slight	Light	-	Moderate	Moderate	Heavy	-
0710	Light	Slight	Slight	-	Slight	-	Heavy	-
0711	Slight	Slight	Light	-	Slight	Moderate	Moderate	Light
0712	Light	Slight	Moderate	-	M/Heavy	-	Moderate	-
0713	Slight	Slight	Light	-	Light	-	Light	-
0714	Light	Slight	Light	Slight	Moderate	-	Heavy	-
0715	N/Slight	Slight	Light	-	Slight	-	Moderate	-
0716	Slight	N/Slight	-	Moderate	-	Moderate	L/Moderate	-
0717	Moderate	-	Light	-	-	Moderate	Heavy	-
0718	Slight	No Use	Moderate	Light	-	Light	Light	-
0719	S/Light	Slight	Heavy	Moderate	-	M/Heavy	-	Moderate
0720	Light	Moderate	Moderate	-	-	L/Moderate	Light	Heavy
0721	Light	-	Slight	-	-	-	Moderate	Light
0722	Light	Moderate	Light	Heavy	-	L/Moderate	M/Heavy	-
0723	No Use	-	Light	-	-	Moderate	-	-
0729	grass Slight Shrub N/Slight	Slight Slight	Light Light	Moderate Moderate	Moderate- -	Heavy Heavy	- -	-
0730	grass Moderate Shrub Slight	Slight Slight	Light Slight	Moderate Heavy	Heavy -	- Heavy	Heavy -	-
0753	Slight	Slight	Slight	Light/Moderate	-	Moderate	Light	Moderate

April 11, 2000TP_App7_utilization

Appendix 7, Twin Peaks Allotment Utilization Information

Twin Peaks allotment Use Pattern Summary

1992, the following patterns were quantified:

<u>UTILIZATION</u>	<u>ACRES</u>	<u>PERCENT</u>
Heavy	5,829	1.43%
Moderate	5,873	1.44%
Light	278,659	68.14%
Annual Growth	118,574	29.00%

UTILIZATION ACRES PERCENT

Heavy	-	-
Moderate	-	-
Light	-	-
not mapped	-	-

1999, the following patterns were quantified:

1993,

<u>UTILIZATION</u>	<u>ACRES</u>	<u>PERCENT</u>
Severe	31	0.01%
Heavy	1,693	0.41%
Moderate	3,317	0.81%
Light	8,294	2.03%
Slight	43,549	10.65%
No Use	9,721	2.38%
Low Production	14,818	3.62%
Area Not Mapped	327,511	80.09%

UTILIZATION ACRES PERCENT

Heavy	-	-
Moderate	-	-
Light	-	-
not mapped	-	-

1994,

<u>UTILIZATION</u>	<u>ACRES</u>	<u>PERCENT</u>
Severe	62	.02%
Heavy	2,515	.61%
Moderate	4,247	1.04%
Light	7,840	1.92%
Slight	206,498	50.44%
No Use	7,960	1.94%
Low Forage prod	4,618	1.13%
Annual Plants	289	.07%
<u>Area Not Mapped</u>	<u>175,331</u>	<u>42.83%</u>
		100.00%

1998, South Pasture only

Appendix 7, Twin Peaks Allotment Utilization Information

0755-Mixie Flat	Heavy	-	-	-	
0756-Chimney Rock -	-	-	Heavy		
0757-Nye Canyon	Slight	-	-	Light	no use
0758-Skedaddle Mountain	Moderate	Light	-	Light	Light/moderate
0759- Horse Canyon -					
0760-Smoke Creek Bench	g-heavy S-moderate		g-heavy S-light		
0761-Burro Mountain	slight			Light	
0762-Bull Flat					

Riparian Utilization Transects (Stubble Height Measurements)

<u>Year</u>	<u>1999</u>	<u>1998</u>	<u>1997</u>	<u>1996</u>	<u>1995</u>
718A-Upper Parsnip Wash	2.5"	10"			
718B-Lower Parsnip Wash	4"				
770-Lower Smoke Creek	6"	4"		6"	4"
771A-Upper North Fork Buffalo Creek	8"	19"		9"	1"
771B-Lower North Fork Buffalo Creek	1"	3.5"		4.5"	
772-Middle Fork Buffalo Creek	2"			1"	6"-site #1 1" site # 2
773-Chimney Creek	4"	7"		1"	.5"
774-West Fork (upper reach) Buffalo Creek (lower reach)	3.5	-			20" 2"

