

Table. Range of variation in landscape structure for Ponderosa Pine-Oak 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 <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</i> <sup>4</sup>												
PLAND	Stand Initiation	2.85	100	0.15	0.21	0.27	0.32	0.40	0.53	0.73	99	95
	Stem Exclusion	2.11	100	0.25	0.30	0.35	0.39	0.53	0.85	1.16	142	
	Understory Reinitiation	1.00	93	0.20	0.23	0.27	0.32	0.48	1.04	1.36	254	
	Shifting Mosaic	0.00	0	0.22	0.34	0.67	0.94	1.30	1.88	2.26	164	
	Fire Maintained Open Canopy	0.00	0	1.88	2.36	2.88	3.30	3.77	4.24	4.56	57	
<i>Class Configuration</i> <sup>5</sup>												
PD	Stand Initiation	0.53	100	0.09	0.13	0.17	0.19	0.22	0.27	0.32	75	90
	Stem Exclusion	0.31	88	0.17	0.19	0.22	0.24	0.28	0.33	0.36	57	
	Understory Reinitiation	0.04	0	0.15	0.16	0.18	0.21	0.26	0.35	0.40	89	
	Shifting Mosaic	0.00	0	0.06	0.13	0.22	0.30	0.38	0.47	0.55	115	
	Fire Maintained Open Canopy	0.00	0	0.28	0.37	0.44	0.48	0.53	0.58	0.62	45	
ED	Stand Initiation	9.86	100	0.77	1.09	1.39	1.61	1.98	2.50	3.23	88	81
	Stem Exclusion	6.55	100	1.35	1.58	1.81	2.03	2.64	3.65	4.62	102	
	Understory Reinitiation	2.37	76	1.13	1.26	1.44	1.65	2.31	4.37	5.41	188	
	Shifting Mosaic	0.00	0	0.82	1.59	2.87	3.89	5.19	7.28	8.34	146	
	Fire Maintained Open Canopy	0.00	0	5.95	7.61	9.20	10.67	11.91	13.41	14.27	54	
AREA_MN	Stand Initiation	5.33	100	1.44	1.52	1.60	1.67	1.77	2.21	2.70	41	100
	Stem Exclusion	6.74	100	1.43	1.50	1.57	1.63	1.82	2.68	3.65	72	
	Understory Reinitiation	24.37	100	1.30	1.39	1.45	1.54	1.86	3.06	3.83	109	
	Shifting Mosaic	0.00	0	1.67	2.22	2.87	3.22	3.68	4.41	5.32	68	
	Fire Maintained Open Canopy	0.00	0	4.74	5.71	6.43	6.87	7.31	7.86	8.47	31	
AREA_AM	Stand Initiation	1033.16	100	2.85	3.59	4.15	4.79	5.99	32.21	76.67	598	100
	Stem Exclusion	591.23	100	3.16	3.55	3.99	4.52	6.57	33.93	405.04	672	
	Understory Reinitiation	695.81	100	2.43	2.76	3.29	4.05	7.96	67.70	349.09	1604	
	Shifting Mosaic	0.00	0	5.82	15.41	28.49	42.11	64.19	115.46	296.25	238	
	Fire Maintained Open Canopy	0.00	0	105.34	268.39	456.92	751.93	1798.40	2367.94	2909.80	279	
GYRATE_AM	Stand Initiation	1193.47	100	75.92	82.72	87.09	93.30	100.87	192.86	302.71	118	100

