

Auriel M.V. Fournier

PhD Candidate - University of Arkansas - Fayetteville
Arkansas Cooperative Fish and Wildlife Research Unit
Associate Wildlife Biologist ©
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Education

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

Autumn migration ecology of rails on intensively managed wetland complexes

Assessing timing, habitat use and the impacts of management on migratory rails. Developing a new survey methodology to monitor rail abundance during autumn migration using distance based nocturnal ATV surveys for rails in wetland impoundments. Predicting rail density using hierarchical distance sampling models in R package 'unmarked' while managing data and the analysis process in a reproducible framework. Hiring, training and managing a four person field crew for five field seasons. Working closely with over 20 state and federal land managers to develop questions and field experiments. Working with Bird Studies Canada and researchers/hunters across the U.S. to collect rail feathers for a large scale migratory connectivity project.

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

Peer-Reviewed Publications

1. 2015 **Fournier, A.M.V.**, Bond, A.L. *Volunteer field staff are bad for wildlife ecology* **The Wildlife Society Bulletin** 39: 819-821 [pdf doi:10.1002/wsb.603](#)
2. 2015 **Fournier, A.M.V.**, Shieldcastle, M.C., Kashmer, T., Mylecraine, K.A. *Comparison of Arrival Dates of Spring Rail Migration in the Southwest Lake Erie Marshes, Ohio, USA.* **Waterbirds** 38: 312-314 [pdf doi:10.1675/063.038.0313](#)
3. 2013 **Fournier, A.M.V.**, Shieldcastle, M.C., Fries, A.C. and Bump, J.K. *Developing a morphometric model to predict the sex of Virginia Rails (*Rallus limicola*)* **The Wildlife Society Bulletin** 27: 881-886 [pdf doi:10.1002/wsb.323](#)
- a. *In Review* **Fournier, A.M.V.**, Sullivan, A., Bump, J., Perkins, M., Shieldcastle, M.C., King, S. *Combining citizen science derived species distribution models and stable isotope analysis reveals migratory connectivity in a secretive species, the Virginia rail (*Rallus limicola*)* (first two authors are equal)

Technical Publications

1. **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](#)
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.
3. 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

Grants

2015 **Co-PI Missouri Department of Conservation Research Grant** \$62,000 Effects of Wetland Management Strategies on Habitat Use of Autumn Migrating Rails on Intensively Managed Wetland Complexes in Missouri

2015 **Travel Grant** \$320 American Ornithologists Union/Cooper Ornithological Society Conference

2015 **Travel Grant** \$500 Association of Field Ornithologists/Wilson Ornithological Society/Society of Canadian Ornithologists Conference

2015 **The Frances M. Peacock Scholarship for Native Bird Habitat** \$4000 The Use of Stable Isotopes, eBird and Species Distribution Models to Assess Migratory Connectivity of Fall Migrating Rails

2014 **Arkansas Audubon Society Trust** \$1200 Migratory Stopover Timing, Survival and Habitat Use of Fall Migrating Sora in Managed Wetlands

2011 **Summer Undergraduate Research Fellowship** \$3000 Developing A Morphometric Model to Predict the Sex of Virginia Rails

2011 **Ecosystem Science Center Undergraduate Research Grant** \$750 What are the Breeding and Wintering Areas of Virginia Rails Which Migrate Through NW Ohio?

2010 **Ecosystem Science Center Undergraduate Research Grant** \$750 Assessing the Relationship Between Eye-Spotting and Breeding Location in Golden-winged Warblers

2009 **Summer Undergraduate Research Fellowship** \$3000 Habitat Classification and Biological Inventory of Pioneer Scout Reservation

Research Experience

Undergraduate Research Grant

Dr. Joseph Bump

Michigan Technological University

May 2011 - Present

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

Summer Undergraduate Research Fellowship

Dr. Joseph Bump

August 2010 - December 2011

Developed a morphometric model to predict the sex of Virginia Rails. Published in [The Wildlife Society Bulletin](#).

