

## APPENDIX 9

### 55. Green Mountain Common (2001) Allotment - Range Condition and Trend

a. Any meaningful discussion of condition and trend in this allotment must start by dividing it into smaller segments based on topographic and/or climatic similarities. When one considers that this allotment is 60 miles by 20 miles along its greatest axes and ranges from 6,000 feet to 9,000 feet in elevation, the reasons behind segmenting it become self-evident. Therefore, the discussion of condition and trend will focus on the following units:

- (1) Antelope Hills - That portion of the allotment west of the Bison Basin Road.
- (2) Green Mountains - From Crooks Mountain east to and including Green Mountain above 7,500'.
- (3) Green Mountain Watershed - The remainder of the allotment.

For similar reasons, the discussions will center on those cover types other than sagebrush. These smaller types within the "sea of sagebrush", and the changes they are undergoing, provide significant insight into what is happening to the entire range.

#### Antelope Hills

There are four major cover types within this segment of the allotment - meadow, grass, sagebrush and greasewood. The major meadows are located along the Sweetwater River and in the Harris Slough - Long Slough basin at the far western tip of the allotment. Smaller meadows and thin riparian zones are also located along Granite, Mormon and Willow Creeks and Ladysmith Draw. Grass types are located scattered throughout the Antelope Hills and are relatively common on the ridge system forming North Bear Mountain. They are not extensive, averaging less than 1,000 acres each, and appear to occur on rocky ridges with soils too thin to support perennial shrubs. The principal greasewood concentration is along Alkali Creek, and that portion of its tributary, Sulphur Creek, included in the allotment south of the Antelope Hills. Small patches of greasewood are scattered wherever alkaline soil conditions coincide with adequate moisture, but Alkali Creek has the only concentration large enough to be considered a type. The remainder of the segment is covered by various species and associations of sagebrush.

The meadows, especially those of the Harris Slough-Long Slough area, receive very intense livestock use. Ocular estimates of utilization in excess of 80% are nearer than norm than any extreme case. Transect data rates these meadows in good condition under the criteria discussed in the introduction. Using SCS site method, they rate high fair to low good in composition, but poor with respect to production.

Major hummocking is characteristic throughout the meadows, as is invasion by dry site species into the hummock tops. The adjacent sagebrush type, with a very strong rabbitbrush component, is encroaching on all meadow perimeters. As indicated by the remnant meadow population under the sagebrush, this encroachment has progressed fifty to sixty yards in extreme instances - ten yards being a rough average.

Wet site invaders, thistle and iris, along with a significant increaser population of wiregrass and muhly further define the picture of a seriously declining trend number of "change agents" are at work creating the picture described above. Wild horses and antelope congregate on the meadows as soon as the snow is gone and plant growth begins. This places the plants under immediate stress then shortly after the first of May the cattle arrive and add their concentrated numbers to those of the horses and antelope. This continues throughout the growing season and well into the fall. The cattle are removed around the first of November, but horse and antelope use continues until the meadows are completely snow covered. Three consecutive open winters have allowed near yearlong use. These relatively snowless winters have also decreased the available moisture and shortened the growing season by placing the plants under moisture stress earlier - inducing dormancy by mid-July.

The grass type within this segment of the allotment is principally a bluebunch wheatgrass dominated association. Nearly every other dry site grass species occurs under this dominance in response to varying site parameters. Except where this grass type occurs close to a water source, as around Coyote Lake and Buffalo Gulch, this type is in good condition with a static trend. Again, with the exceptions noted above, the type receives only light to moderate livestock use. The principal forage consumption occurs during fall in normal years, winter long in open years, by bands of wild horses. Under present use, the type can be considered as climax. Near water sources a community displacement toward rhizomatous wheatgrass and bluegrass increasers has occurred.

