

# Wilson J. Wright

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## EDUCATION

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### Ph.D. Candidate, Statistics

Colorado State University, Fort Collins, CO

Advisors: Mevin Hooten and Daniel Cooley

Ongoing

Aug 2020 – Present

### M.S., Statistics

Montana State University, Bozeman, MT

May 2016

### B.S., Biological Science

Montana State University, Bozeman, MT

May 2011

## IN PREPARATION

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**Wright, W. J.**, P. N. Neitlich, and M. B. Hooten (2024+). “Clipped multiscale spatial processes for multivariate binary data”. *In Preparation*.

## PUBLICATIONS

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- Wright, W. J.**, P. N. Neitlich, A. E. Shiel, and M. B. Hooten (2022). “Mechanistic spatial models for heavy metal pollution”. *Environmetrics* 33, e2760.
- Stratton, C. K., K. M. Irvine, K. M. Banner, **W. J. Wright**, C. Lausen, and J. Rae (2022). “Coupling validation effort with *in situ* bioacoustic data improves estimating relative activity and occupancy for multiple species with cross-species misclassifications”. *Methods in Ecology and Evolution* 13, 1288–1303.
- Wright, W. J.**, K. M. Irvine, T. J. Rodhouse, and A. R. Litt (2021). “Spatial Gaussian processes improve multi-species occupancy models when range boundaries are uncertain and non-overlapping”. *Ecology and Evolution* 11, 8516–8527.
- Shanahan, E., **W. J. Wright**, and K. M. Irvine (2021). “Adaptive monitoring in action: Reconsidering design-based estimators reveals underestimation of whitebark pine disease prevalence in the Greater Yellowstone Ecosystem”. *Journal of Applied Ecology* 58, 1079–1089.
- Wright, W. J.**, K. M. Irvine, E. S. Alberg, and A. R. Litt (2020). “Modelling misclassification in multi-species acoustic data when estimating occupancy and relative activity”. *Methods in Ecology and Evolution* 11, 71–81.
- Irvine, K. M., **W. J. Wright**, E. K. Shanahan, and T. J. Rodhouse (2019). “Cohesive framework for modeling plant cover class data”. *Methods in Ecology and Evolution* 10, 1749–1760.
- Wright, W. J.**, K. M. Irvine, and M. D. Higgs (2019). “Identifying occupancy model inadequacies: can residuals separately assess detection and presence?” *Ecology* 100, e02703.
- Irvine, K. M., T. J. Rodhouse, **W. J. Wright**, and A. R. Olsen (2018). “Occupancy modeling species-environment relationships and non-ignorable designs”. *Ecological Applications* 28, 1616–1625.

- Banner, K. M., K. M. Irvine, T. J. Rodhouse, **W. J. Wright**, R. M. Rodriguez, and A. R. Litt (2018). “Improving geographically extensive acoustic survey designs for modeling species occurrence with imperfect detection and misidentification”. *Ecology and Evolution* 8, 6144–6156.
- Wright, W. J.**, K. M. Irvine, J. M. Warren, and J. K. Barnett (2017). “Statistical design and analysis for plant cover studies with multiple sources of observation error”. *Methods in Ecology and Evolution* 8, 1832–1841.
- Wright, W. J.**, K. M. Irvine, and T. J. Rodhouse (2016). “A goodness-of-fit test for occupancy models with correlated within-season revisits”. *Ecology and Evolution* 6, 5404–5415.

## TECHNICAL REPORTS

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- Wright, W. J.**, K. M. Irvine, B. Reichert, C. Talbert, and A. R. Litt (2019). *Analysis of Colorado NABat data from 2016 and 2017*. Tech. rep. Colorado Natural Heritage Program.
- Wright, W. J.** and K. M. Irvine (2017). *Assessment of imperfect detection of blister rust in whitebark pine within the Greater Yellowstone Ecosystem*. Tech. rep. NPS/GRYN/NRR-2017/1457. Fort Collins, Colorado: National Park Service.

