

Table. Range of variation in landscape structure for Warm Dry Mixed-Conifer 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	0.014	0.028	0.044	0.060	0.077	0.110	0.156	137	100
	Stem Exclusion	0.550	100	0.075	0.101	0.131	0.150	0.167	0.196	0.232	63	
	Understory Reinitiation	0.813	100	0.097	0.152	0.186	0.212	0.228	0.255	0.347	49	
	Shifting Mosaic	0.059	0	0.082	0.168	0.270	0.341	0.424	0.529	0.701	106	
	Fire Maintained Open Canopy	0.000	0	0.265	0.467	0.574	0.665	0.743	0.840	0.938	56	
<i>Class Configuration</i> <sup>5</sup>												
PD	Stand Initiation	0.001	0	0.036	0.062	0.093	0.121	0.155	0.213	0.320	125	100
	Stem Exclusion	0.029	0	0.168	0.220	0.273	0.307	0.343	0.376	0.419	51	
	Understory Reinitiation	0.040	0	0.172	0.221	0.346	0.381	0.421	0.466	0.507	64	
	Shifting Mosaic	0.001	0	0.085	0.128	0.165	0.199	0.234	0.267	0.295	70	
	Fire Maintained Open Canopy	0.000	0	0.130	0.160	0.199	0.220	0.236	0.256	0.268	43	
ED	Stand Initiation	0.001	0	0.103	0.191	0.296	0.389	0.485	0.684	1.018	127	60
	Stem Exclusion	0.886	28	0.510	0.696	0.872	0.983	1.091	1.212	1.350	52	
	Understory Reinitiation	1.349	57	0.562	0.866	1.168	1.315	1.448	1.610	1.769	57	
	Shifting Mosaic	0.091	0	0.349	0.646	1.018	1.298	1.553	1.916	2.547	98	
	Fire Maintained Open Canopy	0.000	0	1.016	1.643	1.958	2.235	2.452	2.760	3.059	50	
AREA_MN	Stand Initiation	0.063	0	0.270	0.370	0.424	0.490	0.550	0.680	1.020	63	100
	Stem Exclusion	19.311	100	0.324	0.377	0.439	0.484	0.533	0.603	0.960	47	
	Understory Reinitiation	20.430	100	0.409	0.461	0.508	0.547	0.582	0.800	1.640	62	
	Shifting Mosaic	76.031	100	0.671	1.067	1.428	1.648	1.961	2.700	3.316	99	
	Fire Maintained Open Canopy	0.000	0	1.884	2.379	2.714	3.001	3.348	3.964	5.591	53	
AREA_AM	Stand Initiation	0.063	0	1.164	1.800	2.552	3.564	5.262	14.145	31.326	346	100
	Stem Exclusion	53.818	100	1.910	2.578	3.261	4.381	6.262	11.556	18.382	205	
	Understory Reinitiation	50.531	100	2.486	3.291	4.334	5.386	7.405	15.347	25.935	224	
	Shifting Mosaic	133.378	100	7.348	11.111	13.789	16.189	18.914	25.257	37.453	87	
	Fire Maintained Open Canopy	0.000	0	11.697	16.202	19.998	22.398	25.791	31.362	40.934	68	
GYRATE_AM	Stand Initiation	12.500	0	45.338	57.587	66.910	78.633	96.772	153.693	257.456	122	100

