

## BETHANY HOLTZ

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### EDUCATION

#### **Saint Joseph's University**

Master of Science in Biology

Cumulative GPA: 4.0, *Summa Cum Laude*

**May 2022**

Philadelphia, PA

#### **Gettysburg College**

Bachelors of Science in Environmental Science

Cumulative GPA: 3.81, *Magna Cum Laude*

**June 2016**

Gettysburg, PA

### RESEARCH EXPERIENCE

#### **Sea Turtle and Diamondback Terrapin Research Assistant**

**2015-Present**

Gettysburg College, Duke University Marine Laboratory, Sandy Point Wildlife Refuge

Beaufort, NC/ St. Croix, USVI, Saint Joseph's University

- Conducted bio-acoustic research on loggerhead sea turtle hatchlings at the Duke Marine Lab, leatherback, green and hawksbill sea turtle hatchlings at the Sandy Point National Wildlife Refuge and diamondback terrapins at Saint Joseph's University in partnership with Project Terrapin.
- Designed and implemented research protocols during field experiments (2016, 2018, and 2021).
- Solicited and awarded federal and state permits required for research on endangered species.
- Lead author on 2 publications with 4 additional lead author papers currently under review.
- Gained experience handling and caring for hatchlings during experimental and post study phases.
- Participated in nest-sitting and monitoring.
- Cared for and maintained headstart diamondback terrapin hatchlings.

#### **Research Assistant**

**2012-2020**

Rutgers, The State University of New Jersey

New Brunswick, NJ

- Research Project: *The Politics of Regulatory Reform*, Routledge Publishers: New York, 2013
  - Constructed a sample frame for a cross-sectional random probability survey of businesses.
  - Served as a copy editor on the manuscript.
- GIS and Research Assistant, Eagleton Center for Public Interest Polling, Rutgers
  - Analyzed quantitative data on various client-sponsored NIH, USDA, academic and state funded research studies.
  - Worked in conjunction with PI to draft instruments and program surveys in Qualtrics.
  - Conducted pretests in mix-mode designs.
  - Developed instructional staffing guides to measure data accuracy.
  - Conducted literature reviews and collect empirical data to support studies.
  - [Created maps](#) to visually represent statewide survey data by using a spatial framework.
  - Managed datasets for client projects and [create graphic analysis](#).

#### **Marine Mammal Training Intern**

**Fall 2015**

National Aquarium, Marine Mammal Department

Baltimore, MD

- Observed and assisted in enrichment, husbandry, and medical sessions.
- Experience in operant conditioning utilizing positive reinforcement methods.
- Completed research project related to respiration rates and environmental factors.

### **PEER REVIEWED PUBLICATIONS**

Parks, C., **Holtz, B.**, Fingerut, J., Wnek, J., and McRobert, S. 2024. "The effects of commercial diets on the growth of diamondback terrapins *Malaclemys terrapin* in head-start programmes." The Herpetological Bulletin 170, 2024: 19–22.

**Holtz, B.**, Beamer, T., Parks, C., Hess, G. and McRobert, S. 2023. "The Role of Secondary Acoustic Cues in Sea-Finding by Green (*Chelonia Mydas*), Hawksbill (*Eretmochelys Imbricata*), and Leatherback (*Dermochelys Coriacea*) Sea Turtles." Journal of Experimental Marine Biology and Ecology 571: 151978.

**Holtz, B.**, Stewart, K., and Piniak, Wendy. 2021. "Influence of Environmental and Anthropogenic Acoustic Cues in Sea-Finding Of Hatchling Leatherback (*Dermochelys coriacea*) Sea Turtles." *PLOS ONE*. <https://doi.org/10.1371/journal.pone.0253770>

Cohort Member (AY 12-13), Howard Hughes Phage Biology National Research Program "Whole genome comparison of a large collection of mycobacteriophages reveals a continuum of phage genetic diversity." *eLife*.

### **PUBLICATIONS UNDER REVIEW**

**Holtz, B.**, Beamer, T., Parks, C., Hess, G. and McRobert, S. 2025. "Methodological Strategies for Orientation Experiments in Hatchling Diamondback Terrapins (*Malaclemys Terrapins*)." Herpetological Review.

