Supplemental Information

Supplementary Table S1. Biotic and abiotic environmental predictors, classifications, codes, and plant species assemblages used in development of a geographic information systems (GIS) based macrohabitat suitability model for *M. setosa* across the species known geographic range.

Predictor variable	Description
1. Cover–type	WHR COVER–TYPE a forest cover–type that mapped relative cover of conifer and hardwood trees for mixed conditions, including Douglas fir, montane hardwood, Sierra mixed conifer, white fir; montane chaparral, annual grass, and blue oak–foothill pine (*P. sabiniana*).
2. Total tree cover from above 3. Conifer cover from above 4. Hardwood cover from above	CALVEG VEGETATION COVER FROM ABOVE (CFA; mapped vegetation (%) cover [crown] from above as delineated by aerial photos). Total tree cover from above (TTCFA), Conifer tree cover from above (CONCFA), and Hardwood tree cover from above (HWDCFA) were mapped as a function of canopy closure in 10% cover classes: 0 (< 1%), 5 (1–9%), 15 (10–19%), 25 (20–29%), 35 (30–39%), 45 (40–49%), 55 (50–59%), 65 (60–69%), 75 (70–79%), 85 (80–89%), and 85 (90–100%).
5. Over–story tree diameter (OTD)	CALVEG OS–TREE DIAMETER CLASS mapped the over–story tree diameter class of mixed tree types using mean diameter at breast height (DBH = 1.37 m above ground) for trees forming the uppermost canopy layer (Helms 1998) using average basal area (Quadratic Mean Diameter or QMD; Curtis and Marshall 2000) of top tree story categories: 1 = seedlings (0 – 2.3 cm QMD), 2 = saplings (2.5 – 12.5 cm QMD), 3 = poles (12.7 – 25.2 cm QMD), 4 = medium sized trees (50.8 – 76.0 cm QMD), and 5 = large sized trees (> 76.2 cm QMD).
6. Tree size class (WHR–SIZE).	Tree size classification derived from Wildlife Habitat Relationships (Standards for Tree Size; CWHRSIZE CLASS), which were mapped attributes that correspond to parameters derived from the CALVEG and CWHR systems (USFS 1981). Tree size codes: 1 = seedling tree, 2 = sapling tree, 3 = pole tree, 4 = small tree, 5 = medium–large tree, and 6 = multilayered tree.

Predictor variable	Description
7. Monthly average minimum 8. Monthly average maximum temperature 9. Monthly average annual precipitation 10. Averaged total annual evapotranspiration	Climate attributes were derived from the PRISM Climate Group (https://prism.oregonstate.edu/), where long–term average datasets were modeled using a digital elevation model (DEM) as the predictor grid. Data for average minimum and maximum monthly temperature were obtained from raster data using the PRISM model (Parameter–elevation Regressions on Independent Slope Model; Daly et al. 1994), which analyzed spatially gridded average monthly, and annual minimum and maximum temperatures for specific climatological periods. PRISM is an analytical model that uses point data and an underlying DEM grid or a 30–year climatological average (1980–2010 average) to generate gridded estimates of monthly and annual temperature. It is well suited to regions with mountainous terrain and incorporates a conceptual framework that addresses spatial scale and pattern of orographic processes.
11. Elevation 12. Distance to nearest stream	Maps of elevation were all derived from a United States Geological Survey (USGS) Digital Elevation Model (DEM) based on a 1:250,000–scale/3–arc second data resampled to 10 m resolution. Distance to the nearest stream was obtained from the California Department of Fish and Wildlife GIS Clearing house (https://wildlife.ca.gov/Data/GIS/Clearinghouse)

Supplementary Table S2. Table of mean values for each category of macrohabitat suitability for the Monument Fire and Non–fire components of the HSM. Monument Fire HSM sample sizes: Low = 1,525; Low–moderate = 2,074; Moderate = 1,842; Moderate–high = 1,240; High = 538; Critical = 194. Non–fire HSM sample sizes: Low = 2,076; Low–moderate = 3,123; Moderate = 2,683; Moderate–high = 1,270; High = 421; Critical = 275. Over–story tree diameter (OTD), CFA = cover from above; DBH = diameter breast height; moderate = mod

