

## **Jennifer Michele Archambault**

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## **SCHOLARSHIP**

### **EDUCATION**

#### **Ph.D., Biology (Ecology and Evolution concentration), 2020**

North Carolina State University, Raleigh, NC. GPA: 4.0 (4.0 scale).

Certificate in Teaching and Communication earned.

#### **M.S. Zoology (Minor in Toxicology), 2012**

North Carolina State University, Raleigh, NC. GPA: 4.0 (4.0 scale).

#### **B.S. Fisheries and Wildlife Sciences (Minor in Environmental Science), 2004**

North Carolina State University, Raleigh, NC. GPA: 3.996 (4.0 scale); *summa cum laude*.

Phi Beta Kappa and Phi Kappa Phi Honors earned.

#### **A.S. Emphasis in Biological Sciences, 2002**

Grand Rapids Community College, Grand Rapids, MI. GPA: 3.943 (4.0 scale); Phi Theta Kappa and Delta Pi Alpha Honors.

### **PROFESSIONAL EXPERIENCE**

#### **Fish and Wildlife Biologist 5/2020 – present**

*US Fish and Wildlife Service, Raleigh Ecological Services Field Office.*

#### **Research Assistant (Staff and PhD training), Freshwater Ecosystem Services, 1/2017 – present**

*North Carolina State University, Department of Applied Ecology.*

#### **Graduate Teaching Assistant (PhD training), Fisheries and Ecology, 8/2016 – 12/2016**

*North Carolina State University, Department of Applied Ecology.*

#### **Research Associate, Aquatic Toxicology and Ecology, 1/2013 – 8/2016**

*North Carolina State University, Department of Applied Ecology.*

#### **Graduate Research Assistant (MS training), Freshwater Mussel Ecology 7/2010 – 12/2012**

*North Carolina State University, Department of Biology.*

#### **Wildlife & Wetlands Biologist, Project Manager, 3/2005 – 6/2010**

*Dr. J. H. Carter III and Associates, Inc., Environmental Consultants.*

#### **Forestry Technician, Commercial & Research Timber Management, 8/2004 – 3/2005**

*North Carolina State University, Department of Forestry.*

#### **Research Technician, Habitat Fragmentation and Corridor Research, 5/2003 – 8/2003**

*North Carolina State University, Department of Zoology.*

## FUNDING

**Archambault JM**, WG Cope, and CL LePrevost. 2018. Ecosystem Services Provided by Freshwater Mussels: Impacts on Water Quality and Public Awareness. Duke Energy Water Resources Fund. Awarded 10/04/2018. \$70,408.

## PUBLICATIONS

*(Only peer-reviewed publications are listed.)*

**Archambault JM**, WG Cope & TJ Kwak. 2018. Chasing a changing climate: reproductive and dispersal traits predict how sessile species respond to global warming. [\*Diversity and Distributions\* 24\(7\): 880-891.](#)

**Archambault JM**, ST Prochazka, WG Cope, D Shea, and PR Lazaro. 2018. Polycyclic aromatic hydrocarbons in surface waters, sediments, and unionid mussels: relation to road crossings and implications for chronic mussel exposure. [\*Hydrobiologia\* 810\(1\): 465-476.](#)

**Archambault JM**, CM Bergeron, WG Cope, PR Lazaro, JA Leonard, and D Shea. 2017. Assessing toxicity of contaminants in riverine suspended sediments to freshwater mussels. [\*Environmental Toxicology and Chemistry\* 36\(2\): 395-407.](#)

**Archambault JM** and WG Cope. 2016. Life stage sensitivity of a freshwater snail to herbicides widely used in invasive aquatic weed control. [\*Freshwater Mollusk Biology and Conservation\* 19\(2\): 69-79.](#)