**Holtz, B.**, Beamer, T., Parks, C., Hess, G. and McRobert, S. 2025. "Methodological Strategies for Orientation Experiments in Leatherback (*Dermochelys Coriacea*), Hawksbill (*Eretmochelys Imbricata*), and Green Sea Turtles (*Chelonia Mydas*).". Marine Turtle Newsletter.

**Holtz, B.**, Beamer, T., Parks, C., Hess, G. and McRobert, S. 2025. "Response of Hatchling Green (*Chelonia Mydas*) and Hawksbill (*Eretmochelys Imbricata*) Sea Turtles to Environmental and Anthropogenic Acoustic Cues." Bioacoustics.

**Holtz, B.**, Beamer, T. and McRobert, S. 2025. "The Orientation and Behavior of Hatchling Diamondback Terrapins (*Malaclemys Terrapin*) in the Presence of Acoustic Cues." Chelonian Conservation and Biology.

### **OUTREACH PUBLICATIONS**

"Coastal Science: How Sea Turtles Use Sound," Coastal Review Online (a daily, not-for-profit, news and feature service covering the N.C. coast) 2013.

## AWARDS

Summa Cum Laude, St. Joseph's University 2022  
 Biology Department Award, St. Joseph's University 2022  
 Sigma Xi, St. Joseph's University 2022  
 Magnum Cum Laude, Gettysburg College 2016  
 Dean's List, Gettysburg College 2012-2016  
 Phi Beta Kappa, Gettysburg College 2016  
 Omicron Delta Kappa, Gettysburg College 2016  
 Runner Up Best Oral Presentation: Lehigh Valley Ecology and Evolution Solution 2022  
 Archie Carr Student Award, Runner Up: Biology Poster Presentation 2017  
 Gettysburg College Presidential Scholarship Recipient (\$60,000), 2012-2016  
 NRG Harold Cosgrove Presidential Scholarship Recipient (\$50,000), 2012-2016  
 Girl Scout Gold Award Recipient, 2011

## TEACHING EXPERIENCE

**Adjunct Professor** 2025-Present  
Union, NJ

Kean University

- Design and deliver all lecture and activity content for two undergraduate sections of Introduction to Environmental Science.
- Develop original instructional materials, slide decks, and weekly in-class activities to introduce/engage students in core environmental science principles.
- Grade assignments, exams, and participation activities, offering detailed feedback to support student learning and retention.
- Maintain course website using Canvas learning management system.
- Meet regularly with students during office hours to provide academic support, guidance on course material, and individualized feedback.
- Incorporate interactive and experiential learning strategies to foster critical thinking and environmental literacy.

**Adjunct Professor** 2025-Present  
Philadelphia, PA

Saint Joseph's University

- Teach undergraduate laboratory sections for Introduction to Environmental Science, delivering short lectures and guiding students through hands-on experiments aligned with preset curriculum.
- Assess student learning through grading of lab reports, assignments, and lab exams, providing timely and constructive feedback.
- Maintain laboratory safety and support students in developing data collection and analysis skills.

**LINKS Fellow** 2020-2022  
Philadelphia, PA

Wagner Free Institute of Science

- Lead taught 2<sup>nd</sup> grade science lessons in person. Co-taught science lessons for 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> grade virtually and in-person.
- Developed materials for hands-on science lessons for children in Northern Philadelphia schools participating in the Wagner Free Institute of Science's GeoKids or STEM club programs
- Supported field trips and outreach activities.
- Assisted with community outreach projects throughout the year.
- Piloted and launched after school STEM club for 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grade students.

