

Table. Range of variation in landscape structure for Ponderosa Pine-Oak-Aspen Forest 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).

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	0.05	100	0.00	0.00	0.00	0.00	0.01	0.01	0.01	192	96
	Stem Exclusion	0.16	100	0.00	0.01	0.01	0.01	0.01	0.02	0.02	92	
	Understory Reinitiation	0.07	95	0.01	0.01	0.01	0.02	0.02	0.07	0.15	378	
	Shifting Mosaic	0.00	0	0.00	0.01	0.03	0.05	0.07	0.11	0.13	181	
	Fire Maintained Open Canopy	0.00	0	0.08	0.10	0.14	0.16	0.19	0.22	0.23	68	
<i>Class Configuration⁵</i>												
PD	Stand Initiation	0.03	100	0.00	0.00	0.00	0.00	0.00	0.01	0.01	194	98
	Stem Exclusion	0.09	100	0.00	0.01	0.01	0.01	0.01	0.01	0.02	79	
	Understory Reinitiation	0.05	98	0.01	0.01	0.01	0.02	0.02	0.05	0.08	234	
	Shifting Mosaic	0.00	0	0.00	0.01	0.02	0.04	0.05	0.07	0.09	181	
	Fire Maintained Open Canopy	0.00	0	0.06	0.07	0.09	0.10	0.11	0.13	0.14	64	
ED	Stand Initiation	0.32	100	0.00	0.01	0.01	0.02	0.03	0.04	0.06	183	97
	Stem Exclusion	0.92	100	0.02	0.04	0.05	0.06	0.07	0.09	0.11	83	
	Understory Reinitiation	0.45	96	0.05	0.06	0.08	0.10	0.12	0.42	0.82	363	
	Shifting Mosaic	0.00	0	0.01	0.05	0.19	0.30	0.42	0.60	0.72	181	
	Fire Maintained Open Canopy	0.00	0	0.47	0.58	0.77	0.91	1.05	1.19	1.33	68	
AREA_MN	Stand Initiation	1.75	99	0.58	0.80	0.92	1.02	1.11	1.40	3.00	60	88
	Stem Exclusion	1.82	100	0.81	0.91	0.98	1.03	1.10	1.24	1.41	32	
	Understory Reinitiation	1.38	86	0.90	0.97	1.04	1.10	1.20	1.66	1.88	63	
	Shifting Mosaic	0.00	0	0.79	1.18	1.35	1.45	1.55	1.76	3.56	40	
	Fire Maintained Open Canopy	0.00	0	1.38	1.49	1.58	1.63	1.67	1.75	1.84	16	
AREA_AM	Stand Initiation	5.43	100	0.62	0.89	1.11	1.34	1.70	2.53	4.88	123	100
	Stem Exclusion	6.92	100	1.00	1.15	1.30	1.50	1.73	2.33	2.77	79	
	Understory Reinitiation	5.80	100	1.19	1.28	1.47	1.69	2.10	4.46	6.22	188	
	Shifting Mosaic	0.00	0	0.90	1.82	2.85	3.52	4.42	6.56	19.56	135	
	Fire Maintained Open Canopy	0.00	0	2.61	3.50	4.28	4.84	5.31	6.03	7.41	52	
GYRATE_AM	Stand Initiation	121.33	100	34.43	41.83	46.74	50.97	56.84	70.50	105.30	56	97

