

LINNEA ANDERSEN

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EDUCATION

- 2017-Present North Carolina State University, Raleigh, NC
Doctor of Philosophy in Biology, Concentration in Cell and Development,
Minor in Biotechnology. Advisor: Dr. Benjamin J. Reading. GPA: 3.8
Anticipated graduation: May 2022
- 2014-2016 University of Maryland, College Park, MD
Bachelor of Science. Environmental Science and Policy, Concentration in Marine and Coastal
Management. GPA: 3.7
- 2015 Danish Institute for Study Abroad, Copenhagen, Denmark
Environmental Science of the Arctic Curriculum
- 2012-2013 Franklin and Marshall College, Lancaster, PA

RELEVANT WORK EXPERIENCE

- 2017-Present **Graduate Research Assistant**. North Carolina State University (NCSU) Dept. of Applied
Ecology, Raleigh, NC.
- 2017 **Staff Environmental Scientist I**. Environmental Chemical Corporation (ECC), Abingdon, MD.
- 2015-2016 **Aquaculture Technician**. University of Maryland's Crane Aquaculture Facility (UMCAF),
College Park, MD.
- 2014-2016 **Intern**. Environmental Chemical Corporation (ECC), Abingdon, MD. Paid internship position
held for three consecutive summers.
- 2016 **Intern**. U.S. Environmental Protection Agency (EPA), Office of Environmental Education
(OEE), Washington, D.C.
- 2013 **Intern**. Seer Farms Animal Sanctuary, Jackson, NJ.

TEACHING EXPERIENCE

- 2018 **Guest Lecturer.** *Biology of Fishes* (AEC441) Diversity of Fishes and Systematics IV: Primitive Bony Fishes. North Carolina State University.
- 2017 **Teaching Assistant.** *Biology of Fishes* Lecture and Laboratory (AEC 441/442). North Carolina State University.

PEER-REVIEWED PUBLICATIONS

1. Reading, B.J., **Andersen, L.K.**, Mushirobira, Y., Todo, T., Ryu, Y.-W., and Hiramatsu, N. 2018. Oogenesis and egg quality in aquaculture: Yolk formation and other factors influencing female fish fertility. *Fishes*, 3(4), 45. <https://doi.org/10.3390/fishes3040045>. *Invited Manuscript*.
2. Ryan, S.F., Driscoll, L., Adamson, N., Aktipis, A., **Andersen, L.K.**, Austin, R., Barnes, L., Beasley, M.R., Bedell, K.D., Bidell, K., Briggs, S., Chapman, B., Cooper, C., Corn, J., Creamer, N., Delborne, J.A., Domenico, P., Goodwin, J., Hjarding, A., Hulbert, J.M., Isard, S., Just, M.G., Kar Gupta, K., Lopez-Urbe, M., O'Sullivan, J., Landin, J., Landis, L., McKenney, E.A., Madden, A.A., Nichols, L.M., Ramaswamy, S., Reading, B.J., Russell, S., Shapiro, L.R., Shell, L., Sheard, J.K., Shoemaker, D.D., Sorger, D.M., Starling, C., Thakur, S., Vatsavai, R., Weinstein, M., Wimfrey, P., Dunn, R.R. 2018. The Role of Citizen Science in the History and Future of Agriculture and Food Science. *Proceedings of the Royal Society B*, 285. <https://doi.org/10.1098/rspb.2018.1977>. *Invited Manuscript*.

HONORS, AWARDS, AND FELLOWSHIPS

- 2018 148th American Fisheries Society Annual Meeting **Top 5 Best Student Poster Finalist**
- 2018 **Student Travel Award** United States Aquaculture Society (WAS-USAS)
- 2014-2016 **Academic Honors and Dean's List** University of Maryland (College Park, MD)
- 2012 **Dean's List** Franklin and Marshall College (Lancaster, PA)
- 2013 **Howard Hughes Medical Institute Fellowship** to complete neuroscience research at Franklin & Marshall College with Dr. Robert Jinks investigating the function of SMG-8 and its association with nonsyndromic mental retardation (NSMR) in Amish children

PROFESSIONAL DEVELOPMENT AND OUTREACH

- Present **Secretary.** North Carolina State University Student Fisheries Society.
- Present **Treasurer.** Zoology Graduate Student Association (ZGSA) for the Department of Applied Ecology at the North Carolina State University. Raleigh, NC.
- 2018 Volunteered as a teacher and mentor of the Aquatics curriculum to the **Margaret B. Pollard Middle School Envirothon Teams**. Chapel Hill, NC.
- 2018 Participated in the **Never Home Alone: A Gala of Stories, Foods, and Insights from the Study of Life in Homes** workshop hosted by Dr. Rob Dunn. Raleigh, NC.

