STANDARDS FOR RANGELAND HEALTH ASSESSMENT FOR HICKEY INDIVIDUAL ALLOTMENT #0202

Standards for Rangeland Health and Guidelines for Livestock Grazing Management (BLM, 1997)

Introduction

The Range Reform '94 Record of Decision (BLM, 1995a) recently amended current grazing administration and management practices. The ROD required that region-specific standards and guidelines be developed and approved by the Secretary of the Interior. In the State of Oregon, several Resource Advisory Councils (RACs) were established to develop these regional standards and guidelines. The RAC established for the part of the state covering the Beaty Butte allotment is the Southeastern Oregon RAC. These standards and guidelines for Oregon and Washington were finalized on August 12, 1997 and include:

Standard 1 - Upland Watershed Function

> Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform.

Standard 2 - Riparian/Wetland Watershed Function

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

Standard 3 - Ecological Processes

> 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.

Standard 4 - Water Quality

> Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.

Standard 5 - Native, T&E, and Locally Important Species

> Habitats support healthy, productive, and diverse populations and communities of native plants and animals (including special status species and species of local importance) appropriate to soil, climate, and landform.

RANGELAND HEALTH STANDARDS - ASSESSMENT HICKEY INDIVIDUAL ALLOTMENT #0202

STANDARD 1 - UPLAND WATERSHED

This standard is being met on the allotment. The indicators used to evaluate this standard are Soil Surface Factor (SSF), which documents accelerated erosion; and plant community composition, which indicates root occupancy of the soil profile.

Soil Surface Factor (SSF) is an indicator of accelerated erosion and is a method of documenting observations regarding erosion. Of the 10,996 acres in Hickey Individual Allotment, 1,040 (9%) have an SSF rating of stable, 9,377 acres (85%) are rated as Slight, 75 acres (1%) are rated as moderate and 504 acres (5%) are unknown. These ratings indicate that 94% of the allotment have the two lowest levels of erosion in this methodology. A copy of the form used to document SSF is attached (Appendix B, "Determination of Erosion Condition Class").

Another indicator of Upland Watershed condition is plant composition and community structure. Current plant composition is compared to a defined Potential Natural Plant Community for the identified soil type and precipitation zone. Using the 1988 Ecological Site Inventory, the percent of the allotment in each seral stage is summarized in the table below. As can be seen most of the allotment is in the Mid seral (82%).

Seral Stage	Percent comparability to Potential Natural Community	Percent of allotment in seral stage
Early	0-25%	5%
Mid	26-50%	82%
Unknown*		13%

* The unknown acres are the inclusions within a vegetation community that include transition areas and plant communities too small to be mapped separately.

The Observed Apparent Trend (Appendix C) determined during the ESI and summarized in the Biological Evaluation (1994) showed an upward trend on 10% of the allotment, static to upward trend on 71% and static on 14% of the allotment. There is 1% that is downward trend and 5% is unknown. The 1% of the allotment that was rated in downward trend in 1988 is the silver sagebrush community along Camas Creek that has since been fenced off into a separate pasture. This pasture is now grazed early in the year

every other year and the trend appears to be up.

The Allotment Evaluation (1993) determined the trend to be static in four pastures and up in one pasture (Upper Joes Lake) when considering the 10 photo trend stations, the three step-toe transects and the professional judgement of the resource specialists.

Additional data has been collected for the three step-toe transects and there is considerable variation in the data between years. Most of this variation is probably the result of the sampling variation between samplers. The transect in the Parsnip seeding pasture (HI-01) does seem to indicate a reduction in the relative frequency of crested wheatgrass and an increase in Thurber's needlegrass and big sagebrush. This is consistent with the expected results as native grasses and big sagebrush become reestablished in a seeding.

The other two transects have significant variation between years but no discernable trend is apparent. The average amount of vegetation ground cover measured at the two sites was 28% at HI-02 and 34% at HI-03. This exceeds the percent ground cover (15-20% and 20-30% respectively) expected for these range sites. The plant composition and diversity at these study sites is also closely correlated with the expected vegetation for these range sites. Therefore the vegetation cover and composition of these study sites would appear to be consistent with the potential/capability of the sites.

