BRANDON P.M. EDWARDS BSc, A.Stat

brandonedwards3@cmail.carleton.ca   Ottawa, ON

EDUCATION

PhD   Carleton University, Biology   2020 – Present
Thesis: "Using Detectability and Data Integration Techniques to
Improve Trend Estimates of North American Birds"
Advisors: Adam Smith & Joseph Bennett
Notes: From September 2020 – August 2021, I was enrolled as a
MSc Student, and then fast tracked to PhD starting
September 2021.

BSc   University of Guelph, Mathematical Science (Statistics)   2015 – 2020
Thesis: "Comparing deviance information criterion typologies
in a spatial Poisson mixture model setting"
Advisor: Daniel Gillis

RESEARCH EXPERIENCE

University of St. Andrews, St. Andrews, Scotland   May 2023 – August 2023
Mitacs Globalink Visiting Scholar (Centre for Research into Ecological and Environmental
Modelling)

Alberta Biodiversity Monitoring Institute, Edmonton, Alberta   Sep 2022 – April 2023
Mitacs Accelerate Internship (Boreal Avian Modelling Project)

Environment and Climate Change Canada, Ottawa, Ontario   March 2021 – Present
Research Affiliate

Carleton University, Ottawa, Ontario   Sep 2020 – April 2021
Graduate Research Assistant (Bennett Lab, Department of Biology)

University of Guelph, Guelph, Ontario   Jan 2020 – April 2020
BSc Honours Thesis (Gillis Lab, School of Computer Science)

Environment and Climate Change Canada, Ottawa, Ontario   Apr 2018 – Aug 2018
Bird Population Monitoring Analyst

University of Guelph, Guelph, Ontario   Feb 2016 – April 2020
Undergraduate Research Assistant (Gillis Lab, School of Computer Science)

University of Guelph, Guelph, Ontario   Jan 2016 – April 2016
Undergraduate Research Assistant (School of Environmental Science)

PUBLICATIONS

*Co-first author

Braga PHP, Hébert K, Hudgins EJ, Scott ER, Edwards BPM, Sánchez-Reyes LL, Grainger MJ, Foroughirad V, Hilleman F, Binley AD, Brookson CB, Gaynor KM, Sabet SS, Güncan A, Weierbach H, Gomes DGE, Crystal-Ornelas R. (2023). Not Just for Programmers: How Github Can Accelerate Collaborative and Reproducible Research in Ecology and Evolution. **Methods in Ecology and Evolution**. https://doi.org/10.1111/2041-210X.14108

Binley AD*, Edwards BPM*, Dansereau G, Knight EC, Momeni-Dehaghi I. (2023). Minimizing Data Waste: Conservation in the Big Data Era. **Bulletin of the Ecological Society of America 104(2)**:e02056. https://doi.org/10.1002/bes2.2056

Edwards BPM, Smith AC, Docherty TGS, Gahbauer MA, Gillespie CR, Grinde AR, Harmer T, Iles DT, Matsuoka SM, Michel NL, Murray A, Niemi GJ, Pasher J, Pavlacky Jr DC, Robinson BG, Ryder TB, Sólymos P, Stralberg D, Zlonis EJ. (2023). Point Count Offsets for Estimating Population Sizes of North American Landbirds. **Ibis 165(2)**:482-503. https://doi.org/10.1111/ibi.13169
- Nominated for "Best ECR Paper of 2022" by British Ornithologists' Union

Soroye P*, Edwards BPM*, Buxton RT, Ethier JP, Frempong-Manso A, Keefe H, Berberi A, Roach-Krajewski M, Binley AD, Vincent JG, Cooke SJ, Bennett JR. (2022). The risk and rewards of community science for threatened species monitoring. **Conservation Science and Practice,** e12788. https://doi.org/10.1111/csp2.12788

Edwards BPM, Binley AD, English WB, Hudgins EJ, Snow SS. (2022). A highly anomalous Red-winged Blackbird (Agelaius phoeniceus) song. **Canadian Field-Naturalist 136(1)**:1-4. https://doi.org/10.22621/cfn.v136i1.2877

Edwards BPM, Watson AP, Earley CG. (2022). The University of Guelph's Arboretum Winter Bird Count, 1980 –2022. **Ontario Birds 40(1)**:43-56.