Table S2a. Monument Fire forest stand attributes/stream/evapotranspiration

Variable	Low x̄	Low–mod x̄	Mod x̄	Mod–high x̄	High x̄	Critical x̄
Total tree CFA	76.6	77.4	82.8	84.8	80.0	77.5
Conifer CFA	39.7	40.4	42.9	44.2	43.3	41.5
Hardwood CFA	32.0	32.0	34.9	35.6	31.8	31.0
OTD (DBH)	7.8	8.2	9.1	9.5	8.5	7.3
CWHR size	4.0	4.0	4.0	4.1	4.3	4.1
Elevation	814.8	812.9	815.9	807.1	779.0	736.1
Evapotranspiration	80.1	82.2	84.2	85.6	85.1	85.0
Distance to stream	100.2	98.9	109.5	101.8	88.0	82.3

Table S2b. Non–fire forest stand attributes/stream/evapotranspiration

Variable	Low x̄	Low–mod x̄	Mod x̄	Mod–high x̄	High x̄	Critical x̄
Total tree CFA	73.7	77.2	80.5	82.4	85.5	87.3
Conifer CFA	38.2	41.0	42.4	42.8	42.9	45.8
Hardwood CFA	30.5	31.2	33.1	34.6	37.5	36.6
OTD (DBH)	8.3	8.7	9.4	9.2	8.8	8.2
CWHR size	4.0	4.0	3.9	4.0	3.7	3.6
Elevation	833.1	794.3	737.3	752.1	795.7	862.9
Evapotranspiration	77.3	79.2	80.9	82.0	85.7	85.5
Distance to stream	102.6	108.5	95.8	99.0	115.1	146.7

Table S2c. Monument Fire average monthly minimum temperature (°C)

Variable	Low x̄	Low–mod x̄	Mod x̄	Mod–high x̄	High x̄	Critical x̄
January	29.5	29.6	29.9	30.0	29.5	29.6
February	31.0	31.0	31.3	31.4	31.0	31.2
March	32.5	32.4	32.8	32.8	32.4	32.5
April	34.6	34.6	34.7	34.7	34.5	34.8
May	40.4	40.3	40.6	40.6	39.9	40.0
June	46.5	46.4	46.8	46.7	45.6	45.6
July	52.4	52.3	52.6	52.5	51.0	50.8
August	51.2	51.2	51.7	51.6	50.0	49.7
September	46.7	46.9	47.7	47.6	45.5	44.9
October	40.3	40.4	41.3	41.3	39.3	38.8
November	33.9	34.0	34.3	34.4	33.8	33.8
December	30.3	30.4	30.8	30.9	30.3	30.3
Annual total	39.2	39.2	39.6	39.6	38.5	38.5

Table S2d. Non–fire average monthly minimum temperature (°C)

Variable	Low x̄	Low–mod x̄	Mod x̄	Mod–high x̄	High x̄	Critical x̄
January	29.3	29.8	29.9	29.9	30.6	31.0
February	30.8	31.2	31.4	31.3	31.7	31.8
March	32.3	32.7	32.9	32.9	33.1	33.1
April	34.4	34.7	35.0	34.9	35.0	35.0
May	40.1	40.3	40.4	40.4	40.5	40.7
June	46.1	46.2	46.4	46.5	46.4	46.5
July	51.7	51.6	51.7	51.9	52.0	52.3
August	50.7	50.6	50.6	50.7	51.0	51.5
September	46.5	46.6	46.7	46.9	47.9	48.8
October	40.4	40.6	40.5	40.6	41.7	42.4
November	33.7	34.2	34.3	34.3	35.0	35.5
December	30.3	30.7	30.8	30.7	31.5	32.1
Annual total	38.9	39.1	39.2	39.4	39.8	40.2

Table S2e. Monument Fire average monthly maximum temperature (℃)

