

Table. Range of variation in landscape structure for Spruce-Fir 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 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	1.424	30	0.374	0.701	1.272	1.968	3.202	6.143	9.444	276	55
	Stem Exclusion	6.513	94	0.837	1.113	1.860	2.669	3.992	6.783	8.523	212	
	Understory Reinitiation	6.683	86	0.792	1.489	2.431	3.680	5.301	7.910	9.064	174	
	Shifting Mosaic	0.300	0	0.901	1.442	4.247	5.155	6.735	8.895	10.211	145	
<i>Class Configuration⁵</i>												
PD	Stand Initiation	0.067	0	0.163	0.194	0.241	0.302	0.366	0.489	0.750	98	100
	Stem Exclusion	0.055	0	0.359	0.433	0.668	0.908	1.227	1.915	3.098	163	
	Understory Reinitiation	0.070	0	0.460	0.593	0.826	1.063	1.376	2.057	3.249	138	
	Shifting Mosaic	0.010	0	0.300	0.537	0.884	1.026	1.211	1.637	2.171	107	
ED	Stand Initiation	1.807	8	1.314	1.698	2.558	3.528	4.998	7.955	13.174	177	60
	Stem Exclusion	4.529	20	2.508	3.366	4.820	6.416	8.737	11.992	15.457	134	
	Understory Reinitiation	6.021	12	3.369	4.919	7.055	8.372	11.215	15.714	19.241	129	
	Shifting Mosaic	0.380	0	3.436	5.322	7.100	8.866	10.033	12.963	16.500	86	
AREA_MN	Stand Initiation	21.212	100	0.888	2.621	4.986	6.780	9.675	15.596	20.224	191	100
	Stem Exclusion	117.559	100	0.326	1.040	1.917	3.138	4.870	7.943	11.420	220	
	Understory Reinitiation	95.151	100	0.528	1.168	2.060	3.401	4.946	9.568	15.373	247	
	Shifting Mosaic	29.543	100	0.893	1.085	3.105	5.200	7.411	11.403	17.333	198	
AREA_AM	Stand Initiation	107.815	7	30.723	88.916	225.120	485.545	974.703	2087.694	2833.460	412	77
	Stem Exclusion	3420.888	100	89.988	147.793	304.822	564.174	1014.310	1662.617	2721.035	269	
	Understory Reinitiation	2442.981	84	19.271	169.174	318.827	838.153	1521.144	3462.753	4077.625	393	
	Shifting Mosaic	104.759	0	138.430	186.932	877.404	1325.127	1926.654	3091.529	4100.376	219	
GYRATE_AI	Stand Initiation	456.809	7	256.124	430.778	677.163	989.900	1436.909	2107.639	2576.619	169	79
	Stem Exclusion	2740.015	100	392.051	497.469	751.316	1049.063	1410.240	1929.594	2390.947	137	
	Understory Reinitiation	2557.375	92	168.428	545.924	793.521	1244.839	1668.735	2669.725	3102.821	171	
	Shifting Mosaic	534.355	5	436.811	532.760	1315.016	1703.589	2188.075	2715.834	3125.356	128	
SHAPE_MN	Stand Initiation	1.630	100	1.249	1.300	1.338	1.360	1.399	1.459	1.519	12	100