**Archambault JM**, CM Bergeron, WG Cope, RJ Richardson, MA Heilman, JE Corey III, ME Netherland, and RJ Heise. 2015. Sensitivity of freshwater molluscs to Hydrilla-targeting herbicides: providing context for invasive aquatic weed control in diverse ecosystems. [\*Journal of Freshwater Ecology\* 30\(3\):335-348.](#)

**Archambault JM**, WG Cope, and TJ Kwak. 2014. Survival and behaviour of juvenile unionid mussels exposed to thermal stress and dewatering in the presence of a sediment temperature gradient. [\*Freshwater Biology\* 59\(3\):601-613.](#)

**Archambault JM**, WG Cope, and TJ Kwak. 2014. Influence of sediment presence on freshwater mussel thermal tolerance. [\*Freshwater Science\* 33\(1\):56-65.](#)

**Archambault JM**, WG Cope, and TJ Kwak. 2013. Burrowing, byssus, and biomarkers: behavioral and physiological indicators of sublethal thermal stress in juvenile freshwater mussels. [\*Marine and Freshwater Behaviour and Physiology\* 46\(4\):229-250.](#)

## PRESENTATIONS

*(Listing includes only those from the last 5 years, of 40 total professional presentations. Underlined author presented.)*

**Archambault JM.** 2020. Contaminant-Related Ecosystem Functions and Services of Freshwater Mussels (Unionidae) and Public Views on Nature's Contributions to Water Quality. [Doctoral Dissertation](#), North Carolina State University, 18 March, Raleigh, North Carolina.

**Buczek SB, JM Archambault,** and WG Cope. 2019. State of the science: ecological toxicity of aquatic herbicides. Aquatic Plant and Small Impoundment Workshop, hosted by North Carolina State University Department of Crop and Soil Sciences, 13-15 August, Raleigh, NC. [Invited presentation](#).

**Archambault JM** and WG Cope. 2019. Life stage sensitivity of a freshwater snail to herbicides used in invasive aquatic weed control. The 11<sup>th</sup> Biennial Symposium of the Freshwater Mollusk Conservation Society, 14-18 April, San Antonio, Texas.

**Archambault JM,** WG Cope, MS Shehdan, CL Lynch, SB Buczek, TJ Newton, HL Dunn, and CB Eads. 2019. Quantifying pollutant-removal ecosystem service of unionid mussels. The 11<sup>th</sup> Biennial Symposium of the Freshwater Mollusk Conservation Society, 14-18 April, San Antonio, Texas.

**Archambault JM,** WG Cope, and TJ Kwak. 2019. Chasing a changing climate: considering the role of unionid biological traits in facilitating climate resilience. The 11<sup>th</sup> Biennial Symposium of the Freshwater Mollusk Conservation Society, 14-18 April, San Antonio, Texas.

**Archambault JM.** 2019. Imperiled and invisible: coupled interactions between humans and freshwater mollusks. Department of Applied Ecology, North Carolina State University Building Future Faculty Program, 4 April, Raleigh, North Carolina. [Invited Seminar](#).

**Archambault JM,** MS Shehdan, CL Lynch, SB Buczek, and WG Cope. 2019. Variation in pollutant-removal ecosystem services of toxic heavy metals by freshwater mussels. North Carolina Chapter of the American Fisheries Society 2019 Annual Meeting, February 19-21, Winston-Salem, North Carolina.

**Briggs EE, SW Parker,** WR Cope, **JM Archambault,** RM Gallagher, AD Lamb. 2018. The North Carolina State University Student Fisheries Society: strategies for building and maintaining a successful subunit. The 148<sup>th</sup> Annual Meeting of the American Fisheries Society, August 19-23, Atlantic City, New Jersey. [Invited presentation](#).

**Buczek SB, JM Archambault,** WG Cope. 2018. Toxicity of aquatic herbicides to non-target freshwater mollusks. Aquatic Plants Workshop, North Carolina State University Department of Crop and Soil Sciences, 31 July-1 August, Raleigh, North Carolina.