	Stem Exclusion	422.891	100	55.787	67.693	75.805	86.137	103.035	136.396	177.968	80	
	Understory Reinitiation	427.555	100	66.562	76.745	85.285	97.003	110.058	172.803	277.277	99	
	Shifting Mosaic	1422.831	100	121.642	159.080	178.616	198.300	218.817	263.826	339.400	53	
	Fire Maintained Open Canopy	0.000	0	164.582	197.464	224.610	245.621	267.477	308.908	368.762	45	
SHAPE_MN	Stand Initiation	1.000	0	1.140	1.171	1.194	1.210	1.223	1.246	1.261	6	100
	Stem Exclusion	1.909	100	1.162	1.182	1.203	1.216	1.228	1.242	1.263	5	
	Understory Reinitiation	1.958	100	1.195	1.207	1.223	1.233	1.244	1.256	1.345	4	
	Shifting Mosaic	3.137	100	1.178	1.248	1.306	1.340	1.371	1.416	1.474	13	
	Fire Maintained Open Canopy			1.397	1.443	1.479	1.507	1.530	1.571	1.608	8	
SHAPE_AM	Stand Initiation	1.000	0	1.433	1.588	1.704	1.826	1.948	2.300	2.909	39	94
	Stem Exclusion	2.324	99	1.644	1.731	1.821	1.910	2.024	2.199	2.553	24	
	Understory Reinitiation	2.400	95	1.677	1.807	1.919	2.025	2.144	2.403	2.591	29	
	Shifting Mosaic	4.158	100	2.076	2.232	2.397	2.509	2.654	2.852	3.046	25	
	Fire Maintained Open Canopy			2.413	2.563	2.732	2.825	2.931	3.119	3.325	20	
CPLAND	Stand Initiation	0.000	0	0.001	0.004	0.008	0.012	0.017	0.028	0.043	213	100
	Stem Exclusion	0.441	100	0.057	0.083	0.106	0.121	0.136	0.159	0.188	63	
	Understory Reinitiation	0.538	100	0.060	0.094	0.118	0.135	0.147	0.167	0.235	54	
	Shifting Mosaic	0.047	1	0.041	0.097	0.158	0.206	0.250	0.330	0.405	113	
	Fire Maintained Open Canopy	0.000	0	0.175	0.292	0.358	0.410	0.454	0.505	0.593	52	
CORE_MN	Stand Initiation	0.000	0	0.024	0.048	0.070	0.098	0.127	0.197	0.448	152	100
	Stem Exclusion	15.495	100	0.251	0.301	0.356	0.393	0.434	0.493	0.787	49	
	Understory Reinitiation	13.510	100	0.219	0.280	0.322	0.350	0.385	0.515	1.112	67	
	Shifting Mosaic	60.219	100	0.342	0.605	0.839	1.003	1.193	1.690	2.240	108	
	Fire Maintained Open Canopy	0.000	0	1.201	1.444	1.665	1.853	2.070	2.447	3.237	54	
CORE_AM	Stand Initiation	0.000	0	0.208	0.472	0.773	1.222	2.216	6.636	20.182	505	100
	Stem Exclusion	43.828	100	1.576	2.175	2.748	3.632	5.261	9.409	15.579	199	
	Understory Reinitiation	34.176	100	1.609	2.245	2.996	3.699	5.308	10.463	19.170	222	
	Shifting Mosaic	105.461	100	4.489	7.332	9.284	10.925	13.238	17.146	24.005	90	
	Fire Maintained Open Canopy	0.000	0	7.929	10.890	13.366	15.258	17.338	20.645	26.431	64	
CAI_MN	Stand Initiation	0.000	0	1.302	1.911	2.842	3.582	4.267	5.534	6.757	101	80
	Stem Exclusion	69.679	0	68.232	72.576	74.948	76.132	77.244	78.992	81.637	8	
	Understory Reinitiation	54.417	37	42.322	47.680	52.591	55.764	58.849	62.457	67.364	27	
	Shifting Mosaic	80.154	100	28.402	34.656	39.364	42.494	45.957	50.531	56.556	37	
	Fire Maintained Open Canopy	0.000	0	32.436	38.761	43.917	47.249	50.613	55.416	59.722	35	

