

Auriel M.V. Fournier

Postdoctoral Research Associate - Mississippi State University, Biloxi, MS
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aurielfournier.github.io - [Twitter @RallidaeRule](#)

Professional Appointments & Education

Postdoctoral Researcher - Mississippi State University - April 2017-Present
Dr. Mark Woodrey and Dr. Jim Lyons, Supervisors

Structured Decision Making To Facilitate Coordinated Avian Monitoring in the Gulf of Mexico
Building Decision Support Tools
Coordination of [The Gulf of Mexico Avian Monitoring Network](#)

Ph.D. in Biological Sciences - Arkansas Cooperative Fish & Wildlife Research Unit
2017 **University of Arkansas** - Dr. David G. Krentz, Adviser

Phenology, Habitat Use, and the Impacts of Wetland Management on Autumn Migrating Rails in Missouri

Bachelor of Science in Wildlife Ecology and Management - Minor *Remote Sensing*
2011 **Michigan Technological University** Houghton, MI - Magna Cum Laude

Professional Leadership

Elected Councilor Wilson Ornithological Society - 2017-2020

Associate Editor The Ibis - 2017-Present

Subject Editor Rethinking Ecology - 2018-Present

Research Committee Co-Chair Black Swamp Bird Observatory - 2016-Present

Peer-Reviewed Publications

11 papers [all first author], 5 peer reviewed reports [2 first author]. 9 in review [6 first author].

2018

Fournier, AMV, Krentz, DG. *Confirmation of diving and swimming behavior in the Sora (Porzana carolina)* **Wilson Journal of Ornithology** 130:778-780 doi: 10.1676/17-046.1

Fournier, AMV, Mengel, DC, Krentz, DG. *Sora (Porzana carolina) autumn migration habitat use.* **Royal Society Open Science**. 5: 171664. doi: 10.1098/rsos.171664

2017

Fournier, AMV, Mengel, DC, Gbur, EE, Krentz, DG. *The timing of autumn Sora (Porzana carolina) migration in Missouri* **Wilson Journal of Ornithology** 129:675-770 doi: 10.1676/16-108.1

Fournier, AMV, Mengel, DC, Krentz, DG. *Virginia and Yellow Rail autumn migration ecology: synthesis using multiple data sets* **Animal Migration** 4:15-22 doi: 10.1515/ami-2017-0003

Fournier, AMV, Drake, KL, Tozer, DC. *Using citizen science monitoring data in species distribution models to inform isotopic assignment of migratory connectivity in wetland birds* **Journal of Avian Biology** 48: 1556-1562 doi:10.1111/jav.01273

Fournier, AMV, Krementz, DG. *Nocturnal distance sampling all-terrain vehicle surveys for non-breeding rails* **The Wildlife Society Bulletin** 41:151-156 doi:10.1002/wsb.745

Fournier, AMV, Sullivan, A, Bump, J, Perkins, M, Shieldcastle, MC, King, S. *Combining citizen science species distribution models and stable isotopes reveals migratory connectivity in the secretive Virginia rail* **Journal of Applied Ecology** 54:618-627 doi:10.1111/1365-2664.12723

Fournier, A.M.V., Mengel, D.C. The timing of autumn rail migration in Missouri *Missouri Department of Conservation Science Note*

2016

Fournier, AMV, Welsh, KJ, Polito, M, Emslie, S, Brasso, R. *Levels of mercury in feathers of Clapper Rails over 45 Years in coastal salt marshes of New Hanover county, North Carolina* **Bulletin of Environmental Contamination & Toxicology** 97:469-473 doi:10.1007/s00128-016-1870-z

Fournier, AMV. Effects of Wetland Management Strategies on Habitat Use of Fall Migrating Rails on Intensively-Managed Wetland Complexes in Missouri : *Final Report USFWS Division of Migratory Birds* pdf

2015

Fournier, AMV, Shieldcastle, MC, Kashmer, T, Mylecraine, KA. *Comparison of arrival dates of spring rail migration in the southwest Lake Erie Marshes, Ohio, USA.* **Waterbirds** 38: 312-314 doi:10.1675/063.038.0313

Fournier, AMV, Bond, AL. *Volunteer field staff are bad for wildlife ecology* **The Wildlife Society Bulletin** 39: 819-821 doi:10.1002/wsb.603

Fournier, A.M.V., K. Willard. King Rail Nesting and Brood Rearing Ecology in Managed Wetlands: *Final Report USFWS Division of Migratory Birds Webless Program* pdf