STANDARD 2 - RIPARIAN/WETLAND

This standard is not being met because some stream reaches are not in Proper Functioning Condition (PFC). However the current management of livestock is resulting in significant progress towards meeting the goal. Lotic Proper Functioning Condition (PFC) site inventories were completed in 1996 on Camas and Parsnip Creeks. The following table summarizes the non-PFC reach locations and their management status.

STREAM	REACH	PFC RATING	MANAGEMENT
Camas	Sagehen	*FAR Trend up	Early Use/Rest
Parsnip	Lower	*FAR Trend up	No Grazing Highway ROW

* FAR = Functional at Risk

The Camas Creek reach has been in a riparian pasture since 1989. This reach received several years of rest prior to initiation of

a grazing system designed to improve riparian conditions. This reach is being managed under consultation with the U.S. Fish and Wildlife Service on effects of grazing on the Threatened Warner sucker. While the existing conditions are largely a result of past grazing practices, current management of livestock is resulting in significant progress towards meeting the standard, and is not a significant factor in not meeting the standard.

The Parsnip Creek reach receives no licensed livestock use. It is in the Right of Way for Highway 140 and the conditions on this reach are a result of highway maintenance activities. Current management of livestock is not a factor in not meeting the standard.

STANDARD 3 - ECOLOGICAL PROCESSES

This standard is being met. The Observed Apparent Trend for the vegetation communities as described in Standard 1 is static or upward on 95% of the allotment. There are three trend study transects in the allotment and the data is summarized in attachments. As explained in Standard 1 the trend for the allotment appears to be static to upward and the plant composition is consistent with the capability of the site.

The Hickey Individual Allotment (0202) supports most of the terrestrial animals common to the sagebrush steppe in the Great Basin. The allotment provides habitat for huntable populations of mule deer, pronghorn antelope, Rocky Mountain elk, and sage grouse. The 102 AUM's allocated to wildlife are adequate to support the current wildlife populations. There is currently no major competition between wildlife and domestic livestock for forage, either early green-up grasses and forbs or winter browse such as antelope bitterbrush and curl-leaf mountain mahogany.

The allotment lies within ODFW's Warner Big game Management Unit for deer, pronghorn antelope, and elk. Current populations in the unit are slightly below management objectives for mule deer and substantially below that proposed for elk. The entire allotment lies within crucial mule deer winter range and portions of the allotment are used by elk throughout the entire year. The allotment also contains year-round habitat for pronghorn antelope and sage grouse, however, no crucial habitat has been identified for either species.

STANDARD 4 - WATER QUALITY STANDARDS

This standard is not being met. Camas and Parsnip Creeks from the mouth to the headwaters do not meet state standards for temperature. Grazing is excluded on both of the lower reaches of Camas and Parsnip Creeks. Alternate early season use and

rest has resulted in an increase in stream side cover and vegetation. Because of grazing changes to better manage riparian vegetation, it is felt that current management of livestock is resulting in significant progress towards meeting the standard and is not a significant factor in not meeting this standard.

STANDARD 5 - NATIVE, T&E, and LOCALLY IMPORTANT SPECIES

This standard is being met. Big game habitat within the Hickey Individual Allotment is monitored via 1 browse (bitterbrush) transect. The condition of the bitterbrush stands within the allotment demonstrates what years of fire suppression, previous livestock grazing practices, and high deer numbers in the past does to mule deer winter range. There are numerous decadent or dead bitterbrush plants within the allotment which are still providing valuable forage and cover for wintering deer, however, recruitment of young plants is virtually absent. Overall the studies show some improvement in bitterbrush vigor and stand replacement over the past 10-15 years.

The habitat provided within the allotment is crucial to wintering deer in that it adjoins with winter range on the forest to the west and to BLM administered winter range to the north and south. It provides habitat connectivity as well as spatial distribution of lower elevation range critical during high snowfall years.

The deer, elk, and pronghorn populations are healthy and increasing in number within the allotment. Habitat quantity and quality do not appear to be limiting population size or health. Coyote predation is thought to be depressing mule deer recruitment, however populations continue to fluctuate at or slightly below ODFW's Management Objective for the unit. A general hunt season is slowing the population expansion of elk within the unit. However, if ODFW is unable to limit future expansion of the herd to the proposed Management Objective for the area, competition with domestic livestock may occur and depredation on private lands may become an issue. Elk expansion will be addressed in the upcoming RMP.

