

Table. Range of variation in landscape structure under the simulated HRV disturbance scenario on the Uncompahgre Plateau Landscape, Colorado, and the degree of departure of the current landscape from the simulated range of variation (see text for details). Missing values represent cover types in which there is inadequate spatial data on current stand age and/or condition to allow for a reliable estimate of HRV departure.

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											
SDG: Early Grass - Forb	-	-	0.13	0.37	1.07	1.57	2.20	3.14	4.11	177	-
SDG: Mid Grass - Shrub	-	-	0.29	0.63	1.18	1.59	2.08	2.88	4.16	142	-
SDG: Shrub - Grass	-	-	0.66	1.20	1.65	2.22	2.75	3.43	3.82	101	-
SDS: Herb - Annual	-	-	0.00	0.00	0.03	0.06	0.10	0.24	0.37	399	-
SDS: Herb - Perennial	-	-	0.00	0.00	0.02	0.05	0.10	0.23	0.36	428	-
SDS: Herb - Shrub - Tree	-	-	0.21	0.34	0.45	0.50	0.56	0.61	0.65	54	-
PJ: Herb Dominated	-	-	0.00	0.00	0.15	0.61	1.29	3.64	7.67	592	-
PJ: Herbs - Shrubs	-	-	0.46	1.40	2.53	3.69	5.09	7.56	11.07	167	-
PJ: Shrubs - Trees	-	-	4.17	6.55	10.03	12.13	14.08	17.29	18.78	89	-
PJ: Tree Dominated	-	-	0.01	0.17	1.72	4.36	5.86	10.10	11.55	228	-
PJS: Herb Dominated	-	-	0.00	0.00	0.10	0.41	0.82	2.66	5.56	655	-
PJS: Herbs - Shrubs	-	-	0.31	0.96	1.61	2.42	3.50	5.03	6.82	168	-
PJS: Shrubs - Trees	-	-	2.45	4.32	6.19	7.36	8.55	10.11	11.85	79	-
PJS: Tree Dominated	-	-	0.02	0.12	1.32	2.56	3.90	5.48	7.04	209	-
PJOS: Herb Dominated	-	-	0.00	0.00	0.07	0.20	0.50	1.13	2.06	565	-
PJOS: Herbs - Shrubs	-	-	0.23	0.51	0.91	1.21	1.65	2.23	3.56	142	-
PJOS: Shrubs - Trees	-	-	1.18	1.65	2.35	2.76	3.12	3.78	4.24	77	-
PJOS: Tree Dominated	-	-	0.00	0.06	0.33	0.72	1.05	1.64	2.05	218	-
MTS: Herbs - Shrubs	-	-	0.27	1.69	3.42	4.69	5.87	8.24	12.37	140	-
MTS: Early Shrub Dominated	-	-	0.64	2.46	4.03	5.19	6.68	8.45	12.80	115	-
MTS: Late Shrub Dominated	-	-	3.12	5.26	6.91	8.32	9.44	11.44	12.98	74	-
PPO: Stand Initiation	2.85	100	0.15	0.21	0.27	0.32	0.40	0.53	0.73	99	100
PPO: Stem Exclusion	2.11	100	0.25	0.30	0.35	0.39	0.53	0.85	1.16	142	100
PPO: Understory Reinitiation	1.00	93	0.20	0.23	0.27	0.32	0.48	1.04	1.36	254	74
PPO: Shifting Mosaic	0.00	0	0.22	0.34	0.67	0.94	1.30	1.88	2.26	164	100
PPO: Fire Maintained Open Canopy	0.00	0	1.88	2.36	2.88	3.30	3.77	4.24	4.56	57	100
PPOA: Stand Initiation	0.05	100	0.00	0.00	0.00	0.00	0.01	0.01	0.01	192	100
PPOA: Stem Exclusion	0.16	100	0.00	0.01	0.01	0.01	0.01	0.02	0.02	92	100