<b>Substitute Teacher</b> ESS and St. Mary of the Lakes School	<b>2018-Present</b> NJ
<ul style="list-style-type: none"> <li>Instructed middle and elementary school STEM courses including science and math.</li> <li>Implemented lesson plans and provided follow up reports for primary classroom instructors.</li> <li>Hold New Jersey state substitute teaching license, effective 2018.</li> </ul>	
<b>Teaching Assistant (TA)</b> Gettysburg College	<b>2014-2016</b> Gettysburg, PA
<ul style="list-style-type: none"> <li>“Earth System Science” Peer Learning Associate, Environmental Studies Department             <ul style="list-style-type: none"> <li>Assisted with lab set-ups, peer-reviewed draft research papers and fielded student inquiries.</li> </ul> </li> <li>“Introduction to Photography” Peer Learning Associate, Art Studio Department             <ul style="list-style-type: none"> <li>Assisted with lab set-ups, classroom instruction, and fielded student questions.</li> <li>Prepared chemicals to stock film developing and printing room.</li> </ul> </li> </ul>	
<b>Peer Research Mentor</b> Musselman Library, Gettysburg College	<b>2014-2015</b> Gettysburg, PA
<ul style="list-style-type: none"> <li>Reference Desk staffer: Trained-in 30+ indexes, databases and library resources.</li> <li>Revised and created new curriculum content for Art and Art History Online Research Guide.</li> <li>Led class instruction on research tips and tools for Introduction to Western Arts students.</li> <li>Fielded inquiries as Reference Desk staffer.</li> </ul>	
<b><u>OTHER WORK EXPERIENCE</u></b>	
<b>Outreach Coordinator</b> SEE Turtles	<b>2021-2024</b> Portland, OR
<ul style="list-style-type: none"> <li>Created a social media plan to increase engagement and grow followers across 5 social media channels on 4 platforms, resulting in an average 83% growth in followers over 12 months.</li> <li>Spearheaded the expansion and restructuring of <a href="#">Sea Turtle Week</a>, an international program:             <ul style="list-style-type: none"> <li>Obtained grants, managed reporting, oversaw hiring and management of interns, and oversaw budget implementation.</li> <li>Coordinated Sea Turtle Week events and programming with over 200 interdisciplinary groups/partners in 40+ countries.</li> <li>Helped to organize over 150 beach cleanups with 20,000+ volunteers, removing nearly 130 tons of trash over 3 years.</li> <li>Redesigned the <a href="#">website</a>, developed a <a href="#">YouTube video series</a>, launched a <a href="#">Facebook account</a>, directed 3 international contests, collaborated with the <a href="#">2023 Global Ocean Cleanup</a>, and wrote children’s lessons for grades K-12 in both English and Spanish.</li> </ul> </li> <li>Generated daily posts advancing program material for the main SEE Turtles social media accounts across Instagram, LinkedIn, Twitter, and Facebook and 3-5 weekly posts for 4 sub program social media accounts (@billionbabyturtles, @seaturtleweek, @tooraretowear, and @tapcampaign).</li> <li>Launched a <a href="#">Zero Waste Holiday Blog</a> series and managed the monthly newsletter for their Travelers Against Plastic (TAP) program.</li> <li>Coordinated corporate and small business sponsor organizations for promotional social media posts.</li> </ul>	
<b>Web Designer</b> Medford Lakes Colony	<b>2019-2024</b> Medford Lakes, NJ
<ul style="list-style-type: none"> <li>Designed a website for a non-profit organization that organizes social, community, and recreational activities for the town of Medford Lakes, <a href="https://www.medfordlakescolony.org/"></a>.</li> <li>Launched coordinated social media profiles on Twitter, Instagram, and MeWe, in addition to existing Facebook profile to provide timely updates and information for community consumption.</li> <li>Garnered over 1,000 Instagram followers in a town of 4,000 residents.</li> </ul>	

**ANIMAL CARE AND HUSBANDRY EXPERIENCE****Veterinary Assistant****2017-2018**

Mount Laurel Animal Hospital

Mt. Laurel, New Jersey

- Assisted multiple veterinarians caring for small, farm and exotic animals from daily check-ups to specialty care including dermatology, emergency management and orthopedics.

**Shadow Volunteer****2015-2016**

Animal &amp; Bird Health Care Center &amp; Hospital

Cherry Hill, NJ

- Shadowed under direction of certified veterinarian caring for small animals and exotic companions from observing preventive medicine, physicals, surgeries and rehabilitation.