Edwards BPM, Bouman M. (2022). A possible Canvasback X Ruddy Duck hybrid. **Ontario Birds 40(1)**:23-27.

Edwards BPM, Smith AC. (2021). bbsBayes: An R Package for Hierarchical Bayesian Modelling of Breeding Bird Survey Data. **Journal of Open Research Software 9**:17 pp. https://doi.org/10.5334/jors.329

Smith AC, Edwards BPM. (2021). North American Breeding Bird Survey status and trend estimates to inform a wide range of conservation needs, using a flexible Bayesian hierarchical generalized additive model. **Ornithological Applications 123(1):**16 pp. https://doi.org/10.1093/ornithapp/duaa065

Cooke SJ, Soroye P, Brooks JL, Clarke J, Jeanson AL, Berberi A, Piczak ML, Reid CH, Desforges JE, Guay JD, Drake AK, Jardine AM, Ethier JP, Keefe HE, Medd AM, Edwards BPM, et al. (2021) Ten considerations for conservation policy makers for the post-COVID-19 transition. **Environmental Reviews 29(2):**111-118**.** https://doi.org/10.1139/er-2021-0014

Gillis D, Edwards BPM. (2019). The utility of joinpoint regression for estimating population parameters given changes in population structure. **Heliyon 5(11):**e02515. https://doi.org/10.1016/j.heliyon.2019.e02515

Rose D, Edwards BPM, Kett R, Yodzis M, Angevaare J, Gillis D. (2017). Exploring anthropogenic activities and management decisions using a novel environmental agent based model. **2017 IEEE Canada International Humanitarian Conference**, pp. 85-89. https://doi.org/10.1109/IHTC.2017.8058206

(Under Review)
Roberts CP, Twidwell D, Allen CR, Allred B, Angeler DG, Cady S, Donovan VM, Edwards BPM, Morford S, Naugle D, Scholtz R, Tack J, Uden DR. *What happens when biomes contract, expand, or collapse?* Submitted to **Nature Communications.** [Under 1st Review]

Smith AC, Binley A, Daly L, Edwards BPM, Ethier D, Frei B, Iles D, Meehan TD, Michel NL, Smith PA. *Spatially explicit Bayesian hierarchical models for avian population status and trends.* Submitted to **Ornithological Applications.** [Under 1st Review, S-23-00070] Preprint: https://doi.org/10.32942/X2088D

Hanson JO, Schuster R, Strimas-Mackey M, Morrell N, Edwards BPM, Arcese P, Bennett J, Possingham H. *prioritizr R package for systematic conservation prioritization.* Submitted to **Conservation Biology**. [Under 1st Review, 23-253]

Bennett JR, Edwards BPM, Bergman JN, Binley AD, Buxton RT, Hanna DEL, Hanson JO, Hudgins EJ, Karimi S, Raymond CV, Robichaud CD, Rytwinski T. *How ignorning detection probability hurts biodiversity conservation.* Submitted to **Frontiers in Ecology and the Environment**. [Under 1st Review, FEE23-0086]

Edwards BPM, Binley AD. *Evidence for a possible range expansion of White-fronted Bee-eater into Western and Eastern Cape, South Africa.* Submitted to **Afrotropical Bird Biology**. [Under 1st Review, 1373]

Edwards BPM Jacobs S, Gillis D. *A full description of a calibrated environmental agent-based model for use with Piping Plovers Charadrius melodus.* Submitted to **Ibis**. [2nd Major Revisions, IBIS-2018-OP-136]

*Presenter

Invited Symposia

Edwards BPM*, Smith AC, Bennett J. (2023). Why does detectability matter? From density estimation to conservation decisions. **American Ornithology 2023** (Symposium: Importance of detection probability and recent advances in estimation), London, Canada. [Accepted; Upcoming August 2023]

Edwards BPM*, Smith AC, et al. (2023). NA-POPS: Point count offsets for estimating population sizes of North American landbirds. **American Ornithology 2023** (Symposium: Analysis challenges for modern atlases), London, Canada. [Accepted; Upcoming August 2023]

Edwards BPM*, Smith AC. (2022). NA-POPS: 2 Years In. **Partners in Flight Science Symposium**. Virtual.