**Archambault JM,** WG Cope, TJ Newton, HL Dunn. 2018. Is contaminant removal by native freshwater mussels and ecosystem service? North Carolina Chapter of the American Fisheries Society 2018 Annual Meeting, February 20-22, Morganton, North Carolina. [Winner of the Richard L. Noble Award for Best Student Presentation \(recording\)](#).

**Archambault JM** and **WG Cope.** 2017. Sensitivity of freshwater mollusks to hydrilla-targeting

herbicides. Conference on Aquatic Invasive Species in the Southeastern United States, Raleigh, NC, October 4-5, Raleigh, North Carolina. Invited presentation.

**Archambault JM**, WG Cope, TJ Newton, HL Dunn. 2017. Contaminant removal by native mussels in the Mississippi River: an ecosystem service? SETAC North America 38<sup>th</sup> Annual Meeting, November 12-16, Minneapolis, Minnesota. Invited presentation.

Johnson PJ, N Whelan, **JM Archambault**. 2017. Identification of research priorities for North American freshwater gastropods. Society for Freshwater Science Annual Meeting, 4-8 June, Raleigh, North Carolina.

**Archambault JM**, WG Cope, TJ Newton, HL Dunn. 2017. Valuing pollutant removal as an ecosystem service. The 10<sup>th</sup> Biennial Symposium of the Freshwater Mollusk Conservation Society, March 26-30, Cleveland, Ohio. Poster.

Kwak TJ, WG Cope, TJ Pandolfo, **JM Archambault**, CA Drew. 2016. Breaking traditional barriers to model climate change and land use impacts on freshwater mussels. The 7<sup>th</sup> World Fisheries Congress, 23-27 May, Busan, Korea.

**Archambault JM**, CM Bergeron, WG Cope, PR Lazaro, JA Leonard, D Shea. 2016. Using field and laboratory techniques to investigate the role of contaminants in Clinch River mussel population declines. Monthly meeting of the NCSU Student Sub-unit of the American Fisheries Society, April 5, Raleigh, North Carolina. Invited presentation.

**Archambault JM**, CM Bergeron, WG Cope, PR Lazaro, JA Leonard, D Shea. 2016. Assessing the toxicity of the Clinch River Basin sediment load to the endangered freshwater mussel *Epioblasma brevidens* (Cumberlandian combshell). 2016 Joint Meeting of the North Carolina and Virginia Chapters of the American Fisheries Society, March 14-17, Danville, Virginia. Winner of the W. Don Baker Memorial Award for the Best Platform Presentation by a Professional Member ([recording](#)).

**Archambault JM**, CM Bergeron, WG Cope, RJ Richardson, MA Heilman, JE Corey III, MD Netherland, RJ Heise. 2015. Consideration of the effects of herbicides on non-target species in management of invasive aquatic weeds. 9<sup>th</sup> Biennial Symposium of the Freshwater Mollusk Conservation Society, March 22-26, St. Charles, Missouri.

**Archambault JM**, CM Bergeron, WG Cope, PR Lazaro, JA Leonard, D Shea. 2015. Assessing the toxicity of recently-deposited sediments of the Clinch River watershed to juvenile freshwater mussels. 9<sup>th</sup> Biennial Symposium of the Freshwater Mollusk Conservation Society, March 22-26, St. Charles, Missouri.

Bergeron CM, **JM Archambault**, WG Cope, PR Lazaro, JW Jones, B Beaty, D Shea, TJ Kwak, B Evans, S Alexander. 2015. Water and sediment quality and unexplained declines of freshwater mussels in the Clinch River. 9<sup>th</sup> Biennial Symposium of the Freshwater Mollusk Conservation Society, March 22-26, St. Charles, Missouri.

## **PROFESSIONAL DEVELOPMENT**

*(Listing only includes the 10 most recent workshops, of 24 attended since 2005.)*

**ATLAS.ti for the Advanced User.** December 2019. ATLAS.ti Qualitative Data Analysis, Corvallis, Oregon. Conference Webinar, 8 hours.

