

Table. Range of variation in landscape structure for Warm Dry Mixed-Conifer with Aspen Forest (48,204 ha) under the simulated HRV disturbance scenario on the 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	0.262	38	0.066	0.140	0.229	0.284	0.342	0.435	0.544	104	77
	Stem Exclusion	0.385	4	0.262	0.390	0.455	0.513	0.573	0.663	0.737	53	
	Understory Reinitiation	4.994	100	0.652	0.778	0.840	0.909	0.987	1.122	1.768	38	
	Shifting Mosaic	0.047	0	0.506	1.039	1.328	1.600	1.830	2.261	2.523	76	
	Fire Maintained Open Canopy	0.000	0	1.384	1.723	2.135	2.380	2.644	2.928	3.246	51	
<i>Class Configuration</i> ⁵												
PD	Stand Initiation	0.064	0	0.149	0.276	0.412	0.491	0.605	0.750	0.903	97	100
	Stem Exclusion	0.014	0	0.564	0.673	0.791	0.893	0.992	1.115	1.287	50	
	Understory Reinitiation	0.178	0	0.454	0.760	1.239	1.369	1.458	1.602	1.766	62	
	Shifting Mosaic	0.001	0	0.215	0.354	0.522	0.605	0.679	0.764	0.836	68	
	Fire Maintained Open Canopy	0.000	0	0.408	0.487	0.567	0.620	0.661	0.701	0.736	35	
ED	Stand Initiation	0.592	1	0.467	0.920	1.466	1.803	2.226	2.736	3.376	101	95
	Stem Exclusion	0.506	0	1.811	2.490	2.909	3.279	3.648	4.135	4.606	50	
	Understory Reinitiation	6.320	95	3.276	3.872	4.891	5.309	5.852	6.297	7.084	46	
	Shifting Mosaic	0.043	0	1.491	3.122	4.404	5.259	6.101	7.116	8.449	76	
	Fire Maintained Open Canopy	0.000	0	4.617	5.363	6.596	7.364	8.154	8.914	9.737	48	
AREA_MN	Stand Initiation	4.113	100	0.401	0.460	0.521	0.570	0.605	0.666	0.720	36	100
	Stem Exclusion	27.388	100	0.446	0.492	0.539	0.575	0.615	0.675	0.806	32	
	Understory Reinitiation	28.088	100	0.537	0.573	0.615	0.661	0.701	1.506	3.896	141	
	Shifting Mosaic	49.984	100	1.730	2.141	2.384	2.583	2.897	3.541	4.909	54	
	Fire Maintained Open Canopy	0.000	0	2.851	3.178	3.555	3.830	4.107	5.064	6.907	49	
AREA_AM	Stand Initiation	113.386	100	2.674	3.698	4.691	5.400	6.563	9.242	15.159	103	100
	Stem Exclusion	167.389	100	3.276	4.379	5.223	6.010	6.879	9.947	13.909	93	
	Understory Reinitiation	190.010	100	4.331	5.442	6.485	7.636	9.752	61.697	109.739	737	
	Shifting Mosaic	162.845	100	26.427	32.449	38.912	45.746	53.320	67.355	88.865	76	
	Fire Maintained Open Canopy	0.000	0	35.853	50.585	60.257	68.498	76.245	90.660	109.371	59	
GYRATE_AM	Stand Initiation	447.587	100	71.873	82.470	91.392	96.860	105.828	122.064	142.360	41	100

