

Cathleen M. Doyle

Curriculum Vitae

Aquatic Ecology Laboratory
200 C Limnological Processing
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Educational Background

M.S. Biological Sciences, May 2006
University of Louisiana at Lafayette, Lafayette, LA (Dr. Paul Klerks, Advisor)
Thesis Title: Heritability of heat tolerance in the least killifish, *Heterandria formosa*.
GPA: 3.75/4.0

Continuing Education, September 1998 – August 2003, Autumn 2007
The Ohio State University, Columbus, OH
GPA: 3.716/4.0

B.S. Biological Sciences, May 1991
Major: Biology; Minors: Chemistry and English
Ohio Dominican University, Columbus, OH
GPA: 3.38/4.0

Experience

2006-present Research Assistant
Department of Evolution, Ecology, and Organismal Biology, The Ohio State University, Columbus, OH
Assist graduate students with research on fish hatchery management to increase percid production and minimize water quality concerns. I am co-head technician for the Lake Erie Plankton Abundance Study (LEPAS), assisting the Ohio Department of Natural resources (ODNR), Division of Wildlife (DOW), and the Ohio Environmental Protection Agency (OEPA) with their ecological research projects and processing plankton samples.

- I analyze zooplankton and fish diets using a dissecting microscope to determine zooplankton density and biomass and dietary electivity and selectivity in larval walleye, saugeye, and age-0 channel catfish using stomach analyses.

- I use a spectrophotometer to analyze chlorophyll samples for the LEPAS (Lake Erie Plankton Abundance Study) project as well as phosphate analyses used in hatchery water quality studies. I have also used a fluorometer to analyze ammonia from hatchery pond samples.
- I have used an inverted microscope for phytoplankton enumeration to determine the effects of nutrients on species composition in ponds and Lake Erie.
- I am familiar with Microsoft Word, Excel, and Access, the statistical software programs JMP and SPSS, SigmaPlot, and becoming familiar with Visual Basic programming. I am familiar with SQL, which we use for the new LEPAS database. I have assisted in writing quarterly reports as well as final reports for projects completed in the lab.
- I help train undergraduates and work-study students to settle phytoplankton, grind and spec chlorophylls, as well as any data entry needed.
- I have trained undergraduates to help culture *Daphnia* spp. For experimental research and worked with an undergraduate to develop a culture protocol.
- I participated in the lower trophic level workshop training ODW personnel in zooplankton and phytoplankton identification and enumeration, leading the lecture and lab section on zooplankton discussing community structure in ponds and species identification. I have also helped train Aquatic Ecology Lab personnel learn the LEPAS zooplankton protocol to add information to the data base.
- I have worked with other agency's employees (e.g., the USGS) with zooplankton identification and enumeration protocols.

2004-2006 Graduate Teaching Assistant
 Department of Biology, University of Louisiana at Lafayette, Lafayette, LA
 Assisted the lab coordinator with laboratory set up and teaching various sections of the introductory biology labs for both majors' and non-majors' courses.
 Operated open laboratory sections for all introductory biology sections.

- I designed the labs used in my non-majors laboratory sections with a focus on aquatic ecology.

2001-2003 Research Assistant
 Department of Evolution, Ecology, and Organismal Biology, The Ohio State University, Columbus, OH
 Assisted graduate students with research on fish hatchery management to increase percid production. We also monitored five state fish hatcheries for zebra mussels.

- Performed zooplankton enumerations, fish diet analyses, chlorophyll analyses, and water quality analyses. Presented data to graduate students in excel files.

1987-2000 Wendy's International, Columbus, OH
 In charge of opening and closing stores at various locations, managing 2-15 employees, ordering food supplies and paper products weekly, assisting with weekly inventory, and training crew members.

Publications

Filbrun, J.E., D.A. Culver, E.N. Brumbaugh, C.M. Doyle, and S.A. Ludsin. (*In prep*) Coupled fish and plankton responses to varying fish densities in fertilized ponds. Target journal, *Aquaculture*.

Filbrun, J.E. and C.M. Doyle (*In prep*) Effects of feed provision on diel foraging and growth of first-feeding Channel Catfish and Hybrid (Channel x Blue) Catfish. Target journal, *North American Journal of Aquaculture*.

