

SUPPLEMENTARY MATERIAL

Table S1. Samples used in the study, including the SWFSC accession number, GeneticID, collection method (B = biopsy, H = harvest, S = stranding), date of collection, location of collection, strata, and whether the sample was retained in the final analysis. Samples were removed because they were considered duplicates (code 1), due to poor quality (code 2), or because they could not be assigned to a stratum (code 3, which includes whales that were sampled in the PCFG range but did not meet the criteria for being included in the PCFG stratum). GeneticID represents a unique identifier for individuals, such that samples that were considered to be from the same individual were assigned the same GeneticID. The strata specified include: North, CHK (Chukotka), PCFG, and South. Samples considered part of the CHK stratum were also included in the North stratum in the analyses. The South stratum includes samples collected from whales within the PCFG seasonal range but which did not meet the criteria for being classified as PCFG whales (see text for further explanation).

SWFSC Accession #	GeneticID	Collection Method	Year	Month	Day	Latitude	Longitude	Locality	Strata	Retained in analysis?	Reason Code
4158	4158	H	1994	9	30	64.92	-172.42	Russia, Mechigveenskiy Zaliv	CHK	Y	
4159	4159	H	1994	10	12	64.92	-172.42	Russia, Mechigveenskiy Zaliv	CHK	Y	
4160	4160	H	1994	10	15	64.92	-172.42	Russia, Mechigveenskiy Zaliv	CHK	Y	
4161	4161	H	1994	10	18	64.92	-172.42	Russia, Mechigveenskiy Zaliv	CHK	Y	
4163	4163	H	1994	10	18	64.92	-172.42	Russia, Mechigveenskiy Zaliv	CHK	Y	
4164	4164	H	1994	10	19	64.92	-172.42	Russia, Mechigveenskiy Zaliv	CHK	N	2
4165	4165	H	1994	10	20	64.92	-172.42	Russia, Mechigveenskiy Zaliv	CHK	Y	

SWFSC Accession #	GeneticID	Collection Method	Year	Month	Day	Latitude	Longitude	Locality	Strata	Retained in analysis?	Reason Code
4166	4166	H	1994	10	21	64.92	-172.42	Russia, Mechigveenskiy Zaliv	CHK	Y	
4167	4167	H	1994	10	22	64.92	-172.42	Russia, Mechigveenskiy Zaliv	CHK	Y	
4168	4168	H	1994	10	23	64.92	-172.42	Russia, Mechigveenskiy Zaliv	CHK	Y	
4169	4169	H	1994	10	25	64.92	-172.42	Russia, Mechigveenskiy Zaliv	CHK	Y	
4170	4170	H	1994	10	25	64.92	-172.42	Russia, Mechigveenskiy Zaliv	CHK	Y	
4171	4171	H	1994	10	25	64.92	-172.42	Russia, Mechigveenskiy Zaliv	CHK	Y	
8401	8401	S	1997	8	22	71.33	-156.67	USA, AK, Barrow	NORTH	Y	
10374	10374	S	1998	7	12	62.77	-164.52	USA, AK, Emmonak	NORTH	N	2
13937	13937	S	1999	8	24	63	-164.75	USA, AK, Yukon River Mouth	NORTH	N	2
14342	14342	S	1999	7	16	58.6	-159.98	USA, AK, Round Island	NORTH	Y	
17298	17298	S	2000	7	5	59.85	-166.43	USA, AK, Mukoryuk	NORTH	N	2
23199	23199	B	1996	9	18	48.28	-124.7	USA, WA, Portage Head	PCFG	N	1
23200	23200	B	1996	9	18	48.28	-124.7	USA, WA, Portage Head	SOUTH	N	3
23201	23199	B	1996	9	18	48.28	-124.7	USA, WA, Portage Head	PCFG	Y	
23202	23202	B	1996	9	18	48.3	-124.7	USA, WA, ANDERSON PT	SOUTH	N	3