- 2018 Volunteered as a judge for the **2018 State 4-H Presentation Finals** for three age groups in the category of Fisheries & Aquatics. Raleigh, NC.
- 2018 Student Mentor for the NCSU *Creating Awareness of Agriculture and Life Sciences Disciplines, Degree, and Discoveries (CAALS 3-D)* program. July 17-19. Raleigh, NC.
- 2018 Participated in the **American Fisheries Society Hutton Scholar Pen Pal Program** as a resource for high school and undergraduate students that worked in fisheries/aquaculture over the summer.
- 2018 Tour Guide for the NCSU **Exploring the Earth Summer Camp** at the NCSU Lake Wheeler Aquaculture Facility. June 21. Raleigh, NC.
- 2018 Participated in the **2018 Borlaug Summer Institute on Global Food Security** at Purdue University. June 3-16. West Lafayette, IN.
- 2018 Tour Guide for the **Cub Scouts** Pack #208 (of Cary, NC) at the NCSU Pamlico Aquaculture Field Laboratory. May 19. Aurora, NC.
- 2018 Represented the **US Chapter of the World Aquaculture Society** at the North Carolina Aquaculture Development Conference. March 8-10. New Bern, NC.
- 2017 Student Mentor for the NCSU *Creating Awareness of Agriculture and Life Sciences Disciplines, Degree, and Discoveries (CAALS 3-D)* program. July 25-27. Raleigh, NC.
- 2016 Represented the **US Environmental Protection Agency** at the USA Science and Engineering Festival. April 16-17. Washington, D.C.
- Memberships** World Aquaculture Society (USAS Chapter), National Aquaculture Association, American Fisheries Society, NCSU Student Fisheries Society (AFS Subunit), Coastal Conservation Association of North Carolina
- Certifications** 40-Hour Hazardous Waste Operations and Emergency Response (HAZWOPER), American Red Cross CPR and Bloodborne Pathogen Training, Approved IACUC personnel, Laboratory and Chemical Waste Management

PRESENTATIONS

1. McKnight, M., **Andersen, L.K.**, Daniels, H.V., and Reading, B.J. Presented by M. McKnight. 2018. Printing Three-Dimensional Fish Skulls Using Digital Radiography Data. The 27th Annual North Carolina State University Undergraduate Research Spring Symposium. April 18. Raleigh, NC, USA. *Poster format.*
2. Marin, F., **Andersen, L.K.**, Ducharme, E., Rajab, S., and Reading, B.J. Presented by F. Marin. 2018. Paternal Heritability of Growth in Domestic Striped Bass (*Morone saxatilis*) Examined Through a Feed Conversion Ratio Study. The 27th Annual North Carolina State University Undergraduate Research Spring Symposium. April 18. Raleigh, NC, USA. *Poster format.*
3. Yang, K., Ducharme, E., Rajab, S., **Andersen, L.K.**, and Reading, B.J. Presented by K. Yang. 2019. Analyzing Hepatic Steatosis and Growth Performance in Cultured Striped Bass (*Morone saxatilis*). The 28th Annual North Carolina State University Undergraduate Research + Creativity Symposium. April 24. Raleigh, NC, USA. *Poster format.*

