The following supplement accompanies the article

Contemporary nuclear and mitochondrial genetic clines in a north temperate estuarine fish reflect Pleistocene vicariance

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Marine Ecology Progress Series 438:207–218

Table S1. *Osmerus mordax.* Locus specific descriptive statistics based on 11 microsatellite loci from 26 samples of rainbow smelt from coastal Newfoundland and Labrador. N_a: no. of alleles; H_o: observed heterozygosity; H_e: expected heterozygosity; F_{ST}: Wrights fixation statistic calculated in FSTAT, Rho_{ST}: Slatkins unbiased estimator of R_{ST}

Locus	N	N_a	H_o	SE	H_e	SE	F_{ST}	Rho_{ST}
Omo1	79.808	5.615	0.580	0.021	0.567	0.021	0.105	0.104
Omo2	78.192	6.962	0.670	0.015	0.673	0.014	0.123	0.247
Omo3	75.115	14.538	0.777	0.034	0.853	0.011	0.086	0.310
Omo4	75.154	12.192	0.842	0.015	0.829	0.012	0.066	0.155
Omo5	76.154	11.115	0.732	0.027	0.740	0.028	0.150	0.393
Omo9	79.192	7.615	0.649	0.031	0.634	0.031	0.147	0.248
Omo11	80.423	7.731	0.536	0.034	0.533	0.032	0.228	0.267
Omo15	74.885	11.000	0.741	0.020	0.784	0.015	0.096	0.293
Omo6a	60.038	6.423	0.567	0.037	0.605	0.035	0.132	0.117
Omo6b	69.692	4.923	0.452	0.024	0.465	0.022	0.133	0.199
Omo13	75.808	11.538	0.765	0.022	0.765	0.021	0.154	0.128

Table S2. *Osmerus mordax.* Population and locus specific tests for deviations from Hardy-Weinberg Equilibrium at each of 11 microsatellite loci using GENEPOP. See 'Data analysis' for further details

Sample no. and name (year)	Omo1	Omo2	Omo3	Omo4	Omo5	Omo9	Omo11	Omo15	Omo16	Omo6a	Omo6b	Omo13	Omo14
1. Salmonier River (02)	0.0144	0.0457	0.7709	0.7007	0.0123	0.1683	0.1170	0.3470	0.0002	0.4286	0.9473	0.5251	1
2. Salmonier River (03)	0.1873	0.1756	0.1958	0.1003	0.1293	0.1470	0.4247	0.1811	0.1310	0.7582	0.3059	0.4229	1
3. Salmonier River (06)	0.4311	0.2448	0.1628	0.1757	0.9888	0.7534	0.1371	0.5286	0.5008	0.9894	0.0423	0.0168	0.0865
4. Colinet River (03)	0.0635	0.0201	0.0584	0.0069	0.0970	0.7769	0.5452	0.2976	0.0224	0.3554	0.7729	0.0503	1
5. North Harbour River (04)	0.9106	0.1239	0.0857	0.9946	0.0353	0.7165	0.4704	0.1404	0.3165	0.3876	0.1682	0.0555	1
6. Biscay Bay River (03)	0.1344	0.7103	0.6861	00 000	0.6666	0.6231	0.0455	0.8078	0.8658	0.6757	0.2745	0.5669	1
7. Biscay Bay River (06)	0.5636	0.2662	0.35500	0.5400	0.3149	0.5316	0.1373	0.0008	0.3832	0.0472	0.0966	0.1708	1
8. Holyrood Pond Brook (05)	0.1985	0.8009	0.1255	0.8545	0.3032	0.2705	0.7632	000. 0.	00000.	0.3646	0.3549	0.1030	0.0858
9. Holyrood Pond Park (04)	0.6148	0.1247	0.2927	0.6999	0.0793	0.1423	0.9007	0.1456	0.5527	0.8538	0.4260	0.4790	0
10. Deer Pond Brook (04)	1	0.8495	0.6976	0.0378	0.7582	0.6599	0.6577	0.1003	0.7672	0.8517	0.5739	0.0998	0
11. Pathend Brook (05)	0.7959	0.7846	0.5669	0.0845	0.7110	0.3868	0.8034	0.1700	0.6606	0.8174	0.6860	0.9593	0
12. Southeast Placentia (05)	0.8466	0.2623	0.5364	0.7161	0.5690	0.1313	0.7483	0.3418	0.1574	0.2914	0.5501	0.2674	0
13. Long Harbour Brook (04)	0.3824	0.9507	0.7721	0.7966	0.0743	0.7565	0.7464	0.9709	0.5074	0.0258	0.1686	0.9865	0.0001
14. North Harbour River (03)	0.6690	0.9455	0.0014	0.8794	0.6449	0.2773	10000.	0.4227	00000.	0.3833	0.4708	0.0273	0
15. Salt Pond Brook (03)	0.6546	0.0153	0.0261	0.4366	0.0004	0.1466	0.4007	0.0487	0.2507	0.0048	10000.	0.1206	0
16. Garnish River (04)	0.1488	0.0011	0.1974	0.9083	0.0656	0.0381	0.4082	0.2031	0.1877	0.6752	0.0374	0.0730	0
17. Conne River (04)	0.3393	0.7935	0.3049	0.2887	0.1884	0.8835	10000.	0.3510	0.2711	0.3704	0.3032	0.4140	0
18. Little River (04)	0.5149	0.1028	0.3507	0.2698	0.0020	0.2868	0.2446	0.0001	0.2626	0.5475	0.8282	0.1158	0
19. Point Amal (04)	0.0177	0.0003	0.6777	0.0479	0.0608	0.1936	0.2223	0.0761	0.6363	0.3209	0.8894	0.6359	0.0034
20. Mary's Harbour (04)	0.9822	0.2416	0.7203	0.0915	0.0669	100 00	0.3089	0.1085	0.1517	0.0064	0.0225	0.6909	0
21. St. Anthony (03)	0.0001	0.1441	0.0002	0.7468	0.0241	0.2231	0.0666	0.3354	0.0167	100.00	0.6088	0.1224	0
22. Gambo River (03)	0.1295	0.8260	00 000	0.3021	0.3380	0.7933	0.4740	0.1294	00000.	0.5012	0.2309	0.6256	0
23. Gambo River (05)	0.5683	0.4108	00 000	0.0964	0.1639	0.5892	000. 0.	0.0254	00000.	10000.	0.3258	0.2902	0
24. Salmon Cove River (05)	0.9842	0.6880	0.7637	0.2361	0.1104	0.1245	0.6031	0.0062	0.1694	00000.	0.0337	0.0458	0.0234
25. Chuff Brook (06)	0.2587	0.4866	00. 000	0.1784	0.7791	0.7540	0.4315	0.5251	00000.	0.6042	0.3807	0.5229	0
26. Traverse Pond (06)	0.0249	0.9903	0.0100	0.8210	0.0035	0.0013	0.7204	0.1820	0.0239	0.0639	0.3775	0.4483	0

