

Table. Range of variation in landscape structure for Ponderosa Pine-Oak-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 <sup>1</sup>		Percentiles of Simulated Distribution						HRV Departure		
		Metric Value	Percentile of HRV	0	5	25	50	75	95	100	CV <sup>2</sup>	Index <sup>3</sup>
<i>Seral Stage Composition</i> <sup>4</sup>												
PLAND	Stand Initiation	0.000	0	0.033	0.070	0.147	0.213	0.292	0.457	0.697	182	99
	Stem Exclusion	0.970	99	0.254	0.337	0.449	0.529	0.636	0.842	1.026	95	
	Understory Reinitiation	6.534	100	0.374	0.475	0.653	0.754	0.868	1.041	2.206	75	
	Shifting Mosaic	0.000	0	0.118	0.387	0.963	1.412	1.819	2.509	3.283	150	
	Fire Maintained Open Canopy	0.000	0	2.429	3.363	4.112	4.534	5.012	5.738	6.094	52	
<i>Class Configuration</i> <sup>5</sup>												
PD	Stand Initiation	0.000	0	0.139	0.304	0.590	0.801	1.056	1.530	2.002	153	100
	Stem Exclusion	0.038	0	0.901	1.220	1.551	1.736	1.991	2.361	2.639	66	
	Understory Reinitiation	0.140	0	0.476	0.912	1.910	2.163	2.380	2.638	2.773	80	
	Shifting Mosaic	0.000	0	0.174	0.241	0.441	0.582	0.701	0.852	1.064	105	
	Fire Maintained Open Canopy	0.000	0	0.304	0.421	0.515	0.567	0.621	0.697	0.772	49	
ED	Stand Initiation	0.000	0	0.298	0.660	1.375	1.906	2.577	4.073	5.779	179	87
	Stem Exclusion	1.233	0	2.212	2.936	3.916	4.552	5.490	6.945	8.210	88	
	Understory Reinitiation	7.357	84	2.524	3.267	5.176	6.075	6.989	8.172	8.931	81	
	Shifting Mosaic	0.000	0	0.552	1.689	3.741	5.242	6.721	8.866	12.079	137	
	Fire Maintained Open Canopy	0.000	0	7.200	9.065	10.924	12.050	13.351	14.737	16.038	47	
AREA_MN	Stand Initiation	0.000	0	0.183	0.220	0.246	0.269	0.289	0.322	0.368	38	100
	Stem Exclusion	25.902	100	0.251	0.267	0.286	0.303	0.324	0.362	0.425	31	
	Understory Reinitiation	46.644	100	0.275	0.305	0.329	0.348	0.373	0.884	3.688	166	
	Shifting Mosaic	0.000	0	0.677	1.419	1.951	2.354	2.856	3.721	5.220	98	
	Fire Maintained Open Canopy	0.000	0	4.549	5.580	6.796	7.745	9.360	12.958	16.373	95	
AREA_AM	Stand Initiation	0.000	0	0.581	0.988	1.370	1.745	2.146	3.568	13.093	148	100
	Stem Exclusion	386.210	100	1.117	1.491	1.844	2.156	2.729	3.812	4.695	108	
	Understory Reinitiation	788.082	100	1.478	1.987	2.535	2.929	3.478	43.429	195.568	1415	
	Shifting Mosaic	0.000	0	10.048	19.911	37.086	56.407	91.177	207.344	433.942	332	
	Fire Maintained Open Canopy	0.000	0	98.203	175.174	296.118	464.883	633.742	732.467	940.961	120	
GYRATE_AI	Stand Initiation	0.000	0	33.449	41.148	48.463	53.860	58.371	74.149	132.904	61	100

