

# Auriel M.V. Fournier

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PhD Candidate - Arkansas Cooperative Fish and Wildlife Research Unit  
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PhD in **Biological Sciences - Ecology and Evolutionary Biology** 2017 (expected)  
Arkansas Cooperative Fish and Wildlife Research Unit - University of Arkansas  
Adviser: Dr. David Krementz

## Autumn migration ecology of rails in intensively managed wetlands

- Hierarchical distance modeling to predict rail density and examine habitat use
- Hiring, training and managing a four person field crew
- Developing new survey methodology for autumn migrating rails
- Working closely with state and federal land managers to design field experiments
- Coordinating collaboration across central North America to examine rail migratory connectivity

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

## Peer-Reviewed Publications

- 5 - **Fournier, A.M.V.**, Welsh, K.J., Polito, M., Emslie, S. Brasso, R. Accepted *Historic mercury exposure in the Clapper Rail (*Rallus crepitans*) in coastal salt marshes of North Carolina* **Bulletin of Environmental Contamination & Toxicology**
- 4 - **Fournier, A.M.V.**, Sullivan, A., Bump, J., Perkins, M., Shieldcastle, M.C., King, S. Accepted *Combining citizen science derived species distribution models and stable isotope analysis reveals migratory connectivity in a secretive species, the Virginia rail (*Rallus limicola*)* **Journal of Applied Ecology** (first two authors are equal) [pdf link](#)
- 3 - **Fournier, A.M.V.**, Shieldcastle, M.C., Kashmer, T., Mylecraine, K.A. 2015 *Comparison of Arrival Dates of Spring Rail Migration in the Southwest Lake Erie Marshes, Ohio, USA*. **Waterbirds** 38: 312-314 [pdf link](#) [doi:10.1675/063.038.0313](#)
- 2 - **Fournier, A.M.V.**, Bond, A.L. 2015 *Volunteer field staff are bad for wildlife ecology* **The Wildlife Society Bulletin** 39: 819-821 [pdf link](#) [doi:10.1002/wsb.603](#)
- 1 - **Fournier, A.M.V.**, Shieldcastle, M.C., Fries, A.C. and Bump, J.K. 2013 *Developing a morphometric model to predict the sex of Virginia Rails (*Rallus limicola*)* **The Wildlife Society Bulletin** 27: 881-886 [pdf link](#) [doi:10.1002/wsb.323](#)
- a - *In Review* Butler, C.J., **Fournier, A.M.V.**, Wilson, Jennifer K. Using Multiple Stable Isotopes to Investigate Migratory Connectivity in Yellow Rails, LeConte's Sparrows, and Sedge Wrens.
- b - *In Review* **Fournier, A.M.V.**, Krementz, D.G. Nocturnal Distance sampling All-Terrain Vehicle Surveys for Non-Breeding Rails

## Honors

2012-16 **Distinguished Doctoral Fellowship** - University of Arkansas

2016 **Graduate Student Service Award** The Wildlife Society U. of Arkansas Student Chapter

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

## Grants

- 10 (declined) **PI National Science Foundation East Asia Pacific Summer Institute** 2016
- 9 *Co-Investigator and Writer* **Missouri Department of Conservation Research Grant** 2015 \$62,000 Effects of Wetland Management Strategies on Habitat Use of Autumn Migrating Rails on Intensively Managed Wetland Complexes in Missouri
- 8 **Travel Grant** 2015 \$320 American Ornithologists Union/Cooper Ornithological Society Conference
- 7 **Travel Grant** 2015 \$500 Association of Field Ornithologists/Wilson Ornithological Society/Society of Canadian Ornithologists Conference
- 6 **The Frances M. Peacock Scholarship for Native Bird Habitat** 2015 \$4000 The Use of Stable Isotopes, eBird and Species Distribution Models to Assess Migratory Connectivity of Fall Migrating Rails
- 5 **Arkansas Audubon Society Trust** 2014 \$1200 Migratory Stopover Timing, Survival and Habitat Use of Fall Migrating Sora in Managed Wetlands
- 4 **Summer Undergraduate Research Fellowship** 2011 \$3000 Developing A Morphometric Model to Predict the Sex of Virginia Rails
- 3 **Ecosystem Science Center Undergraduate Research Grant** 2011 \$750 What are the Breeding and Wintering Areas of Virginia Rails Which Migrate Through NW Ohio?
- 2 **Ecosystem Science Center Undergraduate Research Grant** 2010 \$750 Assessing the Relationship Between Eye-Spotting and Breeding Location in Golden-winged Warblers
- 1 **Summer Undergraduate Research Fellowship** 2009 \$3000 Habitat Classification and Biological Inventory of Pioneer Scout Reservation

## Research Experience

**Undergraduate Research Grant** Dr. Joseph Bump - Michigan Technological Uni. - 2011

Assessing the migratory connectivity of Virginia Rails using citizen science data as an informative prior for geographic assignment. Manuscript In Review.

**Summer Undergrad Research Fellowship** Dr. Joseph Bump - Michigan Technological Uni. - 2011

Developed a morphometric model to predict the sex of Virginia Rails. [Fournier et al. 2013 link](#).