The greasewood dominated community along Alkali Creek is, in itself, an indication of a total shift to an increaser community, as its maximum occurrence in a climax community is 5% or less. The type shows a total shift towards the increasers (greasewood, alkali muhly, wiregrass, saltgrass, and western wheatgrass) with only remnant or at most

very sub-dominant stands of decreaseers (alkali sacaton and basin wildrye). This type still rates as good under the integrated study procedures, but the trend is very obviously declining. The principal impact is from concentrated cattle and sheep use during the entire growing season. Alkali Creek has the only reliable water for the eastern third of the segment.

Conditions could stabilize if it were not for the sheep bands. The cattle operators make an attempt to disperse their herds to the more ephemeral water sources at the start of the grazing season - figuring that the cattle will drift down to the permanent water on Alkali Creek as these dry. The sheep herders, on the other hand, keep their bands right on the creek, or at most, one day's trailing away, for the entire season.

The bulk of this segment is under a very diverse sagebrush cover type. It is composed of various sub-types and intergrading of big, black, silver and three-tip sagebrush, with a secondary shrub component of green and rubber rabbitbrush. The herbaceous element is equally varied, with all stages from a decreaseer (bluebunch wheatgrass, needle and thread, Indian ricegrass) dominated site through the palatable increaseers (western and thickspike wheatgrass, junegrass) to those sites dominated by increaseers of only moderate palatability (bluegrass, sedges, squirreltail). Generally, west of Willow Creek is in fair condition and Willow Creek to the Bison Basin Road is in good condition. Information for specific sites can readily be found on the overlays for this section and the Condition Summary sheets.

### Green Mountains

This segment of the allotment has examples of every cover type found within the allotment - meadow, grass, sagebrush, mountain shrub, conifer and deciduous trees. The sagebrush type, naturally, is the most extensive and diverse. It can be found at all elevations and aspects, from 9,000 feet at Sagebrush Park to the lower ridges and valleys of 7,000 feet. The conifer type shows much the same range, but varies from discontinuous juniper stands at lower elevations to closed canopy lodgepole and mixed lodgepole-spruce stands on top the mountain. The deciduous tree type is composed of willows and cottonwoods along the perennial creeks at lower elevations and shifting to water birch and aspen on top. Aspen stands are also found scattered throughout the conifers on moist and/or disturbed timber sites. The grass dominated sites are of two kinds - small parks in the timber, and along steep ridges. Mountain shrub areas are scattered throughout.

Range condition and trend has no meaning in relation to the conifer stand over most of the mountain range. Except where opened by logging, fire or mineral exploration, the stands are over-mature, have a closed canopy and very little herbaceous understory. The shade tolerant shrub understory that does exist, prostrate juniper and grouse whortleberry, is of no forage value. This is contrasted to the timber's edge and those areas where the stand has been opened without near total loss of soil. These areas have a diverse and productive herbaceous understory of bromes, bluegrasses and spike fescue. Where livestock and wild horse access is possible, as in the series of clear cuts just northeast of the administration site, heavy use is eliminating the palatable grasses and allowing regeneration of the timber.

The sagebrush type is composed of an association of various big sagebrush sub-types, the herbaceous component being determined by soil, aspect and intensity of past use. These sub-types are listed on the attached Range Condition Summary. Throughout nearly the entire type there has been a shift from decreaseers to increaseers, and this shift has progressed from palatable to moderately palatable increaseers in any area accessible to livestock and wild horses. The type, on the whole, is characterized by low good to medium fair condition and static to declining trend. Site specific data on condition and trend can be found on the condition and trend summary sheets.

The meadow and grass types of this segment of Green Mountain Common are relatively unused and unusable by domestic livestock. The meadows are generally within the timber, in low, boggy spots, and the grass types along sharp ridges. Wild horse use does not appear to be a change agent, though heavy utilization has been observed. Condition ranges well into the good with a static trend.

