

Table. Range of variation in landscape structure 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). The rows highlighted in gray represent an aggregation of stand condition classes (i.e., understory reinitiation and shifting mosaic combined into late seral); although the landscape configuration statistics were based on the original unaggregated patch types.

Landscape Metric	Current Landscape		Percentiles of Simulated Distribution							HRV Departure	
	Metric Value	Percentile of HRV	0	5	25	50	75	95	100	CV ¹	Index ²
<i>Landscape Composition</i> ³											
PJ: Herb Dominated	0.029	45	0.000	0.000	0.012	0.035	0.076	0.167	0.285	474	0
PJ: Herbs - Shrubs	0.288	88	0.034	0.065	0.117	0.173	0.237	0.343	0.410	161	52
PJ: Shrubs - Trees	0.035	0	0.083	0.126	0.192	0.252	0.316	0.410	0.487	112	100
PJ: Tree Dominated	0.241	99	0.006	0.017	0.062	0.095	0.134	0.191	0.261	183	96
PJS: Herb Dominated	0.038	32	0.000	0.000	0.028	0.091	0.199	0.460	0.706	503	0
PJS: Herbs - Shrubs	0.508	52	0.062	0.156	0.322	0.494	0.674	0.885	1.129	148	0
PJS: Shrubs - Trees	0.164	0	0.361	0.443	0.637	0.830	1.035	1.392	1.525	114	100
PJS: Tree Dominated	1.178	100	0.014	0.064	0.258	0.376	0.549	0.758	0.946	185	100
PJOS: Herb Dominated	0.050	50	0.000	0.000	0.016	0.050	0.125	0.370	0.628	746	0
PJOS: Herbs - Shrubs	0.280	44	0.060	0.100	0.198	0.310	0.469	0.660	0.824	181	0
PJOS: Shrubs - Trees	0.355	22	0.151	0.237	0.382	0.484	0.629	0.809	0.999	118	14
PJOS: Tree Dominated	0.469	96	0.007	0.021	0.120	0.187	0.311	0.462	0.569	236	82
MTS: Herbs - Shrubs	6.871	100	0.354	1.406	2.607	3.398	4.230	5.441	7.143	119	99
MTS: Early Shrub Dominated	6.088	98	1.355	2.035	3.044	3.750	4.488	5.747	8.401	99	92
MTS: Late Shrub Dominated	1.072	0	3.464	4.999	6.068	6.894	7.514	8.547	9.653	51	100
PPO: Stand Initiation	0.681	75	0.348	0.418	0.501	0.570	0.681	0.900	1.087	85	0
PPO: Stem Exclusion	5.405	100	0.531	0.565	0.649	0.718	0.797	0.984	1.120	58	100
PPO: Late Seral	1.929	58	0.645	1.160	1.526	1.827	2.123	2.717	3.339	85	0
PPO: Fire Maintained Open Canopy	0.000	0	3.122	3.862	4.515	4.811	5.175	5.642	6.182	37	100
PPOA: Stand Initiation	0.045	4	0.022	0.052	0.087	0.119	0.160	0.252	0.367	168	85
PPOA: Stem Exclusion	0.452	93	0.164	0.211	0.259	0.298	0.358	0.473	0.559	88	71
PPOA: Late Seral	3.729	100	0.627	0.886	1.132	1.273	1.491	1.839	2.094	75	100
PPOA: Fire Maintained Open Canopy	0.000	0	1.684	1.923	2.288	2.493	2.661	2.930	3.221	40	100
WMC: Stand Initiation	0.283	64	0.071	0.131	0.206	0.258	0.307	0.390	0.477	101	0
WMC: Stem Exclusion	1.540	100	0.404	0.493	0.558	0.613	0.668	0.742	0.819	41	100
WMC: Late Seral	3.986	100	1.238	1.606	1.883	2.220	2.503	3.004	3.322	63	100
WMC: Fire Maintained Open Canopy	0.000	0	1.654	1.980	2.425	2.723	3.033	3.297	3.695	48	100
WMCA: Stand Initiation	0.262	38	0.066	0.140	0.229	0.284	0.342	0.435	0.544	104	0
WMCA: Stem Exclusion	0.385	4	0.262	0.390	0.455	0.513	0.573	0.663	0.737	53	85
WMCA: Late Seral	5.041	100	1.523	1.914	2.207	2.543	2.793	3.238	3.523	52	100
WMCA: Fire Maintained Open Canopy	0.000	0	1.384	1.723	2.135	2.380	2.644	2.928	3.246	51	100

