Appendix E. Additional results tables, including details on sample sizes; foraging models; environmental variability; diet; individual repeatability and consistency; correlations among behavioral and dietary indices; morphology and its dependence on behavioral and isotopic repeatability.

TABLE E1. Total number of birds (male, female) from which tracking, dive and blood tissue stable isotope data were collected.

Period	GPS tracks		Dive metrics†	Isotopic data
	≥1 trip	≥3 trips		
Within 2010	49 (23, 26)	37 (17, 20)	-	61 (31, 30)
Within 2011	25 (15, 10)	20 (12, 8)	18 (12, 6)	35 (19, 16)
Within 2012	33 (15, 18)	31 (14, 17)	13 (5, 8)	34 (15, 19)
Across ≥ 1 year	55 (25, 30)	45 (20, 25)	23 (12, 11)	66 (32, 34)
Across ≥ 2 years	35 (16, 19)	29 (14, 15)	8 (4, 4)	39 (19, 20)
Across 3 years	17 (12, 5)	14 (9, 5)	-	22 (13, 9)

† Dive data were collected in 2011 and 2012 only.

TABLE E2. Relative performance of mixed-effects models of gannet foraging indices.

Response covariate	Period	n (birds, obs)	Explanatory covariate†	Δ *DIC*‡	Coefficient (95% credible interval)
Trip duration (log h)	Within 2010	49, 195	**Intercept**		2.81 (2.68,2.94)
			Sex (M)	+2	-0.20 (-0.37, -0.01)
			Bird ID (random intercept)	-1	
	Within 2011	25, 131	**Intercept**		2.72 (2.57, 2.88)
			Sex (M)	-1	-0.063 (-0.28, 0.13)
			Bird ID (random intercept)	-1	
	Within 2012	33, 166	**Intercept**		2.74 (2.60,2.87)
			Sex (M)	-1	-0.17 (-0.37, 0.04)
			Bird ID (random intercept)	-2	
	Across 2010 - 2012	55, 492	**Intercept**		3.08 (2.97, 3.19)
			Sex (M)	+3	-0.16 (-0.28, -0.04)
			Year (2011)	-2	-0.07 (-0.23, 0.06)
			Year (2012)		-0.11 (-0.23, 0.03)
			Bird ID (random intercept)	-1	
Foraging range ($km^{0.5}$)	Within 2010	49, 195	**Intercept**		12.9 (12.0, 13.8)
			Sex (M)	-1	-0.8 (-2.1, 0.4)
			Bird ID (random intercept)	+5	
	Within 2011	25, 131	**Intercept**		10.4 (8.8, 11.8)
			Sex (M)	-1	-0.2 (-2.2, 1.7)
			Bird ID (random intercept)	+32	
	Within 2012	33, 166	Intercept		12.4 (11.7, 13.3)
			Sex (M)	+4	-1.6 (-2.7,-0.4)
			Bird ID (random intercept)	-1	
	Across 2010 - 2012	55, 492	**Intercept**		13.0 (12.2,13.8)
			Sex (M)	+2	-1.0 (-1.9, 0.0)
			Year (2011)	+21	-2.2 (-3.0, -1.4)
			Year (2012)		-0.8 (-1.5, -0.1)
			Bird ID (random intercept)	+38	
ARS scale (log m)	Within 2010	49, 195	**Intercept**		9.20 (8.99, 9.43)
			Sex (M)	-1	-0.12 (-0.44, 0.19)
			Bird ID (random intercept)	-1	
	Within 2011	25, 131	**Intercept**		8.86 (8.57, 9.12)
			Sex (M)	-1	-0.21 (-0.57, 0.14)
			Bird ID (random intercept)	-1	
	Within 2012	33, 166	**Intercept**		9.15 (8.94, 9.37)
			Sex (M)	+1	-0.27 (-0.58, 0.06)
			Bird ID (random intercept)	-1	
	Across 2010 - 2012	55, 492	**Intercept**		9.23 (9.07, 9.42)
			Sex (M)	+2	-0.19 (-0.37, -0.01)
			Year (2011)	+4	-0.38 (-0.59, -0.17)
			Year (2012)		-0.12 (-0.32, 0.09)
			Bird ID (random intercept)	-1	
Dive rate (dives/h)	Within 2011	18, 87	**Intercept**		0.83 (0.08, 1.47)
			Sex (M)	+2	0.87 (0.05, 1.75)
			Bird ID (random intercept)	+35	
	Within 2012	13, 63	**Intercept**		0.76 (0.50, 1.08)
			Sex (M)	-2	0.09 (-0.37, 0.56)
			Bird ID (random intercept)	+26	
	Across 2011 - 2012	23, 150	**Intercept**		0.88 (0.39, 1.42)
			Sex (M)	+3	0.76 (0.08, 1.40)
			Year (2012)	-1	-0.21 (-0.46, 0.04)
			Bird ID (random intercept)	+27	
Proportion U-shaped dives	Within 2011	21, 93	**Intercept**		-1.11 (-1.43, -0.84)
			Sex (M)	+2	0.88 (0.54, 1.24)
			Bird ID (random intercept)	-1	
	Within 2012	13, 63	**Intercept**		-1.74 (-2.08, -1.39)
			Sex (M)	+3	0.69 (0.08, 1.20)
			Bird ID (random intercept)	-1	
	Across 2011 - 2012	23, 150	**Intercept**		-1.07 (-1.33, -0.81)
			Sex (M)	+3	0.82 (0.53, 1.09)
			Year (2012)	+2	-0.67 (-0.95, -0.39)
			Bird ID (random intercept)	-1	

