

Supplementary material

1 **Appendix 1**

2 **Methods**

3 Table A1. The conditions and reagents for sexing individual gannets (K. Griffiths Pers.

4 Comm.)

| | |
|--------------|---|
| Primers | 2550F 5' GTT ACT GAT TCG TCT ACG AGA -3' 2757R 5' AAT TCC CCT TTT ATT GAT CCA TC -3' |
| PCR reagents | For each 10ul 2ul DNA (10-100ng/ul) 1ul Qiagen Buffer 1ul Qiagen MgCl ₂ 0.2 ul Qiagen ready mixed dNTP 0.1 ul Qiagen taq 0.124 ul 2550F 0.116 ul 2757R water to make up to 10ul (5.46 ul) |
| PCR profile | 94°C for 2 mins 53°C for 1 min 72°C for 1 min x30 cycles 94°C for 45 secs 49°C for 1 min 72°C for 5 mins 12°C pause |
| Gel | 2% agarose with TDE, 1h30 mins, 110 volts, 110 A. |

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7 **Analysing the overlap between fisheries and gannet locations.**

8 Table A2: GPS data excluded from the analysis as it was outside the study area.

| | Females | Males | Total |
|---|----------------|--------------|--------------|
| GPS tracking data | | | |
| Number of gannet locations | 6961 | 15845 | 22806 |
| Number of gannet locations outside study area (removed) | 499 (7%) | 1275 (8%) | 1774 (8%) |

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10 **Modelling the overlap between gannets and fisheries**

11 Gannets = 20

12 Trips = 78

13 Total GPS Points (p) = 23988

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15 **Step 1**

16 For every point, p → Measure distance to every fishing boat (m)

17 → Compare timestamps (t)

18 → if $m < 30 \text{ km}$ & $t < 2 \text{ hours}$

19 overlap = 1

20 Else overlap = 0

21 Output = Overlap score for all 23,988 GPS positions

22 **Step 2**

23 For each of the 78 trips: → Total number of GPS positions

24 → Total number of GPS positions with overlap = 1

25 Output = Summary statistics for each trip used in binomial models

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27 These two steps were repeated on restricted data sets including only GPS positions where the
28 residence time was in the upper quartile ($n = 4279$ positions) or exact dive locations ($n = 957$
29 positions).