

Supplementary Material

Table S1. Post-hoc comparison between the effects of each period of the year, within sex-age classes, on monthly home range area, shape, and distribution of grey seals in the gulf of St. Lawrence using hypothesis testing. The hypothesis tested are represented in the first column. Estimate represents the mean of the posterior draws and are presented with their 95% credible interval (CI). Evidence ratio represents a Bayes factor between the hypothesis and its alternative, where values greater than one indicate that evidence in favor of the hypothesis has increased after seeing the data. It is computed via the Savage-Dickey density ratio method. Posterior probability represents the odds favoring the hypothesis. Star indicates whether the value tested against (in this case 0) lies outside the 95% CI of the posterior draws (*) or not ().

	Adult F				Adult M				Juvenile F				Juvenile M			
	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star
Area																
Summer = Breeding	-0.57 (-0.84 - -0.30)	0.00	0.00	*	-0.36 (-0.63 - -0.09)	0.29	0.23	*	-0.74 (-1.04 - -0.43)	0.00	0.00	*	-0.23 (-0.52 - 0.06)	2.11	0.68	
Summer = Pre-breeding	-0.48 (-0.71 - -0.25)	0.00	0.00	*	-0.14 (-0.33 - 0.06)	5.37	0.84		-0.52 (-0.75 - -0.30)	0.00	0.00	*	0.02 (-0.20 - 0.23)	12.25	0.92	
Summer = Post-breeding	-0.42 (-0.69 - -0.16)	0.08	0.07	*	-0.75 (-0.98 - -0.52)	0.00	0.00	*	-0.58 (-0.86 - -0.31)	0.00	0.00	*	-0.13 (-0.40 - 0.13)	6.81	0.87	
Pre-breeding = Breeding	-0.09 (-0.36 - 0.17)	3.97	0.80		-0.22 (-0.48 - 0.04)	1.82	0.65		-0.22 (-0.50 - 0.06)	2.14	0.68		-0.25 (-0.52 - 0.03)	1.53	0.60	
Pre-breeding = Post-breeding	0.06 (-0.19 - 0.30)	7.24	0.88		-0.61 (-0.82 - -0.40)	0.00	0.00	*	-0.06 (-0.31 - 0.19)	10.37	0.91		-0.15 (-0.40 - 0.10)	5.46	0.85	
Breeding = Post-breeding	0.15 (-0.13 - 0.43)	2.86	0.74		-0.39 (-0.66 - -0.12)	0.17	0.15	*	0.16 (-0.15 - 0.47)	3.88	0.79		0.09 (-0.22 - 0.40)	5.29	0.84	
Shape																
Summer = Breeding	-0.50 (-0.66 - -0.34)	0.00	0.00	*	-0.15 (-0.30 - 0.00)	1.87	0.65	*	-0.37 (-0.53 - -0.20)	0.00	0.00	*	-0.02 (-0.19 - 0.14)	10.95	0.92	
Summer = Pre-breeding	-0.22 (-0.34 - -0.09)	0.06	0.06	*	-0.01 (-0.12 - 0.09)	24.33	0.96		-0.20 (-0.31 - -0.08)	0.07	0.07	*	-0.02 (-0.14 - 0.11)	22.05	0.96	