North Pasture	Ecological Status	Key Species	Native plants Composition by Weight in 1994	DPC	PNC
720, Rowland Mountain, T 35 N, R 18 E, S. 34, NW ¼, SW ¼. Elevation 6450 feet, 12% slope	Loamy 14-16" (023XY041NV) 58%, late-seral (good), In 1979, mapped in fair condition.	<i>bitterbrush</i> (10%) big sagebrush (38%) <i>Sandberg bluegrass</i> (16%); <i>great basin wildrye</i> (13%)	Grasses 33% Forbs 17% Shrubs 50%	40-50% 15-20% 30-40%	65% 15% 20%
721, near the Norton Place, T 34 N, R 19 E, S.17, NE ¼, NW ¼. Elevation 5950 feet, 2% slope	Churning Clay 10-14" (023XY001NV) 37%, mid-seral (fair) In 1979, mapped in fair condition.	Annual brome grass (18%); Astragalus (18%); <i>bottlebrush squirreltail</i> (20%); <i>sunflower</i> (21%)	Grasses 20% Forbs 29% Shrubs 8%,	20-30% 15-20% 30-40%	30% 10% 60%
722, near Buffalo Spring T 33 N, R 19 E, S. 3, SW ¼, NE ¼. Elevation 5050 feet, 8% slope.	Very Cobbly Claypan 10-12" (023XY044NV) 2% early-seral (poor). In 1979, mapped in poor condition.	<i>bottlebrush squirreltail</i> (2%); tumble mustard (73%) Russian thistle (151%) Cheatgrass (9%)	Grasses 2% Forbs 0% Shrubs 0%	5-20% 1-5% 10-20%	40% 5% 55%
723, Antelope Basin T 34 N, R 18 E, S. 35, NW ¼, SE ¼. Elevation 5500 feet,	Clayey 10 - 14" (023XY033NV) 53% late -seral (late), In 1979, mapped in poor condition.	<i>bottlebrush squirreltail</i> (23%), big sagebrush (39%) <i>sunflower</i> (14%)	Grasses 28% Forbs 16% Shrubs 39 %	30-40% 15-20% 35-45%	50% 5% 45%
753, Big Springs burn T 33 N, R 17 E, S. 9, NE ¼, NW ¼. Elevation 5760 feet, 8% slope	Stony Loam 12-16" (021XE004CA) 56% late -seral (good). In 1979 mapped in fair condition. static trend Site burned in 1985 wildfire.	Rabbitbrush (15%) <i>great basin wildrye</i> (10%) cheatgrass (39%) <i>bottlebrush squirreltail</i> (5%) bluebunch wheatgrass (11%)	Grasses 27% Forbs 29 % Shrubs 15%	30-40% 25-35% 20-30%	60-75% 5-15% 10-25%

Table 8 Twin Peaks Allotment (00701) Upland Resource Objectives and Key Area Summary

