Cade Capper

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Summary

I am an ecological professional who specializes in pollinators, wetlands and streams, and wildlife surveys. I have experience in both academic research and private consulting fields. My skills include biological and ecological surveying (including threatened and endangered species surveys), wetland delineations and assessments, technical report writing, and identification of plants, invertebrates, mammals, and birds. I earned my B.S. in Forestry, Fisheries, and Wildlife from The Ohio State University, where I completed an undergraduate research project on monarch butterfly habitat conservation in urban areas.

Education

Bachelor of Science in Environment and Natural Resources, May 2023
The Ohio State University

Research Experience

Independent Research Project: Effects of Green Infrastructure on Urban Pollinator Populations (2020 – 2023)

- Designed research study to investigate whether bioretention cells (BRCs) can provide suitable habitat for monarch caterpillars in urban settings
- Collected data on monarch oviposition in bioretention cells and control sites by conducting weekly visual counts of monarch eggs present on milkweed in BRCs
- Analyzed data using R statistical software to perform Kruskal-Wallis tests and Wilcoxon tests
- Reported results to City of Columbus for use in future bioretention cell installation planning

OSU Department of Food, Agricultural, and Biological Engineering (FABE): Effects of Green Infrastructure on Urban Water Quality and Wildlife (2019 – 2023)

- Perform point counts and analysis of audio recordings of avian activity using Raven Pro audio analysis software
- Sample and take measurements of water quality in the field using ISCO automatic samplers and YSI water quality measuring equipment
- Run storm simulations in the lab and in the field
- Accurately manage data on avian, insect, and vegetation surveys
- Worked as a team to conceptualize and draft a research proposal for investigating the effect of organic matter type and volume on vegetation

Publications and Reports

Bernard, K., Brozovich, C., Patrick, A., **Capper, C.**, Dorsey, J., & Winston, R. (2024). Influence of bioretention media compost content and composition on water quality function: Replicated laboratory column studies inform Bioretention Soil guidance. *Social Science Research Network*. https://doi.org/10.2139/ssrn.4836805

Tirpak, R. A., Brooks, J., Roe, B., Lai, W., **Capper, C.**, Musci, J. I., Patrick, A. N., Winston, R. J., Martin, J. F. (2022). Holistic Effects of Green Infrastructure Implementation in the Clintonville Neighborhood of Columbus Ohio: 2021 Interim Report. Written for the City of Columbus, Ohio.

Work Experience

Environmental Design and Research, Field Ecologist (May 2025 – Present)

- Conduct wetland and stream delineations on sites up to 5,000 acres according to Section 404 of the Clean Water Act
- Complete wetland and stream assessment and monitoring data forms (ORAM, QHEI) to be submitted to the U.S. Army Corps of Engineers
- Write delineation reports to be delivered to clients

Iowa State University, Avian Field Technician (March 2024 – October 2024)

- Conducted bird point counts and butterfly transect surveys to collect data on species presence and abundance
- Conducted visual encounter surveys of herpetofauna, odonates, and mammals

- Surveyed physical terrestrial habitat and vegetation, identifying trees and herbaceous plants

EnviroScience, Inc, Aquatic Biology Field Technician (March 2023 – December 2023)

- Contribute to National Rivers and Streams Assessment project
  - Collect water samples, macroinvertebrates, and physical habitat data from streams
  - Utilize geographic information systems to lay out stream project sites
  - Take initiative to fill other duties as needed
- Assist with wetland delineations and ecological surveys
- Perform ecotoxicity tests in lab utilizing EPA-designated fish and invertebrate species
- Assist with various other projects as needed

MAD Scientist Associates, Intern (May 2022 – October 2022)

- Perform wetland delineations, monitoring, and assessments (ORAM, VIBI, FQAI)
- Conduct threatened and endangered species surveys, including bats and rattlesnakes
- Contribute to project technical reports to provide the highest quality work for our clients

Ohio Department of Natural Resources, Natural Resources Technician I (2021 – 2022)

- Responsible for entry and management of large amounts of data on ginseng harvesting using Microsoft Access
- Work to ensure accuracy and improve efficiency of data entry process

Teaching Experience

Teaching Assistant for ENR 1100 – First-year Survey Course for School of Environment and Natural Resources

- Assist students with their transition into college, including helping them choose a major, schedule coursework, and develop good study habits and networking skills
- Proctor and grade exams using Canvas Learning Management System
- Connect students to resources available for academic advising, on-campus employment, and mental health counseling

Relevant Skills

- Experience working in field settings in all weather conditions
- Experience working in a laboratory setting
- Field research and surveying techniques
- Identification of plants, invertebrates, mammals, and birds
- Technical report writing
- Wetland delineation, assessment, and monitoring
- Proficient in ArcGIS Pro and QGIS
- Experience with Python and R programming languages
- Experience with information technologies, computer networking, and server hosting
- Biliterate in Spanish

Presentations

Bioretention Cells as Reproductive Habitat for Monarch Butterflies in Urban Areas, American Ecological Engineering Society, June 2023

Grants

Student Sustainability Grant, The Ohio State University Sustainability Institute, 2022 and 2023

Volunteering Experience

- Ohio State University Museum of Biological Diversity
  - Assisted with management of insect collection
- Society for Ecological Restoration
  - Participated in invasive species removal projects

- Franklin County Metro Parks
  - Participated in litter cleanup events