

Evaluation and Standard and Guidelines Health Assessment

SUMMARY SHEET

Allotment Name: ZX Christmas Lake #10103

Date Signed: 9/27/01

RESULTS

1. Carrying Capacity: Calculated is 28,315 AUMs.
2. Livestock Average Actual Use: 11 year average is 16,725 AUMs. The highest use level was in 2001 with 21,310 AUMs.
3. Exchange of Use: 0 AUMs.
4. Wild Horse Average Actual Use: 1045 AUMs.
5. Active Livestock Use: 31,069 AUMs.
6. Resource Concerns: Serious resource use conflicts and controversy exist with wilderness, ORV use, wild horses in the Paisley Desert HMA, antelope kidding, sage grouse leks, Lost Forest Research Natural Area (RNA), bureau sensitive species and the military radar base. The sensitive plant species Prostrate Buckwheat (*Eriogonum prociduum*) is found in the Elk Butte pasture. Special management Areas include the Lost Forest/Sand Dunes/Fossil Lake ACEC (including the Lost Forest RNA and ISA) and the Sand Dunes Wilderness Study Area (WSA) Cultural concerns are found in the Fossil Lake Closure Area. Perennial pepperweed, a noxious weed, has been found along the Brim Well and Poverty Basin Pipelines.
7. Time Period Covered 1990-2001
8. Standards: Achieved/Not Achieved
  - A. Watershed Function - Uplands **Achieved** in ten of the 19 pastures, **Not Achieved** in 9 pastures. Livestock grazing is contributing to not achieving the standard in 6 of the 9 pastures. Erosion from nearby roads and other factors are the cause for not achieving the standard in the other three pastures.
  - B. Watershed Function - Riparian/Wetland Areas- This standard is **Not Applicable** to the allotment because no perennial or intermittent streams flow through the area.
  - C. Ecological Processes- **Met** on 196,587 acres (38%) of the allotment. **Functioning at Risk** on 278,137 acres (54%) of the allotment, **Not Achieved** on 41,660 acres or 8% of the allotment.
  - D. Water Quality- **Not Applicable** to this allotment.

E. Native, Special Status, and Locally Important Species- This standard is *Met* on the allotment. Recommended management actions would improve habitat important for sage grouse in addition to meeting the standard.

9. Trend: Uplands -6 of 33 monitoring sites show an upward trend, 6 show a downward trend and the majority, 20 sites show a stable trend.
10. Trend: Riparian- Not Applicable
11. Grazing Treatments: Grazing treatments have been inconsistently applied and could be improved to meet the plant health needs of vegetation. Improvements in grazing practices could also benefit sage grouse.
13. Monitoring: Monitoring studies have been adequate. Pasture wide pattern mapping of utilization should be supplemented with key area utilization transects for livestock and wild horses.

#### RECOMMENDATIONS

1. Level of Livestock Use: 31,069 AUMS of which 11,000 is available during spring/summer 2/21-7/15, and 15,862 are available 7/16-11/07, 4207 AUMs are not available most years, based on current monitoring data. The 4207 AUMs may be available on some years if monitoring shows light use, and the additional use is consistent with other resource objectives.
2. Exchange of Use: 0 AUMS.
3. Wild Horse Use: 785 AUMS.      Wildlife Use: 789 AUMS.
4. Changes in grazing treatments: Modify present grazing treatments to provide a deferred rotation system for pastures North of the Christmas Valley/Wagontire road. One year in three rest on crested wheatgrass seeding used during May, and two years rest on native pastures in poor condition. A recommended grazing rotation is attached in Appendix I.
5. New monitoring needed: Add key area utilization monitoring for livestock and wild horses.
6. Range improvements needed: Several cattle guards and fences are recommended as shown on the map in the Appendix. Restoration projects may also be necessary on the 8% of the allotment Not Meeting Standard 3, and the 54% functioning at risk. Additional range improvements may be needed that are not evident at this time. Control and potential treatment of weed invasions is recommended.
7. Changes in management category: No changes are recommended. The allotment should remain an I category allotment.

Team Members

Title

Theresa Romasko	Rangeland Management Specialist (RMS)
Bill Cannon	Archaeologist
Alan Munhall	Fishery Biologist
Lucile Housely	Botanist
Erin McConnell	Noxious Weeds
Barbara Machado	Hydrologist
Todd Forbes	Wildlife Biologist
Robert Hopper	Supervisory RMS
Ken Kestner	Supervisory NRS

DETERMINATION FOR RANGELAND HEALTH

Determination

- Existing grazing management practices or levels of grazing use on the ZX Christmas Lake Allotment promote achievement of significant progress toward the Oregon Standards and Guidelines for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.
- Existing grazing management practices or levels of grazing use on the ZX Christmas Lake Allotment will require modification or change prior to the next grazing season to promote achievement of the Oregon Standards and Guidelines for Livestock Grazing Management.

Scott R. Florence

Scott R. Florence, Manager  
Lakeview Resource Area

9/27/01

Date

## ALLOTMENT ANALYSIS, INTERPRETATION, AND EVALUATION

### I. GENERAL INFORMATION

ALLOTMENT NUMBER: 10103 ALLOTMENT NAME: ZX Christmas Lake

#### A. Background

The ZX Christmas Lake #10103 Allotment is located 8 miles east of Christmas Valley, Oregon. See Appendix A for a general location map. It is used by one grazing permittee, JR Simplot Trust.

This allotment contains 524,180 acres of BLM lands and 54,640 acres of private land. These are divided into 19 pastures. Of these 19 pastures, 10 are predominately crested wheatgrass, and 9 predominately native rangelands.

The vegetation types on this allotment are primarily Big sagebrush/ Thurbers needlegrass (*Artemisia tridentata/Stipa thurberiana*), Low sagebrush/ squirreltail), Western juniper (*Juniperous occidentalis*) / big sagebrush/ Idaho Fescue (*Festuca idahoensis*). Greasewood/ basin wildrye (*Sarcobatus vermiculatus/ Elymus cinereus*), and crested wheatgrass (*Agropyron cristatum*).

The ZX Christmas Lake Allotment supports a diversity of wildlife, including antelope, deer, elk, sage grouse and a variety of small mammals, birds, amphibians and reptiles common to south central Oregon.

There are 5 animal species documented within the allotment for which special status has been assigned by either the State of Oregon or the Federal Government. The Northern bald eagle, is jointly listed as Threatened. The kit fox, is listed as Threatened by the state, but has no federal status. The burrowing owl and the ferruginous hawk are both listed as BLM sensitive and the pygmy rabbit is listed as a BLM assessment species. In addition to these species, the grater sage grouse is a species of high public interest and has had management guidelines developed for it's management.