Related to the above, but difficult to characterize as being truly either grass or sagebrush type are the large parks on top of Green Mountain - Sagebrush, Round, Long and Sheep Creek Parks. However, what type they are or should be is rapidly becoming a moot point. Concentrated cattle, elk, and wild horse use, resulting in near total consumption of all forage species, is converting them to mono-specific sagebrush stands - the upper parks supporting big sagebrush, the lower a variety of 3-tip. This use is so heavy that in October of 1976 and 1977 there was no grass component to the communities visible above a quarter inch skiff of snow. The grass plants are there, hence the fair condition rating, but utilized to the ground every year. In Sheep Creek Park utilization is so continuous and complete as to raise questions about the reliability of species identification on the study transects run there.

The deciduous tree type, with its highly palatable understory of bromes, bluegrasses, spike fescue, young trees and scattered shrubs receives as heavy an amount of livestock and wild horse use as any cover type in the segment. This is evidenced by bare spots in the ground cover, displacement along the perimeter by increasers and sagebrush, lack of any age class structure in the tree population, and bank crumbling where the type forms a riparian zone. Condition is medium fair at best and the trend declining. The stands of aspen isolated within the conifer type are an exception to the above because the "dog hair" lodgepole stands keep livestock out.

#### Green Mountain Watershed

This segment of the allotment is almost entirely dominated by a sagebrush cover type. Exceptions occur along the streams as a mixed meadow and deciduous type along their upper two thirds, and greasewood type along the remainder.

Throughout the sagebrush type there is a very definite shift away from the decreaser grass species (bluebunch wheatgrass, sand dropseed, Indian ricegrass, needle and thread) toward increasers (western and thickspike wheatgrass, Sandberg bluegrass, dry site sedges). Utilization throughout the type averages in excess of 60%, by ocular estimate. Only near water and salt concentrations has this shift progressed to the unpalatable end of the increasers and into invader grasses. The shrub component shows a vigorous increaser and invader element. Condition is highly variable throughout the type - for specific areas the attached Condition Summary and Range Condition overlay should be consulted. Trend is static to declining - from visual observations, more of the latter. From the utilization estimates mentioned above, the prime change agents can be assumed to be domestic livestock and wild horses. No data or parameters, however, exist to evaluate their relative importance in the changes noted.

Similarly, for the smaller secondary types of the segment no "hard" data exists to evaluate either condition or trend. Visual observations are contradictory and form no clear subjective impression.

b. Beyond the habitat problems mentioned incidental to the above discussion, one exists throughout the allotment that is having a definite negative impact on the life functions of both livestock and wild horses. This problem is the total destruction of a thousand acres of habitat in the course of mineral exploration and development.

c. No ecologically unique areas were identified during the resource inventories conducted in preparation for this planning effort. Obviously, it is not possible to extrapolate this lack of unique areas to the land devoid of ecological inter-relations by mining activity.