SWFSC Accession #	GeneticID	Collection Method	Year	Month	Day	Latitude	Longitude	Locality	Strata	Retained in analysis?	Reason Code
23203	102360	B	1996	9	18	48.28	-124.7	USA, WA, Portage Head	PCFG	N	1
23204	23204	B	1996	9	18	48.3	-124.68	USA, WA, ANDERSON PT. REEF	SOUTH	N	3
23205	23204	B	1996	9	19	48.3	-124.68	USA, WA, ANDERSON PT	SOUTH	N	1, 3
23206	23199	B	1996	9	19	48.3	-124.68	USA, WA, ANDERSON PT	PCFG	N	1
23207	100720	B	1996	9	20	48.17	-124.75	USA, WA, S. Bodelteh Isl.	PCFG	N	1
23208	23209	B	1996	9	20	48.15	-124.73	USA, WA, N. White Rock	SOUTH	N	1, 3
23209	23209	B	1996	9	20	48.17	-124.75	USA, WA, S. Bodelteh Isl.	SOUTH	N	3
23210	23217	B	1997	9	20	48.35	-124.52	USA, WA, Rasmussen Creek	PCFG	N	1
23213	23213	B	1997	9	20	48.37	-124.55	USA, WA, Seal Rock	SOUTH	N	3
23214	23214	B	1997	9	20	48.35	-124.55	USA, WA, Snow Creek	PCFG	N	1
23216	100720	B	1997	9	21	48.12	-124.72	USA, WA, Sand Pt.	PCFG	N	1
23217	23217	B	1997	9	23	48.38	-124.68	USA, WA, Slant Rock	PCFG	Y	
23218	23213	B	1997	9	29	48.37	-124.53	USA, WA, Snow Creek	SOUTH	N	1, 3
23219	23219	B	1997	9	29	48.37	-124.55	USA, WA, Seal Rock	SOUTH	N	2
23220	23220	B	1997	9	30	48.33	-124.47	USA, WA, Rasmussen Creek	PCFG	Y	
23221	23221	B	1997	9	30	48.37	-124.57	USA, WA, Third Beach (E of)	SOUTH	N	3

SWFSC Accession #	GeneticID	Collection Method	Year	Month	Day	Latitude	Longitude	Locality	Strata	Retained in analysis?	Reason Code
23223	23223	B	1998	9	6	48.28	-124.68	USA, WA, Portage Head	PCFG	Y	
23224	23217	B	1998	9	15	48.35	-124.72	USA, WA, Greenbank	PCFG	N	1
23225	23225	B	1998	9	15	48.23	-124.72	USA, WA, Cook Rock	SOUTH	N	3
23226	23226	B	1998	9	15	48.23	-124.72	USA, WA, Cook Rock	PCFG	Y	
23227	23226	B	1998	9	16	48.18	-124.73	USA, WA, Guano Rock	PCFG	N	1
23228	23225	B	1998	9	19	48.18	-124.77	USA, WA, BODELTEH	SOUTH	N	1, 3
23229	23229	B	1998	9	21	48.13	-124.72	USA, WA, Sand Pt.	PCFG	Y	
23230	23230	B	1998	9	25	48.35	-124.52	USA, WA, Bullman Beach	PCFG	Y	
23231	23231	B	1998	9	25	48.35	-124.52	USA, WA, Bullman Beach	PCFG	Y	
23232	100726	B	1998	10	2	48.35	-124.53	USA, WA, Seal Rock	PCFG	N	1
23233	23233	B	1998	10	14	48.32	-124.47	USA, WA, Jensen Creek	SOUTH	N	3
23234	23234	B	1998	10	15	48.35	-124.53	USA, WA, Seal Rock	SOUTH	N	3
23235	23235	B	1998	10	15	48.35	-124.53	USA, WA, Seal Rock	SOUTH	N	3
23236	23236	B	1998	10	16	48.28	-124.7	USA, WA, Portage Head	PCFG	Y	
23237	23229	B	1998	10	31	48.35	-124.55	USA, WA, Sail River	PCFG	N	1
23238	23238	B	1998	11	1	48.32	-124.45	USA, WA, Jensen Creek (E of)	SOUTH	N	3
23239	23239	B	1998	11	5	48.37	-124.55	USA, WA, Sail River	SOUTH	N	3
23240	23240	B	1998	11	5	48.37	-124.55	USA, WA, Sail River	SOUTH	N	3