4. Kahn, F., **Andersen, L.K.**, Ducharme, E., and Reading, B.J. Presented by F. Kahn. 2019. Optimal Water Quality Parameters for Striped Bass (*Morone saxatilis*) and Hybrid Striped Bass Growth in a Commercial Aquaponics System. The 28th Annual North Carolina State University Undergraduate Research + Creativity Symposium. April 24. Raleigh, NC, USA. *Poster format*.
5. Reading, B.J., Kowalchuk, C., **Andersen, L.K.**, Fischer, J., Mushirobira, Y., Todo, T., and Hiramatsu, N. 2019. Impact of environmental estrogens on vitellogenin and hybrid striped bass reproduction (Vitellogenesis in Fishes). EDC-NC: Endocrine Disruption Special Interest Group of the Center for Human Health and the Environment. National Institute of Environmental Health Sciences (NIEHS). April 5. Research Triangle Park, NC, USA. *Oral Presentation*.
6. **Andersen, L.K.**, Baltzegar, D.A., Fuller, A., Abernathy, J., and Reading, B.J. Presented by L.K. Andersen. 2019. The striped bass *Morone saxatilis* genome sequence assembly. Aquaculture 2019 World Aquaculture Society Triennial Meeting. March 10. New Orleans, LA, USA. *Oral Presentation*.
7. Abernathy, J., **Andersen, L.K.**, Rawles, S., Schilling, J., Fuller, A., McEntire, M., Reading, B.J., Beck, B.H., Peatman, E. Presented by B.J. Reading. 2019. Development and enhancement of white bass *Morone chrysops* resources for genetic improvement of hybrid striped bass. Aquaculture 2019 World Aquaculture Society Triennial Meeting. March 10. New Orleans, LA, USA. *Oral presentation*.
8. Reading, B.J., **Andersen, L.K.**, Schilling, J., Mushirobira, Y., Todo, T., and Hiramatsu, N. Presented by B.J. Reading. 2019. Vitellogenesis in fishes. Aquaculture 2019 World Aquaculture Society Triennial Meeting. March 9. New Orleans, LA, USA. *Oral Presentation, invited*.
9. Rajab, S.A., Ducharme, E., **Andersen, L.**, McGinty, A., Hopper, M., Daniels, H.V., and Reading, B.J. 2019. An in depth view of sunshine hybrid striped bass (male *Morone saxatilis* X female *M. chrysops*) growth performance using transcriptomics analysis of muscle tissue. Aquaculture 2019 World Aquaculture Society Triennial Meeting. March 10. New Orleans, LA, USA. *Oral Presentation*.
10. Ducharme, E.E., Rajab, S.A., **Andersen, L.K.**, McGinty, A.S., Hopper, M., Borski, R.J., Woods III, L.C., Berlinsky, D.L., Kenter, L.K., and Reading, B.J. Presented by E.E. Ducharme. 2019. Understanding sunshine hybrid striped bass (female *Morone chrysops* x male *M. saxatilis*) growth using metabolomic analysis of liver tissues. Aquaculture 2019 World Aquaculture Society Triennial Meeting. March 10. New Orleans, LA, USA. *Oral Presentation*.
11. **Andersen, L.K.**, Reading, B.J., Daniels, H.V., Hinshaw, J., Borski, R.J., and Hall, S. 2018. Aquaculture in North Carolina. College of Agriculture and Life Sciences, Carter-Finley Football Day. October 6. Raleigh, NC, USA. *Poster format, Invited*.
12. **Andersen, L.K.**, Clark, R.W., Hopper, M.S., Salger, S.A., Kenter, L.W., Berlinsky, D.L., McGinty, A.S., and Reading, B.J. 2018. Captive spawning of domestic Striped bass (*Morone saxatilis*) using photothermal induction procedures that do not rely on hormones. The 148th Annual Meeting for the American Fisheries Society. August 20. Atlantic City, NJ, USA. *Poster format*.
13. **Andersen, L.K.** 2018. Student Panel on Sustainability—Dimensions of Sustainability: Aquaculture Case Study. The 2018 Borlaug Summer Institute on Global Food Security at Purdue University. June 6. West Lafayette, IN, USA. *Oral presentation, Invited*.
14. McKnight, M., **Andersen, L.K.**, Daniels, H.V., and Reading, B.J. Presented by M. McKnight. 2018. Printing Three-Dimensional Fish Skulls Using Digital Radiography Data. The 27th Annual North Carolina State University Undergraduate Research Spring Symposium. April 18. Raleigh, NC, USA. *Poster format*.
15. Marin, F., **Andersen, L.K.**, Ducharme, E., Rajab, S., and Reading, B.J. Presented by F. Marin. 2018. Paternal Heritability of Growth in Domestic Striped Bass (*Morone saxatilis*) Examined Through a Feed Conversion Ratio Study. The 27th Annual North Carolina State University Undergraduate Research Spring Symposium. April 18. Raleigh, NC, USA. *Poster format*.