Mean dive depth (m)	Within 2011	18, 87	**Intercept**		4.42 (3.67, 5.17)
			Sex (M)	-2	-0.45 (-1.33, 0.41)
			Bird ID (random intercept)	+18	
	Within 2012	13, 63	**Intercept**		4.11 (3.62, 4.58)
			Sex (M)	+3	-0.30 (-1.03, 0.51)
			Bird ID (random intercept)	+15	
	Across 2011 - 2012	23, 150	**Intercept**		4.31 (3.68, 4.62)
			Sex (M)	-1	-0.32 (-0.94, 0.35)
			Year (2012)	-1	-0.25 (-0.58, 0.08)
			Bird ID (random intercept)	+33	
Mean max dive depth (m)	Within 2011	18, 87	**Intercept**		6.76 (5.89, 7.63)
			Sex (M)	+2	-1.24 (-2.25, -0.10)
			Bird ID (random intercept)	+7	
	Within 2012	13, 63	**Intercept**		6.47 (6.01, 6.93)
			Sex (M)	+3	-1.10 (-1.85, -0.39)
			Bird ID (random intercept)	+2	
	Across 2011 - 2012	23, 150	**Intercept**		6.72 (6.09, 7.34)
			Sex (M)	+3	-1.15 (-1.90, -0.33)
			Year (2012)	-2	-0.27 (-0.71, 0.19)
			Bird ID (random intercept)	+13	
$\delta^{15}N$ (‰)	Within 2010	61, 134	**Intercept**		13.62 (13.42, 13.82)
			Sex (M)	+2	0.09 (-0.16, 0.30)
			Tissue (PLA)	+129	0.86 (0.67, 1.05)
			Baseline $\delta^{15}N$	+1	0.09 (-0.03, 0.21)
			Baseline $\delta^{15}N$ (random slope)	+2	0.01 (0.00 – 0.01)
			Bird ID (random intercept)	+9	
	Within 2011	35, 85	**Intercept**		14.10 (13.83, 14.32)
			Sex (M)	-1	0.10 (-0.16, 0.40)
			Tissue (PLA)	+142	1.29 (1.10, 1.47)
			Baseline $\delta^{15}N$	-1	-0.06 (-0.19,0.00)
			Baseline $\delta^{15}N$ (random slope)	+1	28.64 (0.00 – 159.66)
			Bird ID (random intercept)	+23	
	Within 2012	34, 98	**Intercept**		14.41 (14.23,14.60)
			Sex (M)	+1	0.11 (-0.12, 0.34)
			Tissue (PLA)	+85	0.95 (0.79, 1.11)
			Baseline $\delta^{15}N$	-1	0.04 (-0.07, 0.16)
			Baseline $\delta^{15}N$ (random slope)	+1	0.08 (0.00 – 0.36)
			Bird ID (random intercept)	+24	
	Across 2010 - 2012	22, 66	**Intercept**		13.69 (13.47, 13.95)
			Sex (M)	+1	0.10 (-0.17, 0.38)
			Year (2011)	+35	0.39 (0.19, 0.59)
			Year (2012)		0.63 (0.42, 0.81)
			Baseline $\delta^{15}N$ (random slope)	+1	0.01 (0.00 – 0.04)
			Baseline $\delta^{15}N$	+1	0.07 (-0.02, 0.15)
			Bird ID (random intercept)	+21	
$\delta^{13}C$ (‰)	Within 2010	61, 134	**Intercept**		-18.06 (-18.20, 17.94)
			Sex (M)	+2	0.26 (0.09, 0.41)
			Tissue (PLA)	+125	-1.65 (-1.77, -1.52)
			Baseline $\delta^{13}C$	0	0.03 (-0.06, 0.11)
			Baseline $\delta^{13}C$ (random slope)	+1	0.00 (0.00 – 0.00)
			Bird ID (random intercept)	+35	
	Within 2011	35, 85	**Intercept**		-17.56 (-17.75, -17.38)
			Sex (M)	+4	0.34 (0.13, 0.55)
			Tissue (PLA)	+216	-1.72 (-1.87, -1.57)
			Baseline $\delta^{13}C$	+1	0.11 (0.01, 0.21)
			Baseline $\delta^{13}C$ (random slope)	+1	0.00 (0.00 – 0.11)
			Bird ID (random intercept)	+19	
	Within 2012	34, 98	**Intercept**		-17.81 (-17.99, -17.62)
			Sex (M)	+2	0.19 (-0.06, 0.39)
			Tissue (PLA)	+150	-1.62 (-1.79, -1.45)
			Baseline $\delta^{13}C$	+3	0.21 (0.09, 0.32)
			Baseline $\delta^{13}C$ (random slope)	+1	0.01 (0.00 – 0.05)
			Bird ID (random intercept)	+6	
	Across 2010 - 2012	22, 66	**Intercept**		-18.12 (-18.27, -17.97)
			Sex (M)	+15	0.33 (0.17, 0.48)
			Year (2011)	+44	0.59 (0.42, 0.74)
			Year (2012)		0.24 (0.09, 0.39)
			Baseline $\delta^{13}C$	+2	0.07 (0.00, 0.14)