Butler, C.J., **Fournier, A.M.V.** Using Multiple Stable Isotopes to Investigate Migratory Connectivity in Yellow Rails, Le Conte's Sparrows, Nelson's Sparrows and Sedge Wrens. *Final Report to U.S. FWS*

Butler, C.J., **Fournier, A.M.V.** Using Multiple Stable Isotopes to Investigate Migratory Connectivity in Yellow Rails, Le Conte's Sparrows, and Sedge Wrens. *Final Report to U.S. Forest Service*

2013

Fournier, AMV, Shieldcastle, MC, Fries, AC, and Bump, JK. *A morphometric model to predict the sex of virginia rails* **The Wildlife Society Bulletin** 27: 881-886 doi:10.1002/wsb.323

In Review

Fournier, A.M.V., Lyons, J.E., Wilson, R.R., Gleason, J.S., Adams, E.M., Brush, J.M., Cooper, R.J., DeMaso, S.J., Driscoll, M.J.L., Frederick, P.C., Jodice, P.G.R., Reeves, D.B., Seymour, M.A., Sharuga, S.M., Tirpak, J.M., Vermillion, W.G., Zenzal Jr. T.J., Woodrey, M.S. *The Gulf of Mexico Avian Monitoring Network: Application of structured decision making for coordinated, integrated monitoring*

Fournier, A.M.V., Bond, A.L., Holford, A, Leighton, M. *Unpaid work and access to science professions*

Fournier, AMV, Shave, A, Fischer, J, Siegrist, J, Ray, J, Chesky, T, MacIntosh, M, Fraser, K. *Testing the island habitat-selection hypothesis in a long-distance migratory songbird*

Fournier, AMV, Eulinger, K, McDaniel, T, Calvert, G. *Juvenile King Rail (Rallus elegans) in stomach of American Bullfrog (Lithobates catesbeianus)*

Fournier, AMV, Mengel, DC, Gbur, E, Raedeke, A, Krementz, D.G. *Evaluating tradeoffs in the response of Sora and waterfowl to the timing of early autumn wetland inundationn*

Fournier, AMV, White, ER, Heard, SB. *Site-selection bias can drive apparent population declines in long-term studies*

Wilson, R.R., **Fournier, AMV**, Lyons, JE, Gleason, J, Adams, E, Barnhill, L, Brush, J, Cooper, RJ, DeMaso, S, Driscoll, M, Eaton, M, Frederick, P, Just, M, Seymour, M, Tirpak, J, Woodrey, MS *Structured Decision Making and Optimal Bird Monitoring in the Northern Gulf of Mexico*

Butler, CJ, **Fournier, AMV**, Wilson, JK. *Varying levels of migratory connectivity among four mesic prairie bird species of North America*

Ward, S, **Fournier, AMV**, Bond, AL. *Assessing gaps in reporting non-target mortality in island rodent eradication operations*

Datasets

2018

Fournier AMV, Mengel DC, Kremetz DG Data from: Sora (*Porzana carolina*) autumn migration habitat use. Dryad Digital Repository. doi: 10.5061/dryad.5n7t4

2017

Fournier AMV, Drake KL, Tozer DC Data from: Using citizen science monitoring data in species distribution models to inform isotopic assignment of migratory connectivity in wetland birds. Dryad Digital Repository. doi: 10.5061/dryad.nb115

2016

Fournier AMV, Sullivan AR, Bump JK, Perkins M, Shieldcastle MC, King SL Data from: Combining citizen science species distribution models and stable isotopes reveals migratory connectivity in the secretive Virginia rail. Dryad Digital Repository. doi: 10.5061/dryad.r4847

Software

2018

Fournier AMV, Stevens FR, Boone ME, Bruna E. refnet: Clarivate Web of Knowledge / Web of Science and ISI Reference Data Tools. R package version 0.6. github.com/embruna/refnet

Grants

PI (Submitted) 2018 - NOAA RESTORE SCIENCE \$7.3 million

Co-PI (Submitted) 2018 - NOAA RESTORE SCIENCE \$5.2 million

Co-PI (Submitted) 2018 - Mississippi Department of Wildlife, Fisheries and parks \$21k

Co-PI and Writer 2018 - Mississippi State University CFR/FWRC Undergraduate Research Scholars Program \$3k [supporting an undergraduate mentee]

