

Ecological niche of coastal Beaufort Sea fishes defined by stable isotopes and fatty acids

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Table S1. Results of the probabilities of niche overlap among the fishes in Groups A, B and C (see Fig. 2 for the corresponding species and Table 1 for abbreviations). The mean probability indicates the probability of Species A niche being found within the niche of Species B. The probability of overlap is indicated by mean and credible intervals (2.5%, 97.5%). The niche overlaps were calculated using $\alpha = 0.40$. SI: stable isotope

Species B	Species A	SI Mean Probability [Credible Interval], $\alpha=0.40$
Group A		
DVCH	FHSC	14.48 [6.10, 26.81]
	PCHR	35.42 [11.90, 65.1]
	RBSM	76.76 [47.70, 96.10]
	SFCD	7.91 [1.90, 18.80]
FHSC	DVCH	5.17 [1.90, 9.80]
	PCHR	0.11 [0.0, 0.70]
	RBSM	6.11 [0.60, 18.41]
	SFCD	33.42 [20.00, 50.20]
PCHR	DVCH	6.04 [2.60, 11.20]
	FHSC	0.41 [0.00, 1.30]
	RBSM	2.91 [0.10, 12.10]
	SFCD	0.02 [0.00, 0.20]
RBSM	DVCH	5.29 [2.80, 8.60]
	FHSC	3.61 [1.60, 6.40]
	PCHR	2.22 [0.10, 6.90]
	SFCD	0.10 [0.00, 0.50]
SFCD	DVCH	1.25 [0.20, 2.70]
	FHSC	11.01 [7.60, 15.10]
	PCHR	0.01 [0.00, 0.10]
	RBSM	0.03 [0.00, 0.20]
Group B		
BDWF	BRBT	42.21 [18.60, 66.71]
	LKWF	23.46 [14.20, 33.72]
	LNSK	53.68 [30.50, 77.01]
	NRPK	65.33 [34.60, 90.91]
	RDWF	42.99 [30.80, 56.61]
BRBT	BDWF	10.92 [4.80, 22.30]
	LKWF	24.69 [12.50, 45.01]
	LNSK	28.07 [10.90, 54.90]
	NRPK	52.36 [6.10, 92.60]
	RDWF	26.21 [14.00, 43.93]
LKWF	BDWF	10.19 [6.50, 14.30]
	BRBT	39.95 [19.00, 61.20]
	LNSK	25.69 [10.70, 43.21]

	NRPK	64.84 [36.69,88.10]
	RDWF	25.85 [17.40, 35.50]
LNSK	BDWF	14.71 [7.80, 25.51]
	BRBT	32.39 [11.30, 59.71]
	LKWF	19.01 [7.60, 38.40]
	NRPK	48.08 [5.50, 94.11]
	RDWF	28.60 [15.00, 45.31]
NRPK	BDWF	2.45 [0.90, 4.80]
	BRBT	6.92 [2.10, 14.60]
	LKWF	5.20 [2.50, 9.91]
	LNSK	5.68 [1.70, 12.90]
	RDWF	5.28 [2.30, 10.41]
RDWF	BDWF	16.53 [11.50, 23.21]
	BRBT	43.81 [23.30, 67.01]
	LKWF	27.94 [19.50, 38.00]
	LNSK	41.49 [23.50, 62.00]
	NRPK	65.99 [36.20, 89.40]
Group C		
ARCS	ARFL	45.47 [31.71, 59.26]
	INCN	13.27 [4.07, 29.68]
	LSCS	28.83 [18.86, 40.10]
	STFL	64.64 [49.61, 77.97]
ARFL	ARCS	13.40 [9.78, 17.67]
	INCN	0.14 [0.01, 0.52]
	LSCS	5.19 [2.51, 9.05]
	STFL	16.14 [8.69, 25.58]
INCN	ARCS	5.79 [3.83, 8.30]
	ARFL	1.18 [0.37, 2.70]
	LSCS	10.84 [7.11, 16.06]
	STFL	12.87 [7.51, 19.21]
LSCS	ARCS	12.88 [8.80, 17.68]
	ARFL	9.22 [4.59, 15.03]
	INCN	25.62 [16.83, 35.65]
	STFL	22.81 [13.07, 34.94]
STFL	ARCS	16.03 [11.44, 21.69]
	ARFL	14.97 [8.41, 24.00]
	INCN	11.37 [4.33, 22.34]
	LSCS	17.49 [11.97, 23.93]

Table S2. The total fatty acid proportions recorded as percent total (%) of the 15 species of fish (excluding dolly varden). % total fatty acids are those SE