#### B. Present Situation

##### 1. Permittee and The Total Number of AUMs of Specified Livestock Grazing

Permittee	Active Livestock AUMs	Suspended Nonuse	Total AUMs Specified for Livestock Grazing
JR Simplot Trust	31,069	6,588	37,657

2. Allotment Category: I

Primary factors determining the category: (from 1990 evaluation)

- a. Range condition is unsatisfactory
  - b. Forage production potential is moderate to high and present production is low to moderate
  - c. Present management is unsatisfactory
  - d. Serious resource use conflicts and controversy exist with wilderness, ORV use, wild horses in the Paisley Desert HMA, antelope kidding, sage grouse leks, Lost Forest Research Natural Area (RNA), bureau sensitive species and the military radar base.
  - e. Opportunities exist for positive economic returns.
3. Area Rank: The ZX Christmas Lake was ranked #1 of the 25 allotments ranked in the former High Desert Resource Area. No new ranking was done when the Warner Lakes and High Desert Resource areas were combined.
4. Major Resource Concerns in addition to (2d. Above)
- a. T&E Plant species: The sensitive plant species Prostrate Buckwheat (*Eriogonum prociduum*) is found in the Elk Butte pasture.
  - b. Special management Areas include the Lost Forest/Sand Dunes/Fossil Lake ACEC (including the Lost Forest RNA and ISA) and the Sand Dunes Wilderness Study Area (WSA)
  - c. Cultural concerns are found in the Fossil Lake Closure Area.
  - d. Perennial pepperweed a noxious weed has been found along the Brim Well and Poverty Basin Pipelines.
5. Season of Use  
This allotment is used in spring, summer and fall. Cattle are permitted from 3/1-12/1, however most grazing occurs between 3/1-10/31.
6. Land Use Plans and Other Documents Examined
- a. Lakeview Environmental Impact Statement (EIS), 1982
  - b. High Desert Management Framework Plan (MFP), 1981

- c. Rangeland Program Summary (RPS) Updates, 1982,1987, 1996-1999
- d. ZX Allotment Management Plan (AMP), 1984
- e. ZX Christmas Lake Allotment #10103 Evaluation, 1990

7. Forage Allocations from the Land Use Plan

Livestock 29,169

Wildlife 529

Wild Horses 408

8. Decisions

a. As a result of the 1982-RPS-ROD a proposed decision was issued reducing livestock active preference from 32,657 AUMs to 29,169 AUMs. Season of use was also adjusted from 3/1-10/31 to 3/1-11/30.

b. In 1984, the allotment was renamed the ZX Christmas Lake Allotment from the previous View Point Allotment. An AMP was written and signed for the allotment. The AMP recommended several range improvement projects, and testing of 8,488 AUMs of temporary grazing to determine carrying capacity.

c. In 1990 the ZX AMP, was canceled because several pastures had a downward trend.

d. In 1993 grazing preference increased by 1900 AUMs to 31,069 AUMs. The increase was a result of crested wheatgrass seeding in the Brim Seeding.

II. OBJECTIVES

A. Land Use Plan Objectives

- 1. Maintain or improve wildlife habitat
- 1. Maintain or improve ecosite condition
- 2. Maintain the Paisley Desert wild horse herd by providing 408 AUMs of forage in the Vaughn pastures on a sustained yield basis.
- . Maintain or increase the 529 AUMs of wildlife forage on a sustained yield basis.

### III. GRAZING SYSTEM AND PASTURE USE SUMMARIES

#### A. Grazing System

1. Crested wheatgrass seedings are mainly used for a short period of time each year from 3/1-5/21. With most use prior to May.
2. Native pastures involve a variety of grazing strategies including early season, deferment, rest, and deferred rotation. Fossil Lake pasture has been grazed early (prior to May) most years. Browns Valley, North Sinks and South Sinks have been deferred. Little Benjamin pasture has been either deferred or rested 3 years out of 11, and Elk Butte pasture has been deferred or rested 3 years out of 11. The Vaughn pastures have been used every other year. Bull Lake was used every year during May-July since 1996, but rotated with rest prior to 1996.

#### B. Pasture Use Summaries

See Appendix D for a detailed summary of grazing use in each pasture. Information is summarized with the available information. Grazing dates at measured utilization level adjusted for climate (yield index). This is abbreviated as \_\_\_\_\_ AUMs @% Utilization X % Yield Index = Adjusted Utilization.

### IV. ANALYSIS AND INTERPRETATION

#### A. Inventory and Range Condition

##### 1. Key Species and Target Utilizations by Pasture

Idaho fescue (Feid) and Thurber's needlegrass (Stth) are the key species in most of the north pastures. Squirreltail is the key species throughout most of the southern pastures, and Basin Wildrye (Elci) is key on some pastures. Crested Wheatgrass (Agcr) is the key species in seeded pastures. See Table - 1, for listing of key species by pasture.

**Table -1**

Pasture	Acres	Utilization Target	Key Species
Browns Valley	60,765	50%	Feid, Stth
Bull Lake	23,076	50%	Feid, Stth
Elk Butte	97,018	50%	Feid, Stth, Sihy, Agcr
Little Benjamin	38,450	50%	Feid, Stth, Sihy
North Sinks	40,076	50%	Feid, Stth, Sihy
South Sinks	13,504	50%	Feid, Stth
Fossil Lake	47,888	50%	Elci, Sihy, Stth, Agcr
Vaughn Well Pastures	75,979	50%	Sihy, Stth
	39,200	50%	
East & West Doughnut	4032	60%	Agcr
	8368	60%	
Goodrich	14,950	50%	Agcr
Horse Mountain	12,400	60%	Agcr, Stth, Sihy
Brim Pastures	5890	60%	Agcr
	3712	60%	
	2432	60%	
West Butte Valley	10,600	60%	Agcr
Boilout	5824	60%	Agcr
Saddle	12,288	50%	Agsp, Agcr

2. Ecological Site Inventory

An ecological site inventory is nearly complete for this allotment. Results from the survey will be incorporated into the next evaluation.

3. Range Condition for the Allotment and in each pasture is summarized in Table-3. Range conditions from the Lakeview EIS were adjusted using monitoring studies.

Table -3

Pasture	Good	Fair	Poor	Public Land Acreage
Browns Valley	55,645	5,120	0	60,765
Bull Lake	7,680	15,396	0	23,076
Elk Butte	16,000	72,698	8,320	97,018
Little Benjamin	32,690	5,760	0	38,450
North Sinks	31,916	8,160	0	40,076
South Sinks	10,784	2,720	0	13,504
Fossil Lake	2,880	25,168	19,840	47,888
East Vaughn	0	70,695	4,220	75,979
West Vaughn	1,600	36,420	2,180	39,200
East Doughnut	2,352	1,280	400	4,032
West Doughnut	4,764	1,920	1,680	8,368
Goodrich	4,480	10,470	0	14,950
Horse Mountain	6,920	5,480	0	12,400
North Brim	4,685	1,205	0	5,890
Middle Brim	2,995	717	0	3,712
South Brim	1,426	1,006		2,432
Saddle	1,280	8548	2460	12,288
West Butte Valley	3,840	4200	2560	10,600
Boilout	4,650	1174	0	5,824
Totals	196,587	278,137	41,660	514,384 513,892

4. Wild Horse Inventory

Year	East Vaughn	West Vaughn	Total
1990	12	25	37
1991	34	48	82
1992	41	58	99
1993	14	23	37
1994	22	27	47
1995	26	32	58
1996	31	38	69
1997	43	46	89
1998	52	55	107
1999	62	66	128
2000	84	119	203
Average	38	49	87

B. Studies and Results

1. Actual Use, Climate and Utilization

Actual Use Climate and Utilization data indicate that actual livestock grazing levels since 1990 have been within carrying capacities for most years. The West Doughnut, South Brim, and Elk Butte pastures have received repeated use during the critical season for herbaceous species. Middle Brim and Horse Mountain pastures have received May use during most years for a short period of time and may need slight adjustments. North Sinks, South Sinks, and Browns Valley have received mostly deferred use, and could also be used earlier in a grazing rotation.. Boilout and West Butte Valley have distribution and wolf plant problems, and may require season of use changes. Data indicates active preference for the allotment may exceed carrying capacity.