	Stem Exclusion	1.956	100	1.069	1.154	1.223	1.285	1.335	1.386	1.455	18	
	Understory Reinitiation	1.984	100	1.170	1.232	1.293	1.330	1.367	1.444	1.492	16	
	Shifting Mosaic	1.884	100	1.195	1.211	1.230	1.263	1.307	1.416	1.633	16	
SHAPE_AM	Stand Initiation	2.247	0	2.596	3.212	4.263	5.754	7.388	10.707	23.767	130	50
	Stem Exclusion	6.578	50	2.914	4.104	5.404	6.595	7.848	11.155	15.307	107	
	Understory Reinitiation	8.299	63	2.702	4.896	6.063	7.434	9.410	13.356	18.442	114	
	Shifting Mosaic	2.389	0	3.515	4.419	6.518	7.413	8.776	12.186	15.398	105	
CPLAND	Stand Initiation	1.116	36	0.162	0.384	0.885	1.445	2.459	4.935	7.413	315	54
	Stem Exclusion	5.661	94	0.729	0.955	1.644	2.363	3.537	5.995	7.490	213	
	Understory Reinitiation	5.225	85	0.562	1.153	1.836	2.857	4.282	6.415	7.211	184	
	Shifting Mosaic	0.259	0	0.459	1.061	3.279	3.987	5.328	6.976	8.287	148	
CORE_MN	Stand Initiation	16.629	100	0.385	1.440	3.394	4.964	7.523	12.058	16.917	214	100
	Stem Exclusion	102.170	100	0.286	0.917	1.647	2.782	4.320	7.093	10.193	222	
	Understory Reinitiation	74.397	100	0.371	0.897	1.579	2.713	4.113	7.850	12.291	256	
	Shifting Mosaic	25.502	100	0.495	0.801	2.511	4.077	5.915	9.167	13.628	205	
CORE_AM	Stand Initiation	92.130	9	18.414	59.476	177.511	399.271	825.543	1757.936	2466.457	425	74
	Stem Exclusion	2996.663	100	78.407	130.487	276.278	510.069	934.429	1500.380	2412.409	269	
	Understory Reinitiation	1923.944	84	14.544	136.280	262.837	697.002	1310.975	2810.466	3418.891	384	
	Shifting Mosaic	89.417	0	106.550	145.306	718.859	1091.479	1574.174	2568.689	3462.815	222	
CAI_MN	Stand Initiation	51.979	100	4.195	7.913	12.347	15.344	19.900	28.629	42.737	135	65
	Stem Exclusion	70.155	10	65.490	68.570	73.462	77.035	80.405	83.609	86.538	20	
	Understory Reinitiation	61.413	73	12.989	36.352	49.372	55.585	61.799	71.329	82.123	63	
	Shifting Mosaic	74.207	100	17.273	31.450	48.841	57.296	62.789	67.872	73.802	64	
CAI_AM	Stand Initiation	78.394	82	25.097	55.118	67.902	72.626	77.229	81.219	85.321	36	32
	Stem Exclusion	86.910	26	78.199	84.116	86.814	88.246	89.468	90.939	92.134	8	
	Understory Reinitiation	78.189	39	59.644	71.177	76.238	79.547	81.941	84.021	85.569	16	
	Shifting Mosaic	86.322	100	48.790	71.972	75.983	78.212	79.777	81.233	83.230	12	
PROX_MN	Stand Initiation	18.249	5	5.845	19.537	54.468	165.723	395.683	1073.531	1904.981	636	85
	Stem Exclusion	587.143	92	9.150	27.549	74.172	153.033	294.081	702.011	1312.637	441	
	Understory Reinitiation	1144.924	98	7.767	41.801	83.112	213.165	425.981	969.316	1726.427	435	
	Shifting Mosaic	9.477	0	17.472	44.732	220.700	390.981	613.583	1083.042	1516.191	266	
PROX_AM	Stand Initiation	24.051	7	6.602	21.563	67.200	150.736	367.482	1162.871	2952.739	757	54

	Stem Exclusion	567.345	86	15.606	40.192	98.203	219.515	378.189	1129.824	3461.212	496	
	Understory Reinitiation	330.339	55	17.172	47.769	154.224	266.361	654.778	2014.193	6382.032	738	
	Shifting Mosaic	2.891	0	14.819	56.149	198.669	451.721	1416.988	3753.573	6124.698	819	
CWED	Stand Initiation	0.614	8	0.412	0.577	0.854	1.188	1.630	2.507	4.143	162	42
	Stem Exclusion	1.623	54	0.585	0.769	1.170	1.556	2.081	3.056	3.717	147	
	Understory Reinitiation	2.274	69	0.700	1.056	1.314	1.746	2.556	3.514	4.866	141	
	Shifting Mosaic	0.068	0	0.802	1.064	1.780	2.266	2.659	3.290	3.996	98	
TECI	Stand Initiation	33.541	65	27.548	29.303	31.276	32.788	33.922	36.002	38.836	20	68
	Stem Exclusion	34.847	100	21.398	22.096	22.966	23.676	24.578	26.214	28.032	17	
	Understory Reinitiation	37.465	100	11.535	15.234	18.592	21.229	23.367	29.541	35.276	67	
	Shifting Mosaic	17.915	7	13.623	16.802	22.464	25.832	28.103	31.285	36.068	56	
CLUMPY	Stand Initiation	0.922	96	0.682	0.807	0.873	0.888	0.904	0.920	0.929	13	96
	Stem Exclusion	0.954	100	0.607	0.758	0.811	0.855	0.878	0.903	0.913	17	
	Understory Reinitiation	0.941	100	0.564	0.716	0.804	0.844	0.878	0.912	0.933	23	
	Shifting Mosaic	0.929	100	0.725	0.761	0.870	0.891	0.903	0.915	0.929	17	
IJI	Stand Initiation	43.857	6	25.840	42.723	52.031	54.750	56.631	58.891	62.012	30	69
	Stem Exclusion	59.134	100	24.857	31.491	39.945	45.357	49.715	53.850	56.928	49	
	Understory Reinitiation	59.107	100	30.020	35.511	41.754	45.076	47.379	52.294	56.609	37	
	Shifting Mosaic	49.366	42	33.419	39.432	47.508	50.140	52.080	55.445	57.753	32	

Summary Indices⁶:

<i>Seral-Stage Departure Index</i>	55
<i>Class Configuration Departure Index</i>	72
<i>Cover Type Departure Index</i>	64

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.