July 25, 2000

TP_Eva_KA_Summary_1.wpd

KEY AREA	ECOLOGICAL STATUS	KEY SPECIES	Native Plants Composition of grasses, forbs, shrubs in 1994.	Potential Natural Community (PNC)	
				Desired Plant Communit y (DPC) Proposed	PNC - grass, forbs, shrubs
North Pasture					
715, near Salt Works Well, T 31 N, R 19 E, S 23, NW¼, NW¼, elevation 4,100 ft, 5% slope	Silty 6-8" (023XY14YNV) good or late -seral (51%) In 1979, mapped in fair condition.	winterfat (30%) bud sage (15%) spiny horsebrush (3%) Indian ricegrass (T%)	Grasses 0% Forbs 0% Shrubs 100%	5-15% 1-5% 80-90%	55% 5% 40%
716, east of Smoke Creek Ranch, T 32 N, R 18 E, S 20, SE¼, SW¼; elevation 4550 ft, 11% slope	Loamy 8-10" (023XY006NV) poor, early-seral (16%); In 1979, mapped in poor condition.	Wyoming sagebrush (6%) cheatgrass (50%) bottlebrush squirreltail (5%) tumble mustard (28%) perennial forbs (8%)	Grasses 20% Forbs 1% Shrubs 79%		60% 5- 35%
717, Tule Canyon T 33 N, R 19 E, S 24, SW¼, NE ¼; elevation 5150 feet, 10% slope, west exposure.	Cobbly Claypan 8-12". (023XY060NV) 46% mid-seral (fair), In 1979, mapped in poor condition.	Low sagebrush (22%); bottlebrush squirreltail (2%); Sandberg's bluegrass (8%); perennial forbs (10%); Thurber's needlegrass (4%)	Grasses 31% Forbs 4 % Shrubs 55 %	35-45% 10-20% 35-45%	55% 10% 35%
718, Parsnip Canyon, T 33 N, R 16 E, S 11, SE¼, NW ¼. Elevation 4950 feet, 15% slope.	Loamy 8-10" (023XY006NV) 43%, mid-seral (fair) In 1979, mapped in fair condition.	Wyoming sagebrush (73%); bottlebrush squirreltail (4%); bluegrass (3%) perennial forbs (3%) Thurber's needlegrass (8%)	Grasses 9% Forbs 42% Shrubs 47%	10-15% 35-45% 35-45%	60% 5% 35%
719, Burn Spring T 33 N, R 18 E, S. 17, SW ¼, NE ¼.	Loamy 10-12" (023XY020NV) 47%, mid-seral (fair) In 1979, mapped in fair condition.	Wyoming sagebrush (63%) Nevada bluegrass (17%) cheatgrass (5%)	Grasses 32% Forbs 4% Shrubs 63%	30-45% 5-15% 35-45%	60% 10% 30%

South Pasture	Ecological Status	Key Species	native plants % present by Weight	DPC	PNC
712, near Willow Reservoir, T.29N., R.18 E., S.2, NW ¼, NW ¼. Elevation 5600 feet, slope 18%	Cobbly Claypan 8-12" (023XY060NV) 58% late -seral (good). In 1979 mapped in fair condition.	Low sagebrush (14%) bluebunch wheatgrass (25%) squirreltail (3%); Sandberg's bluegrass (10%) bluegrass (5%) Cheatgrass (36%)	Grasses 34% Forbs 8 % Shrubs 19 %	35-45% 10-20% 35-45%	40% 5% 55%
713, near Lower Smoke Creek Well, T.30N., R.19 E., S.17, SE ¼, SE ¼. Elevation 4800 feet, slope 4%	Sandy 8-12" (023XY051NV) 38% early-seral* (poor) In 1979 mapped in poor condition.	Big sagebrush (53%) bottlebrush squirreltail (3%); Indian ricegrass (4%) Thurber needlegrass (4%) Cheatgrass (18%)	Grasses 8% Forbs 11 % Shrubs 62 %	20-30% 11% 62%	65-80% 10-20% 10-20%
714, Rush Creek Reservoir, T.31N., R.17 E., S.34, NW ¼, NW ¼. Elevation 4800 feet, 2% slope	Stony Loam 9-12" (023XF004CA) 29% early-seral* (poor) In 1979 mapped in poor condition.	Wyoming sagebrush (42%); Sandberg bluegrass (17%) Nevada bluegrass (1%) bottlebrush squirreltail (19%); cheatgrass (11%)	Grasses 19% Forbs 9% Shrubs 55%	20-30% 10-20% 50-60%	65-80% 10-20% 10-20%
729, Dry Valley # 1, T.29N., R.19 E., S.20, SW ¼, SW ¼. Elevation 4200 feet, 14% slope	Loamy 4- 6" (027XY13NV) 51% late -seral (good). In 1979 mapped in fair condition.	Bud sagebrush (25%); shadscale (14%) Nevada bluegrass (1%) bottlebrush squirreltail (7%); cheatgrass (38%)	Grasses 7% Forbs 9% Shrubs 25%	10-20% 5-10% 30-40%	35% 5% 60%
730, Dry Valley # 2, T.29N., R.19 E., S.9, SE ¼, SW ¼. Elevation 4200, slope 10%	Silty 6-8" (027XY14YNV). 47% mid -seral (fair). In 1979 mapped in fair condition.	Bud sagebrush (9%); winterfat (32%) buck wheat (1%) bottlebrush squirreltail (20%); cheatgrass (13%)	Grasses 20% Forbs 1% Shrubs 40%	25-35% 5-10% 35-45%	55% 5% 40%

