Additional file 1.

Supplementary material for Marrotte et al., Multi-species genetic connectivity in a terrestrial habitat network.

Appendix 1. Description of cost values for different land cover elements in a study of multi-species genetic connectivity in Ontario, Canada. Cost estimates followed the methodology of Koen et al. [11].

<table>
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<th>Publisher</th>
<th>Land cover</th>
<th>Resistance</th>
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<td>100</td>
</tr>
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</tr>
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<td>Local / Street</td>
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</tr>
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</tr>
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<td>Fen - treed</td>
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<td>Bog - treed</td>
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<td>Agriculture - Pasture / abandoned fields</td>
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<tr>
<td>OMNRF, 1998</td>
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<td>Cost Surface Development Overlay Priority</td>
<td>Area of Inclusion</td>
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<td>--------------------------------------------------</td>
<td>------------------------------------------</td>
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<tr>
<td>Settlement and Developed Land</td>
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<td>Pasture and Abandoned Fields</td>
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<td>Small undifferentiated areas</td>
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*Superscript numbers represent cost surface development overlay priority. Priority 3 land cover data was only included in small undifferentiated areas.
Appendix 2. Correlation matrix for all variables considered in a multi-species genetic connectivity study in Ontario, Canada.

|                  | Sample Size | X       | Y       | ∑ of Edge Wt | ∑ of Inv Edge Wt | # of Edges | Avg Edge Wt | Avg Inv Edge Wt | Mean Cost (6 km) | Mean Cost (20 km) | Mean Cost (120 km) | Mean Current (6 km) | Mean Current (20 km) | Mean Current (120 km) | STD Current (6 km) | STD Current (20 km) | STD Current (120 km) | STD Cost (6 km) | STD Cost (20 km) |
|------------------|-------------|---------|---------|--------------|------------------|------------|-------------|-----------------|-----------------|------------------|---------------------|---------------------|---------------------|---------------------|-------------------|-----------------|-----------------|
| Sample Size      |             |         |         |              |                  |            |             |                 |                 |                  |                     |                     |                     |                    |                  |                 |                 |
| X                | -0.055      |         |         |              |                  |            |             |                 |                 |                  |                     |                     |                     |                    |                  |                 |                 |
| Y                | 0.049       | -0.837  |         | -0.254       | 0.006            | -0.476     | 0.231       |                 |                 |                  |                     |                     |                     |                    |                  |                 |                 |
| ∑ of Edge Wt     |              |         |         |              |                  |            |             |                 |                 |                  |                     |                     |                     |                    |                  |                 |                 |
| ∑ of Inv Edge Wt |              |         |         |              |                  |            |             |                 |                 |                  |                     |                     |                     |                    |                  |                 |                 |
| # of Edges       | -0.196      | -0.133  | -0.476  | 0.096        | 0.719           | 0.677      |             |                 |                 |                  |                     |                     |                     |                    |                  |                 |                 |
| Avg Edge Wt      | -0.239      | 0.498   | -0.648  | 0.810        | -0.542          | 0.213      |             |                 |                 |                  |                     |                     |                     |                    |                  |                 |                 |
| Avg Inv Edge Wt  | 0.245       | -0.571  | 0.721   | 0.696        | -0.326          | 0.944      |             |                 |                 |                  |                     |                     |                     |                    |                  |                 |                 |
| Mean Cost (6 km) | 0.186       | 0.222   | -0.400  | 0.055        | -0.326          | 0.237      |             |                 |                 |                  |                     |                     |                     |                    |                  |                 |                 |

Sample Size

X

Y

∑ of Edge Wt

∑ of Inv Edge Wt

# of Edges

Avg Edge Wt

Avg Inv Edge Wt

Mean Cost (6 km)

Mean Cost (20 km)

Mean Cost (120 km)

Mean Current (6 km)

Mean Current (20 km)

Mean Current (120 km)

STD Current (6 km)

STD Current (20 km)

STD Current (120 km)

STD Cost (6 km)

STD Cost (20 km)
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<th>0.178</th>
<th>-0.358</th>
<th>0.064</th>
<th>-0.240</th>
<th>-0.124</th>
<th>0.220</th>
<th>-0.228</th>
<th>0.627</th>
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<tr>
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<td>0.003</td>
<td>0.037</td>
<td>-0.344</td>
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<td>-0.134</td>
<td>0.330</td>
<td>-0.383</td>
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<td>Mean Current (6 km)</td>
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<td>-0.001</td>
<td>-0.575</td>
<td>0.163</td>
<td>-0.101</td>
<td>0.130</td>
<td>0.166</td>
<td>0.383</td>
<td>0.368</td>
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<tr>
<td>Mean Current (20 km)</td>
<td>-0.065</td>
<td>-0.021</td>
<td>-0.327</td>
<td>0.280</td>
<td>-0.112</td>
<td>0.112</td>
<td>0.321</td>
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<tr>
<td>Mean Current (120 km)</td>
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<td>-0.101</td>
<td>0.130</td>
<td>0.166</td>
<td>0.383</td>
<td>0.368</td>
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<tr>
<td>STD Cost (6 km)</td>
<td>0.108</td>
<td>0.143</td>
<td>-0.399</td>
<td>0.071</td>
<td>0.094</td>
<td>0.097</td>
<td>0.155</td>
<td>0.173</td>
<td>0.46</td>
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<td>STD Cost (20 km)</td>
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<td>-0.399</td>
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<td>0.094</td>
<td>0.097</td>
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<tr>
<td>STD Cost (120 km)</td>
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<td>0.002</td>
<td>-0.289</td>
<td>0.082</td>
<td>-0.294</td>
<td>-0.294</td>
<td>-0.270</td>
<td>-0.089</td>
<td>-0.034</td>
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</table>

STD Cost (6 km):
- 0.108
- 0.143
- 0.399
- 0.071
- 0.094
- 0.097
- 0.155
- 0.173
- 0.46

STD Cost (20 km):
- 0.099
- 0.143
- 0.399
- 0.071
- 0.094
- 0.097
- 0.155
- 0.173
- 0.46

STD Cost (120 km):
- 0.002
- 0.002
- 0.289
- 0.082
- 0.294
- 0.294
- 0.270
- 0.089
- 0.034
### Appendix 3. Description of data from each location sampled for four different species in a multi-species genetic connectivity study in Ontario, Canada.

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<th>Sample Size</th>
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<th>Avg Inv Edge Wt</th>
<th>Mean Cost 6km Buffer</th>
<th>Mean Cost 20 km Buffer</th>
<th>Mean Cost 120 km Buffer</th>
<th>Mean Cost 6km Buffer</th>
<th>Mean Cost 20 km Buffer</th>
<th>Mean Cost 120 km Buffer</th>
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| L8   | 1190125 | 12331202 | 15 | 4.448 | 0.231 | 37.6  | 94.4  | 135.7 | 0.884  | 0.638  | 0.076  |
| L9   | 985797  | 12603072 | 25 | 3.843 | 0.261 | 16.5  | 38.6  | 45.9  | 0.132  | 0.068  | 0.055  |
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*Flying Squirrel*