Variable	Low x̄	Low–mod x̄	Mod x̄	Mod–high x̄	High x̄	Critical x̄
January	46.4	46.9	47.2	47.2	47.4	47.4
February	56.8	56.7	56.7	56.7	57.3	57.8
March	62.9	62.8	62.8	62.8	63.4	64.0
April	72.1	72.0	71.9	71.9	72.5	73.1
May	81.4	81.4	81.3	81.3	81.9	82.5
June	90.9	90.9	90.8	90.7	91.2	91.9
July	89.6	89.7	89.8	89.8	90.5	91.1
August	84.2	84.4	84.6	84.5	85.0	85.6
September	71.6	71.6	71.8	71.8	72.2	72.7
October	53.4	53.8	54.1	54.1	54.6	54.7
November	46.2	46.7	47.0	47.0	47.2	47.3
December	51.5	51.6	51.7	51.7	52.2	52.6
Annual total	67.3	67.4	67.5	67.4	68.0	68.5

Table S2f. Non–fire average monthly maximum temperature (℃)

Variable	Low x̄	Low–mod x̄	Mod x̄	Mod–high x̄	High x̄	Critical x̄
January	46.8	47.5	47.6	47.6	48.2	48.5
February	51.3	51.8	52.3	52.2	52.0	51.7
March	56.5	57.0	57.6	57.5	57.1	56.4
April	62.5	63.2	64.0	63.9	63.1	62.2
May	71.7	72.3	73.0	72.9	72.3	71.4
June	80.9	81.6	82.1	82.0	81.4	80.8
July	90.2	90.9	91.4	91.3	90.9	90.3
August	89.2	90.0	90.7	90.5	90.2	89.5
September	83.7	84.5	85.0	84.9	84.7	84.2
October	71.0	71.6	72.0	72.0	71.8	71.4
November	53.8	54.5	54.7	54.6	54.9	54.9
December	46.8	47.4	47.4	47.3	48.2	48.5
Annual total	67.0	67.7	68.2	68.0	67.8	67.5

Table S2g. Monument Fire average monthly precipitation (cm)

Variable	Low x̄	Low–mod x̄	Mod x̄	Mod–high x̄	High x̄	Critical x̄
January	7.7	7.7	8.0	8.2	7.9	7.7
February	6.2	6.2	6.5	6.7	6.3	6.1
March	5.8	5.9	6.2	6.3	6.0	6.0
April	2.5	2.6	2.8	2.8	2.6	2.6
May	1.3	1.3	1.4	1.4	1.3	1.3
June	0.7	0.7	0.7	0.7	0.8	0.8
July	0.6	0.7	0.7	0.7	0.8	0.8
August	1.3	1.3	1.3	1.3	1.3	1.3
September	3.0	3.0	3.2	3.2	3.0	2.9
October	7.0	7.1	7.5	7.6	7.3	7.2
November	8.1	8.1	8.4	8.5	8.1	7.9
December	44.1	44.5	46.6	47.5	45.3	44.3
Annual total	7.7	7.7	8.0	8.2	7.9	7.7

Table S2h. Non–fire average monthly precipitation (cm)

Variable	Low x̄	Low–mod x̄	Mod x̄	Mod–high x̄	High x̄	Critical x̄
January	8.5	8.6	8.8	8.8	8.7	8.4
February	7.0	7.1	7.2	7.2	7.2	6.9
March	6.6	6.7	6.8	6.8	6.9	6.8
April	2.9	2.9	3.0	3.0	3.2	3.2
May	1.4	1.4	1.5	1.5	1.6	1.6
June	0.7	0.7	0.7	0.7	0.8	0.8
July	0.7	0.7	0.7	0.7	0.8	0.8
August	1.3	1.3	1.3	1.3	1.3	1.3
September	3.2	3.3	3.3	3.3	3.4	3.2
October	7.8	8.0	8.2	8.2	8.3	8.2
November	8.9	9.0	9.2	9.1	9.1	8.9
December	49.0	49.6	50.4	50.3	50.7	49.7
Annual total	8.5	8.6	8.8	8.8	8.7	8.4

Supplementary Table S3. Results of the Generalized Linear Modeling regression analyses between categories of suitability and various macrohabitat variables for the Monument Fire and the Non–fire HSMs. CFA = cover from above; DBH = diameter breast height; df = degrees of freedom. The null deviance shows how well the response is predicted by the model with nothing but an intercept. The residual deviance shows how well the response is predicted by the model when the predictors are included; P–values: * $= 0.05$, ** $= 0.01$, *** $= 0.001$.