16. Erickson, K.A., **Andersen, L.K.**, and Reading, B.J. Presented by K.A. Erickson. 2018. Striped Bass (*Morone saxatilis*) Mortality During Intensive Larval Rearing. The 27th Annual North Carolina State University Undergraduate Research Spring Symposium. April 18. Raleigh, NC, USA. *Poster format*.
17. Reading, B.J., Clark, R.W., McGinty, A.S., Hopper, M.S., **Andersen, L.K.**, Ducharme, E.E., Rajab, S., Kenter, L.W., and Berlinsky, D.L. Presented by B.J. Reading. 2018. NC State University Updates on The National Program for Genetic Improvement and Selective Breeding for the Hybrid Striped Bass Industry. Invited Symposium, *Striped Bass Growers Association Industry Forum*. Aquaculture America 2018. February 22. Las Vegas, NV, USA. *Oral presentation, Invited*.
18. Reading, B.J., Clark, R.W., McGinty, A.S., Hopper, M.S., Salger, S.A., **Andersen, L.K.**, Kenter, L.W., and Berlinsky, D.L. Presented by B.J. Reading. 2018. Methods of domestic Striped bass *Morone saxatilis* spawning that do not require the use of any hormonal induction procedures. Aquaculture America 2018. February 21. Las Vegas, NV, USA. *Oral presentation*.
19. **Andersen, L.K.** and Reading, B.J. 2018. Improving Striped Bass Growth for the Farmer. The 32nd Annual Meeting of the Tidewater Chapter of the American Fisheries Society. January 26. Beaufort, NC, USA. *Oral presentation*.
20. Reading, B.J., Salger, S.A., Rajab, S., **Andersen, L.K.**, Ducharme, E.E., Clark, R.W., Hopper, M.S., Pigg, S., Dunn, R.R., Daniels, H.V., McGinty, A.S., Berlinsky, D.L., Kenter, L., Kovach, A., and Woods III, L.C. Presented by B. J. Reading. 2017. The National Program for Genetic Improvement and Selective Breeding for the Hybrid Striped Bass Industry. North Carolina State University, Department of Applied Ecology Seminar Series. September 28. Raleigh, NC, USA. *Oral presentation, Invited*.
21. Reading, B.J., Clark, R.W., **Andersen, L.K.**, Hopper, M., and McGinty, A.S. Presented by B. J. Reading. 2017. National Program for Genetic Improvement and Selective Breeding for the Hybrid Striped Bass Industry. *North Carolina Southeast District Aquaculture Advisory Committee Meeting*. May 18. North Carolina State University, Pamlico Aquaculture Field Laboratory, Aurora, NC, USA. *Oral presentation, Invited*.

STUDENTS MENTORED

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| 2018-2019 | Fatma Khan , undecided major. Expected graduation: May 2022.
<u>Project description:</u> Histological analysis of Striped bass muscle.
<u>Faculty Advisor:</u> Dr. Benjamin J. Reading. |
| 2018-2019 | Karnie Yang , seeking a B.S. in Genetics. Expected graduation: May 2021.
<u>Project description:</u> Histological analysis of Striped bass liver.
<u>Faculty Advisor:</u> Dr. Benjamin J. Reading. |
| 2018-2019 | Erica Burnett , seeking a B.S. in Fisheries, Wildlife, and Conservation Biology. Expected graduation: May 2020.
<u>Project description:</u> Optimization of aquaculture practices for various species.
<u>Faculty Advisor:</u> Dr. Benjamin J. Reading. |
| 2018-2019 | Connor Neagle , seeking a B.S. in Fisheries, Wildlife, and Conservation Biology, Concentration in Fisheries Science. Expected graduation: May 2020.
<u>Project description:</u> Curation of the NC State University Fish Collection.
<u>Faculty Advisor:</u> Dr. Benjamin J. Reading. |

