

Text S1 Standards & Normalisation for Stable Isotope Analysis

Raw isotope ratios were normalised by three point calibration to the international scales using two IAEA (International Atomic Energy Agency) reference materials and a laboratory standard, assayed with the unknown samples. The standards used were USGS-40 and USGS-41, and the accepted delta values of these standards are as follows:

	$\delta^{15}\text{N}$	$\delta^{13}\text{C}$
USGS-40	-4.52	-26.24
USGS-41	47.57	37.76
EDTA-OAS	-0.73	-38.52

The laboratory standard, EDTA-OAS (Elemental Microanalysis Ltd, UK) has multi-year and multi-laboratory calibration records against IAEA reference materials. EDTA-OAS is also used as a drift control material by assaying a pair of aliquots after every twelve samples of a batch. Instrumental drift corrections (when applied) were calculated from regression of the EDTA-OAS against time.

Precision was assessed from the root-mean squared difference between sequential duplicates of every 10th sample; accuracy was assessed by random inclusion of three true control materials chosen to mimic the nature of the sample materials.

Table S1

Individual ID: the unique identifier for every Hector's dolphin as determined by genotyping;

Date: the date the sample was collected, in the format dd-mmm-yy;

Location: The area within the top of the South Island, where the sample was collected;

Sex: genetically determined sex (F = female, M = male, TBD = genetic analysis is yet to be conducted, U = sex unable to be determined);

Latitude and Longitude: GPS-determined location of sample collection;

Type: The type of tissue sample, either biopsy or stranded;

δ¹³C: The stable isotope ratio of ¹³C/¹²C determined by Isotracer NZ Ltd;

δ¹⁵N: The stable isotope ratio of ¹⁵N/¹⁴N determined by Isotracer NZ Ltd.

Individual ID	Sex	Date	Location	Latitude	Longitude	Type	δ ¹⁵ N	δ ¹³ C
Che11CB006	M	22-Feb-12	Cloudy Bay	-41.58528	174.17375	Biopsy	15.3	-16.5
Che11CB007	F	01-Feb-11	Cloudy Bay	-41.53654	174.14415	Biopsy	15.5	-16.2
		20-Feb-12	Cloudy Bay	-41.48584	174.08492	Biopsy	15.6	-16.8
Che11CB009	F	03-Feb-11	Cloudy Bay	-41.53653	174.13292	Biopsy	17.1	-15.4
Che11CB012	F	03-Feb-11	Cloudy Bay	-41.54252	174.14508	Biopsy	14.9	-16.1
		20-Feb-12	Cloudy Bay	-41.48782	174.08965	Biopsy	15.6	-16.4
Che11CB015	F	03-Feb-11	Cloudy Bay	-41.54218	174.14613	Biopsy	16.1	-15.7
Che11CB017	F	20-Feb-12	Cloudy Bay	-41.4846	174.0835	Biopsy	15.6	-16.7
Che11CB022	F	04-Feb-11	Cloudy Bay	-41.40863	174.12783	Biopsy	14.5	-16.7
		20-Feb-12	Cloudy Bay	-41.49996	174.11969	Biopsy	15.1	-17.2
Che11CB028	F	04-Feb-11	Cloudy Bay	-41.41959	174.08593	Biopsy	15.0	-16.8
Che11CB031	F	05-Feb-11	Cloudy Bay	-41.4596	174.11871	Biopsy	14.9	-16.7
		20-Feb-12	Cloudy Bay	-41.5446	174.17753	Biopsy	14.8	-18.0
Che11CB034	M	05-Feb-11	Cloudy Bay	-41.45668	174.12009	Biopsy	14.4	-17.2
		21-Feb-12	Cloudy Bay	-41.49213	174.11369	Biopsy	14.8	-17.1

