

Table S1 Regions and specific sites with sample sizes for length frequency distributions and stable isotope and stomach content analysis ( $n_{\text{length}}$ ,  $n_{\text{SIA}}$ ,  $n_{\text{stomach}}$  respectively) per site and coordinates

Region	Site	$n_{\text{length}}$	$n_{\text{SIA}}$	$n_{\text{stomach}}$	Latitude	Longitude
D'Urville Island	Ragged Point	103	75	65	40°49.69	173°46.69
	Billhook Point	8	8	6	40°42.13	173°57.57
	Old man's head	100	40	37	40°47.84	173°57.31
Pelorus Sound	Clay Point	153	11	11	40°53.35	173°58.85
	Kauauroa Point	8	8	8	41°02.56	173°58.51
	Waiata Salmon Farm	47	5	5	40°58.18	173°57.10
Queen Charlotte Sound	Bird Island	36	4	5	40°59.50	174°02.17
	The Knobbys	1	1	0	41°18.41	174°09.91
	Clay Point (1)	8	8	3	41°14.15	174°14.29
Inner Tasman Bay	Te Punga Bay	3	3	0	41°14.85	174°14.05
	Erie Bay	2	2	0	41°14.60	174°12.09
	Dieffenbach Point	20	20	0	41°13.87	174°08.74
Outer Tasman Bay	Motungarara Island	25	5	5	41°06.71	174°19.73
	Ruakākā Bay	1	1	0	41°12.72	174°08.57
	Cape Soucis	52	45	42	41°04.24	173°33.64
Outer Tasman Bay	Separation Point	88	86	64	40°48.27	173°01.58
	Hapuka Reef	15	15	14	40°57.82	173°04.01

Table S2 Stable isotopic values of the sampled algae species in each regions of the Marlborough Sounds (D’Urville Island, Pelorus Sound, Queen Charlotte Sound) and Tasman Bay (Inner and Outer Tasman Bay)

Region	Species	$\delta^{13}\text{C}$	$\delta^{15}\text{N}$
D’Urville Island	<i>Carpophyllum flexuosom</i>	-18.82	6.26
	<i>Carpophyllum maschalocarpum</i>	-14.89	7.95
	<i>Eklonia radiata</i>	-19.24	7.33
	<i>Ulva spp.</i>	-18.96	8.32
	<i>Dictyota ocellata</i>	-20.05	7.29
Pelorus Sound	<i>Carpophyllum flexuosom</i>	-19.84	5.64
	<i>Carpophyllum flexuosom</i>	-19.67	4.85
	<i>Carpophyllum flexuosom</i>	-19.19	5.06
	<i>Carpophyllum flexuosom</i>	-19.31	6.30
Queen Charlotte Sound	<i>Carpophyllum flexuosom</i>	-14.35	6.54
	<i>Carpophyllum maschalocarpum</i>	-12.35	6.83
	<i>Cystophora torulosa</i>	-14.13	6.62
	<i>Eklonia radiata</i>	-15.89	7.28
	<i>Macrocystis pyrifera</i>	-15.68	7.51
	<i>Ulva spp.</i>	-17.71	7.15
	<i>Undaria pinnatifida</i>	-17.47	6.74
Inner Tasman Bay	<i>Carpophyllum flexuosom</i>	-17.46	6.79
	<i>Carpophyllum maschalocarpum</i>	-16.25	7.06
	<i>Cystophora torulosa</i>	-16.53	8.14
	<i>Papenfussiella lutea</i>	-14.60	6.42
Outer Tasman Bay	<i>Carpophyllum flexuosom</i>	-17.13	7.79
	<i>Carpophyllum maschalocarpum</i>	-18.77	6.56

Table S3. Likelihood ratio tests (Kimura,1980) for growth parameters estimated ( $L_{\infty}$ ,  $k$ , and  $t_0$ ) for blue cod populations pooled across Marlborough Sound regions (DUR, PEL, QCS) versus DUR

Scenario	Test	Hypothesis	$X^2$	$p$
Marlborough Sounds vs D’Urville Island	H0 versus H1	$L_{\infty}(\text{Marlb.}) = L_{\infty}(\text{DUR})$	1.00	1.000
	H0 versus H2	$k(\text{Marlb.}) = k(\text{DUR})$	0.86	0.862
	H0 versus H3	$t_0(\text{Marlb.}) = t_0(\text{DUR})$	0.88	0.888
	H0 versus H4	$L_{\infty}(\text{Marlb.}) = L_{\infty}(\text{DUR}), k(\text{Marlb.}) = k(\text{DUR}), t_0(\text{Marlb.}) = t_0(\text{DUR})$	0.98	0.976

Table S4. Likelihood ratio tests (Kimura,1980) for growth parameters estimated ( $L_{\infty}$ ,  $k$ , and  $t_0$ ) for blue cod populations pooled across Tasman Bay (ITB, OTB).