	Stem Exclusion	580.746	100	79.289	88.100	95.705	101.401	107.409	127.234	140.358	39	
	Understory Reinitiation	635.650	100	91.234	98.236	107.576	115.046	127.700	328.419	449.249	200	
	Shifting Mosaic	675.921	100	250.122	266.028	289.851	310.352	330.876	372.541	427.852	34	
	Fire Maintained Open Canopy	0.000	0	278.068	314.946	345.717	365.981	387.497	422.465	467.714	29	
SHAPE_MN	Stand Initiation	1.327	100	1.193	1.227	1.237	1.245	1.253	1.263	1.280	3	100
	Stem Exclusion	1.802	100	1.221	1.233	1.243	1.249	1.255	1.265	1.283	2	
	Understory Reinitiation	1.798	100	1.240	1.250	1.260	1.265	1.272	1.282	1.361	3	
	Shifting Mosaic	1.729	100	1.267	1.332	1.366	1.387	1.408	1.435	1.462	7	
	Fire Maintained Open Canopy			1.447	1.471	1.491	1.507	1.523	1.541	1.556	5	
SHAPE_AM	Stand Initiation	3.065	100	1.792	1.953	2.034	2.089	2.162	2.327	2.550	18	94
	Stem Exclusion	2.733	100	1.930	2.025	2.087	2.142	2.206	2.348	2.495	15	
	Understory Reinitiation	2.859	94	2.104	2.153	2.227	2.300	2.389	2.901	3.397	33	
	Shifting Mosaic	2.593	0	2.807	3.212	3.416	3.583	3.749	4.005	4.419	22	
	Fire Maintained Open Canopy			3.262	3.652	3.886	4.102	4.272	4.497	4.663	21	
CPLAND	Stand Initiation	0.159	100	0.004	0.013	0.022	0.029	0.037	0.049	0.073	125	100
	Stem Exclusion	0.301	100	0.066	0.099	0.120	0.138	0.156	0.185	0.231	63	
	Understory Reinitiation	4.211	100	0.447	0.492	0.553	0.606	0.683	0.811	1.296	53	
	Shifting Mosaic	0.043	0	0.383	0.733	0.954	1.167	1.320	1.665	1.841	80	
	Fire Maintained Open Canopy	0.000	0	0.861	1.067	1.272	1.440	1.602	1.778	2.034	49	
CORE_MN	Stand Initiation	2.504	100	0.025	0.034	0.049	0.060	0.069	0.090	0.111	95	100
	Stem Exclusion	21.412	100	0.088	0.114	0.137	0.155	0.175	0.203	0.272	57	
	Understory Reinitiation	23.687	100	0.330	0.366	0.405	0.444	0.486	1.109	2.855	167	
	Shifting Mosaic	45.820	100	1.244	1.494	1.707	1.902	2.112	2.629	3.565	60	
	Fire Maintained Open Canopy	0.000	0	1.752	1.912	2.127	2.305	2.494	3.187	4.400	55	
CORE_AM	Stand Initiation	84.628	100	0.381	0.616	1.003	1.261	1.716	2.800	4.840	173	100
	Stem Exclusion	135.513	100	1.141	1.870	2.338	2.824	3.437	5.331	7.773	123	
	Understory Reinitiation	171.052	100	3.217	4.027	4.918	5.989	7.736	49.756	89.907	764	
	Shifting Mosaic	153.066	100	19.113	25.412	29.722	35.494	41.307	54.347	70.785	82	
	Fire Maintained Open Canopy	0.000	0	25.266	33.020	40.336	45.319	50.945	62.905	82.458	66	
CAI_MN	Stand Initiation	13.448	100	0.787	1.033	1.286	1.488	1.730	2.134	2.646	74	66
	Stem Exclusion	60.617	100	3.319	4.051	4.633	5.070	5.497	6.148	7.518	41	
	Understory Reinitiation	54.166	83	40.970	44.996	48.585	51.051	53.257	56.408	60.445	22	
	Shifting Mosaic	50.841	74	35.692	41.002	44.870	47.874	50.994	55.286	58.626	30	
	Fire Maintained Open Canopy	0.000	0	25.978	30.825	33.320	35.440	37.867	40.470	43.983	27	