	Baseline $\delta^{13}C$ (random slope)	+1	0.00 (0.00 – 0.00)
	Bird ID (random intercept)	+1	

† **Bold** typeface indicates covariates retained in final models.
‡ Change in Deviance Information Criterion (*DIC*) when removing covariate from the maximal model.

TABLE E3. Mean standard deviation (± sd) of dynamic variables within and across study years (June – August only).

Scale	SST (°C)	FD (units$^{0.25}$)	NPP ($\log_e$ mg C m^{-2} day^{-1})
Intra-annual	1.57 ± 0.26	0.077 ± 0.004	0.28 ± 0.02
Inter-annual	0.47 ± 0.10	0.028 ± 0.002	0.14 ± 0.02

TABLE E4. Species composition (% of n samples containing each species) of regurgitates obtained from gannets breeding at Bass Rock in each study year.

Species	2010 (n = 37)	2011 (n = 17)	2012 (n = 7)
Mackerel *Scomber scombrus*	86	47	86
Sandeel *Ammodytes sp.*†	0	18	0
Clupeidae sp.†	0	0	14
Sprat *Sprattus sprattus*	14	12	0
Herring *Clupea harengus*	0	12	0
Garfish *Belone belone*	0	6	0
Langoustine *Nephrops norvegicus*	0	6	0

† Not identifiable to species level.