Scenario	Test	Hypothesis	$X^2$	$p$
Outer Tasman Bay vs Inner Tasman Bay	H0 versus H1	$L_{\infty}(\text{ITB}) = L_{\infty}(\text{OTB})$	0.70	0.403
	H0 versus H2	$k(\text{ITB}) = k(\text{OTB})$	0.68	0.410
	H0 versus H3	$t_0(\text{ITB}) = t_0(\text{OTB})$	2.29	0.130
	H0 versus H4	$L_{\infty}(\text{ITB}) = L_{\infty}(\text{OTB}), k(\text{ITB}) = k(\text{OTB}), t_0(\text{ITB}) = t_0(\text{OTB})$	28.39	<b>0.000</b>

Table S5 Pairwise permutational analysis of variance (PERMANOVA) comparing the diet composition of blue cod between paired regions (empty stomachs excluded). Pseudo- $t$ ,  $p$ -value, unique permutations, and degrees of freedom (df; factor, error) are given. Significant results ( $p < 0.05$ ) are in bold.

Prey group	Region	Test	$t$	$p$ -value	Unique perms.	df
Gastropoda	D'Urville Island	Inner Tasman Bay	3.971	<b>0.0003</b>	22	149
	D'Urville Island	Outer Tasman Bay	0.211	0.871	24	184
	D'Urville Island	Pelorus Sound	2.899	<b>0.0048</b>	17	136
	D'Urville Island	Queen Charlotte Sound	1.768	0.1023	8	115
	Pelorus Sound	Queen Charlotte Sound	0.519	1	2	35
	Inner Tasman Bay	Outer Tasman Bay	3.540	<b>0.0013</b>	19	117
	Inner Tasman Bay	Pelorus Sound	6.1	<b>0.0001</b>	17	69
	Inner Tasman Bay	Queen Charlotte Sound	3.533	<b>0.0014</b>	9	48
	Outer Tasman Bay	Pelorus Sound	2.991	<b>0.0025</b>	14	104
	Outer Tasman Bay	Queen Charlotte Sound	1.824	0.1056	8	83
Bivalvia	D'Urville Island	Inner Tasman Bay	2.204	<b>0.0357</b>	20	149
	D'Urville Island	Outer Tasman Bay	1.474	0.1583	23	184
	D'Urville Island	Pelorus Sound	4.622	<b>0.0001</b>	17	136

	D'Urville Island	Queen Charlotte Sound	0.709	0.7093	8	115
	Pelorus Sound	Queen Charlotte Sound	3.604	<b>0.0045</b>	8	35
	Inner Tasman Bay	Outer Tasman Bay	0.995	0.3747	18	117
	Inner Tasman Bay	Pelorus Sound	6.728	<b>0.0001</b>	17	69
	Inner Tasman Bay	Queen Charlotte Sound	0.3785	1	7	48
	Outer Tasman Bay	Pelorus Sound	5.895	<b>0.0001</b>	19	104
	Outer Tasman Bay	Queen Charlotte Sound	0.136	1	8	83
Tunicates	D'Urville Island	Inner Tasman Bay	3.262	<b>0.0019</b>	17	149
	D'Urville Island	Outer Tasman Bay	4.282	<b>0.0001</b>	18	184
	D'Urville Island	Pelorus Sound	0.307	0.8057	15	136
	D'Urville Island	Queen Charlotte Sound	0.791	0.6737	8	115
	Pelorus Sound	Queen Charlotte Sound	0.530	0.6697	7	35
	Inner Tasman Bay	Outer Tasman Bay	0.071	1	4	117
	Inner Tasman Bay	Pelorus Sound	3.333	<b>0.0029</b>	10	69
	Inner Tasman Bay	Queen Charlotte Sound	3.735	<b>0.0109</b>	5	48

	Outer Tasman Bay	Pelorus Sound	4.204	<b>0.0006</b>	10	104
	Outer Tasman Bay	Queen Charlotte Sound	4.378	<b>0.0052</b>	5	83
Crustacea	D’Urville Island	Inner Tasman Bay	2.813	<b>0.0056</b>	21	149
	D’Urville Island	Outer Tasman Bay	3.194	<b>0.0031</b>	14	184
	D’Urville Island	Pelorus Sound	0.574	0.668	20	136
	D’Urville Island	Queen Charlotte Sound	0.158	1	9	115
	Pelorus Sound	Queen Charlotte Sound	0.154	1	8	35
	Inner Tasman Bay	Outer Tasman Bay	5.446	<b>0.0001</b>	21	117
	Inner Tasman Bay	Pelorus Sound	1.742	0.1011	14	69
	Inner Tasman Bay	Queen Charlotte Sound	1.348	0.3255	8	48
	Outer Tasman Bay	Pelorus Sound	2.764	<b>0.0082</b>	17	104
	Outer Tasman Bay	Queen Charlotte Sound	1.445	0.261	9	83