SWFSC Accession #	GeneticID	Collection Method	Year	Month	Day	Latitude	Longitude	Locality	Strata	Retained in analysis?	Reason Code
23241	23241	B	1999	7	28	48.38	-124.62	USA, WA, outside jetty	SOUTH	N	3
23242	23214	B	1999	8	26	48.35	-124.53	USA, WA, Sail Rock (E. of)	PCFG	N	1
23243	100726	B	1999	8	26	48.35	-124.53	USA, WA, Sail Rock (E. of)	PCFG	N	1
23244	23199	B	1999	9	14	48.18	-124.73	USA, WA, Guano Rock	PCFG	N	1
23245	23214	B	1999	10	4	48.37	-124.57	USA, WA, Third Beach	PCFG	Y	
23246	23199	B	1999	10	13	48.33	-124.7	USA, WA, Greenbank	PCFG	N	1
23247	23247	B	1999	10	18	48.12	-124.73	USA, WA, Sand Pt.	SOUTH	N	3
23248	23248	B	1999	11	4	48.35	-124.52	USA, WA, Bullman Beach	SOUTH	N	3
27473	27473	S	1998	8	17	71.28	-156.78	USA, AK, Barrow	NORTH	N	2
27474	27474	S	2000	8	16	71.28	-156.78	USA, AK, Barrow	NORTH	Y	
27475	27475	S	1998	7	15	71.28	-156.78	USA, AK, Barrow	NORTH	N	2
27477	27477	S	1998	7	17	71.35	-156.37	USA, AK, Plover Pt.	NORTH	N	2
27488	27488	S	1998	7	14	71.38	-156.48	USA, AK, Pt. Barrow	NORTH	N	2
41544	41544	S	2004	6	15	71.28	-156.78	USA, AK, Kotzebue	NORTH	Y	
52481	52481	S	2005	10	25	63.77	-171.73	USA, AK, Gambell	NORTH	Y	
100702	100702	B	2009	11	14	41.78	-124.28	USA, CA	PCFG	Y	
100703	100703	B	2009	11	15	41.75	-124.23	USA, CA	PCFG	N	1
100704	100704	B	2009	11	15	41.78	-124.28	USA, CA	PCFG	Y	
100705	100705	B	2009	11	15	41.78	-124.28	USA, CA	PCFG	Y	

SWFSC Accession #	GeneticID	Collection Method	Year	Month	Day	Latitude	Longitude	Locality	Strata	Retained in analysis?	Reason Code
100706	100706	B	2009	12	1	41.78	-124.3	USA, CA	PCFG	Y	
100707	100707	B	2009	12	1	41.78	-124.32	USA, CA	PCFG	Y	
100708	100708	B	2009	12	3	41.73	-124.22	USA, CA	PCFG	N	1
100709	100709	B	2009	12	4	41.78	-124.32	USA, CA	PCFG	Y	
100710	100710	B	2009	9	2	44.5	-124.12	USA, OR	PCFG	N	1
100711	100711	B	2009	9	4	44.77	-124.08	USA, OR	PCFG	Y	
100712	100712	B	2009	9	4	44.75	-124.08	USA, OR	PCFG	Y	
100713	101820	B	2009	9	21	44.72	-124.08	USA, OR	PCFG	N	1
100714	100714	B	2009	9	21	44.73	-124.08	USA, OR	PCFG	Y	
100715	100715	B	2009	10	5	44.75	-124.08	USA, OR	PCFG	N	1
100716	101826	B	2005	4	25	48.25	-124.72	USA, WA, Spike Rk	PCFG	Y	
100717	101826	B	2005	5	9	48.38	-124.63	USA, WA, Koitlah	PCFG	N	1
100718	100718	B	2005	7	7	48.28	-124.68	USA, WA, Shipwreck Pt	PCFG	Y	
100719	100719	B	2004	8	27	48.37	-124.57	USA, WA, Third Beach	SOUTH	N	3
100720	100720	B	2004	8	27	48.37	-124.57	USA, WA, Third Beach	PCFG	Y	
100721	100721	B	2004	9	23	48.35	-124.53	USA, WA, Snow Creek	PCFG	Y	
100722	100733	B	2004	9	23	48.35	-124.55	USA, WA, Sail River	PCFG	N	1
100723	100723	B	2004	9	23	48.35	-124.53	USA, WA, NE Sail	PCFG	Y	
100724	100724	B	2008	10	29	48.33	-124.48	USA, WA, Jensen Creek	SOUTH	N	3
100725	100725	B	2008	10	30	48.35	-124.35	USA, WA, E Bullman Beach	SOUTH	N	3

SWFSC Accession #	GeneticID	Collection Method	Year	Month	Day	Latitude	Longitude	Locality	Strata	Retained in analysis?	Reason Code
100726	100726	B	2008	10	30	48.37	-124.55	USA, WA, Mouth of Sail River	PCFG	Y	
100727	100727	B	2010	7	29	48.18	-124.75	USA, WA, East Bodelteh	PCFG	Y	
100728	100729	B	2010	7	29	48.18	-124.75	USA, WA, East Bodelteh	PCFG	N	1
100729	100729	B	2010	8	5	48.3	-124.68	USA, WA, Anderson Pt.	PCFG	Y	
100730	100755	B	2010	8	5	48.23	-124.7	USA, WA, Father and Son	PCFG	N	1
100731	100731	B	2010	8	5	48.18	-124.73	USA, WA	PCFG	Y	
100732	100731	B	2010	8	5	48.13	-124.72	USA, WA, wedding rock	PCFG	N	1
100733	100733	B	2010	9	1	48.35	-124.72	USA, WA, Makah Bay	PCFG	Y	
100735	100735	H	2001			65.59	-171.02	Russia, Lavrentiya	CHK	Y	
100736	100736	H	2001			65.59	-171.02	Russia, Lavrentiya	CHK	Y	
100737	100737	H	2001			65.59	-171.02	Russia, Lavrentiya	CHK	Y	
100738	100738	H	2001			65.59	-171.02	Russia, Lavrentiya	CHK	Y	
100739	100739	H	2001			65.59	-171.02	Russia, Lavrentiya	CHK	Y	
100740	100740	H	2001			65.59	-171.02	Russia, Lavrentiya	CHK	Y	
100741	100741	H	2001			65.51	-171.71	Russia, Lorino	CHK	Y	
100742	100742	H	2001			65.51	-171.71	Russia, Lorino	CHK	Y	
100743	100743	H	2001			65.51	-171.71	Russia, Lorino	CHK	Y	