**Introduction to ATLAS.ti 8.** June 2019. ATLAS.ti Qualitative Data Analysis, Corvallis, Oregon. Conference Webinar, 8 hours.

**Building Future Faculty Program.** April 2019. Offices of the Provost and Institutional Equity and Diversity, North Carolina State University, Raleigh, NC. 20 hours.

**Communicating Science Training Workshop.** March/April 2018. ComSciCon Triangle, Raleigh and Research Triangle Park, NC. 16 hours.

**Tools and Techniques for Ecosystem Service and Natural Capital Assessment.** November 2017. Society of Environmental Toxicology and Chemistry, North America, 38th Annual Meeting, Minneapolis, MN. 8 hours.

**Introduction to Focus Groups.** November 2017. The Odum Institute for Research in Social Science, University of North Carolina, Chapel Hill, NC. 8 hours.

**Storytelling for Science Communication.** April 2017. The Story Collider and the NCSU Leadership for Public Science Cluster, North Carolina State University, Raleigh, NC. 4 hours.

**Freshwater Mussel Identification Workshop.** February 2017. Annual Meeting of the North Carolina Chapter of the American Fisheries Society. New Bern, NC. 8 hours.

**Conservation Genetics Workshop.** March 2016. 2016 Joint Meeting of the North Carolina and Virginia Chapters of the American Fisheries Society, Danville, VA. 4 hours.

**Motorboat Operator Certification Course.** April 2014. US Department of the Interior. Administered by the USGS North Carolina Cooperative Fish and Wildlife Research Unit, Raleigh, NC. 32 hours.

## **TEACHING**

### **CERTIFICATION**

**Certificate of Teaching and Communication.** 2019. The Graduate School, North Carolina State University, Raleigh, NC. Over 100 hours in training and practice including: lesson, course, and curriculum design, a meaningful first day of class, how to use learning outcomes, writing-to-learn activities, managing conflict in the classroom, engaging diverse learning styles, science communication, and learning to process course evaluations.

## **COURSES TAUGHT**

**Freshwater Ecology Laboratory** (AEC 419/519). Fall 2016. Graduate Teaching Assistant. Department of Applied Ecology, North Carolina State University, Raleigh, NC.

**Biology of Fishes Laboratory** (AEC 442). Fall 2016. Graduate Teaching Assistant. Department of Applied Ecology, North Carolina State University, Raleigh, NC.

**Introduction to Ecology** (BO 360). Fall 2003. Assistant TA. Department of Zoology, North Carolina State University, Raleigh, NC.

## **COURSES DEVELOPED**

[Ecosystem Services for Ecologists](#). Developed as part of fulfilling the requirements of the Certificate in Teaching and Communication, North Carolina State University, Raleigh, NC.

## **GUEST LECTURES**

**North American Freshwater Mussel Diversity and Ecology**. October 2018. Freshwater Ecology (AEC 419). Guest Lecturer. North Carolina State University. Raleigh, NC.

**Freshwater Mussels: Diversity, Ecology, and Threats**. October 2016. Freshwater Ecology (AEC 419/519). Guest Lecturer. North Carolina State University, Raleigh, NC.

**Graduate School**. June 2014. Fisheries, Wildlife, and Conservation Biology Summer Camp (FW 312). Guest Lecturer. Camp Slocum, North Carolina State University, Durham County, NC.

**Graduate School**. June 2013. Fisheries, Wildlife, and Conservation Biology Summer Camp (FW 312). Guest Lecturer. Camp Slocum, North Carolina State University, Durham County, NC.

## **PUBLIC ENGAGEMENT / OUTREACH**

### **POPULAR PRESS**

Archambault JM. 2018. Using herbicides to save endangered snails. [Scientific American Guest Blog](#), 20 July 2018.

