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Genomic islands of divergence and their consequences for the resolution of spatial structure in an exploited marine fish

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METHODS
TABLES S1-S4
FIGURE S1

31 **Methods**

32 *Sample Collection and Location Characteristics*

33 Individuals were sampled at 23 locations from throughout the North Atlantic (Fig 1, Table S1)
34 from 1996 to 2007. Sample sizes ranged from 15 to 26. Samples were collected as part of
35 scientific surveys or commercial harvest and primarily targeted fish in spawning condition with
36 the exception of Ogac Lake and Gilbert Bay where sampling was restricted to summer months.
37 Specific details regarding some samples and locations are published elsewhere (e.g., Taggart and
38 Cook 1996; Bradbury et al. 2009; Hubert et al. 2009, 2010). Although the potential for mixing
39 of local stocks within our samples exists, the large geographic scale examined here and the
40 nature of the trends observed should minimize the impact of small scale mixtures, but this cannot
41 be discounted.

42 *SNP Development and Linkage Mapping*

43 The initial cDNA libraries were developed using 884 individuals (Bowman et al. 2010) focusing
44 on SNPs with > 100 bp of flanking sequence. Of the 3072 putative SNPs identified, 2284 (~74%)
45 were selected following screening, of which 1641 were informative (53%). Elsewhere we have
46 argued that these SNPs were identified from sequencing ESTs averaging 800-1000bp in length
47 from the 3' end and likely represent single genes (Bradbury et al. 2010). The only exception was
48 a pair of SNPs (S1039a and S1039b) identified from a contig. The genetic linkage map was
49 constructed using JoinMap4® (Van Ooijen 2006) and the three families described elsewhere
50 (Bradbury et al 2010 and Borza et al 2010). Mapping was performed using a LOD cut-off value
51 of 5.0 and Haldane's mapping function (for more details on mapping see Hubert et al
52 2010, Bradbury et al 2010 and Borza et al 2010). The map generated by the first round of
53 calculations of the regression mapping algorithm included only 987 SNPs and contained 58% of

54 outliers identified using Bayescan (LGMAP1). A significantly higher number of outlier loci were
55 mapped in the third round of mapping calculations where JoinMap[®]4 was allowed to force
56 additional markers with a lower goodness-of-fit into the map (for further details and description
57 of a similar map see Borza et al. 2010). This approach resulted in 1295 SNPs being mapped
58 successfully (LGMAP2) and contained all outliers. Comparison of the two maps revealed little
59 change in map position of the outlier SNPs which were in common (median change in position
60 of 0.69 cM). Accordingly, LGMAP2, generated by the third round of mapping calculations, was
61 used in all subsequent analyses.

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64 Table S1. Details on sample locations and SNP summary statistics. See Methods for further information.

Location	Year	Previously analyzed	N	Ho	He	% Polymorphic
1. Cox's Ledge	2008	No	31	0.358	0.358	99.00%
2. Georges Bank (A)	2006	Bradbury et al. 2010	24	0.361	0.360	99.22%
3. Georges Bank (B)	2008	Bradbury et al. 2010	20	0.363	0.357	98.93%
4. Cape Sable, NS	2006	Bradbury et al. 2010	23	0.362	0.359	99.29%
5. Gulf of St. Lawrence (A)	1996	No	23	0.346	0.342	97.30%
6. Gulf of St. Lawrence (B)	1996	No	9	0.363	0.338	92.60%
7. Gulf of St. Lawrence (C)	2002	No	23	0.385	0.345	96.73%
8. Flemish Cap		No	9	0.313	0.305	87.40%
9. St. Mary's Bay, NL	2006	Bradbury et al. 2010	25	0.358	0.350	97.30%
10. Holyrood Pond, NL	2007	Bradbury et al. 2010	20	0.357	0.351	96.80%
11. Bay Bulls, NL	2007	Bradbury et al. 2010	23	0.350	0.353	97.22%
12. Smith Sound, NL (A)	2007	Bradbury et al. 2010	20	0.358	0.351	96.37%
13. Smith Sound B, NL (B)	2008	Bradbury et al. 2010	23	0.354	0.354	97.79%
14. Newfoundland Shelf (A)	2009	No	12	0.351	0.343	94.73%
15. Newfoundland Shelf (B)	2009	No	12	0.352	0.335	94.31%
16. Gilbert Bay, NL	2004	Bradbury et al. 2010	21	0.309	0.304	90.11%
17. Ogac Lake, Baffin Island	2004	Bradbury et al. 2010	18	0.253	0.253	76.23%
18. Tariujarusiq Lake, Baffin Island	2004	No	24	0.240	0.234	76.80%
19. Davis Strait	2009	No	23	0.264	0.258	87.40%
20. Barents Sea, Norway	2008	Bradbury et al. 2010	26	0.239	0.239	78.22%
21. Akureyri, Iceland	2008	Bradbury et al. 2010	26	0.258	0.258	85.05%
22. Baltic Sea	1996	Bradbury et al. 2010	16	0.222	0.220	69.40%
23. Galway Bay, Ireland	2008	Bradbury et al. 2010	15	0.242	0.236	74.73%