See Appendix H for Table of Actual Use, Utilization, and Climate and Calculation of Potential Stocking Levels (Carrying Capacity). Also see Appendix K for a summary of grazing use from 1990-2000, that occurred during the 3/1-7/15 time period.

## 2. Trend

There are 33 photo trend plots in this allotment. Photos were taken periodically from 1976 to 2000. The photos indicate 6 areas in an upward trend, 7 areas in a downward trend, and the majority of the allotment is in a stable trend. Two photo points have not been photographed after they were installed. There is one Pace 180 in the Saddle Butte pasture which indicates an upward trend. Observed Apparent Trend was recorded in the Browns Valley Pasture in 1999, and indicates an upward trend.

There are 14 frequency studies, which were read from 1984 to 2000. Results vary and are shown in the Table of trends. See Table T-4 for a summary table of trends by pasture.

Table T-4

Pasture	Study Number	Photo Trend	Observed Apparent Trend	Frequency	Professional Judgement	Comments
Bull Lake	BL-1	Up		Sihy -39 Sth -1 Feid +11	Up	Increase in Feid indicates improved ecological condition
Browns Valley	BV-1	Up		Feid +23	Up	Increase in Feid indicates improved ecological condition
	BV-2	Stable	Up		Up	Increase in vigor of herbaceous species.
	BV-3	Stable		Feid +18 Stipa +4	Stable	Decrease in total number of grass species, increase in Feid (which doesn't show in photo), Increase in vigor of plants
Elk Butte	EB-1	Stable		Feid +27 Sihy -8 Sth +7	Stable	
	EB-2	Down		Feid -10 Sihy -10	Down	Reduced herbaceous species and reduced vigor of remaining species.

Pasture	Study Number	Photo Trend	Observed Apparent Trend	Frequency	Professional Judgement	Comments
	EB-3	Down			Stable	Stable but on edge, trend could go downward if grazing not improved, photos show increase in rabbitbrush and cheatgrass.
	EB-4	Stable		Sth -10 Sihy +7	Down	decrease in total number of herbaceous species
Little Benjamin	LB-1	Stable		Feid +27 Sihy -8 Stipa +4	Stable	Some difference may be species identification, site could be slightly up based on increase in Feid
	LB-2	Down		Feid +31 Sihy -15 Sth -1	Stable	On edge of a lake, loss of species in photo, plants pedestal led, but increase in upland vegetation. Upland stable
	LB-3	Down		Feid +39 Sihy -3	Stable	
North Sinks	S-1	Up		Feid +8 Sihy -15 Sth +19	Up	

Pasture	Study Number	Photo Trend	Observed Apparent Trend	Frequency	Professional Judgement	Comments
North Sinks	S-3	Down		SiHy +0 Stth -10 Stco-9	Down	There appears to be erosion from the road nearby. Lost most herbaceous species.
South Sinks	S-2	Up		SiHy -8 Stth +41	Up	
Fossil Lake	FL-1B	Stable			Stable	
	FL-2	Stable			Stable	
Vaughn Well	VW-1	Stable		discontinued	Stable	
	VW-1	Stable		SiHy -9	Stable	
	VW-3	Stable		SiHy -17	Stable	
	VW-4	Stable			Stable	
	VW-5	not reread				
	VW-6	not reread				
East Doughnut	ED-1	Stable			Stable	Agcr stable, but rabbitbrush is increasing

Pasture	Study Number	Photo Trend	Observed Apparent Trend	Frequency	Professional Judgement	Comments
East Doughnut	ED-2	Down			Stable	Ager did not stay on the site after seeding, native grasses are starting to establish. High erosion hazard, sandy soils little cover
West Doughnut	WD-1	Down			Down	Loss of herbaceous species including Ager, dramatic increase in sagebrush
Goodrich	GW-1	Stable			Stable	
	GW-2	Stable			Stable	Ager stable, increase in cheatgrass, very little use by livestock.
Horse Mountain	HM-1	Stable			Stable	
	HM-2	Up			Up	Increase in native herbaceous species

3. Use Supervision Observations

Use supervision and observations records can be found in Appendix E.

4. Soil Surface Factor

Soil surface factor (SSF) is stable to slight on the majority of the allotment. 69 sites were rated for SSF, with 46 areas in stable or slight erosion hazard, 22 sites in moderate erosion hazard, and one site with critical. The critical site is located in the sand dune portion of the Vaughn Well pasture. Moderate erosion includes 7 sites in the Elk Butte Pasture, 6 sites in the Vaughn Well, two sites in Saddle, one in West Butte Valley, and one in Horse Mountain. SSF rating sheets for moderate and critical erosion hazard are attached in Appendix J.

V. EVALUATION OF STANDARDS, OBJECTIVES, AND MANAGEMENT ACTIONS

A. Achieving Rangeland Health Standards

1. Watershed Function - Upland

Standard: Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil climate, and land form

*Not achieved* in the East and West Vaughn Well, Elk Butte, Little Benjamin, North Sinks, East Doughnut, and West Doughnut, West Butte Valley, Horse Mountain and Saddle pastures. Livestock grazing is a contributing factor to not meeting the Standard in Elk Butte, Vaughn and West Doughnut pastures, and may be a factor in Little Benjamin and Saddle pastures, because of repeated yearly spring/summer use in these pastures. Livestock grazing is not a contributing factor in the North Sinks, East Doughnut and Horse Mountain pastures. Erosion from nearby roads and other disturbances are causing erosion in these pastures.

Indicators Used are SSF factor ratings attached in Appendix J as judged by soil movement, surface litter, evidence of erosion, pedestaling, rills, gullies, and

flow patterns. Trend data is also used considering the indicators of species composition, cover, and frequency as summarized in Table T-4. Range condition data summarized in Table T-3 is an indicator of overall health. Livestock grazing management is considered since it impacts rangeland health. Yearly use during May-July 15 negatively impacts herbaceous species.

2. Watershed Function - Riparian/Wetland Areas

Standard: Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.

*Not Applicable* The ZX Christmas Lake Allotment does not have any areas considered as wetland or any perennial or intermittent streams considered as riparian areas.

3. Ecological Processes

Standard: Healthy, productive and diverse plant and animal populations and communities appropriate to soil, climate and landform are supported by ecological processes of nutrient cycling, energy flow and the hydrologic cycle.

*Not Achieved* on 41,660 acres or 8% of the allotment, *Functioning at Risk* on 278,137 acres (54%) of the allotment, *Met* on 196,587 acres(38%) of the allotment. Indicators used are soil stability range condition and trend, plant and animal communities, and monitoring studies. Livestock grazing is contributing to not meeting the standard in areas that are grazed yearly during the spring and summer.

4. Water Quality

Standard: surface water and ground water quality, influenced by agency actions, complies with State water quality standards.

This Standard is *Not Applicable* to the ZX Christmas Lake Allotment, because there are no perennial or intermittent streams on the allotment.

5. Native, Special Status, and Locally Important Species

Standard: Habitats support healthy, productive and diverse populations and communities of native plants and animal (including special status species of local importance) appropriate to soil, climate and land form.

*This standard is being met.* Indicators used are vegetative trend, existing

plant communities, composition and diversity, as well as the diversity of wildlife species. The allotment has diverse plant communities which hold adequate litter on site to provide proper nutrient cycling, hydrologic cycling and energy flow while providing habitat for wildlife species.

