

# Peter T. Euclide, PhD

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## PROFESSIONAL EXPERIENCE

- 2020 – pres. Postdoctoral Researcher: University of Wisconsin Milwaukee
- Population genomic research of fish and mammals
  - Project management of collaborative Great Lakes wide walleye research program.
  - Graduate student mentorship and management
- 2018 – 2020 Genetics Research Scientist: USGS Wisconsin Cooperative Fishery Unit
- Bioinformatics and visualization of genomics data
  - Project management of collaborative Great Lakes wide walleye research program.
  - Graduate student mentorship and management
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## EDUCATION

- 2018 Ph.D. Department of Biology, University of Vermont, VT  
Dissertation: Genetic consequences of habitat fragmentation in the Champlain basin  
Advisor: J. Ellen Marsden
- 2015 M.Sc. Rubenstein School of Environment and Natural Resources, University of Vermont, VT  
Thesis: Fixed versus plastic partial migration of the aquatic macroinvertebrate, *Mysis diluviana*, in Lake Champlain  
Advisor: Jason D. Stockwell
- 2012 B.S. Organismal Biology, Kent State University, OH  
Graduation status: summa cum laude
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## PUBLICATIONS – Published and In Press

16. Euclide, PT, MacDougall, T, Robinson, JM, Faust, MD, Wilson, CC, Chen, K, Marschall, EA, Larson, W, Ludsins, S (2021). Mixed-stock analysis using Rapture genotyping to evaluate stock-specific exploitation of a walleye population despite weak genetic structure. *Evolutionary Applications*, 00, eea.13209. <https://doi.org/10.1111/eva.13209>
15. Euclide, PT, Lor, Y, Spear, MJ, Tajjoui, T, Vander Zanden, J, Larson, WA, Amberg, J (In Press). Efficient environmental DNA biodiversity assessment of nine north-temperate lakes and rivers with established monitoring programs. *Diversity and Distributions*
14. Bootsma, ML, Miller, L, Sass, GG, Euclide, PT, Larson, WA (2020). The ghosts of propagation past: haplotype information clarifies the relative influence of stocking history and phylogeographic processes on contemporary population structure of walleye (*Sander vitreus*). *Evolutionary Applications* <https://doi.org/10.1111/eva.13186>

