

Table. Range of variation in landscape structure for Warm Dry Mixed-Conifer with Aspen Forest under the simulated HRV disturbance scenario on the Pagosa 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						CV ²	HRV Departure Index ³	
		Metric Value	Percentile of HRV	0	5	25	50	75	95			100
<i>Seral Stage Composition⁴</i>												
PLAND	Stand Initiation	0.013	0	0.059	0.120	0.223	0.282	0.375	0.532	0.753	146	100
	Stem Exclusion	0.236	0	0.238	0.362	0.459	0.540	0.633	0.763	0.915	74	
	Understory Reinitiation	5.590	100	0.523	0.682	0.829	0.915	1.028	1.176	1.713	54	
	Shifting Mosaic	0.140	0	0.362	0.742	1.302	1.688	2.051	2.574	3.286	109	
	Fire Maintained Open Canopy	0.000	0	0.955	1.664	2.151	2.547	2.847	3.428	4.102	69	
<i>Class Configuration⁵</i>												
PD	Stand Initiation	0.002	0	0.143	0.258	0.421	0.545	0.678	0.992	1.154	135	100
	Stem Exclusion	0.014	0	0.510	0.724	0.874	0.996	1.141	1.316	1.408	59	
	Understory Reinitiation	0.151	0	0.384	0.723	1.347	1.509	1.657	1.801	1.914	71	
	Shifting Mosaic	0.001	0	0.186	0.364	0.518	0.630	0.742	0.862	0.985	79	
	Fire Maintained Open Canopy	0.000	0	0.396	0.487	0.592	0.661	0.715	0.781	0.857	45	
ED	Stand Initiation	0.022	0	0.437	0.847	1.484	1.901	2.492	3.540	4.418	142	87
	Stem Exclusion	0.395	0	1.641	2.479	3.045	3.606	4.136	4.858	5.446	66	
	Understory Reinitiation	6.679	84	2.193	3.403	5.129	5.756	6.450	7.236	7.863	67	
	Shifting Mosaic	0.120	0	1.106	2.469	4.512	5.654	6.785	8.379	10.154	105	
	Fire Maintained Open Canopy	0.000	0	3.522	5.525	6.933	8.016	9.008	10.357	11.653	60	
AREA_MN	Stand Initiation	7.288	100	0.327	0.417	0.482	0.526	0.588	0.647	0.779	44	100
	Stem Exclusion	17.507	100	0.408	0.448	0.501	0.540	0.586	0.660	0.726	39	
	Understory Reinitiation	37.075	100	0.480	0.520	0.580	0.619	0.671	1.003	4.456	78	
	Shifting Mosaic	98.641	100	1.059	1.779	2.231	2.554	3.026	3.991	5.188	87	
	Fire Maintained Open Canopy	0.000	0	2.125	2.879	3.379	3.845	4.152	5.573	7.351	70	
AREA_AM	Stand Initiation	18.547	99	1.555	2.826	3.828	4.741	6.291	10.500	30.595	162	99
	Stem Exclusion	30.861	100	2.532	3.432	4.492	5.316	6.457	10.616	21.372	135	
	Understory Reinitiation	193.787	100	3.527	4.490	5.617	6.892	8.972	19.828	49.150	223	
	Shifting Mosaic	165.005	100	16.970	23.666	32.554	43.148	54.096	78.843	101.359	128	
	Fire Maintained Open Canopy	0.000	0	20.847	37.835	53.617	71.307	85.548	110.980	158.499	103	
GYRATE_AM	Stand Initiation	224.367	100	54.413	72.429	83.411	91.220	103.209	131.707	214.866	65	100