	ARCS	ARFL	BDWT	BRBT	FHSC	INCN	LKWF	LNSK	LSCS	NRPK	PCHR	RBSM	RDWF	SFCD	STFL
Saturated FA (%)															
14:0	0.15			0.35	0.08	0.11	0.12	0.36	0.16	0.36	0.20	0.15	0.13	0.06	0.09
16:0	0.49			0.37	0.22	0.31	0.16	0.36	0.34	0.76	0.77	0.58	0.21	0.19	0.17
18:0	0.23	0.08	0.09	0.45	0.11	0.13	0.10	0.11	0.18	1.06	0.31	0.28	0.12	0.06	0.10
subtotal	0.87	0.29	0.38	1.17	0.41	0.55	0.38	0.83	0.68	2.18	1.28	1.01	0.46	0.31	0.36
Monounsaturated FA (%)															
16:1n7	0.71	0.49	0.43	1.09	0.43	0.55	0.48	0.82	0.47	1.68	0.75	0.72	0.61	0.32	0.61
18:1n7	0.12	0.12	0.17	0.55	0.11	0.10	0.15	0.34	0.11	0.35	0.18	0.11	0.23	0.10	0.21
18:1n9	0.29	0.20	0.69	0.87	0.52	0.37	0.58	0.53	0.25	0.72	0.58	0.30	0.29	0.17	0.38
Calanus	0.88	0.21	0.10	1.53	0.20	0.51	0.24	0.11	0.46	2.20	1.69	0.74	0.16	0.21	0.38
20:1n7	0.10	0.18	0.06	0.10	0.09	0.08	0.07	0.19	0.08	0.09	0.67	0.07	0.06	0.03	0.22
22:1n7	0.04	0.01	0.01	0.03	0.01	0.01	0.01	0.02	0.02	0.05	0.20	0.01	0.01	0.01	0.01
24:1n9	0.03	0.01	0.02	0.27	0.01	0.02	0.02	0.03	0.03	0.10	0.03	0.05	0.03	0.04	0.02
subtotal	2.17	1.22	1.48	4.44	1.37	1.64	1.55	2.04	1.42	5.19	4.10	2.00	1.39	0.88	1.83
Polyunsaturated FA (%)															
16 PUFA	0.07	0.06	0.08	0.13	0.05	0.04	0.08	0.12	0.05	0.11	0.11	0.04	0.09	0.03	0.07
18 PUFA	0.09	0.05	0.09		0.07	0.06	0.14	0.21	0.09	0.16	0.14	0.10	0.14	0.04	0.13
18:2n6	0.17	0.10	0.32		0.11	0.09	0.24	0.39	0.19	0.31	0.28	0.12	0.31	0.08	0.28
18:3n3	0.16	0.04	0.19		0.10	0.07	0.23	0.23	0.09	0.23	0.05	0.16	0.19	0.02	0.12
NMI	0.02	0.05	0.03	0.03	0.04	0.04	0.07	0.02	0.04	0.11	0.05	0.03	0.03	0.02	0.07
20:2n6	0.02	0.02	0.03	0.06	0.01	0.01	0.02	0.04	0.02	0.03	0.02	0.04	0.02	0.01	0.02
20:3n3	0.02	0.03	0.02	0.04	0.03	0.04	0.02	0.02	0.03	0.03	0.02	0.06	0.03	0.02	0.02
20:3n6	0.01	0.01	0.01	0.04	0.01	0.01	0.02	0.01	0.01	0.10	0.02	0.01	0.01	0.00	0.01
20:4n3	0.02	0.01	0.03	0.03	0.02	0.03	0.03	0.03	0.04	0.06	0.02	0.09	0.03	0.02	0.02
20:4n6	0.12	0.09	0.15	1.47	0.09	0.12	0.08	0.17	0.13	0.61	0.10	0.17	0.12	0.06	0.17
20:5n3	0.21	0.28	0.33	0.45	0.26	0.22	0.25	0.47	0.19	0.30	0.34	0.23	0.22	0.19	0.37
21:5n3	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.02	0.01	0.07	0.01	0.01	0.01	0.01	0.01
22:5n3	0.09	0.11	0.09	0.11	0.04	0.06	0.08	0.13	0.08	0.33	0.14	0.11	0.08	0.06	0.13
22:5n6	0.04	0.02	0.06	0.15	0.02	0.04	0.04	0.15	0.05	0.14	0.03	0.09	0.05	0.01	0.02
22:6n3	0.94	0.47	0.84	1.80	0.47	0.94	0.96	1.23	0.81	2.73	1.15	0.64	0.92	0.48	0.59
subtotal	1.99	1.29	2.28	5.17	1.33	1.78	2.27	3.24	1.83	5.32	2.48	1.90	2.25	1.05	2.03