

Ecography

ECOG-04716

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Supplementary material

Figure A2. An example (Canada lynx under RCP 6.0) to demonstrate the model parameterization part in the main text. (A): Dividing the study area into 428 equal-size 40 K 40 km blocks, and locating the block centroid in a habitat-suitability-weighted fashion, to account for the uneven distribution within the block. (B): The least-cost path connecting pairs of nodes, derived from the resistance surface (the inverse of habitat suitability).

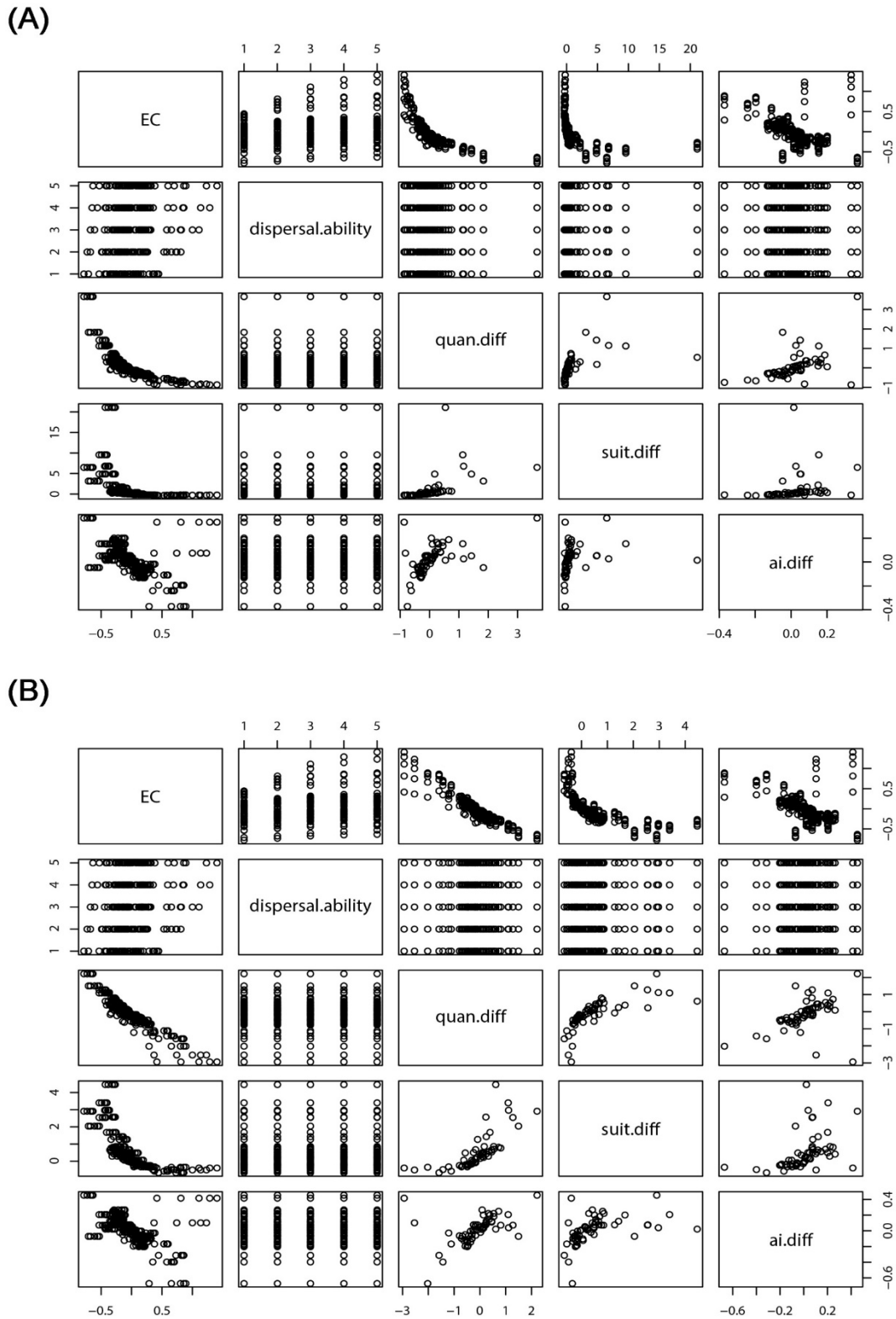


Figure A3. The relationships between explanatory variables and response variable (A) before and (B) after log-transformation. Variables of ‘quan.diff’, ‘suit.diff’ and ‘ai.diff’ denote difference proportions in habitat quantity, habitat suitability and habitat configuration (aggregation index), respectively.