Table S3a. Monument Fire HSM: Log (forest stand site characteristics)

Variable set	Estimate	t–value	P–value
Total tree CFA	0.00	–1.2	0.215
Conifer CFA	0.00	1.5	0.123
Hardwood CFA	0.12	1.3	0.193
Overstory tree diameter	–0.01	–3.5	0.000***
CWHR size (DBH)	0.08	8.5	0.000***
Elevation	0.00	–8.9	0.000***
Evapotranspiration	0.06	25.3	0.000***
Distance to nearest stream	0.00	2.3	0.024*
Null deviance	1,914	7,343 df	$\chi^2 = 182$, P < 0.001***
Residual deviance	1,732	7,335 df	

Table S3b. Non–fire HSM: Log (forest stand site characteristics)

Variable set	Estimate	t–value	P–value
Total tree CFA	0.01	2.4	0.017*
Conifer CFA	0.00	–0.4	0.705
Hardwood CFA	0.07	0.9	0.372
Overstory tree diameter	0.00	2.4	0.016*
CWHR size (DBH)	–0.04	–4.6	0.000***
Elevation	0.00	–21.3	0.000***
Evapotranspiration	0.02	30.4	0.000***
Distance to nearest stream	0.00	11.0	0.000***
Null deviance	2,164	8,805 df	$\chi^2 = 356$, P < 0.001***
Residual deviance	1,808	8,797 df	

Table S3c. Monument Fire HSM: Log (averaged minimum monthly temperature [°C])

Variable set	Estimate	t–value	P–value
January	0.04	2.5	0.011**
February	0.10	6.5	0.000***
March	0.04	2.4	0.016*
April	−0.03	−1.8	0.067
May	0.02	1.4	0.157
June	−0.04	−3.1	0.002**
July	−0.15	−9.1	0.000***
August	0.10	6.6	0.000***
September	−0.04	−3.1	0.002**
October	0.11	9.1	0.000***
November	−0.06	−4.1	0.000***
December	0.06	3.6	0.000***
Annual	−0.14	−6.4	0.000***
Null deviance	1,937	7,412 df	$\chi^2 = 172, P < 0.001$***
Residual deviance	1,765	7,399 df	

Table S3d. Non–fire HSM: Log (averaged minimum monthly temperature [°C])

Variable set	Estimate	t–value	P–value
January	0.05	3.9	0.000***
February	−0.03	−2.1	0.032*
March	0.02	1.2	0.241
April	0.15	10.4	0.000***
May	−0.08	−5.6	0.000***
June	−0.05	−5.3	0.000***
July	0.00	0.1	0.905
August	−0.05	−4.9	0.000***
September	0.15	15.1	0.000***
October	−0.16	−16.7	0.000***
November	0.04	3.1	0.002**
December	−0.07	−5.6	0.000***
Annual	0.2	9.7	0.000***
Null deviance	1,937.0	7,412 df	$\chi^2 = 252, P < 0.001$***
Residual deviance	1,685.0	7,399 df	

Table S3f. Monument Fire HSM: Log (averaged maximum monthly temperature [°C])

Variable set	Estimate	t–value	P–value
January	–0.16	–8.1	0.000***
February	0.05	2.3	0.019**
March	0.31	12.0	0.000***
April	0.14	4.1	0.000***
May	–0.18	–4.1	0.000***
June	0.51	13.5	0.000***
August	0.98	22.4	0.000***
September	–1.71	–4.4	0.000***
October	–0.51	–17.2	0.000***
November	0.42	17.5	0.000***
December	–0.15	–7.7	0.000***
Annual	–0.01	–0.9	0.398
Null deviance	1,937	7,412 df	$\chi^2 = 394, P < 0.001$***
Residual deviance	1,544	7,400 df	