*This site was lowered one condition class due to low production. See section 305.5 (a) of the National Range Handbook.

South Pasture	Ecological Status	Key Species	native plants % present by Weight	DPC	PNC
707, near Telephone Spring T 29 N, R 17 E, S.24, SE ¼, NW ¼. Elevation 5100 feet, slope 3%.	Clay Upland 9--16" (021XF006CA) 51% late-seral (good), In 1979 mapped in fair condition.	Low big sagebrush (20%) horsebrush (7%) <i>buckwheat</i> (10%) <i>bottlebrush squirreltail</i> (11%); <i>balsam root</i> (19%) Thurbers needlegrass (4%)	Grasses 21% Forbs 39% Shrubs 30%	25-35% 35-45% 25-35%	65-75% 10-20% 10-20%
708, near Parker Canyon, T28N, R18E, S.3, SW ¼, SE ¼. Elevation 5000 feet, 6% slope.	Loamy 8-10", (023XY006NV) 59% late-seral (good). In 1979 mapped in poor condition.	Big sagebrush (39%) bluebunch wheatgrass (9%) Thurber's needlegrass (10%); cheatgrass (18%) bottlebrush squirreltail (13%)	Grasses 44% Forbs 23% Shrubs 30%	45-55% 20-30% 25-35%	60% 5% 35%
709, Wild Horse Reservoir, T.30N., R.17 E., S.23, SW ¼, SW ¼.; elevation 5100 feet, slope 14% northwest	Stony Loam 9-12" (023XF004CA) 35%, mid-seral (fair) In 1979 mapped in poor condition.	low sagebrush (58%) bluebunch wheatgrass (9%) Thurber's needlegrass (2%); Sandberg bluegrass (13%) bottlebrush squirreltail (3%) perennial forbs (6%)	Grasses 47% Forbs 17% Shrubs 34%	45-55% 20-30% 30-40%	60% 10% 30%
710, East Fork Skedaddle Creek T.30N., R.18 E., S.16, NE ¼, SE ¼.; Elevation 5450 feet, slope 6% - west	Very Cobbly Claypan Slopes 9-12" (023XY044NV); 55%, late-seral (good), In 1979, mapped in fair condition.	Low sagebrush (31%); Bottlebrush squirreltail (5%); Sandberg's bluegrass (14%); perennial forbs (3%);	Grasses 31% Forbs 4 % Shrubs 55 %	30-40% 5-10% 50-60%	40% 5% 55%
711, near Antelope Spring, T.30N., R.17 E., S.19, NW ¼, NW ¼. Elevation 4800 feet, slope 8%	Stoney Loam 9 - 12" (023XF004 CA). 21% early-seral, (poor) in 1979 mapped as poor condition.	Big sagebrush (44%); Bottlebrush squirreltail (31%); cheatgrass (23%); perennial forbs (1%);	Grasses 31% Forbs 1 % Shrubs 44 %	30-40% 5-10% 45-55%	60% 10% 30%

Appendix 9 SUSANVILLE CALIFORNIA PRECIPITATION HISTORY, from 1889 to 1999.

