Mercury trends in herring gull (*Larus argentatus*) eggs from Atlantic Canada, 1972-2008: temporal change or dietary shift?

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Supplementary Material

Table S-1. Mean unadjusted Hg concentrations (± S.D, µg/g dry weight), percent moisture, and stable isotope values (± S.D, ‰) in herring gull eggs from Atlantic Canada. Data are from 5-egg pooled samples. Hg values are corrected for recovery of certified reference material (see Methods). $\delta^{13}C_{adj}$ values are corrected for lipid content and the Suess Effect (see Methods), and $\delta^{13}C_{raw}$ are raw unadjusted values.

Site	Year	n	% Moist.	Hg	$\delta^{13}C_{adj}$	$\delta^{13}C_{raw}$	$\delta^{15}N$
Gull Island, NL	1977	1	73.0	0.770	-16.4	-19.8	14.1
	1979	1	76.2	0.608	-18.2	-21.3	13.4
	1988	1	76.3	0.759	-19.1	-22.3	12.5
	1992	3	78.5	0.682 ± 0.235	-19.7 ± 0.2	-22.7 ± 0.1	11.7 ± 0.5
	1996	3	76.0	0.224 ± 0.067	-18.1 ± 1.5	-22.3 ± 0.5	11.3 ± 0.7
	2000	3	73.9	0.216 ± 0.079	-19.7 ± 0.3	-22.3 ± 0.2	10.7 ± 0.5
	2004	3	76.7	0.471 ± 0.269	-18.9 ± 0.3	-21.7 ± 0.4	11.3 ± 0.4
	2008	3	77.2	0.393 ± 0.296	-18.6 ± 0.1	-21.2 ± 0.1	10.7 ± 0.7
Île du Corossol,	1972	1	75.7	0.416	-15.8	-19.1	13.9
QC	1980	1	76.8	0.420	-16.2	-19.7	14.3
	1988	1	76.4	0.229	-18.1	-20.9	15.0
	1992	3	74.9	0.605 ± 0.336	-17.8 ± 0.3	-20.8 ± 0.2	15.6 ± 0.5
	1996	3	74.1	0.266 ± 0.070	-16.2 ± 0.9	-19.3 ± 0.7	12.2 ± 0.3
	2000	3	74.7	0.314 ± 0.040	-17.1 ± 0.2	-20.3 ± 0.2	12.9 ± 0.7
	2004	3	76.8	0.230 ± 0.028	-17.1 ± 0.3	-20.2 ± 0.5	11.0 ± 0.7
	2008	3	76.9	0.276 ± 0.043	-18.2 ± 0.4	-20.9 ± 0.2	12.4 ± 0.8
Kent Island, NB	1976	1	76.2	0.476	-15.5	-18.8	12.9
	1980	1	77.5	0.867	-14.4	-18.1	12.9
	1984	1	75.7	0.507	-17.4	-21.0	14.5

	1988	1	69.6	0.441	-17.4	-20.5	12.0
	1992	3	75.1	0.416 ± 0.030	-18.4 ± 0.1	-21.6 ± 0.2	12.8 ± 0.4
	1996	3	74.8	0.307 ± 0.064	-17.4 ± 0.6	-20.2 ± 0.4	13.1 ± 0.3
	2000	3	71.6	0.369 ± 0.093	-18.0 ± 0.2	-20.9 ± 0.3	13.7 ± 0.2
	2004	3	73.0	0.377 ± 0.010	-17.3 ± 0.3	-20.6 ± 0.4	13.5 ± 0.1
	2008	3	76.2	0.471 ± 0.124	-19.0 ± 0.3	-21.6 ± 0.1	12.4 ± 0.1
Manawagonish	1972	1	66.3	0.395	-13.3	-22.6	13.8
Island, NB	1977	1	71.6	0.616	-15.1	-19.1	12.9
	1979	1	76.2	0.312	-17.2	-20.6	11.7
	1982	1	76.2	0.456	-16.9	-20.4	12.0
	1988	1	76.5	0.178	-16.4	-19.6	11.5
	1992	3	77.0	0.319 ± 0.155	-18.0 ± 0.2	-21.6 ± 0.3	11.0 ± 0.6
	1996	3	75.5	0.183 ± 0.036	-16.7 ± 0.8	-20.8 ± 0.8	11.5 ± 0.1
	2000	3	74.0	0.295 ± 0.024	-17.5 ± 0.1	-20.5 ± 0.3	12.0 ± 0.4
	2004	3	76.7	0.243 ± 0.044	-17.0 ± 0.6	-20.2 ± 0.7	11.3 ± 0.4
	2008	3	76.8	0.224 ± 0.059	-17.5 ± 0.7	-20.4 ± 0.6	11.1 ± 0.3
Sable Island,	1976	1	75.9	0.819	-18.0	-21.7	14.3
NS	1979	1	75.6	0.535	-17.7	-21.0	13.56
	1992	3	76.2	0.639 ± 0.020	-17.9 ± 0.4	-21.4	14.11 ± 0.4
	1996	3	73.5	0.682 ± 0.293	-17.5 ± 0.3	-21.3 ± 0.4	14.1 ± 0.5
	2000	3	73.4	0.696 ± 0.038	-18.5 ± 0.2	-21.7 ± 0.1	14.3 ± 0.2
	2004	3	76.7	0.690 ± 0.129	-18.4 ± 0.2	-21.5 ± 0.1	13.0 ± 0.2
	2008	3	77.2	0.618 ± 0.160	-19.3 ± 0.2	-21.9 ± 0.1	13.9 ± 0.1