Summer = Post-breeding	-0.45 (-0.59 - -0.30)	0.00	0.00	*	-0.37 (-0.49 - -0.24)	0.00	0.00	*	-0.35 (-0.50 - -0.21)	0.00	0.00	*	-0.25 (-0.39 - -0.10)	0.09	0.08	*
Pre-breeding = Breeding	-0.29 (-0.44 - -0.14)	0.01	0.01	*	-0.14 (-0.28 - 0.00)	2.43	0.71		-0.17 (-0.32 - -0.02)	1.31	0.57	*	-0.00 (-0.17 - 0.16)	11.90	0.92	
Pre-breeding = Post-breeding	-0.23 (-0.37 - -0.10)	0.09	0.08	*	-0.36 (-0.47 - -0.24)	-0.00	-0.00	*	-0.16 (-0.29 - -0.02)	1.72	0.63	*	-0.23 (-0.37 - -0.09)	0.14	0.13	*
Breeding = Post-breeding	0.06 (-0.11 - 0.22)	6.55	0.87		-0.22 (-0.37 - -0.07)	0.28	0.22	*	0.01 (-0.16 - 0.19)	11.34	0.92		-0.22 (-0.40 - -0.04)	0.58	0.37	*
Centroid Latitude																
Summer = Breeding	1.24 (0.86 - 1.65)	0.00	0.00	*	1.05 (0.74 - 1.34)	-0.00	-0.00	*	0.15 (-0.10 - 0.42)	57.00	0.98		0.29 (-0.01 - 0.60)	15.39	0.94	
Summer = Pre-breeding	0.24 (0.02 - 0.45)	13.02	0.93	*	0.12 (-0.08 - 0.32)	104.04	0.99		0.07 (-0.11 - 0.25)	163.70	0.99		-0.02 (-0.22 - 0.17)	194.33	0.99	
Summer = Post-breeding	1.13 (0.61 - 1.65)	0.00	0.00	*	1.34 (0.94 - 1.73)	0.00	0.00	*	0.30 (-0.01 - 0.63)	21.50	0.96		0.88 (0.40 - 1.39)	0.09	0.08	*

	Adult F				Adult M				Juvenile F				Juvenile M			
	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star
Pre-breeding = Breeding	1.00 (0.67 - 1.37)	0.00	0.00	*	0.93 (0.65 - 1.19)	0.00	0.00	*	0.08 (-0.14 - 0.30)	106.88	0.99		0.31 (0.05 - 0.60)	7.01	0.88	*
Pre-breeding = Post-breeding	0.89 (0.41 - 1.39)	0.03	0.03	*	1.22 (0.84 - 1.60)	0.00	0.00	*	0.23 (-0.07 - 0.54)	42.28	0.98		0.90 (0.45 - 1.40)	0.00	0.00	*
Breeding = Post-breeding	-0.11 (-0.43 - 0.21)	49.15	0.98		0.29 (-0.03 - 0.61)	19.78	0.95		0.15 (-0.08 - 0.39)	52.72	0.98		0.59 (0.18 - 1.05)	1.20	0.54	*
Centroid Longitude																
Summer = Breeding	-0.48 (-0.85 - -0.12)	1.85	0.65	*	-0.93 (-1.45 - -0.39)	0.15	0.13	*	-0.17 (-0.57 - 0.21)	49.32	0.98		-0.50 (-0.97 - -0.06)	5.68	0.85	*
Summer = Pre-breeding	-0.13 (-0.39 - 0.12)	67.13	0.99		-0.42 (-0.77 - -0.08)	5.70	0.85	*	-0.11 (-0.38 - 0.15)	109.19	0.99		-0.21 (-0.53 - 0.09)	54.93	0.98	
Summer = Post-breeding	-0.18 (-0.66 - 0.30)	44.24	0.98		-1.96 (-2.60 - -1.29)	0.00	0.00	*	-0.77 (-1.27 - -0.30)	0.48	0.33	*	-0.66 (-1.31 - -0.04)	7.57	0.88	*