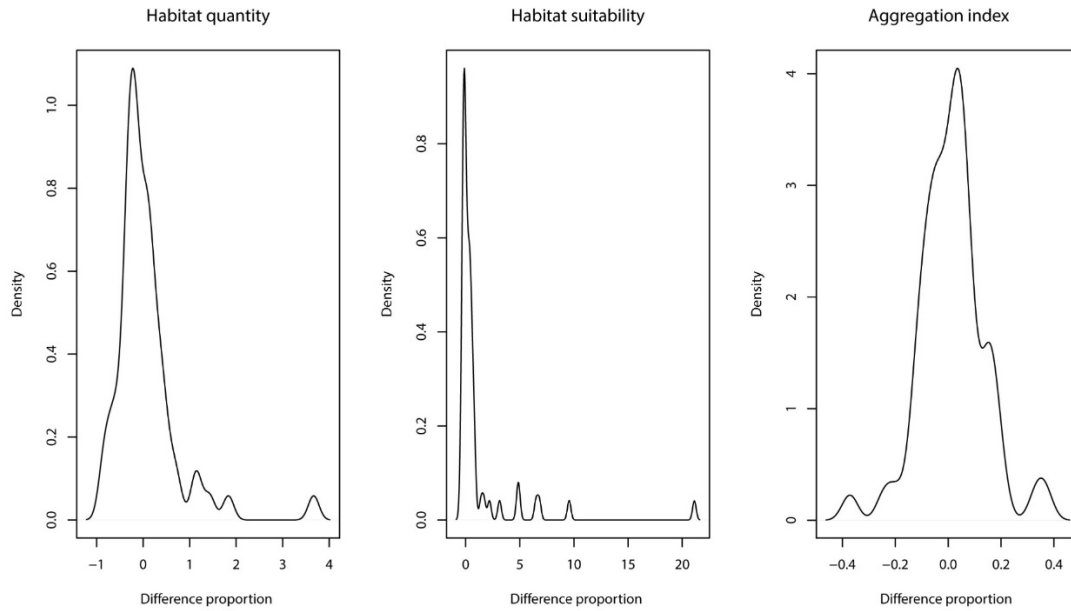


Figure A4. Density distributions of difference proportions of habitat quantity, habitat suitability and aggregation index in the virtual species distributions.

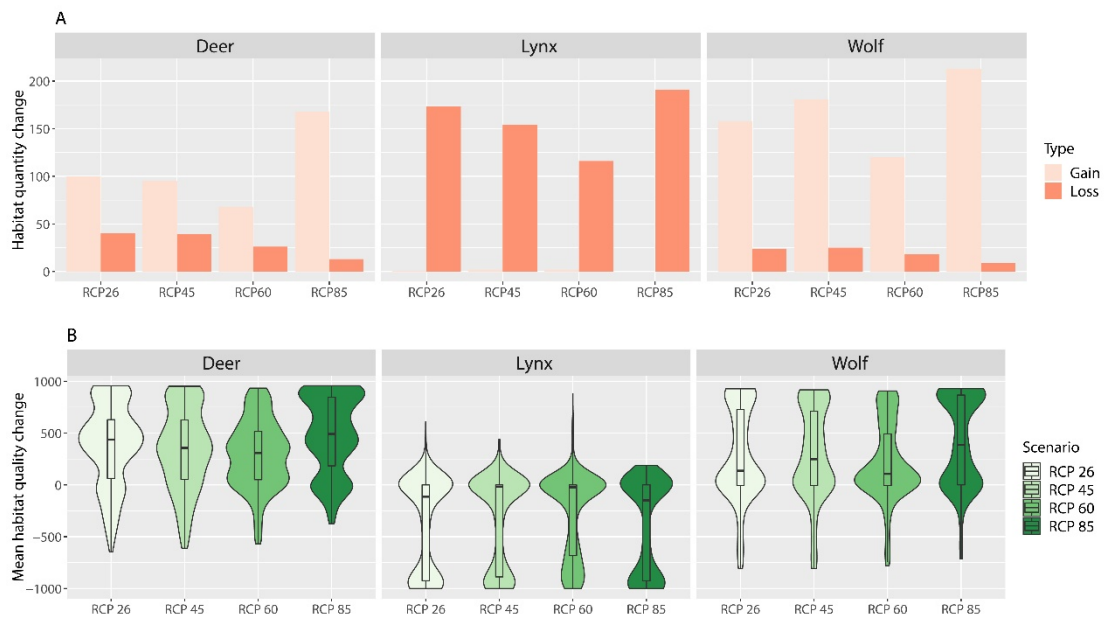


Figure A5. (A) The habitat quantity changes (number of blocks) for each species under future scenarios, where numbers of gained habitat are represented by light orange bars and lost habitat by orange bars. (B) The distribution of changes in mean habitat suitability across the 428 blocks for each species under future scenarios. Positive values indicate that future habitat suitability, on average, is predicted to be higher than the current one.