**Extern-Turtle Rescue Team****May 2015**

North Carolina State University College of Veterinary Medicine

Raleigh, NC

- Externship experience under the direction of Dr. Gregory Lewbart, VMD, ACZM.
- Calculated medicinal dosages, cleaned wounds, and applied antibiotic medications. Administered subcutaneous and intermuscular injections.
- Participated in pre-release physicals of juvenile loggerhead sea turtles at The University of North Carolina at Chapel Hill.

**Hospital Volunteer-Pre-Vets Program****Summer 2015**

University of Pennsylvania School of Veterinary Medicine

Philadelphia, PA

- Observed veterinarians & certified veterinary technicians in the Dermatology Department.
- Completed labs in Pathology, Microbiology and Anatomy.
- Attended lectures on Public Health & Toxicology, Working Dogs, and Clinical Investigations.

**Husbandry Volunteer****2013-2016**

Adventure Aquarium

Camden, NJ

- Husbandry Experience, 200 Service Hours
  - Assisted with husbandry care for 30+ species of birds, mammals, fish and invertebrates
  - Provided care and enrichment of juvenile loggerhead sea turtle.
  - Monitored and fed Cryptocaryon irritans infected tropical fish undergoing copper treatment.
  - Distributed medication to blacknose and blacktip sharks.
  - Trained and regularly practice techniques to prevent cross-contamination of exhibits.
- Guest Experience Volunteer
  - Directed public education programming highlighting 40+ species of marine organisms.

**PRESENTATIONS AT SCIENTIFIC CONFERENCES**

Holtz, B., Beamer, T., Parks, C., Hess, G. and McRobert, S. 2023. "Response of Hatchling Green (*Chelonia mydas*) and Hawksbill (*Eretmochelys imbricata*) Sea Turtles to Acoustic Cues." 41<sup>st</sup> Annual Symposium on Sea Turtle Biology and Conservation. Cartagena, Columbia.

Holtz, B., Nahill, B. and Von Weller, P. 2023. "Growing The Sea Turtle Week Campaign to Raise Awareness." 41<sup>st</sup> Annual Symposium on Sea Turtle Biology and Conservation. Cartagena, Columbia.

Holtz, B., Beamer, T., Parks, C., Hess, G. and McRobert, S. 2022. "The Role of Secondary Acoustic Cues in Sea-finding by Green (*Chelonia mydas*), Hawksbill (*Eretmochelys imbricata*), and Leatherback (*Dermochelys coriacea*) Sea Turtles." Lehigh Valley Ecology and Evolution Solution. Virtual.

- Runner Up Best Oral Presentation

Holtz, B., Beamer, T., Parks, C., Hess, G. and McRobert, S. 2022. "Behavioral Response to Acoustic Cues Present in the Marsh Environment by Hatchling Diamondback Terrapins (*Malaclemys terrapin*).” 10<sup>th</sup> Triennial Workshops on the Ecology, Status, and Conservation of the Diamondback Terrapin. Athens, Georgia

Holtz, B., Beamer, T., Parks, C., Hess, G. and McRobert, S. 2022. "The Role of Secondary Acoustic Cues in Sea-finding by Green (*Chelonia mydas*), Hawksbill (*Eretmochelys imbricata*), and Leatherback (*Dermochelys coriacea*) Sea Turtles." 40<sup>th</sup> Annual Symposium on Sea Turtle Biology and Conservation. Virtual.

Holtz, B., Stewart, K., and W. E. D. Piniak. 2020. "Influence of environmental and anthropogenic acoustic cues in sea-finding of hatchling leatherback (*Dermochelys coriacea*) sea turtles." Acoustical Society of America 2020 Acoustics Virtually Everywhere Meeting.

- Session Chair for panel on the "Effects of Anthropogenic Noise on Animal Behavior"

Holtz, B., Stewart, K., and W. E. D. Piniak. 2020. "Influence of acoustic cues in sea-finding of hatchling leatherback (*Dermochelys coriacea*) sea turtles." Animal Behavior Society 2020 Virtual Meeting.