Fig. S-1. Herring gull eggs were collected at 5 colonies in Atlantic Canada.

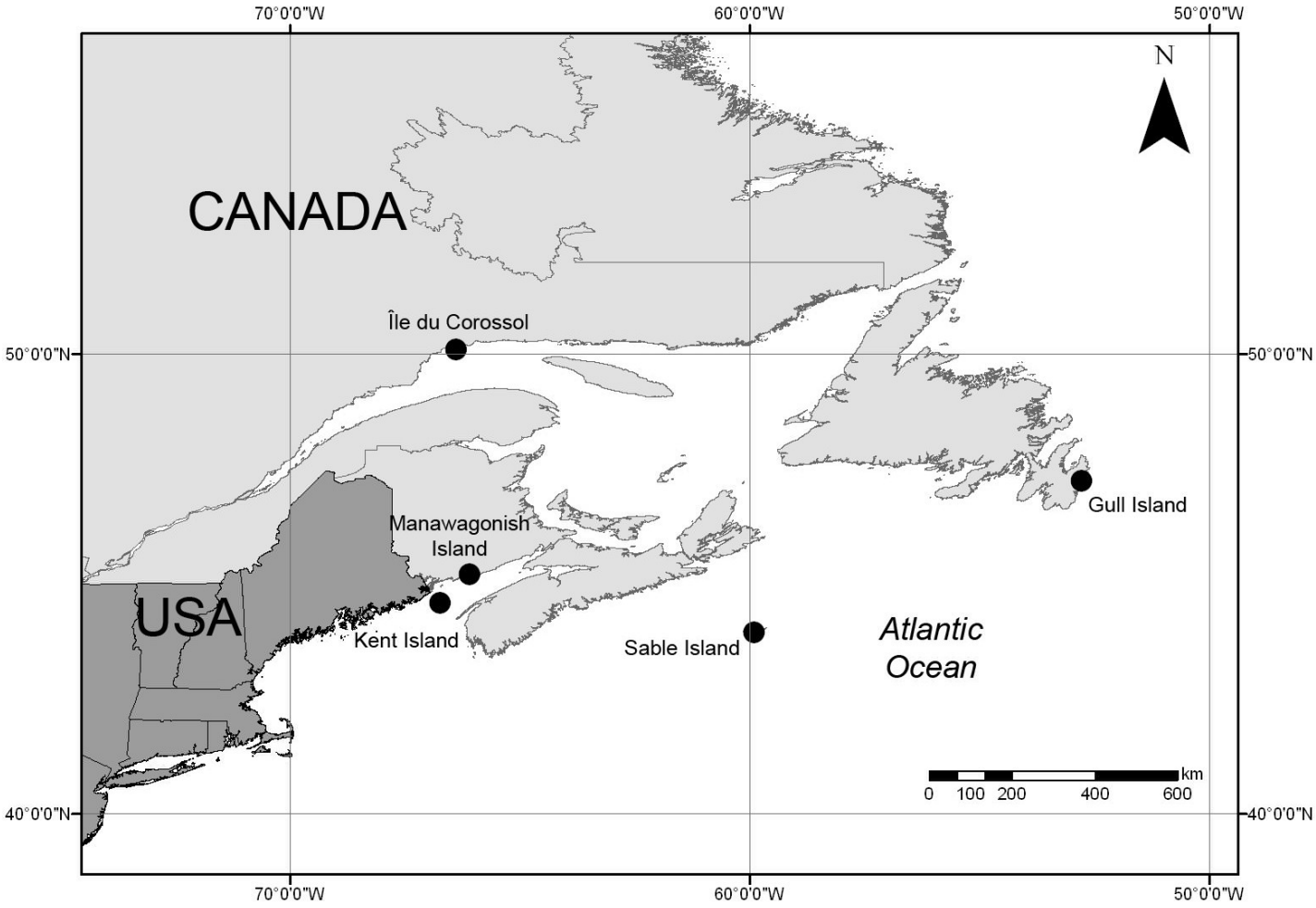

Fig. S-2. Herring gull eggs had significant declines in $\delta^{15}N$ (± S.E., ‰) over time at Gull Island (A), Île du Corossol (B) and Manawagonish Island (D). No significant temporal trends were observed at Kent Island (C) and Sable Island (E).