Doyle, C.M., D.A. Culver, M. Pugh, and J.E. Filbrun. (2021) *A comparison of aquaculture production methods for optimizing production of fingerling yellow perch* (*Perca flavescens*). In: *Yellow Perch, Walleye, and Sauger: Aspects of Ecology, Management, and Culture* (J.C. Bruner and R.L. DeBruyne Eds.)

Briland, R.D., C.M. Doyle, and D.A. Culver. (2015) *Large scale production of yellow perch, walleye, and hybrid walleye in ponds*. In: *Biology and Culture of Percid Fishes-Principals and Practices* (P. Kestemont Ed.)

Doyle, C.M. and P.L. Klerks. (2011) Heritability of heat tolerance in a small livebearing fish, *Heterandria formosa*. *Ecotoxicology* 20:535-542.

Filbrun, J.E., D.A. Culver, R.D. Briland, and C.M. Doyle. (2008) The quality of Ohio state fish hatcheries' water supplies, 2005-2008. State Project FADX14 Interim Report, Ohio Department of Natural Resources, Ohio Division of Wildlife. 81 pp.

Invited Lectures

2009 Doyle, C.M. 2009. *Zooplankton Overview*. State fish hatchery lower trophic levels and water quality workshop. Ohio State University and Ohio Department of Natural Resources, Division of Wildlife. 9-10 March.

- We focused on lower trophic level (LTL) and water quality (WQ) issues that influence fish production in the hatcheries. We provided the hatchery personnel tools to help assess their LTL/WQ issues providing training in phytoplankton and zooplankton identification and how nutrients affect pond dynamics between phytoplankton (edible algae), zooplankton (prey), and planktivores (larval fish).

- 2008 Doyle, C.M. 2008. *Paleolimnology*. EEOB 655: Limnology. The Ohio State University. 21 May.
- I developed and presented a lecture on paleolimnology for the limnology class, discussing how sediment cores from lakes can be used to reconstruct the past by examining the fossils, geological and chemical signals preserved in the core to reveal the ecological history of a lake and its surrounding landscape. I discussed sampling methods, core preparation, sediment properties, how to date sediments, and some of the problems encountered when trying to date the layers.
 - I designed a laboratory exercise to reinforce the principles taught in my lecture: using diatom remains to determine the changes in lake nutrient status over 200 years and using volcanic ash, varves, and radioactive carbon to date sediment cores.

Presentations at Scientific Meetings (presenting author in bold)

- 2021 **Doyle, C.M.**, D.A. Culver, and J.E. Filbrun 2021. *Effects of feed provision on diel foraging and growth of first-feeding Channel Catfish and Hybrid (Channel x Blue) Catfish*. Poster presented at the Ohio Department of Natural Resources, Division of Wildlife Annual Research Review. Columbus, Ohio, 9 – 10 December.
- 2020 **Filbrun, J.E.**, C.M. Doyle, and N. Chatakondi. 2020. Effects of feed provision on diets of channel catfish and hybrid catfish swim-up fry. Annual Meeting of the Southern Division of the American Fisheries Society, Little Rock, AR. 23 February.
- 2019 Olivas, J.E., **Filbrun, J.E.**, Doyle, C.M., and Chatakondi, N. 2019. *Diet patterns in first-feeding channel and hybrid (channel x blue) catfish*. Poster presented at the Joint Annual Meeting of the Arizona and New Mexico Chapters of the Wildlife and American Fisheries Society, Albuquerque, NM. 7 – 9 February.
- Olivas, J.E.**, Filbrun, J.E., Doyle, C.M., and Chatakondi, N. 2019. *Quantifying diel feeding patterns in juvenile channel and hybrid catfish*. Poster presented at the Annual Student Research Conference, Eastern New Mexico University, Portales, NM. 3 April.
- 2018 Filbrun, J.E., **C.M. Doyle**, and N. Chatakondi. 2018. *Diets and growth of first-feeding Channel and hybrid (Channel X Blue) Catfish*. Poster presented at the Ohio Chapter of the American Fisheries Society-Ohio Aquaculture Association Joint Meeting, Columbus, Ohio, 26 – 27 January.