The allotment also provides habitat for numerous small and nongame birds and mammals common to the Great Basin as well as sage grouse habitat though marginal. There are two sage grouse leks and a sage grouse brood route that ODFW monitors regularly. Sage grouse populations like the rest of southeastern Oregon are stable to declining. The allotment also provides habitat for raptors and some BLM and state sensitive wildlife species and federally listed species. No critical habitat or limitations have been identified for any of these species which include wintering bald eagles, and possibly pygmy rabbits and various

sensitive bat species.

The Warner sucker is listed as a Threatened Species under the Endangered Species act. There is no occupied habitat currently being grazed in the allotment. Because Camas and Parsnip Creeks flow into occupied habitat below the grazed pasture, it was determined in Section 7 consultation that grazing was having an adverse effect on suckers. This effect has been minimized by restrictions placed on riparian grazing and the Service issued a Biological Opinion to authorize "take" of the species. Warner red-band trout, a Bureau Sensitive Species, is found in both streams in the allotment. Their populations appear to be strong in both.

Noxious weeds are known to occur in the allotment. Weeds are concentrated along major travel routes, riparian areas, and waterholes. The rest rotation system will allow for control of the current weeds and will minimize the potential of weed populations increasing due to pressure on the native plant community during periods of cattle use.

The special status plant nodding melica appears in a site that is apparently naturally protected from grazing and therefore current management poses no apparent threat to this plant. There is more detail about nodding melica in Appendix A.

CURRENT MANAGEMENT AND RECENT MANAGEMENT CHANGES

The current management is a variation of a five pasture deferred rest rotation system and the Allotment Management Plan has been in place since 1970. There was an allotment evaluation in 1993 and no changes in the grazing allocation were made, however a change in the season of use was recommended. There was a Biological Evaluation completed in 1994 and a Biological Opinion issued by the USFWS that changed the season of use for the Camas and Parsnip riparian pastures. These pastures are now to be grazed in the spring (April-May) every other year and there is a limit on the willow utilization. The remaining three pastures will continue to be grazed in a rest rotation system using two pastures each year and resting the third. The Biological Opinion issued by the USFWS stated that the proposed grazing authorizations are not likely to jeopardize the continued existence of the threatened Warner sucker or result in the destruction or adverse modification of its designated critical habitat.

Team Members	Title
Les Boothe	Range Management Specialist
Alan Munhall	Fishery Biologist
Vern Stofleth	Wildlife Biologist
Lucile Housley	Botantist
Walt Devaurs	Wildlife Biologist
Bill Cannon	Archaeologist
Dick Mayberry	Supervisory NRS
Robert Hopper	Supervisory RMS
Erin McConnell	Weed Management Specialist

Determination

(X) Existing grazing management practices or levels of grazing use on the Hickey Individual Allotment promote achievement of significant progress towards the Oregon Standards for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.

( ) Existing grazing management practices or levels of grazing use on the Hickey Individual Allotment will require modification or change prior to the next grazing season to promote achievement of the Oregon Standards for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.

Scott R. Florence — 1/14/99

Scott Florence — Date
Area Manager, Lakeview Resource Area

Appendix A

Special Status Plants: Nodding melica grass (Melica stricta)

Status: BLM Bureau Sensitive Species, Oregon Natural Heritage Program List 4: Threatened in Oregon, but more common or stable elsewhere; taxa which are still too common to be proposed as threatened or endangered. State List 3.

Current Situation:

Two populations of nodding melic occur in the Hickey Individual Allotment. One population is located at the southern end of Fish Creek Rim, a few feet below the top of the rim. When the population was visited in 1991, there were about 50 clumps of nodding melic. When the site was revisited in 1997, only 12 clumps of nodding melic were found (however, it was later in the season). The large rocks appear to offer some protection to the plants from livestock grazing.

The second population occurs about two miles west of Fish Creek Rim, in the vicinity of Bedrock Reservoir. There are about 11 clumps of nodding melic growing in cracks among large basalt blocks. The large rocks appear to offer some protection to the plants from livestock grazing; however, the site has not been visited since 1991.