Table S3g. Non–fire HSM: Log (averaged maximum monthly temperature [°C])

Variable set	Estimate	t–value	P–value
January	0.16	7.2	0.000***
February	–0.26	–11.3	0.000***
March	0.16	6.8	0.000***
April	0.28	10.5	0.000***
May	0.30	10.4	0.000***
June	–0.65	–16.5	0.000***
August	0.76	20.2	0.000***
September	–2.04	–5.8	0.000***
October	–0.26	–9.1	0.000***
November	0.23	11.9	0.000***
December	0.05	2.3	0.022**
Annual	–0.07	–8.7	0.000***
Null deviance	2,424	9,847 df	$\chi^2 = 272, P < 0.001$***
Residual deviance	2,153	9,835 df	

Supplementary Table S4. Results of the linear discriminant function analyses of sets of log–transformed environmental variables that were significantly correlated with suitability in the GLM regression analyses for the Monument Fire (n = 4,669) and the Non–fire (n = 6,971) HSM subsets on the first two discriminant functions (DF). Proportion of trace (loadings) are indicated for each variable. OTD = overstory tree diameter, CFA = cover from above, DBH = diameter breast height.

Table S4a. Forest stand characteristics

Variable	Monument Fire DF I (70.8%)	Monument Fire DF II (26.3%)	Non–fire DF I (76.7%)	Non–fire DF II (20.6%)
OTD (DBH)	0.4	–3.2	–0.4	1.2
CWHR size	1.3	4.0	0.7	1.5
Elevation	–0.8	–2.5	3.4	–3.5
Evapotranspiration	12.4	3.0	–7.1	–4.4
Distance to stream	0.0	–0.2	–0.1	0.0
Total tree CFA	——	——	–2.2	–0.7

Table S4b. Average minimum monthly temperature (°C)

Variable	Monument Fire DF I (52.6%)	Monument Fire DF II (32.9%)	Variable	Non–fire DF I (57.0%)	Non–fire DF II (31.0%)
January	–18.0	–12.6	January	6.1	–5.2
February	–5.2	–11.9	February	–2.4	23.1
March	21.7	14.2	April	4.1	0.9
June	–20.6	33.0	May	–15.0	–21.5
July	–32.9	33.4	June	2.5	48.3
August	33.8	–18.3	August	–0.4	–6.8
September	34.4	7.9	September	44.5	–27.8
October	9.5	–22.8	October	–22.2	26.2
November	–34.8	5.5	November	10.5	11.4
December	18.4	–0.9	December	–22.0	28.3
Annual	36.5	–29.5	Annual	71.1	8.9

Table S4c. Average maximum monthly temperature (°C)

Variable	Monument Fire DF I (71.1%)	Monument Fire DF II (14.3%)	Variable	Non–fire DF I (64.1%)	Non–fire DF II (18.2%)
February	46.4	–29.5	January	–36.0	–10.2
March	–38.4	–61.8	March	–34.8	–0.4
April	74.9	77.4	May	21.6	16.9
July	–35.0	–77.1	June	108.9	–1.4
August	–37.9	132.8	July	–94.7	–27.2
September	–7.6	–110.6	October	–78.6	–4.4
October	–33.2	13.8	November	5.5	30.1
December	–38.7	–39.7	December	18.7	–36.3
Annual	41.6	113.2	Annual	18.7	28.3

Table S4c. Average monthly precipitation (cm)

Variable	Monument Fire DF I (62.8%)	Monument Fire DF II (24.6%)	Non-fire DF I (46.0%)	Non-fire DF II (37.6%)
January	–8.1	8.3	7.7	–11.2
February	1.4	–10.4	–9.7	–12.9
March	9.7	3.9	8.1	1.3
April	1.3	3.2	4.0	7.3
May	–0.7	–1.4	2.0	3.1
June	1.0	0.9	–1.9	2.7
August	1.7	1.7	2.0	–0.6
September	–10.9	2.6	–15.7	7.5
October	–6.3	–10.2	–6.1	–2.4
November	14.7	2.2	13.0	–6.1
December	–5.3	–4.6	–1.1	9.8
Annual	——	——	–18.4	5.9

