

Kayla Louise Davis

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EDUCATION

Michigan State University, East Lansing, MI

August 2018–Present

Ph.D. Student, Pursuing dual degree in Integrative Biology and Ecology, Evolutionary Biology, and Behavior Program

GPA: 4.0

Dissertation Topic: Optimizing aerial seabird survey design to model abundance and distribution of mixed species seabird flocks in the Gulf of Mexico

Advisor: Elise Zipkin

Virginia Tech, Blacksburg, VA

January 2014–December 2016

Master of Science, Department of Fish and Wildlife Conservation

GPA: 4.0

Masters 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

PUBLICATIONS

Davis, K.L., S.M. Karpanty, J.A. Spendelow, J.B. Cohen, M.A. Althouse, K.C. Parsons, C.F. Luttazi. In Press. Begging behavior as an honest signal of need and parent-offspring association during the post-fledging dependency period. *Ecology and Evolution*.

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.

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

PRESENTATIONS

Davis, K., M. Farr, R. Wilson, E. Silverman, A. Sussman, J. Lyons, E. Zipkin. 2019. Optimizing aerial survey design: pitfalls and progress. Oral presentation at the Michigan State University Ecology, Evolutionary Biology, and Behavior Symposium, April 29th, 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 1st-5th, 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 19th-23rd, 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 16th-20th, Washington D.C.

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 12th-15th, Shepardsdown, WV.

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 17th-18th, 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 5th, 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 25th, 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 19th-20th, 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 4th, 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 11th-13th, Nebraska City, NE.

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 13th-17th, 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.

FELLOWSHIPS, SCHOLARSHIPS, AND AWARDS

Early Start Fellowship

Summer 2018

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

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

Spring 2017

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

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.

RELEVANT WORK EXPERIENCE

Marbled Murrelet Field Technician

April 2017–August 2017

Oregon State University, Corvallis, OR

- Trapped and tagged marbled murrelets for ground-based and aerial telemetry.
- Devised data management strategies and instructed technicians on proper data collection and management techniques.

Research Associate

January 2017–April 2017

Virginia Tech, Blacksburg, VA

- Collaborated on a multi-agency, NFWF-funded project to develop best management practices (BMPs) for integrated predator management for the protection of nesting shorebirds.
- Collected and compiled literature-based reviews of current and past predator management strategies.
- Conducted interviews with Atlantic Coast land managers

Graduate Research Assistant

January 2014–December 2016

Virginia Tech, Blacksburg, VA

- Analyzed roseate tern resighting data from Cape Cod staging areas to determine behavioral and demographic effects of human activities and environmental factors on roseate tern parents and hatch-years.
- Planned field sampling methods and data collection protocols to address thesis objectives.
- Supervised one field technician in 2014 and five field technicians in 2015 during summer/fall field seasons.
- Coordinated with eight tern colony managers and project partners at the National Park Service, SUNY ESF, USGS Patuxent Wildlife Research Center and MassAudubon to achieve project goals.

Graduate Teaching Assistant**Fall 2015 and Fall 2016***Virginia Tech, Blacksburg, VA*

- Served as a teaching assistant for two semesters of an undergraduate course titled, “Principles of Fish and Wildlife Conservation.”
- Assisted with class planning, grading of assignments and exams, and student questions.
- Total course enrollment was approximately 150 students each semester.

Research Specialist**September 2013–December 2013***Virginia Tech Shorebird Program, Blacksburg, VA*

- Analyzed data from a 10-year dataset of piping plover population dynamics on the Missouri River in South Dakota and published findings as lead author in *The Auk: Ornithological Advances*.
- Conducted surveys and participated in adult trapping at piping plover wintering grounds in Georgia and South Carolina.
- Compiled annual reports for 2013 piping plover and least tern breeding season field operations and piping plover wintering ground operations.

Piping Plover and Least Tern Field Crew Leader**April 2013–August 2013***Virginia Tech Shorebird Program, Vermillion, SD*

- Led a crew of three technicians on a 15-mile stretch of the Missouri National Recreational River and managed trapping and banding of piping plover and least tern adults and chicks.
- Maintained boat and trailer and made repairs when necessary.
- Performed all tasks required of field technicians (described below).

Piping Plover and Least Tern Field Technician**April 2012–August 2012***Virginia Tech Shorebird Program, Vermillion, SD*

- Trapped adult piping plovers and least terns using drop-door traps and bow nets.
- Banded adult piping plovers, least terns, and chicks of both species and resighted banded birds.
- Nest searched and monitored nests of piping plovers and least terns using handheld GPS devices.

Laboratory Assistant**Fall 2009–May 2011***Wake Forest University, Winston-Salem, NC*

- Catalogued blood samples from Nazca boobies using Microsoft Excel.
- Performed DNA extractions on blood samples.
- Ran PCR on extracted DNA to determine sex of Nazca boobies.

SPECIAL COURSES AND TRAINING**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*

PUBLIC OUTREACH

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 9th, 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 27th, 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 8th, 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.

VOLUNTEER WORK

Great Gull Island Project	Summer 2014, 2015, 2016
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American Museum of Natural History

- Lived on an active island tern colony (~11000 COTE pairs/~2000 ROST pairs) owned by the American Museum of Natural History
- Trapped and banded adult ROST and banded ROST chicks with stainless steel and plastic field-readable bands

St. Thomas Roseate Tern Annual Census

May 2016

U.S. Virgin Islands Fish and Wildlife Service

- Participated in a week-long survey effort of ROST and other seabird species on Caribbean island cays