

Ryan Blackburn

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Education

Northern Arizona University at Flagstaff, AZ 86001

Ph.D. School of Forestry (in progress)

Concentration: Ecosystem Science

Certificate: certificate in applied statistics (in progress)

Expected Graduation: May 2022

GPA: 4.0

Northern Illinois University at Dekalb, IL, 60115

M.S. Department of Biological Sciences

Thesis: "Diet and vegetation impacts of reintroduced bison in a restored tallgrass prairie"

Certificate: Graduate Teaching Certificate | Remote Pilot Airman Certificate | Firefighter Type 2

Graduated: May 2018

GPA: 4.0

Northern Illinois University at Dekalb, IL, 60115

B.S. Environmental Studies

Emphasis: Biodiversity and Environmental Restoration

Certificate: Geographical Information Systems

Graduated: May 2015

GPA: 3.7

Waubonsee Community College at Sugar Grove, IL, 60554

Associates in General Science

Graduated: May 2012

GPA: 3.2

Grants and Awards

2020 C.R. Krimminger Scholarship for Forestry \$3225

2020 ARCS Fellowship \$8500

2019 Ernie Kermie Forestry Scholarship \$1375

2018 NAU Graduate School Travel Award \$400

2017 102nd Ecological Society of America Conference. Ecological Restoration Poster Contest—2nd place

2017 NIU George Terwilliger Award \$2000

2016 NIU Graduate Grant \$500

2016 Friends of Nachusa Scientific Research Grant \$1500

2015 NIU Undergraduate Research Apprenticeship Program \$500

Publications

Blackburn, R. C., Barber, N. A., & Jones, Farrel, A.K., Buscaglia, R., Jones, H. P. (2020). Innovative monitoring of tallgrass prairie restorations using an unmanned aerial vehicle. *Restoration ecology*. In review.

Blackburn, R. C., Barber, N. A., & Jones, H. P. (2020). Plant community shifts in response to fire and bison in a restored tallgrass prairie. *Natural Areas Journal*. Accepted.

Blackburn, R. C., Barber, N. A., & Jones, H. P. (2020). Reintroduced bison diet changes throughout the season in restored prairie. *Restoration Ecology*. Accepted.

Jones, H.P., Jones, P.C., Barbier, E.B., **Blackburn, R.C.**, Benayas, J.M.R., Holl, K.D., McCrackin, M., Meli, P., Montoya, D. and Moreno Mateos, D. (2019). We agree with Larkin et al. 2019: restoration is context specific. *Proceedings. Biological sciences*, 286(1907), 20191179.

Barber, N. A., Farrell, A. K., **Blackburn, R. C.**, Bauer, J. T., Groves, A. M., Brudvig, L. A., & Jones, H. P. (2019). Grassland restoration characteristics influence phylogenetic and taxonomic structure of plant communities and suggest assembly mechanisms. *Journal of Ecology*, 107(5), 2105-2120.

Jones, H.P., Jones, P.C., Barbier, E.B., **Blackburn, R.C.**, Rey Benayas, J.M., Holl, K.D., McCrackin, M., Meli, P., Montoya, D. and Mateos, D.M (2018). Restoration and repair of Earth's damaged ecosystems. *Proceedings of the Royal Society B: Biological Sciences*, 285(1873), 20172577.

Research Experience

Graduate Research Assistant. Northern Arizona University, Flagstaff, AZ 86001

Funding: USDA McIntire-Stennis

July 2018 – Present

Responsible for developing methods for assessing forest structure through data collection in the field and remote sensing/ GIS analyses in the office.

Research Assistant. Northern Illinois University, Dekalb, IL, 60115

Funding: NSF EAGER

January 2017 – January 2018

Responsible for collection and preparation of plant material for stable isotope analysis, organizing and completing field research including plant surveys and unmanned aerial vehicle image acquisition and processing, hiring and managing undergraduate assistants, analyzing and presenting results, assisting in other projects including invertebrate collection and small mammal trapping

Restoration Technician. Nachusa Grasslands, The Nature Conservancy, Franklin Grove IL, 61031

May 2014 – August 2014/ May 2015 – August 2015

Responsible for identifying and removing invasive plants, collecting native seed for seed mixes, maintaining equipment and vehicles, and keeping a clean work environment

Restoration Intern. Advisor: Dr. Holly Jones Northern Illinois University, Dekalb, IL, 60115

May 2013 – May 2015

Responsible for interpreting data from scientific articles regarding restoration in different ecosystems and inputting the data into a database, analyzing data, assisting in small mammal capturing at Nachusa Grasslands and writing a grant to fund my participation

Teaching Experience

Guest lecture. Northern Arizona University, Flagstaff, AZ, 86001

April 2020

School of Forestry- Environmental Conservation

Responsible for designing curriculum and implanting for undergraduate class about energy waste and renewable energy infrastructure. Class was transitioned online and taught synchronously during the COVID-19 lockdown.

Adjunct Instructor. Kishwaukee Community College, Malta, IL 60150

January 2018– May 2018

Biology- Human Biology

Responsible for teaching and constructing the course including syllabus, lectures, assignments, and group activities.