**RANGE CONDITION SUMMARY**  
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Allotment 2001

Vegetation Type	NRM #	Acres of Type	Number of Transects	% Desirable	% Intermediate	% Least Desirable	SSF	Acres/ Transect	Rating
Artr Cafi Stco	346	1,505	1	51	37	12	44	1,505	Fair
Artr Cafi Agda	347	1,401	1	27	43	30	20	1,401	Good
Artr Stco Cafi	351	41,823	17	26	29	45	32	2,460	Good
Stco Orhy Cafi	359	1,003	1	33	12	55	31	1,003	Good
Artr Agda Cafi	363	3,314	0						
Artr Cafi Stco	387	748	1	13	47	40	17	748	Fair
Artr Cafi Stco	388	9,011	4	37	17	46	46	2,252	Fair
Artr Cafi Stco	389	1,307	1	8	8	84	29	1,307	Fair
Artr Poa Feid	393	4,233	1	4	26	70	29	4,233	Poor
Artr Agsm Poa	394	496	1	17	38	45	34	496	Fair
Artr Kocr Agsp	396	8,431	3	17	13	70	37	2,810	Fair
Artr Poa Agda	397	153	0	--	--	--	--	0	?
Artr Poa Agsp	398	603	1	6	15	79	42	603	Fair
Artr Agda Poa	399	2,212	1	--	--	--	--	0	?
Artr Agda Poa	400	2,594	1	14	16	70	38	2,594	Fair
Artr Agda Poa	401	1,590	0	--	--	--	--	0	?
Artr Kocr Poa	402	6,974	1	21	3	76	41	6,974	Fair
Artr Stco Agda	403	920	0	--	--	--	--	0	?
Care Poa Juba	404	351	1	24	15	61	43	351	Fair
Artr Poa Kocr	405	1,110	2	22	15	63	36	555	Fair
Artr Chna Agda	406	5,112	1	21	31	48	26	5,112	Good
Artr Stco Poa	407	1,321	1	27	12	61	31	1,321	Fair
Artr Agda Poa	408	721	0						
Artr Agsp Stco	409	430	0						
Artr Kocr Stco	410	225	0						
Arno Poa Stco	411	1,178	1	18	12	70	24	1,178	Fair
Arno Spcr Orhy	412	1,593	0						
Artr Heki Poa	413	2,002	4	10	20	70	19	500	Fair
Care Caaq Muri	021	1,614	0						
Muri Junc Care	022	1,522	0						
Junc Care Deca	105	414	0						
Caaq Spai Care	025	1,965	0						
Cafi Artr Agda	BM-8	180	0						

**RANGE CONDITION SUMMARY**  
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P.U. Sweetwater

Allotment 2001 cont'd

Vegetation Type	NRM #	Acres of Type	Number of Transects	% Desirable	% Intermediate	% Least Desirable	SSF	Acres/ Transect	Rating
Artr Agsm Poa	414	3,719	3	22	3	75	8	1,239	Fair
Artr Heki Poa	415	4,882	5	30	5	65	17	976	Fair
Artr Agsm Cafi	416	250	1	24	10	66	32	250	Fair
Artr Agsm Poa	417	3,832	3	20	32	48	29	1,277	Good
Arno Agda Poa	418	607	0						
Artr Agsp Poa	419	1,782	2	24	10	66	32	250	Fair
Artr Agsm Poa	417	3,832	3	2	27	17	56	891	Good
Arno Cafi Stco	420	3,668	3	31	14	55	26	1,222	Good
Pinu Vacc Care	421	6,904	6	27	18	55	9	1,150	Good
Artr Poa Agda	422	1,909	0						
Poa Juba Care	423	278	0						
Artr Feid Poa	424	221	0						
Arno Feid Agsp	426	1,299	0	41	4	55	12	1,299	Good
Artr Kocr Poa	427	938	2	22	8	70	22	469	Fair
Artr Poa Agda	428	497	0	--	--	--	--	0	?
Artr Agda Orhy	440	960	0	--	--	--	--	0	?
Artr Agda Poa	441	3,145	0						
Artr Poa Agda	442	6,408	1	27	19	54	34	6,408	
Artr Agda Stco	443	2,593	0	--	--	--	--	0	od
Save Disp Spai	444	3,768	0	--	--	--	--	0	?
Artr Poa Agsp	445	5,717	2	16	26	58	44	2,858	Fair
Artr Agda Poa	446	17,793	6	21	24	55	48	2,965	Fair
Artr Agsp	447	408	0						
Artr Agda Poa	448	1,010	0						
Artr Agda Agsp	449	21,367	10	20	26	54	35	2,165	Good
Artr Agda Poa	450	411	0						
Artr Agsp Cafi	451	393	1	25	20	55	34	393	Good
Artr Agda Agsp	452	3,352	3	20	8	72	23	1,117	Fair
Artr Agda Poa	453	1,347	2	26	39	35	29	673	Good
Artr Agda Cafi	454	884	1	11	13	76	23	884	Fair
Artr Cafi Agda	456	540	1	13	43	44	26	504	Fair
Artr Agsp Agda	BM-14	13	0						
Agda Artr Agsy	BM-16	4	0						
Artr Arpe Agda	JM-33	6	0						
Arpe Artr Agda	JM-35	86	0						
Artr Pose Agda	JM-37	151	0						

