

# KAYLA LOUISE DAVIS

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## EDUCATION

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**Michigan State University, East Lansing, MI** **August 2018–Present**  
**Ph.D. Candidate, Pursuing dual degree in Integrative Biology and Ecology, Evolution, and Behavior Program**

GPA: 4.0

Dissertation: “From data to dynamics: data collection, modeling considerations, and analyses for understanding avian population and community dynamics”

Advisor: Elise Zipkin

**Virginia Tech, Blacksburg, VA** **January 2014–December 2016**  
**Master of Science, Department of Fish and Wildlife Conservation**  
GPA: 4.0  
Master’s Thesis: “Behavioral and demographic effects of human activities and environmental factors on Roseate Tern parent-offspring interactions and hatch-year survival during the pre-migratory staging period at Cape Cod National Seashore, Massachusetts”  
Advisor: Sarah Karpanty

**Wake Forest University, Winston-Salem, NC**  
**Bachelor of Science, Biology, Cum Laude, Honors in Biology** **August 2007–May 2011**  
GPA: 3.48 Major GPA: 3.44  
Minor: Chemistry  
Honors Thesis: “Specificity of Trigeminal System Tolerance in Birds”  
Honors Advisor: David J. Anderson

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## PUBLICATIONS

Zipkin, E.F., J. Doser, C.L. Davis, W. Leuenberger, S. Ayebare, **K.L. Davis**. Integrated community models: A framework combining multi-species data sources to estimate the status, trends, and dynamics of biodiversity. *Under review at Journal of Animal Ecology*.

**Davis, K.L.**, S.P. Saunders, S. Beilke, E.R. Ford, J. Fuller, A. Landgraf, E.F. Zipkin. 2023. Breeding season management is unlikely to improve population viability of a data-deficient migratory species in decline. *Biological Conservation*.

Smith, O.M., **K.L. Davis**, R.B. Pizza, R. Waterman, K.C. Dobson, B. Foster, J.C. Jarvey, L.N. Jones, W. Leuenberger, N. Nourn, E.E. Conway, C.M. Fiser, Z.A. Hansen, A. Hristova, C. Mack, A.N. Saunders, O.J. Utley, M.L. Young, C.L. Davis. 2023. Peer review perpetuates barriers for historically excluded groups. *Nature Ecology and Evolution*.  
<https://doi.org/10.1038/s41559-023-01999-w>

**Davis, K.L.**, E. D. Silverman, A. L. Sussman, R. R. Wilson, E. F. Zipkin. 2022. Errors in aerial survey count data: Identifying pitfalls and solutions. *Ecology and Evolution* 12:e8733.

**Davis, K.L.**, S.M. Karpanty, J.A. Spendelow, J.B. Cohen, M.A. Althouse, K.C. Parsons, C.F. Luttazi. 2019. Residency, recruitment, and staging duration of hatch-year roseate terns (*Sterna dougallii*) during the pre-migratory staging period. *Avian Conservation and Ecology* 14(2):11.

**Davis, K.L.,** S.M. Karpanty, J.A. Spendelow, J.B. Cohen, M.A. Althouse, K.C. Parsons, C.F. Luttazi. 2019. Begging behavior as an honest signal of need and parent-offspring association during the post-fledging dependency period. *Ecology and Evolution* 9(13):7497–7508.

Althouse, M.A., J. Cohen, S. M. Karpanty, J.A. Spendelow, **K. L. Davis**, K.C. Parsons, C.F. Luttazi. 2018. Evaluating response distances to develop buffer zones for staging terns. *The Journal of Wildlife Management* 83:260–271.

**Davis, K.L.,** D.H. Catlin, K.L. Hunt, M.J. Friedrich, S.J. Ritter, J.D. Fraser, and S.M. Karpanty. 2017. Hatch-year Piping Plover (*Charadrius melodus*) prospecting and habitat quality influence second-year nest-site selection. *The Auk: Ornithological Advances* 134:92–103.

Althouse, M.A., J. Cohen, J.A. Spendelow, S. M. Karpanty, **K. L. Davis**, K.C. Parsons, C.F. Luttazi. 2016. Quantifying the effects of research band resighting activities on staging terns in comparison to other disturbances. *Waterbirds* 39:417–421.

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## INVITED PRESENTATIONS

**Davis, K. L.** 2021. From data to dynamics: building blocks for understanding bird populations. Invited seminar for Biology Symposium Series at Andrews University, November 16<sup>th</sup>, Berrien Springs, MI.

