**Supplementary Material**

Long-term monitoring of landbirds on Aldabra Atoll indicates increasing population trends

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Table S1.Final models showing associations of spatial and temporal variables with abundance of seven focal landbird species on Aldabra.

Table S1.Final models showing associations of spatial and temporal variables with abundance of seven focal landbird species on Aldabra, derived from a hierarchical linear mixed-modelling procedure with Poisson distribution and stepwise backward elimination of non-significant terms. Slopes (ß; fixed variables) and variances (σ; random variable 'transect') are given with their standard errors, and terms are indicated in bold when left in the final model. GTE = Grand Terre East, GTS = Grand Terre South, GT = Grand Terre (both locations).

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter** | **ß ± s.e.** | ***χ*2**  | **df** | ***P*** |  | **Parameter** | **ß ± s.e.** | ***χ*2**  | **df** | ***P*** |
| (a) All birds |   |   |   |   |  | (e) Fody |   |   |   |   |
|  **Intercept** | -94.32 ± 7.16 |  |  |  |  |  **Intercept** | -94.01 ± 32.35 |  |  |  |
|  **Year** | 0.05 ± 0.001 | **176.05** | **1** | **<0.001** |  |  **Year** | 0.05 ± 0.02 | **8.33** | **1** | **0.004** |
|  **Season 1** | -0.15 ± 0.04 | **16.32** | **1** | **<0.001** |  |  **Season 1** | -0.71 ± 0.11 | **38.5** | **1** | **<0.001** |
|  **Island 2** |  | 6.53 | 3 | 0.09 |  |  **Island 2** |  | **63.92** | **3** | **<0.001** |
|  Malabar | 0.11 ± 0.17 |  |  |  |  |  Malabar | -1.30 ± 0.40 |  |  |  |
|  GTE | 0.08 ± 0.14 |  |  |  |  |  GTE | 0.73 ± 0.25 |  |  |  |
|  GTS | -0.22 ± 0.14 |  |  |  |  |  GTS | -1.62 ± 0.34 |  |  |  |
|  **Season 1 \* Island 2** |  | **45.28** | **3** | **<0.001** |  |  Season 1 \* Island 2 |  | 1.49 | 3 | 0.68 |
|  SE \* Malabar | 0.39 ± 0.06 |  |  |  |  |  SE \* Malabar | 0.59 ± 0.59 |  |  |  |
|  SE \* GTE | 0.01 ± 0.06 |  |  |  |  |  SE \* GTE | 0.23 ± 0.25 |  |  |  |
|  SE \* GTS | 0.04 ± 0.06 |  |  |  |  |  SE \* GTS | 0.29 ± 0.52 |  |  |  |
|  **End time** | -0.14 ± 0.03 | **29.86** | **1** | **<0.001** |  |  End time | -0.20 ± 0.13 | 2.32 | 1 | 0.13 |
|  **Nr of observers 3** |  | **22.26** | **2** | **<0.001** |  |  Nr of observers 3 |  | 0.35 | 1 | 0.84 |
|  2 observers | 0.13 ± 0.04 |  |  |  |  |  2 observers | 0.23 ± 0.25 |  |  |  |
|  ≥3 observers | 0.22 ± 0.05 |  |  |  |  |  ≥3 observers | 0.29 ± 0.52 |  |  |  |