Supplementary Table S5. Summary of total ha in watersheds encompassed by the Monument Fire map and the total and percent of ha of suitable macrohabitat potentially affected. Watersheds that contained the largest areas (ha) of High and Critical suitable habitat are indicated by bolded numbers. Bolded numbers are those watersheds with the largest acreages. (Moderate = mod)

Name	Total	Low (%)	Low-mod (%)	Mod (%)	Mod-high (%)	High (%)	Critical (%)	Total
1. Barker Cr.	1,612	193 (12.0%)	197 (12.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	390
2. Baxter Gulch	1,980	664 (33.5%)	100 (5.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	764
3. Bear Cr.	1,942	280 (14.4%)	311 (16.0%)	311 (16.0%)	452 (23.3%)	139 (7.2%)	0 (0.0%)	**1,493**
4. Bell Cr.	2,477	855 (34.5%)	293 (11.8%)	236 (9.5%)	4 (0.2%)	0 (0.0%)	0 (0.0%)	1,388
5. Big Bar Cr.	3,202	1,302 (40.7%)	39 (1.2%)	14 (0.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1,355
6. Big Canyon	630	327 (51.9%)	132 (21.0%)	7 (1.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	466
7. Big Cr.	1,918	263 (13.7%)	286 (14.9%)	308 (16.1%)	523 (27.3%)	127 (6.6%)	1 (0.1%)	**1,508**
8. Brock Gulch 1	235	22 (9.4%)	0 (0.0%)	0 90.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	22
9. Brock Gulch 2	401	86 (21.4%)	139 (34.7%)	10 (2.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	235
10. Buttes Cr.	395	38 (9.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	38
11. Canadian Cr.	3,132	359 (11.5%)	571 (18.2%)	830 (26.5%)	900 (28.7%)	34 (1.1%)	0 (0.0%)	**2,694**
12. China Cr.	292	111 (38.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	111
13. Conner Cr.	1,848	769 (41.6%)	199 (10.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	968
14. Digger Pine Flat	586	130 (/22.2%)	448 (76.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	578
15. Dinner Gulch	1,744	0 (0.0%)	101 (5.8%)	273 (15.7%)	385 (22.1%)	739 (42.4%)	246 (14.1%)	**1,744**
16. Don Juan Cr.	2,122	401 (18.9%)	297 (14.0%)	270 (12.7%)	325 (15.3%)	9 (0.4%)	0 (0.0%)	**1,302**
17. Drinkwater Gulch	1,795	965 (53.8%)	115 (6.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1,080
18. Duncan Gulch	296	15 (5.1%)	180 (60.8%)	101 (34.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	296
19. Dutch Cr.	2,284	591 (25.9%)	501 (21.9%)	373 916.3%)	153 (6.7%)	0 (0.0%)	0 (0.0%)	1,618
20. Eagle Cr.	2,656	1,312 (49.4%)	360 (13.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1,672
21. E. Fork Big French Cr.	2,667	389 (14.6%)	191 (7.2%)	20 (0.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	600
22. Italian Cr.	1,868	141 (7.5%)	281 (15.0%)	1,094 (58.6%)	291 (15.6%)	0 (0.0%)	0 (0.0%)	1,807
23. Kingsbury Gulch	559	13 (2.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	13
24. Little Cr.	1,986	558 (28.1%)	302 (15.2%)	44 (2.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	904
25. Little French Cr.	3,142	836 (26.6%)	946 (30.1%)	501 (15.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2,283
26. Lower Big Cr.	2,584	362 (14.0%)	481 (18.6%)	18 (0.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	861
27. Lower Big French Cr.	2,705	152 (5.6%)	368 (13.6%)	760 (28.1%)	800 (29.6%)	427 (15.8%)	56 (2.1%)	**2,563**
28. Lower Corral Cr.	508	3 (0.6%)	1 (0.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	4