Che11CB035	M	05-Feb-11	Cloudy Bay	-41.45717	174.11813	Biopsy	14.6	-17.0
Che11CB040	F	08-Feb-11	Cloudy Bay	-41.41883	174.07259	Biopsy	14.8	-17.3
Che11CB045	F	08-Feb-11	Cloudy Bay	-41.43682	174.05852	Biopsy	14.9	-17.1
Che11CB052	F	10-Feb-11	Cloudy Bay	-41.50099	174.09397	Biopsy	15.7	-15.3
		21-Feb-12	Cloudy Bay	-41.49292	174.11488	Biopsy	16.0	-15.8
Che11CB057	M	10-Feb-11	Cloudy Bay	-41.51354	174.11415	Biopsy	15.1	-16.6
		21-Feb-12	Cloudy Bay	-41.54367	174.14142	Biopsy	15.4	-17.1
Che11CB059	M	10-Feb-11	Cloudy Bay	-41.51519	174.123	Biopsy	14.7	-16.4
		22-Feb-12	Cloudy Bay	-41.5848	174.17407	Biopsy	15.0	-16.9
Che11CB061	F	10-Feb-11	Cloudy Bay	-41.51545	174.12811	Biopsy	14.9	-17.0
Che11CB063	M	10-Feb-11	Cloudy Bay	-41.51549	174.13165	Biopsy	14.3	-16.0
Che11CB066	M	10-Feb-11	Cloudy Bay	-41.49486	174.08983	Biopsy	15.2	-16.5
Che11CB067	M	10-Feb-11	Cloudy Bay	-41.49526	174.08967	Biopsy	15.0	-16.4
		21-Feb-12	Cloudy Bay	-41.4938	174.1147	Biopsy	15.3	-16.9
Che11CB073	F	10-Feb-11	Cloudy Bay	-41.43143	174.04159	Biopsy	15.6	-16.1
		18-Feb-12	Cloudy Bay	-41.47064	174.05515	Biopsy	15.9	-16.5
Che11CB083	M	12-Feb-11	Cloudy Bay	-41.43351	174.04963	Biopsy	14.9	-16.6
		18-Feb-12	Cloudy Bay	-41.45803	174.06055	Biopsy	15.2	-17.0
Che11CB090	M	12-Feb-11	Cloudy Bay	-41.45436	174.05811	Biopsy	14.9	-17.1
		21-Feb-12	Cloudy Bay	-41.49176	174.10743	Biopsy	15.2	-17.2
Che11CB092	M	13-Feb-11	Cloudy Bay	-41.44808	174.04886	Biopsy	14.8	-16.9
		20-Feb-12	Cloudy Bay	-41.48454	174.08338	Biopsy	15.2	-17.1
Che11CB095	F	13-Feb-11	Cloudy Bay	-41.45571	174.04951	Biopsy	17.7	-14.0
		24-Feb-12	Cloudy Bay	-41.52482	174.11511	Biopsy	16.0	-16.1
Che11CB097	M	13-Feb-11	Cloudy Bay	-41.44418	174.04151	Biopsy	15.5	-16.2
		20-Feb-12	Cloudy Bay	-41.47764	174.08329	Biopsy	15.8	-16.8
Che11CB101	M	13-Feb-11	Cloudy Bay	-41.44798	174.04234	Biopsy	15.7	-16.6