SWFSC Accession #	GeneticID	Collection Method	Year	Month	Day	Latitude	Longitude	Locality	Strata	Retained in analysis?	Reason Code
100744	100744	H	2001			65.51	-171.71	Russia, Lorino	CHK	Y	
100745	100745	H	2001			65.51	-171.71	Russia, Lorino	CHK	Y	
100746	100746	H	2001			65.51	-171.71	Russia, Lorino	CHK	Y	
100747	100747	H	2001			65.51	-171.71	Russia, Lorino	CHK	Y	
100748	100748	H	2001			65.51	-171.71	Russia, Lorino	CHK	Y	
100749	100749	H	2001			65.51	-171.71	Russia, Lorino	CHK	Y	
100750	100750	S	2001					Russia	NORTH	Y	
100751	102236	B	2000			48.37	-124.63	USA, WA, Neah Bay	SOUTH	N	1, 3
100752	100705	B	2000			48.37	-124.63	USA, WA, Neah Bay	PCFG	N	1
100753	101803	B	2000			48.37	-124.63	USA, WA, Neah Bay	PCFG	N	1
100754	102239	B	2000			48.37	-124.63	USA, WA, Neah Bay	SOUTH	N	1, 3
100755	100755	B	2010	9	19	41.77	-124.27	USA, CA, Point St.George	PCFG	Y	
100756	100756	B	2010	9	18	41.53	-124.08	USA,CA, Klamath	PCFG	Y	
100757	100756	B	2010	9	18	41.53	-124.08	USA,CA, Klamath	PCFG	N	1
100758	100758	B	2010	9	18	41.53	-124.1	USA,CA, Klamath	PCFG	Y	
100759	100759	B	2010	9	18	41.53	-124.1	USA,CA, Klamath	PCFG	Y	
100760	100760	B	2010	9	16	38.28	-122.15	USA, CA, Bodega Bay	PCFG	Y	
100768	100768	B	2010	6	21	60.4	170.7	Russia, Igla Cape	NORTH	Y	
100769	100769	B	2010	6	21	60.42	170.75	Russia, Igla Cape	NORTH	Y	

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100770	100770	B	2010	6	21	60.4	170.68	Russia, Igla Cape	NORTH	Y	
100771	100769	B	2010	6	21	60.37	170.67	Russia, Igla Cape	NORTH	N	1
100772	100770	B	2010	6	21	60.37	170.67	Russia, Igla Cape	NORTH	N	1
100773	100773	B	2010	6	21	60.4	170.68	Russia, Igla Cape	NORTH	Y	
100774	100774	B	2010	6	21	60.83	172	Russia, Amayan Bay	NORTH	Y	
100775	100775	B	2010	6	23	61.68	173.58	Russia, Dezhneva Bay	NORTH	Y	
100776	100776	B	2010	6	23	61.68	173.52	Russia, Dezhneva Bay	NORTH	Y	
100777	100777	B	2010	6	23	61.72	173.52	Russia, Dezhneva Bay	NORTH	Y	
100778	100778	B	2010	6	23	61.68	173.53	Russia, Dezhneva Bay	NORTH	Y	
100779	100777	B	2010	6	23	61.7	173.55	Russia, Dezhneva Bay	NORTH	N	1
100780	100780	B	2010	6	23	61.72	173.57	Russia, Dezhneva Bay	NORTH	Y	
100781	100781	B	2010	6	24	62.07	175.4	Russia, Khatyrka River	NORTH	Y	
100782	100782	B	2010	6	24	62.05	175.4	Russia, Khatyrka River	NORTH	Y	
100783	100783	B	2010	6	24	62.05	175.32	Russia, Khatyrka River	NORTH	Y	