At present the standard is being met for the Bureau sensitive plant species, *Eriogonum prociduum* (prostrate buckwheat), with the recent change from yearly spring grazing of the area to grazing every other year combined with turnout in the crested wheatgrass seeding and cattle drifting to the site later on the grazed year. Yearly monitoring is being carried out in two contrasting areas within the plant population: within the area enclosed by a fence and within the area outside of the enclosure.

Perennial Pepperweed is found along the Brim and Poverty Pipelines. Other potential invasive species include Hoary cress (white top), Mediterranean Sage, Canada, Bull and Musk thistle. Mapping and inventory of these and other known weed sites is ongoing and control methods and treatments are underway.

B. Analysis of Objectives from the Lakeview EIS,

1. Maintain or improve wildlife habitat  
This objective has been met to the extent that habitat needs are understood. Habitat goals may require change as new goals are developed.
2. Maintain or improve ecosite condition  
The majority of the allotment has either maintained (54%) or improved (38%) with only 8% of the area in a downward trend.
3. Maintain the Paisley Desert wild horse herd by providing 408 AUMs of forage in the Vaughn pastures on a sustained yield basis.

408 AUMs does not meet the forage needs of horses in this area. The Paisley Desert horses mainly use the Sheeprock Allotment with the Vaughn pastures of this allotment being the second highest numbers. Horse numbers in this allotment have ranged from a low of 37 to a high of 203 horses, far exceeding the forage allocation. It is recommended to manage for 26-65 horses in the Vaughn pastures. This would require an increase in the forage allocation for horses to 785 AUMs. The recommended allocation is less than the average use by horses over the last 11 years of 1044 AUMs(87 horses) and far lower than the high use level of 2436 AUMs.

4. Maintain or increase the 529 AUMs of wildlife forage on a sustained yield basis.

Wildlife needs have increased to 789 AUMs as a result of elk use in the area. The current forage needs of elk are 260 AUMs. As elk numbers increase there is potential conflict with livestock and elk for the same forage. Some adjustments may be necessary in the future. Elk use has been outside the Paisley Desert HMA.

5. Manage the Allotment to maintain, restore or enhance populations and habitats of Bureau special status plant species.

At present this objective is being met and there is a balance; however, any change in season of use, numbers of livestock or where turn-out takes place could result in elimination of this population.

C. Grazing Treatments/System

Grazing treatments have been inconsistent with a few pastures receiving the majority of use during the critical season for herbaceous plants (May - July 15). These pastures are Elk Butte, and West Doughnut. The poor condition rangeland in the Vaughn pasture would benefit from a system with more rest. The permittee found the intensive grazing system almost impossible to follow, because it required constant moving of cattle. Drift problems have occurred in the Fossil Lake pasture which border private hay fields. Pasture cleanup has been a continual problem. Cattle have been left or have drifted back into pastures in which they should have been cleaned out, reducing the benefits of pasture rotation. The system needs to be simplified, and improved to provide for the plant health needs in each pasture.

VI. RECOMMENDATIONS

A. Recommended Objectives

1. Restore 60% of the 41,660 acres of poor condition rangeland to fair condition or better within 15 years.

This objective addresses the resource concern that poor condition rangeland is present on the allotment. Poor conditions result in increased erosion hazard and poor watershed health. These areas are not meeting Rangeland Health Standards 1 and 3. Monitoring to address this objective will be vegetative

trend and photos studies measuring frequency, composition, density, cover. Soil properties such as erosion, pedestaling, gullying, and infiltration will also be considered.

Management actions to achieve this objective include improved grazing treatments designed to provide stable and upward trend. Crested wheatgrass seedlings should be grazed outside the critical season, or provided rest one year out of three. The pastures north of the paved Christmas Valley road require every other year deferment at a minimum. (See Appendix I for recommended grazing strategy. Vegetation restoration projects emphasizing native seed development could reduce the recovery time. Projects may include brush beating, seeding or prescribed fire. Additional projects to assist in grazing management include cattle guards in high traffic areas where gates are not being shut. Fencing projects are recommended, especially in the Fossil Lake pasture. See Appendix F for recommended fencing and cattle guard placement. Additional range improvements may be necessary that are not evident at this time.

2. Improve soil conditions in areas with moderate erosion potential to support improved hydrologic function and improved water holding capacity in the watershed.

This objective addresses areas of moderate erosion concern and the goal to increase the water holding capacity of these areas as measured by the plant communities ability to hold water. The Rangeland Health Standards addressed are 1 and 3. Monitoring of this objective will include vegetation and soil trend. Studies of livestock and wild horse carrying capacities will be considered as to their affects on the vegetation and soil resource. Management actions will be the same as those for objective 1. Additional projects may include introduction and study of microbiotic crust, and erosion control structures.

3. Provide a diversity of vegetation and plant communities across the landscape, including but not limited to plant communities necessary to support threatened and endangered plant and animal species.

This objective addresses the health needs of plants, animals and watershed including Rangeland Health Standards 1,3,4 & 5. A high degree of diversity in plant communities assists in sustaining habitat and forage needs of wildlife and wild horses while providing livestock forage. Diversity increases a plant communities resilience to disturbances such as fire and weed invasion and assists in soil stabilization. Monitoring will include vegetative composition and trend studies, and weed inventory.

Management actions to accomplish this objective area to improve livestock grazing strategies considering the plant health needs of grasses forbs and shrubs. Vegetative restoration projects may be necessary to release forb species. Additional restoration projects may increase diversity. Continued monitoring of the Bureau sensitive plant species will direct future actions regarding grazing management in the Elk Butte Allotment: such as where livestock are turned out, alternative years for spring use, numbers of livestock in area, possible complete exclusion of grazing from sensitive plant area, and other factors which may effect the sensitive plant species and prevent extirpation of prostrate buckwheat. Weed control and treatment may be necessary to maintain plant communities.

4. Provide livestock forage as consistent with other resource objectives. Actual use, utilization and trend data will be gathered to determine if livestock levels are within carrying capacity and consistent with resource objectives. Management needs are the same as described in other objectives.
5. Provide 789 AUMs of forage for wild horses as consistent with other resource objects, and in thriving ecological balance. Manage for 26-65 horses in the Vaughn pastures of the Paisley Desert HMA.

This objective addresses management of wild horses in the Paisley Desert HMA and Rangeland Health Standards 3 and 5. Monitoring to measure this objective will include wild horse census, utilization and trend studies. Management actions will include periodic gathering of wild horses to maintain a viable herd in balance with other resources. Other recommendations include modifying cattle guards, to prevent horses being trapped. Strengthening of boundary fences and other projects to encourage horses to stay within the boundaries of the HMA. Potentially fertility control to manage populations.

6. Show an upward trend in the Vaughn, Elk Butte, West Doughnut, East Doughnut, Horse Mountain, Saddle and West Butte Valley Pastures. Show a stable to upward trend in remaining pastures.

This objective addresses Rangeland Health Standards 1 and 3. Carrying capacity for livestock, wild horses and wildlife may be maintained or increased, while meeting other resource objectives. Grazing systems to meet this objective will assist with habitat needs of sage grouse.

7. Maintain or improve rangeland conditions to provide forage on a sustained yield basis for wildlife including antelope, mule deer, and elk with an initial forage demand of 789 AUMs.