Edwards BPM*, Smith AC. (2021). An Introduction to NA-POPS: Point Count Offsets for Population Sizes of North American Landbirds. **Partners in Flight Science Symposium**. Virtual.

Smith AC*, Edwards BPM*. (2020). A strategy for integrating observational monitoring data and predictive modeling of population change. **The Road to Recovery: Identifying Causes of Bird Declines, Part 2**. Virtual.

Edwards BPM*, Smith AC. (2020). Open, accessible, and customizable analysis of North American Breeding Bird Survey data using the R package *bbsBayes*. **7th North American Ornithological Conference** (Symposium: Back to the future of the Breeding Bird Survey), Virtual.

Edwards BPM*, Smith AC, Hudson M-AR, Francis CM, Pardieck KL, Ziolkowski Jr DJ. (2019). bbsBayes: An R Package for Hierarchical Bayesian Modelling of Breeding Bird Survey Data. **Society of Canadian Ornithologists Annual Meeting** (Symposium: R for Ornithologists: Perspectives from UseRs to programmeRs), Quebec City, QC.

Oral Presentations

Edwards BPM*, Knight EC, Docherty TDS, Bennett JR, Smith AC, Hedley RW, Bayne E. (2023). Estimating landbird detectability from autonomous recording unit data. **EURING Analytical Meeting and Workshop**, Montpellier, France. [Accepted; Upcoming April 2023]

Edwards BPM*, Smith AC, et al. (2022). NA-POPS: A collaborative effort to synthesize detection probabilities for North American landbirds. **Ecological Society of America/Canadian Society for Ecology and Evolution 2022 Joint Conference**, Montreal, Canada.

Edwards BPM*, Solymos P, Stralberg D, Michel N, Robinson B, Gahbauer M, Grinde A, Hope D, Bennett J, Smith AC. (2022). A Bayesian hierarchical implementation of the QPAD framework for estimating detectability of landbirds. **International Statistical Ecology Conference 2022**, Cape Town, South Africa.

Edwards BPM*, Smith AC, et al. (2021). Point count offsets for population sizes of North American landbirds. **American Ornithology 2021**, Virtual.

Edwards BPM*, Jacobs S, Gillis D. (2019). Risk Assessment of Great Lakes piping plovers using eABM: An R package to run Environment Agent-based Models. **American Ornithology 2019**, Anchorage, AK.

Edwards BPM*, Jacobs S, Gillis D. (2018). Assessing the effects of beach raking on piping plover reproductive success using an environmental agent-based model. **42nd Annual Waterbird Society Meeting**, Vancouver, BC.

Edwards BPM*, Jacobs S, Gillis D. (2018). Digital Plovers: Informing management decisions of endangered Piping Plovers using an environmental agent-based model. **National Integrative Research Conference 2018**, Montreal, QC.

Rose D*, Edwards BPM*, Kett R, Yodzis M, Angevaare J, Gillis D. (2017). Exploring Anthropogenic Activities and Management Decisions Using a Novel Environmental Agent Based Model. **IEEE International Humanitarian Technology Conference**, Toronto, ON.

(Co-author Only)
Roberts CP*, Allen CR, Allred B, Angeler DG, Donovan VM, Edwards BPM, Naugle D, Scholtz R, Tack J, Twidwell D, Uden DR. (2022). What happens when biomes collapse, move, or contract? **The Wildlife Society 2022 Meeting**. Spokane, WA.