	Stem Exclusion	121.78	100	44.49	47.75	50.49	53.60	58.47	65.33	71.62	33	
	Understory Reinitiation	110.07	97	48.09	50.31	53.75	57.55	63.77	103.07	117.37	92	
	Shifting Mosaic	0.00	0	46.98	65.34	78.30	86.63	95.84	115.55	221.96	58	
	Fire Maintained Open Canopy	0.00	0	76.10	87.56	97.55	102.62	107.54	114.12	130.39	26	
SHAPE_MN	Stand Initiation	1.95	100	1.26	1.35	1.42	1.46	1.51	1.58	2.36	16	85
	Stem Exclusion	1.86	100	1.38	1.40	1.44	1.47	1.50	1.54	1.62	10	
	Understory Reinitiation	1.70	89	1.37	1.43	1.47	1.49	1.54	1.76	1.82	22	
	Shifting Mosaic	-	-	1.47	1.58	1.62	1.65	1.68	1.75	1.83	11	
	Fire Maintained Open Canopy	-	-	1.63	1.66	1.70	1.72	1.74	1.76	1.81	6	
SHAPE_AM	Stand Initiation	2.66	100	1.26	1.37	1.45	1.51	1.58	1.74	2.36	24	99
	Stem Exclusion	2.54	100	1.38	1.44	1.50	1.54	1.60	1.67	1.82	15	
	Understory Reinitiation	2.38	99	1.43	1.50	1.54	1.58	1.65	2.25	2.48	47	
	Shifting Mosaic	-	-	1.50	1.74	1.87	1.98	2.10	2.33	2.61	30	
	Fire Maintained Open Canopy	-	-	1.86	2.01	2.11	2.18	2.24	2.35	2.58	15	
CPLAND	Stand Initiation	0.05	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	245	91
	Stem Exclusion	0.05	100	0.00	0.00	0.00	0.00	0.00	0.00	0.01	110	
	Understory Reinitiation	0.01	89	0.00	0.00	0.00	0.00	0.01	0.02	0.03	431	
	Shifting Mosaic	0.00	0	0.00	0.00	0.01	0.01	0.02	0.03	0.03	206	
	Fire Maintained Open Canopy	0.00	0	0.02	0.03	0.04	0.04	0.05	0.06	0.06	61	
CORE_MN	Stand Initiation	1.69	100	0.04	0.15	0.26	0.33	0.42	0.57	2.19	129	91
	Stem Exclusion	0.54	100	0.08	0.14	0.19	0.22	0.26	0.33	0.40	87	
	Understory Reinitiation	0.22	11	0.14	0.19	0.25	0.30	0.36	0.50	0.66	104	
	Shifting Mosaic	0.00	0	0.13	0.19	0.28	0.33	0.38	0.52	1.61	99	
	Fire Maintained Open Canopy	0.00	0	0.32	0.36	0.41	0.44	0.47	0.52	0.56	36	
CORE_AM	Stand Initiation	5.31	100	0.05	0.18	0.34	0.51	0.72	1.25	2.52	211	84
	Stem Exclusion	3.08	100	0.10	0.21	0.31	0.41	0.56	0.89	1.24	166	
	Understory Reinitiation	0.90	80	0.15	0.26	0.37	0.51	0.78	1.35	2.28	213	
	Shifting Mosaic	0.00	0	0.12	0.45	0.68	0.88	1.29	2.77	11.46	263	
	Fire Maintained Open Canopy	0.00	0	0.74	1.01	1.19	1.46	1.69	2.02	2.90	69	
CAI_MN	Stand Initiation	96.72	100	5.33	14.85	23.46	28.78	34.63	43.04	72.92	98	96
	Stem Exclusion	20.29	95	8.60	11.85	14.12	15.63	17.67	20.23	24.20	54	
	Understory Reinitiation	14.82	0	15.38	18.30	21.68	24.30	27.24	32.12	41.02	57	
	Shifting Mosaic	0.00	0	5.41	9.94	14.96	19.15	22.65	30.37	36.17	107	
	Fire Maintained Open Canopy	0.00	0	17.29	20.06	23.43	25.61	27.84	30.61	33.31	41	