This objective addresses the forage and habitat requirements of big game species. Rangeland Health Standards addressed are 1,3 and 5. Management actions which address this objective are described in objectives 1-6. Additional improvements may be necessary, but is not foreseen at this time.

Improve and maintain suitable sage grouse strutting, nesting, brood rearing, and/or wintering habitat in good condition, to the extent possible, using the following parameters as optimum guidelines.

- a. Strutting habitats: 20-50% canopy cover of nearby loafing areas.
- b. Nesting habitats: Sagebrush height between 16-32 inches,  
Sagebrush canopy cover between 15-25%  
Herbaceous understory 15% grass + 10% forbs  
Herbaceous understory height at least 7 inches tall
- c. Brood rearing habitats:  
Sagebrush height between 16-32 inches tall.  
Sagebrush canopy cover between 10-25%  
≥ 40% of the area with: Herbaceous understory 15% grass +  
10% forbs

This objective addresses Rangeland Health Standard 5 and the need to protect locally important species. Management actions to reach this objective may include modifications to livestock grazing strategies, stocking levels, or season of use adjustments. Additional improvements to enhance vegetation may include seeding, prescribed fire, or brush treatment.

- h. Manage the Allotment to maintain, restore or enhance populations and habitats of Bureau special status plant species.

At present and with the recommended grazing system in the Elk Butte pasture, the standard is being met and there is a balance; however, any change in season of use, numbers of livestock or where turn-out takes place could result in elimination of this population.

B. Recommended Level of Use

Season of 3/1-7/15	7/16- 11/30	*7/16-11/30	Total Active Preference	Suspended
11,000	15,862	*4,207	31,069	6,588

\*4,207 AUMs of the current active preference are not within carrying capacity of the pastures based on current monitoring data. These AUMs may be available in some years after 7/16 if monitoring data supports the additional use.

See Appendix H for recommended livestock use by pasture(carrying capacity) and Appendix I for recommended grazing rotation.

C. Interim Management

Recommended grazing treatments can be established without interim management. Restoration projects may require adjustments in management which will be designed when projects are implemented.

D. Categorization

This allotment should remain an I category allotment considering the large acreage and resource issues present in the area.

VII. TEAM PARTICIPANT'S SIGNATURE PAGE

Theresa Somasko  
Preparer, Rangeland Management Specialist 9-4-01  
Date

\_\_\_\_\_  
Archaeologist \_\_\_\_\_  
Date

Lucile A Housley  
Botanist 5 September 2001  
Date

Loede Faderes  
Wildlife Biologist 4 Sept. 01  
Date

Dan Hallenbamp  
Recreation 4 Sept 01  
Date

Bruce P. Marshade  
Hydrologist 4 Sept 01  
Date

Eric McNeill  
Weed Specialist 4 Sept. 01  
Date

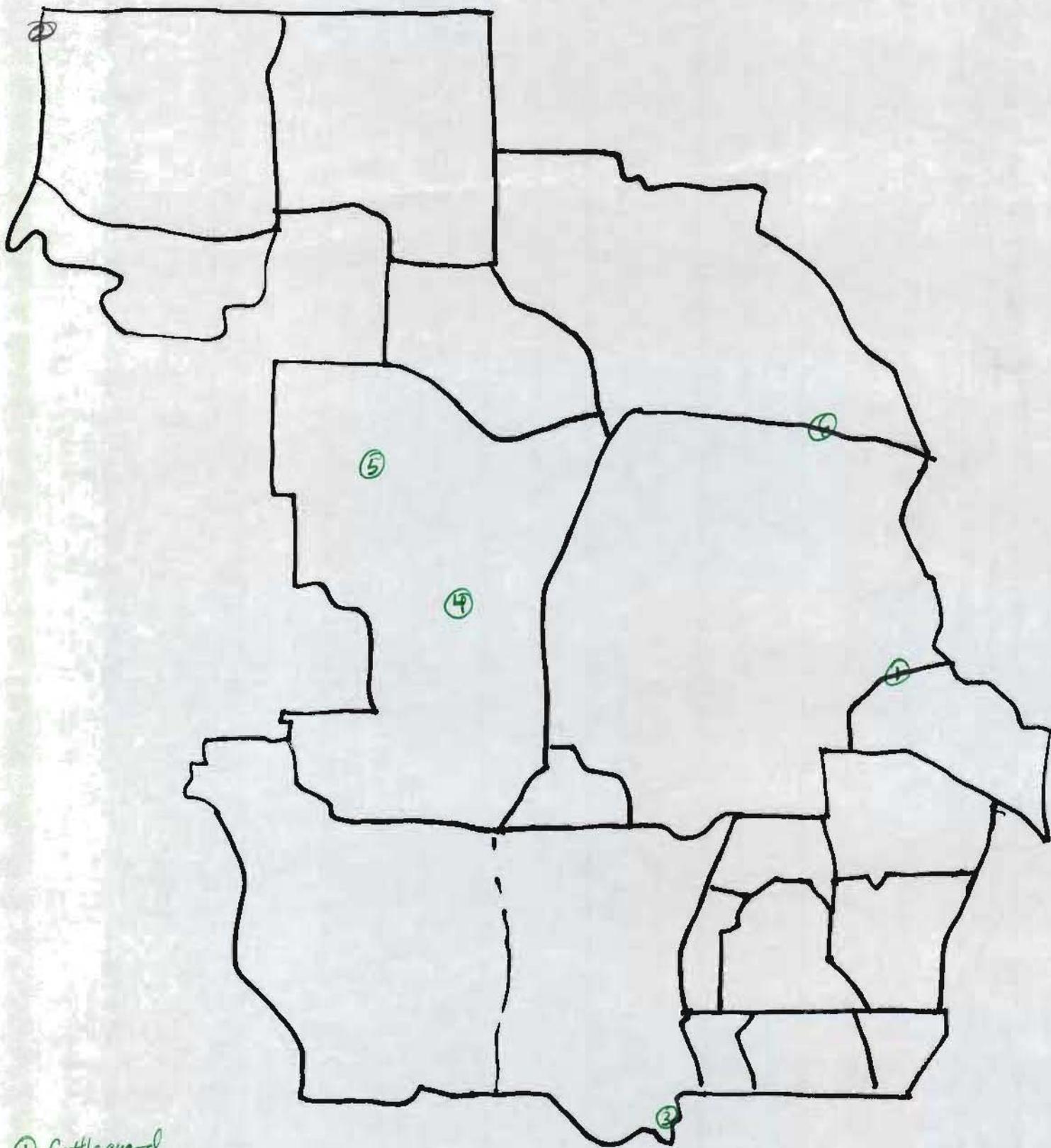
Dan Hallenbamp  
Wilderness 4 Sept 01  
Date

Theresa Somasko  
Wild Horses 9-4-01  
Date

Ken Kestner  
Supervisory Natural Resource Specialist 10 Sept. 2001  
Date

Bob Hoyer  
Supervisory Rangeland Management Specialist 4 Sept 01  
Date

Aratt R. Florence  
Area Manager 9/27/01  
Date



- ① Cattleguard
- ② Cattleguard
- ③ Saunders Rim Fence
- ④ Fossil Lake Fence
- ⑤ Fossil Lake Fence (Seedling)
- ⑥ Cattleguard

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number      ZX Christmas Lake #10103  
 Pasture Goodrich  
 Acres (BLM)                      14950