Pre-breeding = Breeding	-0.35 (-0.62 - -0.08)	2.94	0.75	*	-0.50 (-0.93 - -0.07)	4.59	0.82	*	-0.06 (-0.37 - 0.24)	88.26	0.99		-0.29 (-0.64 - 0.07)	21.61	0.96	
Pre-breeding = Post-breeding	-0.05 (-0.46 - 0.37)	68.73	0.99		-1.54 (-2.11 - -0.94)	0.00	0.00	*	-0.66 (-1.09 - -0.25)	0.61	0.38	*	-0.45 (-1.04 - 0.10)	20.43	0.95	
Breeding = Post-breeding	0.30 (-0.04 - 0.64)	12.85	0.93		-1.04 (-1.47 - -0.62)	0.00	0.00	*	-0.61 (-0.95 - -0.28)	0.15	0.13	*	-0.16 (-0.63 - 0.28)	49.03	0.98	

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	Summer				Pre-breeding				Breeding				Post-breeding			
	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star
Area																
Adult F = Adult M	-0.54 (-0.80 - -0.28)	0.00	0.00	*	-0.20 (-0.44 - 0.05)	2.43	0.71		-0.33 (-0.66 - 0.00)	0.60	0.38	*	-0.87 (-1.16 - -0.57)	0.00	0.00	*
Adult F = Juvenile F	-0.21 (-0.48 - 0.07)	2.33	0.70		-0.25 (-0.50 - 0.00)	1.20	0.55		-0.37 (-0.72 - -0.03)	0.43	0.30	*	-0.37 (-0.69 - -0.05)	0.52	0.34	*
Adult F = Juvenile M	-0.65 (-0.91 - -0.38)	0.00	0.00	*	-0.15 (-0.40 - 0.11)	3.91	0.80		-0.30 (-0.65 - 0.04)	0.89	0.47		-0.36 (-0.67 - -0.04)	0.54	0.35	*
Adult M = Juvenile M	-0.11 (-0.36 - 0.15)	7.85	0.89		0.05 (-0.20 - 0.29)	10.55	0.91		0.03 (-0.33 - 0.37)	5.56	0.85		0.51 (0.21 - 0.82)	0.04	0.03	*
Adult M = Juvenile F	0.33 (0.07 - 0.60)	0.53	0.34	*	-0.05 (-0.30 - 0.20)	10.05	0.91		-0.05 (-0.41 - 0.31)	5.28	0.84		0.50 (0.19 - 0.81)	0.06	0.06	*
Juvenile M = Juvenile F	0.44 (0.17 - 0.71)	0.06	0.06	*	-0.10 (-0.35 - 0.16)	8.07	0.89		-0.07 (-0.44 - 0.30)	4.94	0.83		-0.01 (-0.33 - 0.32)	8.36	0.89	
Shape																
Adult F = Adult M	-0.24 (-0.38 - -0.11)	0.05	0.05	*	-0.04 (-0.17 - 0.09)	11.84	0.92		0.11 (-0.08 - 0.30)	3.76	0.79		-0.17 (-0.32 - -0.01)	1.50	0.60	*
Adult F = Juvenile F	-0.10 (-0.24 - 0.05)	5.69	0.85		-0.08 (-0.21 - 0.05)	7.34	0.88		0.04 (-0.16 - 0.24)	6.49	0.87		-0.00 (-0.18 - 0.17)	11.07	0.92	
Adult F = Juvenile M	-0.31 (-0.45 - -0.16)	0.01	0.01	*	-0.11 (-0.25 - 0.03)	4.46	0.82		0.17 (-0.03 - 0.37)	1.59	0.61		-0.11 (-0.28 - 0.07)	5.72	0.85	
Adult M = Juvenile M	-0.06 (-0.20 - 0.08)	13.54	0.93		-0.07 (-0.20 - 0.06)	12.58	0.93		0.06 (-0.14 - 0.27)	7.93	0.89		0.06 (-0.11 - 0.22)	12.96	0.93	
Adult M = Juvenile F	0.15 (0.01 - 0.29)	2.49	0.71	*	-0.04 (-0.17 - 0.09)	17.73	0.95		-0.07 (-0.27 - 0.13)	7.38	0.88		0.16 (-0.01 - 0.32)	2.55	0.72	
