Supporting Information

Stone et al. 2022. Fence management and time since pack formation influence African wild dog escapes from protected areas in South Africa.

Journal for Nature Conservation.

Table S1. The 18 *a priori* candidate regression models used to investigate factors explaining the probability of African wild dog pack exits from fenced reserves in KwaZulu-Natal, South Africa, 2003-2017. Models were ranked according to the Akaike Information Criterion (AICc). Models used in the model averaging procedure were those with a cumulative Akaike weight ≤ 0.95 and top models were selected (bold) where ΔAICc ≤ 2 following Burnham and Anderson (1998). Listed values refer to interaction terms where applicable.

Rank	Form of regression	*df*	loglikelihood	AICc	ΔAICc	w_i	Pseudo-R^2
1	**Fence integrity + Time since pack formation + Fence integrity × Time since pack formation**	**8**	**−339.55**	**695.19**	**0.00**	**>0.99**	**0.78**
2	Fence integrity + Rainfall + Fence integrity × Rainfall	8	−348.47	713.02	17.83	0	0.84
3	Time since pack formation	4	−353.46	714.95	19.76	0	0.63
4	Fence integrity + Prey density + Fence integrity × Prey density	8	−349.89	715.87	20.68	0	0.86
5	Fence integrity + Pack size + Fence integrity × Pack size	8	−355.30	726.69	31.50	0	0.68
6	Fence integrity + Lion density + Fence integrity × Lion density	8	−355.81	727.71	32.52	0	0.76
7	Fence integrity	5	−359.98	729.99	34.80	0	0.65
8	Fence integrity + Distance to river + Fence integrity × Distance to river	8	−359.67	735.42	40.23	0	0.67

9	Lion density + Pack size + Lion density × Pack size	6	−365.74	743.52	48.33	0	0.65
10	Pack size	4	−367.88	743.78	48.59	0	0.63
11	Pack size + Prey density + Pack size × Prey density	6	−365.87	743.80	48.61	0	0.60
12	Lion density + Prey density + Lion density × Prey density	6	−367.45	746.96	51.77	0	0.71
13	Lion density	4	−369.89	747.80	52.61	0	0.66
14	Prey density	4	−370.05	748.13	52.94	0	0.63
15	Rainfall	4	−370.10	748.22	53.03	0	0.61
16	Distance to river	4	−370.11	748.25	53.06	0	0.61
17	Wild dog density	4	−370.18	748.38	53.19	0	0.61
18	Distance to river + Rainfall + Distance to river × Rainfall	6	−370.02	752.09	56.91	0	0.61

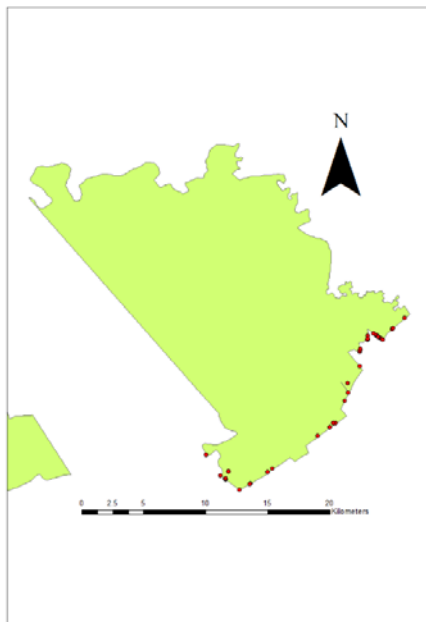**Reserve Maps of African Wild Dog Pack Exit Locations**

