

COURTNEY ROSS

EMAIL: ROSSCOUR@MSU.EDU

EDUCATION

MS, GEOGRAPHY

August 2024 - Present

Michigan State University, Department of Geography, Environment
& Spatial Sciences. East Lansing, Michigan

BS, BIOLOGY

August 2016

University of Wisconsin – Stevens Point, Department of Biology.
Stevens Point, Wisconsin

Minor: Resource Management

RESEARCH & PROFESSIONAL EXPERIENCE

Research Assistant – GIS Specialist

May 2021 – Present

Michigan Natural Features Inventory, Michigan State University Extension – Lansing, Michigan

- Construct and implement data solutions using geospatial technologies for numerous biodiversity conservation-based research projects across ecology, botany, and zoology disciplines.
- Steward the Michigan Natural Heritage Database, data products shared via ArcGIS Online organizational environment, and data collected via community science programs and initiatives (e.g., Michigan Vernal Pool Patrol, MNFI Rare Species Form, Osprey Adopt-a-Nest Program).
- Develop training materials and provide technical assistance for heritage methodology, Biotics 5, Esri software and applications.
- Conduct field research on a variety of projects pertaining to endangered, threatened or state special concern species particularly insects and herptiles.

Conservation Science Technician

2019 – April 2021

Michigan Natural Features Inventory, Huron Pines AmeriCorps Program – Lansing, Michigan

- Integrated rare species data into Michigan's Natural Heritage Database following NatureServe Methodology standards on the Biotics5 platform.
- Lead the advancement of MNFI's data collection process via technical trainings and templates for survey and field map design.
- Conducted field research on a variety of projects pertaining to endangered, threatened or state special concern species particularly insects, raptors, and herptiles.

Biological Science Technician

March – October 2018

United States Forest Service, Klamath Ranger District – Klamath Falls, Oregon

- Served on a team of 6 technicians to complete field survey protocols for raptors, invertebrates, and herptiles in the forest.
- Entered sensitive species data into the USFS regional database using ArcMap.
- Conducted habitat suitability analysis for terrestrial mollusk species to support search effort for undocumented species in the forest.

Contractor – Bald Eagle Nestwatcher
Arizona Fish and Game Department – Phoenix, Arizona

February - May 2017

- Collected field observations of bald eagle breeding behavior including nest activity, foraging habits, feeding, interactions with other birds, etc. and human impact data. Data were collected for 10 days straight, dawn to dusk, base-camping in a remote location.
- Connected with the public via motorboat to protect closure boundaries and educate on area, habitat, and breeding pair.
- Summarized season's findings at nest location to be incorporated into final season report.

RESEARCH REPORTS

Cole-Wick, A. A., C. Ross, P. Schilke, E. Branch. 2023. Mitchell's Satyr Butterfly Conservation in Michigan: Great Lakes Restoration Initiative Final Report. Michigan Natural Features Inventory.

Cohen, J.G., Cole-Wick, A.A., T.J. Bassett, H.D. Enander, C.M. Wilton, and C.N. Ross. 2023. Prioritizing Invasive Species Treatment at Fort Custer Training Center Using GIS-based Multicriteria Decision Analysis. Michigan Natural Features Inventory. Report Number [2023-04](#).

Cole-Wick, A.A., D.J. Earl, C.N. Ross, P.J. Badra. 2023. Land Snail Surveys Informed by Habitat Suitability Models at Fort Custer Training Center. Michigan Natural Features Inventory. Report Number [2023-10](#).

Lincoln, J.M., P.J. Badra, Y.M. Lee, A.P. Kortenhoven, A.A. Cole-Wick, L.M. Rowe, C. Ross, R. Rogers, and J. G. Cohen. 2022. Natural Features Inventory and Management Recommendations for Portland State Game Area. Michigan Natural Features Inventory.

Lincoln, J.M., P.J. Badra, Y.M. Lee, A.P. Kortenhoven, A. Cole-Wick, L. Rowe, C. Ross, R. Rogers, and J.G. Cohen. 2022. Natural Features Inventory and Management Recommendations for Saranac-Lowell State Game Area. Michigan Natural Features Inventory. Report Number [2022-13](#).