Year and Inches of Precipitation

1889	36.26	1917	14.18
1890	20.31	1918	16.40
1891	20.32	1919	14.95
1892	31.55	1920	20.31
1893	20.23	1921	9.37
1894	28.07	1922	14.04
1895	25.70	1923	14.46
1896	23.59	1924	22.80
1897	13.41	1925	17.03
1898	12.24	1926	n/a
1899	19.59	1927	14.33
1900	21.05	1928	9.74
1901	18.31	1929	17.33
1902	15.65	1930	9.92
1903	24.27	1931	14.60
1904	15.50	1932	9.14
1905	19.76	1933	12.66
1906	32.42	1934	16.90
1907	16.62	1935	17.43
1908	21.02	1936	14.19
1909	13.46	1937	32.82
1910	26.00	1938	9.30
1911	9.44	1939	21.37
1912	24.90	1940	21.51
1913	25.69	1941	23.35
1914	10.32	1942	18.27
1915	21.40	1943	13.31
1916	9.98	1944	11.36
1945	12.33		

1946	10.99		
1947	9.08		
1948	6.66	1974	11.77
1949	13.30	1975	11.39
1950	10.06	1976	5.33
1951	12.41	1977	11.98
1952	16.56	1978	13.56
1953	11.26	1979	12.04
1954	12.10	1980	14.37
1955	14.78	1981	18.06
1956	14.40	1982	17.74
1957	15.65	1983	24.41
1958	16.75	1984	7.59
1959	7.89	1985	7.75
1960	12.55	1986	16.76
1961	7.55	1987	9.93
1962	24.79	1988	10.08
1963	15.14	1989	13.37
1964	17.75	1990	10.47
1965	15.92	1991	10.54
1966	8.14	1992	8.18
1967	19.29	1993	14.56
1968	15.36	1994	15.43
1969	19.96	1995	37.29
1970	22.5	1996	24.41
1971	18.5	1997	22.43
1972	11.54	1998	26.35
1973	17.489	1999	12.74

Source = U.S. Weather Bureau

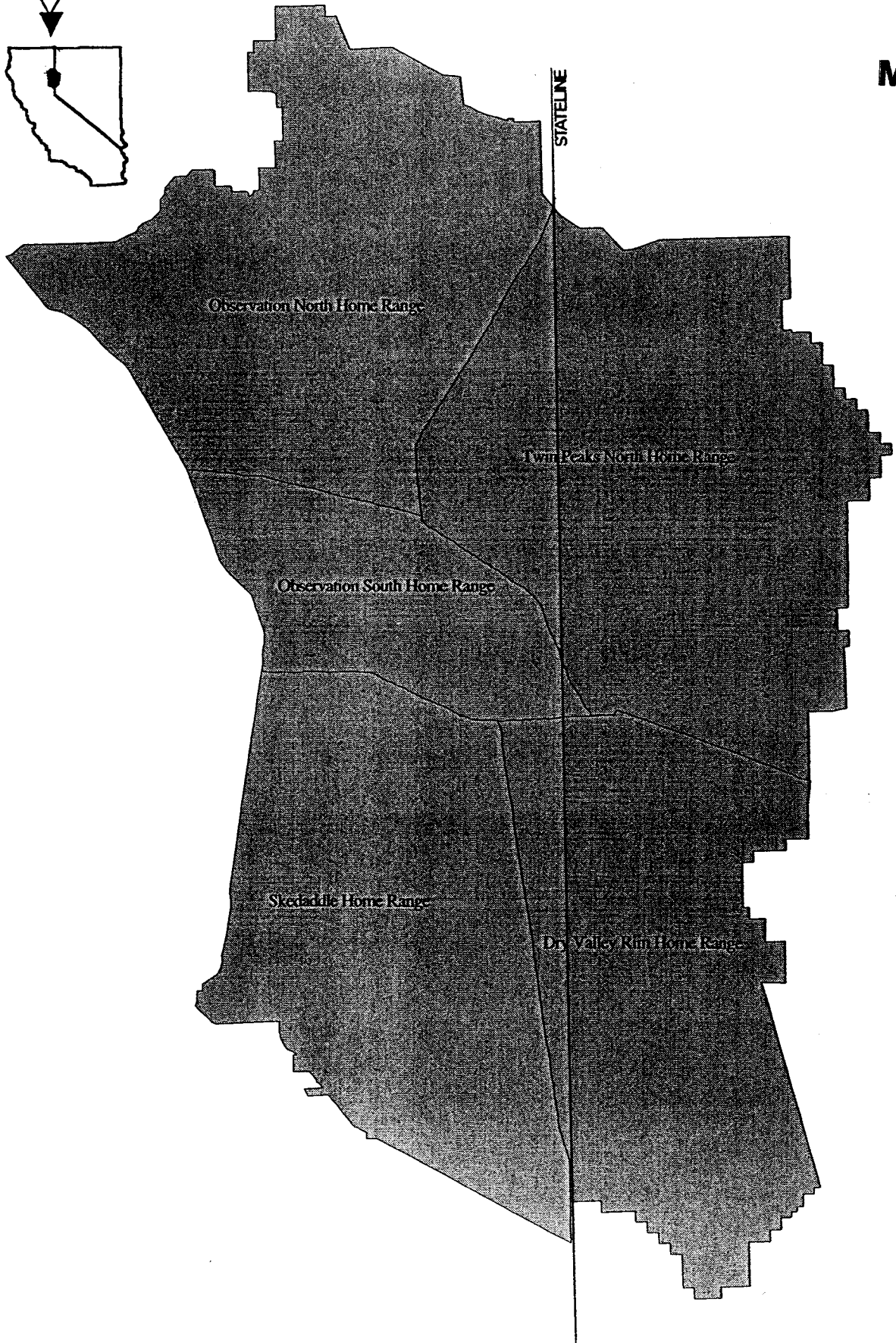
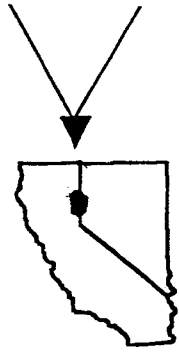
SUSANVILLE AIRPORT Start Year: 1931 End Year: 1990