		20-Feb-12	Cloudy Bay	-41.47955	174.08368	Biopsy	16.9	-15.8
Che11CB105	F	13-Feb-11	Cloudy Bay	-41.46839	174.05048	Biopsy	16.7	-15.3
		18-Feb-12	Cloudy Bay	-41.46413	174.05927	Biopsy	15.7	-16.3
Che11CB111	M	13-Feb-11	Cloudy Bay	-41.43814	174.04163	Biopsy	14.8	-17.4
Che11CB113	M	14-Feb-11	Cloudy Bay	-41.47351	174.05269	Biopsy	15.8	-16.2
		21-Feb-12	Cloudy Bay	-41.50651	174.11804	Biopsy	16.7	-16.2
Che11CB115	M	14-Feb-11	Cloudy Bay	-41.475	174.05307	Biopsy	15.9	-15.8
Che12CB002	F	18-Feb-12	Cloudy Bay	-41.46463	174.05953	Biopsy	15.5	-16.4
Che12CB003	M	18-Feb-12	Cloudy Bay	-41.46883	174.05756	Biopsy	15.1	-16.8
Che12CB010	F	20-Feb-12	Cloudy Bay	-41.47663	174.08352	Biopsy	15.0	-17.3
Che12CB013	F	20-Feb-12	Cloudy Bay	-41.48397	174.08078	Biopsy	15.5	-16.7
Che12CB026	F	20-Feb-12	Cloudy Bay	-41.49655	174.1117	Biopsy	15.8	-16.2
Che12CB030	F	20-Feb-12	Cloudy Bay	-41.53374	174.16854	Biopsy	15.2	-17.2
Che12CB139	F	24-Feb-12	Cloudy Bay	-41.51019	174.10119	Biopsy	15.8	-16.3
Che14GB03	U	28-Mar-14	Golden Bay	-40.80949	172.86123	Biopsy	15.9	-18.1
Che14GB04	F	28-Mar-14	Golden Bay	-40.80949	172.86123	Biopsy	15.4	-18.7
Che14GB05	M	28-Mar-14	Golden Bay	-40.80949	172.86123	Biopsy	15.4	-18.9
Che14GB06	F	28-Mar-14	Golden Bay	-40.80949	172.86123	Biopsy	17.4	-15.4
Che14GB07	M	28-Mar-14	Golden Bay	-40.80949	172.86123	Biopsy	16.5	-17.4
	M	27-Mar-15	Golden Bay	-40.81392	172.83851	Biopsy	15.6	-18.0
Che15GB01	F	27-Mar-15	Golden Bay	-40.81709	172.84353	Biopsy	16.3	-17.4
Che15GB03	M	27-Mar-15	Golden Bay	-40.81958	172.8541	Biopsy	15.9	-17.6
	M	22-Jan-21	Golden Bay	-40.81966	172.87648	Biopsy	15.9	-17.5
Che16QCS03	M	13-Jun-16	Queen Charlotte Sound	-41.21303	174.08762	Biopsy	15.1	-16.8
Che16QCS04	F	13-Jun-16	Queen Charlotte Sound	-41.21303	174.08762	Biopsy	15.8	-16.4
Che16QCS05	F	13-Jun-16	Queen Charlotte Sound	-41.19862	174.25317	Biopsy	15.1	-17.1
Che16QCS06	F	13-Jun-16	Queen Charlotte Sound	-41.19862	174.25317	Biopsy	15.6	-16.5

