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United States Department of Agriculture
Forest Service
Toiyabe National Forest
Bridgeport Ranger District
P.O. Box 595
Bridgeport, Ca. 93517

Reply To: 2260

Date: July 7, 1987

Subject: Montgomery Pass Wildhorse Territory

To: All Participants

Enclosed for your information are my interpretations of the trend studies for the Montgomery Pass Wildhorse Territory that are located on the Toiyabe National Forest.

Please understand that this is not a completed analysis as it lacks interpretation of statistical data, photographs and weather information. This information is only intended to give you some general information concerning the apparent soil and vegetative trends that may be occurring on the territory. The completed analysis of the trend studies probably will not be available until after the field season; sometime around January 1, 1988.

Respectively,

Walt Grows

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There are three long term trend studies on the Toiyabe National Forest, located in the Montgomery Pass Wildhorse Territory. One study (Huntoon C-2) is also situated in an active winter grazing cattle allotment in Huntoon Valley. Huntoon Valley is located in the northeastern portion of the Montgomery Pass Wildhorse Territory and generally receives zero to light wildhorse use. The other two studies are not located in any grazing allotment. One study (Montgomery Pass C-1) is located about 2.5 miles east of Sagehen Spring in Sec. 27, T. 2N., R. 32E.; the other study (Montgomery Pass C-2) is located about 2.0 miles north of Sagehen Spring in Sec. 20, T. 2N., R. 32E. Both of these areas receive moderate to heavy wildhorse use. Sagehen Spring provides the closest yearlong water. However, in years similar to 1987, Sagehen Spring will go dry. On May 13, 1987, Sagehen Springs was dry.

INTERPRETATION OF THE 1979 AND 1985 TREND STUDIES

Due to the lack of time to perform accurate statistical analysis, absence of the 1987 photographs at this time and the lack of other critical data (weather information, livestock data, etc.) only a cursory/brief analysis can be provided at this time.

Study #1 - Huntoon C-2

The Huntoon Study is a Parker 3-step consisting of a two-transect cluster measured four times--1956, 1966, 1979, and 1987. A third transect was added in 1979 and has been read two times--1979 and 1987. Shrub canopy cover measurements by line intercept were started in 1966.

In 1987, Chrysothamnus viscidiflorus (CHVI) dominated the stand (57%). Oryzopsis hymenoides (ORHY) was second (17%), Dalea polyadenia (DAPO) was third (15%), Ceratoides Lanata (CELA) was fourth (9%) and Grayia spinosa (GRSP) ranked last with (3%).

TABLE 1

Species	Comparison of Data Percent Composition		Percent (+ or -) Difference
	Year 1979	Year 1987	
ORHY	15%	17%	+2%
CELA	24%	9%	-15%
CHVI	54%	57%	+3%
DAPO	7%	15%	+8%
GRSP	-0-	3%	+3%

TABLE 2

Year	Desirability Rating: Percent Desirable	Percent Intermediate	Percent Least Desirable	Trend: Vegetation	Trend: Soil
1979	44%	22%	34%	Down	Down
1987	31%	32%	37%	Down	Static

Without the aid of adequate statistical analysis, photographs, etc., the data suggests that the overall vegetative trend is down from 1979 because of the loss of CELA which is a desirable forage plant. The soils trend is now stable and has therefore improved since 1979, primarily due to the decrease of bare soil.

Study #2 - Montgomery Pass C-1

This study is a Parker 3-step consisting of a two-transect cluster measured three times--1966, 1979, and 1987. A third transect was added in 1979 and has been read two times--1979 and 1987. Shrub canopy cover measurements by line intercept were started in 1966.

In 1987 Artemisia tridentata (ARTR) dominated the stand (48%), Purshia tridentata (PUTR) was second (22%), Artemisia arbuscula (ARAR) was third (17%), Sitanion hystrix (SIHY) was fourth (8%), Pinus monophylla (PIMO) was fifth (3%) and both Chrysothamus viscidiflorus (CHVI) and Lomatium macdouglasii (LOMAT) ranked last with (1%) each.

