

Table. Range of variation in landscape structure for Warm Dry Mixed-Conifer with Aspen Forest under the simulated HRV disturbance scenario on the Dolores District, San Juan National Forest, Colorado, and the degree of departure of the current landscape from the simulated range of variation (see text for details).

Landscape Metric	Condition Class (seral stage)	Current Landscape ¹		Percentiles of Simulated Distribution							HRV Departure	
		Metric Value	Percentile of HRV	0	5	25	50	75	95	100	CV ²	Index ³
<i>Seral Stage Composition</i> ⁴												
PLAND	Stand Initiation	0.022	0	0.035	0.074	0.123	0.167	0.224	0.365	0.480	174	97
	Stem Exclusion	0.512	97	0.110	0.192	0.267	0.327	0.401	0.493	0.580	92	
	Understory Reinitiation	3.393	100	0.287	0.413	0.512	0.626	0.725	1.377	2.364	154	
	Shifting Mosaic	0.000	0	0.093	0.443	0.903	1.239	1.505	1.856	2.205	114	
	Fire Maintained Open Canopy	0.000	0	0.672	0.949	1.233	1.470	1.806	2.312	2.615	93	
<i>Class Configuration</i> ⁵												
PD	Stand Initiation	0.002	0	0.085	0.159	0.231	0.301	0.410	0.647	0.840	162	100
	Stem Exclusion	0.011	0	0.229	0.356	0.477	0.581	0.704	0.854	1.005	86	
	Understory Reinitiation	0.099	0	0.333	0.509	0.764	0.934	1.059	1.163	1.238	70	
	Shifting Mosaic	0.000	0	0.123	0.211	0.349	0.478	0.551	0.628	0.721	87	
	Fire Maintained Open Canopy	0.000	0	0.235	0.308	0.379	0.438	0.479	0.537	0.613	52	
ED	Stand Initiation	0.029	0	0.253	0.521	0.787	1.047	1.396	2.287	3.069	169	96
	Stem Exclusion	0.638	0	0.727	1.237	1.677	2.030	2.524	3.053	3.661	89	
	Understory Reinitiation	4.547	94	1.882	2.506	3.034	3.581	4.057	4.562	5.163	57	
	Shifting Mosaic	0.000	0	0.515	1.473	2.788	3.983	4.946	5.950	6.572	112	
	Fire Maintained Open Canopy	0.000	0	2.195	3.206	3.990	4.627	5.719	6.882	8.018	79	
AREA_MN	Stand Initiation	9.271	100	0.295	0.420	0.477	0.538	0.601	0.701	0.878	52	100
	Stem Exclusion	45.263	100	0.374	0.444	0.501	0.555	0.616	0.711	0.928	48	
	Understory Reinitiation	34.238	100	0.392	0.519	0.586	0.637	0.723	2.380	7.096	292	
	Shifting Mosaic	0.000	0	0.554	1.724	2.199	2.609	2.982	3.769	4.811	78	
	Fire Maintained Open Canopy	0.000	0	2.140	2.579	2.931	3.456	4.099	4.826	5.839	65	
AREA_AM	Stand Initiation	38.238	100	1.544	2.349	3.621	4.712	6.247	9.419	18.818	150	100
	Stem Exclusion	131.655	100	2.394	3.123	4.348	5.222	6.692	8.767	12.690	108	
	Understory Reinitiation	177.692	99	2.754	4.503	5.402	6.523	8.198	71.164	189.041	1022	
	Shifting Mosaic	0.000	0	11.837	22.819	29.896	34.916	43.874	74.439	191.380	148	
	Fire Maintained Open Canopy	0.000	0	18.069	23.939	31.977	39.543	51.968	85.169	112.564	155	
GYRATE_AM	Stand Initiation	285.648	100	55.995	65.609	79.911	91.588	103.249	122.877	169.150	63	100