Che16QCS07	M	13-Jun-16	Queen Charlotte Sound	-41.19862	174.25317	Biopsy	15.3	-16.8
Che16QCS09	M	13-Jun-16	Queen Charlotte Sound	-41.19862	174.25317	Biopsy	15.1	-17.2
		13-Jun-16	Queen Charlotte Sound	-41.19862	174.25317	Biopsy	15.4	-16.2
Che16QCS13	F	14-Jun-16	Queen Charlotte Sound	-41.21913	174.14741	Biopsy	15.7	-16.5
Che16QCS14	M	15-Jun-16	Queen Charlotte Sound	-41.25225	173.98033	Biopsy	15.6	-16.4
Che16QCS01	F	13-Jun-16	Queen Charlotte Sound	-41.21303	174.08762	Biopsy	15.5	-16.4
Che21GB02	M	22-Jan-21	Golden Bay	-40.81966	172.87648	Biopsy	15.8	-17.4
Che22GB01	TBD	14-Apr-22	Golden Bay	-40.82117	172.88622	Biopsy	14.9	-18.8
Che22GB02	TBD	14-Apr-22	Golden Bay	-40.82236	172.88675	Biopsy	14.7	-18.2
Che22GB03	TBD	14-Apr-22	Golden Bay	-40.82236	172.88585	Biopsy	15.8	-17.7
Che22GB04	TBD	14-Apr-22	Golden Bay	-40.82227	172.86536	Biopsy	16.0	-18.0
Che22QCS01	M	05-Apr-22	Queen Charlotte Sound	-41.251	173.98106	Biopsy	14.5	-17.7
Che22QCS02	M	05-Apr-22	Queen Charlotte Sound	-41.25001	173.98035	Biopsy	15.1	-17.3
Che22QCS03	M	05-Apr-22	Queen Charlotte Sound	-41.24872	173.98037	Biopsy	14.6	-17.8
Che22QCS04	F	05-Apr-22	Queen Charlotte Sound	-41.24686	173.9806	Biopsy	14.7	-17.6
Che22QCS05	F	05-Apr-22	Queen Charlotte Sound	-41.24763	173.98031	Biopsy	14.8	-17.6
Che21QCS01	M	19-Oct-21	Queen Charlotte sound	-41.312598	172.08515	Biopsy	15.3	-16.8
Che22QCS06	TBD	05-Apr-22	Queen Charlotte Sound	-41.24645	174.00026	Biopsy	14.6	-17.7
Che22QCS07	TBD	05-Apr-22	Queen Charlotte Sound	-41.25221	174.00357	Biopsy	14.8	-17.6
Che22QCS08	TBD	05-Apr-22	Queen Charlotte Sound	-41.25348	174.00072	Biopsy	15.0	-16.9
Che22QCS09	TBD	05-Apr-22	Queen Charlotte Sound	-41.25862	173.99209	Biopsy	14.6	-17.4
Che22QCS10	TBD	05-Apr-22	Queen Charlotte Sound	-41.25192	173.98601	Biopsy	14.6	-17.4
Che22QCS11	TBD	05-Apr-22	Queen Charlotte Sound	-41.21891	174.03306	Biopsy	15.1	-17.4
Che22QCS12	TBD	05-Apr-22	Queen Charlotte Sound	-41.21945	174.03333	Biopsy	14.3	-17.9
Che22QCS13	TBD	05-Apr-22	Queen Charlotte Sound	-41.23054	174.03559	Biopsy	14.7	-17.8
Che22QCS15	TBD	05-Apr-22	Queen Charlotte Sound	-41.22727	174.03567	Biopsy	14.8	-17.1
Che22QCS16	TBD	05-Apr-22	Queen Charlotte Sound	-41.21348	174.06899	Biopsy	15.1	-17.4

Che22QCS17	TBD	06-Apr-22	Queen Charlotte Sound	-41.24346	173.97884	Biopsy	14.9	-17.2
Che22QCS18	TBD	07-Apr-22	Queen Charlotte Sound	-41.25708	173.99133	Biopsy	14.3	-17.7
Che22QCS19	TBD	08-Apr-22	Queen Charlotte Sound	-41.2573	173.99135	Biopsy	14.6	-17.3
Che22QCS20	TBD	08-Apr-22	Queen Charlotte Sound	-41.25563	173.99159	Biopsy	14.4	-17.4
Che22QCS21	TBD	08-Apr-22	Queen Charlotte Sound	-41.25232	173.98661	Biopsy	14.9	-17.3
Che22QCS22	TBD	08-Apr-22	Queen Charlotte Sound	-41.25454	173.97345	Biopsy	14.9	-17.2
Che22QCS23	TBD	08-Apr-22	Queen Charlotte Sound	-41.25999	173.95696	Biopsy	14.8	-17.3
Che22QCS24	TBD	08-Apr-22	Queen Charlotte Sound	-41.25956	173.95693	Biopsy	14.7	-17.1
Che22QCS25	TBD	08-Apr-22	Queen Charlotte Sound	-41.25949	173.957	Biopsy	14.5	-17.7
Che22QCS26	TBD	08-Apr-22	Queen Charlotte Sound	-41.25905	173.95805	Biopsy	14.5	-17.6
Che22QCS27	TBD	08-Apr-22	Queen Charlotte Sound	-41.25909	173.95839	Biopsy	14.5	-17.4
Che22QCS28	TBD	08-Apr-22	Queen Charlotte Sound	-41.25699	173.96824	Biopsy	14.5	-17.5
Che22QCS29	TBD	08-Apr-22	Queen Charlotte Sound	-41.25527	173.97455	Biopsy	14.7	-17.3
Che22QCS30	TBD	08-Apr-22	Queen Charlotte Sound	-41.23759	174.03549	Biopsy	15.1	-16.8

Table S2: Post Hoc Dunn's multiple pairwise comparisons test comparing $\delta^{13}\text{C}$ values of 111 Hector's dolphin skin samples by location. Within each cell is the Dunn's pairwise z-test statistic (above) and the associated p -value (below), with statistically significant differences indicated by asterisks.