TABLE E5. Credible intervals (95%) around estimated repeatability (R_{adj}) of the foraging behaviour and isotopic signatures of chick-provisioning gannets.

Statistic	R_{adj}			
	Within 2010	Within 2011	Within 2012	Across years
$\delta^{15}N$	**0.01 - 0.44**	**0.07 - 0.58**	**0.11 - 0.56**	**0.02 - 0.62**
$\delta^{13}C$	**0.14 - 0.52**	**0.32 - 0.73**	0.00 - 0.43	0.00 - 0.25
Trip duration	0.00 - 0.17	0.00 - 0.12	0.00 - 0.01	0.00 - 0.12
ARS scale	0.00 - 0.11	0.00 - 0.12	0.00 - 0.16	0.00 - 0.08
Dive rate	-	**0.30 - 0.67**	0.00 - 0.25	**0.27 - 0.62**
Proportion U-shaped dives	-	**0.01 - 0.18**	0.00 - 0.14	0.00 - 0.04
Mean dive depth	-	**0.14 - 0.66**	**0.11 - 0.69**	**0.16 - 0.59**
Mean max dive depth	-	**0.14 - 0.65**	**0.05 - 0.62**	**0.04 - 0.48**

Intervals in **bold** are significant at the level $\alpha = 0.05$.
† For sample sizes see Table E2.

TABLE E6. Mean consistency of gannets over three foraging trips (min., max.).

Consistency index†			*h*	Within 2010	Within 2011	Within 2012	Across years
$\overline{\rho}$	Departure direction		-	0.92 (0.41, 1.00) ***	0.92 (0.49, 1.00) ***	0.97 (0.81, 1.00) ***	0.94 (0.74, 1.00) ***
$\overline{\beta}$	x,y	r	15	0.46 (0.15, 0.92) ***	0.55 (0.20, 0.99) ***	0.47 (0.09, 0.99) ***	0.43 (0.18, 0.92) ***
$\overline{\beta}$	Colony distance	s	0.18	0.66 (0.43, 0.98) ***	0.74 (0.40, 1.00)	0.64 (0.27, 1.00) *	0.66 (0.34, 0.97) *
$\overline{\beta}$	Depth	s	0.18	0.72 (0.39, 0.94) ***	0.74 (0.36, 0.94) ***	0.71 (0.29, 0.97) ***	0.63 (0.35, 0.82)
$\overline{\beta}$	Seafloor slope	s	0.18	0.73 (0.43, 0.98) ***	0.78 (0.55, 0.98) ***	0.80 (0.50, 0.96) ***	0.72 (0.59, 0.93)
$\overline{\beta}$	Fishing effort	s	0.18	0.75 (0.47, 0.92) ***	0.77 (0.53, 0.97) ***	0.76 (0.41, 0.96) ***	0.73 (0.57, 0.97)
$\overline{\beta}$	SST weekly	r	0.026	0.62 (0.35 ,0.87) ***	0.70 (0.50, 0.94) ***	0.61 (0.23, 0.87) ***	0.44 (0.27, 0.80)
		s	0.18	0.73 (0.50, 0.93) ***	0.79 (0.56, 0.97) ***	0.70 (0.31, 0.94) ***	0.74 (0.54, 0.95) **
$\overline{\beta}$	SST monthly	r	0.10	0.63 (0.34, 0.92) ***	0.58 (0.20, 0.94) ***	0.66 (0.27, 0.93) ***	0.41 (0.02, 0.71)
		s	0.18	0.73 (0.42, 0.98) ***	0.74 (0.42, 0.95) ***	0.74 (0.42, 0.95) ***	0.69 (0.35, 0.89) **
$\overline{\beta}$	FD weekly	r	0.012	0.69 (0.40, 0.91) ***	0.71 (0.37, 0.93) ***	0.70 (0.44, 0.94) **	0.58 (0.25, 0.96)
		s	0.18	0.72 (0.35, 0.95) **	0.69 (0.03, 0.96) **	0.74 (0.44, 0.96) ***	0.59 (0.35, 0.86)
$\overline{\beta}$	FD monthly	r	9.5×10^{-3}	0.69 (0.33, 0.95) ***	0.69 (0.33, 0.96) *	0.70 (0.35, 0.95) **	0.60 (0.27, 0.87)
		s	0.18	0.72 (0.35, 0.95) ***	0.71 (0.34, 0.95) **	0.73 (0.36, 0.96) **	0.6 (0.30, 0.87)
$\overline{\beta}$	NPP weekly	r	0.071	0.78 (0.10, 0.95) ***	0.73 (0.28, 0.98) **	0.77 (0.36, 0.98) ***	0.58 (0.28, 0.81)
		s	0.18	0.77 (0.14, 0.95) ***	0.70 (0.30, 0.97) **	0.76 (0.33, 0.97) ***	0.58 (0.31, 0.82)
$\overline{\beta}$	NPP monthly	r	0.081	0.76 (0.39, 0.98) ***	0.77 (0.45, 0.94) ***	0.79 (0.42, 0.97) ***	0.63 (0.29, 0.93)
		s	0.18	0.73 (0.38, 0.97) ***	0.71 (0.36, 0.92) ***	0.75 (0.41, 0.96) ***	0.61 (0.40, 0.86)