PI (declined) 2016 - National Science Foundation East Asia Pacific Summer Institute Program

Co-PI and Writer 2015 - Missouri Department of Conservation Research Grant \$62k

Writer 2015 - The Frances M. Peacock Scholarship for Native Bird Habitat \$4k

Writer 2014 - Arkansas Audubon Society Trust** \$1200

Writer 2011 - Summer Undergraduate Research Fellowship \$3k

Writer 2011 - Ecosystem Science Center Undergraduate Research Grant \$750

Writer 2010 - Ecosystem Science Center Undergraduate Research Grant \$750

Writer 2011 - Summer Undergraduate Research Fellowship \$3000

Writer 2009 - Summer Undergraduate Research Fellowship \$3k

Honors

2018 **Elective Member** - American Ornithological Society
2012-16 **Distinguished Doctoral Fellowship** - University of Arkansas
2016 **Distinguished Student Service Award** - The Wildlife Society U of Arkansas Student Chapter
2015 **Associate Wildlife Biologist** The Wildlife Society
2011 **Outstanding Senior in Wildlife Ecology and Management** - Michigan Technological University
2010 **Member of the Year** - The Wildlife Society Michigan Technological University Student Chapter
2009 **Woman of Promise** - School of Forest Resources and Envi. Science - Michigan Technological University

Invited Presentations

2018

Seminar University of Florida
Keynote Oklahoma Ornithological Society Spring Meeting
Seminar Wayne State University
Symposium Talk American Ornithological Society
Seminar Louisiana State University
Seminar Mississippi State University
Seminar University of Southern Mississippi
Seminar University of Delaware
Seminar Gettysburg College
Seminar Tulane University

2017

Seminar University of Montreal
Seminar Grand Bay National Estuarine Research Reserve
Seminar Royal Society for the Protection of Birds, Centre for Conservation Science, UK Headquarters
Symposium Talk International Association of Great Lake Researchers
Seminar Bird Studies Canada
Keynote The Biggest Week in American Birding Festival
Seminar Missouri State University

2016

Keynote Ohio Ornithological Society Annual Conference
Seminar University of Toledo

2014

Seminar Arkansas Tech University

Presentations

2018

Jodice, PGR, Woodrey, MS, **Fournier, AMV**, Movement Ecology of Seabirds: Multi-scale and Multi-taxa Approaches to Addressing Conservation Needs in the Gulf of Mexico *Southeastern Association of Fish and Wildlife Agencies* Mobile, LA

Fournier, AMV, Lyons, JE, Adams, EA, Brush, J, Cooper, RJ, DeMaso, S, Driscoll, M, Frederick, P, Gleason, J, Wilson, RR, Tirpak, J, Woodrey, MS. Guiding coordinated bird monitoring decisions through structured decision making *National Conference on Ecological Restoration* New Orleans, LA

Fournier, AMV, Lyons, J, Cooper, RJ, Woodrey, MS. Prioritization of conservation actions through structured decision making *Ecological Society of America* New Orleans, LA

Fournier, AMV, Woodrey, MS, Wilson, RR, Gleason, J, Lyons, JE, Cooper, RJ, Tirpak, J. Coordinated Bird Monitoring With Decision Science *SESYNC Boundary Spanning Symposium* Annapolis, MD

[presenter] Woodrey, MS, **Fournier, AMV**, Wilson, RR, Gleason, J, Lyons, JE, Cooper, RJ, Tirpak, J. Application of structured decision making in the development of a Gulf of Mexico-wide avian monitoring program *Assoc of Field Ornithologists/Wilson Ornithological Soc* Chattanooga, TN

[presenter] Ward, S, **Fournier, AMV**, Bond, AL. Rodent eradications on islands and their effect on rails (Rallidae) as non-target species *Assoc of Field Ornith/Wilson Ornith Soc* Chattanooga, TN

Fournier, AMV, Lyons, JE, Adams, EM, Brush, J, Cooper, RJ, DeMaso, S, Driscoll, M, Frederick, P, Gleason, J, Wilson, R, Woodrey, MS, Guiding Coordinated Bird Monitoring Decisions Through Structured Decision Making. *American Ornithological Society Meeting* Tucson, AZ

Woodrey, MS, Cooper, RJ, Evans, KO, Iglay, R, Rush, SA, **Fournier, AMV**, Strange, T. Application of monitoring Best Management Practices to marsh restoration priorities to reduce uncertainty of marsh birds response *American Ornithological Society Meeting* Tucson, AZ

Adams, EM, **Fournier, AMV**, Lyons, JE, Woodrey, MS. Using a structured decision making framework to support large-scale inference. *American Ornithological Society Meeting* Tucson, AZ

Ray, JD, Fraser, KC, **Fournier, AMV**, Shave, A. Selection of island habitat by a Texas population of purple martin during the non-breeding season. *54rd Texas Chapter Wildlife Society* Dallas, TX.