2016

Doyle, C.M., D.A. Culver, M. Kulasa, A. Ford, and K. Kayle. 2016. *Plankton dynamics of the Cuyahoga River's "Old Channel" vs. the main shipping channel*. Ohio Department of Natural Resources, Division of Wildlife Annual Research Review. Columbus, Ohio, 28 January.

2015

C.M. Doyle, D.A. Culver, and K. Kayle. 2015. *What plankton monitoring can tell us about removal of Beneficial Use Impairments in the Cuyahoga River AOC*. Ohio Department of Natural Resources, Division of Wildlife Annual Research Review, Columbus, Ohio, 29 January.

2014

C.M. Doyle and D.A. Culver. 2014. *Optimizing fingerling yellow perch production in earthen ponds*. Poster presented at the Ohio Department of Natural Resources, Division of Wildlife Annual Research Review, Columbus, Ohio, 16 – 17 January.

2013

Culver, D.A., R.D. Briland, and C.M. Doyle. 2013. *Building Harmful Algal Bloom Knowledge*. Co-instructor of a continuing education workshop at the joint meeting of the West Virginia and Ohio Chapters of the American Fisheries Society, *Partnering Today for Tomorrow's Challenges*, in Huntington, West Virginia, 19 – 21 February.

2010

Klerks, P.L., G. Athrey, C. Doyle, and L. Xie. 2010. *Laboratory selection in the least killifish for resistance to environmental stressors (Cd, heat): selection responses and correlated changes*. 20th SETAC Europe annual meeting, Science and Technology for Environmental Protection. Seville, Spain, 23 – 27 May.

2009

Filbrun, J.E., C.M. Doyle, R.D. Briland, and D.A. Culver. 2009. *The quality of Ohio's state fish hatcheries' water supply, 2005 – 2008*. Ohio Department of Natural Resources, Division of Wildlife Annual Research Review, Columbus, Ohio, 19 February.

2008

Doyle, C.M., R. Briland, K. Carlson, and D.A. Culver. 2008. *Ammonia, organics, metals, and P: monitoring hatchery water quality*. Poster presented at the American Fisheries Society annual meeting. Ottawa, Ontario, Canada, 20 August.

Doyle, C.M., R. Briland, K. Carlson, and D.A. Culver. 2008. *Ammonia, organics, metals, and P: monitoring hatchery source quality*. Ohio Department of Natural Resources, Division of Wildlife Annual Research Review, Columbus, Ohio, 21 February.

Doyle, C.M., R. Briland, K. Carlson, and D.A. Culver. 2008. *Ammonia, organics, metals, and P: monitoring hatchery water quality*. Poster presented at the Darwin Award Competition, Department of EEOB, The Ohio State University, Columbus, Ohio, 4 February.

2007

Doyle, C.M. and P.L. Klerks. 2007. *Heritability of heat tolerance in a small livebearing fish*, *Heterandria formosa*. Poster presented at the American Fisheries Society annual meeting. San Francisco, California, 4 September.

Membership in Professional Organizations

The Ohio Chapter of the American Fisheries Society, 2017 – present
 The American Fisheries Society, 2007-2008, 2020 – present
 The American Elasmobranch Society, 2020 – present
 Sigma Xi, The Ohio State Chapter, 2009 – 2010

Reviewer

North American Journal of Fisheries Management
 Chapter Reviewer: Yellow Perch, Walleye, and Sauger: Aspects of Ecology, Management, and Culture (J.C. Bruner and R.L. DeBruyne Eds.)

Professional Service and Outreach

Volunteer, Museum of Biological Diversity Open House, The Ohio State University.
 Organized the Limnology/Aquatic Ecology activities. 2007 – present.
 Volunteer, visiting 6th grad students from the Indianola Alternative Middle School in Columbus, Ohio. 2015 – present. Students learned about aquatic food webs in ponds.
Judge St. Agatha annual science day, St. Agatha Middle School, Columbus, Ohio. 2002, 2003, 2007, 2008, 2009, 2010, 2011, 2012 (Contact: Dan Keller, Ph.D.)
Judge Immaculate Conception Science Fair, Immaculate Conception Grade School, Columbus, Ohio. 2009 (Contact: Ms. Cassandra Cloud)
 Teaching Assistant EEOB 655: Limnology. Professor of Record: Dr. David A. Culver. Spring 2008. (Co-lead laboratory sessions with a graduate student TA.)