**Supplementary S6: Formal analysis of the spatial capture recaptures data of tigers and leopards.**

**Summary of the capthist object constructed for analyzing the spatial capture recapture data of tigers using package ‘secr’**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Occasions** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **Total** |
| **n** | 9 | 10 | 9 | 10 | 12 | 6 | 9 | 7 | 72 |
| **u** | 9 | 9 | 3 | 6 | 2 | 0 | 4 | 0 | 33 |
| **f** | 13 | 9 | 8 | 0 | 2 | 0 | 1 | 0 | 33 |
| **M(t+1)** | 9 | 18 | 21 | 27 | 29 | 29 | 33 | 33 | 33 |
| **Detections** | 11 | 12 | 15 | 12 | 16 | 10 | 12 | 7 | 95 |
| **Detectors visited** | 11 | 10 | 14 | 11 | 14 | 9 | 12 | 6 | 87 |

**Summary of the capthist object constructed for analyzing the spatial capture recapture data of leopards using package ‘secr’**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Occasions** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **Total** |
| **n** | 12 | 7 | 8 | 9 | 6 | 10 | 7 | 8 | 67 |
| **u** | 12 | 7 | 3 | 5 | 3 | 3 | 3 | 2 | 38 |
| **f** | 17 | 15 | 5 | 0 | 1 | 0 | 0 | 0 | 38 |
| **M(t+1)** | 12 | 19 | 22 | 27 | 30 | 33 | 36 | 38 | 38 |
| **Detections** | 16 | 7 | 8 | 9 | 7 | 10 | 7 | 10 | 74 |
| **Detectors visited** | 15 | 7 | 6 | 9 | 6 | 10 | 7 | 10 | 70 |

Where n = number of distinct individuals detected on each occasion *t*, u = number of individuals detected for the first time on each occasion *t*, f = number of individuals detected on exactly *t* occasions, and M (t+1) = cumulative number of detected individuals on each occasion *t*

The cumulative number of detected individuals (M (t+1) in case of tigers reaches 33 individuals on 7th occasion (Table S1) and does not change thereafter. However in case of leopards (Table S2) the cumulative number of detected individuals (M (t+1) does not stable even at 8th sampling occasion. However, it is generally argued that camera traps fail to detect all the individuals even after prolonged sampling (Sharma et al. 2010).