$\delta^{13}\text{C}$	Cloudy Bay	Golden Bay
Golden Bay	5.580967 <0.0001*	-
Queen Charlotte Sound	4.195659 <0.0001*	-2.601389 0.0046*

Table S3: Post Hoc Dunn's multiple pairwise comparisons test comparing $\delta^{15}\text{N}$ values of 111 Hector's dolphin skin samples by location. Within each cell is the Dunn's pairwise z-test statistic (above) and the associated p -value (below), with statistically significant differences indicated by asterisks.

$\delta^{15}\text{N}$	Cloudy Bay	Golden Bay
Golden Bay	-2.137084 0.0163*	-
Queen Charlotte Sound	3.923115 <0.0001*	4.667930 0.0000*

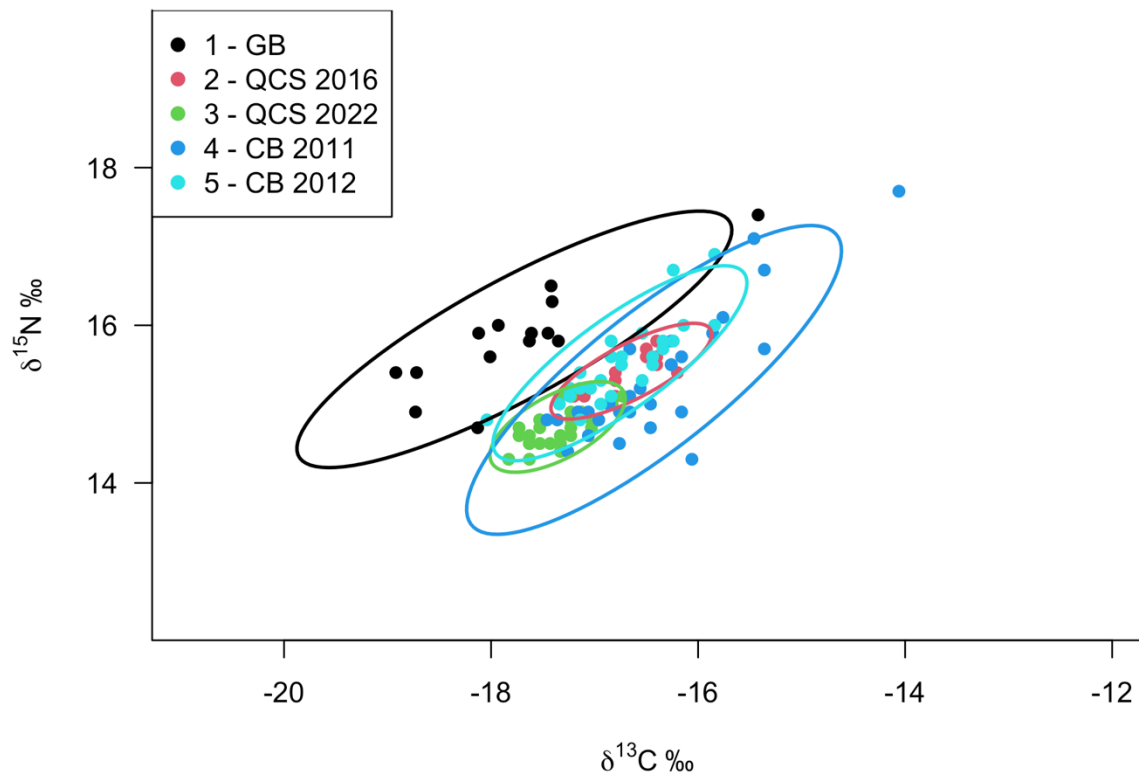


Figure S1: Isotopic niche space indicated by 95% CI bivariate ellipses of Hector's dolphin biopsy skin samples collected from west (GB – Golden Bay) and east (CB – Cloudy Bay and QCS - Queen Charlotte Sound) regions of the north coast of the South Island. Regions within the east have been grouped by year of sample collection.