	Stem Exclusion	663.193	100	66.910	74.264	87.265	96.404	105.524	121.061	150.394	49	
	Understory Reinitiation	665.163	100	69.537	90.285	98.250	107.175	119.940	414.676	671.269	303	
	Shifting Mosaic	0.000	0	156.222	228.803	260.487	282.531	312.778	385.960	672.212	56	
	Fire Maintained Open Canopy	0.000	0	184.382	226.586	262.345	298.205	334.939	418.958	494.487	65	
SHAPE_MN	Stand Initiation	1.219	28	1.168	1.201	1.218	1.229	1.243	1.260	1.282	5	67
	Stem Exclusion	2.029	100	1.181	1.208	1.225	1.237	1.248	1.262	1.274	4	
	Understory Reinitiation	2.050	100	1.208	1.225	1.242	1.255	1.268	1.292	1.471	5	
	Shifting Mosaic			1.155	1.257	1.336	1.385	1.420	1.456	1.501	14	
	Fire Maintained Open Canopy			1.401	1.442	1.474	1.501	1.538	1.578	1.618	9	
SHAPE_AM	Stand Initiation	1.736	6	1.613	1.703	1.866	1.960	2.046	2.199	2.459	25	86
	Stem Exclusion	3.016	100	1.733	1.818	1.937	2.020	2.092	2.176	2.273	18	
	Understory Reinitiation	2.925	96	1.854	1.944	2.057	2.148	2.218	2.891	3.428	44	
	Shifting Mosaic			2.341	2.687	2.971	3.194	3.412	3.901	4.600	38	
	Fire Maintained Open Canopy			2.571	2.862	3.105	3.393	3.597	3.989	4.431	33	
CPLAND	Stand Initiation	0.017	40	0.001	0.005	0.013	0.021	0.029	0.050	0.098	219	80
	Stem Exclusion	0.412	100	0.030	0.045	0.071	0.091	0.116	0.152	0.197	118	
	Understory Reinitiation	2.801	100	0.163	0.241	0.325	0.405	0.499	1.043	1.803	198	
	Shifting Mosaic	0.000	0	0.066	0.289	0.630	0.870	1.079	1.358	1.629	123	
	Fire Maintained Open Canopy	0.000	0	0.372	0.554	0.738	0.864	1.050	1.331	1.598	90	
CORE_MN	Stand Initiation	7.406	100	0.006	0.029	0.047	0.065	0.081	0.128	0.215	152	100
	Stem Exclusion	36.431	100	0.074	0.098	0.130	0.153	0.186	0.242	0.362	94	
	Understory Reinitiation	28.264	100	0.212	0.299	0.365	0.421	0.495	1.894	5.411	378	
	Shifting Mosaic	0.000	0	0.394	1.123	1.544	1.857	2.175	2.757	3.610	88	
	Fire Maintained Open Canopy	0.000	0	1.226	1.507	1.733	2.052	2.400	3.044	3.736	75	
CORE_AM	Stand Initiation	30.161	100	0.061	0.344	0.775	1.191	1.817	3.570	8.482	271	100
	Stem Exclusion	107.411	100	0.778	1.265	1.931	2.501	3.556	4.812	7.604	142	
	Understory Reinitiation	159.037	100	1.819	3.086	4.021	4.965	6.415	57.521	167.362	1096	
	Shifting Mosaic	0.000	0	9.309	16.882	23.032	27.752	34.419	61.895	157.160	162	
	Fire Maintained Open Canopy	0.000	0	11.699	15.438	20.610	25.666	34.914	55.022	83.682	154	
CAI_MN	Stand Initiation	42.811	100	0.426	0.869	1.307	1.642	1.978	2.680	4.202	110	100
	Stem Exclusion	70.651	100	3.246	3.785	4.509	5.120	5.757	6.785	8.919	59	
	Understory Reinitiation	72.792	100	33.411	39.462	45.992	50.055	54.073	58.786	65.413	39	
	Shifting Mosaic	0.000	0	25.524	32.136	41.997	46.826	50.896	55.715	60.558	50	
	Fire Maintained Open Canopy	0.000	0	22.508	26.348	31.695	35.447	38.523	43.158	47.434	47	

