Additional files to: Does estimator choice influence our ability to detect changes in home-range size?

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Additional Figures

Underlying pattern Scenario 1a and 1b

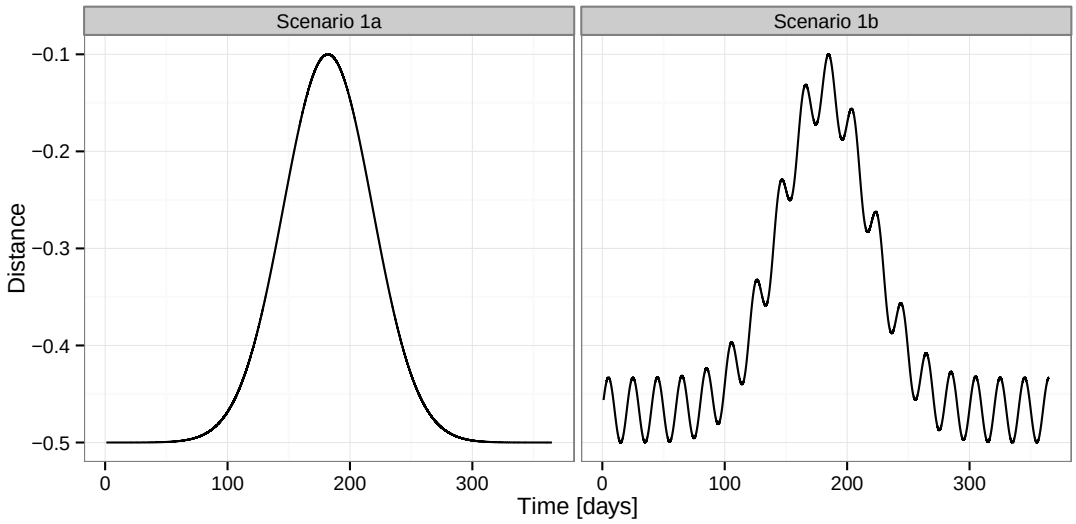

Figure S1: To simulate varying movement costs over the course of one year we used a rescaled Gaussian density function. For scenario we added additional sinusoidal noise.

Landscapes Scenario 2

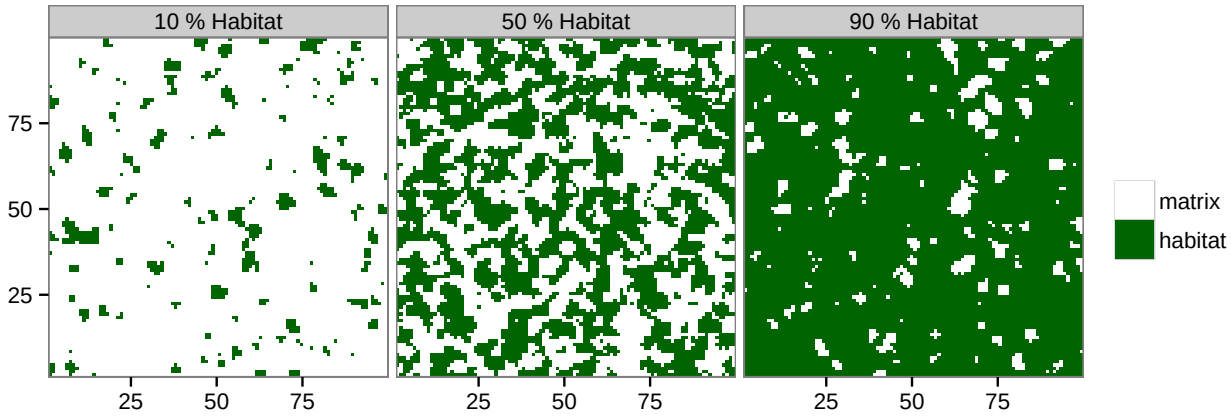

Figure S2: Three examples of simulated landscapes with different amounts of favorable habitat, that were used for simulation scenario 2. Animals selected with a higher probability habitat cells and walked faster (larger step lengths) in the matrix (unfavorable habitat).