Undergraduate Research Grant

Dr. David Flaspohler

May 2010 - March 2011

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

Summer Undergraduate Research Fellowship

Dr. David Flaspohler

May - August 2009

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

Presentations

2015 **Fournier, A.M.V.**, Drake, K. Active capture of rails during the breeding season and fall migration. *Inland Bird Banders Association Meeting* [pdf](#)

2015 **Fournier, A.M.V.**, Sullivan, A.R., Bump, J.K., Perkins M., Shieldcastle, M.C., King, S.L. 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* [pdf](#)

2015 **Fournier, A.M.V.**, Mengel, D.C., Krementz D.G. Timing of Autumn Migration in the Mississippi Flyway by Rails. *Association of Field Ornithologists Meeting* [pdf](#)

2014 **Fournier, A.M.V.**, Krementz, D.G. The Response of Fall Migrating Sora to Wetland Management. *Arkansas State Chapter of the Wildlife Society Spring Meeting*

2014 **Fournier, A.M.V.**, Krementz, D.G. The Use of U.A.V.s to Assess Wetland Vegetation Interspersion. *Arkansas State Chapter of The Wildlife Society Spring Meeting*

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

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., Developing a morphometric model to predict the sex of Virginia Rails. *The Wildlife Society National Conference* - HI [pdf](#)

2011 **Fournier, A.M.V.**, Roth, A.M., Flaspohler, D.J., 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., Habitat Classification and Biological Inventory of Pioneer Scout Reservation *Undergraduate Research Expo* - MI

Professional Licenses and Certifications

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

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

Sub-permit bird banding license holder

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

CPR/First Aid American Red Cross (4/2014)

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

Planned and led outdoor education programs for all ages. Developed a social media plan.

Bird Bander

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

Banded endemic and endangered birds in isolated forest patches on the Big Island of Hawaii. Operated double high mist-nets to capture birds and take blood and feather samples.

Field Technician

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

Worked full-time constructing aquatic moose and beaver exclosures in small inland lakes at Isle Royale National Park to study the affect of herbivory on plant communities.

Remote Sensing/GIS Technician

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

Delineated cover type from color and B/W photos from past seventy years; Identified beaver dams and identified water bodies were created by the dams; Processed raw LiDAR data into maps for later interpretation

Field Technician

Michigan Technological University - Dan Haskell - July 2010

Trapped small mammals; Performed nocturnal audio boat surveys for frogs; Planted vegetation to restore lakeshores; regularly interacted with the public to explain the project and coordinate access with private landowners

Field Crew Leader

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

Led a crew of three to gather blood, feather and toenail samples of Blue-winged and Golden-winged Warblers across five study sites in Minnesota and Wisconsin; Developed the time line, budget and travel plans as to cover the largest area and gather the most samples; Established contact and coordinated site access on local, state, federal and military properties

Bird Bander

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

Volunteered at least weekly during both spring and fall migration working at Black Swamp Bird Observatory's banding station. Extracted thousands of birds over the five years, was trusted to help train volunteers and extract birds solo even on very busy days or under harsh conditions. Banded hundreds of passerines.

Bird Bander

Green Creek Wildlife Society - Tom Kashmer - 2002-2008

Volunteered weekly throughout the year on various field projects. Primarily the rail migration project, checking traps, banding birds and taking vegetation data. Also helped with a wide variety of mist netting projects, including public education programs. Also checked fish and turtle traps, banded hundreds of fledgling Eastern Bluebirds and monitored a bluebird trail for many years.

Teaching Experience

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. [materials](#)

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.

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. [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. [materials](#)

Instructor University of Arkansas

Graphing with ggplot2 workshop May 2015

Taught an hour long workshop on graphing in R with the *ggplot2* package.

Instructor University of Arkansas

Social Media for Outreach and Professional Development Workshop April 2015

Taught an hour long workshop on using Twitter and other social media for outreach and professional development.

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.

Honors

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

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

Professional Development

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** (6) Regional/Local Science Fairs NW Arkansas
2015-6 **Editor** Science and Math Section Editor of [Science Borealis](#)
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, The Wildlife Society Bulletin, Conservation Biology, PLOS ONE, Journal of Wildlife Management, Science Bulletin, Avian Conservation and Ecology [Publons profile](#)
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 **Invited Seminar** Arkansas Tech University Fish and Wildlife Seminar
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

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

- data analysis, cleaning and manipulation
- graphing (ggplot2)
- function writing
- package creation and curation

Python

SQL

ArcGIS

LaTeX

Markdown/RMarkdown (this CV is written in Markdown) Program Mark/RMark

Git/Github [github profile](#)

UNIX Shell

Field Skills

4x4

Manual Transmission

Vehicle Maintenance ATVs (over 1000 hours operating time)

Small Motor Maintenance and Repair

Kayak/Canoe

Small Engine Boating

Backpacking and Back Country Living Electronics Repair