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Table S2. Pairwise F_{ST} values for all samples and all SNPs. P-values above the diagonal and F_{ST} values below.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1. Cox's Ledge		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2. Georges Bank (A)	0.009		0.488	0.664	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3. Georges Bank (B)	0.010	0.000		0.187	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4. Cape Sable (NS)	0.007	0.000	0.001		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5. Gulf of St. Lawrence (A)	0.052	0.034	0.040	0.042		0.190	0.305	0.001	0.002	0.013	0.000	0.003	0.000	0.117	0.156	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6. Gulf of St. Lawrence (B)	0.054	0.037	0.042	0.045	0.002		0.275	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7. Gulf of St. Lawrence (C)	0.048	0.033	0.037	0.040	0.002	0.001		0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8. St. Mary's Bay (NL)	0.044	0.021	0.025	0.028	0.010	0.010	0.009		0.287	0.862	0.084	0.221	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9. Holyrood Pond (NL)	0.045	0.023	0.026	0.031	0.011	0.015	0.011	0.001		0.438	0.517	0.363	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10. Bay Bulls (NL)	0.047	0.022	0.027	0.031	0.006	0.008	0.008	0.000	0.000		0.106	0.176	0.000	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11. Smith Sound (NL)	0.044	0.021	0.024	0.028	0.015	0.018	0.015	0.002	0.000	0.001		0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12. Smith Sound (NL)	0.047	0.024	0.027	0.032	0.006	0.012	0.009	0.001	0.001	0.001	0.002		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13. Gilbert Bay (NL)	0.100	0.080	0.085	0.086	0.080	0.078	0.074	0.064	0.059	0.061	0.058	0.065		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14. Newfoundland Shelf (A)	0.047	0.034	0.038	0.042	0.003	0.010	0.007	0.010	0.010	0.006	0.013	0.008	0.074		0.290	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15. Newfoundland Shelf (B)	0.052	0.036	0.040	0.045	0.002	0.004	0.008	0.013	0.016	0.007	0.019	0.007	0.084	0.001		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16. Flemish Cap	0.086	0.069	0.076	0.078	0.036	0.041	0.040	0.053	0.054	0.040	0.058	0.046	0.122	0.035	0.029		0.000	0.000	0.000	0.000	0.000	0.000	0.000
17. Ogac Lake	0.161	0.142	0.147	0.155	0.145	0.146	0.137	0.132	0.131	0.130	0.135	0.133	0.193	0.140	0.147	0.149		0.000	0.000	0.000	0.000	0.000	0.000
18. Tariujarusiq Lake	0.159	0.145	0.151	0.157	0.136	0.132	0.126	0.141	0.145	0.131	0.146	0.135	0.211	0.124	0.124	0.063	0.168		0.000	0.000	0.000	0.000	0.000
19. Davis Strait	0.189	0.178	0.180	0.188	0.200	0.187	0.179	0.178	0.175	0.173	0.173	0.177	0.233	0.177	0.187	0.178	0.239	0.174		0.000	0.000	0.000	0.000
20. Akureyri, Iceland	0.141	0.126	0.132	0.135	0.168	0.164	0.152	0.153	0.153	0.146	0.152	0.151	0.214	0.152	0.158	0.109	0.170	0.042	0.184		0.000	0.000	0.000
21. Barents Sea, Norway	0.189	0.170	0.175	0.182	0.173	0.165	0.158	0.168	0.172	0.156	0.173	0.162	0.238	0.163	0.160	0.095	0.184	0.013	0.199	0.041		0.000	0.000
22. Baltic Sea	0.172	0.171	0.175	0.177	0.211	0.200	0.185	0.196	0.196	0.189	0.194	0.195	0.261	0.195	0.200	0.166	0.227	0.097	0.231	0.067	0.103		0.000
23. Galway Bay, Ireland	0.146	0.141	0.145	0.145	0.211	0.202	0.189	0.190	0.191	0.183	0.188	0.189	0.252	0.192	0.200	0.162	0.218	0.097	0.237	0.029	0.097	0.088	