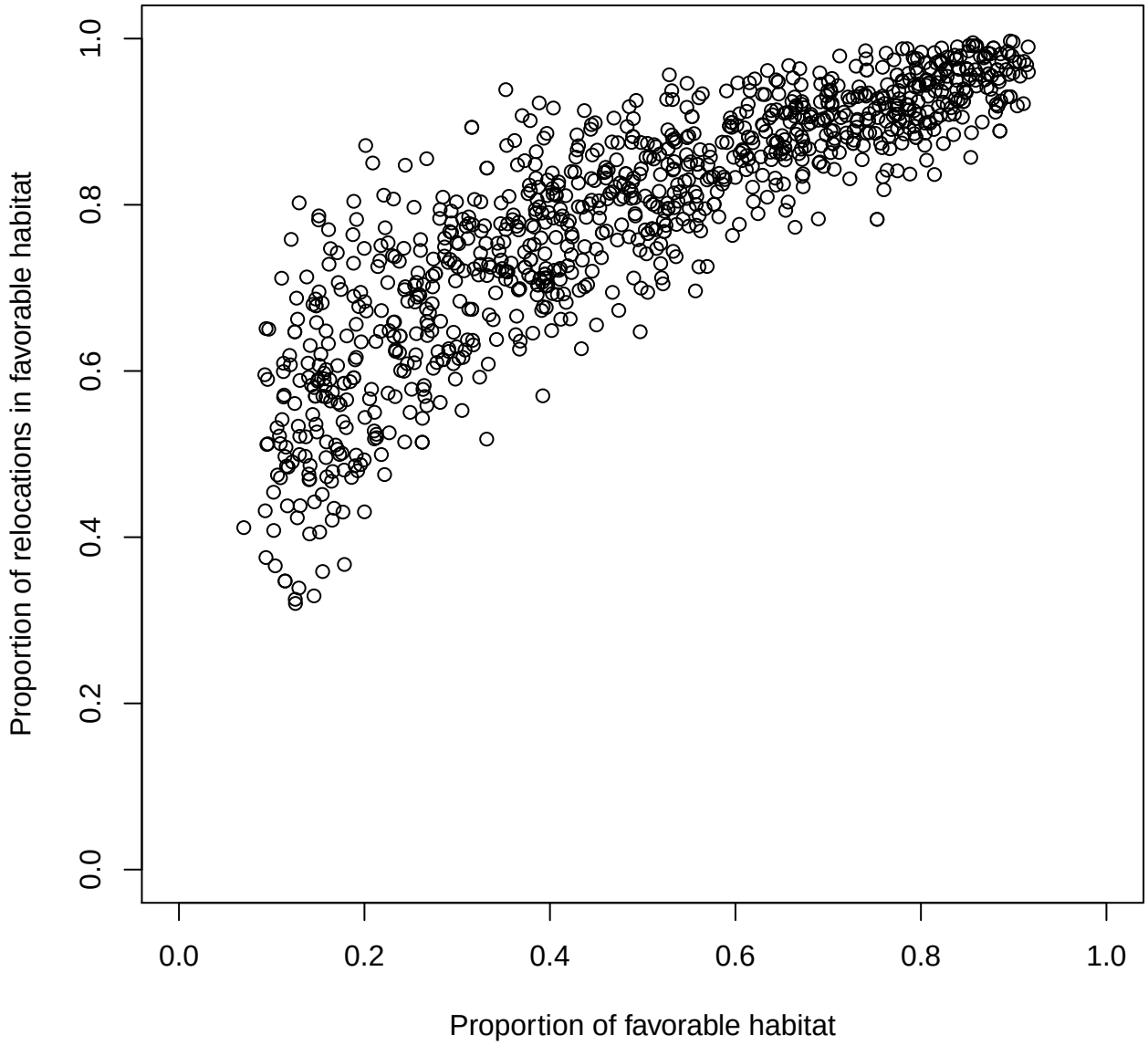

Figure S3: Fraction of relocations located in favorable habitat as afunction of the amount of favorable habitat in the landscape.