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P.U. Sweetwater

Allotment 2001 cont'd

Vegetation Type	NRM #	Acres of Type	Number of Transects	% Desirable	% Intermediate	% Least Desirable	SSF	Acres/Transect	Rating
Artr Agda Agsp	457	2,427	1	10	33	57	25	2,427	Fair
Artr Agda Poa	458	595	1	32	5	63	20	595	Fair
Artr Agsp Poa	459	1,303	1	4	37	59	22	1,303	Poor
Artr Cafi Agda	460	3,004	1	9	22	69	22	3,004	Fair
Artr Cafi Orhy	461	812	1	16	26	58	25	812	Fair
Agsp Artr Poa	462	1,138	0	--	--	--	--	0	?
Agsp Artr Poa	463	3,300	2	24	14	62	39	1,650	Fair
Artr Agda Poa	464	24,030	15	23	24	54	30	1,602	Good
Artr Agsp Poa	465	5,147	4	21	44	35	41	1,286	Fair
Artr Agsp Poa	466	8,596	5	12	37	51	31	1,719	Fair
Artr Agda Poa	467	3,557	2	10	40	50	23	1,778	Fair
Artr Poa Sihy	492	1,686	1	9	22	69	54	1,686	Fair
Artr Pose Cafi	493	8,500	16	20	64	18		1,614	Good
Artr Dist Pose	494	3,241	2	8	36	56	24	1,620	Fair
Artr Poa Agsp	495	1,702	1	20	33	47	26	1,702	Good
Artr Agsp Feid	496	227	1	42	8	50	26	227	Good
Artr Poa Agsp	497	946	1	8	12	80	26	946	Fair
Stco Chvi Poa	351A	590	1	24	20	56	24	590	Good
Artr Cafi Stco	358A	721	1	42	29	29	23	721	Good
Artr Agda Agsm	388A	959	1	27	33	40	35	959	Good
Artr Stco Kocr	389A	4,860	3	39	13	48	33	1,620	Good
Artr Agda Stco	441A	5,107	0	--	--	--	--	0	?
Artr Agda Agsp	442A	863	0	--	--	--	--	0	?
Agda Artr Poa	443A	584	0	--	--	--	--	0	?
Artr Stco Agsp	444A	414	0	--	--	--	--	0	?
Artr Stco Kocr	445A	5,766	2	20	26	54	36	2,883	Good
Artr Agsp Poa	449A	75	0	--	--	--	--	0	?
Cafi Artr Orhy	450A	868	1	24	63	13	37	868	Good
Artr Stco Cafi	451A	2,071	2	25	8	67	24	1,035	Fair
Carex Poa Agda	493A	45	0						
Artr Agsp Pose	JM-39	109	0						
Artr Agsp Stco	JM-48	310	0						
	PJ-1	272	0						
Artr Stco Agda	390	153	0						
Junc Cype Agda	392	133	0						

**Sweetwater**

**cont'd**

**RANGE CONDITION SUMMARY  
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**P.U.**

**Allotment 2001**

Vegetation Type	NRM #	Acres of Type	Number of Transects	% Desirable	% Intermediate	% Least Desirable	SSF	Acres/Transect	Rating
Artr Poa Agda	494A	1,411	0						
Artr Cafi Agda	497A	412	1	14	31	55	26	412	Fair
	7T	633	0						
	7I	1,833	0						
	7R	512	0						
	8B	<u>383</u>	<u>0</u>						
	308,087	156						1,975 Ac/Transect	
Sections/Transects)			144,132	Good	= 46.8%				(3
			111,464	Fair	= 36.2%				
			5,536	Poor	= 1.8%				
			46,955	Unsampled	= <u>15.2%</u>				
					<u>100%</u>				
			5,648	Acres - Riparian/Meadow Types - 0 Transects Completed					