	Stem Exclusion	1050.63	100	76.02	81.26	85.71	90.25	105.33	231.34	699.70	166	
	Understory Reinitiation	1348.09	100	68.62	72.30	77.57	85.02	114.34	313.84	665.30	284	
	Shifting Mosaic	0.00	0	107.86	163.24	225.24	274.80	341.42	458.40	756.11	107	
	Fire Maintained Open Canopy	0.00	0	432.00	655.07	899.22	1169.25	1726.50	2041.22	2280.02	119	
SHAPE_MN	Stand Initiation	1.99	100	1.59	1.60	1.62	1.63	1.65	1.69	1.71	5	100
	Stem Exclusion	1.98	100	1.58	1.60	1.62	1.64	1.67	1.75	1.83	9	
	Understory Reinitiation	2.59	100	1.55	1.57	1.59	1.61	1.65	1.79	1.84	14	
	Shifting Mosaic	-	-	1.68	1.74	1.80	1.83	1.86	1.92	1.97	10	
	Fire Maintained Open Canopy	-	-	1.87	1.91	1.94	1.96	1.98	2.00	2.02	4	
SHAPE_AM	Stand Initiation	11.28	100	1.81	1.88	1.93	1.99	2.06	2.74	4.02	43	100
	Stem Exclusion	9.10	100	1.79	1.87	1.92	1.98	2.09	3.21	6.48	68	
	Understory Reinitiation	10.07	100	1.74	1.77	1.83	1.91	2.17	4.03	6.69	118	
	Shifting Mosaic	-	-	2.19	2.71	3.27	3.64	4.18	5.13	7.32	66	
	Fire Maintained Open Canopy	-	-	4.59	6.85	8.81	10.96	15.77	18.26	19.42	104	
CPLAND	Stand Initiation	2.61	100	0.06	0.08	0.10	0.12	0.16	0.28	0.41	158	100
	Stem Exclusion	1.35	100	0.17	0.21	0.24	0.27	0.37	0.58	0.76	135	
	Understory Reinitiation	0.53	99	0.09	0.10	0.12	0.14	0.21	0.40	0.59	204	
	Shifting Mosaic	0.00	0	0.05	0.10	0.23	0.33	0.49	0.74	0.98	193	
	Fire Maintained Open Canopy	0.00	0	0.83	1.02	1.24	1.42	1.62	1.82	1.91	56	
CORE_MN	Stand Initiation	4.89	100	0.50	0.57	0.61	0.66	0.74	1.15	1.68	88	100
	Stem Exclusion	4.31	100	0.96	1.03	1.09	1.15	1.27	1.81	2.46	68	
	Understory Reinitiation	12.85	100	0.52	0.60	0.65	0.71	0.82	1.17	1.74	80	
	Shifting Mosaic	0.00	0	0.38	0.61	0.96	1.16	1.40	1.83	2.32	105	
	Fire Maintained Open Canopy	0.00	0	2.10	2.36	2.75	2.98	3.19	3.53	3.88	39	
CORE_AM	Stand Initiation	1003.52	100	1.15	1.58	1.92	2.28	3.07	26.11	66.56	1075	100
	Stem Exclusion	456.36	100	2.35	2.78	3.19	3.67	5.33	27.77	324.02	682	
	Understory Reinitiation	431.76	100	1.29	1.51	1.84	2.42	4.39	43.48	219.94	1735	
	Shifting Mosaic	0.00	0	1.98	7.64	15.47	23.26	37.52	73.45	199.20	283	
	Fire Maintained Open Canopy	0.00	0	65.66	154.01	269.27	452.85	1093.55	1446.12	1818.85	285	
CAI_MN	Stand Initiation	84.97	100	29.53	30.98	32.57	34.15	36.36	42.15	48.73	33	91
	Stem Exclusion	34.03	0	42.75	52.22	59.18	61.31	62.75	64.28	65.16	20	
	Understory Reinitiation	22.03	11	11.86	17.15	32.13	35.15	36.72	39.05	41.09	62	
	Shifting Mosaic	0.00	0	8.46	10.53	12.64	14.08	15.96	19.20	22.96	62	
	Fire Maintained Open Canopy	0.00	0	7.56	8.59	9.75	11.25	12.88	15.30	17.10	60	

