

Table. Range of variation in landscape structure for Spruce-Fir 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 <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<sup>4</sup></i>												
PLAND	Stand Initiation	0.468	0	0.587	1.171	1.845	2.787	3.836	5.696	9.826	162	75
	Stem Exclusion	3.847	46	0.992	1.646	2.777	4.058	5.384	7.586	9.294	146	
	Understory Reinitiation	13.165	100	0.767	1.251	3.104	4.383	6.078	8.730	10.443	171	
	Shifting Mosaic	0.387	0	2.510	2.984	4.134	5.624	7.413	11.118	11.813	145	
<i>Class Configuration<sup>5</sup></i>												
PD	Stand Initiation	0.024	0	0.288	0.351	0.412	0.469	0.545	0.726	0.952	80	100
	Stem Exclusion	0.039	0	0.368	0.660	1.004	1.298	1.678	2.687	3.856	156	
	Understory Reinitiation	0.111	0	0.708	1.011	1.380	1.681	1.959	2.575	4.230	93	
	Shifting Mosaic	0.002	0	0.904	1.175	1.583	1.728	1.946	2.225	2.423	61	
ED	Stand Initiation	0.692	0	1.702	3.159	4.252	5.491	6.857	10.279	16.186	130	77
	Stem Exclusion	2.976	0	3.125	5.559	8.308	10.321	13.131	16.195	22.383	103	
	Understory Reinitiation	10.433	23	3.837	6.168	10.663	13.473	16.557	20.661	25.302	108	
	Shifting Mosaic	0.313	0	7.173	8.495	10.445	11.641	13.181	16.238	21.603	67	
AREA_MN	Stand Initiation	19.462	100	2.037	2.959	4.222	5.811	7.454	9.970	16.623	121	100
	Stem Exclusion	98.804	100	0.484	0.990	1.908	3.151	4.610	6.687	11.102	181	
	Understory Reinitiation	118.825	100	0.554	0.977	1.806	2.611	3.455	5.418	7.370	170	
	Shifting Mosaic	218.900	100	1.365	1.655	2.260	3.157	4.422	9.047	12.420	234	
AREA_AM	Stand Initiation	98.066	6	53.982	96.467	201.068	299.714	577.214	1447.990	2321.572	451	69
	Stem Exclusion	3847.147	100	15.771	89.278	184.771	400.011	586.531	1027.427	1685.490	235	
	Understory Reinitiation	2064.679	99	16.753	52.216	174.382	303.195	593.351	1120.933	2740.713	352	
	Shifting Mosaic	783.627	50	122.719	225.038	420.020	782.416	1593.082	2812.123	4161.911	331	
GYRATE_AM	Stand Initiation	510.623	13	322.526	435.429	615.873	755.653	1029.599	1695.064	2281.558	167	61
	Stem Exclusion	2509.723	100	155.457	397.996	569.012	842.369	1056.989	1417.811	1769.192	121	
	Understory Reinitiation	2148.459	99	168.733	293.236	552.028	743.571	1012.189	1398.581	2839.798	149	
	Shifting Mosaic	1244.859	53	446.767	597.471	871.779	1221.095	1772.666	2513.127	3320.537	157	
SHAPE_MN	Stand Initiation	1.731	100	1.266	1.321	1.356	1.383	1.404	1.448	1.518	9	100