	Stem Exclusion	795.052	100	45.355	50.836	56.059	60.525	66.174	76.686	84.022	43	
	Understory Reinitiation	1127.696	100	51.496	59.058	66.097	69.964	75.016	294.403	600.350	336	
	Shifting Mosaic	0.000	0	139.323	202.096	287.836	354.698	455.318	650.471	813.698	126	
	Fire Maintained Open Canopy	0.000	0	462.820	579.475	749.677	899.610	1024.443	1116.490	1283.391	60	
SHAPE_MN	Stand Initiation			1.123	1.138	1.153	1.167	1.180	1.202	1.222	6	100
	Stem Exclusion	1.755	100	1.146	1.165	1.178	1.189	1.203	1.228	1.256	5	
	Understory Reinitiation	2.035	100	1.167	1.177	1.196	1.207	1.220	1.239	1.319	5	
	Shifting Mosaic			1.127	1.293	1.372	1.405	1.437	1.464	1.534	12	
	Fire Maintained Open Canopy			1.531	1.581	1.616	1.641	1.669	1.720	1.797	9	
SHAPE_AM	Stand Initiation			1.450	1.523	1.623	1.699	1.766	1.906	2.114	23	100
	Stem Exclusion	3.446	100	1.602	1.655	1.739	1.808	1.886	2.003	2.174	19	
	Understory Reinitiation	4.345	100	1.685	1.745	1.862	1.926	2.020	2.769	4.213	53	
	Shifting Mosaic			2.188	2.799	3.989	4.712	5.562	7.134	8.867	92	
	Fire Maintained Open Canopy			4.673	5.906	7.252	8.984	10.216	11.056	12.182	57	
CPLAND	Stand Initiation	0.000	0	0.000	0.001	0.004	0.007	0.010	0.017	0.032	233	100
	Stem Exclusion	0.783	100	0.029	0.038	0.052	0.065	0.081	0.109	0.160	109	
	Understory Reinitiation	5.065	100	0.209	0.270	0.372	0.443	0.515	0.649	1.526	86	
	Shifting Mosaic	0.000	0	0.064	0.205	0.508	0.766	1.031	1.489	2.083	168	
	Fire Maintained Open Canopy	0.000	0	1.479	1.993	2.484	2.782	3.138	3.620	3.909	59	
CORE_MN	Stand Initiation	0.000	0	0.001	0.003	0.006	0.008	0.011	0.017	0.037	169	100
	Stem Exclusion	20.910	100	0.022	0.028	0.033	0.037	0.042	0.054	0.066	70	
	Understory Reinitiation	36.157	100	0.141	0.161	0.184	0.202	0.223	0.572	2.551	203	
	Shifting Mosaic	0.000	0	0.368	0.692	0.991	1.323	1.639	2.296	3.273	121	
	Fire Maintained Open Canopy	0.000	0	2.693	3.135	4.073	4.761	5.882	8.227	10.939	107	
CORE_AM	Stand Initiation	0.000	0	0.004	0.036	0.092	0.184	0.287	0.720	5.150	372	100
	Stem Exclusion	347.888	100	0.213	0.382	0.529	0.653	0.949	1.634	2.196	192	
	Understory Reinitiation	696.825	100	0.962	1.248	1.638	1.961	2.486	35.529	157.091	1749	
	Shifting Mosaic	0.000	0	5.427	11.108	21.688	35.607	59.317	141.396	330.881	366	
	Fire Maintained Open Canopy	0.000	0	63.209	115.910	200.584	315.847	444.697	531.561	712.913	132	
CAI_MN	Stand Initiation	0.000	0	0.084	0.237	0.343	0.434	0.551	0.811	0.989	132	100
	Stem Exclusion	56.798	100	1.415	1.586	1.741	1.890	2.102	2.509	3.449	49	
	Understory Reinitiation	59.969	100	36.793	41.837	48.181	51.148	53.745	56.862	59.883	29	
	Shifting Mosaic	0.000	0	18.976	25.941	31.097	34.601	38.223	43.108	47.555	50	
	Fire Maintained Open Canopy	0.000	0	20.904	25.364	30.170	34.291	38.240	43.632	48.163	53	