CAI_AM	Stand Initiation	0.000	0	7.308	12.620	16.386	19.793	23.629	29.999	43.906	88	60
	Stem Exclusion	80.239	32	71.985	77.326	79.841	81.129	82.217	83.747	87.008	8	
	Understory Reinitiation	66.130	75	49.164	58.101	61.609	63.931	66.088	68.945	73.089	17	
	Shifting Mosaic	79.203	100	45.595	52.454	57.248	59.960	63.234	67.739	75.962	25	
	Fire Maintained Open Canopy	0.000	0	52.462	56.216	59.521	61.663	63.984	66.768	70.299	17	
PROX_MN	Stand Initiation	0.000	0	0.182	0.476	0.805	1.071	1.375	2.119	3.491	153	100
	Stem Exclusion	9.659	100	0.862	1.344	1.672	1.948	2.233	2.808	5.264	75	
	Understory Reinitiation	8.309	100	1.312	1.983	2.431	2.820	3.305	4.395	7.879	86	
	Shifting Mosaic	0.000	0	1.693	6.041	8.662	10.420	12.796	17.190	21.265	107	
	Fire Maintained Open Canopy	0.000	0	11.475	15.306	19.329	22.512	25.365	29.848	31.994	65	
PROX_AM	Stand Initiation	0.000	0	0.077	0.323	0.668	0.972	1.442	3.011	12.424	276	95
	Stem Exclusion	12.105	100	0.744	1.246	1.644	2.027	2.590	5.383	15.242	204	
	Understory Reinitiation	7.022	94	0.965	1.907	2.456	3.034	4.201	7.503	17.473	184	
	Shifting Mosaic	0.000	0	2.656	5.504	7.928	10.286	13.152	20.914	28.190	150	
	Fire Maintained Open Canopy	0.000	0	7.318	10.769	14.632	18.344	22.412	29.836	38.414	104	
CWED	Stand Initiation	0.000	0	0.038	0.070	0.107	0.140	0.178	0.251	0.376	129	80
	Stem Exclusion	0.236	67	0.117	0.155	0.195	0.221	0.242	0.270	0.302	52	
	Understory Reinitiation	0.471	100	0.082	0.113	0.143	0.163	0.179	0.196	0.238	51	
	Shifting Mosaic	0.021	0	0.093	0.135	0.214	0.277	0.336	0.418	0.585	102	
	Fire Maintained Open Canopy	0.000	0	0.174	0.320	0.406	0.485	0.558	0.648	0.769	68	
TECI	Stand Initiation	29.167	0	33.733	34.953	35.623	36.093	36.607	37.184	37.622	6	79
	Stem Exclusion	25.730	100	21.447	21.694	21.953	22.188	22.411	22.799	23.126	5	
	Understory Reinitiation	34.503	100	9.720	10.761	11.543	12.146	12.874	15.411	22.366	38	
	Shifting Mosaic	23.280	79	13.109	17.264	19.666	21.407	22.921	25.166	28.567	37	
	Fire Maintained Open Canopy			15.968	18.219	19.986	21.412	22.695	24.881	29.170	31	
CLUMPY	Stand Initiation	-1.000	0	0.478	0.531	0.571	0.602	0.631	0.674	0.765	24	100
	Stem Exclusion	0.901	100	0.501	0.541	0.570	0.591	0.616	0.645	0.720	18	
	Understory Reinitiation	0.899	100	0.558	0.571	0.593	0.609	0.623	0.694	0.772	20	
	Shifting Mosaic	0.923	100	0.702	0.728	0.750	0.762	0.779	0.813	0.837	11	
	Fire Maintained Open Canopy			0.752	0.770	0.781	0.790	0.797	0.813	0.838	5	
IJI	Stand Initiation	46.941	23	39.523	42.860	47.196	50.045	52.694	55.589	58.098	25	77
	Stem Exclusion	69.295	100	42.342	47.177	49.934	51.531	52.807	54.506	56.437	14	
	Understory Reinitiation	75.557	100	44.940	49.301	52.128	53.122	54.335	61.411	69.136	23	

Shifting Mosaic	60.798	0	62.045	64.547	67.310	69.114	70.958	74.699	77.201	15
Fire Maintained Open Canopy			60.837	63.524	65.177	66.182	67.345	69.482	72.141	9
<b>Summary Indices<sup>6</sup>:</b>										
<i>Seral-Stage Departure Index</i>										100
<i>Class Configuration Departure Index</i>										90
<i>Cover Type Departure Index</i>										95

<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 = interspersed 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.