CMC: Stand Initiation	0.095	0	0.137	0.296	0.439	0.586	0.712	1.033	1.468	126	100
CMC: Stem Exclusion	1.032	15	0.656	0.869	1.114	1.255	1.373	1.633	1.968	61	42
CMC: Late Seral	2.918	100	1.534	1.737	2.034	2.207	2.343	2.598	2.950	39	98
CMCA: Stand Initiation	0.333	9	0.049	0.220	0.580	0.889	1.353	1.961	3.156	196	66
CMCA: Stem Exclusion	0.759	0	0.725	1.246	1.768	2.115	2.575	3.201	3.776	92	100
CMCA: Late Seral	8.158	100	4.333	4.968	5.619	6.057	6.541	7.201	7.834	37	100
ASP: Stand Initiation	0.025	0	0.030	0.145	0.282	0.416	0.625	1.002	1.406	206	100
ASP: Stem Exclusion	0.427	46	0.098	0.186	0.309	0.453	0.626	0.929	1.391	164	0
ASP: Late Seral	2.082	99	0.878	1.146	1.436	1.590	1.743	1.939	2.179	50	96
SF: Stand Initiation	1.059	0	0.908	1.537	2.284	2.908	3.881	5.142	8.173	124	99
SF: Stem Exclusion	5.810	93	1.588	2.075	3.204	4.080	4.860	5.963	8.263	95	73
SF: Late Seral	11.297	59	5.885	8.196	9.967	10.827	11.968	13.652	15.204	50	0
SFA: Stand Initiation	0.074	5	0.008	0.074	0.240	0.470	0.801	1.727	2.604	352	80
SFA: Stem Exclusion	0.599	3	0.376	0.707	1.177	1.662	2.169	3.035	3.744	140	89
SFA: Late Seral	7.290	100	3.463	4.259	5.101	5.660	6.215	6.848	7.367	46	99
MS: Herbs - Shrubs	1.097	96	0.420	0.491	0.672	0.817	0.966	1.095	1.185	74	82
MS: Shrubs - Herbs	0.229	4	0.141	0.232	0.361	0.510	0.654	0.835	0.907	118	83
<i>Landscape Configuration</i> ⁴											
Patch density	3.311	0	21.515	25.380	32.682	34.637	36.210	38.237	40.405	37	100
Edge density	57.681	0	100.977	109.384	122.324	126.289	129.909	133.867	139.036	19	100
Mean patch size	30.203	100	2.475	2.615	2.762	2.887	3.060	3.940	4.648	46	100
Area-weighted mean patch size	1176.538	100	341.718	385.121	430.955	473.276	547.001	645.918	748.144	55	100
Correlation length	1334.659	100	727.268	759.308	789.194	816.593	856.881	917.972	982.446	19	100
Mean shape index	1.770	100	1.303	1.310	1.316	1.322	1.327	1.347	1.375	3	100
Area-weighted mean shape index	4.500	0.6	4.458	4.591	4.709	4.812	4.947	5.151	5.401	12	98
Mean core area	23.994	100	1.757	1.871	1.988	2.091	2.212	2.839	3.438	46	100
Area-weighted mean core area	1009.346	100	289.052	324.110	361.626	399.444	457.744	538.788	633.169	54	100
Mean core area index	42.794	13.3	38.687	40.916	43.937	45.532	48.195	50.917	54.122	22	47
Area-weighted mean core area index	79.443	100	69.398	70.541	71.577	72.266	72.894	73.669	74.537	4	100
Mean proximity index	140.556	100	51.844	67.389	75.037	80.648	86.153	98.524	134.826	39	100
Area-weighted mean proximity index	518.579	94.9	217.587	263.681	303.060	350.439	408.048	520.121	614.755	73	80
Contrast-weighted edge density	19.340	0	27.414	28.945	30.320	30.992	31.841	33.022	33.857	13	100
Total edge contrast index	32.864	100	22.175	23.070	23.896	24.516	25.133	26.579	28.895	14	100
Contagion	55.293	100	46.027	46.403	46.844	47.196	47.514	48.157	48.826	4	100
Interspersion & juxtaposition index	72.144	27.8	68.889	70.405	72.073	72.870	73.566	74.656	75.927	6	0
Simpson's diversity index	0.943	0	0.953	0.958	0.960	0.961	0.962	0.963	0.964	1	100
Simpson's evenness index	0.959	0	0.969	0.973	0.976	0.977	0.978	0.979	0.980	1	100

Summary Indices⁵:

<i>Landscape Composition Departure Index</i>	68
<i>Landscape Configuration Departure Index</i>	91

¹CV = 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.

²HRV 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).

³Landscape composition represents the distribution of area among patch types (in this case, unique combinations of cover type and seral stage). Only dynamic patch types (i.e., those that change in area over time in response to disturbance and succession) are included here; static patch types (i.e., those that we treated as constant over time, such as water, barren, etc.) are excluded since they cannot exhibit any "departure". PJ = pinyon-juniper woodland; PJS = pinyon-juniper sagebrush woodland; PJOS = pinyon-juniper oak-serviceberry woodland; MTS = mountain shrubland; PPO = ponderosa pine oak forest; PPOA = ponderosa pine oak-aspen forest; WMC = warm, dry mixed-conifer forest; WMCA = warm, dry mixed-conifer with aspen forest; CMC = cool, moist mixed-conifer forest; CMCA = cool, moist mixed conifer with aspen forest; ASP = pure aspen forest; SF = spruce-fir forest; SFA = spruce-fir with aspen forest; MS = mesic sagebrush.

⁴Landscape configuration represents the spatial character, distribution, and arrangement of patches (across all patch types). The landscape metrics listed here are described in detail in the FRAGSTATS methods section. Note, Simpson's diversity and evenness indices are actually landscape composition metrics but are included here for organizational purposes.

⁵Landscape composition departure index = mean departure index across cover types; landscape configuration departure index = mean departure index across landscape configuration metrics; landscape structure departure index = mean of the landscape composition and configuration indices.