PPOA: Understory Reinitiation	0.07	95	0.01	0.01	0.01	0.02	0.02	0.07	0.15	378	80
PPOA: Shifting Mosaic	0.00	0	0.00	0.01	0.03	0.05	0.07	0.11	0.13	181	100
PPOA: Fire Maintained Open Canopy	0.00	0	0.08	0.10	0.14	0.16	0.19	0.22	0.23	68	100
WMC: Stand Initiation	0.05	99	0.00	0.01	0.02	0.02	0.03	0.04	0.05	152	97
WMC: Stem Exclusion	0.72	100	0.02	0.03	0.04	0.05	0.06	0.07	0.08	76	100
WMC: Understory Reinitiation	0.26	93	0.06	0.07	0.08	0.10	0.11	0.29	0.43	234	73
WMC: Shifting Mosaic	0.01	0	0.04	0.15	0.24	0.32	0.38	0.48	0.55	104	100
WMC: Fire Maintained Open Canopy	0.00	0	0.20	0.26	0.35	0.42	0.47	0.55	0.67	71	100
WMCA: Stand Initiation	0.00	1	0.00	0.00	0.00	0.00	0.00	0.01	0.01	240	97
WMCA: Stem Exclusion	0.06	100	0.00	0.00	0.00	0.01	0.01	0.01	0.01	141	100
WMCA: Understory Reinitiation	0.06	100	0.00	0.01	0.01	0.01	0.01	0.02	0.05	148	100
WMCA: Shifting Mosaic	0.00	3	0.00	0.01	0.02	0.03	0.04	0.05	0.07	140	90
WMCA: Fire Maintained Open Canopy	0.00	0	0.01	0.02	0.03	0.04	0.05	0.07	0.08	126	100
CMC: Stand Initiation	0.00	0	0.00	0.01	0.02	0.03	0.04	0.07	0.09	183	100
CMC: Stem Exclusion	0.14	100	0.02	0.03	0.05	0.06	0.07	0.09	0.11	103	100
CMC: Understory Reinitiation	0.03	2	0.01	0.03	0.04	0.05	0.06	0.08	0.09	96	91
CMC: Shifting Mosaic	0.00	0	0.00	0.00	0.01	0.02	0.02	0.04	0.04	201	100
CMCA: Stand Initiation	0.01	3	0.00	0.01	0.03	0.06	0.11	0.25	0.36	387	89
CMCA: Stem Exclusion	0.39	98	0.02	0.05	0.12	0.17	0.22	0.35	0.44	181	92
CMCA: Understory Reinitiation	0.30	37	0.14	0.18	0.26	0.34	0.39	0.47	0.58	85	0
CMCA: Shifting Mosaic	0.00	0	0.01	0.02	0.05	0.08	0.12	0.21	0.26	220	100
ASP: Stand Initiation	0.09	0	0.05	0.24	0.53	0.86	1.19	1.93	2.63	197	99
ASP: Stem Exclusion	3.07	100	0.17	0.32	0.59	0.91	1.22	1.74	2.49	156	100
ASP: Understory Reinitiation	1.00	62	0.24	0.40	0.64	0.89	1.17	1.66	2.15	141	0
ASP: Shifting Mosaic	0.49	0	0.71	1.14	1.60	1.90	2.14	2.48	2.93	71	100
SF: Stand Initiation	0.42	82	0.07	0.11	0.18	0.26	0.38	0.61	0.83	190	26
SF: Stem Exclusion	0.34	44	0.06	0.13	0.24	0.37	0.48	0.61	0.77	132	0
SF: Understory Reinitiation	0.33	55	0.05	0.12	0.22	0.31	0.41	0.55	0.73	137	0
SF: Shifting Mosaic	0.05	12	0.01	0.03	0.08	0.12	0.20	0.27	0.31	203	54
SFA: Stand Initiation	0.04	4	0.01	0.04	0.13	0.25	0.51	1.27	2.38	482	82
SFA: Stem Exclusion	1.12	60	0.15	0.32	0.59	0.95	1.38	2.01	2.64	178	0
SFA: Understory Reinitiation	2.37	89	0.42	0.77	1.41	1.73	2.05	2.59	2.84	105	56
SFA: Shifting Mosaic	0.04	0	0.06	0.10	0.21	0.39	0.61	0.95	1.43	216	100
MS: Herbs - Shrubs	-	-	1.37	1.89	2.49	2.91	3.38	4.32	5.53	84	-
MS: Shrubs - Herbs	-	-	1.14	2.35	3.33	3.81	4.22	4.80	5.35	64	-

Landscape Configuration ⁴

Patch density	12.02	0	13.45	14.14	14.67	15.14	15.42	15.81	16.43	11	100
Edge density	132.87	0	139.10	142.31	145.42	147.95	149.64	151.24	154.28	6	100
Mean patch size	8.32	100	6.08	6.33	6.48	6.60	6.82	7.07	7.43	11	100
Area-weighted mean patch size	9005.15	100	1767.44	2513.99	3213.50	3882.43	4837.29	6646.54	8503.33	106	100
Correlation length	4121.18	100	1509.44	1837.12	2081.12	2273.49	2559.19	3067.99	3613.97	54	100
Mean shape index	1.94	100	1.86	1.88	1.89	1.90	1.91	1.92	1.92	2	100
Area-weighted mean shape index	24.57	100	11.81	13.80	15.06	16.17	17.66	20.09	23.42	39	100
Mean core area	6.38	100	4.66	4.83	4.97	5.10	5.27	5.48	5.86	13	100
Area-weighted mean core area	7726.64	99	1605.41	2244.81	2910.97	3588.81	4469.87	6164.10	7958.37	109	97
Mean core area index	54.81	5	52.67	54.80	56.38	57.35	58.13	59.77	61.77	9	80
Area-weighted mean core area index	76.66	34	74.42	75.47	76.33	77.21	77.78	78.65	79.91	4	0
Mean proximity index	1367.97	88	422.32	610.65	740.28	885.58	1149.50	1604.88	2224.76	112	52
Area-weighted mean proximity index	7110.10	91	1636.95	3022.20	3906.59	4656.95	5821.18	8166.98	11762.36	110	62
Contrast-weighted edge density	31.18	46	27.97	28.85	30.42	31.33	32.27	33.73	34.40	16	0
Total edge contrast index	23.31	100	18.94	19.74	20.64	21.16	21.64	22.26	22.65	12	100
Contagion	50.60	70	48.32	48.90	49.54	50.07	50.84	52.22	53.64	7	0
Interspersion & juxtaposition index	69.79	100	63.16	64.64	66.20	67.13	67.78	68.52	69.77	6	100
Simpson's diversity index	0.95	34	0.92	0.93	0.94	0.95	0.95	0.96	0.96	2	0
Simpson's evenness index	0.96	42	0.94	0.95	0.96	0.96	0.97	0.97	0.97	2	0

Summary Indices⁵:

<i>Landscape Composition Departure Index</i>	80
<i>Landscape Configuration Departure Index</i>	68
<i>Landscape Structure Departure Index</i>	74

¹CV = 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).

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 25-75th 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).

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". SDG = semi-desert grassland; SDS = semi-desert savannah; 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.