†dynamic covariates r = raw or s = standardised.
h = smoothing bandwidth.
Significance estimated by randomisation: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$
For sample sizes see Table E1.

TABLE E7. Summary of significance of mean consistency of gannets over three years calculated using one trip from year bird per year selected at random (procedure repeated 10 times).

Consistency index†		Mean	(s.d.) ‡	Number of times p is:			
				ns	<0.05	<0.01	<0.001
$\overline{\rho}$ Departure direction		0.92	(0.02)	0	0	0	11
$\overline{\beta}$ x,y	r	0.39	(0.03)	0	0	2	9
$\overline{\beta}$ Colony distance	s	0.67	(0.03)	4	6	1	0
$\overline{\beta}$ Depth	s	0.67	(0.03)	11	0	0	0
$\overline{\beta}$ Seafloor slope	s	0.73	(0.03)	10	1	0	0
$\overline{\beta}$ Fishing effort	s	0.72	(0.02)	11	0	0	0
$\overline{\beta}$ SST weekly	r	0.48	(0.03)	11	0	0	0
	s	0.70	(0.04)	0	3	4	4
$\overline{\beta}$ SST monthly	r	0.47	(0.04)	10	1	0	0
	s	0.68	(0.03)	0	4	4	3
$\overline{\beta}$ FD weekly	r	0.61	(0.03)	11	0	0	0
	s	0.61	(0.03)	10	1	0	0
$\overline{\beta}$ FD monthly	r	0.74	(0.02	11	0	0	0
	s	0.61	(0.03)	11	0	0	0
$\overline{\beta}$ NPP weekly	r	0.61	(0.05)	11	0	0	0
	s	0.62	(0.04)	11	0	0	0
$\overline{\beta}$ NPP monthly	r	0.65	(0.03)	11	0	0	0
	s	0.62	(0.02)	11	0	0	0

†dynamic covariates r = raw or s = standardised.
‡ Mean and standard deviation of mean consistency of gannets across all runs.

TABLE E8. Relative performance of mixed-effects models of within-individual directional ($\log \hat{\rho}'_l$) and spatial ($\log \hat{\beta}'_{x,y,l}$) consistency between pairwise combinations of trips spaced at different lags.

