

Preregistration

# Range-shifts of the Black-capped Chickadee

Rory Macklin<sup>1</sup>

<sup>1</sup> University of British Columbia, Department of Zoology

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<b>Data collection</b>	<b>It's complicated.</b> We have already collected some data but explain in the “Other” section why readers may consider this a valid <b>pre</b> -registration nevertheless.
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<b>Hypothesis</b>	The Black-capped Chickadee ( <i>Poecile atricapillus</i> ) has increased its abundance in Vancouver, British Columbia, Canada.
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<b>Dependent variable</b>	The dependent variable will be the annual trend in abundance of Black-capped Chickadee, measured since the earliest data available along the Breeding Bird Survey (see Sauer <i>et al.</i> (2013)) route 212 “Point Grey”.
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<b>Analyses</b>	A generalized linear model with a log link function will be applied to the annual total count of Black-capped Chickadees from the Breeding Bird Survey route 212 “Point Grey” including every year of data available through the survey. Year will be used as an explanatory variable to generate a coefficient for annual trend. A trend coefficient will be deemed significantly positive if it's 95% confidence interval is entirely greater than 0.
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<b>Outliers and exclusions</b>	All total counts will be included. There will certainly be years with missing data, and these will be treated as missing values rather than zero-counts.
<b>Sample size</b>	Sample size will be the number of years with total count data for Breeding Bird Survey route 212 “Point Grey”.
<b>Other</b>	All though these data are already collected, there are many options for how to analyze them. I make this preregistration to document the planned analysis method.
<b>Study type</b>	This will be an archival study, utilizing data collected over the last century.

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## References

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Sauer, J.R., Link, W.A., Fallon, J.E. & Pardieck, K.L. (2013). [The North American Breeding Bird Survey 1966–2011: Summary Analysis and Species Accounts](#). *North American fauna*, 79, 1–32.