Example Simulation Scenario 1

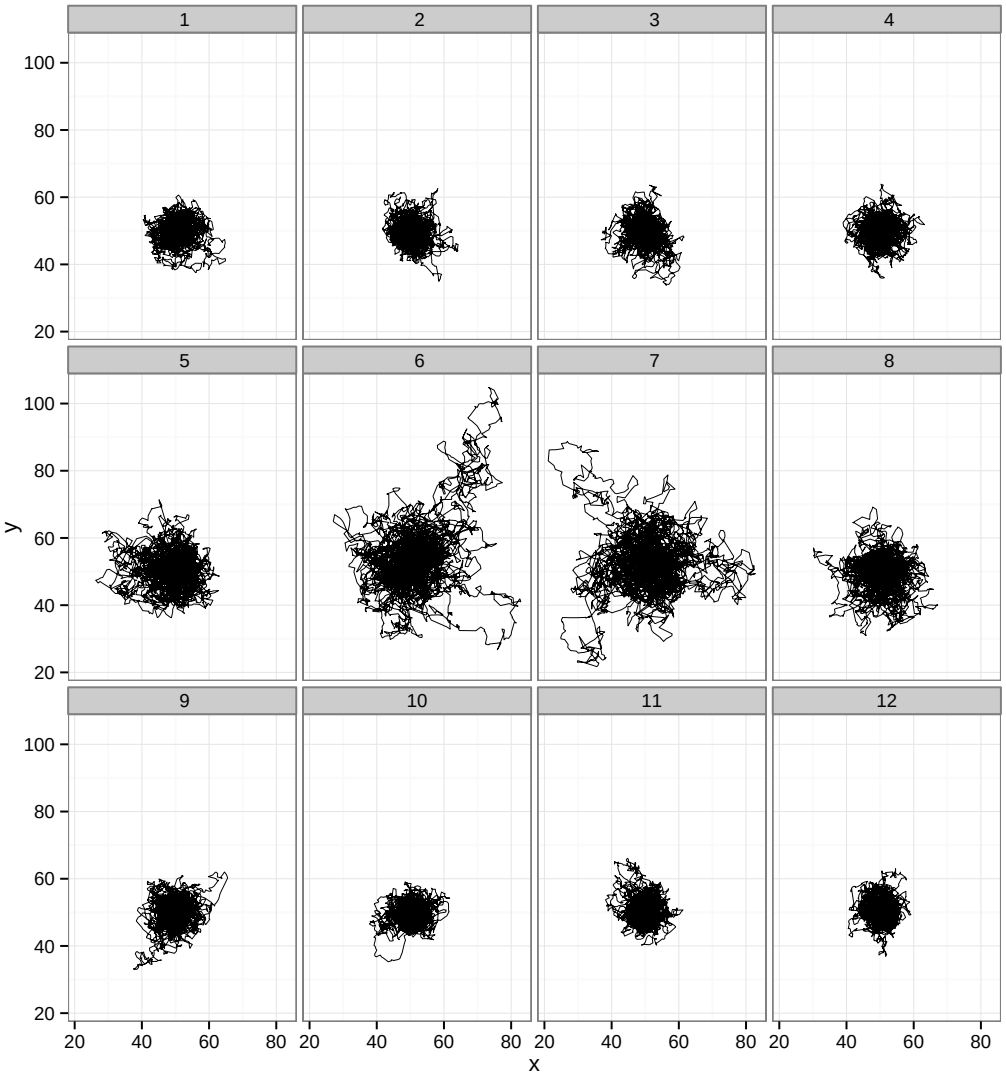

Figure S4: One realization of simulation scenario 1a divided by month. Different panels show the movement path for different months. The pullback mechanism towards the home-range center gets weaker in the middle of the year (months 5-8) and the animal is able to expand its range to account for higher movement costs.