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	40%	1152	0	24	1176	57%	96%	55%	860		
1991	40%	817	0	24	841	30%	53%	16%	2116	1488	
1993	5%	0	0	24	24	5%	100%	5%	24	1000	15
1995	40%	653	0	0	653	18%	74%	13%	1961	1240	12
1996	40%	445	0	24	469	40%	136%	54%	345	1061	14
1997	40%	734	0	24	758	31%	152%	47%	643	991	15
1998	40%	504	0	24	528	35%	168%	59%	359	901	17
1999	40%	807	0	24	831	9%	83%	7%	4450	1345	11
2000	40%	672	0	24	696	39%					
					0						
		643	0	21	664						

PSL = Target Utilization X Total Actual Use / %Utilization X Yield Index

1345 AUMs is a reasonable estimate of forage available in the Goodrich Pasture, although only one year of grazing use has been near that level. This indicates a distribution problem. Recommend livestock use of 1321 AUMs with key area utilization checks, adjust levels if necessary

Actual Use, Utilization, Climate + Carrying Capacity in each Pasture

Append. x H: Actual Use, Utilization, Climate + Carrying Capacity in each Pasture

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number      ZX Christmas Lake #10103  
 Pasture Horse Mountain  
 Acres (BLM)                              12400

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	60%	1061	0	16	1077	78%	96%	75%	863		
1991	5%	0	0	16	16	5%	100%	5%	16	439	28
1992	60%	1076	0	16	1092	54%	53%	29%	2289	1056	12
1993	5%	15	0	16	31	5%	100%	5%	31	800	16
1994	60%	1171	0	16	1187	38%	74%	28%	2533	1146	11
1995	60%	641	0	16	657	18%	141%	25%	1553	1214	10
1996	60%	950	0	16	966	60%	136%	82%	710	1142	11
1997	60%	1120	0	16	1136	54%	152%	82%	830	1103	11
1998	60%	1296	0	16	1312	41%	168%	69%	1143	1108	11
1999	60%	1065	0	16	1081	39%	83%	32%	2004	1197	10
2000	60%	974	0	16	990						
		852	0	16	868						

PSL = Target Utilization X Total Actual Use / %Utilization X Yield Index

Cumulative potential stocking level of 1197 is reasonably accurate as indicated by actual use figures close to that number, stocking levels for livestock should be a maximum of 1181 AUMs with 16 AUMs for livestock

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number      ZX Christmas Lake #10103  
 Pasture   North Brim  
 Acres (BLM)                      5890

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1993	60%	85	0	8	93			0%			
1994	5%	0	0	8	8			0%			
1995	5%	0	0	8	8			0%			
1996	60%	475	0	8	483	70%	136%	95%			
1997	5%	0	0	8	8	5%	100%	5%			
1998	60%	414	0	8	422			0%			
1999	60%	495	0	8	503	5%	83%	4%			
2000	60%	461	0	8	469						
		241	0	8	249						

PSL= Target Utilization X Total Actual Use / %Utilization X Yield Index

Data is insufficient to calculate a carrying capacity, estimate of carrying capacity is 495 AUMs for livestock and 8 AUMs for wildlife. The estimate is based on the field being tested at the 495 level with no indication of carrying capacity being exceeded. The early spring grazing system is difficult to predict a target utilization, but is best managed by timing of livestock grazing.

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number      ZX Christmas Lake #10103  
 Pasture   Middle Brim  
 Acres (BLM)                      3712

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1993	5%	79	0	8	87	5%	163%	8%	53		
1994	60%	377	0	8	385	18%	74%	13%	1734	894	4
1995	60%	765	0	8	773	40%	141%	56%	822	870	4
1996	60%	731	0	8	739	70%	136%	95%	466	769	5
1998	60%	698	0	8	706	30%	168%	50%	840	783	5
1999	60%	351	0	8	359	30%	83%	25%	865	797	5
										797	5
		500	0	8	508						

PSL= Target Utilization X Total Actual Use / %Utilization X Yield Index

The cumulative potential stocking level of 793 AUMs seems appropriate for this pasture, with proper timing and grazing rotation. The pasture has been tested at near this level without exceeding proper utilization levels. Carrying capacity is considered 6 AUMs for wildlife and 787 for livestock.

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number      ZX Christmas Lake #10103  
 Pasture    South Brim  
 Acres (BLM)                    2432

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	60%	324	0	6	330	60%	96%	58%	344		
1991	5%	0	0	6	6	5%	100%	5%	6	175	14
1992	60%	491	0	6	497	71%	53%	38%	792	381	6
1994	60%	510	0	6	516	40%	74%	30%	1046	547	4
1995	60%	159	0	6	165	13%	141%	18%	540	546	4
1996	60%	213	0	6	219	70%	136%	95%	138	478	5
1997	60%	419	0	6	425	43%	152%	65%	390	465	5
1998	60%	901	0	6	907	36%	168%	60%	900	520	5
1999	60%	458	0	6	464	35%	83%	29%	958	568	4
		386	0	6	392						

PSL= Target Utilization X Total Actual Use / %Utilization X Yield Index

Cumulative potential stocking level of 568 AUMs is a reasonable estimate of carrying capacity for this pasture, with proper timing of livestock use and a grazing system. The field has some distribution problems because of topography. Yearly use during late April and early May is resulting in downward trend in this pasture, although actual livestock AUMs have been appropriate for the pasture

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number      ZX Christmas Lake #10103  
 Pasture West Butte Valley  
 Acres (BLM)                      10600

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	60%	471	0	16	487	62%	96%	60%	491		
1992	5%	0	0	16	16	5%	100%	5%	16	253	42
1994	60%	246	0	16	262	60%	74%	44%	354	287	37
1995	60%	1244	0	16	1260	48%	141%	68%	1117	495	21
1996	60%	457	0	16	473	65%	136%	88%	321	460	23
1997	60%	604	0	16	620	45%	152%	68%	544	474	22
1999	60%	724	0	16	740	32%	83%	27%	1672	645	16
		535	0	16	551						

PSL= Target Utilization X Total Actual Use / %Utilization X Yield Index

645 AUMs is a reasonable carrying capacity for this pasture with 16 AUMs for wildlife and 629 for livestock. The 1990 evaluation recommended 700 AUMs for livestock in this pasture. Initial stocking levels should be 629 AUMs, but the field should be watched for utilization levels and adjustments made as needed.

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number    ZX Christmas Lake #10103  
 Pasture Boilout  
 Acres (BLM)                    5824

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	5%	0	0	8	8	5%	100%	5%	8		
1991	60%	829	0	8	837	65%	53%	34%	1458	733	8
1992	60%	829	0	8	837	54%	53%	29%	1755	1073	5
1994	60%	528	0	8	536	35%	74%	26%	1242	1118	5
1995	60%	967	0	8	975	39%	141%	55%	1064	1105	5
1996	50%	671	0	8	679	31%	136%	42%	966	1082	5
1997	60%	1112	0	8	1120	48%	152%	73%	921	1059	5
1998	60%	665	0	8	673		168%	168%			
1999	60%	514	0	8	522					1059	5
2000	60%	495	0	8	503	44%		44%		1059	5
		661	0	8	669						

PSL= Target Utilization X Total Actual Use / %Utilization X Yield Index

This pasture has a noted problem of poor distribution. Some areas receive heavy use annually, while other areas are ungrazed. If distribution could be improved 1059 AUMs would be a reasonable carrying capacity for this pasture. The 1990 evaluation showed a downward trend in this pasture with an average actual use of 626 AUMs and recommended 580 AUMs as the carrying capacity. The recommendation is to consider 8 AUMs for wildlife and 1051 AUMs for livestock available in an early (March/April) or winter time period with high cattle numbers and short timeframe. Then analyse the affect. If lower cattle numbers or other season used livestock carrying capacity would be 581 AUMs.

