

# 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 T̓silhqot'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. Zehnpfennig, 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