

SUPPLEMENTARY MATERIALS

Table S1. Carbon ($\delta^{13}\text{C}$) and nitrogen ($\delta^{15}\text{N}$) stable isotope values of possible item food of Magellanic penguins sampled at the Beagle Channel in different years. $\delta^{13}\text{C}$ values are presented with the Suess correction.

Prey	Year	n	$\delta^{13}\text{C}$ (‰)		Reference
			Mean \pm SD	Mean \pm SD	
Pelagic <i>Munida gregaria</i>	2014/2016	7	-19.3 \pm 0.9	9.7 \pm 1.0	L. Riccialdelli unpubl. data
Benthic <i>Munida gregaria</i>	2009	18	-16.6 \pm 0.4	14.1 \pm 0.7	Riccialdelli et al. 2017a
<i>Sprattus fuegensis</i>	2013	15	-16.1 \pm 0.5	13.3 \pm 0.8	L. Riccialdelli unpubl. data
<i>Harpagifer bispinis</i>	2009/2010	22	-15.2 \pm 0.7	17.3 \pm 1.0	Riccialdelli et al. 2017a
<i>Austrolycus depressiceps</i>	2009/2010	10	-14.6 \pm 0.4	18.4 \pm 1.7	Riccialdelli et al. 2017a
<i>Eleginops maclovinus</i>	2010	20	-15.7 \pm 0.7	16.4 \pm 0.4	Riccialdelli et al. 2017a
<i>Patagonotothen tessellata</i>	2009	1	-14.4	19.6	Riccialdelli et al. 2017a

Table S2. Differences in the isotopic niche widths of adult Magellanic penguins at Martillo Island during the pre-molt stage from 2009 and 2013 to 2017. Shown as the probability of group A to be smaller than group B resulting from the proportion of 100000 posterior draws of the Bayesian standard ellipse area (SEA_B). If the group A is smaller than the group B, the proportion is close to 1. For the opposite, the proportion is close to 0. If similar, the proportion is close to 0.5.

Group	A					
	Year 2009	2013	2014	2015	2016	
B	2009	-	-	-	-	-
	2013	0.997	-	-	-	-
	2014	0.996	0.534	-	-	-
	2015	0.444	0.002	0.002	-	-
	2016	0.977	0.171	0.160	0.987	-
	2017	0.999	0.473	0.436	0.999	0.865

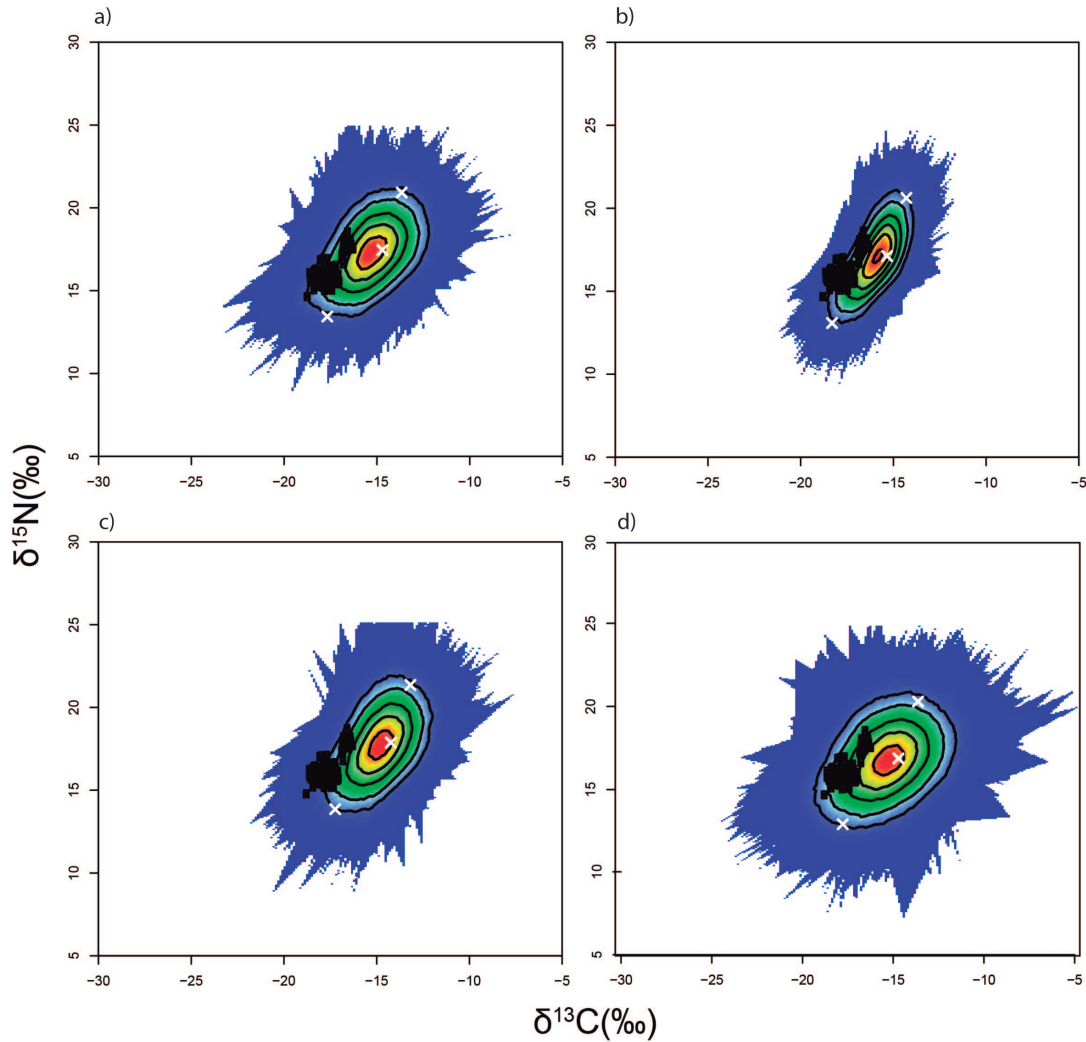


Figure S1. Stable isotope mixing model polygons for Magellanic penguins relative to three different sources. Black dots: consumer stable isotope values. White crosses: average prey stable isotope values adjusted for trophic discrimination factor (TDF) values. Colored region represents the 95% confidence interval. Probability contours are at the 5% level. Mean (\pm SD) TDF values used were derived from a) Marques et al. 2018, b) Post 2002, c) SIDER (Healy et al. 2018) and d) Riccialdelli et al. 2017a.