Table S3. Pairwise F_{ST} values for all samples and all non-outlier SNPs. P-values above the diagonal and F_{ST} values below.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1. Cox's Ledge		0.016	0.001	0.015	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2. Georges Bank (A)	0.004		0.602	0.849	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3. Georges Bank (B)	0.005	0.000		0.374	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4. Cape Sable (NS)	0.004	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5. Gulf of St. Lawrence (A)	0.015	0.010	0.012	0.012		0.255	0.282	0.024	0.114	0.097	0.005	0.076	0.000	0.147	0.301	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6. Gulf of St. Lawrence (B)	0.016	0.012	0.014	0.014	0.001		0.437	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7. Gulf of St. Lawrence (C)	0.015	0.012	0.013	0.014	0.002	0.000		0.001	0.000	0.000	0.000	0.000	0.000	0.016	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8. St. Mary's Bay (NL)	0.012	0.005	0.007	0.007	0.004	0.005	0.006		0.366	0.921	0.162	0.285	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9. Holyrood Pond (NL)	0.014	0.007	0.007	0.009	0.004	0.007	0.008	0.001		0.599	0.631	0.454	0.000	0.012	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10. Bay Bulls (NL)	0.014	0.005	0.008	0.007	0.003	0.005	0.005	0.000	0.000		0.524	0.176	0.000	0.006	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11. Smith Sound (NL)	0.014	0.006	0.007	0.007	0.005	0.009	0.010	0.001	0.000	0.000		0.376	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12. Smith Sound (NL)	0.013	0.007	0.006	0.008	0.003	0.008	0.007	0.001	0.000	0.001	0.000		0.000	0.000	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13. Gilbert Bay (NL)	0.069	0.064	0.068	0.064	0.068	0.066	0.067	0.063	0.059	0.057	0.058	0.061		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14. Newfoundland Shelf (A)	0.012	0.012	0.013	0.014	0.002	0.010	0.007	0.007	0.006	0.005	0.007	0.006	0.065		0.711	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15. Newfoundland Shelf (B)	0.015	0.012	0.014	0.015	0.001	0.002	0.006	0.007	0.008	0.003	0.010	0.003	0.072	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16. Flemish Cap	0.039	0.034	0.037	0.037	0.027	0.031	0.027	0.036	0.033	0.027	0.035	0.031	0.096	0.024	0.021		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17. Ogac Lake	0.128	0.122	0.124	0.129	0.129	0.128	0.123	0.121	0.121	0.122	0.125	0.122	0.182	0.127	0.132	0.134		0.000	0.000	0.000	0.000	0.000	0.000	0.000
18. Tariujarusiq Lake	0.103	0.101	0.104	0.107	0.109	0.107	0.099	0.111	0.110	0.104	0.112	0.105	0.172	0.095	0.100	0.052	0.150		0.000	0.000	0.000	0.000	0.000	0.000
19. Davis Strait	0.161	0.161	0.160	0.163	0.186	0.173	0.169	0.170	0.167	0.165	0.165	0.168	0.224	0.166	0.174	0.165	0.239	0.160		0.000	0.000	0.000	0.000	0.000
20. Akureyri, Iceland	0.108	0.103	0.105	0.108	0.127	0.124	0.115	0.119	0.118	0.114	0.118	0.115	0.178	0.112	0.120	0.075	0.155	0.015	0.166		0.000	0.000	0.000	0.000
21. Barents Sea, Norway	0.122	0.118	0.119	0.124	0.132	0.127	0.118	0.130	0.128	0.122	0.129	0.122	0.191	0.120	0.123	0.073	0.159	0.007	0.176	0.014		0.000	0.000	0.000
22. Baltic Sea	0.143	0.148	0.148	0.152	0.172	0.162	0.150	0.161	0.160	0.157	0.158	0.158	0.222	0.155	0.163	0.131	0.208	0.071	0.209	0.063	0.071		0.000	0.000
23. Galway Bay, Ireland	0.113	0.110	0.111	0.116	0.140	0.135	0.126	0.131	0.130	0.126	0.130	0.128	0.189	0.123	0.134	0.092	0.172	0.030	0.187	0.014	0.028	0.069		0.000