**Undergraduate Research Grant** Dr. David Flaspohler - Michigan Technological Uni. - 2010

Examined variation in eye color across the range of Golden-winged Warblers. [Presented poster link](#)

**Summer Undergrad Research Fellowship** Dr. David Flaspohler - Michigan Technological Uni. - 2009

Developed a land management plan for Pioneer Scout Reservation, Ohio. Presented poster.

## Technical Publications

- 3 **Fournier, A.M.V.**, K. Willard, D. G. Krementz. 2015. King rail nesting and brood rearing ecology in managed wetlands: Final report USFWS Division of Migratory Birds Webless Program [pdf link](#)
- 2 Butler, C.J., **Fournier, A.M.V.** 2015. Using Multiple Stable Isotopes to Investigate Migratory Connectivity in Yellow Rails, Le Conte's Sparrows, Nelson's Sparrows and Sedge Wrens. U.S. Fish and Wildlife Service (Region 3) and Prairie Pothole Joint Venture.
- 1 Butler, C.J., **Fournier, A.M.V.** 2015. Using Multiple Stable Isotopes to Investigate Migratory Connectivity in Yellow Rails, Le Conte's Sparrows, and Sedge Wrens. U.S. Forest Service

## Presentations

- 6 **Fournier, A.M.V.**, Mengel, D.C., Krementz D.G. 2016 Habitat use by Autumn Migrating Sora in the Mississippi Flyway *Society of Wetland Scientists* - TX [pdf link](#)
- 5 **Fournier, A.M.V.**, Drake, K. 2015 Active capture of rails during the breeding season and fall migration. *Inland Bird Banders Association Meeting* - MS [pdf link](#)
- 4 **Fournier, A.M.V.**, Sullivan, A.R., Bump, J.K., Perkins M., Shieldcastle, M.C., King, S.L. 2015 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](#)
- 3 **Fournier, A.M.V.**, Mengel, D.C., Krementz D.G. 2015 Timing of Autumn Migration in the Mississippi Flyway by Rails. *Association of Field Ornithologists Meeting* - NS [pdf link](#)
- 2 **Fournier, A.M.V.**, Krementz, D.G. 2014 The Response of Fall Migrating Sora to Wetland Management. *Arkansas State Chapter of the Wildlife Society Spring Meeting*- AR
- 1 **Fournier, A.M.V.**, Krementz, D.G., Mengel, D.C., Raedeke, A.H. 2013 Phenology, Habitat Use and Co-Occurrence of Fall Migrating Yellow Rails in Missouri. *Yellow Rail Virtual Symposium* USFWS

## Posters

- 5 **Fournier, A.M.V.**, Krementz, D.G., Mengel, D.C., Raedeke, A.H., 2014 Sora Migration and Wetland Management *The Wildlife Society National Conference* - PA [pdf link](#)
- 4 **Fournier, A.M.V.**, Krementz, D.G., Mengel, D.C., Raedeke, A.H., 2013 Ecology of Fall Migrating Sora in Missouri. *The Wildlife Society National Conference* - WI [pdf link](#)
- 3 **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 link](#)
- 2 **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 link](#)
- 1 **Fournier, A.M.V.**, Flaspohler, D.J., Habitat Classification and Biological Inventory of Pioneer Scout Reservation *Undergraduate Research Expo* - MI

## Invited Seminars

2016 University of Toledo, Department of Environmental Sciences

2014 Arkansas Tech University, Department of Biological Sciences

## Professional Licenses and Certifications

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

**Associate Wildlife Biologist** The Wildlife Society - (3/2015)

**Sub-permit bird banding license holder**

- 13 years experience, handled 7000+ birds & sub-permittee in the U.S and Canada
- taken blood from 200+ and feathers from 700+ individuals
- have worked under 7 master banders & trained people in mist net extraction, feather pulling and blood from brachial vein

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

**CPR/First Aid** American Red Cross (5/2015)

**NSC Defensive Driving II** National Safety Council (1/2013)

**Defensive Driving** AAA Driver Improvement Program (7/2012)

**ATV Rider Certification** ATV Safety Institute (6/2012)

## Work Experience

**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

**Bird Bander**

Green Creek Wildlife Society - Tom Kashmer - 2002-2008

## Professional Development

2016 **Game Theoretical Modeling of Evolution in Structured Populations Tutorial** NIMBios, University of Tennessee, Knoxville

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/Royle & Kery

2013 **'Adehabitat' R Package Workshop** The Wildlife Society National Con/James Sheppard

2013 **Symposium Planning Committee** The Wildlife Society National Con, Milwaukee, WI