Cosby AE*, Andriatsitohaina B, Edwards BPM, Maheritafika MHR, Razafitsalama M, Steffens TS. (2022). Temporal Differences in Forest Disturbances in Relation to Community Conservation. **Student Conference on Conservation Science**, New York, NY.

Knight E*, Brigham M, Edwards BP, Harrison A-L, Marra PP, Scarpignato A, Smith AC, Van Wilgenburg S, Bayne EM. (2022). Full Annual Cycle Conservation of a Declining, Nocturnal Bird: A Data Integration Journey. **Ecological Society of America/Canadian Society for Ecology and Evolution 2022 Joint Conference** (Symposium: Minimizing Data Waste: Conservation in the Big Data Era), Montreal, Canada

Edwards BPM, Gillis D*, Jacobs S. (2018). Citizen scientists and Plover Lovers: how nearly a decade's worth of data has played a role in saving the endangered piping plover at Sauble Beach. **People, Place & Public Engagement**, St. John's, NL.

Other Presentations
Edwards BPM*, Smith AC, et al. (2021). Point count offsets for population sizes of North American landbirds. **EURING Analytical Meeting & Workshop**, Virtual. [Poster]

Edwards BPM*, Smith AC. (2018). bbsBayes: An R Package for Hierarchical Bayesian Analysis of North American Breeding Bird Survey Data. **British Ornithologists' Union 2018 Twitter Conference.** [Twitter Conference]

Edwards BPM*, Smith AC. (2018). Improved population trajectories for North American swallows, swifts, and nightjars with a hierarchical Bayesian GAM. **International Ornithological Congress 2018**, Vancouver, BC. [Poster]

Edwards BPM*, Jacobs S, Gillis D. (2017). Modelling breeding success of Piping Plovers using an environmental agent-based model. **British Ornithologists' Union 2017 Twitter Conference**. [Twitter Conference]

Edwards BPM*, Gillis D. (2017). Using environmental agent-based modelling to simulate the breeding success of piping plovers. **CEPS Undergraduate Poster Session 2017**, Guelph, ON. [Poster]

Edwards BPM*, Gillis D. (2017). Modelling habitat loss in Piping Plovers using an environmental agent-based model. **American Ornithology 2017**, Lansing, MI. [Poster]

Edwards B*, Rose D, Requejo F, Rollins E, Kett R, Gillis D. (2016). Improving efficiency of traditional agent-based models to investigate anthropogenic activities on a wild fish population. **CPES Undergraduate Poster Session 2016**, Guelph, ON. [Poster]

TEACHING

Contract Instructor
Carleton University, Ottawa, ON   Jan 2023 – April 2023
- ENSC 2002 – Methods and Analysis in Environmental Science
  - Forty 2nd year environmental science students
  - Teaching Evaluation Score: 4.55/5

Teaching Assistant
Carleton University, Ottawa, ON   Sep 2020 – April 2022
Teaching Assistant, Department of Biology
- BIOL 4604 – Landscape Ecology (Winter 2022)
- BIOL 2600 – Ecology (Fall 2020, Fall 2021)
- BIOL 1104 – Foundations of Biology II (Winter 2021)

University of Guelph, Guelph, ON   Sep 2018 – April 2020
Undergraduate Teaching Assistant, Department of Mathematics & Statistics
- STAT*2040/2050 – Statistics I/II
- STAT*2060 – Statistics for Business Decisions
- STAT*2080/2090 – Introductory Applied Statistics I/II
- STAT*2120 – Probability and Statistics for Engineers
- STAT*2230 – Biostatistics for Integrative Biology

Short Courses

Smith AC, <u>Edwards BPM</u>, LaZerte S. (August 2023). bbsBayes2 - An updated and improved R package for customized analyses of North American Breeding Bird Survey data. **American Ornithology 2023**, London, Canada. [Accepted; Upcoming August 2023]