CAI_AM	Stand Initiation	79.888	100	2.011	6.681	9.579	11.765	13.987	18.571	26.348	101	100
	Stem Exclusion	80.488	100	19.435	22.079	25.779	28.013	30.407	34.601	38.952	45	
	Understory Reinitiation	82.552	100	48.076	55.552	62.271	66.335	70.206	76.915	80.939	32	
	Shifting Mosaic	0.000	0	50.068	59.854	67.998	72.044	74.675	77.214	80.713	24	
	Fire Maintained Open Canopy	0.000	0	47.823	51.464	56.550	59.209	61.495	65.161	67.310	23	
PROX_MN	Stand Initiation	0.000	0	0.242	0.952	1.464	1.929	2.375	3.042	3.978	108	99
	Stem Exclusion	44.521	100	1.090	1.577	2.152	2.586	2.930	3.502	3.923	74	
	Understory Reinitiation	45.672	99	2.062	2.745	3.689	4.478	5.237	26.961	74.219	541	
	Shifting Mosaic	0.000	0	4.279	14.922	22.879	30.772	38.504	52.947	72.419	124	
	Fire Maintained Open Canopy	0.000	0	12.559	22.031	29.429	37.498	51.249	70.755	102.786	130	
PROX_AM	Stand Initiation	0.000	0	0.099	0.801	1.493	2.169	3.158	5.325	8.818	209	94
	Stem Exclusion	47.474	100	1.195	1.620	2.469	3.192	4.010	6.179	9.519	143	
	Understory Reinitiation	55.807	93	2.376	3.189	4.733	6.223	7.962	93.400	222.734	1450	
	Shifting Mosaic	0.000	0	6.819	16.422	33.591	46.420	62.423	104.131	218.387	189	
	Fire Maintained Open Canopy	0.000	0	11.925	19.794	30.115	41.529	70.370	131.237	240.179	268	
CWED	Stand Initiation	0.010	0	0.116	0.235	0.352	0.469	0.625	0.989	1.353	161	100
	Stem Exclusion	0.181	0	0.213	0.366	0.489	0.592	0.730	0.882	1.049	87	
	Understory Reinitiation	1.013	100	0.205	0.271	0.328	0.369	0.423	0.529	0.898	70	
	Shifting Mosaic	0.000	0	0.058	0.224	0.419	0.603	0.762	0.994	1.253	128	
	Fire Maintained Open Canopy	0.000	0	0.410	0.616	0.804	1.006	1.302	1.759	2.134	114	
TECI	Stand Initiation	33.800	0	41.139	43.150	43.956	44.561	45.100	45.836	46.674	6	97
	Stem Exclusion	28.440	3	28.139	28.505	28.858	29.087	29.251	29.512	29.961	3	
	Understory Reinitiation	22.031	100	6.947	8.127	9.363	10.516	11.777	14.842	21.507	64	
	Shifting Mosaic			9.523	11.662	13.403	15.068	17.172	21.186	25.677	63	
	Fire Maintained Open Canopy			15.294	17.994	19.880	21.609	23.428	26.341	30.002	39	
CLUMPY	Stand Initiation	0.948	100	0.437	0.547	0.582	0.610	0.632	0.664	0.709	19	100
	Stem Exclusion	0.928	100	0.529	0.557	0.588	0.607	0.629	0.661	0.709	17	
	Understory Reinitiation	0.915	100	0.527	0.588	0.609	0.626	0.652	0.834	0.876	39	
	Shifting Mosaic			0.664	0.770	0.785	0.797	0.810	0.832	0.848	8	
	Fire Maintained Open Canopy			0.769	0.777	0.788	0.797	0.810	0.835	0.853	7	
IJI	Stand Initiation	46.284	31	35.234	41.730	45.565	48.249	50.585	52.721	54.693	23	64
	Stem Exclusion	67.054	100	39.475	43.121	45.978	48.538	50.378	52.226	54.329	19	
	Understory Reinitiation	72.057	98	44.534	47.602	49.551	51.087	52.741	68.045	76.067	40	

Shifting Mosaic	56.172	59.871	63.487	65.741	68.103	71.129	74.283	17
Fire Maintained Open Canopy	59.674	61.836	63.826	65.204	66.680	69.345	72.321	12
Summary Indices⁶:								
<i>Seral-Stage Departure Index</i>								97
<i>Class Configuration Departure Index</i>								93
<i>Cover Type Departure Index</i>								95

¹Some stand conditions are not represented in the current landscape. Certain metrics are logically zero if the class is absent, while others are undefined (indicated by missing data). HRV departure index is undefined if the current landscape condition is undefined.

²CV = coefficient of variation in the simulated distribution, computed as the difference between the 5 and 95th percentiles divided by the median and multiplied by 100 to convert to a percentage. n/d = not defined (division by zero).

³HRV departure index represents the degree of departure of the current landscape condition from the historic range of variability and is given here specifically as the degree of departure from the 25-75th percentile range of variation, where a 0 represents no departure (i.e., within the 25-75th percentiles of variation) and 100 represents complete departure (i.e., outside the 0-100th percentiles of variation).

⁴Landscape composition here represents the distribution of area among seral stages for the corresponding cover type. PLAND = the percent of the landscape encompassed by the corresponding seral stage. Note, PLAND = the percentage of the entire landscape, not as a percent of the corresponding cover type.

⁵Landscape configuration here represents the spatial character, distribution, and arrangement of the corresponding cover type. The landscape metrics listed here are described in detail in the FRAGSTATS methods section. PD = patch density; ED = edge density; AREA_MN = mean patch size; AREA_AM = area-weighted mean patch size; GYRATE_AM = area-weighted mean patch radius of gyration (correlation length); SHAPE_MN = mean patch shape index; SHAPE_AM = area-weighted mean patch shape index; CPLAND = core area percent of landscape; CORE_MN = mean patch core area; CORE_AM = area-weighted mean patch core area; CAI_MN = mean patch core area index; CAI_AM = area-weighted mean patch core area index; PROX_MN = mean proximity index; PROX_AM = area-weighted mean proximity index; CWED = contrast-weighted edge density; TECI = total edge contrast index; CLUMPY = clumpiness index; IJI = interspersion and juxtaposition index.

⁶Seral-stage departure index is based on the distribution of area (percentage of landscape) among seral stages and is computed as the mean departure across seral stages. Class configuration departure index is based on several landscape metrics that quantify different aspects of the spatial distribution of the cover type and is computed as the mean departure across metrics. Cover type departure index is computed as the mean of the seral-stage and class configuration departure indices.