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100784	100784	B	2010	6	24	62.05	175.3	Russia, Khatyrka River	NORTH	Y	
100785	100783	B	2010	6	24	62.05	175.32	Russia, Khatyrka River	NORTH	N	1
100786	100786	B	2010	6	24	62.05	175.33	Russia, Khatyrka River	NORTH	Y	
100787	100787	B	2010	6	24	62.07	175.38	Russia, Khatyrka River	NORTH	Y	
100788	100788	B	2010	6	24	62.07	175.37	Russia, Khatyrka River	NORTH	Y	
100797	100797	H	2001	11	1	65.51	-171.71	Russia, Lorino	CHK	Y	
100798	100798	H	2001	10	25	65.51	-171.71	Russia, Lorino	CHK	Y	
100799	100799	H	2001	10	29	64.41	-173.96	Russia, Syreniki	CHK	Y	
100800	100800	H	2001	10	17	64.92	-172.51	Russia, Yanrakinnot	CHK	Y	
100801	100801	H	2001	8	3	64.92	-172.51	Russia, Yanrakinnot	CHK	Y	
100802	100802	H	2001	10	9	64.41	-173.96	Russia, Syreniki	CHK	Y	
100803	100803	H	2001	10	13	64.41	-173.96	Russia, Syreniki	CHK	Y	
100804	100804	H	2001	10	16	64.92	-172.51	Russia, Yanrakinnot	CHK	Y	
100805	100805	H	2003	7	30	65.51	-171.71	Russia, Lorino	CHK	Y	
100806	100806	H	2005	10	3	65.59	-171.02	Russia, Lavrentia	CHK	Y	
100807	100807	H	2005	9	8	65.59	-171.02	Russia, Lavrentia	CHK	Y	

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100808	100808	H	2005	10	18	65.59	-171.02	Russia, Lavrentia	CHK	Y	
100809	100809	H	2005	10	31	65.59	-171.02	Russia, Lavrentia	CHK	Y	
100810	100810	H	2005	8	15	65.59	-171.02	Russia, Lavrentia	CHK	Y	
100811	100811	H	2005	10	13	65.59	-171.02	Russia, Lavrentia	CHK	Y	
100812	100812	H	2005	10	28	65.59	-171.02	Russia, Lavrentia	CHK	Y	
100813	100813	H	2003	8	7	65.59	-171.02	Russia, Lavrentia	CHK	Y	
100814	100814	H	2003	8	20	65.51	-171.71	Russia, Lorino	CHK	Y	
100815	100815	H	2003	8	11	65.51	-171.71	Russia, Lorino	CHK	Y	
100816	100816	H	2003	8	20	65.59	-171.02	Russia, Lavrentia	CHK	Y	
100817	100817	H	2003	8	20	65.51	-171.71	Russia, Lorino	CHK	Y	
100818	100818	H	2003	7	26	65.59	-171.02	Russia, Lavrentia	CHK	Y	
100819	100819	H	2001	11	1	65.51	-171.71	Russia, Lorino	CHK	Y	
100820	100820	H	2003	7	26	65.51	-171.71	Russia, Lorino	CHK	Y	
100821	100821	H	2001	10	24	65.51	-171.71	Russia, Lorino	CHK	Y	
100822	100822	H	2003	7	24	65.51	-171.71	Russia, Lorino	CHK	Y	
100823	100823	H				64.41	-172.26	Russia, Novo-Chaplino, Chukotka	CHK	N	2
100824	100824	H				64.41	-172.26	Russia, Novo-Chaplino	CHK	Y	
100825	100825	H	2001	9	13	64.41	-173.96	Russia, Syreniki, Chukotka	CHK	N	2

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100826	100802	H	2001	9	22	64.41	-172.26	Russia, Novo-Chaplino, Chukotka	CHK	N	1
100827	100827	H	2003	8	6	65.51	-171.71	Russia, Lorino	CHK	Y	
100828	100828	H	2003	8	1	65.59	-171.02	Russia, Lavrentia	CHK	Y	
100829	100829	H	2003	7	30	65.51	-171.71	Russia, Lorino	CHK	Y	
100830	100830	H	2003	7	24	65.51	-171.71	Russia, Lorino	CHK	Y	
100831	100831	H	1905	6	23	65.51	-171.71	Russia, Lorino	CHK	Y	
100832	100832	H	2005	7	20	65.51	-171.71	Russia, Lorino	CHK	Y	
100833	100833	H	2004	8	27	65.51	-171.71	Russia, Lorino	CHK	Y	
100834	100834	H	2004	7	30	65.51	-171.71	Russia, Lorino	CHK	Y	
100835	100835	H	2004	9	17	65.51	-171.71	Russia, Lorino	CHK	Y	
100836	100836	H	2004	9	28	65.51	-171.71	Russia, Lorino	CHK	Y	
100837	100837	H	2004	8	18	65.51	-171.71	Russia, Lorino	CHK	Y	
100838	100838	H	2004	8	6	65.51	-171.71	Russia, Lorino	CHK	Y	
100839	100839	H	2004	9	17	65.51	-171.71	Russia, Lorino	CHK	Y	
100840	100840	H	2004	8	17	65.51	-171.71	Russia, Lorino	CHK	Y	
100841	100841	H	2004	8	30	65.51	-171.71	Russia, Lorino	CHK	Y	
100842	100842	H	2004	8	28	65.51	-171.71	Russia, Lorino	CHK	Y	
100843	100843	H	2004	7	28	65.59	-171.02	Russia, Lavrentia	CHK	Y	