- 2017-2019 **Michael McKnight**, seeking a B.S. in Biomedical Engineering. Expected graduation: May 2021. Provost Professional Experience Program Award Recipient.
Project Description: 3-Dimensional printing of fish skeletons for teaching.
Faculty Advisor: Dr. Benjamin J. Reading.
- 2017-2019 **Eric Crozier**, seeking a B.S. in Marine Science, Concentration in Biological Oceanography, Minor in Biology. Expected graduation: May 2020.
Project description: Analysis of phytoplankton blooms and nutrient availability in ponds of hybrid and pure Striped bass fry and fingerlings.
Faculty Advisor: Dr. Benjamin J. Reading.
- 2017-2019 **Tyler Coriano**, seeking a B.S. in Agricultural Business Management, Concentration in Biological Sciences, Minor in Applied Ecology. Expected graduation: May 2019.
Project description: Tilapia sex determination: Breeding fish for predominantly-male offspring.
Faculty Advisor: Dr. Benjamin J. Reading.
- 2017-2019 **Fara Marin**, seeking a B.S. in Zoology, Minor in Theatre. Expected graduation: May 2019. Provost Professional Experience Program Award Recipient.
Project description: Analysis of Striped bass feeding and growth trials in a recirculating aquaculture system (RAS).
Faculty Advisor: Dr. Benjamin J. Reading.
- 2018 **Aniya Woods**, North Carolina School of Science and Mathematics (NCSSM) student. Participant in the NCSU *Creating Awareness of Agriculture and Life Sciences Disciplines, Degree, and Discoveries* (CAALS 3-D) program.
Project description: Aquaculture and genetic sex determination in tilapias.
Faculty Advisor: Dr. Benjamin J. Reading.
- 2018 **Alexander Stanford**, North Carolina School of Science and Mathematics (NCSSM) student. Participant in the NCSU *Creating Awareness of Agriculture and Life Sciences Disciplines, Degree, and Discoveries* (CAALS 3-D) program.
Project description: Aquaculture and genetic sex determination in tilapias.
Faculty Advisor: Dr. Benjamin J. Reading.
- 2018 **Jasmine Lucas**, North Carolina School of Science and Mathematics (NCSSM) student. Participant in the NCSU *Creating Awareness of Agriculture and Life Sciences Disciplines, Degree, and Discoveries* (CAALS 3-D) program.
Project description: Aquaculture and genetic sex determination in tilapias.
Faculty Advisor: Dr. Benjamin J. Reading.
- 2018 **Ezra Melaku**, North Carolina School of Science and Mathematics (NCSSM) student. Participant in the NCSU *Creating Awareness of Agriculture and Life Sciences Disciplines, Degree, and Discoveries* (CAALS 3-D) program.
Project description: Aquaculture and genetic sex determination in tilapias.
Faculty Advisor: Dr. Benjamin J. Reading.

- 2017-2018 **Kenneth Erickson**, B.S. Fisheries, Wildlife, and Conservation Biology (May 2018). Former NOAA Ernest F. Hollings Undergraduate Scholar. Presently a M.S. student advised by Dr. Steve Midway at Louisiana State University (Baton Rouge, LA).
Project description: Analysis of larval mortality in domestic Striped bass aquaculture.
Faculty Advisor: Dr. Benjamin J. Reading.
- 2017 **Alexia Woodward**, North Carolina School of Science and Mathematics (NCSSM) student. Participant in the NCSU *Creating Awareness of Agriculture and Life Sciences Disciplines, Degree, and Discoveries* (CAALS 3-D) program.
Project description: Aquaculture and genetic sex determination in tilapias.
Faculty Advisor: Dr. Benjamin J. Reading.
- 2017 **Isabel Huesa**, North Carolina School of Science and Mathematics (NCSSM) student. Participant in the NCSU *Creating Awareness of Agriculture and Life Sciences Disciplines, Degree, and Discoveries* (CAALS 3-D) program.
Project description: Aquaculture and genetic sex determination in tilapias.
Faculty Advisor: Dr. Benjamin J. Reading.