Holtz, B., Stewart, K., and W. E. D. Piniak. 2019. "Influence of environmental and anthropogenic acoustic cues in sea-finding of hatchling leatherback (*Dermochelys coriacea*) sea turtles." 39<sup>th</sup> Annual Symposium on Sea Turtle Biology and Conservation. Charleston, SC.

Holtz, B., W. E. D. Piniak, and M. H. Godfrey. 2017. "The role of environmental acoustic cues in seafinding of hatchling loggerhead sea turtles." 37<sup>th</sup> Annual Symposium on Sea Turtle Biology and Conservation. Las Vegas, NV.

- Archie Carr Student Award Runner Up: Biology Poster Presentation

Holtz, B. and W. E. D. Piniak. 2016. "Orientation and behavioral responses of hatchling loggerhead sea turtles, *Caretta caretta*, to environmental acoustic cues." 36<sup>th</sup> Annual Symposium on Sea Turtle Biology and Conservation. Lima, Peru.

### ART SHOWCASINGS

“The World Awaits,” “Here’s Looking At You,” “Dancing in the Blue,” “Just Hatched,” and “Shadow Allee.” Winter Photography Collective, The Gallery, Medford Lakes. Digital and Film Photography exhibited December 13, 2024 through January 31, 2025.

“The World Awaits.” 2024 Fall Fine Art Juried Exhibition & Sale (Juror Phillip Carroll), Medford Arts Center. Digital Photography exhibited September 6 through October 3, 2024.

“Shadow Allee.” 2019 Juried Photography Exhibition & Sale (Juror Al Brown), Medford Arts Center. Film Photography exhibited February 8 through March 2, 2019.

“[Lens on Habitat Destruction: A Photo Essay in Double Exposure](#).” Senior Art Studio Project, Gettysburg College. Musselman Library Exhibit Talk, April 27, 2016. Digital Photography exhibited April through June 2016.

“Shadow Allee” & “Horse Sculpture: Sticks and Twine.” Juried Student Exhibition 2016 (Juror Cory Oberndorfer), Schmucker Art Gallery, Gettysburg College. Film Photography and Sculpture exhibited April 2016.

“Wanderlust” & “Tasse en bois flotte.” Juried Student Exhibition 2015 (Juror Cara Ober), Schmucker Art Gallery, Gettysburg College. Film Photography and Sculpture exhibited April 2015.

“Empty Bowl.” “Empty Bowls” Exhibition, Gettysburg College. Ceramics exhibited January through March 2015.

## **LEADERSHIP & EXTRACURRICULAR ACTIVITIES**

### **Gettysburg College Student Government**

**2012-2015**

- Treasurer, Junior Class of 2016
- Student Senate, Junior Class of 2016 Representative
- Vice President, Freshmen Class of 2016

### **Gettysburgian School Newspaper**

**2014-2016**

- Editor, Money, Science and Technology (Spring 2015)
- Editor, Sports (Fall 2014, AY 2015-16)
- Circulation Manager (Spring 2014)
- Staff Writer (2014-2016)

- Developed print and digital content covering campus and local news interest stories.
- Mentored and expanded team of 20+ junior staff writers.
- Participated in weekly story pitch meetings to generate content for all sections of the paper.

### **ULOOP News**

**2015-2016**

- Gettysburg College Campus Editor, <http://blog.uloop.com/>

- Developed story content, wrote, and edited articles for online platform.
- Received award for recruiting new contributing writers to digital platform.

## **SKILLS**

- Proficiency in data management, analysis and visualization utilizing SPSS, ArcGIS, Photoshop, Adobe InDesign and Microsoft Office software.
- Experienced in developing, editing, and printing film photography.
- Familiar with DNA Master, Glimmer, GeneMark, Aragorn and Blastp.
- Lab experience with transect, quadrat, point-quarter, and coring techniques.
- Acoustic lab and field experience. Knowledge of Adobe Audition, sound field mapping, and bioacoustics recording equipment (Tascam, M-Audio, Earthwork).
- Animal handling and husbandry of lab and exotic species.
- Communication of science-based concepts, principles, and goals through public speaking, popular press, social media, and conference presentations.