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73 Table S4. Results of BAYESCAN analysis with all samples

74 included. Outliers identified with a FDR of 1%.

Locus	log10(PO)	F_{ST}
cgpGmo_S1553a	1000	0.57488
cgpGmo_S1830	1000	0.55475
cgpGmo_S814a	1000	0.5531
cgpGmo_S152	1000	0.55272
cgpGmo_S1089	1000	0.54629
cgpGmo_S1039a	1000	0.54412
cgpGmo_S1183	1000	0.54405
cgpGmo_S2158	1000	0.54276
cgpGmo_S268	1000	0.53285
cgpGmo_S1039b	1000	0.53192
cgpGmo_S419	1000	0.52775
cgpGmo_S920	1000	0.52774
cgpGmo_S1810	1000	0.52415
cgpGmo_S1101a	1000	0.51978
cgpGmo_S1068	1000	0.51305
cgpGmo_S1986	1000	0.49707
cgpGmo_S674	1000	0.48988
cgpGmo_S1644	1000	0.48592
cgpGmo_S1497	1000	0.46449
cgpGmo_S1166	1000	0.46404
cgpGmo_S1874	1000	0.46253
cgpGmo_S1955	1000	0.45884
cgpGmo_S1205	1000	0.44506
cgpGmo_S2095	1000	0.42932
cgpGmo_S180b	1000	0.41075
cgpGmo_S1200	1000	0.40829
cgpGmo_S1867	1000	0.40139
cgpGmo_S1643	1000	0.3992
cgpGmo_S822a	1000	0.39912
cgpGmo_S1737	1000	0.39826
cgpGmo_S917	1000	0.39212
cgpGmo_S2019	1000	0.38091
cgpGmo_S1026	1000	0.37877
cgpGmo_S816a	1000	0.3702
cgpGmo_S1751	1000	0.36801
cgpGmo_S493	1000	0.36585
cgpGmo_S875b	1000	0.36468
cgpGmo_S876	1000	0.363