Month	Temperature						Precipitation			
				2 years in 10 will have		avg	2 yrs in 10 will have			average number days wi 0.10 in or more
	avg daily max	avg daily min	avg	max temp. >than	min temp. <than	no. of grow'n degree days*	avg (in.)	less than (in.)	more than (in.)	
January	40.3	20.1	30.2	62	-6	10	2.56	0.85	3.97	5
February	46.1	24.2	35.2	64	0	29	2.17	0.61	3.43	4
March	53.2	28.3	40.7	73	10	95	1.51	0.59	2.27	4
April	61.9	32.6	47.2	82	18	231	0.72	0.22	1.16	2
May	71.1	38.9	53.0	91	24	469	0.77	0.25	1.22	2
June	80.0	45.4	62.7	98	30	685	0.67	0.17	1.18	1
July	89.4	50.1	69.8	101	35	922	0.24	0.03	0.55	0
August	87.8	48.2	68.0	100	34	857	0.17	0.05	0.41	0
September	79.5	42.1	60.8	96	26	611	0.41	0.10	0.83	1
October	66.6	34.5	50.6	85	13	330	1.09	0.15	1.33	2
November	51.7	27.0	39.4	70	8	78	1.73	0.53	2.85	3
December	42.2	21.9	32.0	59	-1	15	2.43	0.63	2.94	5
Yearly :										
Average	64.1	34.5	49.3	---	---	---	---	---	---	---
Extreme	106	-23	---	103	-9	---	---	---	---	---
Total	---	---	---	---	---	4333	14.45	8.90	18.75	29



