

Structure of the seabird assemblage associated with pelagic longline vessels in the southwestern Atlantic: implications for bycatch

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Supplement. Body mass sources and temporal variation of abundance for the seabird species associated with pelagic longliners in the Uruguayan slope and adjacent waters

Table S1. Body mass (kg) of seabird species recorded in association with pelagic longliners in the Uruguayan slope and adjacent waters (2005 to 2008). Species codes as in Table 2 of the main text. In species in which females were most common (and where data were available) we used female body mass (indicated with 1 asterisk). When juveniles and immature individuals were most common, we used the body mass of juveniles (indicated with 2 asterisks)

Species		Code	Mass (kg)	Source
Wandering & Tristan albatrosses	<i>Diomedea exulans</i> ^a and <i>D. dabbenena</i>	DEX	7.27	* Tickell (2000)
Southern royal albatross	<i>Diomedea epomophora</i>	DEP	7.6	* Westerskov (1960)
Northern royal albatross	<i>Diomedea sanfordi</i>	DSA	6.67	Marchant & Higgins (1990)
White-capped albatross	<i>Thalassarche steadi</i>	TST	3.7	* Brooke (2004)
Black-browed albatross	<i>Thalassarche melanophrys</i>	TME	3.17	** Prince et al. (1981)
Atlantic yellow-nosed albatross	<i>Thalassarche chlororhynchos</i>	TCH	2.2	Dunning (2008)
Sooty albatross	<i>Phoebastria fusca</i>	PHF	2.5	Dunning (2008)
Northern & southern giant petrels	<i>Macronectes halli</i> ^a and <i>M. giganteus</i>	MAC	3.8	* González Solís (2004)
White-chinned petrel	<i>Procellaria aequinoctialis</i>	PAQ	1.31	Hall (1987)
Spectacled petrel	<i>Procellaria conspicillata</i>	PCO	1.19	Ryan (1998)
Grey petrel	<i>Procellaria cinerea</i>	PCI	1.13	Dunning (2008)
Cape petrel	<i>Daption capensis</i>	DCA	0.45	Pinder (1966)
Southern fulmar	<i>Fulmarus glacialis</i>	FGL	0.79	Spear & Ainley (1998)
Gadfly petrel ^b	<i>Pterodroma</i> sp.	PTE		
Atlantic petrel	<i>Pterodroma incerta</i>	PIN	0.54	Cuthbert (2004)
Soft-plumaged petrel	<i>Pterodroma mollis</i>	PMO	0.28	Fraser et al. (1988)
Trindade petrel	<i>Pterodroma arminjoniana</i>	PAR	0.37	Luigi et al. (in press)

Species		Code	Mass (kg)	Source
Cory's & Cape Verde shearwaters	<i>Calonectris diomedea</i> and <i>C. edwardsii</i>	CAL		
Cory's shearwater	<i>Calonectris diomedea</i>	CDI	0.54	Dunning (2008)
Cape Verde shearwater	<i>Calonectris edwardsii</i>	CED	0.48	Lima et al. (2002)
Shearwater ^b	<i>Puffinus</i> sp.	PUF		
Great shearwater	<i>Puffinus gravis</i>	PUG	0.88	Cuthbert (2005)
Sooty shearwater	<i>Puffinus griseus</i>	PGR	0.7	Reyes-Arriagada et al. (2007)
Manx shearwater	<i>Puffinus puffinus</i>	PPU	0.44	* Dunning (2008)
Prions	<i>Pachytila</i> spp.	PAC		
Antarctic prion	<i>Pachytila desolata</i>	PDE	0.16	Woehler (1991)
Wilson's storm petrel	<i>Oceanites oceanicus</i>	OOC	0.03	Dunning (2008)
Black- & white-bellied storm petrels	<i>Fregetta tropica</i> and <i>F. grallaria</i>	FRE		
Black-bellied storm petrel	<i>Fregetta tropica</i>	FTR	0.06	* Brooke (2004)
Skuas	<i>Catharacta</i> spp.	CHA		
Pomarine jaeger	<i>Stercorarius pomarinus</i>	SPO	0.74	Dunning (2008)
Parasitic & long-tailed jaegers	<i>Stercorarius parasiticus</i> ^a and <i>S. longicaudus</i>	SPL	0.48	Dunning (2008)
Gull ^b	Lariidae sp.	LAR		
Brown-hooded gull	<i>Larus maculipennis</i>	LMA	0.34	Dunning (2008)
Tern ^b	<i>Sterna</i> sp.	STE		
South American tern	<i>Sterna hirundinacea</i>	STH	0.19	Dunning (2008)
Masked booby	<i>Sula dactylatra</i>	SDA	1.57	Nelson (2005)

^aThe more abundant of the pair of species that were grouped during the study, and whose body mass we used;
^bspecies is different from the others identified in its genus

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Table S2. Temporal variation of the seabird abundance (individuals) associated with pelagic longliners in the Uruguayan slope and adjacent waters (2005-2008). Species codes as in Table 2 in the main text. Mann-Whitney test: *p < 0.05, **p < 0.01, ***p < 0.001, NS: not significant

