

Additional file 3 Significant ($\alpha = 0.05$) covariates within overall (2008 to 2016) and end-result (2016) ANCOVA and ANOVA models of groundcover during monitoring of oak woodland and savanna restoration experiments at Catoosa Wildlife Management Area (Cumberland County, Tennessee, USA), Green River Game Lands (Polk County, North Carolina, USA), and Land Between the Lakes National Recreation Area (Stewart County, Tennessee, USA). Referenced statistics include the test statistic (F) and probability value (P).

Model	Catoosa Wildlife Management Area				Green River Game Lands				Land Between the Lakes			
	Covariates	F	P	Slope (SE)	Covariates	F	P	Slope (SE)	Covariates	F	P	Slope (SE)
Overall models (2008 to 2016)												
Graminoid	Slope	9.4	0.002	−0.20 (0.06)	Aspect	16.2	<0.001	−1.59 (0.54)	Slope	6.8	0.009	−0.10 (0.03)
	Aspect	9.3	0.002	−2.00 (0.65)					Position	5.9	0.015	0.91 (0.39)
	Position	20.0	<0.001	−1.91 (0.43)								
Forb	—	—	—	—	—	—	—	—	—	—	—	—
Richness	Slope	9.1	0.003	−0.05 (0.02)	Aspect	7.2	0.008	−0.67 (0.21)	Position	8.3	0.004	0.30 (0.10)
	Position	24.0	<0.001	−0.58 (0.12)	Position	10.5	0.001	−0.30 (0.15)				
Diversity	Position	39.0	<0.001	−0.11 (0.02)	Slope	8.1	0.005	4.5E−3 (1.6E−3)	Position	4.9	0.028	0.05 (0.02)
					Aspect	10.9	0.001	−0.13 (0.04)				
					Position	5.6	0.019	−0.06 (0.03)				
Woody	Aspect	11.2	0.001	−2.40 (0.72)	Slope	4.7	0.030	−0.12 (0.06)	Slope	5.8	0.017	0.14 (0.06)
	Position	15.2	<0.001	1.83 (0.47)					Aspect	11.2	0.001	3.13 (0.94)
Litter	Aspect	41.9	<0.001	4.10 (0.63)	—	—	—	—	Slope	5.3	0.022	−0.13 (0.06)
									Position	5.9	0.015	−1.62 (0.67)
Debris	Aspect	17.6	<0.001	−1.33 (0.32)	—	—	—	—	—	—	—	—
Bare	Position	4.5	0.034	0.34 (0.17)	—	—	—	—	Aspect	8.6	0.003	−0.82 (0.37)
End-result models (2016)												
Graminoid	Position	5.6	0.019	−4.33 (1.82)	Slope	6.3	0.015	−0.71 (0.28)	—	—	—	—
					Position	9.6	0.003	17.89 (5.77)				
Forb	—	—	—	—	—	—	—	—	—	—	—	—
Richness	—	—	—	—	Aspect	5.1	0.029	−1.86 (0.83)	—	—	—	—
Diversity	—	—	—	—	Aspect	5.0	0.030	−0.30 (0.14)	—	—	—	—
Woody	Aspect	4.5	0.037	−3.54 (1.68)	—	—	—	—	Aspect	10.8	0.001	7.76 (2.36)
Litter	Aspect	17.0	<0.001	5.04 (1.22)	—	—	—	—	—	—	—	—
Debris	Aspect	21.2	<0.001	−4.49 (0.97)	—	—	—	—	—	—	—	—
	Position	14.2	<0.001	2.88 (0.76)								
Bare	Slope	5.4	0.022	0.05 (0.02)	Slope	4.1	0.049	0.21 (0.12)	Aspect	11.1	0.001	−3.35 (1.17)