<u>Edwards BPM</u>, Smith AC. (August 2021). Customized BBS trends, trajectories, graphs, and maps using the bbsBayes R package. **American Ornithology 2021**. [Virtual]

Smith AC, <u>Edwards BPM</u>. (December 2020). Customized BBS trends, trajectories, graphs, and maps using the bbsBayes R-package, an Introduction. **Landbirds Technical Committee Webinar, Environment and Climate Change Canada**. [Virtual]

Workshops

Crystal-Ornelas R, Hudgins E, <u>Edwards B</u>, Pereira Braga PH, Martinez C, Hébert K, Reyes LS. (July 2021). Promoting GitHub Use in EcoEvo. **SORTEE Conference 2021.** [Virtual]

Tutoring

Private Statistics Tutor   Jan 2019 – April 2020
- Provided one-on-one private tutoring sessions for students in the following courses offered by the University of Guelph
    - STAT*2040 – Statistics I (Fall 2019, Winter 2020)
    - PSYC*3290 - Conducting Statistical Analyses in Psychology (Winter 2019)

HONOURS AND AWARDS

Scholarships

Canada Graduate Scholarship (CGS-D) – 105,000 CAD   2022 – 2025
- Awarding Body: Natural Sciences and Engineering Research Council of Canada

Ontario Graduate Scholarship – 15,000 CAD (Declined)   2022/2023
- Awarding Body: Government of Ontario and Carleton University

Departmental Scholarships, PhD – 34,848 CAD   2021 – 2025
- Awarding Body: Carleton University Department of Biology

Domestic Entrance Scholarship, PhD – 3,000 CAD   2021
- Awarding Body: Carleton University
- Entrance GPA of 10.5/12 or higher

Departmental Scholarships, MSc – 7,100 CAD   2020 – 2021
- o Awarding Body: Carleton University Department of Biology

Domestic Entrance Scholarship, MSc – 2,000 CAD   2020
- o Awarding Body: Carleton University
- o Entrance GPA of 10.5/12 or higher

Gordon Ashton Scholarship – 500 CAD   2019
- o Awarding Body: University of Guelph, Department of Mathematics & Statistics
- o 3rd year statistics major with minimum 70% cumulative average

Jay Majithia Scholarship – 1,000 CAD + 1,000 CAD   2017 & 2018
- o Awarding Body: University of Guelph, School of Computer Science
- o Excellent undergraduate research in the School of Computer Science, University of Guelph

M.H. (Mike) Nicols Scholarship Plan – 7,500 CAD   2015 – 2018
- o Awarding Body: Insulators Local 95
- o Demonstrated academic excellence and volunteer experience

University of Guelph Entrance Scholarship – 2,000 CAD   2015
- o Awarding Body: University of Guelph
- o Entrance average of 90% or higher

Research and Travel Grants

Globalink Research Award – 6,000 CAD   2023
- o Awarding Body: Mitacs + UK Research and Innovation
- o Funding for visiting research position at University of St. Andrews

Bader Student Travel Award – 3,000 CAD + 2600 CAD   2022 & 2023
- o Awarding Body: Carleton University, Department of Biology
- o Funding for travel to International Statistical Ecology Conference 2022 in Cape Town, South Africa and EURING Technical Meeting 2023 in Montpellier, France

Michael Smith Foreign Study Supplement– 6,000 CAD   2023
- o Awarding Body: Natural Sciences and Engineering Research Council of Canada
- o Funding for visiting research position at University of St. Andrews

Mitacs Accelerate – 30,000 CAD   2022 – 2023
- o Awarding Body: Mitacs
- o Funding for visiting research position at Boreal Avian Modelling project, University of Alberta

ISEC Travel Grant – 470 CAD   2022
- o Awarding Body: International Statistical Ecology Conference
- o Funding for registration to International Statistical Ecology Conference 2022 in Cape Town, South Africa

Fred Cooke Award – 1,000 CAD   2022
- o Awarding Body: Society of Canadian Ornithologists
- o Funding for visiting research position at Boreal Avian Modelling project, University of Alberta