Results scenario 1a

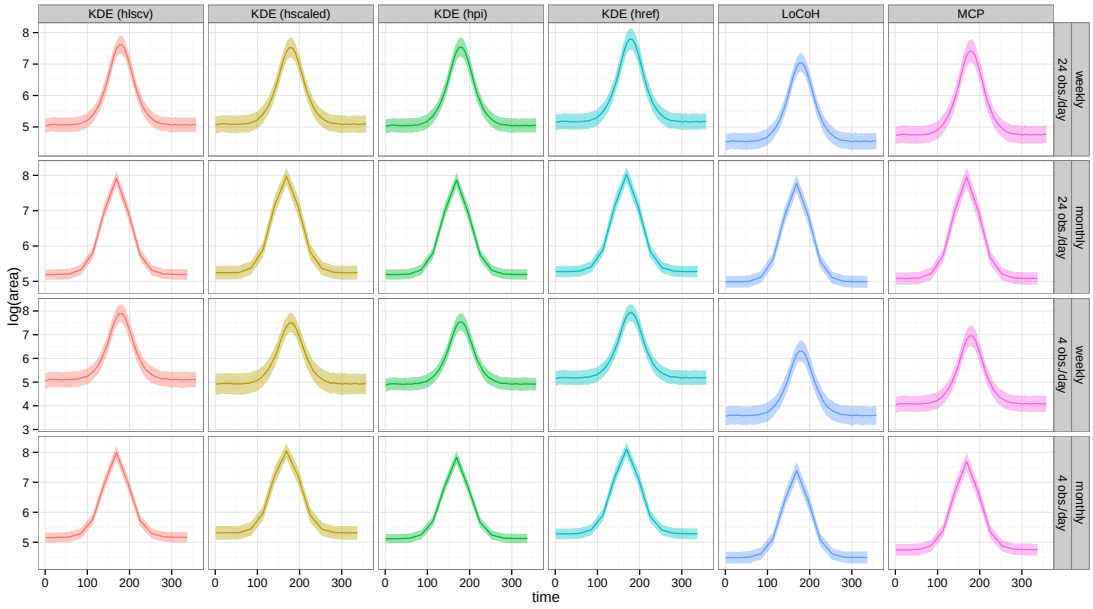

Figure S5: Averaged log(HRS) (± standard deviation) of 1000 realizations of animals moving according to simulation scenario 1a for six different home-range estimators (columns) and different analysis intervals and sampling rates (rows).