## HONORS AND AWARDS

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Graybill Award for Excellence in Linear Models - CSU Statistics Department	May 2022
Honorable Mention ASA-Statistics and the Environment Student Paper	Jan 2016
Mildred Livingston Scholarship, Montana State University	Aug 2013
Honors Degree ( <i>magna cum laude</i> ) recipient, Montana State University	May 2011
Presidential Scholar, Montana State University	2007 – 2011

## RESEARCH

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<b>Graduate Research Assistant</b> Colorado Cooperative Fish and Wildlife Research Unit	May 2021 – Aug 2021, Jan 2022 – Present
<b>Ecological Statistician</b> Department of Ecology, Montana State University	Oct 2017 – July 2020
<b>Statistical Consultant</b> Northern Rocky Mountain Science Center, US Geological Survey	Aug 2016 – Sep 2017
<b>Graduate Research Assistant</b> Northern Rocky Mountain Science Center, US Geological Survey	Aug 2014 – July 2016
<b>Summer Statistical Analyst</b> Institute on Ecosystems, Montana State University	June/July 2014

## TEACHING

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### **Guest Lecturer**

STAT 192 - First-year seminar in statistics

Nov. 2023

### **Teaching Assistant**

Bayesian Statistics for Ecologists short course (10 days)

June 2022, June 2023

### **Graduate Teaching Assistant**

Colorado State University

STAR 511 - Design and Analysis for Researchers I

Fall 2021

STAT 307 - Introduction to Biostatistics

Fall 2021

STAT 201 - General Statistics

Spring 2021

STAT 204 - Statistics with Business Applications

Fall 2020

### **Statistics Success Center Tutor**

Colorado State University

All introductory statistics courses

Fall 2020, Spring 2021, Fall 2021

### **Graduate Teaching Assistant**

Montana State University

STAT 201 - Introduction to Statistics

Fall 2013, Spring 2014, Summer 2014

## PRESENTATIONS AND POSTERS

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**Wright, W. J.**, P. N. Neitlich, A. E. Shiel, and M. B. Hooten (Sept. 2023). “Mechanistic spatial models for heavy metal pollution”. Poster at the EnviBayes Workshop in Fort Collins, Colorado.

**Wright, W. J.**, P. N. Neitlich, and M. B. Hooten (July 2023). “Multiscale clipped Gaussian processes for spatial vegetation data”. Presentation at Spatial Statistics Conference in Boulder, Colorado.

**Wright, W. J.**, P. N. Neitlich, A. E. Shiel, and M. B. Hooten (Oct. 2022a). “Mechanistic spatial models for heavy metal pollution”. Poster at the ENVR Workshop in Provo, Utah.

**Wright, W. J.**, P. N. Neitlich, A. E. Shiel, and M. B. Hooten (Aug. 2022b). “Mechanistic spatial models for heavy metal pollution”. Presentation at Joint Statistical Meetings of the American Statistical Association in Washington, D.C.

**Wright, W. J.**, K. M. Irvine, E. S. Almberg, and A. R. Litt (Mar. 2019). “Estimating occupancy and activity of Montana bat species prior to the arrival of White-nose Syndrome”. Presentation at the Montana Chapter of the Wildlife Society Annual Conference in Helena, Montana.

**Wright, W. J.**, K. M. Irvine, and M. D. Higgs (Oct. 2018a). “Untangling spatial patterns in occupancy models: residuals to separately assess detection and presence”. Presentation at the Wildlife Society Annual Conference in Cleveland, Ohio.

- Wright, W. J.**, K. M. Irvine, and M. D. Higgs (Sept. 2018b). “Untangling spatial patterns in occupancy models — an example of residual diagnostics for hierarchical models”. Presentation at the Montana Chapter of the American Statistical Association meeting in Bozeman, Montana.
- Wright, W. J.**, K. M. Irvine, J. M. Warren, and J. K. Barnett (Aug. 2017). “Statistical design and analysis of plant cover data with multiple sources of observation error”. Presentation at the Joint Statistical Meetings of the American Statistical Association in Baltimore, Maryland.
- Wright, W. J.**, K. M. Irvine, and T. J. Rodhouse (June 2016a). “A new assessment tool for occupancy models when revisits are serially correlated”. Presentation at the International Statistical Ecology Conference in Seattle, Washington.
- Wright, W. J.**, K. M. Irvine, and T. J. Rodhouse (Apr. 2016b). “Assessing occupancy model fit when revisits are serially correlated”. Presentation at the Montana State University Student Research Celebration in Bozeman, Montana.
- Wright, W. J.** (Apr. 2016). “Estimating mallard duckling survival — accounting for catastrophic events”. Presentation at the Statistics Graduate Student Writing Projects seminar.