2017

Fournier, AMV, Woodrey, MS, Lyons, JE, Cooper, RJ, Evans, KE. Application of Structured Decision Making to Marshbird Monitoring in the Gulf of Mexico *American Ornithological Society/Society of Canadian Ornithologists Meeting, East Lansing, MI*

Heard, S, **Fournier, AMV**, Branch, T, Skelly, D. Why most studied populations should decline. *Canadian Society for Ecology and Evolution*

Fournier, AMV, Mengel, DC, Krementz, DG. Habitat Use and Migratory Timing of Virginia and Yellow Rails. *Wilson Ornithological Society Meeting, Fort Meyers, FL* [pdf link](#)

2016

Fournier, AMV, Drake, KL, Tozer, DC, Krementz, DG. Migratory Connectivity of Sora, Virginia Rail and Yellow Rail. *North American Ornithological Conference, Washington D.C.* [pdf link](#) [recording](#)

Fournier, AMV. Building Collaboration and Community in Science Through Twitter. North American Ornithological Conference, Twitter for Scientists Workshop, Washington D.C.

Fournier, AMV, Mengel, DC, Krementz, DG. Habitat Use by Autumn Migrating Sora in the Mississippi Flyway *Society of Wetland Scientists - TX* [pdf link](#)

2015

Fournier, AMV, Drake, KL. Active Capture of Rails During the Breeding Season and Fall Migration. *Inland Bird Banders Association Meeting - MS* [pdf link](#)

Fournier, AMV, Sullivan, AR, Bump, JK, Perkins M, Shieldcastle, MC, King, SL. Combining Citizen Science Derived Species Distribution Models and Stable Isotope Analysis Reveals Migratory Connectivity in a Secretive Species, the Virginia Rail (*Rallus limicola*). *American Ornithologists Union/Cooper Ornithological Society Meeting - OK* [pdf link](#)

Fournier, AMV, Mengel, DC, Krementz DG. Timing of Autumn Migration in the Mississippi Flyway by Rails. *Association of Field Ornithologists Meeting - NS* [pdf link](#)

2014

Fournier, AMV, Krementz, DG. 2014 The Response of Fall Migrating Sora to Wetland Management. *Arkansas State Chapter of the Wildlife Society Spring Meeting- AR*

2013

Fournier, A.M.V., Krementz, D.G., Mengel, D.C., Raedeke, A.H. Phenology, Habitat Use and Co-Occurrence of Fall Migrating Yellow Rails in Missouri. *Yellow Rail Virtual Symposium* USFWS

Posters

undergraduate mentees

2018

Holiman, H.#, Kitaif, C.#, **Fournier, A.M.V.**, Iglay, R.B., Woodrey, M.S. Can automated recording units be used to count individual marsh birds? *Bays and Bayous Conference, Alabama.*

Kitaif, C.#, Holiman, H.#, **Fournier, A.M.V.**, Iglay, R.B., Woodrey, M.S. Migratory timing of rails in Jackson County, MS *Bays and Bayous Conference, Alabama.*

2017

Fournier, A.M.V., Shieldcastle, M.C., Kashmer, T., Mylecraine, K.A. Comparison of Arrival Dates of Rail Migration in the Southwest Lake Erie Marshes, Ohio, USA *International Association of Great Lakes Researchers Conference - MI* [pdf](#)

2014

Fournier, A.M.V., Krementz, D.G., Mengel, D.C., Raedeke, A.H., Sora Migration and Wetland Management *The Wildlife Society National Conference - PA* [pdf](#)

2013

Fournier, A.M.V., Krementz, D.G., Mengel, D.C., Raedeke, A.H., Ecology of Fall Migrating Sora in Missouri. *The Wildlife Society National Conference - WI* [pdf](#)

2011

Fournier, A.M.V., Sheildcastle, M.C., Fries, A.C., Bump, J.K., 2011 Developing a morphometric model to predict the sex of Virginia Rails. *The Wildlife Society National Conference - HI* [pdf](#)

