

Table. Range of variation in landscape structure for Ponderosa Pine-Oak-Aspen Forest (35,823 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 Composition⁴</i>												
PLAND	Stand Initiation	0.045	4	0.022	0.052	0.087	0.119	0.160	0.252	0.367	168	91
	Stem Exclusion	0.452	93	0.164	0.211	0.259	0.298	0.358	0.473	0.559	88	
	Understory Reinitiation	3.722	100	0.242	0.304	0.392	0.441	0.496	0.586	1.000	64	
	Shifting Mosaic	0.007	0	0.303	0.465	0.700	0.854	1.027	1.352	1.650	104	
Fire Maintained Open Canopy	0.000	0	1.684	1.923	2.288	2.493	2.661	2.930	3.221	40		
<i>Class Configuration⁵</i>												
PD	Stand Initiation	0.014	0	0.074	0.178	0.296	0.403	0.522	0.732	0.973	138	100
	Stem Exclusion	0.019	0	0.509	0.648	0.795	0.894	1.021	1.214	1.353	63	
	Understory Reinitiation	0.139	0	0.269	0.469	1.032	1.145	1.256	1.372	1.464	79	
	Shifting Mosaic	0.001	0	0.144	0.249	0.340	0.400	0.459	0.527	0.602	69	
Fire Maintained Open Canopy	0.000	0	0.250	0.306	0.378	0.400	0.432	0.478	0.516	43		
ED	Stand Initiation	0.125	0	0.174	0.426	0.740	1.011	1.358	2.048	2.908	160	100
	Stem Exclusion	0.598	0	1.334	1.744	2.139	2.450	2.930	3.755	4.333	82	
	Understory Reinitiation	4.914	100	1.498	1.810	2.993	3.426	3.830	4.389	4.821	75	
	Shifting Mosaic	0.016	0	0.998	1.803	2.680	3.200	3.910	4.913	5.603	97	
Fire Maintained Open Canopy	0.000	0	4.682	5.577	6.263	6.824	7.297	7.993	8.480	35		
AREA_MN	Stand Initiation	3.203	100	0.205	0.258	0.284	0.305	0.323	0.351	0.388	30	100
	Stem Exclusion	24.416	100	0.286	0.306	0.323	0.338	0.357	0.398	0.442	27	
	Understory Reinitiation	26.828	100	0.334	0.348	0.367	0.387	0.413	0.900	3.199	143	
	Shifting Mosaic	12.388	100	1.367	1.585	1.842	2.121	2.433	3.228	3.597	77	
Fire Maintained Open Canopy	0.000	0	4.186	4.700	5.289	6.058	6.804	8.552	12.115	64		
AREA_AM	Stand Initiation	31.421	100	0.938	1.380	1.835	2.116	2.520	3.422	6.679	97	97
	Stem Exclusion	280.621	100	1.522	1.919	2.266	2.569	2.902	3.607	6.633	66	
	Understory Reinitiation	450.544	100	2.158	2.460	2.853	3.207	3.714	39.331	130.387	1150	
	Shifting Mosaic	18.164	3	14.328	18.991	27.490	38.347	59.778	124.681	219.438	276	
Fire Maintained Open Canopy	0.000	0	67.556	109.269	180.547	268.343	374.865	450.790	590.378	127		
GYRATE_AM	Stand Initiation	244.866	100	40.119	48.532	55.364	58.827	64.190	72.308	92.020	40	87