Both populations are extremely small, but currently have some natural protection from grazing because of the large rocks associated with both sites. According to Chase (1951), cattle relish this plant. It is possible that nodding melic was previously more abundant in the area, and now occurs only in areas inaccessible to livestock.

Nodding melic flowers and produces seed from June through August. The total range of this species is southeast Oregon and California, east across the Great Basin through Nevada to Northern Utah. There are five small populations known on the Lakeview District.

Management Objective:

Maintain the populations of Melica stricta on the Hickey Individual Allotment.

Reference: Agnes Chase, et al. 1951: *California Grasslands and Range Forage Grasses*. California Agricultural Experiment Station, No. 724, p.58.

Lucile A. Housley, Botanist
Lakeview Resource Area
16 November 1998

Appendix B.

DETERMINATION OF EROSION CONDITION CLASS

Soil Surface Factors

SOIL MOVEMENT	No visable evidence of movement 0 1 2 3	Some Movement of soils particles 4 5	Moderate Movement of soil is visable and recent Slight terracing generally less than 1" in height 6 7 8	Occurs with each event. Soil and Debris deposited against minor obstructions 9 10 11	Subsoil exposed over much of area, may have embryonic dunes and wind scoured dunes 12 13 14
SURFACE LITTER	Accumulating in place 0 1 2 3	May show slight movement 4 5 6	Moderate movement is apparent, deposited against obstacles 7 8	Extreme movement apparent, large and numerous deposits against obstacles 9 10 11	Very little remaining *(use care on low productive sites)* 12 13 14
SURFACE ROCK	If present, the distribution of fragments show no movement caused by wind or water. 0 1 2	If present, course fragments ahve a truncated appearance or spotty distribution caused by wind or water 3 4 5	If present, fragments have a poorly developed distribution pattern caused by wind or water 6 7 8	If present, surface rock or fragments exhibit some movement and accumulation of smaller fragments behind obstacles 9 10 11	If present, surface rock or fragments or dissected by rills and gullies or are already washed away 12 13 14
PEDESTALLING	No visable evidence of pedestalling 0 1 2 3	Slight pedestalling, in flow patterns 4 5 6	Small rock and plant pedestals occuring in flow patterns 7 8 9	Rocks and plants on pedestals generally evident, plant roots exposed 10 11	Most rocks and plants pedestalled and roots exposed 12 13 14
FLOW PATTERNS	No visable evidence of flow patterns 0 1 2 3	Deposition of particles may be in evidence 4 5 6	Well defined, small, and few with intermittent deposits 7 8 9	Flow patterns contain silt and sand deposits and alluvial fans 10 11 12	Flow patterns are numerous and readily noticeable. May have large barren fan deposits. 13 14 15
RILLS	No visable evidence of rills. 0 1 2 3	Some rills in evidence at infrequent intervals over 10'. 4 5 6	Rills ½" to 6" deep occur in exposed places at approximately 10' intervals. 7 8 9	Rills ½" to 6" deep occur in exposed area at intervals of 5 to 10". 10 11 12	May be present at 3" to 6" deep at intervals less than 5'. 13 14 15
GULLIES	May be present in stable condition. Vegetation on channel bed and side slopes 0 1 2 3	A few gullies in evidence which show little bed or slope erosion. Some vegetation present on slopes. 4 5 6	Gullies are well developed with active erosion along less than 10% of their length. Some vegetation may be present. 7 8 9	Gullies are numerous and well devloped with active erosion along 10-50% of their lengths or a few well developed gullies with active erosion along more than 50% of their length 10 11 12	Sharply incised gullies cover most of the area and over 50% are actively eroding. 13 14 15
SITUATION	TOTAL				

Erosion Condition Classes: stable 0-20: Slight 21-40: Moderate 41-60: Critical 61-80: Severe 81-100

Appendix C. OBSERVED APPARENT TREND

(Check appropriate box in each category which best fits area being observed)