| Random: σtransect2  | 0.017 ± 0.019 | 3.16 | 1 | 0.08 |  | Random: σtransect2  | 0.05 ± 0.04 | 1.39 | 1 | 0.24 |
|  |  |  |  |  |  |  |  |  |  |  |
| (b) Blue pigeon |   |   |   |   |  | (f) Sunbird |   |   |   |   |
|  **Intercept** | -135.89 ± 24.93 |  |  |  |  |  **Intercept** | -110.72 ± 9.64 |  |  |  |
|  **Year** | 0.07 ± 0.01 | **29.92** | **1** | **<0.001** |  |  **Year** | 0.06 ± 0.01 | **135.27** | **1** | **<0.001** |
|  Season 1 | -0.10 ± 0.08 | 1.82 | 1 | 0.18 |  |  **Season 1** | -0.23 ± 0.06 | **13.58** | **1** | **<0.001** |
|  **Island 2** |  | **258.41** | **3** | **<0.001** |  |  **Island 2** |  | 8.16 | 3 | 0.43 |
|  Malabar | 1.67 ± 0.18 |  |  |  |  |  Malabar | -0.27 ± 0.19 |  |  |  |
|  GTE | -0.13 ± 0.13 |  |  |  |  |  GTE | -0.22 ± 0.15 |  |  |  |
|  GTS | -2.15 ± 0.25 |  |  |  |  |  GTS | 0.20 ± 0.15 |  |  |  |
|  Season 1 \* Island 2 |  | 6.66 | 3 | 0.08 |  |  **Season 1 \* Island 2** |  | **37.59** | **3** | **<0.001** |
|  SE \* Malabar | 0.28 ± 0.18 |  |  |  |  |  SE \* Malabar | 0.67 ± 0.11 |  |  |  |
|  SE \* GTE | 0.55 ± 0.25 |  |  |  |  |  SE \* GTE | 0.10 ± 0.09 |  |  |  |
|  SE \* GTS | -0.36 ± 0.53 |  |  |  |  |  SE \* GTS | 0.19 ± 0.09 |  |  |  |
|  **End time** | -0.20 ± 0.09 | **5.34** | **1** | **0.021** |  |  End time | -0.04 ± 0.04 | 1.06 | 1 | 0.3 |
|  **Nr of observers 3** |  | **5.88** | **2** | **0.05** |  |  Nr of observers 3 |  | 3.38 | 2 | 0.18 |
|  2 observers | 0.27 ± 0.14 |  |  |  |  |  2 observers | -0.01 ± 0.06 |  |  |  |
|  ≥3 observers | 0.41 ± 0.17 |  |  |  |  |  ≥3 observers | 0.08 ± 0.07 |  |  |  |
| Random: σtransect2  | <0.001 ± <0.001 | <0.001 | 1 | 0.99 |  | Random: σtransect2  | 0.02 ± 0.01 | 3.41 | 1 | 0.06 |
|  |  |  |  |  |  |  |  |  |  |  |
| (c) Bulbul |   |   |   |   |  | (g) Turtle-dove |   |   |   |   |
|  **Intercept** | -55.57 ± 20.13 |  |  |  |  |  **Intercept** | -89.37 ± 15.33 |  |  |  |
|  **Year** | 0.03 ± 0.01 | **7.58** | **1** | **0.006** |  |  **Year** | 0.05 ± 0.01 | **34.81** | **1** | **<0.001** |
|  Season 1 | 0.14 ± 0.12 | 1.1 | 1 | 0.25 |  |  **Season 1** | 0.26 ± 0.07 | **13.22** | **1** | **<0.001** |
|  **Island 2** |  | **42.1** | **3** | **<0.001** |  |  **Island 2** |  | 25.52 | 3 | 0.43 |
|  Malabar | 0.01 ± 0.17 |  |  |  |  |  Malabar | 0.31 ± 0.52 |  |  |  |
|  GTE | 0.55 ± 0.12 |  |  |  |  |  GTE | -0.91 ± 0.43 |  |  |  |
|  GTS | -0.24 ± 0.15 |  |  |  |  |  GTS | -1.96 ± 0.45 |  |  |  |
|  **Season 1 \* Island 2** |  | **27.35** | **3** | **<0.001** |  |  **Season 1 \* Island 2** |  | **31.36** | **3** | **<0.001** |