Map 1: Hluhluwe-iMfolozi Park reserve boundary (red dots represent African wild dog pack exit locations)
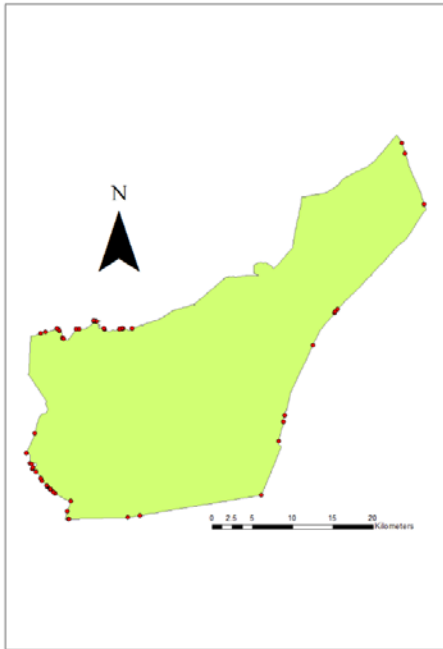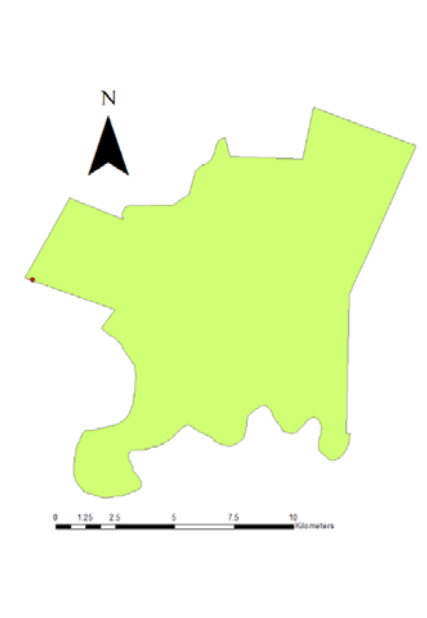

Map 2: Tembe Elephant Park reserve boundary (red dots represent African wild dog pack exit locations)
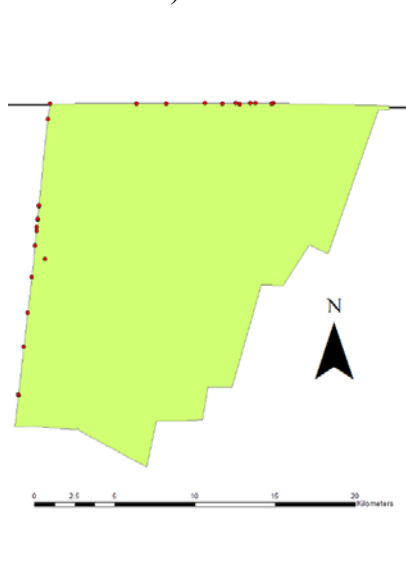
Map 3: uMkhuze Game Reserve boundary (red dots represent African wild dog pack exit locations)
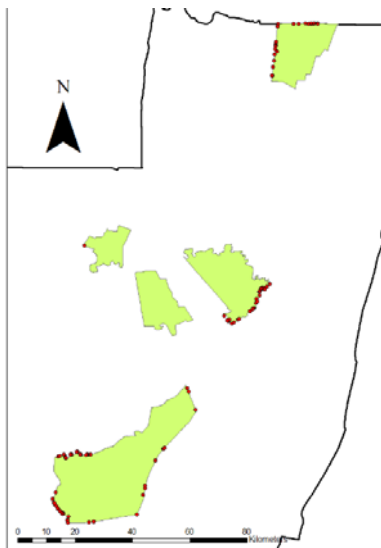

Map 4: Somkhanda Game Reserve boundary (red dot represents African wild dog pack exit location)

Map 5: Manyoni Private Game Reserve boundary (no exits recorded)

Map 6: Overview map of each of the reserves included in the study and their relative position within KwaZulu-Natal, South Africa

LITERATURE CITED

Burnham, K. P., and D. R. Anderson. 1998. Model selection and inference: a practical
information-theoretic approach. Springer-Verlag, New York, USA.