	Stem Exclusion	672.311	100	50.929	57.020	61.812	65.683	70.044	76.686	96.750	30	
	Understory Reinitiation	780.371	100	59.979	65.459	69.863	73.591	78.856	259.545	447.777	264	
	Shifting Mosaic	226.827	17	170.963	201.769	243.091	283.351	348.986	458.060	552.444	90	
	Fire Maintained Open Canopy	0.000	0	364.592	442.558	540.495	632.787	707.685	789.562	897.404	55	
SHAPE_MN	Stand Initiation	1.399	100	1.134	1.154	1.167	1.176	1.188	1.207	1.227	5	100
	Stem Exclusion	1.750	100	1.171	1.179	1.187	1.196	1.209	1.231	1.248	4	
	Understory Reinitiation	1.846	100	1.183	1.194	1.205	1.215	1.228	1.244	1.316	4	
	Shifting Mosaic	1.876	100	1.291	1.333	1.373	1.394	1.414	1.442	1.468	8	
	Fire Maintained Open Canopy			1.532	1.553	1.584	1.605	1.625	1.659	1.697	7	
SHAPE_AM	Stand Initiation	2.547	100	1.511	1.618	1.698	1.751	1.821	1.891	2.004	16	100
	Stem Exclusion	3.065	100	1.657	1.712	1.795	1.853	1.918	2.008	2.205	16	
	Understory Reinitiation	3.357	100	1.787	1.842	1.912	1.964	2.039	2.671	3.325	42	
	Shifting Mosaic	2.044	0	2.567	2.889	3.334	3.791	4.303	5.380	6.596	66	
	Fire Maintained Open Canopy			3.626	4.473	5.333	6.418	7.241	7.831	8.209	52	
CPLAND	Stand Initiation	0.025	100	0.000	0.002	0.003	0.005	0.006	0.011	0.019	191	100
	Stem Exclusion	0.358	100	0.023	0.028	0.037	0.042	0.052	0.071	0.092	101	
	Understory Reinitiation	2.826	100	0.146	0.177	0.222	0.256	0.295	0.358	0.681	71	
	Shifting Mosaic	0.004	0	0.167	0.258	0.374	0.470	0.580	0.795	1.046	114	
	Fire Maintained Open Canopy	0.000	0	0.984	1.168	1.373	1.504	1.655	1.852	1.980	45	
CORE_MN	Stand Initiation	1.783	100	0.002	0.006	0.009	0.012	0.014	0.021	0.026	123	100
	Stem Exclusion	19.331	100	0.031	0.039	0.044	0.048	0.054	0.064	0.077	52	
	Understory Reinitiation	20.370	100	0.162	0.184	0.207	0.226	0.248	0.603	2.180	185	
	Shifting Mosaic	7.513	100	0.656	0.794	1.005	1.192	1.436	1.911	2.323	94	
	Fire Maintained Open Canopy	0.000	0	2.326	2.721	3.218	3.677	4.210	5.330	7.917	71	
CORE_AM	Stand Initiation	20.160	100	0.013	0.096	0.177	0.250	0.375	0.605	2.215	204	94
	Stem Exclusion	251.085	100	0.376	0.553	0.706	0.826	1.003	1.432	2.802	106	
	Understory Reinitiation	395.226	100	1.422	1.574	1.858	2.192	2.483	30.700	112.982	1329	
	Shifting Mosaic	11.966	7	8.645	11.136	16.852	24.976	39.548	83.481	166.263	290	
	Fire Maintained Open Canopy	0.000	0	41.855	72.663	124.209	186.965	261.309	326.867	446.503	136	
CAI_MN	Stand Initiation	13.252	100	0.261	0.394	0.514	0.600	0.750	0.952	1.235	93	100
	Stem Exclusion	57.482	100	1.771	1.992	2.146	2.279	2.439	2.949	3.579	42	
	Understory Reinitiation	57.846	100	36.769	41.521	47.011	49.339	51.631	54.028	56.760	25	
	Shifting Mosaic	56.584	100	23.456	28.125	32.275	35.264	38.180	42.065	45.572	40	
	Fire Maintained Open Canopy	0.000	0	24.751	28.127	33.283	36.635	39.401	42.755	45.204	40	

