**Rapid conservation assessment for endangered species using habitat connectivity models**

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**APPENDIX 2**

**Significance testing**

**Table S2** Kruskal-Wallis test of difference in mean habitat characteristics in the northern range under current conditions, mining and urban development scenarios (df = 2). For each habitat characteristic \* indicates a significant difference between the three landscapes. Dunnett tests were subsequently conducted to determine how landscapes differed for these characteristics (Table S3).

|  |  |  |
| --- | --- | --- |
| ***Habitat Characteristics*** | ***H*** | ***p value*** |
| Mean Percent Local Forest Cover | 453.90 | 0.00\* |
| Patch Area (ha) | 34.13 | 0.00\* |
| Shape Index | 2.32 | 0.31 |
| Mean Distance to Edge (m) | 19.94 | 0.00\* |
| Minimum Distance to Conservation area (m) | 211.31 | 0.00\* |
| Mean Distance to Conservation Area (m) | 209.19 | 0.00\* |
| Mean Conductance | 14145.89 | 0.00\* |
| Total Conductance | 25.34 | 0.00\* |

**Table S3** Dunnett tests of mean habitat characteristics in the northern range under mining and urban development scenarios, as compared to current conditions. For each habitat characteristic \* indicates a significant difference between the development scenario and the current landscape.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***Test*** | ***Habitat Characteristics*** | ***Estimate*** | ***Std. Error*** | ***t value*** | ***Pr(>|t|)*** |
| Current - Mining | Mean Percent Local Forest Cover | -0.03 | 0.00 | -15.43 | 0.00\* |
|  | Patch Area (ha) | -0.27 | 4.93 | -0.05 | 1.00 |
|  | Mean Distance to Edge | 0.08 | 0.06 | 1.25 | 0.36 |
|  | Mean Distance to Conservation Area (m) | 69.61 | 33.82 | 2.06 | 0.07 |
|  | Mean Conductance | 0.31 | 1.97 | 0.16 | 0.98 |
|  | Total Conductance | 198964.00 | 87819.00 | 2.27 | 0.04\* |
| Current - Urban | Mean Percent Local Forest Cover | 0.01 | 0.00 | 6.41 | 0.00\* |
|  | Patch Area (ha) | 3.19 | 5.39 | 0.59 | 0.78 |
|  | Mean Distance to Edge | 0.23 | 0.07 | 3.24 | 0.00\* |
|  | Mean Distance to Conservation Area (m) | -298.45 | 36.96 | -8.08 | 0.00\* |
|  | Mean Conductance | -187.28 | 2.15 | -87.04 | 0.00\* |
|  | Total Conductance | 99956.00 | 95972.00 | 1.04 | 0.48 |

**Table S4** Kruskal-Wallis test of difference in mean habitat characteristics within the Morro de Calzada – Almendra corridor under current conditions, mining and urban development scenarios (df = 2). For each habitat characteristic \* indicates a significant difference between the three landscapes. Dunnett tests were subsequently conducted to determine how landscapes differed for these characteristics (Table S5).

|  |  |  |
| --- | --- | --- |
| ***Habitat Characteristics*** | ***H*** | ***p value*** |
| Mean Percent Local Forest Cover | 0.00 | 0.00\* |
| Patch Area (ha) | 78.22 | 0.00\* |
| Shape Index | 78.59 | 0.00\* |
| Mean Distance to Edge (m) | 58.57 | 0.00\* |
| Mean Conductance | 2.49 | 0.29 |
| Total Conductance | 108.76 | 0.00\* |
| Degree | 31.73 | 0.00\* |
| Mean Least Cost Path Density | 68.02 | 0.00\* |
| Connected Area (ha) | 0.31 | 0.85 |
| Minimum Travel Cost to Conservation Area | 18.12 | 0.00\* |
| Minimum Travel Cost to Nearest Patch | 54.83 | 0.03\* |

**Table S5** Dunnett tests of mean habitat characteristics within the Morro de Calzada – Almendra corridor under mining and urban development scenarios, as compared to current conditions. For each habitat characteristic \* indicates a significant difference between the development scenario and the current landscape.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***Test*** | ***Habitat Characteristics*** | ***Estimate*** | ***Std. Error*** | ***t value*** | ***Pr(>|t|)*** |
| Current - Mining | Mean Percent Local Forest Cover | -0.05 | 0.02 | -3.22 | 0.00\* |
|  | Patch Area (ha) | -39.46 | 41.57 | -0.95 | 0.53 |
|  | Shape Index | 0.07 | 0.02 | 3.43 | 0.00\* |
|  | Mean Distance to Edge | -1.17 | 1.54 | -0.76 | 0.66 |
|  | Total Conductance | 98.98 | 54.12 | 1.83 | 0.12 |
|  | Degree | 2.28 | 0.76 | 3.01 | 0.01\* |
|  | Mean Least Cost Path Density | 1.48 | 0.72 | 2.06 | 0.07 |
|  | Minimum Travel Cost to Conservation Area | 6084.00 | 2014.00 | 3.02 | 0.00\* |
|  | Minimum Travel Cost to Nearest Patch | -26.73 | 693.45 | -0.04 | 1.00 |
| Current - Urban | Mean Percent Local Forest Cover | -0.02 | 0.01 | -1.44 | 0.25 |
|  | Patch Area (ha) | -53.01 | 40.53 | -1.31 | 0.31 |
|  | Shape Index | 0.20 | 0.02 | 10.46 | 0.00\* |
|  | Mean Distance to Edge | -3.10 | 1.50 | -2.06 | 0.07 |
|  | Total Conductance | 92.50 | 52.77 | 1.75 | 0.14 |
|  | Degree | 3.89 | 0.74 | 5.26 | 0.00\* |
|  | Mean Least Cost Path Density | 2.51 | 0.70 | 3.57 | 0.00\* |
|  | Minimum Travel Cost to Conservation Area | 11826.00 | 1964.00 | 6.02 | 0.00\* |
|  | Minimum Travel Cost to Nearest Patch | -326.74 | 676.12 | -0.48 | 0.84 |