**Linear Mixed Effects: individual worker site fidelity in each nest shape**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Coeffcient* | *Est.* | **Scaled Fidelity Zone** | | | *P* | *Est.* | **Fidelity Zone (cm2)** | | | *P* | **Scaled Occurrence Zone** | | | | | *Est.* | **Occurrence Zone (cm2)** | | | |
| *SE* | *df* | *T* | *Est.* | *SE* | *df* | *T* | *P* |
| *SE* | *df* | *T* | *SE* | *df* | *T* | *P* |
| Intercept | 1.772 | 0.401 | 374 | 4.413 | **<0.001** | 0.053 | 0.109 | 374 | 0.483 | 0.629 | 5.498 | 0.592 | 374 | 9.286 | **<0.001** | -0.222 | 0.183 | 374 | -1.214 | 0.225 |
| Nest | -0.024 | 0.442 | 374 | -0.055 | 0.957 | -0.179 | 0.128 | 374 | -1.395 | 0.164 | 0.608 | 0.644 | 374 | 0.944 | 0.346 | 0.343 | 0.205 | 374 | 1.675 | 0.095 |
| ColonySize | -0.003 | 0.002 | 374 | -1.201 | 0.231 | 0.002 | 0.001 | 374 | 3.093 | **0.002** | 0.000 | 0.004 | 374 | 0.132 | 0.895 | 0.009 | 0.001 | 374 | 8.128 | **<0.001** |
| MeanScaledDist | 0.980 | 1.592 | 374 | 0.616 | 0.539 | -0.042 | 0.462 | 374 | -0.092 | 0.927 | 2.488 | 2.322 | 374 | 1.072 | 0.285 | 1.167 | 0.737 | 374 | 1.584 | 0.114 |
| Density | -0.489 | 0.373 | 374 | -1.311 | 0.191 | -0.030 | 0.088 | 374 | -0.337 | 0.737 | 0.113 | 0.560 | 374 | 0.202 | 0.840 | 0.052 | 0.165 | 374 | 0.316 | 0.752 |
| Nest:ColonySize | 0.001 | 0.002 | 374 | 0.243 | 0.808 | 0.001 | 0.001 | 374 | 0.849 | 0.396 | -0.004 | 0.003 | 374 | -1.307 | 0.192 | -0.002 | 0.001 | 374 | -2.152 | **0.032** |
| Nest:MeanScaledDist | -0.852 | 1.663 | 374 | -0.512 | 0.609 | 0.240 | 0.483 | 374 | 0.497 | 0.619 | -2.318 | 2.426 | 374 | -0.955 | 0.340 | -1.118 | 0.770 | 374 | -1.452 | 0.147 |
| ColonySize:Density | 0.002 | 0.003 | 374 | 0.721 | 0.472 | 0.002 | 0.001 | 374 | 2.507 | **0.013** | 0.001 | 0.005 | 374 | 0.239 | 0.811 | 0.008 | 0.001 | 374 | 6.074 | **<0.001** |

**Random Effects**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| σ2 | 0.70 | 0.06 | 1.50 | 0.15 |
| τ00 | 0.05 Colony | 0.00 Colony | 0.11 Colony | 0.01 Colony |
| N | 19 Colony | 19 Colony | 19 Colony | 19 Colony |
| Observations | 384 | 384 | 384 | 384 |
| Marginal R2 / | 0.026 / 0.085 | 0.341 / 0.353 | 0.020 / 0.087 | 0.803 / 0.813 |

Conditional R2