George R. Carmody Graduate Student Travel Award – 3,100 CAD   2022
- o Awarding Body: Carleton University, Department of Biology
- o Funding for travel to International Statistical Ecology Conference 2022 in Cape Town, South Africa & 2022 Ecological Society of America/Canadian Society of Ecology and Evolution Joint Meeting in Montreal, Canada

AOS Travel Grant – 470 USD   2019
- o Awarding Body: American Ornithological Society
- o Funding for travel to American Ornithology 2019 in Anchorage, AK

Taverner Award – 2,000 CAD   2019
- o Awarding Body: Society of Canadian Ornithologists
- o Funding for field research studying piping plovers at Sauble Beach, ON

Northern Scientific Training Program Research Grant – 2,300 CAD 2019
- o Awarding Body: Northern Scientific Research Program
- o Funding for field research studying bird harvest in Rigolet, NL

BSC/SCO Travel Award – 400 CAD   2018
- o Awarding Body: Bird Studies Canada & Society of Canadian Ornithologists
- o Funding for travel to International Ornithological Congress 2018 in Vancouver, BC

Arthur D. Latornell Undergraduate Travel Grant – 500 CAD   2018
- o Awarding Body: University of Guelph
- o Funding for travel to International Ornithological Congress 2018 in Vancouver, BC

Waterbird Society Student Travel Grant – 250 USD   2018
- o Awarding Body: Waterbird Society
- o Funding for travel to 42nd Annual Meeting of Waterbird Society in Vancouver, BC

University of Guelph Travel Scholarship – 500 CAD　　　　　2018
- o Awarding Body: University of Guelph
- o Funding for travel to American Ornithology 2017 in East Lansing, MI

AOS Travel Award – 300 USD　　　　　2018
- o Awarding Body: University of Guelph
- o Funding for travel to American Ornithology 2017 in East Lansing, MI

Awards

Best Oral Presentation – 300 CAD　　　　　2021
- o Awarding Body: Society of Canadian Ornithologists
- o Student presentation award given at the 2021 American Ornithological Society/Society of Canadian Ornithologists joint meeting

Nancy Klamm Undergraduate Presentation Award – 250 USD　　　　　2020
- o Awarding Body: Wilson Ornithological Society
- o Best undergraduate student oral paper presented at the WOS Annual Meeting (part of 2020 North American Ornithological Conference)

Outstanding Undergraduate Research Award (Honourable Mention)　　　　　2020
- o Awarding Body: Computing Research Association – Education
- o Honourable mention for outstanding undergraduate research in a computer science or mathematics field

Best Undergraduate Presentation – 300 CAD　　　　　2019
- o Awarding Body: Society of Canadian Ornithologists
- o Student presentation award given at the 2019 Society of Canadian Ornithologists Annual Conference

Co-op Student of the Year 2018 (Nominated)　　　　　2019
- o Awarding Body: Co-operative Education and Career Services, University of Guelph
- o Nominated by Dr Adam Smith at Environment and Climate Change Canada for Summer 2018 co-op work term

Co-op Student of the Year 2017 (Nominated)　　　　　2018
- o Awarding Body: Co-operative Education and Career Services, University of Guelph
- o Nominated by Dr Daniel Gillis at School of Computer Science, University of Guelph for Summer/Fall 2017 co-op work terms

AOS Student Membership Award　　　　　2018
- o Awarding Body: American Ornithological Society
- o Awarded 1-year student membership to American Ornithological Society

Best Poster in School of Computer Science – 100 CAD   2017
- o   Awarding Body: CEPS Undergraduate Poster Session
- o   Best research poster in the School of Computer Science at the 2017 College of Engineering and Physical Sciences Undergraduate Poster Session

CONSULTING EXPERIENCE

Environment and Climate Change Canada, Remote   March 2022 – April 2022
R Developer, prism R package

Laura Taler – Grimm Pictures, Ottawa, ON   Jan 2022 – Sept 2022
Natural History Researcher, MONAHAN Art Installation