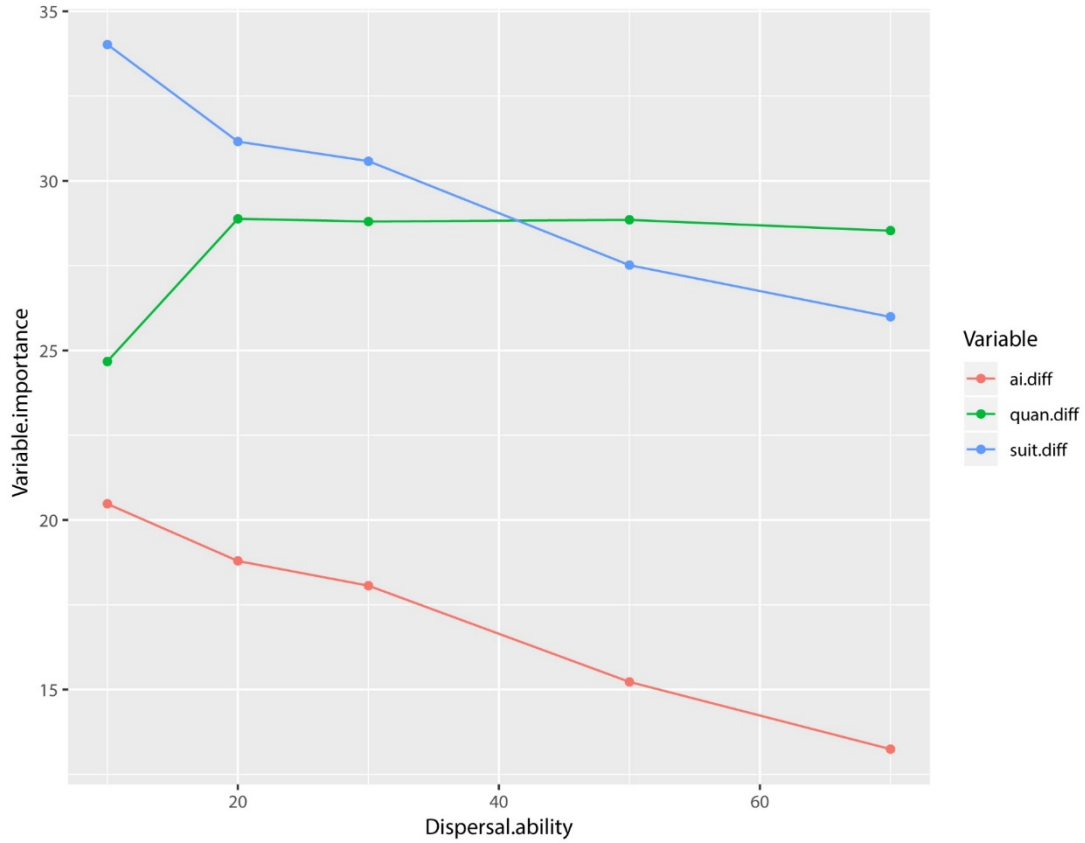


Figure A6. Variable importance in explaining the importance of spatio-temporal connectivity relative to spatial-only connectivity based on random forests algorithm. The importance measure is based on mean decrease in accuracy. Higher values indicate higher variable importance. Variables of ‘ai.diff’, ‘quan.diff’ and ‘suit.diff’ denote difference proportions in habitat configuration (aggregation index), habitat quantity and habitat suitability, respectively.

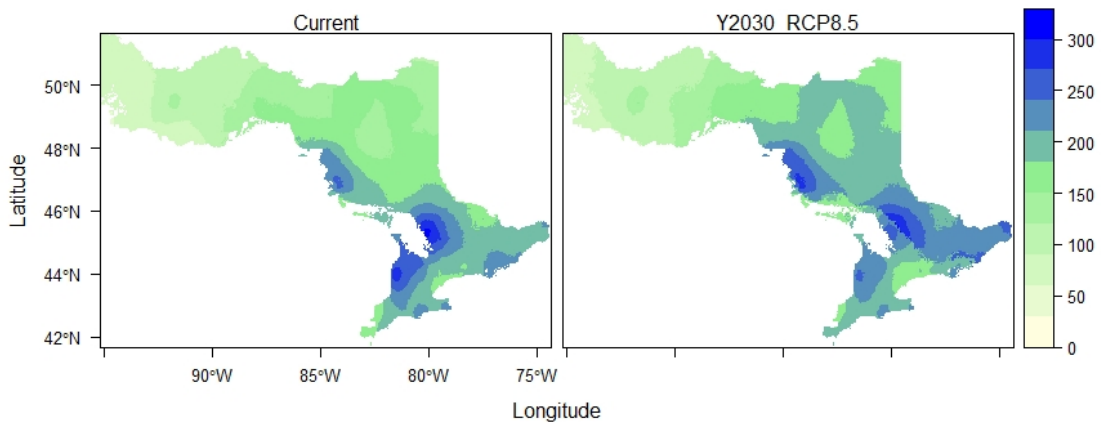


Figure A7. The precipitation of the coldest quarter (Bio_19) under current and future (Yr 2030, RCP 8.5) scenarios.

References

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- Saura, S., et al. 2011. Network analysis to assess landscape connectivity trends: Application to European forests (1990-2000). - *Ecol Indic* 11: 407-416.
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