13. Riginos, C, Crandall, E, Liggins, L, Gaither, MR, Ewing, RB, Meyer, C, Andrews, KR, Euclide, PT, Titus, BM, Overgaard Therkildsen, N, Salces -Castellano, A, Stewart, LC, Toonen, RJ, Deck, J. 2020. Building a Global Genomics Observatory: using GEOME (the Genomic Observatories Metadatabase) to expedite and improve deposition and retrieval of genetic data and metadata for biodiversity research. *Molecular Ecology Resources*. <https://doi.org/10.1111/1755-0998.13269>
12. Robinson, KF, Bronte, CR, Bunnell, DB, Euclide, PT, Hondorp, D, Kornis, MS, Riley, S, Vinson, M, Volkel, SL, Weidel, B. 2020. A synthesis of the biology and ecology of sculpin species in the Laurentian Great Lakes and implications for the adaptive capacity of the benthic ecosystem. *Reviews in Fisheries Science & Aquaculture*. <https://doi.org/10.1080/23308249.2020.1782341>
11. Euclide, PT, Ruzich J, Hansen, SP, Rowe, D, Zorn, TG, Larson, WA. 2020. Genetic structure of Smallmouth Bass (*Micropterus dolomieu*) in Lake Michigan and the Upper Mississippi drainages relates to habitat, distance, and drainage boundaries. *Transactions of the American Fisheries Society*. <https://doi.org/10.1002/tafs.10238>
10. Euclide, PT, Pientka, B, Marsden, JE. 2020. Genetic versus demographic stock structure of rainbow smelt in a large fragmented lake. *Journal of Great Lakes Research*. <https://doi.org/10.1016/j.jglr.2020.02.009>
9. Feron, R, Zahm, M, Cabau, C, Klopp, C, Roques, C, Bouchex, O, Eche, C, Valiere, S, Donnadieu, C, Haffray, P, Bestin, A, Morvezen, R, Acloque, H, Euclide, PT, Wen, M, Jouano, E, Scharl, M, Postlethwait, JH, Schraidt, C, Christie, MR, Larson, WA, Herpin, A, and Guiguen, Y. 2019. Characterization of a Y-specific duplication / insertion of the anti-Mullerian hormone type II receptor gene based on a chromosome-scale genome assembly of yellow perch, *Perca flavescens*. *Molecular Ecology Resources*. <https://doi.org/10.1111/1755-0998.13133>
8. Chen, K, Euclide, PT, Gibbs, LH, Larson, W, Marschall, EA, Sovic, MG, Ludsins, SA. 2019. RAD-seq refines previous estimates of genetic structure in Lake Erie walleye (*Sander vitreus*). *Transactions of the American Fisheries Society*. <https://doi.org/10.1002/tafs.10215>
7. Euclide, PT, Kilpatrick, CW, Marsden, JE. 2019. Genetic diversity and structure of lake whitefish (*Coregonus clupeaformis*) 100 years after closure of the commercial fishery. *Journal of Great Lake Research*. <https://doi.org/10.1016/j.jglr.2019.09.010>
6. Euclide, PT, McKinney, GJ, Bootsma, M, Tarsa, T, Meek, MH, Larson, WA. 2019. Attack of the PCR clones: Rates of clonality have little effect on RAD-seq genotype calls. *Molecular Ecology Resources*. <https://doi.org/10.1111/1755-0998.13087>
5. Euclide, PT, Marsden, JE. 2018. Role of drainage and barriers in the genetic structuring of a tessellated darter population. *Conservation Genetics*. <https://doi.org/10.1007/s10592-018-1107-2>
4. Jude, DJ, Rudstam, LG, Holda, TJ, Watkins, JM, Euclide, PT, Balcerd, MD. 2018. Trends in Mysis diluviana abundance in the Great Lakes, 2006-2016. *Journal of Great Research*. <https://doi.org/10.1016/j.jglr.2018.04.006>
3. Euclide, PT, Flores, NM, Wargo, MJ, Kilpatrick, CW, Marsden, JE. 2017. Lack of population genetic structure of slimy sculpin in a large, fragmented lake. *Ecology of Freshwater Fish*. <https://doi.org/10.1111/eff.12385>
2. Euclide, PT, Hansson, S, Stockwell, JD. 2017. Partial diel vertical migration in an omnivorous macroinvertebrate, *Mysis diluviana*. *Hydrobiologia*. <https://doi.org/10.1007/s10750-016-2982-5>
1. Euclide, PT, Stockwell, JD. 2015. Effect of gut content on  $\delta^{15}\text{N}$ ,  $\delta^{13}\text{C}$ , and C:N of experimentally-fed *Mysis diluviana*. *Journal of Great Lake Research*. <https://doi.org/10.1016/j.jglr.2015.05.002>

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## PUBLICATIONS – In Review and In Revision

1. Euclide, PT, Robinson, JM, MacDougall, T, Faust, MD, Bootsma, M, Chen, K, Larson, WA, Ludsin, Marschall, EA, Scribner, KT, Stott, W, Wilson, CC. (In Review). Using Genomic Data to Guide Walleye Management in the Great Lakes. in Bruner, JC, and DeBruyne, RL, editors. Ecology, Management, and Culture of Sauger, Walleye, and Yellow Perch.

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## SELECTED RESEARCH PRESENTATIONS (Presenter underlined)