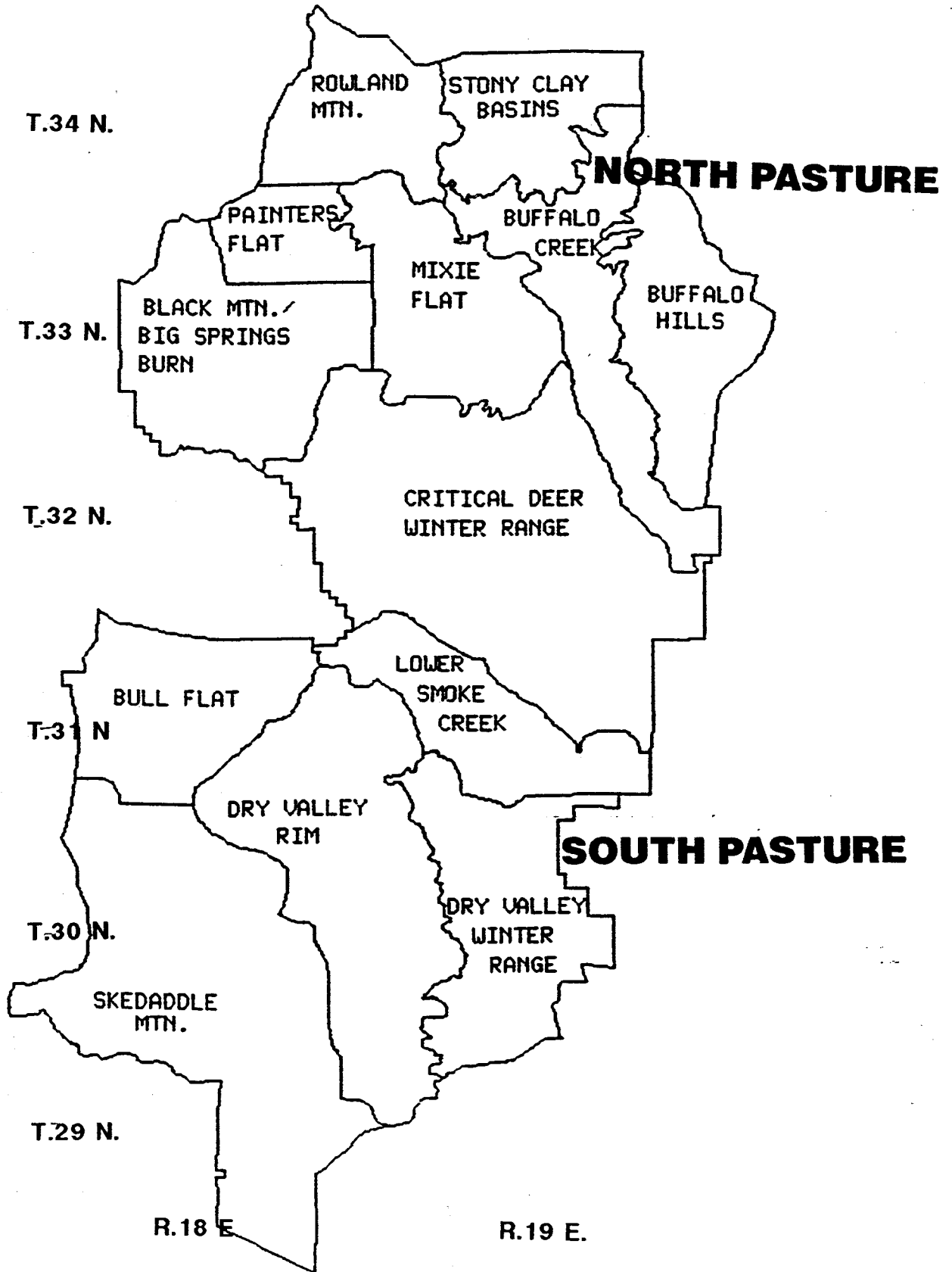
TWIN PEAKS HERD MANAGEMENT AREA

Map 1



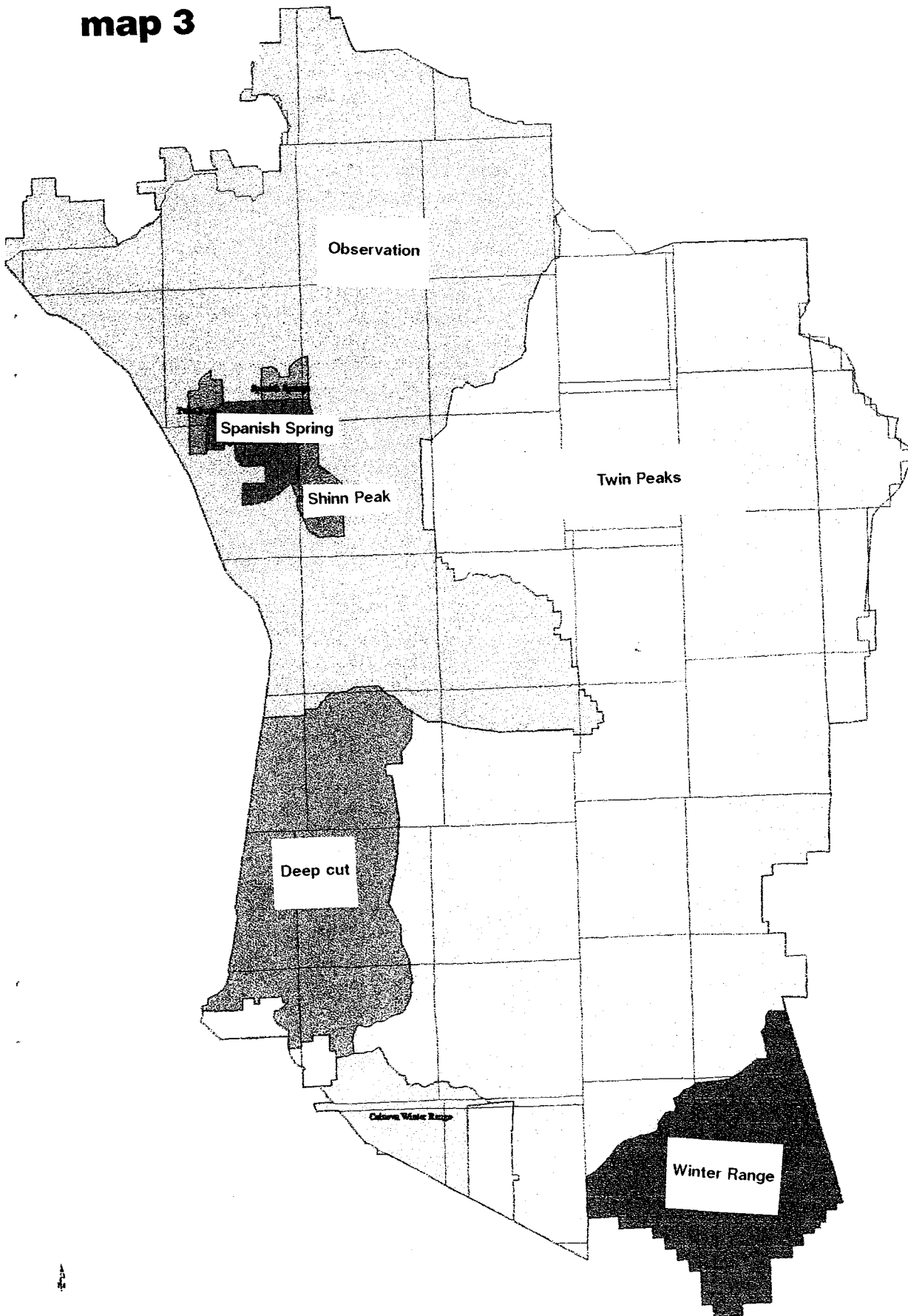
TWIN PEAKS ALLOTMENT SUBUNITS

map 2





map 3



Subject: Twin Peaks

Date: Thu, 31 Aug 2000 21:08:22 -0700

From: Roy Edward Leach <leach@phonewave.net>

To: "mustangs@govmail.state.nv.us" <mustangs@govmail.state.nv.us>

The Commission has been intensively involved in the land use planning efforts for the the Twin Peaks Allotment since the severe drought in the 1980's. We supported the 1992 Wild Horse Decision for the Twin Peaks Northern Home Range. It was our agreement that no other wild horse gathers would be conducted until carrying capacities and appropriate management levels were established by a multiple use decision.

In general, we would like to better understand the data and its assessment that affects wild horses and burros in their management areas. The document alludes to census data and population estimates, but present no data or computations. Please provide this information in the Appendix.

At this time, we do not accept the 1992 appropriate management level for the North Home Range, nor do we accept other AML in the document. Over eight years have past and new data are available to re-assess the numbers. To our best knowledge, the AMLs for other home ranges are numbers from the 1981 land use plan.

Please provide the data and rationale for a carrying capacity and allocation of forage for wild horses and burros within this allotment.