CAI_AM	Stand Initiation	91.62	100	34.72	36.54	38.20	39.80	42.51	52.72	62.09	41	98
	Stem Exclusion	63.94	2	60.67	64.99	68.26	69.93	71.06	72.28	73.38	10	
	Understory Reinitiation	52.72	100	32.67	36.68	42.28	44.64	46.51	48.04	50.16	25	
	Shifting Mosaic	0.00	0	22.41	27.12	32.70	36.16	38.60	41.58	45.49	40	
	Fire Maintained Open Canopy	0.00	0	38.21	40.77	42.19	43.23	44.31	46.18	48.25	13	
PROX_MN	Stand Initiation	251.04	100	0.84	1.32	1.79	2.23	3.01	5.18	8.43	173	95
	Stem Exclusion	93.24	100	1.27	1.67	2.06	2.41	3.69	11.16	65.32	395	
	Understory Reinitiation	24.34	94	0.93	1.26	1.55	2.01	3.82	25.41	81.97	1204	
	Shifting Mosaic	0.00	0	5.72	10.19	17.18	23.55	33.16	55.43	133.56	192	
	Fire Maintained Open Canopy	0.00	0	55.93	122.97	232.48	361.84	797.83	1170.58	1404.32	290	
PROX_AM	Stand Initiation	284.69	100	0.91	1.61	2.26	2.97	4.41	11.19	282.18	323	92
	Stem Exclusion	159.75	98	1.56	2.01	2.71	3.35	5.61	38.42	450.22	1088	
	Understory Reinitiation	59.28	92	1.27	1.49	1.96	2.77	7.72	99.45	504.36	3537	
	Shifting Mosaic	0.00	0	10.58	23.82	43.96	70.51	112.64	239.55	1183.38	306	
	Fire Maintained Open Canopy	0.00	0	142.30	349.57	657.45	1193.14	2051.13	3205.48	5507.16	239	
CWED	Stand Initiation	1.79	100	0.23	0.33	0.42	0.49	0.58	0.74	0.95	85	89
	Stem Exclusion	1.93	100	0.34	0.40	0.46	0.51	0.67	1.02	1.34	121	
	Understory Reinitiation	1.07	87	0.25	0.29	0.33	0.38	0.60	1.65	2.15	358	
	Shifting Mosaic	0.00	0	0.32	0.63	1.15	1.54	2.08	2.89	3.40	147	
	Fire Maintained Open Canopy	0.00	0	2.53	3.14	3.83	4.51	5.12	5.79	6.29	59	
TECI	Stand Initiation	18.09	0	25.62	27.62	29.57	30.03	30.39	30.75	31.25	10	100
	Stem Exclusion	29.33	100	24.35	24.72	25.06	25.30	25.67	27.86	29.27	12	
	Understory Reinitiation	45.04	100	20.35	21.31	22.46	23.33	26.20	37.94	41.43	71	
	Shifting Mosaic	-	-	35.37	36.87	38.85	39.81	40.85	42.24	44.26	13	
	Fire Maintained Open Canopy	-	-	38.59	40.47	41.45	42.40	43.23	44.17	45.55	9	
CLUMPY	Stand Initiation	0.78	100	0.66	0.67	0.68	0.68	0.69	0.72	0.75	8	100
	Stem Exclusion	0.80	100	0.66	0.67	0.67	0.68	0.69	0.73	0.77	10	
	Understory Reinitiation	0.85	100	0.65	0.66	0.67	0.67	0.70	0.74	0.77	13	
	Shifting Mosaic	-	-	0.67	0.70	0.73	0.74	0.75	0.77	0.78	9	
	Fire Maintained Open Canopy	-	-	0.78	0.78	0.79	0.80	0.80	0.81	0.81	3	
IJI	Stand Initiation	64.46	100	45.86	50.47	53.93	56.12	58.34	62.58	65.18	22	50
	Stem Exclusion	61.44	84	50.03	52.58	55.79	57.41	59.60	66.35	69.05	24	
	Understory Reinitiation	63.84	79	48.40	52.77	56.47	58.50	60.96	68.96	71.47	28	

Shifting Mosaic	-	-	53.50	58.35	61.35	63.38	65.23	66.96	69.89	14
Fire Maintained Open Canopy	-	-	57.96	60.71	62.79	63.95	65.05	66.73	67.61	9
<b>Summary Indices<sup>6</sup>:</b>										
<i>Seral-Stage Departure Index</i>										95
<i>Class Configuration Departure Index</i>										94
<i>Cover Type Departure Index</i>										94

<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.