	Stem Exclusion	262.556	100	68.788	78.768	88.669	95.594	105.987	130.158	187.934	54	
	Understory Reinitiation	619.025	100	80.833	90.431	100.885	111.515	122.343	198.104	320.642	97	
	Shifting Mosaic	684.024	100	186.646	229.942	265.259	300.465	332.948	391.121	441.515	54	
	Fire Maintained Open Canopy	0.000	0	187.451	280.264	325.111	367.510	404.512	447.325	536.473	45	
SHAPE_MN	Stand Initiation	1.288	100	1.167	1.216	1.233	1.244	1.253	1.267	1.285	4	100
	Stem Exclusion	1.813	100	1.207	1.226	1.237	1.247	1.257	1.269	1.283	3	
	Understory Reinitiation	1.947	100	1.211	1.241	1.253	1.264	1.272	1.290	1.402	4	
	Shifting Mosaic	2.001	100	1.208	1.285	1.371	1.408	1.434	1.465	1.500	13	
	Fire Maintained Open Canopy			1.413	1.468	1.496	1.520	1.542	1.567	1.603	6	
SHAPE_AM	Stand Initiation	1.695	0	1.602	1.864	1.981	2.075	2.192	2.501	3.293	31	87
	Stem Exclusion	1.978	9	1.855	1.952	2.043	2.136	2.231	2.485	3.125	25	
	Understory Reinitiation	2.712	97	2.015	2.092	2.193	2.300	2.393	2.618	2.897	23	
	Shifting Mosaic	2.607	1	2.400	2.987	3.374	3.591	3.860	4.285	4.684	36	
	Fire Maintained Open Canopy			2.531	3.549	3.907	4.180	4.499	4.870	5.303	32	
CPLAND	Stand Initiation	0.008	5	0.002	0.008	0.018	0.025	0.036	0.061	0.116	207	84
	Stem Exclusion	0.179	85	0.058	0.084	0.110	0.135	0.162	0.206	0.278	91	
	Understory Reinitiation	4.805	100	0.343	0.432	0.527	0.601	0.684	0.827	1.304	66	
	Shifting Mosaic	0.130	0	0.260	0.515	0.898	1.189	1.446	1.806	2.301	109	
	Fire Maintained Open Canopy	0.000	0	0.557	1.002	1.291	1.501	1.708	2.027	2.382	68	
CORE_MN	Stand Initiation	4.525	100	0.008	0.022	0.036	0.048	0.061	0.086	0.157	134	100
	Stem Exclusion	13.309	100	0.077	0.091	0.116	0.134	0.157	0.194	0.243	77	
	Understory Reinitiation	31.868	100	0.262	0.315	0.368	0.409	0.456	0.723	3.392	100	
	Shifting Mosaic	91.484	100	0.776	1.164	1.531	1.788	2.160	2.866	3.807	95	
	Fire Maintained Open Canopy	0.000	0	1.240	1.672	1.997	2.247	2.504	3.573	4.683	85	
CORE_AM	Stand Initiation	11.643	100	0.092	0.353	0.668	0.977	1.564	2.893	11.073	260	100
	Stem Exclusion	24.278	100	0.905	1.262	1.915	2.413	3.029	5.386	11.092	171	
	Understory Reinitiation	175.537	100	2.381	3.287	4.185	5.285	6.940	15.577	39.407	233	
	Shifting Mosaic	155.123	100	12.138	17.304	24.523	32.410	42.037	64.210	83.006	145	
	Fire Maintained Open Canopy	0.000	0	14.346	24.424	34.764	45.897	58.699	80.075	123.767	121	
CAI_MN	Stand Initiation	24.812	100	0.494	0.795	1.065	1.258	1.562	2.094	2.994	103	100
	Stem Exclusion	65.465	100	2.898	3.530	4.143	4.668	5.152	6.066	7.297	54	
	Understory Reinitiation	73.780	100	33.257	40.946	46.971	49.974	53.259	56.452	59.780	31	
	Shifting Mosaic	92.259	100	29.292	36.112	43.087	46.962	50.433	55.199	57.510	41	
	Fire Maintained Open Canopy	0.000	0	22.585	26.813	32.141	35.167	38.087	41.758	45.698	42	