13. Euclide, PT, Dixon, B, Faust, M, Miller, L, Stott, W, Scribner, KT, Wilson, CC, Larson, WA 2020. Genomics provides a more nuanced picture of walleye population structure in the Great Lakes. International Association of Great Lakes Research. Virtual conference [oral presentation]
12. Euclide, PT, Larson, W, Jasonowicz, A, Sitar, A, Simchick, C, Fischer, G, Goetz, R 2020. Polygenic inheritance of differential lipid content between siscowet and lean lake trout. Wisconsin American Fisheries Society. Eau Claire, Wisconsin. [oral presentation]
11. Euclide, PT, Bootsma, M, Meek, M, McKinney, G, Larson, W 2019. Attack of the clones: The influence of PCR clones on RAD-seq genotype calls. International Association of Great Lakes Research. Brockport, New York. [oral presentation]
10. Euclide, PT, Ruzich, J, Hansen, S, Rowe, D, Zorn, T, Larson, W 2019. Population genetic structure of smallmouth bass in inland Wisconsin and Lake Michigan. Wisconsin American Fisheries Society. Greenbay Wisconsin. [oral presentation]
8. Euclide, PT, Kilpatrick, CW, Parent, T, Marsden, JE 2018. Population genetics of lake whitefish over 100 years after commercial harvest closure. International Association of Great Lakes Research. Toronto, Ontario. [oral presentation]
7. Euclide, PT, Marsden, JE 2018. Role of drainage and barriers in the genetic structuring of a tessellated darter metapopulation. Lake Champlain Research Conference. Burlington, Vermont [oral presentation]
6. Euclide, PT, Marsden, JE 2017. Movement of walleye in Lake Champlain: forty years of mark-recapture data. International Association of Great Lakes Research 2017 meeting. Detroit, Michigan [oral presentation]
5. Euclide, PT, Marsden, JE, Wargo, MJ, Flores, NM, Kilpatrick, CW 2017. Genetic structure of slimy sculpin (*Cottus cognatus*) populations in lakes. Canadian Conference For Fisheries Research, Montreal, Quebec. [oral presentation]
4. Euclide, PT, Parent, T, Gonzalez, E, Flores, NM, Wargo, MJ, Kilpatrick, CW, Marsden, JE 2015. Effect of Fish Dispersal Ability on Sensitivity to Habitat Fragmentation in a Large Lake. American Fisheries Society meeting. Portland, Oregon. [oral presentation]
3. Euclide, PT, Strayer, N, Stockwell, JD. 2015. Is Mysis in decline in the Laurentian Great Lakes?. International Association of Great Lakes Research 2015 meeting. Burlington, Vermont [poster]
2. Euclide, PT, Stockwell, JD. 2014. Fixed versus plastic partial migration of the aquatic macroinvertebrate, *Mysis diluviana*, in Lake Champlain. 2014 Joint Aquatic Sciences Meeting. Portland, Oregon [poster]
1. Euclide, PT, Stockwell, JD. 2013. Physiological plasticity in the diel vertical migration of *Mysis diluviana*. University of Vermont Student Research Conference, Vermont [oral presentation]

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### INVITED TALKS (Presenter underlined)

9. Euclide, PT, Lusdin, SA, Marschall, EA, Chen, K, Robinson, J, Faust, M, MacDougall, TM, Wilson, C, Chen K-Y, Bootsma, M, Dixon, B, Stott, W, Scribner, K, Larson, WA. 2021. [Mixed Stock analysis of East Basin walleye](#). Lake Erie Committee.
8. Euclide, PT, Lusdin, SA, Marschall, EA, Chen, K, Robinson, J, Faust, M, MacDougall, TM, Wilson, C, Chen K-Y, Bootsma, M, Dixon, B, Stott, W, Scribner, K, Larson, WA. 2021. Applications of Genomic Data for Walleye Management in Lake Erie. Walleye Task Group meeting.
7. Euclide, PT, Lusdin, SA, Marschall, EA, Chen, K, Robinson, J, Faust, M, MacDougall, TM, Wilson, C, Bootsma, M, Stott, W, Scribner, K, Larson, WA. 2020. Using Genomic Data to Guide Walleye Management in the Great Lakes. American Fisheries Society, Columbus Ohio
6. Euclide, PT. 2020. Lake Champlain walleye report. Vermont Fish and Wildlife Department. Essex, Vermont
5. Euclide, PT. 2020. Defining Connectivity of Great Lakes Smallmouth Bass Populations Using Genomics and Telemetry. Great Lakes Fishery Commission Board of Technical Experts Meeting. Ann Arbor, Michigan
4. Euclide, PT, Lusdin, SA, Marschall, EA, Chen, K, Robinson, J, Faust, M, MacDougall, TM, Wilson, C, Larson, WA, 2019. Stock Structure and Contribution of West and East Basin Walleye to Recreational and Commercial Fisheries in Lake Erie. American Fisheries Society, Reno Nevada.
3. Euclide, PT. 2019. 23andMe for smallmouth bass: Using genetics to identify genetic differences among populations. Smallmouth Bass Public Meeting, Sturgeon Bay, Wisconsin
2. Euclide, PT, Larson, W 2018. The current state of walleye genomic research in Lake Erie. Lake Erie - Inland Waters Annual Review. Columbus Ohio. [oral presentation]
1. Euclide, PT, Marsden, JE. 2018. Habitat fragmentation in the Lake Champlain basin. Vermont Fish and Wildlife Department. Essex, Vermont

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### DATA PUBLICATIONS

Lake Champlain Mysis Stable Isotopes. KNB. <https://knb.ecoinformatics.org/#view/knb.749.1>  
Mysis Density in North America. RShiny. [https://peter-euclide.shinyapps.io/Mysis\\_density\\_app/](https://peter-euclide.shinyapps.io/Mysis_density_app/)

