

Additional File Table S1: K-fold cross-validation results. Robustness of models was evaluated by k-fold cross validation for case-control design, following the method of Fortin et al. 2009 [1]. The SSFs were built using a random selection of 80% of the data strata and then used to predict the SSF scores for the remaining 20% of strata. The observed location was then ranked against the random locations, for each stratum, and ranks were tallied. Spearman rank correlations (r_s) were carried out with the bin's ranking and associated frequency. The procedure was repeated 100 times and the mean and range of r_s are shown. The mean and expected range of r_s are also shown, calculated by ranking one random location against the other random locations, per strata, tallying ranks and using Spearman rank correlations (r_s). Again this was repeated 100 times.

model	obs. r_s value (range)	random obs. value (range)
dispersers before	0.774 (0.460 – 0.980)	-0.018 (-0.767 – 0.753)
dispersers during	0.723 (0.192 – 0.980)	0.004 (-0.821 – 0.721)
dispersers after	0.678 (0.182 – 0.925)	0.010 (-0.614 – 0.663)
residents before	0.675 (0.128 – 0.945)	0.015 (-0.709 – 0.693)
residents during	0.740 (0.343 – 0.955)	0.046 (-0.879 – 0.758)
residents after	0.698 (0.110 – 0.943)	-0.017 (-0.718 – 0.745)
disp. during long steps	0.064 (-0.446 – 0.685)	0.051 (-0.774 – 0.800)
disp. during short steps	0.676 (0.270 – 0.973)	-0.007 (-0.693 – 0.693)

References

1. Fortin D, Fortin ME, Beyer HL, Duchesne T, Courant S, Dancose K: **Group-size-mediated habitat selection and group fusion-fission dynamics of bison under predation risk.** *Ecology* 2009, **90**:2480-2490.