Species	February	March	April	May	June	July	August	September	October	November	December	Oct–Apr				May–Sept				M-W test
	28	36	16	103	26	35	51	4	20	28	68	196				219				p
	Mean											Mean	SD	Min.	Max.	Mean	SD	Min.	Max.	
DEX	0.14	0.44	0.31	0.35	0.23	1.20	1.47	0.25	3.65	3.14	0.44	1.10	2.25	0	16	0.73	1.14	0	5	NS
DEP	0.00	0.00	0.00	0.00	0.04	0.83	0.78	0.00	0.05	0.00	0.16	0.06	0.39	0	3	0.32	0.82	0	6	**
DSA	0.00	0.28	0.00	0.20	0.15	1.97	1.20	0.00	0.05	0.00	0.12	0.10	0.46	0	4	0.71	1.07	0	5	***
TST	0.00	0.39	0.00	0.13	0.54	0.23	0.27	0.25	0.10	0.07	1.46	0.60	1.90	0	13	0.23	0.58	0	4	NS
TME	0.00	1.36	0.94	14.78	34.31	37.03	55.29	18.00	8.65	4.75	5.85	3.92	9.54	0	80	30.15	34.35	0	150	***
TCH	1.36	7.11	4.50	5.88	7.31	0.11	0.65	1.00	5.40	5.64	3.18	4.33	6.20	0	30	3.82	9.01	0	70	***
PHF	0.00	0.11	0.00	0.01	0.00	0.00	0.00	0.00	0.05	0.07	0.00	0.04	0.21	0	2	0.00	0.07	0	1	NS
MAC	0.00	0.03	0.00	0.77	1.85	13.51	15.96	4.00	4.85	0.75	1.65	1.18	3.77	0	40	6.53	12.34	0	73	***
PAQ	0.14	0.42	1.06	20.51	30.31	14.60	26.22	30.00	2.80	3.18	3.82	2.25	5.20	0	50	22.23	26.78	0	150	***
PCO	40.21	62.67	21.38	8.50	7.31	0.26	0.29	0.00	15.25	11.54	25.25	30.96	41.51	0	200	4.97	11.19	0	70	***
PCI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.02	0.12	0	1	0.00	0.00	0	0	NS
DCA	0.00	0.00	0.00	2.59	3.88	24.89	34.25	5.50	9.05	0.54	0.26	1.09	4.50	0	40	13.74	18.20	0	100	***
FGL	0.00	0.00	0.00	0.70	1.15	4.94	0.69	0.00	0.30	0.11	0.19	0.11	0.49	0	5	1.42	3.72	0	30	***
PTE	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0	1	0.00	0.00	0	0	NS
PIN	3.71	3.14	6.00	1.72	0.69	0.51	0.04	0.00	0.60	3.11	1.41	2.59	6.53	0	60	0.98	2.25	0	23	***
PMO	0.00	0.00	0.06	0.00	0.15	0.00	0.04	0.00	1.15	0.36	0.01	0.18	1.19	0	15	0.03	0.19	0	2	NS
PAR	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0	1	0.00	0.00	0	0	NS
CAL	0.11	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.14	0	1	0.00	0.00	0	0	NS
CDI	0.21	0.44	1.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.22	0.60	0	4	0.10	0.37	0	3	NS
CED	0.11	0.03	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.20	0	2	0.00	0.00	0	0	NS
PUF	0.25	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.50	0	7	0.00	0.07	0	1	NS
PUG	0.50	2.56	6.69	22.33	6.69	0.00	2.04	8.25	1.15	1.61	7.79	4.14	6.82	0	50	11.92	24.53	0	200	NS
PGR	0.00	0.00	0.00	2.04	11.62	0.26	0.59	0.00	0.00	0.04	0.00	0.01	0.07	0	1	2.52	11.63	0	80	***
PPU	0.21	0.14	0.06	0.02	0.00	0.00	0.00	0.00	0.15	0.07	0.15	0.14	0.50	0	5	0.01	0.10	0	1	NS

Species	February	March	April	May	June	July	August	September	October	November	December	Oct–Apr				May–Sept				M-W test	
	28	36	16	103	26	35	51	4	20	28	68	196				219				p	
	Mean											Mean	SD	Min.	Max.	Mean	SD	Min.	Max.		
PAC	0.00	0.00	0.00	0.24	0.23	0.26	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.21	0.88	0	9	*
PDE	0.00	0.00	0.00	0.16	0.19	0.26	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.16	0.84	0	9	NS
OOC	0.39	5.36	2.31	4.55	4.73	10.49	14.22	2.00	3.70	6.61	1.43	3.05	7.92	0	60	7.73	11.81	0	60	***	
FRE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.11	0.01	0.03	0.24	0	3	0.00	0.00	0	0	NS	
FTR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.29	0.07	0.09	0.33	0	2	0.00	0.00	0	0	NS	
CHA	0.00	0.00	0.00	0.14	0.23	0.00	0.02	0.00	0.10	0.11	0.03	0.04	0.21	0	2	0.10	0.36	0	3	NS	
SPL	0.04	0.14	0.00	0.00	0.00	0.03	0.00	0.00	0.30	0.86	0.09	0.21	1.12	0	14	0.00	0.07	0	1	NS	
SPO	0.46	0.83	0.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.30	0.92	0	5	0.00	0.07	0	1	*	
LAR	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.03	0.19	0	2	NS	
LMA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.01	0.07	0	1	0.00	0.00	0	0	NS	
STE	0.00	0.00	0.00	0.03	0.23	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.11	0.42	0	3	NS	
STH	0.00	0.00	0.00	0.00	0.04	0.06	0.00	0.00	0.00	0.00	0.01	0.01	0.07	0	1	0.01	0.12	0	1	NS	
SDA	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0	1	0.00	0.00	0	0	NS	