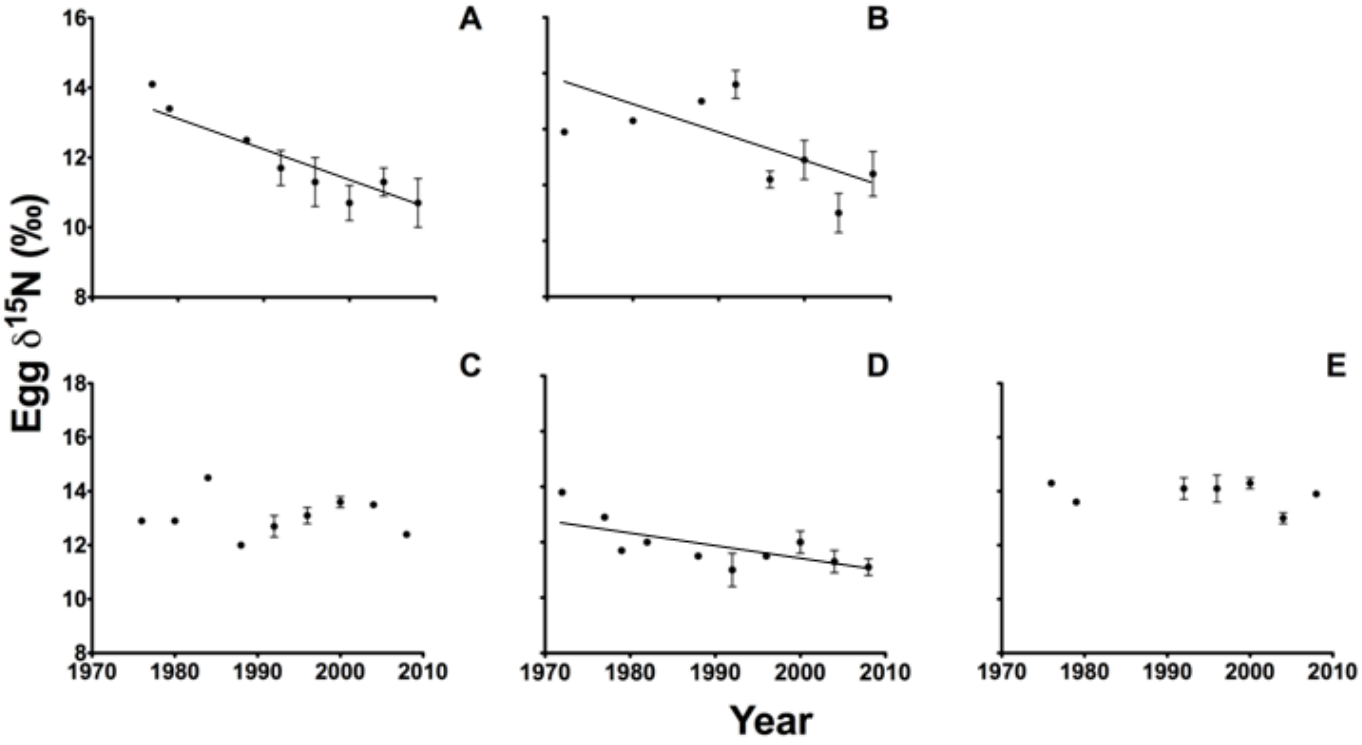

Fig. S-3. Herring gull eggs had significant declines in lipid-adjusted $\delta^{13}C$ (± S.E., ‰) over time at Kent Island (C). No significant temporal trends were observed at Gull Island (A), Île du Corossol (B), Manawagonish Island (D), and Sable Island (E). Outliers (open circles) were not included in the regression analyses.