Name	Total	Low (%)	Low-mod (%)	Mod (%)	Mod-high (%)	High (%)	Critical (%)	Total
29. Lower Tule Cr.	627	239 (38.1%)	266 (42.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	505
30. Manzanita Cr.	2,829	494 (17.5%)	275 (9.7%)	308 (10.9%)	167 (5.9%)	0 (0.0%)	0 (0.0%)	1,244
31. Maxwell Cr.	203	26 (12.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	26
32. Middle Big French Cr.	2,104	299 (14.2%)	356 (16.9%)	445 (21.2%)	354 (16.8%)	52 (2.5%)	3 (0.1%)	**1,509**
33. Mill Cr. 1	3,043	658 (21.6%)	961 (31.6%)	595 (19.6%)	271 (8.9%)	0 (0.0%)	0 (0.0%)	2,485
34. Mill Cr. 2	1,438	880 (61.2%)	104 (7.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	984
35. Miners Cr.	3,245	455 (14.0%)	395 (12.2%)	254 (7.8%)	333 (10.3%)	176 (5.4%)	142 (4.4%)	**1,755**
36. N. Fork Gulch	908	387 (42.6%)	71 (7.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	458
37. Prince Cr.	2,131	457 (21.4%)	380 (17.8%)	111 (5.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	948
38. Rich Gulch	380	177 (46.6%)	201 (52.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	378
39. Rowdy Bar Cr.	1,821	17 (0.9%)	260 (14.3%)	1,065 (58.5%)	479 (26.3%)	0 (0.0%)	0 (0.0%)	1,821
40. Rusch Cr.	2,563	390 (15.2%)	979 (38.2%)	804 (31.4%)	28 (1.1%)	0 (0.0%)	0 (0.0%)	2,201
41. Sailor Bar Cr.	2,625	1,030 (39.2%)	228 (8.7%)	228 (8.7%)	9 (0.3%)	0 (0.0%)	0 (0.0%)	1,495
42. Soldier Cr.	2,391	926 (38.7%)	110 (4.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1,036
43. Thurston Gulch	894	108 (12.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	108
44. Treloar Cr.	2,613	704 (26.9%)	1,242 (47.5%)	209 (8.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2,155
45. Upper Big French Cr.	924	18 (1.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	18
46. Upper Carr Cr.	693	46 (6.6%)	8 (1.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	54
47. Upper Corral Cr.	2,018	115 (5.7%)	4 (0.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	119
48. Yellow Jacket Cr.	99	15 (15.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	15

Supplementary Table S6. Summary of watersheds encompassed by the Monument Fire Soil Burn Severity (SBS) map and the percent of ha affected. Bolded numbers are those watersheds with the largest acreages affected by the fire.

