

Appendix

Step by Step: Using Integrated Step Selection Analysis to Simulate Wild Dog Dispersal and Assess Landscape Connectivity

David D. Hofmann^{1,§} John W. McNutt² Arpat Ozgul¹ Gabriele Cozzi^{1,2}
Dominik M. Behr^{1,2}

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¹ Department of Evolutionary Biology and Environmental Studies, University of Zurich,
Winterthurerstrasse 190, 8057 Zurich, Switzerland.

² Botswana Predator Conservation Trust, Private Bag 13, Maun, Botswana.

[§] Corresponding author (david.hofmann2@uzh.ch)

Running Title: Simulating Wild Dog Dispersal.

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corridors, *Lycaon pictus*, permeability surface, protected areas, wildlife management

A.1 Movement Models

Table S1: Results from the forward model selection procedure based on Akaike's Information Criterion (AIC; Burnham and Anderson, 2002) for the movement model. The base model upon which we based our movement model is depicted in the last row. We omitted any other model with an AIC weight of zero.

Covariates	AIC	Δ AIC	Weight	LogLik	Model ID
Base Model + log(sl):MA + W:log(sl) + DTW:cos(ta.) + HI:cos(ta.) + T:log(sl.)	89303.73	0.00	0.19	-44631.86	1
Base Model + log(sl):MA + W:log(sl) + DTW:cos(ta.) + HI:cos(ta.)	89304.49	0.76	0.13	-44633.24	2
Base Model + log(sl):MA + W:log(sl) + DTW:cos(ta.) + T:log(sl.)	89304.75	1.02	0.12	-44633.38	3
Base Model + log(sl):MA + W:log(sl) + DTW:cos(ta.) + HI:cos(ta.) + T:log(sl.) + DTW:log(sl.)	89305.30	1.57	0.09	-44631.65	4
Base Model + log(sl):MA + W:log(sl) + DTW:cos(ta.) + HI:cos(ta.) + T:log(sl.) + T:cos(ta.)	89305.37	1.64	0.09	-44631.68	5
Base Model + log(sl):MA + W:log(sl) + DTW:cos(ta.) + HI:cos(ta.) + T:log(sl.) + HI:log(sl.)	89305.37	1.64	0.09	-44631.69	6
Base Model + log(sl):MA + W:log(sl) + DTW:cos(ta.)	89305.45	1.72	0.08	-44634.73	7
Base Model + log(sl):MA + W:log(sl) + DTW:cos(ta.) + HI:cos(ta.) + T:log(sl.) + S:cos(ta.)	89305.72	1.99	0.07	-44631.86	8
Base Model + log(sl):MA + W:log(sl) + DTW:cos(ta.) + HI:cos(ta.) + T:log(sl.) + S:log(sl.)	89305.72	2.00	0.07	-44631.86	9
Base Model + log(sl):MA + W:log(sl) + DTW:cos(ta.) + HI:cos(ta.) + T:log(sl.) + W:cos(ta.)	89305.72	2.00	0.07	-44631.86	10
Base Model: cos(ta.) + log(sl.) + W + T + DTW + HI + S	90091.40	787.67	0.00	-45030.70	NA

Note: W = Water, DTW = Distance To Water, S = Shrubs/Grassland, T = Trees, P = Protected, HI = Human Influence, RC = Road Crossing, DTR = Distance To Roads, MA = Main Activity.

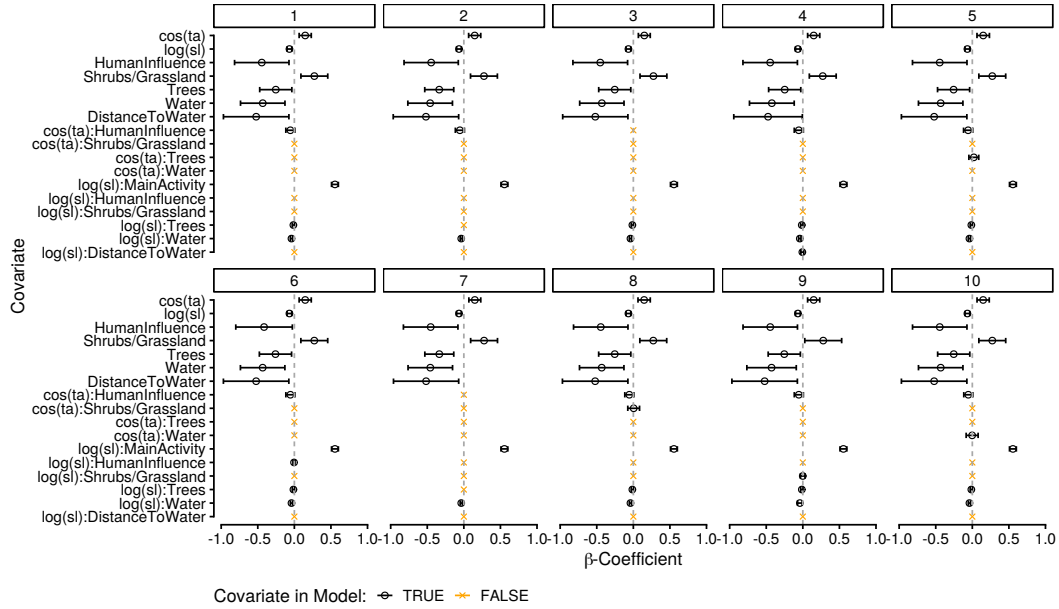


Figure S1: Coefficients of all movement models with an AIC weight above one.

References

Burnham, K. P. and Anderson, D. R. (2002). *Model Selection and Multimodel Inference: A Practical Information-Theoretic Approach*. Springer Science & Business Media, New York, NY, USA.