cgpGmo_S1853	1000	0.35392
cgpGmo_S57	1000	0.35281
cgpGmo_S405a	1000	0.35205
cgpGmo_S182	1000	0.34884
cgpGmo_S2277	1000	0.3418
cgpGmo_S2122	1000	0.34124
cgpGmo_S2104	1000	0.33172
cgpGmo_S852	1000	0.33129
cgpGmo_S1962	1000	0.32491
cgpGmo_S2082	1000	0.31988
cgpGmo_S536	1000	0.31271
cgpGmo_S184	1000	0.31264
cgpGmo_S985	1000	0.31228
cgpGmo_S116	1000	0.30377
cgpGmo_S510	1000	0.30215
cgpGmo_S1456	1000	0.29915
cgpGmo_S1543	1000	0.29901
cgpGmo_S1062	1000	0.29897
cgpGmo_S866	1000	0.29728
cgpGmo_S1467	1000	0.29718
cgpGmo_S1167	1000	0.29703
cgpGmo_S2186	1000	0.29409
cgpGmo_S603	1000	0.29321
cgpGmo_S755	1000	0.29195
cgpGmo_S1258a	1000	0.29189
cgpGmo_S2101	1000	0.29127
cgpGmo_S352	1000	0.28934
cgpGmo_S1046	1000	0.28881
cgpGmo_S975b	1000	0.28862
cgpGmo_S1703	1000	0.28772
cgpGmo_S174	1000	0.28534
cgpGmo_S1842	1000	0.28187
cgpGmo_S951b	1000	0.28004
cgpGmo_S248a	1000	0.27993
cgpGmo_S292b	1000	0.27971
cgpGmo_S2287	1000	0.27859
cgpGmo_S1905	1000	0.27704
cgpGmo_S183	1000	0.27484
cgpGmo_S1032	1000	0.27348
cgpGmo_S1242	1000	0.27289
cgpGmo_S584	1000	0.27116
cgpGmo_S1959	1000	0.26735
cgpGmo_S938	1000	0.26733

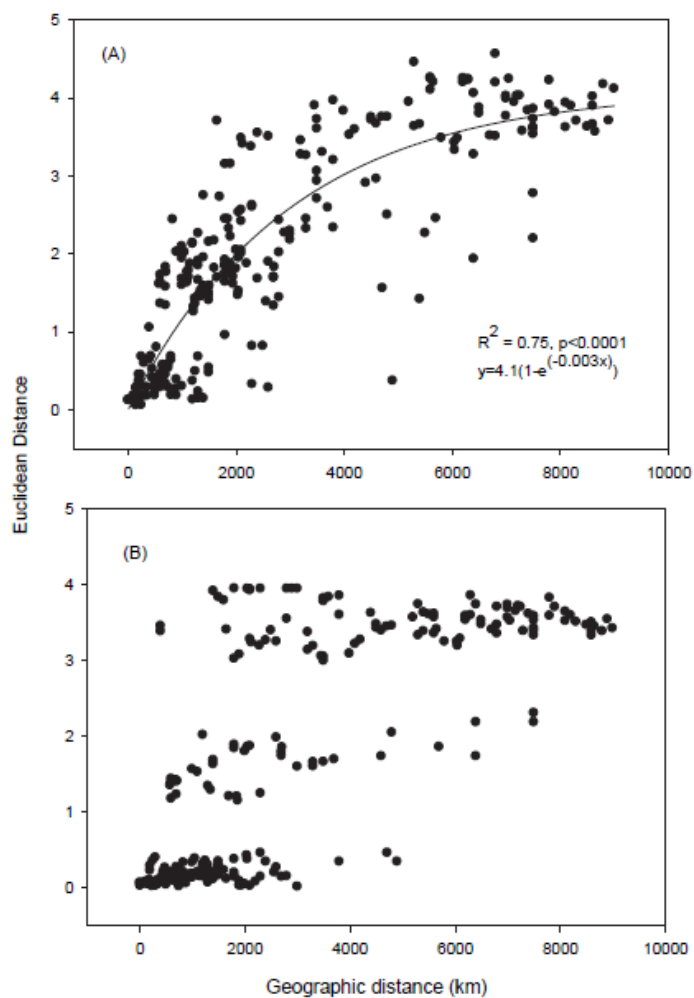
cgpGmo_S1945	1000	0.2626
cgpGmo_S986	1000	0.26239
cgpGmo_S1157	1000	0.26214
cgpGmo_S407	1000	0.25994
cgpGmo_S94	1000	0.25929
cgpGmo_S973	1000	0.25907
cgpGmo_S1209	1000	0.25796
cgpGmo_S1009	1000	0.25637
cgpGmo_S1111	1000	0.25483
cgpGmo_S636	1000	0.25432
cgpGmo_S1095	1000	0.2538
cgpGmo_S2015	1000	0.25273
cgpGmo_S1692	1000	0.25065
cgpGmo_S1938	1000	0.24988
cgpGmo_S342	1000	0.24787
cgpGmo_S1022	1000	0.2467
cgpGmo_S1712	1000	0.24611
cgpGmo_S49	1000	0.24276
cgpGmo_S1988	1000	0.24258
cgpGmo_S616	1000	0.2416
cgpGmo_S1896	1000	0.24026
cgpGmo_S1788	1000	0.23863
cgpGmo_S693	1000	0.23692
cgpGmo_S1474	1000	0.23442
cgpGmo_S727	1000	0.23412
cgpGmo_S390b	1000	0.23158
cgpGmo_S143	1000	0.22442
cgpGmo_S556	3.6988	0.26032
cgpGmo_S888	3.6988	0.25002
cgpGmo_S29	3.6988	0.24
cgpGmo_S2153	3.6988	0.23709
cgpGmo_S586	3.6988	0.23598
cgpGmo_S195	3.6988	0.23456
cgpGmo_S1538b	3.6988	0.22975
cgpGmo_S1294	3.6988	0.22639
cgpGmo_S430a	3.3977	0.27325
cgpGmo_S2126	3.3977	0.23951
cgpGmo_S207	3.3977	0.23589
cgpGmo_S688	3.2215	0.27558
cgpGmo_S68	3.2215	0.23894
cgpGmo_S1098	3.2215	0.23304
cgpGmo_S263	3.2215	0.047243
cgpGmo_S93	3.2215	0.046124