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### GRANTS and AWARDS

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| 2018 – Pres. | Using genomics to delineate stock structure and create a standardized genetic resource for great lakes walleye. Great Lakes Fishery Commission (co-author): \$195,670  |
| 2016 – 2017  | Quantifying the consequences of water quality changes and habitat fragmentation on the genetic structure of aquatic organisms in the Lake Champlain basin. Water Resources Research Grant (primary author): \$10,000 |
| 2014         | ASLO Student Travel Grant (primary author): \$500  |
| 2014 – 2015  | Sub-lethal consequences of blue-green algae on nutrition and fitness in secondary consumers. Lintilhac Foundation Research Grant (primary author): \$10,000  |
| 2013         | Graduate Student Senate Travel Grant (primary author): \$300   |
| 2012, 2013   | Rubenstein School Graduate Student Association Mini-Grant (primary author): \$200  |

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### PROFESSIONAL ACTIVITIES

*Manuscript reviewer for:*

Journal of Great Lakes Research • Hydrobiologia • Biological Invasions • Canadian Journal of Fisheries and Aquatic Science • North American Journal of Fisheries Management • Journal of Fish Biology • Ecology and Evolution • Genes • Fishes • PLoS1 • Molecular Ecology Resources

*Professional participation:*

- 2020 American Fisheries Society Session Chair: Using Genomics to Explore Adaptation and improve Management
- 2020 IAGLR Session chair: Unraveling the code: Exploring freshwater ecosystems in the age of genomics.
- 2016 Lake Champlain Fisheries Technical Committee
- 2015 58<sup>th</sup> Annual IAGLR Conference, Burlington, VT

*Society Membership:*

- 2016 – Pres. International Association of Great Lakes Research
- 2016 – Pres. American Fisheries Society

*Workshops/courses attended:*

- 2020 Physalia: Genome Assembly Using Oxford Nanopore Sequencing
- 2018 UC Berkley: Foundations of Data Science: Computational Thinking with Python
- 2017/18 GLFC Sculpin in the Great Lakes workshop
- 2016 GLFC Structured Decision-Making and Barrier Removals
- 2015 FishR Workshop for Analyzing Fisheries Data

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**TEACHING and OUTREACH**

*Outreach and workshops facilitated*

- 2020, 2021 R-Expo, American Fisheries Society - Wisconsin Chapter (<https://peuclide.github.io/R-expo-2021/>)
- 2019 Radio interview with Door County Fishing Report / Outdoors Show
- 2014 – 2016 Champlain Research Experience for Students and Teachers (CREST) Workshop: University of Vermont; Helped plan and facilitated week-long workshop of applied field science to 6<sup>th</sup> -12<sup>th</sup> grade STEM teachers.
- 2014, 2015 Communicating Science, REU Workshop: University of Vermont; Primary workshop instructor and creator
- 2013 – 2014 ECHO Lake Aquarium Educator Fellowship: University of Vermont and ECHO Lake Aquarium and Science Center.

*Teaching Assistantships*

- 2014 Ecosystem Management, University of Vermont
- 2012, 2013 Limnology, University of Vermont
- 2013 Ecology, Ecosystems and Environment, University of Vermont

*Student research mentorship*

- 2016 – 2019 Hannah Lachance (bioinformatics and population genetics), MSc. Student (3 years)
- 2016 – 2018 Leah Cawthorn (population genetics), undergraduate workstudy student (2 years)
- 2015 – 2017 Beth Alger (fisheries and aquatic ecology), undergraduate workstudy student (1 year) research technician (2 years)
- 2015 Natalie Flores (population genetics), NSF research experience for undergraduates (REU) intern (5 months)

2014 – 2015 Karen Bishop (fish husbandry), undergraduate work study student (1 year)  
2013 – 2014 Beth White (Mysis ecology), PhD student in education (1 year)  
2012 – 2013 Suz Ball (Mysis ecology), undergraduate intern (1 year)  
2012 – 2013 Chelsea Mitchell (Mysis ecology), undergraduate inter (1 year)

*Guest lectures*

2018 Choose your own adventure: the case of the missing structure. Evolution Seminar Series,  
University of Wisconsin Madison (1 lecture)  
2016 Genetic distance and gene flow; modern genetic techniques. Conservation Biology,  
University of Vermont (3 lectures)