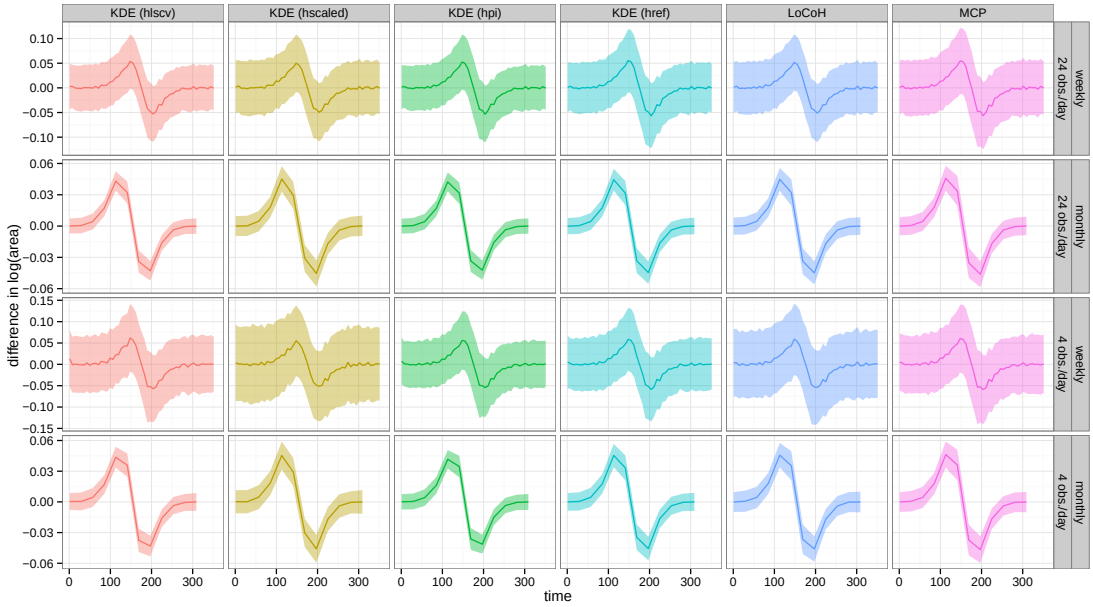

Figure S6: Averaged changes of log(HRS) (± standard deviation) from 1000 realizations of animals moving according to simulation scenario 1a for six different home-range estimators (columns) and different analysis intervals and sampling rates (rows).

Results scenario 1b

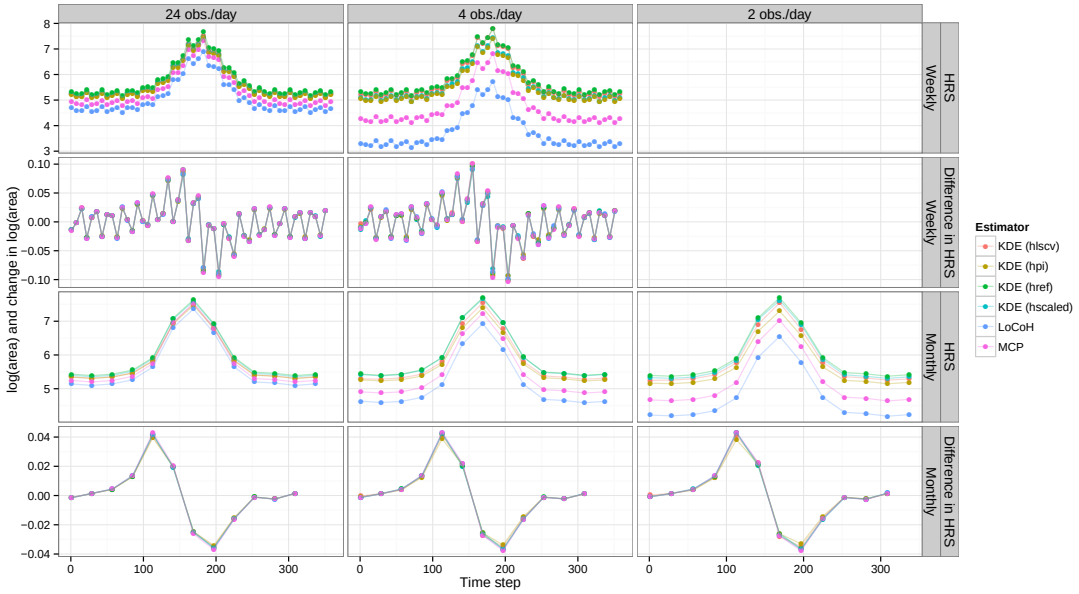

Figure S7: Average estimates of log(HRS) (first and third row) and changes of log(HRS) (second and fourth row) from 1000 realization of animals moving according to simulation model 1b at different analysis intervals (rows) and sampling rates (rows). We present results for all 6 estimators (different colors), two analysis intervals and three sampling rates. We required at least 20 relocations for any combination of sampling rate and analysis interval. Hence we did not considered weekly home ranges for two observation per day.