Watershed	Total	Unburned-very low	%	Low	%	Moderate	%	High	%
1. Barker Cr.	1,611	187	11.6%	841	52.2%	482	29.9%	**102**	6.3%
2. Baxter Gulch	1,978	464	23.4%	850	43.0%	603	30.5%	61	3.1%
3. Bear Cr.	1,940	328	16.9%	1,049	54.0%	549	28.3%	15	0.8%
4. Bell Cr.	2,474	712	28.8%	1,357	54.9%	399	16.1%	6	0.2%
5. Big Bar Cr.	3,200	652	20.4%	1,714	53.6%	816	25.5%	17	0.5%
6. Big Canyon	627	75	11.9%	383	61.1%	148	23.6%	21	3.3%
7. Big Cr.	1,910	666	34.9%	952	49.9%	283	14.8%	9	0.5%
8. Brock Gulch 1	234	28	12.1%	144	61.3%	61	26.1%	1	0.5%
9. Brock Gulch 2	279	24	8.6%	251	89.9%	0	0.0%	4	1.4%
10. Buttes Cr.	379	27	7.1%	294	77.5%	54	14.3%	4	1.1%
11. Canadian Cr.	3,130	269	8.6%	1,242	39.7%	1,438	46.0%	**181**	5.8%
12. China Cr.	291	143	49.3%	133	45.6%	15	5.2%	0	0.0%
13. Conner Cr.	1,846	670	36.3%	737	39.9%	430	23.3%	10	0.5%
14. Digger Pine Flat	586	115	19.7%	322	55.0%	143	24.5%	5	0.8%
15. Dinner Gulch	1,740	335	19.2%	882	50.7%	458	26.3%	66	3.8%
16. Don Juan Cr.	2,121	542	25.6%	1,151	54.3%	406	19.1%	22	1.0%
17. Drinkwater Gulch	1,794	119	6.6%	595	33.2%	773	43.1%	**307**	17.1%
18. Duncan Gulch	296	27	9.0%	202	68.4%	57	19.4%	10	3.2%
19. Dutch Cr.	2,282	158	6.9%	952	41.7%	833	36.5%	**339**	14.9%
20. Eagle Cr.	2,664	556	20.9%	1,046	39.3%	942	35.3%	**121**	4.5%
21. East Fork Big French Cr.	2,654	520	19.6%	1,137	42.8%	982	37.0%	16	0.6%
22. Italian Cr.	1,866	430	23.0%	1,052	56.4%	379	20.3%	5	0.3%
23. Kingsbury Gulch	558	44	7.9%	326	58.5%	158	28.3%	30	5.3%
24. Little Cr.	1,985	178	8.9%	881	44.4%	798	40.2%	**128**	6.5%
25. Little French Cr.	3,139	570	18.2%	1,247	39.7%	1,285	40.9%	37	1.2%
26. Lower Big Cr.	2,582	199	7.7%	1,396	54.1%	772	29.9%	**216**	8.4%
27. Lower Big French Cr.	2,703	846	31.3%	1,526	56.4%	329	12.2%	2	0.1%
28. Lower Corral Cr.	507	148	29.2%	285	56.2%	74	14.5%	1	0.1%

Watershed	Total	Unburned-very low	%	Low	%	Moderate	%	High	%
29. Lower Tule Cr.	626	83	13.3%	394	62.9%	121	19.3%	28	4.5%
30. Manzanita Cr.	2,827	670	23.7%	1,468	51.9%	601	21.3%	88	3.1%
31. Maxwell Cr.	203	30	14.9%	126	61.9%	33	16.5%	14	6.8%
32. Middle Big French Cr.	2,102	560	26.6%	1,105	52.6%	429	20.4%	8	0.4%
33. Mill Cr. 1	1,437	90	6.3%	473	32.9%	806	56.1%	67	4.7%
34. Mill Cr. 2	3,040	750	24.7%	1,842	60.6%	398	13.1%	49	1.6%
35. Miners Cr.	3,243	679	20.9%	1,739	53.6%	772	23.8%	52	1.6%
36. North Fork Gulch	907	195	21.4%	454	50.0%	258	28.4%	1	0.1%
37. Prince Cr.	2,129	547	25.7%	1,123	52.7%	444	20.9%	15	0.7%
38. Rich Gulch	380	156	41.0%	159	41.7%	66	17.2%	0	0.1%
39. Rowdy Bar Cr.	1,819	117	6.4%	755	41.5%	840	46.2%	**107**	5.9%
40. Rusch Cr.	2,558	85	3.3%	944	36.9%	1,183	46.2%	**346**	13.5%
41. Sailor Bar Cr.	2,623	466	17.8%	1,386	52.9%	746	28.5%	24	0.9%
42. Soldier Cr.	2,385	331	13.9%	1,243	52.1%	688	28.8%	**123**	5.2%
43. Thurston Gulch	892	171	19.1%	331	37.1%	343	38.5%	48	5.3%
44. Treloar Cr.	2,611	111	4.3%	835	32.0%	1,559	59.7%	**105**	4.0%
45. Upper Big French Cr.	920	369	40.1%	268	29.1%	249	27.1%	34	3.7%
46. Upper Carr Cr.	692	73	10.6%	505	73.0%	102	14.7%	12	1.8%
47. Upper Corral Cr.	2,016	473	23.5%	1,041	51.7%	480	23.8%	22	1.1%
48. Yellow Jacket Cr.	99	58	58.3%	38	38.2%	3	3.40%	0	0.0%