### **IN THE NEWS**

Study Will Examine Ecosystem Benefits of Freshwater Mussels. [NC State News](#). January 8, 2019.

## **PUBLIC PRESENTATIONS**

*(Listing includes only those from the last 5 years, of 13 total public presentations. Other public events not listed.)*

**Life in Streams: the Ecology of Spineless Critters & Bony Fishes.** May 2019. The Expedition School (Hillsborough, NC), 20 students. Shad Classroom Outreach Program (K-12), NC Museum of Natural Sciences, Raleigh, NC.

**Intro to Freshwater Mollusks and Ecosystem Services.** December 2018. Skype A Scientist Program (K-12), Orange High School (2 classes, 42 students total), Hillsborough, NC.

**Secrets of Streams: How are we Connected to Life Under Water?** July 2018. Science Saturdays. North Carolina Museum of Natural Sciences, Raleigh, NC.

**Freshwater Mussel Ecology.** March 2018. Skype A Scientist Program (K-12), Worldview High School (20 students), Bronx, NY.

**Introduction to Aquatic Macroinvertebrates.** May 2018. Horton Middle School (Pittsboro, NC), 4 classes, 110 students total; Cook Literacy Model School (Winston-Salem, NC), 2 classes, 48 students total. Shad in the Classroom Outreach Program (K-12), NC Museum of Natural Sciences, Raleigh, NC.

**Climate Change Under Water.** April 2017. National Network for Ocean and Climate Change Interpretation, Southeast Workshop, Raleigh, North Carolina.

**Ecosystem Health: Balancing Risks of Hydrilla Invasion and Treatment.** March 2017. Eno River Hydrilla Management Task Force Public Information Open House. March 1, Cedar Grove, North Carolina. Poster.

**Shad in the Classroom Fish Anatomy and Dissection.** May 2016. Guest Lecturer. Uwharrie Charter Academy High School (20 students; Randolph County, NC). Shad in the Classroom Outreach Program (K-12), NC Museum of Natural Sciences, Raleigh, NC.

**Ecosystem Health: Balancing Risks of Hydrilla Invasion and Treatment.** April 2015. Eno River Hydrilla Management Task Force, Public Information Open House. Hillsborough, North Carolina. Poster.

**Shad in the Classroom Fish Anatomy and Dissection.** April 2015. Guest Lecturer. Upchurch Elementary School (24 students; Hoke County, NC); Shad in the Classroom Outreach Program (K-12), NC Museum of Natural Sciences, Raleigh, NC.

## **SERVICE**

### **PROFESSIONAL SERVICE AND AFFILIATIONS**

- *Freshwater Mollusk Conservation Society*. Outreach Committee Chair and Social Media Administrator 2015-present. Member since 2011.
- *North Carolina Chapter of the American Fisheries Society*. Chair, Environmental Concerns Committee July 2016-present. Social Media Administrator 2013-present. Member 2003-2005 and 2011-present.
- *Student Fisheries Society* at NC State University (Student Subunit of NCAFS). President 2019. Secretary 2018. Treasurer 2011. Member 2004-present.
- *North Carolina State University Libraries*. Departmental Graduate Student Representative, Department of Applied Ecology 2017/18, 2018/19.
- *Graduate Student Association of Biology*. Professional Development Program Coordinator 2018. (North Carolina State University).
- *North Carolina Chapter of the Wildlife Society*. Secretary 2010-2012. At-large Executive Board Member 2009-2010. Social Media Administrator 2011-present. Member since 2003.
- *American Fisheries Society*. Member since 2012.
- *Ecological Society of America*. Member since 2012.
- *Society of Environmental Toxicology and Chemistry*. Member 2010-2013, 2016-present.
- *Carolinas Regional Chapter of the Society of Environmental Toxicology and Chemistry*. Member 2013, 2017-present.

*(Volunteer Service, Awards, and Honors not listed on this abbreviated CV.)*

Updated 06/11/2020