

Appendix 3: Redistribution of wintering American Common Eiders (*Somateria mollissima dresseri*)
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Appendix 3: Model results from GLMs with negative binomial distributions and year (trend) effects for winter aerial survey counts by region for surveys conducted between 2003-2019. Models were run with R package ‘MASS’ (Venables and Ripley 2002). We report the beta regression coefficient for year (β), with standard error (SE), the Z-statistic and p-value. θ is the dispersion parameter of the negative binomial distribution, reflecting a measure of overdispersion with respect to the Poisson distribution, reported with SE. Smaller values of θ correspond to higher variance and more overdispersion, where variance = $\mu + \mu^2/\theta$. λ was calculated from the year β regression coefficient on the response scale (i.e., exponentiated, where $\lambda = e^\beta$), reported with 95% confidence intervals ([lower confidence limit (lcl), upper confidence limit (ucl)]). Region acronyms represent provinces and states (NS – Nova Scotia, NB – New Brunswick) with the exception of GSL (Gulf of St Lawrence) and SE NL (Southeast Newfoundland, eastward and inclusive of St. Pierre and Miquelon, France).

region	$\beta \pm SE$	Z	p	$\theta \pm SE$	λ [lcl, ucl]
GSL	0.09 \pm 0.03	3.60	0.00	9.99 \pm 5.68	1.10 [1.05, 1.15]
SE NL	0.02 \pm 0.03	0.60	0.55	6.49 \pm 3.65	1.02 [0.96, 1.08]
NS	-0.11 \pm 0.03	-3.31	0.0009	9.29 \pm 6.46	0.89 [0.83, 0.96]
NB	-0.04 \pm 0.03	-1.73	0.08	13.20 \pm 8.26	0.96 [0.91, 1.01]