**Davis, K. L.,** M. T. Farr, R. R. Wilson, E. D. Silverman, A. L. Sussman, J. E. Lyons, E. F. Zipkin. 2019. Optimizing aerial survey design: pitfalls and progress. Invited talk for symposium session entitled, “Counting unmarked birds: matching appropriate sampling and modeling techniques with particular research questions” at the American Ornithological Society Conference, June 28<sup>th</sup>, Anchorage, AK.

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## PLATFORM PRESENTATIONS

**Davis, K. L.,** S.P. Saunders, S. Beilke, E.R. Ford, J. Fuller, A. Landgraf, E.F. Zipkin. 2023. Breeding season management is unlikely to improve population viability of a data-deficient migratory species in decline. Oral presentation at the Michigan State University Ecology, Evolutionary Biology, and Behavior Symposium, May 1<sup>st</sup>, East Lansing, MI.

**Davis, K. L.,** R. R. Wilson, E. D. Silverman, E. F. Zipkin. 2021. The way we count counts: using waterbird data to investigate the effects of counting error on abundance estimates. Oral presentation given at the Waterbirds Society Meeting, November 11<sup>th</sup>, virtual. **\*Best student presentation award\***

**Davis, K. L.,** R. R. Wilson, E. D. Silverman, A.L. Sussman, J. E. Lyons, E. F. Zipkin. 2020. Flock counting error in aerial seabird surveys. Oral presentation given at the International Statistical Ecology Conference, June 23<sup>rd</sup>, virtual.

**Davis, K. L.,** R. R. Wilson, A. L. Sussman, E. D. Silverman, J. E. Lyons, E. F. Zipkin. 2019. GoMMAPPS Aerial Survey Update. Oral presentation given at a regional planning meeting for the Gulf of Mexico Marine Assessment Program for Protected Species, September 18<sup>th</sup>, Lafayette, LA.

**Davis, K. L.,** M. T. Farr, R. R. Wilson, E. D. Silverman, A. L. Sussman, J. E. Lyons, E. F. Zipkin. 2019. Optimizing aerial survey design: pitfalls and progress. Oral presentation at the Michigan State University Ecology, Evolutionary Biology, and Behavior Symposium, April 29<sup>th</sup>, East Lansing, MI.

**Davis, K.L.,** S.M. Karpanty, J.A. Spendelow, J.B. Cohen, M.A. Althouse, K.C. Parsons, C.F. Luttazi. 2017. Behavior and demography of hatch-year Roseate Terns at a major tourist destination during the pre-migratory staging period. Oral presentation at the American Ornithological Society Conference, August 1<sup>st</sup>-5<sup>th</sup>, East Lansing, MI.

**Davis, K.L.,** S.M. Karpanty, J.A. Spendelow, J.B. Cohen, M.A. Althouse, K.C. Parsons, C.F. Luttazi. 2016. Family Matters: Begging as an Honest Signaling Mechanism in hatch-year Roseate Terns (*Sterna dougallii*). Oral presentation at the Waterbirds Conference, September 19<sup>th</sup>-23<sup>rd</sup>, New Bern, NC.

**Davis, K.L.,** S.M. Karpanty, J.A. Spendelow, J.B. Cohen, M.A. Althouse, K.C. Parsons, C.F. Luttazi. 2016. Hatch-year Roseate Tern (*Sterna dougallii*) Behavioral Response to Human and Non-human Disturbance at Pre-Migratory Staging Grounds. Oral presentation at the North American Ornithological Conference (NAOC), August 16<sup>th</sup>-20<sup>th</sup>, Washington D.C.

**Davis, K.L.** and S.M. Karpanty. 2015. Behavior and weekly residency of hatch year roseate terns during the staging period at Cape Cod National Seashore, Massachusetts. Oral presentation at the Roseate Tern Recovery Team Meeting, November 17<sup>th</sup>-18<sup>th</sup>, Westborough, MA.

Althouse, M.A. and **K.L. Davis.** 2015. Effects of disturbance at the Cape Cod National Seashore on the federally endangered roseate tern. Oral presentation at the Massachusetts Coastal Waterbird Cooperators Meeting, August 5<sup>th</sup>, Hyannis, MA.

**Davis, K.L.** and S.M. Karpanty. 2015. Behavioral and demographic effects of disturbance on juvenile roseate tern at Cape Cod National Seashore, Massachusetts. Oral presentation at the Virginia Tech Graduate Student Research Assembly Symposium, March 25<sup>th</sup>, Blacksburg, VA.