VIGOR (10 Points)		Desirable grasses, forbs and shrubs are vigorous, showing good health. These plants should have good size, color and produce abundant herbage.
(6 Points)		Desirable grasses, forbs and shrubs have moderate vigor. They are medium size with fair color and producing moderate amounts of herbage, some seed stalks and seedheads are present.
(2 Points)		Desirable grasses, forbs and shrubs have low vigor. They appear unhealthy with small size and poor color.Portions of clumps or entire plants are dead or dying. Seed stalks and seedheads almost non-existent except in protected areas.
SEEDLINGS (10 Points)		There is seedling establishment of desirable grasses, forbs and shrubs. Seedlings are present in open spaces between plants and along edges of soil pedestals. Few seedlings of invader or undesirable plants are present.
(6 Points)		Some seedlings of desirable grasses, forbs and shrubs may or may not be present in open spaces between plants. Some seedlings of invader or undesirable plant species may or may not be present.
(2 Points)		Few if any seedlings of desirable grasses, forbs and shrubs are being established. Seedlings of invaders or undesirable should be present in open space between plants.
SURFACE LITTER (5 Points)		Surface litter is accumulating in place.
(3 Points)		Moderate movement of surface litter is apparent and deposited against obstacles.
(1 Point)		Very little surface litter is remaining.
PEDESTALS (5 Points)		There is little visual evidence of pedestalling. Those pedestals are sloping or rounding and accumulating litter. Desirable forage grasses may be found along edges of pedestals.
(3 Points)		Moderate plant pedestalling. No visual evidence of healing or deterioration. Small rock and plant pedestals may be occurring in flow patterns.
(1 Point)		Most rocks and plants are pedestalled. Pedestals are sharped sided and eroding often exposing grass roots.
GULLIES (5 Points)		Gullies may be present in stable condition with moderate sloping or rounded sides. Perennials should be establishing themselves on bottom and sides of channel.
(3 Points)		Gullies are well developed with small amounts of active erosion. Some vegetation may be present.
(1 Point)		Sharply incised V-shaped gullies cover most of the area with most of the gullies actively eroding. Gullies are mostly devoid of perennial plants with fresh cutting of the bottom.

TOTAL POINTS _____ Rating 26-35-Upward; 17-25-Static; 7-16-Downward

Frequency/Pace Toe Point Summary Parsnip Seeding Pasture HI-01
PERCENT COVER

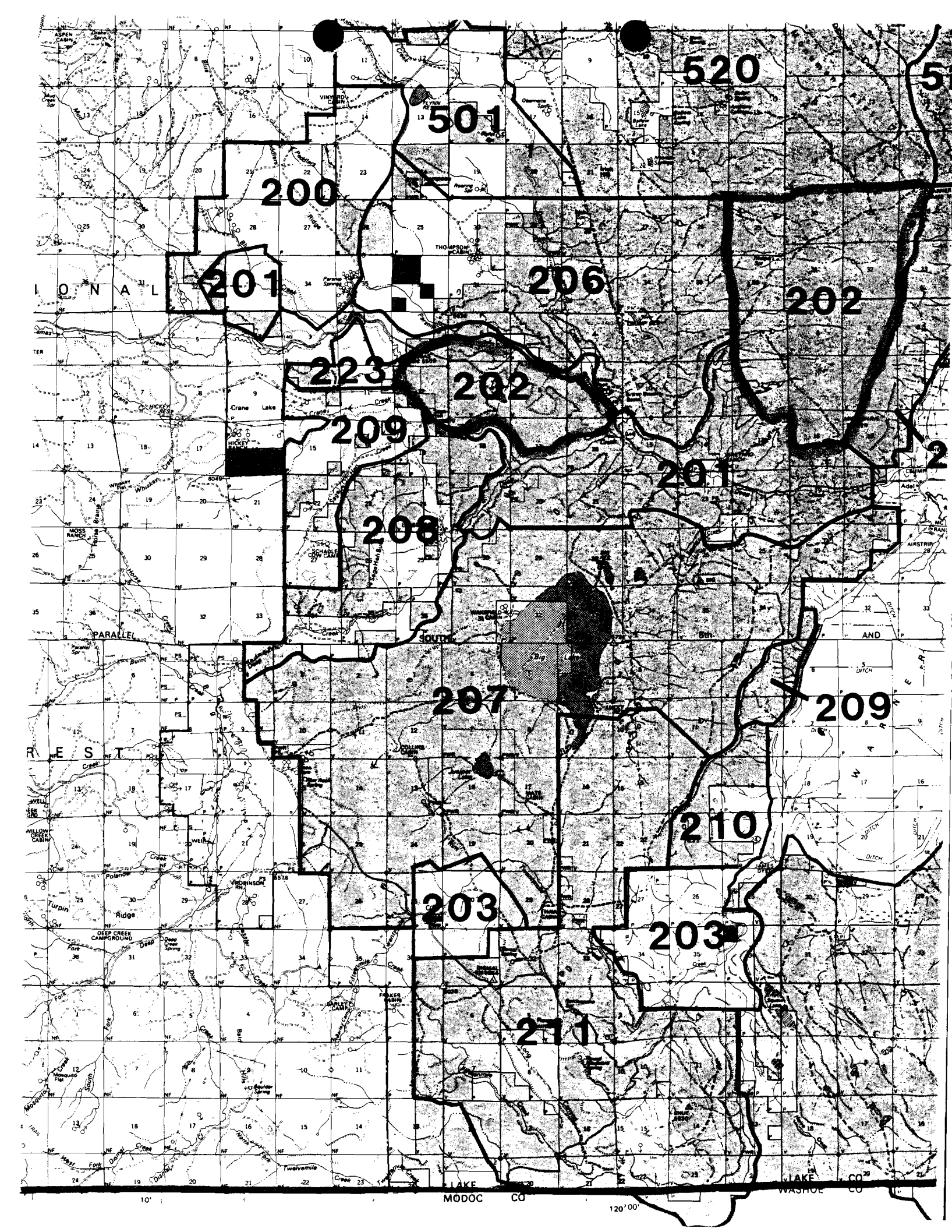
YEAR	1985	1991	1994
BAREGROUND	39%	17%	15%
ROCK	3%	37%	17%
LITTER	17%	29%	42%
VEGETATION	41%	17%	26%
SPECIES			
SIHY	3%	N/A%	0%
STTH	0%	N/A%	1%
AGCR	16%	N/A%	6%
POSE	16%	N/A%	6%
ARTR	1%	N/A%	6%
PUTR	1%	N/A%	1%
RELATIVE FREQUENCY BY SPECIES			
SIHY	5%	2%	4%
STTH	0%	2%	6%
AGCR	51%	19%	36%
POSE	28%	54%	33%
ARTR	3%	3%	7%
PUTR	1%	0%	1%
CHVI	8%	7%	3%