Response	Year (*n* birds)	Model	*AIC*	$p^{\dagger}$
Directional consistency $\overline{\rho}'$	Within 2010 (38)	Lag	202.3	
		Intercept only	200.3	0.817
	Within 2011 (21)	Lag	143.9	
		Intercept only	144.9	0.079
	Within 2012 (31)	Lag	175.6	
		Intercept only	173.9	0.581
Spatial consistency $\overline{\beta}'_{x,y}$	Within 2010 (38)	Lag	15.2	
		Intercept only	16.0	0.097
	Within 2011 (21)	Lag	39.6	
		Intercept only	38.4	0.370
	Within 2012 (31)	Lag	14.7	
		Intercept only	9.8	1.000

Bold typeface indicates most parsimonious model.
† Probability that model fit is significantly worse than that of the preceding model, based on the likelihood ratio test.

TABLE E9. Spearman rank correlation between individual-mean track linearity ($\hat{\kappa}$) and behavioral consistency or repeatability.

Index	Within 2010†	Within 2011	Within 2012	Across years
$\hat{\rho}$	0.49*	0.01	0.15	0.05
$\hat{\beta}_{x,y}$	0.16	0.14	-0.02	0.08
$\hat{\beta}$ colony distance	0.30	0.19	0.21	-0.36
$\hat{\beta}$ depth	0.14	0.60	0.10	0.30
$\hat{\beta}$ sea-floor slope	0.23	0.11	0.10	-0.45
$\hat{\beta}$ fishing effort	0.12	0.44	-0.16	0.17
$\hat{\beta}$ SST	0.04	0.09	0.21	-0.23
$\hat{\beta}$ FD	-0.06	0.17	-0.21	-0.41
$\hat{\beta}$ NPP	0.13	0.22	0.57*	-0.38
R'_{adj} trip duration	0.24	-0.20	0.25	0.19
R'_{adj} ARS scale	0.25	-0.35	-0.35	0.22
R'_{adj} dive rate†	-	0.02	0.37	-0.03
R'_{adj} mean dive depth†	-	0.45	-0.3	-0.17
R'_{adj} mean max dive depth†	-	0.28	-0.36	-0.43
R'_{adj} $\delta^{13}C$‡	0.89	-0.31	0.09	-0.06
R'_{adj} $\delta^{15}N$‡	-0.60	0.24	0.34	-0.50

† Dive data were not collected in 2010.
* Significant at $\alpha = 0.004$ (first 11 indices) or 0.003 (last 5 indices) (Bonferroni correction for multiple comparisons).

TABLE E10. Spearman rank correlation between individual spatial consistency $\hat{\beta}_{x,y}$ and environmental consistency $\hat{\beta}_k$.

$\hat{\beta}_k$ dimension†	Within 2010	Within 2011	Within 2012	Across years
Colony distance	0.61 *	0.69 *	0.65 *	0.45
Depth	0.23	0.43	0.65 *	0.42
Seafloor slope	0.54 *	0.77 *	0.66 *	-0.05
Fishing effort	0.04	0.64 *	0.62 *	-0.15
SST‡	0.43 *	0.57 *	0.56 *	0.01
FD‡	0.08	0.69 *	0.61 *	-0.46
NPP‡	0.41	0.78 *	0.42 *	-0.41

† Covariates standardised
‡ Weekly mean indices
* Significant at α = 0.007 (Bonferroni correction for multiple comparisons).

TABLE E11. Spearman rank correlation between individual spatial or environmental consistency and behavioral repeatability.