Bassett, T.J., A.A. Cole-Wick, P. Badra, D.L. Cuthrell, H.D. Enander, P.J. Higman, Y. Lee, C. Ross, and L.M. Rowe. 2022. Natural Features Inventory of Fort Custer Training Center. Michigan Natural Features Inventory. Report Number [2022-09](#).

Cuthrell, D.L., L.M. Rowe, and C. Ross. Camp Grayling Rare Insect Surveys and Pollinator Plots. 2021. Michigan Natural Features Inventory. Report Number [2021-32](#).

Cole-Wick, A., L. Rowe, P. Badra, T. Bassett, Y. Lee, C. Ross, J. Paskus, and M. Monfils. 2020. Baseline Natural Features Inventory of Saginaw Chippewa Indian Tribe Lands. Michigan Natural Features Inventory. Report Number [2020-13](#).

TECHNICAL TRAININGS

'How to Navigate the Michigan Vernal Pool Database Map Viewer', Michigan Vernal Pool Training Series, March 2024-2021.

'How to Download and Use Survey123, Vernal Pool Field Survey', Michigan Vernal Pool Training Series, March 2024-2021.

'Vernal Pool Mapping 101', Michigan Vernal Pool Patrol Program Coordinators Meeting, November 2023.

'How to Create Maps in ArcGIS Pro and view in Field Maps', MNFI Brown Bag Series, February 2022.

'How to Create Field Forms using Survey123', MNFI Brown Bag Series, January 2022.

'How to Download and Use Survey123, MNFI Mitchell's Satyr Form', Mitchell's Satyr Working Group, March 2022.

PRESENTATIONS

'Michigan Vernal Pool Patrol 2024 Update & Findings', Michigan Vernal Pools Partnership Annual Meeting, Pierce Cedar Creek Institute, Upcoming April 2025.

'Which Natural Features is Best?', Fall Extension Conference, Michigan State University Extension, October 2024.

'Applying Geographic Information Systems to Extension Efforts', MSU Extension Fall Conference, October 2021.

'Conserving Michigan's Biodiversity Together', Three webinar presentations to introduce Michigan Natural Heritage Database and how to contribute as an individual or organization, February-March 2020.

'Michigan Vernal Pool Patrol Update & Findings', Michigan Vernal Pools Partnership Annual Meeting, Virtual, annually 2020-2024.

CERTIFICATIONS

Professional GIS Certificate	2021
OnGEO Program, Department of Geography, Environment & Spatial Sciences Michigan State University, East Lansing, Michigan	

LICENSES

CPR & First Aid, American Safety & Health Institute	2025
Unmanned Aircraft Systems (UAS) Drone Pilot License	Obtained 2021, current

PROFESSIONAL AFFILIATIONS

Michigan Vernal Pools Partnership, MVPP	2020 – Present
Sub-committee member – Education & Outreach	
• Attend quarterly sub-committee meetings and help meet objectives of strategic plan.	

- Present at MVPP annual meeting.
- Deliver educational programming to community scientists virtually and in-person for the Michigan Vernal Pool Patrol Program.
- Manage the Michigan Vernal Pool Database, Survey123 field app and Hub site application for the Michigan Vernal Pool Patrol Program.
- Assist in the development and creation of Michigan Vernal Pool Partnership outreach materials.

SOFTWARE & APPLICATIONS

Esri: ArcGIS Pro, ArcGIS Online, Survey123, Hub, StoryMaps, Web App Builder, Field Maps, Experience Builder, Dashboard.

Biotics 5: Natural Heritage methodology, SQL (Query Builder), Bulk Create.

Microsoft 365: Excel, Outlook, SharePoint, OneDrive, Word, Teams.

Adobe: Illustrator, Photoshop.

EXAMPLES OF ESRI APPLICATION WORK

ArcGIS Survey123: [Report an Observation - Michigan Natural Features Inventory \(msu.edu\)](#)

ArcGIS StoryMaps: [Integrated Inventory \(arcgis.com\)](#)

ArcGIS Experience Builder: [MI Prescribed Fire Needs App v.1.1 \(arcgis.com\)](#)

ArcGIS Hub: [Vernal Pool Patrol \(arcgis.com\)](#)