

## Change in percent cover by species and TEU in the Montane Subalpine Grassland ERU (MSG):

The reference percent cover by species was defined for each Terrestrial Ecosystem Unit (TEU) by the Carson NF Terrestrial Ecosystem Survey (TES). Current percent cover measurements by species were compiled from 75 recent (year 2000 or later) range monitoring transects that fall in the MSG ERU from across the forest. The data were stratified by TEU (between 1 and 8 transects per TEU, 21 TEUs total). Reference percent cover was subtracted from the current cover average for each species in each TEU. That difference was then normalized by dividing by the reference percent cover<sup>1</sup>,

$$\text{Change in percent cover} = \frac{(\text{reference percent cover} - \text{current average percent cover})}{\text{reference percent cover}}$$

Large positive numbers indicate that there is currently more of a species than existed under the reference condition for that TEU. Negative numbers indicate that there is currently less of a species than existed under the reference condition. A value of -1 indicates that the species was not observed in that TEU during the recent range surveys. Increases are shaded green, decreases are shaded red. Vertical similarity indicates an overall change in the overall species composition in MSG.

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<sup>1</sup> Where the reference percent cover was 0, change in percent cover is equal to the difference divided by 1.

	<i>Agropyron cristatum</i>	<i>Paspopyrum smithii</i>	<i>Artemisia frigida</i>	<i>Artemisia nova</i>	<i>Arctostaphylos uva-ursi</i>	<i>Blepharoneuron tricholepis</i>	<i>Bouteloua gracilis</i>	<i>Bromus anomalus</i>	<i>Carex</i>	<i>Campanula rotundifolia</i>	<i>Danthonia intermedia</i>	<i>Danthonia parryi</i>	<i>Eragrostis fobergii</i>	<i>Festuca arizonica</i>	<i>Festuca ovina</i>	<i>Festuca thurberi</i>	<i>Juncus</i>	<i>Koeleria macrantha</i>	<i>Lathyrus lanszwertii</i>	<i>Lycurus phleoides</i>	<i>Lycurus phleoides</i>	<i>Muhlenbergia montana</i>	<i>Phleum alpinum</i>	<i>Argentina anserina</i>	<i>Poa fendleriana</i>	<i>Poa pratensis</i>	<i>Elymus elymoides</i>	<i>Hesperostipa comata</i>	<i>Achnatherum lettermanii</i>	<i>Taraxacum officinale</i>	<i>Vicia americana</i>
TEU	AGCR	AGSM	ARFR	ARNO	ARUV	BLTR	BOGR	BRAN	CARE	CARO2	DAIN	DAPA	ERFO	FEAR	FEOV	FETH	JUNC	KOCR	LAAR	LYPH	MUFI	MUMO	PHAL	POAN	POFE	POPR	SIHY	STCO2	STLE	TAOF	VIAM
131	0	0	0	0	0	5.667	0	1	-0.2	-1	-1	13	3	45.33	2.7	-0.75	0	0	-1	0	0	12.67	0	-1	0	25	1	24	0	2	5
133	0	0	0	0	0	8	0	0	-0.4	-1	-1	5	8	0.027	-0.32	0	0	0	-1	0	0	0	1	-1	0	9.667	2	0	23	0	-1
148	5	1	0.6	17	0	0	11.6	0	-1	0	0	0	0	-1	9	0	0	-1	0	0	-1	2	0	0	-1	0	5	0	0	-1	0
172	0	6	0.4	0	0	4	-0.2	0	18	0	0	5	10	-0.55	0	0	3	-0.5	0	0	-1	0.4	0	0	-1	31	2	0	1	-1	0
182	0	11	0	0	0	0	0	1	-1	-1	-1	0	0	16	-1	-0.56	0	0	-1	0	0	0	9	-1	0	55	0	7	0	-1	-1
196	16	31	1	0	0	5	3	0	28	0	0	0	1	-0.6	0	0	0	4.6	0	0	24	1.4	0	0	-0.5	8	28	0	10	-1	0
198	0	5	0	1	0	0	0	-1	-0.5	-1	0	0.857	3	-0.48	2	24	0	-1	-1	0	0	1.5	0	1.5	1	25	7	0	8	3	-1
267	0	3	-0.8	0	0	0	5.8	0	10	0	0	0	0	-0.55	4	0	6	-1	0	18	-1	6	0	0	-1	3	0	0	0	-1	0
512	13	50	-1	0	0	0	2.8	0	-1	0	0	0	0	-0.88	0	0	0	-1	0	0	2.6	-1	0	0	-1	0	3.333	0	0	-1	0
545	0	10	0	0	0	9	26	-1	-1	-1	0	-1	0	0.086	1	4	0	16	-1	0	27	0.4	0	-1	-0.5	4	15	9	0	-1	-1
562	0	1	0	0	0	54	0	-1	3	-1	0	0	0	-0.8	23	9	0	11	-1	7	0	-0.1	28	-1	18	1.8	4	0	8	-1	-1
563	0	2	0	0	0	0	0	-1	1.8	-1	0	13.8	7	-0.74	6	5	3	2	-1	0	0	1.1	0	-1	0	49	0	0	0	-1	-1
564	0	0	0	0	0	0	0	-1	3	-1	0	-1	1	-0.87	0	0	12	-1	-1	0	0	-0.4	0	-1	0	31	0	0	0	-1	-1
566	0	0	0	0	0	0	0	0	-0.1	-1	2	0.2	6	-0.48	1.4	-0.64	5	0	-1	0	0	27	1	-1	2	12	4	0	0	0	-1
567	0	0	0	0	0	0	0	0	0.3	-1	-0.93	-0.9	7	-0.48	-0.35	-0.32	5	3	-1	0	0	15	0	-1	14	3.6	7	0	9	1	-1
650	47	5	1	0	-1	-1	4.2	0	40	0	0	0	0	-1	0	0	0	-1	0	0	0	-1	0	0	-1	0	0	0	0	0	0
135E	0	1	0	0	0	0	0	0	-1	0	-1	19	0	1	0.171	-0.2	0	37	-1	0	0	0	5	-1	22	2	5	5	0	0	-1
136E	0	0	0	0	0	0	0	0	-1	-1	-1	7	0	0	0.6	-0.6	0	40	-1	0	0	0	0	-1	0	0	3	0	0	0	-1
197E	39	0	-1	0	0	0	1.1	0	8	0	0	0	0	-1	0	0	0	2	0	0	2.2	3.8	0	0	-1	0	6	32	0	-1	0