	Stem Exclusion	1.962	100	1.145	1.209	1.282	1.326	1.376	1.411	1.508	15	
	Understory Reinitiation	2.156	100	1.150	1.284	1.324	1.352	1.391	1.465	1.569	13	
	Shifting Mosaic	2.755	100	1.217	1.223	1.240	1.258	1.281	1.339	1.584	9	
SHAPE_AM	Stand Initiation	2.516	0	2.959	3.576	4.297	4.872	6.023	8.461	10.237	100	36
	Stem Exclusion	7.749	82	3.039	3.769	4.619	5.696	7.210	9.135	11.701	94	
	Understory Reinitiation	6.117	49	2.620	3.642	5.113	6.178	7.538	10.652	18.799	113	
	Shifting Mosaic	5.014	21	3.433	4.120	5.182	6.275	7.358	9.320	15.217	83	
CPLAND	Stand Initiation	0.331	0	0.324	0.705	1.225	1.970	2.806	4.246	7.709	180	75
	Stem Exclusion	3.252	43	0.877	1.408	2.417	3.551	4.720	6.618	8.044	147	
	Understory Reinitiation	10.426	100	0.542	0.946	2.248	3.398	4.677	6.624	8.394	167	
	Shifting Mosaic	0.332	0	1.782	2.137	3.056	4.171	5.602	8.502	9.077	153	
CORE_MN	Stand Initiation	13.751	100	1.126	1.761	2.794	4.068	5.425	7.714	13.041	146	100
	Stem Exclusion	83.523	100	0.411	0.856	1.652	2.776	4.013	5.821	9.609	179	
	Understory Reinitiation	94.103	100	0.414	0.731	1.342	1.964	2.662	4.174	5.787	175	
	Shifting Mosaic	187.625	100	1.003	1.202	1.654	2.329	3.288	6.930	9.552	246	
CORE_AM	Stand Initiation	75.440	7	39.307	70.987	157.282	235.725	465.366	1170.875	2001.447	467	68
	Stem Exclusion	3299.136	100	13.487	78.452	166.455	365.539	536.327	943.771	1572.671	237	
	Understory Reinitiation	1704.756	99	13.467	44.860	139.857	252.137	503.456	972.591	2298.192	368	
	Shifting Mosaic	682.922	53	99.803	185.666	352.161	633.061	1285.464	2412.083	3544.209	352	
CAI_MN	Stand Initiation	44.003	100	7.286	10.827	14.391	17.917	21.268	27.295	37.056	92	66
	Stem Exclusion	70.514	21	64.035	66.730	71.126	74.194	77.353	80.714	86.762	19	
	Understory Reinitiation	61.717	87	20.631	37.209	46.073	51.262	56.522	65.334	70.150	55	
	Shifting Mosaic	70.820	100	23.276	31.381	48.550	55.481	60.722	65.116	69.580	61	
CAI_AM	Stand Initiation	70.654	53	51.145	59.351	66.572	69.985	73.363	77.742	81.360	26	58
	Stem Exclusion	84.534	3	82.580	84.764	86.132	87.375	88.445	89.770	90.733	6	
	Understory Reinitiation	79.195	86	58.334	68.996	73.948	76.243	77.937	80.475	81.944	15	
	Shifting Mosaic	85.713	100	66.236	69.484	72.728	74.788	76.456	78.206	79.365	12	
PROX_MN	Stand Initiation	16.618	2	10.261	22.852	56.321	94.502	221.208	660.859	1150.755	675	73
	Stem Exclusion	73.075	35	11.043	23.470	56.337	121.023	249.233	463.534	720.595	364	
	Understory Reinitiation	1336.424	100	6.203	14.592	56.390	115.183	209.384	497.468	845.961	419	
	Shifting Mosaic	0.078	0	33.739	52.021	105.254	167.996	344.648	543.342	1747.460	292	
PROX_AM	Stand Initiation	71.873	23	7.020	23.014	77.495	172.452	423.168	1000.991	2235.621	567	64

	Stem Exclusion	75.002	13	26.828	50.921	119.907	261.891	474.463	950.917	1753.274	344	
	Understory Reinitiation	3755.747	100	16.514	41.591	150.011	280.163	526.103	1134.693	2563.316	390	
	Shifting Mosaic	0.005	0	73.277	136.024	305.307	536.739	874.328	2923.745	3855.392	519	
CWED	Stand Initiation	0.254	0	0.598	1.030	1.359	1.756	2.180	3.236	5.369	126	88
	Stem Exclusion	1.098	2	0.740	1.304	1.909	2.413	3.074	4.023	5.111	113	
	Understory Reinitiation	4.252	90	0.566	0.935	2.075	2.832	3.624	4.538	5.418	127	
	Shifting Mosaic	0.083	0	1.488	1.889	2.355	2.934	3.586	4.550	5.145	91	
TECI	Stand Initiation	36.608	100	27.312	29.725	31.212	31.964	32.764	33.690	35.527	12	75
	Stem Exclusion	36.514	100	21.513	21.928	22.553	23.190	23.913	25.404	26.657	15	
	Understory Reinitiation	40.301	100	10.095	14.652	19.087	21.452	22.751	25.148	27.719	49	
	Shifting Mosaic	26.468	60	12.792	17.934	22.037	25.310	28.597	32.832	34.803	59	
CLUMPY	Stand Initiation	0.914	100	0.800	0.831	0.856	0.873	0.885	0.900	0.910	8	100
	Stem Exclusion	0.952	100	0.516	0.711	0.797	0.835	0.858	0.883	0.910	21	
	Understory Reinitiation	0.944	100	0.567	0.666	0.764	0.803	0.830	0.861	0.878	24	
	Shifting Mosaic	0.957	100	0.735	0.797	0.838	0.861	0.883	0.907	0.914	13	
IJI	Stand Initiation	41.499	0	48.105	52.616	56.055	57.622	59.128	61.825	63.901	16	82
	Stem Exclusion	59.663	99	26.612	34.891	43.932	47.623	52.089	57.587	60.458	48	
	Understory Reinitiation	62.848	100	28.877	35.860	42.349	45.881	48.636	51.145	54.820	33	
	Shifting Mosaic	54.627	83	32.728	42.946	47.169	50.103	53.020	57.912	59.409	30	

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**Summary Indices<sup>6</sup>:**

<i>Seral-Stage Departure Index</i>	75
<i>Class Configuration Departure Index</i>	77
<i>Cover Type Departure Index</i>	76

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<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.