cgpGmo_S2200	3.0965	0.25544
cgpGmo_S1899	3.0965	0.22037
cgpGmo_S2242	3.0965	0.2156
cgpGmo_S1105	3.0965	0.042351
cgpGmo_S741	2.9995	0.30231
cgpGmo_S759	2.9995	0.23394
cgpGmo_S1706	2.9995	0.23183
cgpGmo_S196	2.9995	0.22912
cgpGmo_S1733	2.9995	0.22169
cgpGmo_S873	2.9202	0.24186
cgpGmo_S687	2.8532	0.047513
cgpGmo_S597	2.7439	0.051932
cgpGmo_S1483	2.698	0.051868
cgpGmo_S930	2.6187	0.22971
cgpGmo_S1011a	2.5838	0.23957
cgpGmo_S2171	2.5838	0.051032
cgpGmo_S283	2.5515	0.24983
cgpGmo_S474	2.5515	0.24379
cgpGmo_S1034	2.5515	0.23093
cgpGmo_S1202	2.5515	0.21897
cgpGmo_S1321	2.5215	0.24629
cgpGmo_S435	2.5215	0.23921
cgpGmo_S360	2.5215	0.2276
cgpGmo_S1906	2.4934	0.22691
cgpGmo_S1127	2.4934	0.22179
cgpGmo_S1721	2.4934	0.050003
cgpGmo_S1999	2.467	0.23388
cgpGmo_S1850	2.467	0.054134
cgpGmo_S282	2.4185	0.22871
cgpGmo_S1904	2.4185	0.21467
cgpGmo_S1435	2.3961	0.22736
cgpGmo_S793a	2.3961	0.050755
cgpGmo_S2209	2.3352	0.056262
cgpGmo_S1291	2.3166	0.24621
cgpGmo_S2288	2.3166	0.23166
cgpGmo_S982a	2.2988	0.26188
cgpGmo_S444	2.2988	0.23749
cgpGmo_S334	2.2816	0.24931
cgpGmo_S1279	2.234	0.051598
cgpGmo_S980	2.2191	0.051908
cgpGmo_S1801	2.2048	0.23158
cgpGmo_S594	2.2048	0.053016
cgpGmo_S1868	2.1909	0.2493

cgpGmo_S1646	2.1909	0.053529
cgpGmo_S1255b	2.1775	0.23062
cgpGmo_S291	2.1644	0.2441

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79 Figure S1. Euclidean distance among population average PCoA values of SNPs from range-wide
80 samples of Atlantic cod using (A) all SNPs and (B) only neutral SNPs. See Figure 5 for PCoA
81 and groups present.

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