**Davis, K.L.** and S.M. Karpanty. 2014. Assessing the behavioral and demographic effects of human activities and natural events on roseate tern parents and hatch-years during the pre-migratory staging period at Cape Cod National Seashore, Massachusetts. Oral presentation at the Roseate Tern Recovery Team Meeting, November 19<sup>th</sup>-20<sup>th</sup>, Hadley, MA.

Althouse, M.A. and **K.L. Davis.** 2014. Importance of Cape Cod National Seashore to staging roseate terns. Oral presentation at the Massachusetts Coastal Waterbird Cooperators Meeting, August 4<sup>th</sup>, Hyannis, MA.

**Davis, K.L.,** D.H. Catlin, K.L. Hunt, M.J. Friedrich, J.D. Fraser, S.M. Karpanty. 2014. Know place like the home place: juvenile prospecting behavior in piping plovers. Oral presentation at the Missouri River Natural Resources Conference and Biological Opinion Forum, March 11<sup>th</sup>-13<sup>th</sup>, Nebraska City, NE.

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## POSTER PRESENTATIONS

**Davis, K.L.** and S.M. Karpanty. 2016. Assessing the behavioral and demographic effects of disturbance on hatch-year roseate terns at Cape Cod National Seashore, MA. Poster presented at the Atlantic Coast Piping Plover and Least Tern Workshop, January 12<sup>th</sup>-15<sup>th</sup>, Shepardstown, WV.

**Davis, K.L.,** D.J. Anderson, and W.L. Silver. 2011. Specificity of chemical irritant tolerance in birds. Poster presented at the Association for Chemoreception Sciences Society (AChemS) national meeting, April 13<sup>th</sup>-17<sup>th</sup>, St. Pete Beach, FL.

**Davis, K.L.,** D.J. Anderson, and W.L. Silver. 2011. Specificity of chemical irritant tolerance in birds. Poster presented at the Symposium for Young Neuroscientists and Professors of the Southeast (SYNAPSE), March 2011, Winston-Salem, NC.

**Davis, K.L.,** D.J. Anderson, and W.L. Silver. 2010. Specificity of chemical irritant tolerance in birds. Poster presented at the Wake Forest University Undergraduate Research Fellowship Day, October 2010, Winston-Salem, NC.

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## FELLOWSHIPS, SCHOLARSHIPS, AND AWARDS

**American Ornithological Society Travel Award**  
**American Ornithological Society (AOS)**

**Summer 2023**

\$561 awarded to help fund travel to London, Ontario for the 2023 AOS conference.

**Wallace Scholarship Award**  
**Michigan State University, Integrative Biology Department**

**Spring 2022**

\$4,400 awarded to continue dissertation research on bird population dynamics.

**Waterbirds Society Conference, Best Student Presentation Award**

**November 2021**

**Early Start Fellowship**

**Summer 2018**

\$6,000 awarded to begin the Ph.D. program in the Integrative Biology Department at Michigan State University.

**Outstanding Master's Student Award**  
Virginia Tech, College of Natural Resources and Environment

**Spring 2017**

**Harold E. Burkhart Outstanding Master's Student Award**  
Virginia Tech, Fish and Wildlife Conservation Department

**Spring 2017**

**North American Ornithological Conference Student Travel Award**

**Summer 2016**

\$145 awarded by the American Ornithologists' Union for travel to the North American Ornithological Conference in Washington D.C.

**Roanoke Valley Bird Club Scholarship**

**Spring 2015**

\$930 awarded through the Virginia Tech Department of Fish and Wildlife Conservation for academic and professional achievement in wildlife biology and conservation.

**Robert L. Sullivan Scholarship**

**Summer 2009 and Spring 2011**

- \$2,000 awarded in summer 2009 for undergraduate students with the desire to pursue biological studies outside of the classroom.
- \$400 awarded in spring 2011 to assist with travel expenses to St. Pete Beach, Florida for a presentation at the AChemS (Association for Chemoreception Sciences) national meeting.

**Wake Forest Undergraduate Research Fellowship**

**Summer 2010**

\$4,380 in funding and stipends to pursue an independent research project under the guidance of mentor professor, Dave Anderson.