CAI_AM	Stand Initiation	62.093	100	2.098	5.269	7.436	8.910	10.655	13.660	20.586	94	100
	Stem Exclusion	76.024	100	17.534	19.725	23.170	24.813	26.713	30.141	33.972	42	
	Understory Reinitiation	85.956	100	51.589	57.914	62.857	66.163	69.004	71.807	77.911	21	
	Shifting Mosaic	92.745	100	55.299	61.955	67.331	71.024	73.687	77.363	81.530	22	
	Fire Maintained Open Canopy	0.000	0	48.000	52.757	57.193	59.765	61.741	66.132	69.786	22	
PROX_MN	Stand Initiation	0.000	0	0.496	1.180	1.990	2.455	3.041	4.098	5.942	119	100
	Stem Exclusion	7.073	100	1.771	2.197	2.693	3.091	3.711	4.575	5.546	77	
	Understory Reinitiation	63.129	100	2.906	3.589	4.432	5.148	5.927	7.401	26.849	74	
	Shifting Mosaic	0.000	0	7.697	20.216	30.617	38.424	49.363	64.278	85.669	115	
	Fire Maintained Open Canopy	0.000	0	13.379	37.034	53.725	71.164	88.807	108.283	124.739	100	
PROX_AM	Stand Initiation	0.000	0	0.387	1.182	2.258	3.025	3.966	6.527	26.286	177	93
	Stem Exclusion	6.763	91	1.514	2.487	3.255	4.076	5.009	7.963	22.880	134	
	Understory Reinitiation	136.018	100	3.147	4.397	5.915	7.317	9.227	14.988	46.272	145	
	Shifting Mosaic	0.000	0	12.077	19.469	30.850	41.990	56.326	85.243	122.538	157	
	Fire Maintained Open Canopy	0.000	0	12.406	30.395	47.533	62.895	80.069	115.011	142.807	135	
CWED	Stand Initiation	0.009	0	0.198	0.383	0.673	0.859	1.123	1.618	1.964	144	100
	Stem Exclusion	0.104	0	0.474	0.732	0.888	1.055	1.210	1.421	1.578	65	
	Understory Reinitiation	1.282	100	0.321	0.394	0.496	0.569	0.629	0.718	0.874	57	
	Shifting Mosaic	0.018	0	0.182	0.361	0.649	0.837	1.067	1.366	2.001	120	
	Fire Maintained Open Canopy	0.000	0	0.665	1.086	1.429	1.720	2.029	2.561	3.060	86	
TECI	Stand Initiation	40.161	0	43.043	44.103	44.768	45.248	45.663	46.199	47.114	5	75
	Stem Exclusion	26.412	0	28.308	28.732	28.986	29.178	29.306	29.452	29.717	2	
	Understory Reinitiation	19.114	100	7.246	8.095	9.019	9.875	10.820	13.362	21.108	53	
	Shifting Mosaic	14.667	46	9.119	11.235	13.236	14.994	16.856	19.742	21.831	57	
	Fire Maintained Open Canopy			16.408	18.112	20.049	21.378	23.216	25.980	31.116	37	
CLUMPY	Stand Initiation	0.933	100	0.499	0.532	0.567	0.587	0.607	0.633	0.669	17	100
	Stem Exclusion	0.904	100	0.523	0.543	0.573	0.587	0.604	0.624	0.654	14	
	Understory Reinitiation	0.923	100	0.554	0.576	0.592	0.607	0.622	0.729	0.854	25	
	Shifting Mosaic	0.959	100	0.745	0.758	0.771	0.780	0.795	0.833	0.845	10	
	Fire Maintained Open Canopy			0.760	0.773	0.786	0.794	0.803	0.837	0.862	8	
IJI	Stand Initiation	39.288	5	34.520	39.202	42.840	45.676	47.321	49.734	51.261	23	93
	Stem Exclusion	62.990	100	37.349	40.542	43.653	45.591	47.027	48.803	50.612	18	
	Understory Reinitiation	63.819	98	42.306	45.969	47.653	48.653	49.653	57.181	70.754	23	

Shifting Mosaic	52.700	0	54.955	56.778	59.162	61.090	63.947	67.297	69.567	17
Fire Maintained Open Canopy			55.696	59.025	60.629	61.640	62.913	65.962	68.055	11
Summary Indices⁶:										
<i>Seral-Stage Departure Index</i>										100
<i>Class Configuration Departure Index</i>										95
<i>Cover Type Departure Index</i>										98

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.