Fournier, A.M.V., Roth, A.M., Flaspohler, D.J., 2011 Assessing mechanisms for variation in the eyes of Golden-winged Warblers *Ecosystem Science Center Poster Session - MI* [pdf](#)

2010

Fournier, A.M.V., Flaspohler, D.J., 2010 Habitat Classification and Biological Inventory of Pioneer Scout Reservation *Undergraduate Research Expo - MI*

Service

2018-Present Co-Chair **Student/Early Professional Committee** Wilson Ornithological Society

2018-Present Co-Chair **Early Professional Development Committee** American Ornithological Society

2017-Present **Committee Member** Erin Lehnert, MS Student, U of Central Oklahoma

2013-Present **Peer Reviewer** 13 journals

2018 **Presentation Judge** American Ornithological Society Meeting

2018 **Local Organizing Committee** Assoc. of Field Ornith. & Wilson Ornith. Soc. Meeting

2018 **Presentation Judge** Assoc. of Field Ornith. & Wilson Ornith. Soc. Meeting

2017 **Presentation Judge** Wilson Ornithological Society Meeting

2016 **Volunteer & Session Moderator** North American Ornithological Conference

2016-17 Vice Chair **Open Science Section** Ecological Society of America

2015-17 Treasurer/Secretary **Wetlands Working Group** The Wildlife Society

2014-16 Treasurer **Biology Graduate Student Association** University of Arkansas

2015 **Presentation Judge** Assoc. of Field Ornith., Wilson Ornith. Soc., Soc. of Canadian Ornith. Meeting

2015 **Organized/Attended** *Software Carpentry Workshop* University of Arkansas

2014-15 Secretary **Student Chapter - University of Arkansas** The Wildlife Society

2014-15 Treasurer **Student Working Group** The Wildlife Society
 2013-14 Vice President **Biology Graduate Student Association** University of Arkansas
 2013-14 Treasurer **Student Chapter - University of Arkansas** The Wildlife Society
 2013 **Volunteer** The Wildlife Society National Conference, Milwaukee, WI
 2011 **Volunteer** The Wildlife Society National Conference, Big Island, HI
 2015 **Volunteer** American Ornithologists Union Meeting
 2014 **Volunteer** The Wildlife Society National Conference, Pittsburgh, PA
 2011 **Panel Member** Wind Power Meeting - Upper Peninsula Environmental Coalition
 2010 **Career Panel Member** Ohio Young Birder's Club Conference

Professional Development

2018 **Decision Analysis Certification Program** Apprentice Level
 2018 **Grant Writing Workshop** Starkville, MS
 2018 **ROpenSci Unconference** Seattle, WA
 2018 **Introduction to Structured Decision Making** NCTC
 2017 **Adaptive Management: Structured Decision Making for Recurrent Decisions** NCTC
 2017 **Bayesian Modeling for Ecological & Social Scientists** SESYNC, University of Maryland
 2016 **Spatial Capture Recapture Workshop** University of Georgia
 2016 **Game Theoretical Modeling of Evolution Tutorial** NIMBios, University of Tennessee
 2015 **Editing in Ornithology Workshop** American Ornithologist Union Meeting
 2014 **Data Management Workshop** The Wildlife Society National Conference Pittsburgh, PA
 2014 **Applied Hierarchical Modeling Workshop** Patuxent Wildlife Research Center/Royale & Kery
 2013 **'Adehabitat' R Package Workshop** The Wildlife Society National Con/James Sheppard
 2013 **Occupancy Modeling Short Course** Darryl MacKenzie

Teaching

Lesson Development

von Hardenberg A et al. Editors: Francois Michonneau and **Auriel Fournier**. 2017. Data Carpentry: R for data analysis and visualization of Ecological Data. doi: 10.5281/zenodo.569338

As Instructor

Foundations of Functional Programming with purrr

DataCamp - Developed Curriculum, Recorded Videos, Wrote Interactive Lessons

Advanced R Programming and Graphing Workshop

Day long workshop on programming, graphing, data management in R. [Link to Materials](#)

Gulf Estuarine Research Society Conference - November 2018

American Ornithological Society Conference - April 2018

American Ornithological Society/Society of Canadian Ornithologists - August 2017

North American Ornithological Conference - August 2016

American Ornithologists Union Conference - July 2015

Data and Software Carpentry Workshop

Two-day workshops on reproducible research in R, Unix Shell, and Git.

