

Appendix 2. Metrics for the different lesser prairie-chicken lek suitability models including two different vegetation neighborhood sizes (1,600 m and 5,000 m) and three different layers related to wells (count within 1,600 m, count within 800 m, and distance to nearest well). Metrics in the table include AUC values for the test and the training data sets, percent of the historic area classified as novel, two threshold values to discretize the model (minimum training presence [MTP] and the 10 percentile training presence [10 per.]), and the percent of the historic area classified as known used by the thresholds. Distance to wells resulted in a much greater amount of novel area, so we only retained well density. Assessment metrics were similar for the remaining models. Experts agreed that the 1,600 m vegetation models were over predicting known used habitat, so we chose 5,000 m. Well count within 1,600 m performed slightly better than well count within 800 m.

Model		AUC			Threshold value		Known used (%)	
Vegetation neighborhood	Well layer	Test	Train	Novel %	MTP	10 per.	MTP	10 per.
1,600m	Count 1600m	0.819	0.836	32.1	0.018	0.179	74	13
	Count 800m	0.814	0.839	31.1	0.019	0.182	73	12
	Distance to	0.827	0.844	49.8	0.022	0.18	64	9
5,000m	Count 1,600m	0.805	0.829	35	0.024	0.2	52	10
	Count 800m	0.803	0.829	34.1	0.021	0.198	56	10
	Distance to	0.81	0.838	50.7	0.023	0.189	46	9