CAI_AM	Stand Initiation	55.655	100	0.973	2.333	3.167	3.802	4.678	6.143	7.575	100	84
	Stem Exclusion	79.173	100	10.605	12.453	13.546	14.199	15.278	16.543	18.356	29	
	Understory Reinitiation	75.926	100	45.236	51.110	56.242	58.781	60.777	65.948	73.759	25	
	Shifting Mosaic	60.646	80	40.930	47.412	53.184	56.564	59.973	63.839	66.907	29	
	Fire Maintained Open Canopy	0.000	0	51.205	55.174	59.330	61.327	63.110	65.421	67.301	17	
PROX_MN	Stand Initiation	15.482	100	0.463	0.593	0.838	1.120	1.398	2.117	2.875	136	100
	Stem Exclusion	47.143	100	0.948	1.308	1.553	1.815	2.307	3.101	4.220	99	
	Understory Reinitiation	83.166	100	1.742	1.932	2.376	2.779	3.346	9.566	52.146	275	
	Shifting Mosaic	0.000	0	13.177	17.266	24.669	33.839	48.703	89.136	146.643	212	
	Fire Maintained Open Canopy	0.000	0	45.532	84.200	132.211	189.617	254.196	320.579	405.707	125	
PROX_AM	Stand Initiation	3.265	97	0.475	0.650	1.033	1.428	1.899	2.813	5.086	152	97
	Stem Exclusion	23.036	100	1.233	1.627	1.966	2.503	3.126	4.249	6.206	105	
	Understory Reinitiation	222.606	100	2.251	2.606	3.375	3.937	4.716	17.688	189.495	383	
	Shifting Mosaic	0.000	0	10.430	18.157	30.552	49.184	81.752	172.954	458.645	315	
	Fire Maintained Open Canopy	0.000	0	50.901	108.619	167.281	224.111	280.818	411.553	615.154	135	
CWED	Stand Initiation	0.038	0	0.078	0.190	0.334	0.459	0.613	0.930	1.315	161	100
	Stem Exclusion	0.176	0	0.403	0.524	0.643	0.737	0.881	1.134	1.311	83	
	Understory Reinitiation	1.584	100	0.172	0.222	0.281	0.332	0.369	0.430	0.522	63	
	Shifting Mosaic	0.006	0	0.220	0.357	0.552	0.680	0.806	1.018	1.204	97	
	Fire Maintained Open Canopy	0.000	0	1.035	1.215	1.433	1.602	1.730	1.963	2.210	47	
TECI	Stand Initiation	30.362	0	43.549	44.275	44.872	45.325	45.607	45.970	46.406	4	100
	Stem Exclusion	29.437	0	29.497	29.822	30.040	30.118	30.204	30.304	30.387	2	
	Understory Reinitiation	31.986	100	7.555	8.549	9.164	9.737	10.513	13.520	20.652	51	
	Shifting Mosaic	36.410	100	15.734	17.225	19.198	20.464	22.017	25.654	28.027	41	
	Fire Maintained Open Canopy			18.761	20.415	21.812	23.138	24.669	27.219	29.479	29	
CLUMPY	Stand Initiation	0.836	100	0.378	0.428	0.458	0.474	0.487	0.509	0.531	17	100
	Stem Exclusion	0.921	100	0.452	0.467	0.480	0.489	0.501	0.515	0.534	10	
	Understory Reinitiation	0.915	100	0.482	0.491	0.504	0.513	0.525	0.734	0.841	47	
	Shifting Mosaic	0.894	100	0.712	0.727	0.748	0.760	0.774	0.806	0.830	10	
	Fire Maintained Open Canopy			0.791	0.802	0.812	0.823	0.832	0.860	0.878	7	
IJI	Stand Initiation	45.961	73	34.938	39.452	43.143	45.009	46.049	47.263	49.749	17	75
	Stem Exclusion	67.496	100	37.204	39.190	41.795	43.257	44.227	45.613	47.402	15	
	Understory Reinitiation	72.515	100	39.664	42.285	44.698	45.728	46.678	58.244	70.298	35	

Shifting Mosaic	52.661	0	58.635	61.069	62.855	64.435	66.232	69.199	72.302	13
Fire Maintained Open Canopy			59.043	61.290	63.791	65.181	66.657	71.319	73.763	15
Summary Indices⁶:										
<i>Seral-Stage Departure Index</i>										91
<i>Class Configuration Departure Index</i>										96
<i>Cover Type Departure Index</i>										94

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.