Consistency	Period	Individual repeatability R'_{adj}				
		Trip duration	ARS scale	Dive rate	Mean dive depth	Mean max dive depth
$\hat{\rho}$	2010	0.54 *	-0.07	-	-	-
	2011	0.52	0.23	0.48	-0.10	-0.02
	2012	-0.11	0.13	0.45	-0.11	-0.25
	All	0.23	0.41	0.03	0.63	0.62
$\hat{\beta}$ x,y	2010	0.44 *	0.05	-	-	-
	2011	0.46	0.37	0.51	0.29	0.32
	2012	0.52 *	0.12	0.24	-0.29	-0.13
	All	0.01	-0.18	-0.19	-0.33	-0.37
$\hat{\beta}$ colony distance	2010	0.46 *	0.34	-	-	-
	2011	0.62 *	0.20	0.04	0.44	0.44
	2012	0.62 *	0.03	0.11	0.05	0.26
	All	0.41	-0.13	0.06	0.16	0.15
$\hat{\beta}$ depth	2010	0.55 *	0.19	-	-	-
	2011	0.26	-0.09	0.27	0.76 *	0.69 *
	2012	0.63	0.13	0.14	0.12	0.34
	All	0.20	0.00	-0.01	0.46	0.24
$\hat{\beta}$ sea-floor slope	2010	0.50 *	0.14	-	-	-
	2011	0.59 *	0.31	0.32	-0.1	-0.05
	2012	0.52 *	-0.08	0.26	0.25	0.30
	All	0.16	0.08	0.57	0.30	0.22
$\hat{\beta}$ fishing effort	2010	0.42 *	0.07	-	-	-
	2011	0.26	0.08	0.13	0.15	0.10
	2012	0.51 *	0.14	0.02	-0.04	0.14
	All	0.19	-0.06	0.62	0.04	-0.17
$\hat{\beta}$ SST	2010	0.18	0.08	-	-	-
	2011	0.29	0.50	0.24	0.27	0.33
	2012	0.43	0.17	-0.03	-0.05	0.22
	All	-0.75	-0.26	-0.4	-0.60	-0.48
$\hat{\beta}$ FD	2010	0.26	-0.25	-	-	-
	2011	0.13	0.22	0.45	0.23	0.20
	2012	0.32	0.08	0.23	-0.11	0.04
	All	0.09	-0.18	0.31	-0.01	0.10
$\hat{\beta}$ NPP	2010	0.23	-0.07	-	-	-
	2011	0.34	0.37	0.31	0.53	0.63
	2012	-0.02	0.13	0.45	-0.25	-0.02
	All	0.25	-0.07	0.57	0.42	0.45

* Significant at $\alpha = 0.025$ (2010) or $\alpha = 0.01$(2011, 2012, All) (Bonferroni correction for multiple comparisons).

TABLE E12. Spearman rank correlation between repeatability in blood stable isotope ratios and consistency or repeatability of foraging behaviour.

Behavioral index	R'_{adj} $\delta^{13}C$				R'_{adj} $\delta^{15}N$			
	2010	2011	2012	All	2010	2011	2012	All
$\hat{\rho}$	-0.77	-0.49	0.14	0.08	0.66	0.18	-0.18	-0.01
$\hat{\beta}$ x,y	0.26	0.01	0.31	-0.24	-0.14	0.15	0.07	-0.35
$\hat{\beta}$ colony distance	0.26	-0.24	0.18	0.11	-0.14	0.15	0.37	0.14
$\hat{\beta}$ depth	0.31	-0.49	0.22	-0.30	0.31	0.09	0.30	-0.20
$\hat{\beta}$ sea-floor slope	-0.09	0.16	0.44	0.19	0.14	0.17	0.38	0.01
$\overline{\beta}$ fishing effort	0.14	-0.46	0.26	-0.29	0.43	0.15	0.17	-0.09
$\hat{\beta}$ SST	0.60	0.16	0.09	-0.26	-0.43	-0.03	0.13	-0.10
$\hat{\beta}$ FD	0.20	-0.03	-0.01	0.20	0.14	0.24	-0.14	0.29
$\hat{\beta}$ NPP	-0.09	-0.44	0.19	0.31	0.54	0.11	0.04	0.24
R'_{adj} trip duration	0.02	-0.27	0.32	-0.10	-0.60	0.24	0.32	-0.04
R'_{adj} ARS scale	0.14	0.24	-0.41	0.42	0.21	0.00	-0.45	0.31
R'_{adj} dive rate†	-	-0.17	0.00	0.40	-	-0.15	-0.27	-0.03
R'_{adj} mean dive depth†	-	-0.03	-0.79	-0.08	-	0.03	-0.39	0.19
R'_{adj} mean max dive depth†	-	0.06	-0.79	-0.01	-	0.22	-0.33	0.43

† Dive data were not collected in 2010.
Using the Bonferroni correction for multiple comparisons there were no significant correlations at $\alpha = 0.005$ (2010) or $\alpha = 0.004$ (2011, 2012 and All years).