CAI_AM	Stand Initiation	0.000	0	0.478	1.298	2.123	3.069	3.822	5.575	11.784	139	100
	Stem Exclusion	80.724	100	8.611	9.898	11.235	12.075	13.360	15.250	17.173	44	
	Understory Reinitiation	77.517	100	44.523	50.400	55.753	58.647	61.312	67.809	75.964	30	
	Shifting Mosaic	0.000	0	35.932	43.380	51.478	55.987	60.520	66.138	69.821	41	
	Fire Maintained Open Canopy	0.000	0	49.658	54.552	59.405	61.751	64.158	67.112	69.056	20	
PROX_MN	Stand Initiation	0.000	0	0.309	0.562	0.873	1.187	1.560	2.327	3.280	149	100
	Stem Exclusion	76.236	100	0.901	1.272	1.690	2.025	2.621	3.553	5.129	113	
	Understory Reinitiation	221.170	100	1.484	1.734	2.497	3.054	3.677	13.779	81.846	394	
	Shifting Mosaic	0.000	0	4.122	16.226	35.198	53.904	81.563	168.738	271.517	283	
	Fire Maintained Open Canopy	0.000	0	73.029	139.910	255.918	394.280	546.885	709.194	909.632	144	
PROX_AM	Stand Initiation	0.000	0	0.278	0.632	1.039	1.501	2.031	3.537	7.196	194	100
	Stem Exclusion	34.637	100	1.200	1.553	2.178	2.717	3.702	5.094	8.384	130	
	Understory Reinitiation	379.447	100	1.813	2.330	3.450	4.540	5.522	22.163	272.692	437	
	Shifting Mosaic	0.000	0	5.832	17.932	49.907	81.709	139.922	339.889	869.824	394	
	Fire Maintained Open Canopy	0.000	0	77.502	183.611	286.199	375.976	464.465	691.514	1022.700	135	
CWED	Stand Initiation	0.000	0	0.135	0.298	0.627	0.876	1.178	1.861	2.627	178	100
	Stem Exclusion	0.355	0	0.666	0.884	1.178	1.368	1.644	2.092	2.476	88	
	Understory Reinitiation	2.603	100	0.258	0.355	0.460	0.557	0.635	0.758	1.097	72	
	Shifting Mosaic	0.000	0	0.112	0.368	0.781	1.076	1.415	1.865	2.419	139	
	Fire Maintained Open Canopy	0.000	0	1.504	2.007	2.448	2.797	3.200	3.715	4.404	61	
TECI	Stand Initiation			43.807	44.438	45.147	45.680	46.055	46.541	46.899	5	100
	Stem Exclusion	28.768	0	29.268	29.717	29.963	30.048	30.150	30.267	30.354	2	
	Understory Reinitiation	35.128	100	6.817	7.690	8.478	9.035	9.870	12.831	20.810	57	
	Shifting Mosaic			13.501	16.368	18.995	20.984	22.528	25.968	29.507	46	
	Fire Maintained Open Canopy			17.969	19.858	21.724	23.094	25.092	27.949	30.131	35	
CLUMPY	Stand Initiation			0.330	0.388	0.422	0.442	0.455	0.485	0.528	22	100
	Stem Exclusion	0.924	100	0.418	0.433	0.448	0.460	0.472	0.493	0.508	13	
	Understory Reinitiation	0.926	100	0.434	0.460	0.475	0.485	0.496	0.738	0.850	57	
	Shifting Mosaic			0.702	0.717	0.742	0.761	0.776	0.818	0.839	13	
	Fire Maintained Open Canopy			0.788	0.798	0.813	0.824	0.838	0.865	0.886	8	
IJI	Stand Initiation			27.676	32.891	38.180	40.790	42.325	43.569	45.875	26	100
	Stem Exclusion	63.509	100	28.499	31.960	36.339	38.890	40.469	42.019	43.646	26	
	Understory Reinitiation	67.273	100	30.547	34.696	39.472	41.504	42.670	55.191	67.235	49	

Shifting Mosaic	50.000	55.334	57.785	59.728	61.999	64.667	68.974	16
Fire Maintained Open Canopy	52.450	55.424	57.878	59.397	60.995	65.229	68.329	17
<b>Summary Indices<sup>6</sup>:</b>								
<i>Seral-Stage Departure Index</i>								99
<i>Class Configuration Departure Index</i>								99
<i>Cover Type Departure Index</i>								99

<sup>1</sup>Some 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.

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

<sup>3</sup>HRV 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<sup>th</sup> percentile range of variation, where a 0 represents no departure (i.e., within the 25-75<sup>th</sup> percentiles of variation) and 100 represents complete departure (i.e., outside the 0-100<sup>th</sup> percentiles of variation).

<sup>4</sup>Landscape 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.

<sup>5</sup>Landscape 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.

<sup>6</sup>Seral-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.