TABLE 1

Species	Comparison of Data Percent Composition		Percent (+ or -) Difference
	Year 1979	Year 1987	
SIHY	11%	8%	-3%
LOMAT	-0-	1%	+1%
PIMO	2%	3%	+1%
ARAR	19%	17%	-2%
PUTR	20%	22%	+2%
ARTR	41%	48%	+7%
CHVI	5%	1%	-4%
ASPU*	1%	-0-	-1%
ERUM*	1%	-0-	-1%

*ASPU - Astragalus purshii
*ERUM - Eriogonum umbellatum

TABLE 2

Year	Desirability Rating: Percent Desirable	Percent Intermediate	Percent Least Desirable	Trend: Vegetation	Trend: Soil
1979	32	37	31	Up	Up
1987	31	31	38	Down	Static

Without the aid of adequate statistical analysis, photographs, etc., the data suggests that the overall vegetative trend may be down from 1979 because of the loss of SIHY, ARAR and CHVI and the increase of ARTR. The important forage plants for horses in this area are SIHY and CHVI. Because the soil resources (bare soil, pavement, rock, litter, etc.) are about as they were in 1979, the soils trend is stable.

Study #3 - Montgomery Pass C-2

This study is a Parker 3-step consisting of a two-transect cluster measured three times--1966, 1979 and 1987. A third transect was added in 1979 and has been read two times--1979 and 1987. Shrub canopy cover measurements by line intercept were started in 1966.

In 1987 Artemisia tridentata (ARTR) dominated the stand (70%), Artemisia arbuscula (ARAR) was second (19%), Purshia tridentata (PUTR) was third (8%), Ephedra viridis (EPVI) was fourth (2%) and Sitanion hystrix (SIHY) ranked last with (1%).

TABLE 1

Species	Comparison of Data Percent Composition		Percent (+ or -) Difference
	Year 1979	Year 1987	
SIHY	1%	1%	-0-
EPVI	5%	2%	-3%
ARTR	68%	70%	+2%
PUTR	13%	8%	-5%
ARAR	13%	19%	+6%

TABLE 2

	Desirability Rating				
				Trend	
Year	Percent Desirable	Percent Intermediate	Percent Least Desirable	Vegetative	Soil
1979	14	28	58	Up	Up
1987	9	31	60	Static	Static

Without the aid of adequate statistical analysis, photographs, etc., the data suggests that the overall vegetation and soil have not changed since 1979 and therefore their trends are static.

GENERAL CONCLUSIONS

1. Some rangeland values (vegetation) in Huntoon Valley have deteriorated since 1979, possibly due to over grazing of domestic livestock (cattle).

2. Domestic livestock (cattle) are not affecting the rangeland values in the Sagehen Springs area, as there are none.

3. Bitterbrush (PUTR) is in fair to good condition in the area around Sagehen Springs; is not being utilized as forage by wildhorses, has had a static trend since 1979 and may be important forage for mule deer.

4. There is a decline of horse forage (SIHY, CHVI) in the Sagehen Springs area.

5. The overall vegetative trend of the Sagehen Spring area appears to be down or at best stable with the soils in a stable or upward trend. The downward vegetative trend may be due to uncontrolled grazing by wildhorses.

6. Because of the absence of water at Sagehen Springs in 1987 the rangeland values may benefit due to the absence/lower number of wildhorses in the area. Conversely, areas containing water may be adversely impacted due to too many horses using an area. It should be noted that range inspections on April 8 & 9, 1987 indicated that McBride Springs was dry, McNamara Lake was nearly dry and probably would dry up by June 1, and that Upper and Lower Pizona Springs and Jack Spring were running good flows of water.

7. Deer winter range values may not be impacted by wildhorses as these horses are not using bitterbrush as forage.

squirrel tail

8. Range inspection on May 13, 1987 indicated that deer are using SIHY as spring forage in the Sagehen Springs area. Because this is an important forage plant for wildhorses and has declined since 1979, deer values may be impacted by wildhorses. & visa versa.

9. Because important forage plants may be declining in the Sagehen Springs area the carrying capacity for wildhorses may also be declining.

10. Obviously, the watering sources for wildhorses are the most important areas. The majority of the deteriorated ranges are probably adjacent to locations where wildhorses are watering.

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