CAI_AM	Stand Initiation	60.880	100	5.691	7.207	9.226	10.301	11.397	13.783	17.798	64	100
	Stem Exclusion	78.179	100	19.292	23.029	25.390	27.010	28.450	30.495	33.680	28	
	Understory Reinitiation	84.331	100	57.659	62.223	65.101	67.420	69.601	73.004	77.768	16	
	Shifting Mosaic	91.669	100	58.376	66.550	69.985	72.461	74.699	77.993	79.951	16	
	Fire Maintained Open Canopy	0.000	0	51.995	55.941	58.814	60.782	62.793	65.227	67.244	15	
PROX_MN	Stand Initiation	40.009	100	0.757	1.594	2.242	2.582	2.954	3.639	5.511	79	100
	Stem Exclusion	17.967	100	1.800	2.641	2.994	3.241	3.588	4.339	5.898	52	
	Understory Reinitiation	58.830	100	3.943	4.359	4.972	5.621	6.470	15.540	33.245	199	
	Shifting Mosaic	1.058	0	18.794	28.157	34.903	39.539	44.967	55.655	86.046	70	
	Fire Maintained Open Canopy	0.000	0	30.436	46.830	58.878	70.559	80.585	91.943	105.789	64	
PROX_AM	Stand Initiation	70.889	100	0.672	1.854	2.709	3.377	4.144	5.595	16.694	111	100
	Stem Exclusion	22.370	100	1.991	3.293	3.931	4.457	5.309	7.340	15.992	91	
	Understory Reinitiation	116.040	100	5.134	5.899	7.149	8.643	10.726	52.067	104.389	534	
	Shifting Mosaic	0.019	0	20.941	32.681	42.327	50.812	58.952	73.581	91.672	80	
	Fire Maintained Open Canopy	0.000	0	27.533	45.556	58.467	70.196	82.963	101.952	113.879	80	
CWED	Stand Initiation	0.193	0	0.211	0.421	0.661	0.811	1.004	1.226	1.494	99	100
	Stem Exclusion	0.145	0	0.525	0.724	0.846	0.952	1.060	1.201	1.343	50	
	Understory Reinitiation	1.321	100	0.363	0.441	0.487	0.525	0.567	0.633	0.779	36	
	Shifting Mosaic	0.007	0	0.197	0.460	0.620	0.735	0.905	1.105	1.262	88	
	Fire Maintained Open Canopy	0.000	0	0.878	1.079	1.366	1.575	1.798	2.029	2.281	60	
TECI	Stand Initiation	32.634	0	43.266	44.165	44.638	45.017	45.369	45.894	46.394	4	75
	Stem Exclusion	28.528	0	28.540	28.764	28.953	29.077	29.183	29.326	29.460	2	
	Understory Reinitiation	20.819	100	7.454	8.350	9.197	9.744	10.495	13.518	18.883	53	
	Shifting Mosaic	15.578	71	9.920	11.183	13.122	14.449	15.811	18.141	24.112	48	
	Fire Maintained Open Canopy			17.683	18.905	20.308	21.325	22.472	24.452	28.140	26	
CLUMPY	Stand Initiation	0.863	100	0.528	0.557	0.586	0.603	0.616	0.636	0.648	13	100
	Stem Exclusion	0.921	100	0.533	0.567	0.589	0.602	0.616	0.633	0.665	11	
	Understory Reinitiation	0.918	100	0.572	0.594	0.607	0.620	0.636	0.780	0.851	30	
	Shifting Mosaic	0.955	100	0.756	0.770	0.781	0.788	0.799	0.825	0.844	7	
	Fire Maintained Open Canopy			0.777	0.786	0.794	0.799	0.807	0.831	0.852	6	
IJI	Stand Initiation	41.967	8	36.444	41.614	44.863	46.945	48.701	50.558	53.407	19	91
	Stem Exclusion	69.420	100	41.102	43.408	45.262	46.819	48.114	49.518	50.893	13	
	Understory Reinitiation	70.209	99	46.109	47.733	49.114	49.746	50.650	63.283	73.951	31	

Shifting Mosaic	54.987	0	57.163	59.778	61.938	63.676	65.578	69.438	71.216	15
Fire Maintained Open Canopy			58.466	60.984	62.611	63.418	64.508	67.184	69.461	10
Summary Indices⁶:										
<i>Seral-Stage Departure Index</i>										77
<i>Class Configuration Departure Index</i>										96
<i>Cover Type Departure Index</i>										86

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 95 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 25-75 percentile range of variation, where a 0 represents no departure (i.e., within the 25-75 percentiles of variation) and 100 represents complete departure (i.e., outside the 0-100 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 = interspersed 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.