CAI_AM	Stand Initiation	96.51	100	5.88	17.33	26.70	32.61	38.64	48.37	72.92	95	99
	Stem Exclusion	29.36	99	9.30	14.64	18.67	20.91	24.07	26.77	30.66	58	
	Understory Reinitiation	15.67	1	13.50	18.79	23.69	26.73	29.97	34.42	43.22	58	
	Shifting Mosaic	0.00	0	10.33	14.99	19.45	22.69	26.86	33.51	45.26	82	
	Fire Maintained Open Canopy	0.00	0	19.60	21.59	25.28	26.98	29.30	32.09	34.97	39	
PROX_MN	Stand Initiation	7.67	100	0.00	0.00	0.02	0.08	0.21	0.59	1.77	759	91
	Stem Exclusion	5.35	100	0.02	0.05	0.13	0.23	0.40	0.66	1.06	259	
	Understory Reinitiation	2.30	89	0.07	0.18	0.32	0.49	0.76	3.96	6.51	779	
	Shifting Mosaic	0.00	0	0.11	1.26	2.30	3.09	3.83	5.32	8.26	131	
	Fire Maintained Open Canopy	0.00	0	2.33	3.35	4.32	5.04	5.67	6.47	7.39	62	
PROX_AM	Stand Initiation	8.82	100	0.00	0.00	0.02	0.07	0.20	0.66	4.50	955	92
	Stem Exclusion	7.07	100	0.02	0.05	0.13	0.24	0.42	0.95	3.33	377	
	Understory Reinitiation	3.91	90	0.08	0.20	0.35	0.56	0.96	5.06	9.24	864	
	Shifting Mosaic	0.00	0	0.10	1.31	3.00	4.34	5.88	9.02	14.34	178	
	Fire Maintained Open Canopy	0.00	0	2.71	4.74	6.16	7.65	8.91	10.87	14.69	80	
CWED	Stand Initiation	0.04	100	0.00	0.00	0.00	0.01	0.01	0.01	0.02	190	99
	Stem Exclusion	0.28	100	0.01	0.01	0.02	0.02	0.02	0.03	0.03	83	
	Understory Reinitiation	0.20	99	0.01	0.02	0.03	0.03	0.04	0.14	0.34	376	
	Shifting Mosaic	0.00	0	0.00	0.02	0.07	0.12	0.17	0.23	0.27	175	
	Fire Maintained Open Canopy	0.00	0	0.14	0.18	0.25	0.30	0.36	0.44	0.50	84	
TECI	Stand Initiation	13.85	0	20.33	28.04	31.00	32.76	34.56	37.58	42.94	29	94
	Stem Exclusion	30.77	5	29.16	30.79	31.68	32.35	33.01	33.84	34.91	9	
	Understory Reinitiation	45.85	100	24.11	26.97	29.50	31.89	33.83	35.65	41.25	27	
	Shifting Mosaic	-	-	25.78	29.14	35.33	38.67	42.28	47.77	50.92	48	
	Fire Maintained Open Canopy	-	-	27.02	29.82	31.55	33.51	35.61	39.31	41.04	28	
CLUMPY	Stand Initiation	0.62	12	0.54	0.61	0.64	0.66	0.68	0.73	0.85	18	36
	Stem Exclusion	0.65	48	0.61	0.62	0.64	0.65	0.66	0.68	0.71	10	
	Understory Reinitiation	0.63	11	0.61	0.63	0.64	0.65	0.66	0.67	0.70	7	
	Shifting Mosaic	-	-	0.58	0.63	0.65	0.65	0.67	0.69	0.81	9	
	Fire Maintained Open Canopy	-	-	0.64	0.65	0.65	0.66	0.66	0.67	0.68	3	
IJI	Stand Initiation	28.61	0	15.29	40.85	51.16	55.35	60.00	64.42	69.33	43	81
	Stem Exclusion	57.40	13	42.47	53.83	58.85	61.72	63.74	66.63	68.67	21	
	Understory Reinitiation	56.32	1	54.89	58.03	61.65	63.50	65.18	67.42	69.55	15	

Shifting Mosaic	-	-	39.62	48.47	54.23	57.25	60.02	63.12	69.01	26
Fire Maintained Open Canopy	-	-	47.21	50.51	53.50	55.54	57.32	59.67	63.56	16
Summary Indices⁶:										
<i>Seral-Stage Departure Index</i>										96
<i>Class Configuration Departure Index</i>										90
<i>Cover Type Departure Index</i>										93

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 = interspersions 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.