SWFSC Accession #	GeneticID	Collection Method	Year	Month	Day	Latitude	Longitude	Locality	Strata	Retained in analysis?	Reason Code
101800	101800	B	2010	9	25	41.78	-124.28	USA, CA, Point St. George, Crescent City	PCFG	Y	
101801	101801	B	2010	9	25	41.69	-124.18	USA, CA, Klamath River	SOUTH	N	3
101802	101802	B	2010	9	25	41.56	-124.12	USA, CA, Klamath River	PCFG	Y	
101803	101803	B	2010	9	30	42.82	-124.57	USA, OR, Port Orford	PCFG	Y	
101804	101804	B	2010	10	1	42.83	-124.58	USA, OR, Port Orford	PCFG	Y	
101805	101805	B	2010	10	1	42.83	-124.57	USA, OR, Port Orford	PCFG	Y	
101806	100703	B	2010	10	1	42.73	-124.51	USA, OR, Port Orford	PCFG	Y	
101807	101807	B	2010	10	1	42.74	-124.52	USA, OR, Port Orford	SOUTH	N	3
101808	101808	B	2010	10	2	42.82	-124.58	USA, OR, Port Orford	PCFG	Y	
101809	101809	B	2010	10	4	42.57	-124.11	USA, CA, Klamath River	SOUTH	N	3
101810	101810	B	2010	9	9	48.23	-124.7	USA, WA, Father and Son	PCFG	Y	
101811	100715	B	2010	9	9	48.18	-124.77	USA, WA, Father and Son	PCFG	Y	
101812	101812	B	2010	9	9	48.17	-124.75	USA, WA, East Bodelteh	PCFG	Y	
101813	101813	B	2010	9	14	48.25	-124.7	USA, WA	PCFG	Y	
101814	101814	B	2010	9	14	48.18	-124.73	USA, WA, Ozette Reef	PCFG	Y	

SWFSC Accession #	GeneticID	Collection Method	Year	Month	Day	Latitude	Longitude	Locality	Strata	Retained in analysis?	Reason Code
101815	101815	B	2010	9	14	48.18	-124.72	USA, WA, East Bodelteh	PCFG	Y	
101816	101817	B	2010	9	20	48.23	-124.7	USA, WA, Ozette Reef	PCFG	N	1
101817	101817	B	2010	9	20	48.23	-124.7	USA, WA, Ozette Reef	PCFG	Y	
101818	101819	B	2010	9	20	48.18	-124.73	USA, WA, Ozette Reef	PCFG	N	1
101819	101819	B	2010	9	20	48.18	-124.75	USA, WA, East Bodelteh	PCFG	Y	
101820	101820	B	2010	9	20	48.17	-124.75	USA, WA, East Bodelteh	PCFG	Y	
101821	101821	B	2010	9	20	48.17	-124.75	USA, WA, East Bodelteh	SOUTH	N	3
101822	101813	B	2010	9	20	48.17	-124.75	USA, WA, East Bodelteh	PCFG	N	1
101823	101820	B	2010	9	20	48.18	-124.73	USA, WA, Guano	PCFG	N	1
101824	101824	B	2010	10	6	44.75	-124.08	USA, OR, Gull Rock	PCFG	Y	
101825	101825	B	2010	10	6	44.8	-124.07	USA, OR, Depoe Bay	PCFG	Y	
101826	101826	B	2010	10	6	44.3	-124.07	USA, OR, Depoe Bay	PCFG	N	1
101827	101827	B	2010	10	6	44.8	-124.07	USA, OR, Depoe Bay	SOUTH	N	3
102236	102236	B	2001	8	30	48.32	-124.68	USA, WA, Strawberry Rock	SOUTH	N	3
102237	100705	B	2001	8	30	48.32	-124.68	USA, WA, N. Anderson Pt.	PCFG	N	1
102238	101803	B	2001	8	30	48.33	-124.68	USA, WA, Waatch Point	PCFG	N	1