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number    ZX Christmas Lake #10103  
 Pasture    Saddle  
 Acres (BLM)    12288

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	30%	707	0	16	723	30%	96%	29%			
1991	30%	536	0	16	552	39%	53%	21%			
1992	5%	0	0	16	16	5%	100%	5%			
1993	30%	272	0	16	288		163%	163%			
1994	5%	0	0	16	16	5%	100%	5%			
1995	30%	518	0	16	534						
1996	30%	506	0	16	522						
1997	30%	568	0	16	584						
1998	30%	583	0	16	599						
1999	30%	546	0	16	562						
2000	30%	645	0	16	661						
		444	0	16	460						

PSL= Target Utilization X Total Actual Use / %Utilization X Yield Index

Utilization levels are a poor indicator of grazing pressure on plants under and early spring grazing treatment. This pasture has been tested at 723 AUMs of grazing use with no indication, carrying capacity was exceeded. Therefore recommendations are to consider carrying capacity of 16 AUMs for wildlife and 707 AUMs for livestock.

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number      ZX Christmas Lake #10103  
 Pasture Browns Valley  
 Acres (BLM)                      60765

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	40%	2193	0	95	2288	44%	96%	42%	2167		
1991	5%	0	0	95	95	5%	100%	5%	95	1131	54
1993	50%	2448	0	95	2543	33%	163%	54%	2364	1542	39
1994	50%	2775	0	95	2870	33%	74%	24%	5876	2625	23
1995	50%	1969	0	95	2064	15%	141%	21%	4879	3076	20
1996	50%	3203	0	95	3298	29%	136%	39%	4181	3260	19
1999	50%	1551	0	95	1646	32%	83%	27%	3099	3237	19
		2020	0	95	2115						

PSL= Target Utilization X Total Actual Use / %Utilization X Yield Index

3237 AUMs is a reasonable carrying capacity for this pasture with 95 AUMs for wildlife and 3142 AUMs for livestock. Grazing use in this pasture has been deferred use in most years. The 1990 evaluation recommended 3000 AUMs of livestock use. Distribution problems or change in grazing strategy may result in a lower figure, however the 3142 AUMs is recommended at this time.

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number ZX Christmas Valley #10103  
 Pasture Bull Lake  
 Acres (BLM) 23076

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	50%	560	0	32	592	60%	96%	58%	514		
1991	5%	0	0	32	32	5%	100%	5%	32	273	85
1993	50%	489	0	32	521	23%	163%	37%	695	414	56
1994	50%	1020	0	32	1052	35%	74%	26%	2031	818	28
1995	5%	0	0	32	32	5%	100%	5%	32	661	35
1996	50%	1360	0	32	1392	34%	136%	46%	1505	801	29
1997	50%	549	0	32	581	19%	152%	29%	1006	831	28
1999	50%	1299	0	32	1331	55%	83%	46%	1458	909	25
2000			0	32	32						
		660	0	32	692						

PSL= Target Utilization X Total Actual Use / %Utilization X Yield Index

Cumulative PSL of 909 seems reasonable, is consistent with numbers from the 1990 evaluation. Recommend 32 AUMs for wildlife and 877AUMs for livestock.

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number ZX Christmas Lake #10103  
 Pasture North Sinks  
 Acres (BLM) 40076

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	50%	2253	0	63	2316	34%	96%				
1991		1406	0	63	1469						
1992	50%	1251	0	63	1314	33%	53%				
1993		2062	0	63	2125						
1994		1877	0	63	1940						
1995	50%	1122	0	63	1185	31%	141%				
1996	50%	1705	0	63	1768	20%	136%				
1997		2803	0	63	2866						
1998		2112	0	63	2175						
1999		720	0	63	783						
2000		692	0	63	755						
		1637	0	63	1700						

PSL= Target Utilization X Total Actual Use / %Utilization X Yield Index

Monitoring data is inconclusive on this pasture from 1990-2000, the 1990 evaluation estimated carrying capacity for this pasture at 2396 AUMs of which 63 AUMs are allocated to wildlife and 2333 to livestock.

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number ZX Christmas Lake Allotment #10103  
 Pasture Elk Butte  
 Acres (BLM) 97018

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	50%	2598	0	150	2748	34%	95%	33%	4210		
1991	50%	2252	0	150	2432	17%	53%	9%	13496	8853	11
1992	5%	0	0	150	150	5%	100%	5%	150	5952	16
1993	50%	5300	0	150	5450	16%	163%	26%	10449	7076	14
1994	50%	4468	0	150	4618	31%	74%	23%	10065	7674	13
1995	50%	1699	0	150	1849	15%	141%	23%	4098	7076	14
1996	50%	4974	0	150	5124	32%	136%	44%	5887	8908	14
1998	50%	2761	0	150	2911	35%	168%	60%	2407	5345	15
1993	50%	4309	0	150	4459	29%	83%	24%	9263	6669	15
2010	30%	1892	0	150	1842	33%					
		3008	0	150	3158						

PSL = Target Utilization X Total Actual Use / %Utilization X Yield Index

Analysis of the summary above indicates distribution as the main factor in low utilization figures. Areas near water are used heavily, and some areas are ungrazed. Utilization data has been summarized pasture wide. Carrying capacity estimate for this pasture is the 4000 level recommended in the original AMP for livestock and 150 AUMs for wildlife for a total of 4150 AUMs, combined with a grazing rotation. Add key area utilization studies to the existing studies

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number    ZX Christmas Lake #10103  
 Pasture Little Benjamin  
 Acres (BLM)                    38450

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	50%	2306	0	63	2369	31%	96%	30%	3980		
1991	5%	0	0	63	63	5%	100%	5%	63	2022	19
1992	50%	2801	0	63	2864	29%	53%	15%	9317	4453	9
1993	50%	2751	0	63	2814	30%	163%	49%	2877	4059	9
1994	50%	2239	0	63	2302	23%	74%	17%	6763	4600	8
1995	50%	3141	0	63	3204	49%	141%	69%	2319	4220	9
1996	5%	0	0	63	63	5%	100%	5%	63	3626	11
1997	50%	2285	0	63	2348	35%	152%	53%	2207	3449	11
1998	50%	1355	0	63	1418	30%	168%	50%	1407	3222	12
1999	50%	1972	0	63	2035	39%	83%	32%	3143	3214	12
2000	50%	1077	0	63	1140						
		1812	0	63	1875						

PSL= Target Utilization X Total Actual Use / %Utilization X Yield Index

Carrying Capacity estimates are fairly consistent with results of the 1990 evaluation which indicated 3394 AUMs of forage in this pasture. This pasture has not been tested at higher than 3141 AUMs which indicates distribution problems. Recommendations are attempt no more than 3151 AUMs of livestock use and 63 AUMs of wildlife use watching key areas for high utilization and adjusting accordingly.