|  SE \* Malabar | 0.35 ± 0.21 |  |  |  |  |  SE \* Malabar | 0.003 ± 0.12 |  |  |  |
|  SE \* GTE | -0.59 ± 0.17 |  |  |  |  |  SE \* GTE | 0.64 ± 0.13 |  |  |  |
|  SE \* GTS | -0.55 ± 0.21 |  |  |  |  |  SE \* GTS | 0.57 ± 0.20 |  |  |  |
|  End time | -0.09 ± 0.08 | 1.35 | 1 | 0.25 |  |  **End time** | -0.17 ± 0.06 | **8.27** | **1** | **0.004** |
|  Nr of observers 3 |  | 1.41 | 2 | 0.49 |  |  **Nr of observers 3** |  | **22.53** | **2** | **<0.001** |
|  2 observers | 0.14 ± 0.12 |  |  |  |  |  2 observers | 0.38 ± 0.09 |  |  |  |
|  ≥3 observers | 0.16 ± 0.15 |  |  |  |  |  ≥3 observers | 0.51 ± 0.11 |  |  |  |
| Random: σtransect2  | <0.001 ± 0.004 | 0.007 | 1 | 0.93 |  | Random: σtransect2  | 0.18 ± 0.10 | 3.25 | 1 | 0.07 |
|  |  |  |  |  |  |  |  |  |  |  |
| (d) Drongo |   |   |   |   |  | (h) White-eye |   |   |   |   |
|  Intercept | 0.03 ± 0.02 |  |  |  |  |  **Intercept** | -88.17 ± 20.71 |  |  |  |
|  Year | 0.02 ± 0.01 | 2.31 | 1 | 0.13 |  |  **Year** | 0.05 ± 0.01 | **18.89** | **1** | **<0.001** |
|  **Season 1** | **-0.71 ± 0.19** | **13.66** | **1** | **<0.001** |  |  **Season 1** | -0.71 ± 0.13 | **32.01** | **1** | **<0.001** |
|  **Island 2** |  | **31.55** | **3** | **<0.001** |  |  **Island 2** |  | **42.87** | **3** | **<0.001** |
|  Malabar | 0.06 ± 0.39 |  |  |  |  |  Malabar | -1.34 ± 0.31 |  |  |  |
|  GT | -4.15 ± 0.75 |  |  |  |  |  GTE | 0.52 ± 0.19 |  |  |  |
|  |  |  |  |  |  |  GTS | 0.50 ± 0.19 |  |  |  |
|  Season 1 \* Island 2 |  | 3.96 | 2 | 0.14 |  |  **Season 1 \* Island 2** |  | **7.86** | **3** | **0.049** |
|  SE \* Malabar | 0.62 ± 0.32 |  |  |  |  |  SE \* Malabar | 0.23 ± 0.39 |  |  |  |
|  SE \* GT | 0.57 ± 1.02 |  |  |  |  |  SE \* GTE | -0.20 ± 0.17 |  |  |  |
|  |  |  |  |  |  |  SE \* GTS | 0.22 ± 0.16 |  |  |  |
|  End time | -0.24 ± 0.22 | 1.13 | 1 | 0.29 |  |  **End time** | **-0.35 ± 0.07** | **21.81** | **1** | **<0.001** |
|  Nr of observers 3 |  | 0.99 | 2 | 0.61 |  |  **Nr of observers 3** |  | **6.95** | **2** | **0.031** |
|  2 observers | 0.22 ± 0.26 |  |  |  |  |  2 observers | 0.18 ± 0.11 |  |  |  |
|  ≥3 observers | 0.09 ± 0.32 |  |  |  |  |  ≥3 observers | 0.35 ± 0.14 |  |  |  |
| Random: σtransect2  | 0.05 ± 0.04 | 1.39 | 1 | 0.24 |  | Random: σtransect2  | 0.03 ± 0.02 | 2.04 | 1 | 0.15 |
|   |   |   |   |   |   |   |   |   |   |   |
| 1 Reference category 'NW season' |
| 2 Reference category 'Picard' |
| 3 Reference category 'One observer' |