**SUPPORTING INFORMATION**

**Appendix S7**

**A framework for mapping the distribution seabirds by integrating tracking, demography and phenology**

More details can be found at <https://github.com/anacarneiro/DensityMaps>

*Sample sizes*

**TABLE S1** Sample sizes (number of birds) for tracking data by species, island or island group and stage of the annual cycle. Values in italics (never reached asymptote) and bold (not tested because of different smoothing factors) are those that may not have been representative of the tracked population. Where there were no tracking data or when data were not representative, appropriate data substitutions were used.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Common name | Island or Island Group | Pre-egg | Incubation | Brood-guard | Post-guard | Non-breeding | Juvenile | Immature |
| Wandering Albatross | Crozet | No data | 319 | 79 | 30 | 95 | 13 | 11 |
| Wandering Albatross | Kerguelen | No data | 14 | 12 | 7 | 23 | *11* | 10 |
| Wandering Albatross | South Georgia | No data | 65 | 72 | 145 | 91 | **39** | 21 |
| Tristan Albatross | Gough | No data | 35 | 66 | 12 | 26 | 16 | No data |
| Antipodean Albatross | Antipodes Islands | 6 | 36 | 23 | 13 | **59** | *3 1* |
| Antipodean Albatross | Auckland Islands | 8 | 18 | 9 | 7 | **91** | No data | No data |
| Amsterdam Albatross | Amsterdam and St Paul | No data | 29 | 17 | 10 | 14 | 11 | **8** |
| Northern Royal Albatross | Chatham Island | No data | 9 | *4 2* | **9** | *2 1* |
| White-capped Albatross | Auckland Islands | No data | 27 | 52 | 60 | 24 | No data | No data |
| Salvin's Albatross | The Snares | 22 2 | 22 | No data | No data |
| Chatham Albatross | Chatham Island | 29 2 | 15 | *2 1* |
| Buller's Albatross | The Snares | No data | 27 | 85 | 13 | 30 | 6 1 |
| Grey-headed Albatross | Prince Edward Islands | No data | 27 | 11 | 40 3 | 25 | No data | No data |
| Grey-headed Albatross | South Georgia | No data | 30 | 86 | 38 | 22 | 15 | No data |
| Black-browed Albatross | Falkland Islands | 22 | 109 | 246 | 30 4 | 33 | 3 | **76** |
| Black-browed Albatross | Islas Diego Ramirez | No data | 24 | 20 | 12 | *5* | No data | No data |
| Black-browed Albatross | Kerguelen | No data | 8 | 24 3 | 123 | *2* | No data |
| Black-browed Albatross | South Georgia | 23 | 63 | 78 | 24 | 25 | *11* | No data |
|  |  |  |  |  |  |  |  |  |
| Common name | Island or Island Group | Pre-egg | Incubation | Brood-guard | Post-guard | Non-breeding | Juvenile | Immature |
| Indian Yellow-nosed Albatross | Amsterdam and St Paul | No data | 45 | 16 | 10 5 | 17 | *4* | No data |
| Atlantic Yellow-nosed Albatross | Gough | No data | 42 | 39 | 20 | 37 | *1* | No data |
| Sooty Albatross | Prince Edward Islands | 10 2 | *10* | No data | No data |
| Sooty Albatross | Tristan da Cunha | No data | **19** | 12 | 10 | 13 | No data | No data |
| Light-mantled Albatross | Prince Edward Islands | *8 2* | *6* | No data | No data |
| Southern Giant Petrel | Prince Edward Islands | No data | *8* | 7 5 | 8 | No data | No data |
| Southern Giant Petrel | South Georgia | No data | *11* | 17 | 16 | 36 | No data | No data |
| Northern Giant Petrel | Prince Edward Islands | No data | *14* | 16 5 | 16 | No data | No data |
| Northern Giant Petrel | South Georgia | No data | 18 | 26 | 21 | 27 | No data | No data |
| White-chinned Petrel | Antipodes Islands | 13 2 | 14 | No data | No data |
| White-chinned Petrel | Prince Edward Islands | No data | 9 | 11 5 | 7 | No data | *3* |
| White-chinned Petrel | South Georgia | No data | 16 | 22 6 | 10 | 13 | No data |
| Spectacled Petrel | Tristan da Cunha | *8 2* | 10 | No data | No data |
| Black Petrel | New Zealand (Great Barrier Island) | No data | 40 | 31 | 15 | 12 | No data | No data |
| Westland Petrel | New Zealand | 14 | 42 | 32 5 | 12 | 8 | No data | No data |
| Grey Petrel | Antipodes Islands | 18 2 | 18 | No data | No data |
| Grey Petrel | Prince Edward Islands | 7 | 8 | 9 5 | 8 | No data | No data |
| Grey Petrel | Gough | 15 | 15 | 15 5 | 15 | No data | No data |
| 1 Breeding-stage from the original dataset classified as juvenile/immature |  |  |  |  |  |  |
| 2 Breeding-stage from the original dataset classified as breeding |  |  |  |  |  |  |  |
| 3 Combination of breeding, incubation and brood-guard |  |  |  |  |  |  |  |
| 4 Combination of post-guard and breeding data |  |  |  |  |  |  |  |
| 5 Breeding-stage from the original dataset classified as chick-rearing |  |  |  |  |  |  |  |
| 6 Combination of breeding and incubation |  |  |  |  |  |  |  |