Grand Valley State University, MI, December 2017

USDA, New Orleans, LA June 2016

Federal Reserve Board, Washington D.C. June 2016

University of Connecticut, March 2016

Iowa State University, November 2015

As Tutor**Science Writing Tutor**

Quality Writing Center - University of Arkansas - January 2014 - March 2017 Tutoring undergraduate and graduate students on scientific writing 8 hours a week. Editing thesis, dissertations, lab reports and other writing. Working extensively with English as a Second Language students.

As Mentor

Undergraduate Mentor Summer-Fall 2018

I am currently mentoring two undergraduates through independent research projects. I was awarded competitive funding to cover their salaries and housing. Throughout the summer I taught them field, and quantitative skills. Throughout the Fall Semester I am mentoring them through their data analysis and first poster. In Spring 2019 they will begin writing their first papers under my direction.

As Teaching Assistant

University of Arkansas

Biometry - 2016

Developed materials, scripts and documentation to move all labs from SYSTAT to R. [Link to Materials](#)

University of Arkansas

Wetlands Ecology and Management - 2015

Taught weekly labs on taxonomy and wetland field methods. Gave lectures, graded materials.

Michigan Technological University

Field Techniques - 2010 and 2011

Taught weekly field labs on forestry and wildlife ecology skills.

Michigan Technological University

Creating Your Success - 2010 and 2011

Oriented new students to campus resources, taught study skills.

Michigan Technological University

Ornithology - 2011

Lead field trips, gave guest lecture, gave field quizzes.

Outreach

2016-18 **#SkypeWithAScientist** 14 Classrooms across the US

2013-17 **Outdoor Education Volunteer** Hobbs State Park, Arkansas

Lead monthly spring bird banding demonstrations to groups 40-150 of children and adults

2013-17 **Science Fair Judge** (7) Regional/Local Science Fairs NW Arkansas

2017 **Talk** Mississippi Coast Audubon Society

2015-16 **Editor** Science and Math Section Editor of [Science Borealis](#)

2015-16 **Bird Banding Demonstration** (3) Camp War Eagle Summer Camp, Arkansas

2015-6 **Biotweeps Curator** Curating a week of tweets to 2k+ people about my research for [Biotweeps](#)

2016 **Presentation** Arkansas Audubon Society Annual Meeting [presentation](#)

2015 **RealScientist Curator** Curating a week of tweets to 30k+ people about my research for [RealScientists](#)

2014-5 **Presentation** (4) Local Library Science Program, AR

2013-5 **Presentation** (3) Springdale Alternative High School, Springdale, AR

2015 **Field Trip Leader** (2) The Biggest Week In American Birding Festival

2015 **Presentation** (3) Boys and Girls Club of Bentonville, Arkansas STEAM Program

2014 **Talk** Arkansas Audubon Society Annual Conference

2011 **Outdoor Educator** W. U.P. Center for Science, Math and Envi. Education

2011 **Owl Survey Volunteer** Michigan Bird Conservation Initiative

2009 **Presentation** Kirtland Bird Club - Cleveland, OH

Work Experience

Freelance Ecologist October 2016-January 2017

Bird Studies Canada

Environmental Education Internship

Kellogg Bird Sanctuary, Michigan State University - Kara Hass - May - July 2012

Bird Bander

The Big Island, Hawaii - Dr. Jessie Knowlton - February - May 2012

Field Technician

Isle Royale National Park - Dr. Joseph Bump - May 2011

Remote Sensing/GIS Technician

Michigan Technological University - Dr. Mike Falkowski - February 2010 - December 2011

Small Mammal/Lakeshore Restoration Technician

Michigan Technological University - Dan Haskell - July 2010

Field Crew Leader

Michigan Technological University - Dr. Amber Roth March - June 2010

Bird Bander

Black Swamp Bird Observatory - Mark & Julie Shieldcastle - Spring and Fall 2004-2008

Professional Licenses and Certifications

Master Bander License Holder. Previously sub permitted in US and Canada for 13 years 14 years experience, 7000+ birds

Wilderness First Aid Wilderness Medicine Institute/NOLS (2/2016)

CPR/First Aid American Red Cross (12/2015)

Instructor Training [Software Carpentry & Data Carpentry](#) - (5/2015)

ATV Rider Certification ATV Safety Institute (6/2012)