

# Erin E. Collins

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## EMPLOYMENT

**2023 - present** Postdoctoral Research Associate, Michigan State University  
**2019 - 2022** Fisheries Geneticist, Columbia River Inter-Tribal Fish Commission  
**2014 - 2019** Graduate Research and Teaching Assistant, Central Michigan University  
**2010 - 2014** Lab and Field Technician, Michigan Technological University

## EDUCATION

**2019** Ph.D. Earth and Ecosystem Science, Central Michigan University  
**2013** B.S. Applied Ecology and Environmental Science; Wildlife Ecology Management; Minor: Fish Biology, *cum laude*, Michigan Technological University

## PUBLICATIONS

2025. **Collins, E.E.**, T.Q. Thompson, M.H. Meek. Evaluating intraspecific diversity and effective population size in Central Valley Chinook salmon over the past 20 years. *In prep*

### Peer Reviewed

2025. Mamoozadeh, N.R., M.J. Wade, B.N. Reid, E. Bardwell, **E.E. Collins**, S.A. Hugentobler, S. Jackson, B.C. Kline, H.E. Rothkopf, A. Zhang, M.H. Meek. A Practical Guide to Measuring and Monitoring Effective Population Size ( $N_E$ ) for Conservation and Management. *Transactions of the American Fisheries Society*. Accepted for publication

2023. **Collins, E.E.**, J.E. Hess, S. Bechtol, N. Romero, S.R. Narum, J.S. Zendt. Genetic monitoring of steelhead in the Klickitat River to estimate abundance, migration timing, and straying. *North American Journal of Fisheries Management* 00: 1-17. DOI: [10.1002/nafm.10921](https://doi.org/10.1002/nafm.10921)

2022. **Collins, E.E.**, N. Romero, J.S. Zendt, S.R. Narum. Whole-genome resequencing to evaluate life history variation in anadromous migration of *Oncorhynchus mykiss*. *Frontiers in Genetics: Population Genetics and Conservation of Aquatic Species* 13(795850). DOI: [10.3389/fgene.2022.795850](https://doi.org/10.3389/fgene.2022.795850)

2020. **Collins, E.E.**, J.S. Hargrove, T.A. Delomas, S.R. Narum. Distribution of genetic variation underlying adult migration timing in steelhead of the Columbia River basin. *Ecology and Evolution* 10(17): 9486–9502. DOI: [10.1002/ece3.6641](https://doi.org/10.1002/ece3.6641)

2018. **Collins, E.E.**, M.P. Galaska, K.M. Halanych, A.R. Mahon. Population genomics of *Nymphon australe* Hodgson 1902 (Pycnogonida, Nymphonidae) in the Western Antarctic. *The Biological Bulletin* 234(3): 180-191. DOI: [10.1086/698691](https://doi.org/10.1086/698691)

2017. Hackett, R.A., H.B. Babos, **E.E. Collins**, D. Horton, N. Schock, L.S. Schoen. Researcher disciplines and the assessment techniques used to evaluate Laurentian Great Lakes coastal ecosystems. *Journal of Great Lakes Research* 43(1): 9-16. DOI: [10.1016/j.jglr.2016.11.008](https://doi.org/10.1016/j.jglr.2016.11.008)

### Technical Reports

2025. **Collins, E.E.**, T.Q. Thompson, M.H. Meek. Chilcotin River *Oncorhynchus mykiss* genetic analysis report. Prepared for the T̄silhqot'in Nation Government.

2022. **Collins, E.E.** & S.R. Narum. Parentage Based Tagging assessment of Chinook salmon introduced to the blocked area of the Upper Columbia River. Prepared for Colville Confederated Tribes. 21 p.

2022. Hess, J.E., **E.E. Collins**, R.L. Horn, I. Koch, J. Stephenson, S. Willis, S.R. Narum. Genetic Assessment of Columbia River Stocks. Prepared for Bonneville Power Administration, U.S. Department of Energy.

2021. **Collins, E.E.** & S.R. Narum. Origin of 2021 Lewis River Juvenile Chinook Salmon using Genetic Stock Identification. Prepared for Wapato Valley, Ridgefield, WA. 25 p.