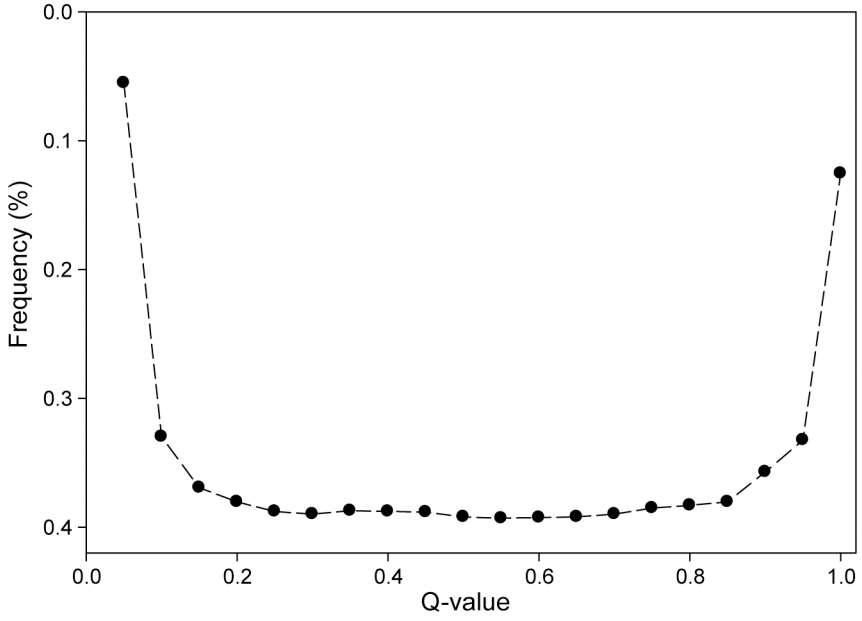

Fig. S1. *Osmerus mordax.* Distribution of Q-values from STRUCTURE analysis with K = 2 and all loci. See 'Data analysis' for details regarding analysis.