Teaching Assistant. Northern Illinois University, Dekalb, IL, 60115

January 2018– May 2018

Environmental Studies- Food Systems

Responsible for preparing and presenting for each lab meeting, grading class material, holding office hours, managing class on Blackboard, and assisting students with any issues that arise

Teaching Assistant. Northern Illinois University, Dekalb, IL, 60115

January 2016 – December 2016

Biological Sciences- Fundamentals of Organismal Biology Lab

Responsible for preparing and presenting for each lab meeting, grading class material, holding office hours, managing class on Blackboard, and assisting students with any issues that arise

Teaching Assistant. Northern Illinois University, Dekalb, IL, 60115

August 2015 – December 2015

Environmental Studies- Biological Systems

Responsible for grading all class materials, holding office hours, and assisting students with any issues that arise in the course. Taught a case study lecture where I gave an overview on a topic, and led students in a debate

Presentations

Use of Individual Tree Detection when Quantifying Forest Structure, Ryan Blackburn, Andrew Sánchez Meador, October 1st 2019, Arizona Geographic Information Council Symposium, Prescott AZ

Quantifying Restored Forest Structure Using Lidar-Based Individual Tree Detection, Ryan Blackburn Andrew Sánchez Meador, Jonathon Donager, Temuulen Sankey, David Huffman, August 15th 2019, Ecological Society of America 2019 Annual Meeting, Louisville KY

Validation of Individual-tree Detection Algorithms for Lidar in Southwestern Ponderosa Pine Forests, Ryan Blackburn, Andrew Sánchez Meador, Jonathon Donager, Temuulen Sankey, David Huffman, October 4th 2018, Society of American Foresters 2018 Annual Meeting, Portland OR

Vegetation impacts of a reintroduced bison in a restored tallgrass prairie and the ability of UAV imagery to assess them, Ryan Blackburn and Dr. Holly Jones, August 9th 2017, Ecological Society of America 2017 Annual Meeting, Portland OR

Diet and vegetation impacts of reintroduced bison in a restored tallgrass prairie, Ryan Blackburn, October 22nd 2016, Friends of Nachusa Scientific Research Symposium, Franklin Grove IL

River Recovery Following Major Disturbances, Ryan Blackburn and Dr. Holly Jones, April 21st 2015, Undergraduate Research & Artistry Day, Northern Illinois University, Dekalb IL

River Recovery Following Major Disturbances, Ryan Blackburn and Dr. Holly Jones, April 18th 2015, Phi Sigma Research Symposium, Northern Illinois University, Dekalb IL

River Recovery Following Major Disturbances, Ryan Blackburn and Dr. Holly Jones, March 28th 2015, Midwest Ecology and Evolution Conference, Indiana University, Bloomington IN

Relevant Skills and Coursework

Skills: Strong knowledge of plant identification, GIS software and analysis, habitat quality assessment, drone operations and procedures, leading and executing both field and laboratory research, proficient in computer programs such as Arc GIS, Q GIS, R, Pix4D, ERDAS Imagine, Adobe Photoshop, Adobe Illustrator, and Microsoft Office

Plant Systematics, Geography of World Plant Communities, and Biology of Land Plants

- Plant identification and taxonomy
- General knowledge of global plant distributions
- Herbarium management
- Plant anatomy
- Use of dissecting microscopes

Introduction to Remote Sensing, Remote Sensing of the Environment

- Processes of both passive and active remote sensing
- Error correction methods for raw images
- Image processing and analysis in ERDAS Imagine

Biostatistical Analyses

- Analytical and logical problem solving
- Compression and organization of data
- Principle and procedures for the analysis of biological data with R and SPSS

Conservation Genetics

- Examination of the genetic characteristics of organisms and their environments

- Application of genetic principles to conservation biology
- Topics included genetics of small populations, genetic monitoring, and genetic restoration

Soil Geography and Land Use and Geographic Information Systems

- Soil types and identification
- Cartography
- Interpretation of soil surveys
- Arc GIS

Biology of Birds and Mammals

- Evolution, taxonomy, physiology, behavior, ecology, and distribution of birds and mammals
- Laboratory work and field trips emphasize identification of Illinois forms

Environmental Science: Biological Systems and Conservation Biology

- Team-based projects including presentation and group papers
- Field Trips to local preserves and restoration sites
- Mechanical removal of invasive buckthorn done with ENCAP Inc. as volunteer project

Environmental Science: Physical Systems

- Comprehension of Earth's environment throughout geological time
- Human impacts and current environmental issues

Extracurricular and Outreach

Leadership Roles:

2019-present Seminar Coordinator of Forestry Graduate Student Association

2018-2019 Vice President of Forestry Graduate Student Association

2015-2017 Organizer of the campus wide Give and Go! Goodwill recycle drive

2014-2015 President of Golden Key Honors Society

2014-2015 President of the Illinois Lakes Management Association Student Subunit

2013-2014 Secretary for Illinois Lakes Management Association Student Subunit

Outreach:

2017 Community Foundation of Northern Illinois interview

2017 Batavia Montessori school presentation to K-8 students

2014 -2017 Autumn on the Prairie volunteer for Nachusa Grasslands

2013 Habitat for Humanity Volunteer

References

On request