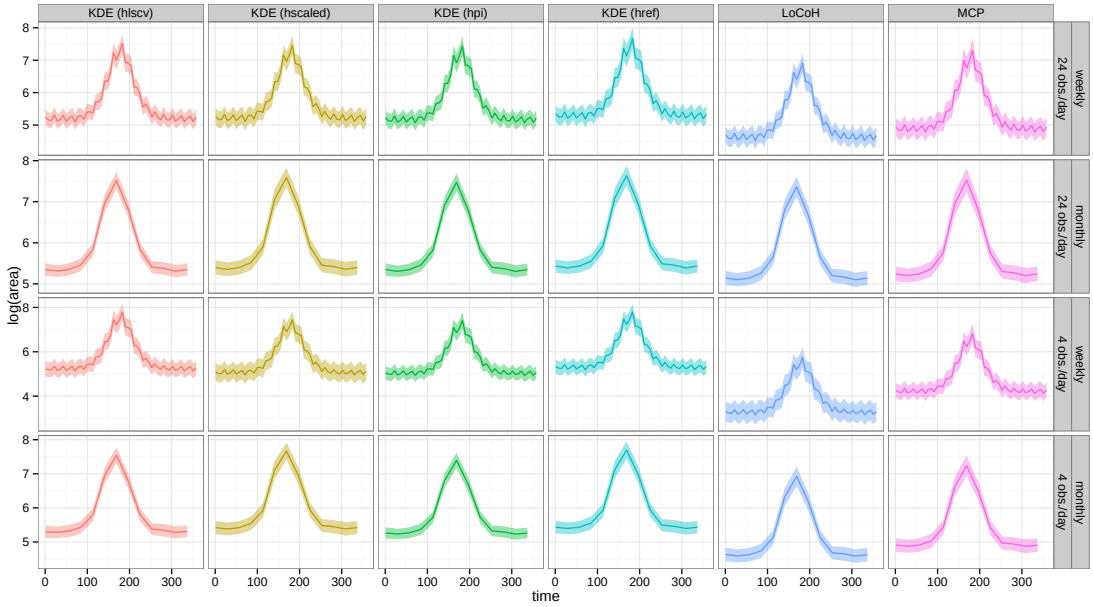

Figure S8: Averaged log(HRS) (± standard deviation) of 1000 realizations of animals moving according to simulation scenario 1b for six different home-range estimators (columns) and different analysis intervals and sampling rates (rows).

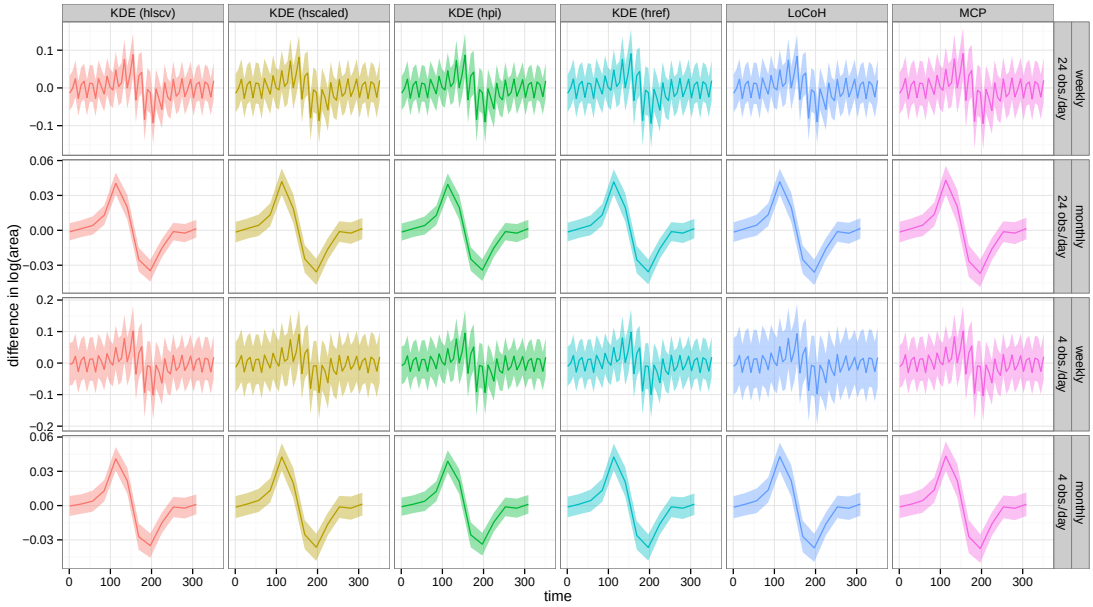

Figure S9: Averaged changes of log(HRS) (± standard deviation) from 1000 realizations of animals moving according to simulation scenario 1b for six different home-range estimators (columns) and different analysis intervals and sampling rates (rows).