

Supplementary material

Resilience of a ponderosa pine plantation to a backfiring operation during a mid-summer wildfire

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Table S1. Means and standard errors for height, height to live crown (HLC), quadratic mean diameter (QMD), and basal area (BA) among tree density and understory shrub treatments in a ponderosa pine plantation in northern California in 2005 and four years after a backfire (2016). The Mill Fire, during which the backfire was set, occurred in July 2012.

Year	Variable	Shrub treatment	550 TPH	1080 TPH	1680 TPH	2200 TPH	MEAN
2005	Height (m)	V0	10.4 (1.4)	10.0 (1.7)	8.8 (1.7)	8.4 (0.5)	9.2 (0.5)
		V0.5	6.5 (2.0)	8.1 (2.1)	6.1 (1.2)	6.2 (0.4)	6.6 (0.6)
		V1	5.6 (1.1)	7.1 (1.8)	4.4 (0.5)	5.3 (0.4)	5.5 (0.5)
		MEAN	7.5 (1.1)	8.4 (1.0)	6.4 (0.9)	6.6 (0.4)	
	HLC (m)	V0	2.5 (0.5)	3.0 (0.5)	3.2 (0.8)	3.0 (0.2)	2.9 (0.2)
		V0.5	2.3 (0.4)	3.0 (0.6)	2.7 (0.4)	2.8 (0.2)	2.7 (0.2)
		V1	2.5 (0.4)	3.1 (0.6)	2.2 (0.2)	2.7 (0.3)	2.7 (0.2)
		MEAN	2.4 (0.4)	3.1 (0.3)	2.7 (0.3)	2.8 (0.1)	
	QMD (cm)	V0	21.3 (2.1)	18.4 (2.1)	15.6 (1.9)	14.7 (0.5)	17.0 (0.9)
		V0.5	13.4 (3.6)	13.8 (2.5)	11.5 (1.9)	11.5 (0.3)	12.4 (0.9)
		V1	12.2 (2.0)	12.9 (2.2)	8.5 (0.7)	9.7 (0.6)	10.6 (0.7)
		MEAN	15.7 (2.0)	15.0 (1.4)	11.9 (1.3)	12.0 (0.6)	
	BA (m ² ha ⁻¹)	V0	19.6 (3.2)	25.6 (5.5)	27.4 (4.3)	30.4 (1.7)	26.7 (1.8)
		V0.5	8.6 (3.6)	16.0 (5.8)	14.5 (3.1)	19.6 (1.4)	15.7 (1.8)
		V1	6.7 (2.3)	14.8 (3.9)	8.8 (1.6)	14.5 (2.4)	11.9 (1.5)
		MEAN	11.6 (2.7)c	18.8 (3.1)ab	16.9 (3.2)b	21.5 (1.9)a	
2016	Height (m)	V0	11.8 (1.9)	11.7 (2.1)	10.3 (2.4)	10.1 (0.5)	10.8 (0.7)
		V0.5	8.0 (2.5)	9.5 (2.9)	7.1 (1.5)	7.8 (0.5)	8.1 (0.8)
		V1	6.7 (1.6)	6.4 (0.6)	5.3 (0.8)	7.5 (0.9)	6.7 (0.5)
		MEAN	8.9 (1.3)	9.6 (1.4)	7.6 (1.1)	8.5 (0.5)	
	HLC (m)	V0	3.6 (0.7)	4.9 (0.5)	4.7 (1.6)	4.7 (0.6)	4.5 (0.4)
		V0.5	3.0 (0.9)	4.2 (1.3)	3.3 (0.7)	3.5 (0.3)	3.5 (0.4)
		V1	2.9 (0.6)	3.2 (0.6)	2.4 (0.2)	3.8 (0.5)	3.1 (0.3)
		MEAN	3.2 (0.4)	4.1 (0.6)	3.5 (0.6)	4.0 (0.3)	
	QMD	V0	23.8 (3.1)	20.8 (2.6)	17.9 (2.7)	17.2 (0.6)	19.4 (1.1)

	(cm)	V0.5	15.9 (4.2)	17.0 (3.0)	13.7 (2.0)	14.4 (0.7)	15.1 (1.1)
		V1	14.6 (2.7)	13.1 (1.6)	9.9 (1.0)	13.2 (1.2)	12.8 (0.9)
		MEAN	18.1 (2.2)	17.4 (1.7)	13.8 (1.5)	15.0 (0.6)	
	BA	V0	23.2 (5.2)	30.7 (8.5)	31.9 (5.1)	25.8 (4.8)	27.5 (2.8)
	(m ² ha ⁻¹)	V0.5	11.4 (5.9)	21.0 (7.5)	16.8 (2.9)	22.0 (3.2)	18.4 (2.4)
		V1	8.4 (2.8)	13.9 (1.7)	11.3 (2.3)	12.6 (3.2)	11.6 (1.6)
		MEAN	14.3 (3.3)	22.8 (4.5)	20.0 (3.6)	20.0 (2.5)	

Note: V0, all shrub removal; V0.5, half shrub removal; V1, no shrub removal.