2021. Hess, J.E., **E.E. Collins**, S.A. Harmon, R.L. Horn, I. Koch, J. Stephenson, S. Willis, S.R. Narum. Genetic Assessment of Columbia River Stocks. Prepared for Bonneville Power Administration, U.S. Department of Energy. 289 p. [https://critfc.org/wp-content/uploads/2023/01/21\\_06.pdf](https://critfc.org/wp-content/uploads/2023/01/21_06.pdf)

2020. **Collins, E.E.** & S.R. Narum. Origin of 2020 Lewis River Juvenile Chinook Salmon using Genetic Stock Identification. Prepared for Wapato Valley, Ridgefield, WA. 14 p.

2020. Hess, J.E., **E.E. Collins**, S.A. Harmon, R.L. Horn, I. Koch, J. Stephenson, S. Willis, S.R. Narum. Genetic Assessment of Columbia River Stocks. Prepared for Bonneville Power Administration, U.S. Department of Energy. 329 p. <https://critfc.org/wp-content/uploads/2021/08/20-03.pdf>

### **Publications Acknowledging My Contributions**

2025. Kaylor, M.J., Ciepiela, L.R., Feden, M., Lemanski, J.T., Justice, C., Staton, B.A., Armstrong, J.B., Kelly, S., Narum, S.R., Tattam, I.A., and White, S.M. Watershed-scale dispersal patterns of juvenile Chinook Salmon (*Oncorhynchus tshawytscha*) revealed through genetic parentage analysis. *Movement Ecology*, 13, p.6.

2022. Zehpfennig, J.R., R.M. Varney, K.M. Halanych, A.R. Mahon. Mitochondrial genomes provide insight into interfamilial relationships within Pycnogonida. *Polar Biology* 45: 1513–1522. DOI: [10.1007/s00300-022-03085-6](https://doi.org/10.1007/s00300-022-03085-6)

2020. Hauger, A.N., K.M Hollis-Etter, D.R. Etter, G.J. Roloff, A.R. Mahon. Use of environmental DNA (eDNA) in streams to detect feral swine (*Sus scrofa*). *PeerJ*, 8, p.e8287.

## **OUTREACH**

### **Invited Presentations**

2023. **Collins, E.E.**, N. Romero, J.S. Zendt, S.R. Narum. Whole-genome resequencing to evaluate life history variation in anadromous migration of *Oncorhynchus mykiss*. Seminar at: University of Idaho, Department of Fish and Wildlife Sciences.

2021. **Collins, E.E.**, J.S. Hargrove, T.A. Delomas, S.R. Narum. Distribution of genetic variation underlying adult migration timing in steelhead of the Columbia River basin. Oral presentation at: The American Fisheries Society Idaho Chapter Meeting; Fisheries without Borders workshop; virtual.

2019. **Collins, E.E.**, M.P. Galaska, K.M. Halanych, A.R. Mahon. Phylogeny of Pycnogonid Families Determined with Mitochondrial Genomes and Phylogeography of *Nymphon australe* (Pycnogonida, Nymphonidae) Populations in the Southern Ocean. Oral presentation at: Michigan State University; Dr. Emily Josephs' lab.

## **Contributions to the profession**

**2019 - present** Peer reviewer: *Nature Scientific Reports*, *Methods in Ecology and Evolution*, *Canadian Journal of Fisheries and Aquatic Sciences*, *Marine Biology Research*, *Ecology and Evolution*, *Conservation Science and Practice*, *Transactions of the American Fisheries Society*, *The Journal of Fish Biology*, and *Natural Resource Modeling*

**2023 - present** Postdoc representative, Dept. of Integrative Biology, Michigan State University

**2014 - 2024** Conference presentations: *The Society for Integrative and Comparative Biology Annual Meeting*, *Scientific Committee on Antarctic Research Biology Symposium*, *The Ecological Society of America Annual Meeting*, *The American Fisheries Society Annual Meeting*, *The American Fisheries Society Idaho Chapter Meeting*, *Coastwide Salmonid Genetics meeting*, *Worldwide Fisheries Congress*, *Bay-Delta Science Conference*