SWFSC Accession #	GeneticID	Collection Method	Year	Month	Day	Latitude	Longitude	Locality	Strata	Retained in analysis?	Reason Code
102239	102239	B	2001	8	30	48.35	-124.7	USA, WA, Green bank	SOUTH	N	3
102240	102240	B	2001	10	18	48.37	-124.53	USA, WA, Seal Rock	SOUTH	N	3
102241	100755	B	2002	8	21	48.13	-124.72	USA, WA, White Rock	PCFG	N	1
102242	101826	B	2003	9	4	48.37	-124.55	USA, WA, W. Seal Rock	PCFG	N	1
102243	101817	B	2003	9	4	48.37	-124.58	USA, WA, Second Beach	PCFG	N	1
102244	102244	B	2003	9	17	48.33	-124.48	USA, WA, Rasmussen Creek	PCFG	Y	
102245	102245	B	2010	9	12	41.55	-124.1	USA, CA, Off Klamath River	SOUTH	N	3
102339	102339	B	2010	8	14	71.47	-155.98	USA, AK	NORTH	Y	
102340	102340	B	2010	8	16	71.28	-157.23	USA, AK	NORTH	Y	
102341	102341	B	2010	8	22	71.3	-157.02	USA, AK	NORTH	Y	
102342	102341	B	2010	8	22	71.3	-157.03	USA, AK	NORTH	N	1
102343	102343	B	2010	8	23	71.27	-157	USA, AK	NORTH	Y	
102344	102344	B	2010	8	23	71.28	-157.07	USA, AK	NORTH	Y	
102345	102341	B	2010	8	23	71.28	-157.17	USA, AK	NORTH	N	1
102346	102346	B	2010	8	23	71.27	-157.27	USA, AK	NORTH	Y	
102347	102347	B	2010	8	24	71.5	-155.95	USA, AK	NORTH	Y	
102348	102348	B	2010	8	24	71.27	-156.98	USA, AK	NORTH	Y	
102349	102349	B	2010	8	24	71.28	-157	USA, AK	NORTH	Y	
102350	102350	B	2010	8	30	71.48	-156.27	USA, AK	NORTH	Y	
102351	102351	B	2010	8	30	71.48	-156.12	USA, AK	NORTH	Y	

SWFSC Accession #	GeneticID	Collection Method	Year	Month	Day	Latitude	Longitude	Locality	Strata	Retained in analysis?	Reason Code
102352	102352	B	2010	9	1	71.48	-156.23	USA, AK	NORTH	N	1
102353	102352	B	2010	9	1	71.48	-156.22	USA, AK	NORTH	Y	
102354	102354	B	2010	10	17	41.75	-124.23	USA, CA, Crescent City	PCFG	Y	
102355	102355	B	2010	10	17	41.75	-124.23	USA, CA, Crescent City	PCFG	Y	
102356	100710	B	2010	10	17	41.75	-124.23	USA, CA, Crescent City	PCFG	Y	
102357	100708	B	2010	10	13	41.75	-124.23	USA, CA, Crescent City	PCFG	Y	
102358	102358	B	2010	10	13	41.75	-124.23	USA, CA, Crescent City	PCFG	Y	
102359	102359	B	2010	10	13	41.75	-124.23	USA, CA, Crescent City	PCFG	Y	
102360	102360	B	2010	10	13	41.75	-124.23	USA, CA, Crescent City	PCFG	Y	
102361	102361	B	2010	10	13	41.75	-124.23	USA, CA, Crescent City	PCFG	Y	
102362	102362	B	2010	10	13	41.75	-124.23	USA, CA, Crescent City	SOUTH	N	3
102363	101808	B	2010	10	14	41.75	-124.23	USA, CA, Crescent City	PCFG	N	1
102364	102364	B	2010	10	14	41.73	-124.22	USA, CA, Crescent City	PCFG	Y	
102365	102365	B	2010	8	25	48.6	-124.73	Canada, British Columbia	PCFG	Y	
102366	102366	B	2010	8	25	48.65	-124.82	Canada, British Columbia	PCFG	Y	
102367	100733	B	2010	8	25	48.6	-124.73	Canada, British Columbia	PCFG	N	1
102368	102368	B	2010	8	25	48.6	-124.73	Canada, British Columbia	PCFG	Y	