Frequency/Pace Toe Point Summary Fish Creek Rim Pasture HI-02
PERCENT COVER

YEAR	1985	1991	1996
BAREGROUND	15%	23%	16%
ROCK	33%	35%	34%
LITTER	24%	8%	28%
VEGETATION	28%	34%	22%
SPECIES			
SIHY	4%	N/A%	0%
FEID	5%	N/A%	3%
PPFF	5%	N/A%	3%
POSE	10%	N/A%	5%
ARAR	1%	N/A%	7%
AAFF	2%	N/A%	0%
Moss	1%	0	0
KOCR	0%	0%	1%
RELATIVE FREQUENCY BY SPECIES			
SIHY	20%	13%	12%
FEID	13%	15%	4%
PPFF	11%	15%	10%
POSE	36%	27%	42%
ARAR	13%	24%	19%
AAFF	6%	0%	1%
Moss	1%	0%	0%
KOCR	0%	0%	3%

Frequency/Pace Toe Point Summary Lower Joes Pasture HI-03
PERCENT COVER

YEAR	1985	1991	1996
BAREGROUND	17%	15%	11%
ROCK	40%	43%	36%
LITTER	12%	17%	9%
VEGETATION	31%	25%	44%
SPECIES			
SIHY	0%	N/A%	0%
FEID	1%	N/A%	2%
Phlox	1%	N/A%	7%
POSE	14%	N/A%	14%
ARAR	6%	N/A%	14%
PPFF	8%	N/A%	0%
Moss	1%	0	0
ARTR	0%	0%	7%
RELATIVE FREQUENCY BY SPECIES			
SIHY	4%	6%	2%
FEID	4%	2%	3%
PPFF	18%	16%	6%
POSE	46%	31%	38%
ARAR	19%	17%	21%
Phlox	7%	28%	22%
Moss	1%	0%	0%
ARTR	0%	0%	8%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Crane Lake
Big Lake
Deep Creek Campground
Lake Co
Modoc Co
Lake Co
Washoe Co