

Table. Range of variation in landscape structure for Spruce-Fir-Aspen 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 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	0.000	0	0.002	0.013	0.088	0.210	0.445	1.013	2.152	477	86
	Stem Exclusion	0.461	14	0.070	0.295	0.590	0.810	1.168	1.763	2.430	181	
	Understory Reinitiation	3.642	100	0.748	1.153	1.580	1.886	2.145	2.667	2.976	80	
	Shifting Mosaic	0.071	0	0.384	0.564	0.818	1.073	1.276	1.613	2.108	98	
<i>Class Configuration⁵</i>												
PD	Stand Initiation	0.000	0	0.004	0.015	0.035	0.052	0.083	0.134	0.229	227	100
	Stem Exclusion	0.022	0	0.071	0.109	0.142	0.167	0.196	0.238	0.331	77	
	Understory Reinitiation	0.120	0	0.244	0.301	0.362	0.410	0.473	0.569	0.905	65	
	Shifting Mosaic	0.001	0	0.155	0.278	0.379	0.453	0.523	0.585	0.732	68	
ED	Stand Initiation	0.000	0	0.012	0.065	0.271	0.514	1.038	1.916	3.737	360	78
	Stem Exclusion	0.680	2	0.339	0.901	1.471	1.958	2.421	3.357	4.091	125	
	Understory Reinitiation	4.674	80	2.056	2.801	3.673	4.102	4.599	5.135	5.574	57	
	Shifting Mosaic	0.086	0	1.359	1.768	2.462	2.870	3.324	3.953	5.341	76	
AREA_MN	Stand Initiation	0.000	0	0.237	0.825	2.250	3.988	5.795	9.521	15.689	218	100
	Stem Exclusion	21.329	100	0.923	2.271	3.775	4.778	6.276	8.939	12.023	140	
	Understory Reinitiation	30.261	100	1.361	2.470	3.516	4.462	5.581	8.048	10.137	125	
	Shifting Mosaic	49.969	100	1.226	1.427	1.860	2.113	2.865	4.946	7.857	167	
AREA_AM	Stand Initiation	0.000	0	0.500	5.341	22.901	40.401	84.339	190.693	391.188	459	46
	Stem Exclusion	119.217	75	6.613	26.124	46.980	76.717	118.242	182.306	293.012	204	
	Understory Reinitiation	190.395	96	24.349	48.354	79.877	108.571	129.644	183.248	228.588	124	
	Shifting Mosaic	61.976	54	23.732	28.555	39.680	59.603	81.325	162.068	280.309	224	
GYRATE_AM	Stand Initiation	0.000	0	32.759	98.042	214.836	293.602	410.584	625.164	911.890	180	68
	Stem Exclusion	512.679	86	113.613	227.006	310.464	381.097	475.457	597.772	747.980	97	
	Understory Reinitiation	587.928	94	223.315	305.361	392.800	438.565	487.682	592.461	671.541	65	
	Shifting Mosaic	462.684	89	203.004	228.333	273.129	326.841	383.363	521.503	685.294	90	
SHAPE_MN	Stand Initiation			1.078	1.206	1.327	1.401	1.459	1.546	1.668	24	100