SWFSC Accession #	GeneticID	Collection Method	Year	Month	Day	Latitude	Longitude	Locality	Strata	Retained in analysis?	Reason Code
102369	102369	B	2010	8	25	48.6	-124.73	Canada, British Columbia	PCFG	Y	
102370	101819	B	2010	8	25	48.6	-124.73	Canada, British Columbia	PCFG	N	1
102371	102371	B	2010	9	30	48.8	-125.22	Canada, British Columbia	PCFG	Y	
102372	102372	B	2010	9	30	48.73	-125.12	Canada, British Columbia	PCFG	Y	
102373	102373	B	2010	9	30	48.72	-125.08	Canada, British Columbia	PCFG	Y	
102374	100733	B	2010	9	30	48.72	-125.08	Canada, British Columbia	PCFG	N	1
102375	102375	B	2010	9	30	48.57	-125.1	Canada, British Columbia	PCFG	Y	
102376	102376	B	2010	9	30	48.73	-125.12	Canada, British Columbia	PCFG	Y	
102450	102450	S	2002	9	9	71.2	-156.48	USA, AK, Barrow	NORTH	N	2
102451	102451	S	2003	9		71.2	-156.48	USA, AK, Barrow	NORTH	N	2
102452	102452	S	2003	9	14	71.2	-156.48	USA, AK, Barrow	NORTH	N	2
102453	102453	S	2003	9	27	71.2	-156.48	USA, AK, Barrow	NORTH	N	2

Table S2. Characteristics of the microsatellite loci used in the study, including the species for which primers were initially designed, the size of repeats, the annealing temperature used in the study (T_a), the reference listing primer sequences, the number of alleles per locus, the proportion of missing genotypes, the expected heterozygosity (H_e), the observed heterozygosity (H_o), and the results of the test for heterozygote deficiency (HWE; Rousset and Raymond 1995)

Locus	Source species	Repeat Size (bp)	T_a (°C)	No. of alleles	Proportion missing genotypes	H_e	H_o	HWE (P - value)
EV14 ^{1,†}	<i>Physeter macrocephalus</i>	2	55	10	0.01	0.824	0.829	0.54
EV37 ¹	<i>Megaptera novaeangliae</i>	2	55	17	0.01	0.881	0.903	0.06
EV94 ^{1,†}	<i>Megaptera novaeangliae</i>	2	52	11	0.02	0.796	0.782	0.29
Gata028 ^{2,†}	<i>Megaptera novaeangliae</i>	4	54	7	0.01	0.762	0.777	0.58
Gata098 ²	<i>Megaptera novaeangliae</i>	4	54	9	0.01	0.673	0.651	0.37
Gata417 ^{2,†}	<i>Megaptera novaeangliae</i>	4	54	6	0.02	0.711	0.73	0.74
Gt023 ^{2,†}	<i>Megaptera novaeangliae</i>	2	54	8	0.01	0.732	0.709	0.25
RW31 ^{3,†}	<i>Eubalaena glacialis</i>	2	54	10	0.01	0.833	0.777	0.11
RW48 ^{3,†}	<i>Eubalaena glacialis</i>	2	55	5	0.02	0.480	0.500	0.74
SW10 ^{4,†}	<i>Physeter macrocephalus</i>	2, 4	55	9	0.01	0.746	0.754	0.87
SW13 ^{4,†}	<i>Physeter macrocephalus</i>	2	55	7	0.01	0.597	0.606	0.73
SW19 ^{4,†}	<i>Physeter macrocephalus</i>	2	55	9	0.02	0.705	0.701	0.18

¹ Valsecchi and Amos 1996

² Palsbøll *et al.* 1997

³ Waldick *et al.* 1999

⁴ Richard *et al.* 1996

† For these primers, the sequence has been modified from the original design by placing the sequence GTTTCTT on the 5' end of the reverse primer (Brownstein *et al.* 1996)

Table S3. The total number of samples in each stratum, the number of samples removed from the study due to poor quality (see criteria described in text), the number of duplicate samples removed, and the number of individuals remaining in each stratum for each analysis. Duplicate samples (*i.e.*, samples from the same individual) were identified based on genotyping of eight microsatellite loci. Samples collected on the southern feeding ground but not considered to represent the PCFG ($n=36$) are not included in the table.

Strata	Number of samples			Number of individuals			
	Total	Number of poor quality samples removed	Number of duplicates removed	Total	MtDNA	Msats	Sex (F:M)
North:	128	14	8	106	103	105	106 (62:44)
Chukotka	75	3	1	71	69	70	71
Barrow	25	8	3	14	14	14	14
Other	28	3	4	18	21	21	21
PCFG:	113	0	42	71	71	70	71 (42:29)
Total:	241	14	50	177	174	175	177

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