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number    ZX Christmas Lake #10103  
 Pasture    South Sinks  
 Acres (BLM)                      13504

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	50%	119	0	24	143	33%	96%				
1991		335	0	24	359						
1992	50%	774	0	24	798		53%				
1993		211	0	24	235		163%				
1994		315	0	24	339		74%				
1995		557	0	24	581	25%	141%				
1996		1353	0	24	1377		136%				
1997	50%	1102	0	24	1126	34%	152%				
1998		230	0	24	254		168%				
1999		355	0	24	379		83%				
2000		245	0	24	269						
		509	0	24	533						

PSL= Target Utilization X Total Actual Use / %Utilization X Yield Index

Data from 1990-2000 is inconclusive, calculations from the 1990 evaluation indicate carrying capacity for this pasture is 779 AUMs, 24 of these AUMs are allocated to wildlife and the remaining 755 is available for livestock

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number    ZX Christmas Lake #10103  
 Pasture Fossil Lake  
 Acres (BLM)                    47888

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	50%	1197	0	71	1268	33%	96%	32%	2001		
1991	5%	0	0	71	71	5%	100%	5%	71	1036	46
1992	50%	1244	0	71	1315	50%	54%	27%	2435	1502	32
1994	50%	426	0	71	497	39%	74%	29%	861	1342	36
1996	50%	1597	0	71	1668	50%	136%	68%	1226	1319	36
1997	50%	1845	0	71	1916	50%	152%	76%	1261	1309	37
		1052	0	71	1123						

PSL = Target Utilization X Total Actual Use / %Utilization X Yield Index

1309 AUMs is a reasonable carrying capacity of which 71 AUMs are wildlife and 1238 are livestock. This pasture is limited in use for livestock because of the large acreage of sand dunes. Most of the forage available is in the crested wheatgrass seeding.

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number    ZX Christmas Lake #10103  
 Pasture East Vaughn  
 Acres (BLM)                    75979

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	20%	0	144	110	254			0%			
1991	50%	665	408	110	1183			0%			
1992	50%	518	492	110	1120			0%			
1993	20%	0	168	110	278			0%			
1994	50%	1471	264	110	1845	60%	74%	44%	2078	2078	37
1995	20%	0	312	110	422			0%			
1996	50%	1450	372	110	1932			0%			
1997	20%	0	516	110	626			0%			
1998	50%	1137	624	110	1871			0%			
1999	50%	0	744	110	854			0%			
2000	50%	1634	1008	110	2752			0%			
					0			0%			
					0			0%			
					0			0%			
		625	459	110	1194						

PSL= Target Utilization X Total Actual Use / %Utilization X Yield Index

Utilization data is insufficient to calculate carrying capacity. The 1992 evaluation determined a grazing capacity of 2360 AUMs including wildlife and wild horse use. Wild horse forage needs are 480 AUMs and wildlife 110, which indicates livestock AUMs available on a sustained yield basis is 1869 AUMs one year in three or potentially every other year.

*Appendix C*

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number *2X Christmas Lake #10103*  
 Pasture *West Vaughn*  
 Acres (BLM) 39200

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	20%	0	300	55	355		96%	96%			
1991	50%	665	576	55	1296		53%	53%			
1992	50%	518	696	55	1269		53%	53%			
1993	20%	0	276	55	331		163%	163%			
1994	50%	1137	324	55	1516		74%	74%			
1995	20%	0	384	55	439		141%	141%			
1996	50%	820	456	55	1331		136%	136%			
1997	50%	1114	552	55	1721		152%	152%			
1998	20%	0	660	55	715		168%	168%			
1999	50%	1134	792	55	1981		83%	83%			
2000	50%	0	1428	55	1483			0%			
					0			0%			
					0			0%			
					0			0%			
		490	586	55	1131						

PSL = Target Utilization X Total Actual Use / %Utilization X Yield Index

Utilization data is insufficient to calculate carrying capacity. The 1992 Evaluation of this pasture indicates that carrying capacity is 2038 AUMs including wildlife and wild horses. Therefore livestock carrying capacity is 2038-305(wild horse allocation) - 55(wildlife allocation) = 1678 AUMs. These AUMs are available one year in three or potentially every other year.

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number ZX Christmas Lake #10103  
 Pasture East Doughnut  
 Acres (BLM) 4032

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	5%	0	0	8	8	5%	100%	5%	8		
1991	5%	0	0	8	8	5%	100%	5%	8	8	504
1992	50%	297	0	8	305	63%	53%	33%	457	158	26
1993	5%	0	0	8	8	5%	100%	5%	8	120	34
1994	50%	350	0	8	358	45%	74%	33%	538	204	20
1995	5%	0	0	8	8	5%	100%	5%	8	171	24
1996	50%	418	0	8	426	75%	136%	102%	209	176	23
1997	5%	0	0	8	8	5%	100%	5%	8	155	26
1998	50%	187	0	8	195	25%	168%	42%	232	164	25
1999	50%	315	0	8	323	25%	83%	21%	778	225	18
2000	5%	0	0	8	8						
		142	0	8	150						

PSL= Target Utilization X Total Actual Use / %Utilization X Yield Index

Cumulative potential stocking level of 225 seems reasonably accurate. Other problems are indicated by several years of nonuse. 358 AUMs have been tested in this pasture resulting in a high utilization level on a dry year. Recommended carrying capacity is 8 AUMs for wildlife and 217 for livestock.

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number      ZX Christmas Lake #10103  
 Pasture   West Doughnut  
 Acres. (BLM)                      8368

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	60%	476	0	16	492	70%	96%	67%	439		
1991	5%	0	0	16	16	5%	100%	5%	16	228	37
1992	60%	752	0	16	768	64%	53%	34%	1358	605	14
1994	60%	937	0	16	953	44%	74%	33%	1756	892	9
1995	60%	192	0	16	208	25%	141%	35%	354	785	11
1996	60%	492	0	16	508	36%	136%	49%	623	758	11
1997	60%	537	0	16	553	61%	152%	93%	358	701	12
1999	60%	680	0	16	696	25%	83%	21%	2013	865	10
		508	0	16	524						

Adjusted Utilization = Target Utilization X Total Actual Use / %Utilization X Yield Index

865 AUMs is a reasonable carrying capacity for this pasture with 16 AUMs for wildlife and 849 for livestock. This pasture has been used every year during May which is causing a downward trend, even though AUMs have been within the carrying capacity of the pasture.

ACTUAL USE SUMMARY/POTENTIAL USE CALCULATIONS

Allotment Name and Number      ZX Christmas Lake #10103  
 Pasture    West Doughnut  
 Acres (BLM)                      8368

Year	Target Utilization	Livestock Actual Use	Wild Horse Actual Use	Wildlife Actual Use	Total Use	Percent Utilization	Yield Index	Adjusted Utilization	PSL	Cum PSL	Acres/AUM
1990	60%	476	0	16	492	70%	96%	67%	439		
1991	5%	0	0	16	16	5%	100%	5%	16	228	37
1992	60%	752	0	16	768	64%	53%	34%	1358	605	14
1994	60%	937	0	16	953	44%	74%	33%	1756	892	9
1995	60%	192	0	16	208	25%	141%	35%	354	785	11
1996	60%	492	0	16	508	36%	136%	49%	623	758	11
1997	60%	537	0	16	553	61%	152%	93%	358	701	12
1999	60%	680	0	16	696	25%	83%	21%	2013	865	10
		508	0	16	524						

PSL = Target Utilization X Total Actual Use / %Utilization X Yield Index

865 AUMs is a reasonable carrying capacity for this pasture with 16 AUMs for wildlife and 849 for livestock. This pasture has been used every year during May which is causing a downward trend, even though AUMs have been within the carrying capacity of the pasture.