	Stem Exclusion	1.790	100	1.222	1.321	1.393	1.432	1.471	1.535	1.589	15	
	Understory Reinitiation	1.886	100	1.264	1.284	1.331	1.367	1.412	1.468	1.525	13	
	Shifting Mosaic	2.256	100	1.208	1.233	1.260	1.277	1.304	1.451	1.647	17	
SHAPE_AM	Stand Initiation			1.143	1.891	2.399	2.788	3.325	4.217	5.274	83	79
	Stem Exclusion	2.645	10	2.118	2.499	2.843	3.077	3.397	4.084	5.462	52	
	Understory Reinitiation	2.683	6	2.234	2.672	2.848	3.108	3.322	3.544	4.361	28	
	Shifting Mosaic	2.134	0	2.135	2.225	2.433	2.699	2.933	3.772	4.784	57	
CPLAND	Stand Initiation	0.000	0	0.000	0.003	0.045	0.118	0.282	0.690	1.592	581	79
	Stem Exclusion	0.340	21	0.028	0.175	0.379	0.526	0.790	1.254	1.745	205	
	Understory Reinitiation	2.829	100	0.431	0.821	1.142	1.401	1.614	2.065	2.355	89	
	Shifting Mosaic	0.058	0	0.235	0.389	0.567	0.761	0.944	1.174	1.568	103	
CORE_MN	Stand Initiation	0.000	0	0.002	0.182	1.161	2.222	3.777	6.711	13.291	294	100
	Stem Exclusion	15.739	100	0.365	1.354	2.328	3.065	4.244	6.589	9.204	171	
	Understory Reinitiation	23.504	100	0.912	1.717	2.472	3.319	4.181	6.314	7.623	139	
	Shifting Mosaic	41.016	100	0.764	0.940	1.271	1.570	2.044	3.592	5.993	169	
CORE_AM	Stand Initiation	0.000	0	0.001	1.793	13.558	26.838	59.571	138.677	284.793	510	50
	Stem Exclusion	100.368	79	3.299	17.633	33.404	57.619	91.615	147.416	246.980	225	
	Understory Reinitiation	169.862	96	16.585	39.242	64.826	92.973	112.710	166.913	221.800	137	
	Shifting Mosaic	55.789	60	16.980	21.310	29.245	50.055	68.124	154.392	273.302	266	
CAI_MN	Stand Initiation	0.000	0	0.314	6.655	13.763	19.066	25.712	36.882	48.982	159	100
	Stem Exclusion	46.983	100	10.812	13.337	17.084	20.168	24.907	32.904	48.613	97	
	Understory Reinitiation	65.527	100	12.829	21.794	29.337	35.123	41.023	48.825	57.190	77	
	Shifting Mosaic	71.316	100	18.511	32.272	41.336	51.688	57.275	65.387	71.650	64	
CAI_AM	Stand Initiation	0.000	0	0.249	23.952	47.327	57.860	66.554	75.263	86.473	89	80
	Stem Exclusion	73.791	96	39.599	56.922	61.609	65.075	68.527	73.520	83.271	26	
	Understory Reinitiation	77.673	85	57.597	65.603	71.377	74.359	76.461	79.578	81.835	19	
	Shifting Mosaic	82.083	99	56.522	61.721	67.455	71.557	74.432	80.630	82.470	26	
PROX_MN	Stand Initiation	0.000	0	0.008	1.170	7.451	17.353	38.354	85.268	163.831	485	53
	Stem Exclusion	21.256	29	2.908	9.785	19.713	30.685	44.188	75.853	115.537	215	
	Understory Reinitiation	46.165	78	7.135	15.736	23.472	32.488	44.182	62.124	93.924	143	
	Shifting Mosaic	0.034	0	4.528	6.608	10.713	15.878	22.415	41.991	63.773	223	
PROX_AM	Stand Initiation	0.000	0	0.005	0.510	5.494	17.615	42.902	103.682	258.899	586	61

	Stem Exclusion	27.377	38	1.068	8.977	21.324	38.554	63.045	109.359	219.248	260	
	Understory Reinitiation	83.455	86	9.878	23.738	38.651	52.932	68.551	121.207	154.193	184	
	Shifting Mosaic	0.040	0	3.899	8.340	14.872	24.661	43.297	74.723	235.961	269	
CWED	Stand Initiation	0.000	0	0.005	0.025	0.090	0.175	0.336	0.622	1.120	341	98
	Stem Exclusion	0.213	2	0.100	0.260	0.424	0.570	0.708	1.012	1.234	132	
	Understory Reinitiation	1.362	100	0.399	0.622	0.802	0.916	1.054	1.225	1.345	66	
	Shifting Mosaic	0.018	0	0.252	0.313	0.433	0.554	0.695	0.840	0.906	95	
TECI	Stand Initiation			23.247	26.437	30.693	33.361	36.183	40.391	45.844	42	57
	Stem Exclusion	31.348	95	23.856	26.635	28.116	29.100	29.798	31.444	33.196	17	
	Understory Reinitiation	28.911	98	15.251	17.285	20.498	22.665	24.609	27.891	30.202	47	
	Shifting Mosaic	20.298	57	10.149	13.501	16.944	19.607	22.447	26.382	30.400	66	
CLUMPY	Stand Initiation			0.427	0.685	0.810	0.848	0.871	0.895	0.925	25	100
	Stem Exclusion	0.914	100	0.707	0.808	0.841	0.853	0.872	0.889	0.916	10	
	Understory Reinitiation	0.918	100	0.775	0.822	0.853	0.863	0.874	0.887	0.899	8	
	Shifting Mosaic	0.941	100	0.764	0.788	0.812	0.829	0.846	0.869	0.888	10	
IJI	Stand Initiation			34.562	48.505	55.794	59.369	62.032	64.843	66.495	28	28
	Stem Exclusion	56.197	4	50.571	56.565	59.414	62.053	64.068	66.065	68.202	15	
	Understory Reinitiation	60.383	39	49.147	55.011	59.344	61.193	62.745	64.565	66.351	16	
	Shifting Mosaic	49.984	30	39.876	45.614	49.519	51.934	54.217	57.459	59.735	23	

Summary Indices⁶:

<i>Seral-Stage Departure Index</i>	86
<i>Class Configuration Departure Index</i>	76
<i>Cover Type Departure Index</i>	81

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.