# Supplementary Data S2: Posterior summary statistics for key spatial mark-resight parameters

| Species | Site | Par | Mean | Mode | 2.5% | 97.5% | SD | CV | ESS | *R̂* |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sambar deer | BL | σ | 0.72 | 0.65 | 0.61 | 0.86 | 0.06 | 0.09 | 11,273 | 1.00 |
| λ0 | 0.02 | 0.01 | 0.01 | 0.04 | 0.01 | 0.42 | 1,792 | 1.00 |
| N | 44.47 | 39.00 | 20.00 | 82.00 | 16.02 | 0.36 | 3,360 | 1.01 |
| D | 0.73 | 0.64 | 0.33 | 1.35 | 0.26 | 0.36 | 3,360 | 1.01 |
| CD | σ | 0.24 | 0.20 | 0.20 | 0.29 | 0.02 | 0.09 | 1,815 | 1.00 |
| λ0 | 0.08 | 0.05 | 0.05 | 0.13 | 0.02 | 0.24 | 1,050 | 1.01 |
| N | 147.05 | 142.00 | 104.00 | 203.00 | 25.41 | 0.17 | 1,095 | 1.01 |
| D | 11.94 | 11.53 | 8.44 | 16.48 | 2.06 | 0.17 | 1,095 | 1.01 |
| CT | σ | 0.56 | 0.45 | 0.45 | 0.70 | 0.07 | 0.12 | 5,380 | 1.00 |
| λ0 | 0.04 | 0.02 | 0.02 | 0.07 | 0.01 | 0.31 | 2,640 | 1.00 |
| N | 32.77 | 28.00 | 16.00 | 57.00 | 10.5 | 0.32 | 4,719 | 1.00 |
| D | 0.48 | 0.41 | 0.24 | 0.84 | 0.15 | 0.32 | 4,719 | 1.00 |
| GG | σ | 0.27 | 0.24 | 0.24 | 0.30 | 0.02 | 0.06 | 10,384 | 1.00 |
| λ0 | 0.06 | 0.05 | 0.04 | 0.08 | 0.01 | 0.16 | 6,021 | 1.01 |
| N | 143.27 | 137.00 | 96.00 | 201.00 | 26.93 | 0.19 | 17,585 | 1.01 |
| D | 2.49 | 2.38 | 1.67 | 3.50 | 0.47 | 0.19 | 17,585 | 1.01 |
| YY | σ | 1.36 | 0.92 | 0.82 | 3.39 | 0.86 | 0.63 | 803 | 1.01 |
| λ0 | 0.003 | 0.001 | 0.001 | 0.010 | 0.002 | 0.42 | 1,700 | 1.00 |
| N | 57.49 | 52.00 | 37.00 | 92.00 | 14.25 | 0.25 | 3,605 | 1.00 |
| D | 3.93 | 3.56 | 2.53 | 6.29 | 0.98 | 0.25 | 3,605 | 1.00 |
| Fallow deer | CD | σ | 0.70 | 0.66 | 0.59 | 0.84 | 0.06 | 0.09 | 12,275 | 1.00 |
| λ0 | 0.02 | 0.01 | 0.01 | 0.03 | 0.00 | 0.24 | 5,269 | 1.00 |
| N | 25.72 | 24.00 | 18.00 | 36.00 | 4.48 | 0.17 | 2,477 | 1.01 |
| D | 2.09 | 1.95 | 1.46 | 2.92 | 0.36 | 0.17 | 2,477 | 1.01 |
| GG | σ | 0.54 | 0.51 | 0.48 | 0.63 | 0.04 | 0.07 | 6,720 | 1.00 |
| λ0 | 0.61 | 0.62 | 0.45 | 0.81 | 0.09 | 0.15 | 24,751 | 1.00 |
| N | 30.88 | 27.00 | 13.00 | 57.00 | 11.14 | 0.36 | 40,086 | 1.00 |
| D | 0.29 | 0.25 | 0.12 | 0.53 | 0.10 | 0.36 | 40,086 | 1.00 |
| Red deer | SU | σ | 0.46 | 0.42 | 0.40 | 0.54 | 0.03 | 0.07 | 8,570 | 1.00 |
| λ0 | 0.02 | 0.02 | 0.02 | 0.03 | 0.00 | 0.18 | 7,604 | 1.00 |
| N | 115.44 | 113.00 | 93.00 | 144.00 | 13.00 | 0.11 | 10,028 | 1.00 |
| D | 24.57 | 24.05 | 19.79 | 30.64 | 2.77 | 0.11 | 10,028 | 1.00 |
| YY | σ | 0.42 | 0.38 | 0.39 | 0.44 | 0.01 | 0.03 | 6,728 | 1.00 |
| λ0 | 0.03 | 0.02 | 0.02 | 0.03 | 0.00 | 0.09 | 3,497 | 1.00 |
| N | 288.87 | 287.00 | 257.00 | 324.00 | 17.05 | 0.06 | 2,160 | 1.01 |
| D | 19.76 | 19.64 | 17.58 | 22.17 | 1.17 | 0.06 | 2,160 | 1.01 |
| Rusa deer | NP | σ | 0.32 | 0.30 | 0.25 | 0.45 | 0.06 | 0.18 | 4,120 | 1.01 |
| λ0 | 0.09 | 0.01 | 0.04 | 0.18 | 0.04 | 0.39 | 5,658 | 1.00 |
| N | 70.45 | 63.00 | 40.00 | 115.00 | 19.20 | 0.27 | 14,450 | 1.00 |
| D | 3.11 | 2.78 | 1.76 | 5.07 | 0.85 | 0.27 | 14,450 | 1.00 |
| WD | σ | 0.39 | 0.34 | 0.35 | 0.44 | 0.02 | 0.06 | 51,564 | 1.00 |
| λ0 | 0.03 | 0.02 | 0.02 | 0.04 | 0.00 | 0.17 | 9,437 | 1.04 |
| N | 39.58 | 38.00 | 30.00 | 51.00 | 5.29 | 0.13 | 1,102 | 1.06 |
| D | 10.34 | 9.93 | 7.84 | 13.32 | 1.38 | 0.13 | 1,102 | 1.06 |
| YP | σ | 0.44 | 0.33 | 0.32 | 0.63 | 0.08 | 0.18 | 1,973 | 1.06 |
| λ0 | 0.26 | 0.03 | 0.08 | 0.49 | 0.12 | 0.45 | 2,165 | 1.03 |
| N | 35.58 | 22.00 | 11.00 | 93.00 | 21.60 | 0.61 | 2,611 | 1.03 |
| D | 0.68 | 0.42 | 0.21 | 1.77 | 0.41 | 0.61 | 2,611 | 1.03 |