# Supplementary material:

## Model selection for differences among species in the two separate dataset (control vs. disturb zones)

We applied the following general model to the two separated dataset (disturbed zone and control zone)

$$log_e \left( \frac{s_{ijk}}{1 - s_{ijk}} \right) = Day_{ijk} + Height_{ijk} + Species_{ijk} + Height_{ijk} \times Species_{ijk} + Year_j + Tree_{k(j)}$$

$$Year_j \sim N(0, \sigma_{Year}{}^2)$$

$$Tree_{k(j)} \sim N(0, \sigma_{Tree}{}^2)$$

where $s_{ijk}$ is the daily survival rate of nest $i$ during year $j$ in tree $k$. Model selection is presented below

for control zone (Table 1) and disturbed zone (Table 2).

| (Intercept) | Day | Height | Species | Height x Species | K | Loge(L) | AICc | delta | weight |
|---|---|---|---|---|---|---|---|---|---|
| **4.4** | **-0.029** | **+** | | | **6** | **-228.5** | **469.1** | **0.00** | **0.41** |
| 21.5 | -0.031 | + | + | + | 12 | -222.5 | 469.2 | 0.05 | 0.40 |
| 4.6 | -0.031 | + | + | | 8 | -228.3 | 472.7 | 3.55 | 0.07 |
| 5.2 | -0.024 | | | | 4 | -232.9 | 473.8 | 4.68 | 0.04 |
| 3.7 | | + | | | 5 | -232.2 | 474.4 | 5.26 | 0.03 |
| 20.7 | | + | + | + | 11 | -226.3 | 474.8 | 5.65 | 0.02 |
| 5.5 | -0.027 | | + | | 6 | -232.0 | 476.1 | 7.01 | 0.01 |
| 4.6 | | | | | 3 | -235.5 | 476.9 | 7.79 | 0.01 |
| 3.8 | | + | + | | 7 | -232.1 | 478.2 | 9.08 | 0.00 |
| 4.7 | | | + | | 5 | -235.1 | 480.1 | 11.00 | 0.00 |

Table 1. Model selection table to explain daily survival rate of Cattle Egrets, Little Egrets and Glossy Ibis nests in the non-disturbed zone. $K$ is the number of parameters in the model, $Log_e(L)$ is the value of the maximized log-likelihood function, $AIC_c$ is Akaike's Information Criterion adjusted for small samples, $\Delta AIC_c$ is the scaled value of $AIC_c$, and *weight* is the Akaike weight. Preferred model is presented in bold. Note that second model and sixth model are nearly unidentifiable.

| (Intercept) | Day | Height | Species | Height:Species | df | logLik | AICc | delta | weight |
|---|---|---|---|---|---|---|---|---|---|
| **5.6** | **-0.04** | **+** | **+** | | **8** | **-213.75** | **443.61** | **0** | **0.46** |
| 6.3 | -0.04 | | + | | 6 | -215.89 | 443.85 | 0.24 | 0.41 |
| 20.1 | -0.04 | + | + | + | 12 | -211.50 | 447.24 | 3.63 | 0.08 |
| 4.8 | -0.03 | + | | | 6 | -219.43 | 450.93 | 7.32 | 0.01 |
| 5.5 | -0.03 | | | | 4 | -221.47 | 450.97 | 7.36 | 0.01 |
| 5.0 | | | + | | 5 | -220.61 | 451.26 | 7.65 | 0.01 |
| 4.4 | | + | + | | 7 | -219.04 | 452.16 | 8.55 | 0.01 |
| 4.7 | | | | | 3 | -223.90 | 453.82 | 10.21 | 0.00 |
| 4.1 | | + | | | 5 | -222.30 | 454.65 | 11.03 | 0.00 |
| 19.2 | | + | + | + | 11 | -216.58 | 455.37 | 11.76 | 0.00 |

Table 2. Model selection table explaining daily survival rate of Cattle Egrets, Little Egrets and Glossy Ibis nests in the disturbed zone. $K$ is the number of parameters in the model, $Log_e(L)$ is the value of the maximized log-likelihood function, $AIC_c$ is Akaike's Information Criterion adjusted for small samples, $\Delta AIC_c$ is the scaled value of $AIC_c$, and *weight* is the Akaike weight. Preferred model is presented in bold. Note those third and last models are nearly unidentifiable.