Environment and Climate Change Canada, Remote   May 2020 – Jan 2021
Contract Biostatistician, NA-POPS Project

Environment and Climate Change Canada, Remote   Feb 2019 – March 2019
R Developer, bbsBayes R package

SERVICE AND VOLUNTEER

Editor
Ontario Birds   Jan 2022 – Present
- •   Publication of the Ontario Field Ornithologists

Peer-reviewer
Ecological Applications, Scientific Reports, Conservation Science and Practice (x 2), Methods in Ecology and Evolution, Landscape Ecology, Avian Conservation and Ecology, Biologia Futura, Global Ecology and Conservation

Conferences and Symposia
2023 American Ornithological Society/Society of Canadian Ornithologists Joint Meeting
- •   Symposium Co-organizer & Moderator: "Importance of detection probability and recent advances in estimation"

2022 Ecological Society of America/Canadian Society of Ecology and Evolution Joint Meeting
- •   Symposium Co-organizer & Moderator: "Minimizing Data Waste: Conservation in the Big Data Era"

2021 American Ornithological Society/Society of Canadian Ornithologists Joint Meeting
- •   Session Chair: "Methods and Models II"

2019 American Ornithological Society Meeting
- Session Chair: "Abundance, Occupancy, and Trends"

2018 Waterbirds Society Meeting
- Session Chair: "Breeding Ecology II"

Working Groups
Boreal Avian Modelling Project
- Detectability Working Group (co-chair)   2022 – Present

Partners in Flight
- Population Estimates Working Group   2020 – Present

Committees
Ontario Field Ornithologists
- Equity, Diversity, and Inclusion Committee   2022 – Present

University of Guelph Co-operative Education & Career Services
- Student Advisory Committee   2017 – 2019

Volunteer
Ontario Breeding Bird Atlas III
- Regional Coordinator – Region 3   June 2021 – Present
- Principal Atlasser – Region 3 & 24   Jan 2021 – Present

SOFTWARE

Lead Developer
bbsBayes
- Programming Language: R 4.0.5
- R package for Hierarchical Bayesian Analysis of North American Breeding Bird Survey (BBS) Data
- View at: https://cran.r-project.org/web/packages/bbsBayes/index.html

napops
- Programming Language: R 4.0.5
- R package for accessing detection probabilities for North American landbirds
- View at: https://github.com/na-pops/napops

melodus
- Programming Language: Python 3.6
- Simulate breeding cycle of Piping Plovers, including nesting, growth, and foraging
- View at: https://github.com/BrandonEdwards/melodus/tree/v1.0.0

Co-Developer
bbsBayes2
- Programming Language: R 4.1.1
- R package for Hierarchical Bayesian Analysis of North American Breeding Bird Survey (BBS) Data using Stan
- View at: https://github.com/bbsBayes/bbsBayes2

prioritizr
- Programming Language: R 4.1.1
- Systematic conservation prioritization in R
- View at: https://github.com/prioritizr/prioritizr

FishEBM.jl
- Programming Language: Julia 0.7
- A new approach to an agent agent based model used for simulating the life cycle of managed fisheries
- View at: https://github.com/devrows/FishEBM.jl

PROFESSIONAL AFFILIATIONS

British Ornithologists' Union
- Student Member   2022 – Present

Statistical Society of Canada (SSC)
- Accredited Statistician: A.Stat   2021 – Present
- Student Member   2019 – Present

Society of Canadian Ornithologists (SCO)
- Student Member   2017 – Present

American Ornithological Society (AOS)
- Student Member   2018 – Present

Ontario Field Ornithologists (OFO)
- Regular Member   2018 – Present

University of Guelph Wildlife Club
- President (elected)   2018 – 2020
- Treasurer (elected)   2017 – 2018
- Club Member of the Year   2016 – 2017
- Communications Executive (elected)   2016 – 2017
- Regular Member   2015 – 2016