TABLE E13. Summary of fixed effects in the minimum adequate model of gannet body mass (g) as a function of sex and morphometrics (42 birds, 70 observations).

Parameter estimate (95 % CI)		DF†	t-value	p
Intercept (female)	88790 (31705, 145878)	37	3.036	0.004
Sex (male)	-193 (-287, -9.9)	37	-4.013	<0.001
Max. tarsus (mm)	-119 (-197, -4)	37	-3.008	0.005
Culmen (mm)	-91 (-150, -3)	37	-3.021	0.005
Max. tarsus x culmen	0.1 (0.1, 2.1)	37	3.100	0.004

† Estimated degrees of freedom.

TABLE E14. Linear model of residual body mass as a function of trip linearity and behavioral and isotopic consistency and repeatability.

Explanatory covariate	*F*, d.f., p			
	Within 2010	Within 2011	Within 2012	Across years
$\hat{\kappa}$	0.00, 31, 0.973	0.89, 18, 0.357	0.49, 27, 0.491	0.00, 15, 0.956
$\hat{\rho}$	1.07, 31, 0.309	0.26, 18, 0.616	0.49, 27, 0.49	0.21, 15, 0.655
$\hat{\beta}$ x,y	0.77, 31, 0.388	0.13, 18, 0.723	1.03, 27, 0.319	0.12, 15, 0.730
$\hat{\beta}$ colony distance	0.48, 31, 0.493	0.00, 18, 0.965	0.90, 27, 0.351	2.44, 15, 0.139
$\hat{\beta}$ depth	0.01, 31, 0.925	1.14, 18, 0.299	0.73, 27, 0.401	3.43, 15, 0.084
$\hat{\beta}$ sea-floor slope	0.04, 31, 0.847	2.66, 18, 0.120	2.57, 27, 0.121	3.50, 15, 0.081
$\hat{\beta}$ fishing effort	0.61, 31, 0.440	1.16, 18, 0.296	0.12, 27, 0.736	0.71, 15, 0.414
$\hat{\beta}$ SST	0.33, 30, 0.569	0.52, 18, 0.479	0.16, 22, 0.691	4.56, 14, 0.051
$\hat{\beta}$ FD	0.25, 26, 0.621	0.07, 18, 0.792	1.43, 22, 0.244	5.38, 14, 0.066
$\hat{\beta}$ NPP	0.42, 29, 0.520	1.10, 18, 0.309	3.85, 27, 0.060	1.52, 15, 0.237
R'_{adj} trip duration	0.01, 31, 0.943	0.44, 18, 0.514	6.26, 27, 0.019	3.31, 15, 0.090
R'_{adj} ARS scale	0.07, 31, 0.797	0.45, 18, 0.510	0.65, 27, 0.428	0.26, 15, 0.621
R'_{adj} mean dive depth†	-	1.63, 12, 0.226	0.60, 9, 0.460	2.01, 10, 0.187
R'_{adj} mean max dive depth†	-	1.15, 12, 0.305	0.15, 9, 0.705	1.14, 10, 0.310
R'_{adj} $\delta^{13}C$‡	-	0.08, 11, 0.781	0.01, 12, 0.905	2.14, 15, 0.164
R'_{adj} $\delta^{15}N$‡	-	0.15, 11, 0.708	0.48, 25, 0.493	0.05, 15, 0.831

† Dive data were not collected in 2010.

‡ Sample size insufficient to model the effect of R'_{adj} $\delta^{13}C$ and R'_{adj} $\delta^{15}N$ in 2010.

Values in bold significant using the Bonferroni correction for multiple comparisons ($\alpha = 0.004$ for 2010 or $\alpha = 0.003$ all other periods).