Juvenile M = Juvenile F	0.21 (0.07 - 0.35)	0.34	0.25	*	0.03 (-0.11 - 0.16)	18.59	0.95		-0.14 (-0.34 - 0.07)	4.08	0.80		0.10 (-0.08 - 0.28)	8.02	0.89	
Centroid Latitude																
Adult F = Adult M	-0.10 (-0.37 - 0.14)	83.12	0.99		-0.23 (-0.56 - 0.09)	35.72	0.97		-0.30 (-0.87 - 0.23)	22.01	0.96		0.10 (-0.63 - 0.80)	37.45	0.97	
Adult F = Juvenile F	0.03 (-0.22 - 0.27)	108.08	0.99		-0.14 (-0.47 - 0.18)	61.56	0.98		-1.06 (-1.61 - -0.56)	0.00	0.00	*	-0.80 (-1.47 - -0.14)	2.46	0.71	*
Adult F = Juvenile M	0.06 (-0.21 - 0.31)	95.11	0.99		-0.20 (-0.55 - 0.13)	40.53	0.98		-0.90 (-1.47 - -0.37)	0.10	0.09	*	-0.19 (-0.94 - 0.55)	32.78	0.97	
Adult M = Juvenile M	0.16 (-0.08 - 0.41)	74.84	0.99		0.02 (-0.30 - 0.33)	126.92	0.99		-0.60 (-1.01 - -0.16)	2.00	0.67	*	-0.30 (-0.90 - 0.32)	40.51	0.98	
Adult M = Juvenile F	0.13 (-0.11 - 0.37)	83.55	0.99		0.09 (-0.22 - 0.39)	113.31	0.99		-0.77 (-1.17 - -0.33)	0.16	0.14	*	-0.90 (-1.38 - -0.39)	0.32	0.24	*

	Summer				Pre-breeding				Breeding				Post-breeding			
	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star	Estimate (CI _{95%})	Evidence Ratio	Posterior Probability	Star
Juvenile M = Juvenile F	-0.03 (-0.26 - 0.20)	179.10	0.99		0.07 (-0.23 - 0.36)	122.86	0.99		-0.16 (-0.55 - 0.23)	53.53	0.98		-0.60 (-1.16 - -0.08)	6.21	0.86	*
Centroid Longitude																
Adult F = Adult M	0.04 (-0.33 - 0.42)	72.32	0.99		-0.25 (-0.75 - 0.25)	35.84	0.97		-0.40 (-1.05 - 0.26)	15.08	0.94		-1.74 (-2.51 - -0.94)	0.01	0.01	*
Adult F = Juvenile F	0.07 (-0.28 - 0.42)	71.66	0.99		0.09 (-0.35 - 0.53)	59.86	0.98		0.38 (-0.17 - 0.94)	14.57	0.94		-0.52 (-1.21 - 0.15)	13.49	0.93	
Adult F = Juvenile M	0.04 (-0.35 - 0.42)	68.98	0.99		-0.05 (-0.55 - 0.43)	56.98	0.98		0.01 (-0.63 - 0.63)	30.90	0.97		-0.45 (-1.25 - 0.33)	18.65	0.95	
Adult M = Juvenile M	-0.01 (-0.43 - 0.41)	94.97	0.99		0.20 (-0.34 - 0.75)	56.14	0.98		0.42 (-0.31 - 1.14)	20.37	0.95		1.29 (0.37 - 2.17)	1.05	0.51	*
Adult M = Juvenile F	0.03 (-0.36 - 0.42)	100.47	0.99		0.34 (-0.17 - 0.86)	33.11	0.97		0.79 (0.10 - 1.47)	3.19	0.76	*	1.22 (0.38 - 2.02)	0.91	0.48	*
Juvenile M = Juvenile F	0.04 (-0.33 - 0.40)	105.63	0.99		0.14 (-0.33 - 0.61)	71.45	0.99		0.37 (-0.23 - 0.98)	22.42	0.96		-0.07 (-0.82 - 0.70)	52.24	0.98	