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## TEACHING EXPERIENCE

**Teaching Assistant, Applications in Biological Science Laboratory (virtual)**

**Fall 2021**

*Michigan State University, Center for Integrative Studies in Biology*

- Problem solving activities based on observation of biological systems and interpretation of data.
- Taught three sections (~90 students total) of two-hour lecture/lab sessions. Each section consisted of a lecture followed by a groupwork activity.

**Teaching Assistant, Principles of Fish and Wildlife Conservation**

**Fall 2015 & 2016**

*Virginia Tech, Department of Fish and Wildlife Conservation*

- Basic principles, key people, agencies, and laws guiding science-based conservation and management of natural resources. Conservation and management of organisms and habitats examined at local and global scales in the context of ecological, sociological, and ethical theories and practices.

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## WORKSHOPS AND TRAINING

**Grant Application Writer's Workshop**

**January 6-7, 2022**

*Michigan State University, virtual*

**Helicopter Underwater Egress Training (HUET) &**

**January 31, 2020**

**Compressed Air Emergency Breathing System Training (CA-EBS)**

*Shell Robert Training Center, Robert, LA*

**Intermediate Program MARK Workshop**

**June 1–6, 2014**

*Colorado State University, Fort Collins, CO*

**Microsoft Access 2010-Advanced Workshop**

**December 5, 2013**

*Virginia Tech, Blacksburg, VA*

**Microsoft Access 2010-Intermediate Workshop**

**November 7, 2013**

*Virginia Tech, Blacksburg, VA*

**Microsoft Access 2010-Introductory Workshop**

**October 24, 2013**

*Virginia Tech, Blacksburg, VA*

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## SERVICE & PUBLIC OUTREACH

Co-chair of the Ecology, Evolution, and Behavior Research Symposium Planning Committee. 2022-2023 academic year

President of the Ecology, Evolution, and Behavior Graduate Group at Michigan State University. 2021-2022 academic year.

Science Fair Volunteer Mentor with BioScience Careers Program at Wilson Talent Center. Fall and Winter 2020.

Girls Math and Science Day (GMSD) at Michigan State University. March 2, 2019. Presented an activity at GMSD entitled "Math and Monarchs," where students interacted with a Shiny app built by the Zipkin lab to understand monarch butterfly population dynamics.

**Davis, K.L.** 2015. All birds need a place to rest: Importance of stopover sites and staging grounds. Educational presentation for the Roanoke Valley Bird Club, November 9<sup>th</sup>, Roanoke, VA.

Althouse, M.A. and **K.L. Davis**. 2015. Effects of disturbance at the Cape Cod National Seashore on the federally endangered roseate tern. Educational presentation at the Science at the Seashore Symposium, August 27<sup>th</sup>, Eastham, MA.

**Davis, K.L.** 2015. All birds need a place to rest: Importance of stopover sites and staging grounds. Educational presentation for the Friends of the Assabet River National Wildlife Refuge, July 8<sup>th</sup>, Sudbury, MA.

Graduate Student Panel Discussion. February 4th, 2015. Participated as a graduate student panel member at a meeting of the Virginia Tech chapter of The Wildlife Society to discuss graduate school and post-graduation employment options for undergraduate students.

Guest Lecture. February 4th, 2015. Presented bird capture and handling techniques in a senior-level undergraduate Field Techniques course at Virginia Tech.

Guest Lecture. February, 2014. Presented bird capture and handling techniques in a senior-level undergraduate Field Techniques course at Virginia Tech.

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## FIELD & LAB WORK EXPERIENCE

### **Aerial Bird Survey Crew Member**

*U.S. Fish and Wildlife Service, Gulf of Mexico, USA*

**February 2020**

### **Marbled Murrelet Field Technician**

*Oregon State University, Corvallis, OR*

**April 2017–August 2017**

### **St. Thomas Roseate Tern Annual Census Participant**

*U.S. Virgin Islands Fish and Wildlife Service, USVI*

**May 2016**

### **Great Gull Island Tern Bander and Census Participant**

*American Museum of Natural History, Great Gull Island, NY*

**Summer 2014, 2015, 2016**

### **Piping Plover and Least Tern Field Crew Leader**

*Virginia Tech Shorebird Program, Vermillion, SD*

**April 2013–August 2013**

### **Piping Plover and Least Tern Field Technician**

*Virginia Tech Shorebird Program, Vermillion, SD*

**April 2012–August 2012**

### **Laboratory Assistant**

*Wake Forest University, Winston-Salem, NC*

**Fall 2009–May 2011**