**2024 - 2025** Judge, Undergraduate Research Forum, Michigan State University

**2024** Judge, Mid-Michigan Symposium for Undergraduate Research Experiences, Michigan State University

**2024** Committee chair, EEB hub renovation, Michigan State University

**2023** Blog contributor, American Genetic Association

**2022** Adjunct faculty, University of Idaho

**2012 - 2013** Treasurer for the Forestry honor society, Michigan Technological University

## **Contributions to the community**

**2023 - present** Organizer, Biology on Tap for Lansing community

**2025** Volunteer, Student Food Bank, Michigan State University

**2024** Volunteer, Lansing Rivers and River Trail Cleanup, MI Waterway Stewards

**2024** Volunteer, Boo at the Zoo, Potter Park Zoo

**2023 - 2024** Volunteer, Science Festival, Michigan State University

**2023** Volunteer, Bee Palooza, Michigan State University

**2023** Presenter, Michigan DNA Day, University of Michigan

**2023** Volunteer, Elementary school science night, Michigan State University

**2014 - 2019** Presenter, teach third graders biological concepts, Central Michigan University

**2017 - 2018** Volunteer, Bat Festival, Organization for Bat Conservation

**2017** Volunteer, STEM conference for high school girls, Central Michigan University

**2010 - 2013** Volunteer, Highway clean-up, Michigan Technological University

**2010 - 2013** Fundraiser, Supply drive for Barbara Kettle Gundlach Shelter Home

**2009 - 2013** Volunteer, Make a difference day, Michigan Technological University

## **TEACHING EXPERIENCE**

**2024 - present** Guest lecturer, Animal agriculture, Michigan State University

**2016 - 2018** Teaching assistant, Evolution, Central Michigan University

**2016** Teaching assistant, Zoology, Central Michigan University

## **Mentorship**

**2023 - present** Writing and analysis help for manuscripts and help with application materials: 4 graduate students, 1 undergraduate student, 2 lab staff, Michigan State University

**2015 - 2019** Training and supervision of DNA extractions from tissue, eDNA extractions from water samples, management of Antarctic sample collection, and RADseq library prep: 11 undergraduate students, Central Michigan University

## ADVANCED TRAINING

**2023** Applied Statistical Modelling for Ecologists workshop, Michigan State University  
**2023** Going Beyond Land Acknowledgements training, Redbud Resource Group  
**2023** Cultural competency workshop for Natural Sciences, Michigan State University  
**2020** Population genomic inference from low-coverage whole-genome sequencing data workshop, Dr. Nina Overgaard Therkildsen  
**2020** Conservation Genetics workshop, University of Montana  
**2018** Science communication and outreach program, Detroit Zoo  
**2018** Building Excellence in Graduate Teaching Assistants trainings, Central Michigan University  
**2017** Marine Ecological & Evolutionary Genomics, Station Biologique de Roscoff, France  
**2016** Advanced Training Program in Antarctica for Early Career Scientists: Biological Adaptations to Environmental Change at Palmer Station, National Science Foundation  
**2015** Bioinformatics Bootcamp, Auburn University

## HONORS

**2024** Department of Integrative Biology Travel Award, Michigan State University  
**2023** Ecology, Evolution, and Behavior Professional Horizons Grant, Michigan State University  
**2023** Ecology, Evolution, and Behavior Research Symposium 2<sup>nd</sup> Best Poster, Michigan State University  
**2018** Department of Biology Teaching Award Nominee, Central Michigan University  
**2017** Dissertation Research Support Grant, Central Michigan University  
**2017** Earth & Ecosystem Sciences Opportunity Funding, Central Michigan University  
**2016** Great Lakes National Scholarship  
**2009 - 2013** Forest Resources and Environmental Science Endowed Scholarship, Michigan Technological University  
**2009 - 2013** Dean's List, Michigan Technological University  
**2012** Summer Undergraduate Research Fellowship, Michigan Technological University