**S2** Results of all models generated by the overall POPAN analysis in Malbato and San Rafael across the entire study period. Models are ranked by their AICc value. Apparent survival of individuals is coded as *ϕ*, *p* is the probability of capture, and *pent* is the rate of entrance of new individuals into the study area. A period (.) is used to represent the parameters that are kept constant in the model, and a (t) for parameters that were modelled as time-dependent.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model** | **AICc** | **AICc weight** | **Parameters** | **Deviance** |
| **Malbato** |  |  |  |  |
| *Φ(.), p(.), pent(t)* | 2155.49 | 0.999 | 42 | 215 |
| *Φ(.), p(t), pent(t)* | 2169.31 | 0.001 | 80 | 126 |
| **San Rafael** |  |  |  |  |
| *Φ(.), p(t), pent(t)* | 511.79 | 0.754 | 18 | -422.1 |
| *Φ(.), p(t), pent(.)* | 514.12 | 0.235 | 11 | -402.8 |
| *Φ(t), p(t), pent(t)* | 520.44 | 0.01 | 23 | -425.6 |