

Appendix 3: Cumulative model weights of variables from the first model selection phase estimating the relationship between habitat predictor variables and abundance of bird species at Burning Star State Fish and Wildlife Area. In this first phase of model selection, we created a set of models comprising all single variables and all pairwise combinations of variables within a spatial scale. Variables with cumulative model weights ≥ 0.2 were used in the second model selection phase. The sign in parentheses next to the bolded model weights indicates the direction of the predictor variable's effect on the response variable.

Variable	Cumulative model weights		
	Dickcissel	Field Sparrow	Common Yellowthroat
Within-patch scale			
fire	0.28 (+)	0.45 (-)	0.12
forbs	0.24 (+)	0.08	0.20 (+)
grass	0.09	0.08	0.14
ground	0.04	0.15	0.12
lit.depth	0.04	0.12	0.27 (-)
plant.div	0.78 (+)	0.08	0.13
veg.dens	0.04	0.10	0.12
veg.height	0.07	0.17	0.22 (-)
woody.cover	0.30 (-)	0.36 (+)	0.14
Patch scale			
ag.edge	0.12	0.26 (+)	0.17
edge.int	0.90 (-)	0.04	0.30 (-)
patch.size	0.20 (+)	0.64 (+)	0.19
road.edge	0.13	0.07	0.17
forest.edge	0.13	0.73 (+)	0.18
water.edge	0.11	0.19	0.16
Landscape scale			
pct.ag	1.00 (+)	0.22 (-)	0.34 (+)
pct.devt	0.11	0.18	0.18
pct.grassland	0.12	0.19	0.18
pct.forest	0.19	0.31	0.25 (-)
pct.water	0.14	0.22 (-)	0.18