2013 **Occupancy Modeling Short Course** Darryl MacKenzie

## Outreach

2013-6 **Outdoor Education Volunteer** Hobbs State Park, Arkansas  
Lead monthly spring bird banding demonstrations to groups 40-150 of children and adults  
2013-6 **Science Fair Judge** (7) Regional/Local Science Fairs NW Arkansas  
2015-6 **Editor** Science and Math Section Editor of [Science Borealis](#)  
2016 **Presentation** Arkansas Audubon Society Annual Meeting [presentation link](#)  
2015 **RealScientist Curator** Curating a week of tweets to 30k+ people about my research for [RealScientists](#)  
2015 **Biotweeps Curator** Curating a week of tweets to 2k+ people about my research for [Biotweeps](#)  
2015 **Presentation** (2) Local Library Science Program, AR  
2015 **Presentation** Camp War Eagle Summer Camp, Arkansas  
2015 **Field Trip Leader** (2) The Biggest Week In American Birding Festival  
2015 **Presentation** (3) Boys and Girls Club of Bentonville, Arkansas STEAM Program  
2015 **Presentation** Springdale Alternative High School, Springdale, AR  
2014 **Presentation** (2) Local Library Science Program, AR  
2011 **North American Breeding Bird Survey Volunteer** U.S. Geological Survey  
2013 **Presentation** Springdale Alternative High School, Springdale, AR  
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  
2009 **Bird Bander** (Six years) Black Swamp Bird Observatory

## Service

2013-6 **Peer Reviewer** Waterbirds, Wildlife Society Bulletin, Conservation Biology, PLOS ONE, J of Wildlife Management, Science Bulletin, Avian Conservation and Ecology, Ecology and Evolution - [Publons](#)  
2015-16 Treasurer/Secretary **Wetlands Working Group** The Wildlife Society  
2014-16 Treasurer **Biology Graduate Student Association** University of Arkansas  
2015 **Volunteer** American Ornithologists Union Meeting  
2015 **Presentation Judge** Association of Field Ornithology, Wilson Ornithological Society, Society of Canadian Ornithologists Meeting  
2015 **Organized/Attended** *Software Carpentry Workshop* University of Arkansas  
2014-15 Treasurer **Student Working Group** The Wildlife Society  
2014-15 Secretary **Student Chapter - University of Arkansas** The Wildlife Society  
2014 **Volunteer** The Wildlife Society National Conference, Pittsburgh, PA  
2013-14 Treasurer **Student Chapter - University of Arkansas** The Wildlife Society  
2013-14 Vice President **Biology Graduate Student Association** University of Arkansas  
2013 **Volunteer** The Wildlife Society National Conference, Milwaukee, WI  
2011 **Guest Lecture** Ornithology - Michigan Technological University  
2011 **Volunteer** The Wildlife Society National Conference, Big Island, HI  
2011 **Panel Member** Wind Power Meeting - Upper Peninsula Environmental Coalition  
2010 **Career Panel Member** Ohio Young Birder's Club Conference

# Teaching Experience

## As Instructor

**Instructor** US Department of Agriculture - New Orleans, LA *Data Carpentry Workshop* June 2016

Taught a two-day workshop on reproducible research and programming in R, SQL and Open Refine. [materials](#)

**Instructor** University of Connecticut - Department of Ecology and Evolutionary Biology

*Software Carpentry Workshop* March 2016

Taught a two-day workshop on reproducible research and programming in R, Unix Shell and Git. [Link to Materials](#)

**Instructor** Iowa State University - Department of Mechanical Engineering

*Software Carpentry Python/Unix Workshop* November 2015

Taught a two-day workshop on reproducible research and programming in python and UNIX. [Link to Materials](#)

**Instructor** American Ornithologists Union Conference

*'Taking R to the Next Level' Workshop* July 2015

Taught a day long workshop on programming, graphing and data management in R. [Link to Materials](#)

## As Teaching Assistant

**Teaching Assistant** University of Arkansas

Biometry

Spring Semester 2016

Teaching weekly labs on statistics, experimental design and programming in R. Giving lectures, grading materials. Developed materials, scripts and documentation to move all labs from SYSTAT to R. [Link to Materials](#)

**Teaching Assistant** University of Arkansas

Wetlands Ecology and Management

Spring Semester 2015

Teaching weekly labs on taxonomy and wetland field methods. Giving lectures, grading materials.

**Teaching Assistant** Michigan Technological University

Field Techniques

Fall Semester 2010 and 2011

Taught weekly field labs on forestry and wildlife ecology skills. Graded 100+ lab reports weekly.

**Teaching Assistant** Michigan Technological University

Creating Your Success

Fall Semester 2010 and 2011

Oriented new students to campus resources, taught study skills.

**Teaching Assistant** Michigan Technological University

Ornithology

Spring Semester 2011

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

## As Tutor

**Science Writing Tutor**

Quality Writing Center - University of Arkansas - January 2014 - Present

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.

## Memberships

(since)

2008 **The Wildlife Society**

2012 **American Ornithologist Union & Association of Field Ornithologists**

2012 **The Waterbirds Society**

2015 **Wilson Ornithological Society**

2016 **Ecological Society of America**

## Computer Skills

R

Python

SQL

ArcGIS

Markdown/RMarkdown (this CV is written in Markdown)

Program Mark/RMark

Git/Github

UNIX Shell

## Field Skills

4x4

Manual Transmission

Vehicle Maintenance ATVs (over 1000 hours operating time)

Small Motor Maintenance and Repair

Kayak/Canoe

Backpacking and Back Country Living

Electronics Repair