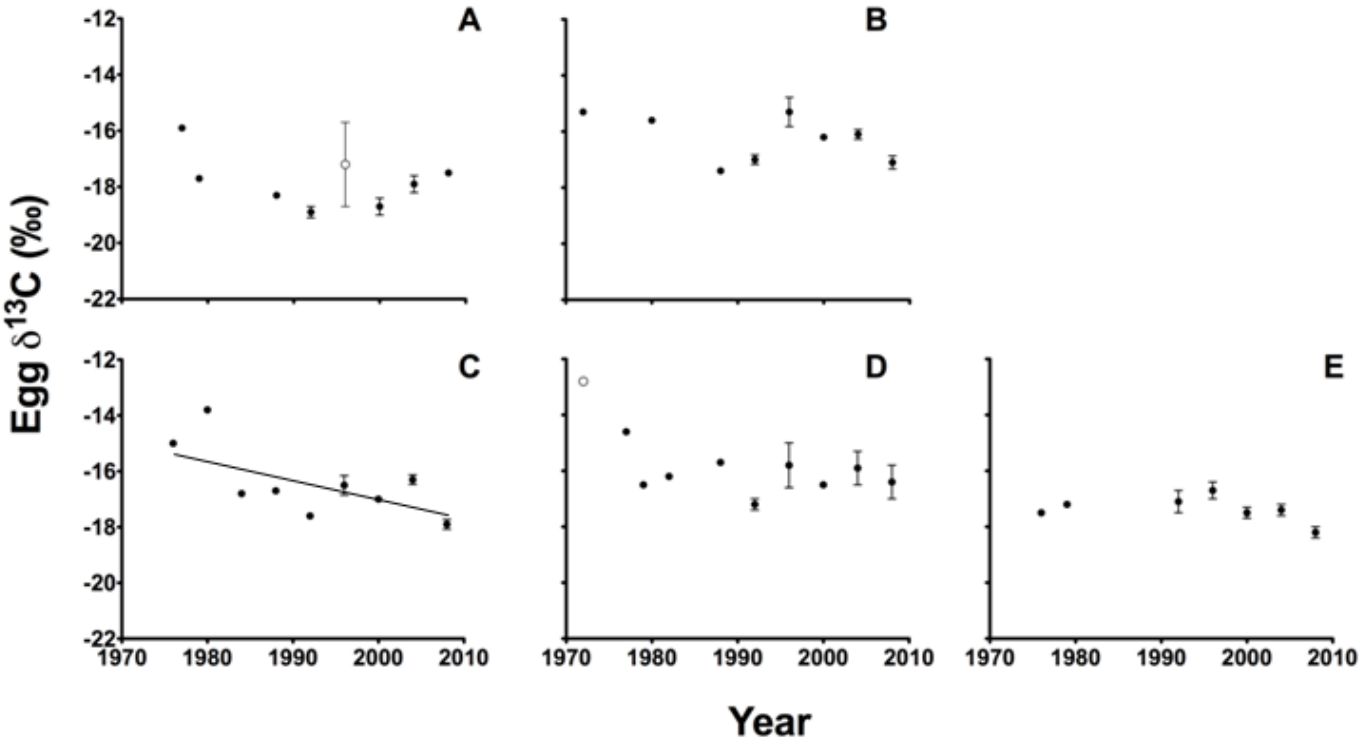

Fig. S-4. No significant relationships were observed between unadjusted Hg (± S.D., µg/g dry weight) and $\delta^{13}C$ (± S.D., ‰) adjusted for lipid and the Suess Effect in herring gull eggs from Gull Island (A), Île du Corossol (B), Kent Island (C), Manawagonish Island (D) or Sable Island (E). Outliers (open circles) were not included in the regression analyses.