Peter T. Euclide, PhD

Department of Forestry and Natural Resources
Purdue University
Forestry Building
915 W. State Street

Primary email: peuclide@purdue.edu
Permanent email: peter.euclide@gmail.com
Personal webpage: peuclide.github.io

PROFESSIONAL EXPERIENCE

2021 – pres. Research Associate: Purdue University

- Illinois-Indiana Sea Grant Fisheries Extension Specialist (25% appointment)
  - Develop new workshops and programs for Southern Lake Michigan fishers
  - Facilitate ongoing fisheries extension programs in Illinois and Indiana
- Research scientist (75% appointment)
  - Seek external funding for research
  - Advise and supervise undergraduate and graduate students
  - Develop collaborative research with Biology and FNR faculty

2020 – 2021 Postdoctoral Research Associate: 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

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

Professional training:

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

PUBLICATIONS – Published and In Press

23. Johnson, A, Zipfel, K, Hallerman, E, Massure, W, Euclide, PT, Welsh, A. 2023. Genomic evaluation of native Walleye in the Appalachian Region and the effects of stocking. Transactions of the American Fisheries Society. https://doi.org/10.1002/tafs.10406
22. Euclide, PT, Larson, WA, Bootsma, ML, Faust, M, Miller, L, Scribner, KT, Stott, W, Wilson, CC, Latch, EK. 2022. A new GTSeq resource to facilitate multijurisdictional research and management of walleye *Sander vitreus*. Ecology and Evolution. https://doi.org/10.1002/ece3.9591
21. Shi, Y, Homola, J, Euclide, PT, Isermann, D, Caroffino, D, McPhee, M, Larson, W. 2022. High-density genomic data reveal fine-scale population structure and pronounced islands of adaptive divergence in lake whitefish (*Coregonus clupeaformis*) from Lake Michigan. Evolutionary Applications. https://doi.org/10.1111/eva.13475
20. Euclide, PT, Schmitt, JD, Kraus, RT, Cook, A, Markham, J. 2022. Genome-wide genetic diversity may help identify fine-scale genetic structure among Lake Whitefish spawning stocks in Lake Erie. Journal of Great Lakes Research. https://doi.org/10.1016/j.jglr.2022.05.020
19. Euclide, PT, Jasonowicz, A, Sitar, S, Fischer, G, Goetz, FW. 2022. Further evidence from common garden rearing experiments of heritable traits separating lean and siscowet lake charr (*Salvelinus namaycush*) ecotypes. Molecular Ecology. 10.1111/mec.16492
18. Thorstensen, M, Euclide, PT, Jeffrey, J., Shi, Y, Treberg, J, Watkinson, D, Enders, E, Larson, W, Kobayashi, Y., Jeffries, K. 2022. A chromosomal inversion may facilitate adaptation despite periodic gene flow in a freshwater fish. Ecology and Evolution. http://doi.org/10.1002/ece3.8898
17. Euclide, PT, Robinson, JM, MacDougall, T, Faust, MD, Bootsma, M, Chen, K, Larson, WA, Ludsin, Marschall, EA, Scribner, KT, Stott, W, Wilson, CC. 2021. 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.
16. Euclide, PT, MacDougall, T, Robinson, JM, Faust, MD, Wilson, CC, Chen, K, Marschall, EA, Larson, W, Ludsin, S. 2021. Mixed-stock analysis using Rapture genotyping to evaluate stock-specific exploitation of a walleye population despite weak genetic structure. *Evolutionary Applications*, *00*, eva.13209. https://doi.org/10.1111/eva.13209
15. Euclide, PT, Lor, Y, Spear, MJ, Tajjioui, T, Vander Zanden, J, Larson, WA, Amberg, J. 2021. Efficient environmental DNA biodiversity assessment of nine north-temperate lakes and rivers with established monitoring programs. Diversity and Distributions. https://doi.org/10.1111/ddi.13253
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, Schartl, 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, Ludsin, 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 $\delta^{15}N$, $\delta^{13}C$, and C:N of experimentally-fed *Mysis diluviana*. Journal of Great Lake Research. https://doi.org/10.1016/j.jglr.2015.05.002

PUBLICATIONS – In Review and In Revision

2. Euclide, PT, Larson, WA, Shi, Y, Gruenthal, K, Christensen, K, Seeb, J, Seeb, L. *In Review*. Is structural variation necessary to create islands of divergence in moderate gene flow species? A case study in sockeye salmon. Molecular Ecology. 10.22541/au.168371520.09492745/v1

1. Euclide, PT, Perry, C, Donabauer, SB, Greier, A, Höök, T. *In Review.* What's good for fish is good for fishes: Interspecific consistency of growth, condition, and abundance among glacier lakes. North American Journal of Fisheries Management.

SELECTED RESEARCH PRESENTATIONS

19. Cristan, E, Euclide, PT, Wilson, C, Carl, D, Homola, J. 2023. Delineation of walleye stock structure in Lake Superior. The American Fisheries Society.
18. Kraus, RA, Warren, LD, Höök, TO, Euclide, PT. Genetic identification of gizzard shad (*Dorosoma cepedianum)* and alewife (*Alosa pseudoharengus)* larvae. Purdue Forestry and Natural Resources Research Symposium. [poster]
17. Tallon, AK, Navarro, D, Blanchong, J, Euclide, PT, Ott-Conn, C, Walsh, D, DeYoung, R, Latch, EK. 2022. Development and application of a high-throughput genomic resource to inform white-tailed deer population disease and management (part 2). The Wildlife Society. [oral presentation]
16. Navarro, D, Blanchong, J, Tallon, AK, Euclide, PT, Ott-Conn, C, Walsh, D, DeYoung, R, Latch, EK. 2022. Development and application of a high-throughput genomic resource to inform white-tailed deer population disease and management (part 1). The Wildlife Society. [oral presentation]
15. Euclide, PT, Yin, X, Clapp, C, Ruetz, C, Hook, T, Christie, M. 2022. Yellow perch population and habitat use in Lake Michigan. Lake Michigan Technical Committee. [oral presentation]
14. Euclide, PT, Yin, X, Ruetz, C, Hook, T, Christie, M. 2022. Genome re-sequencing reveals genetic differences between Lake Michigan and drowned river mouth yellow perch. Joint Aquatic Sciences Meeting. [oral presentation]
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]

INVITED TALKS (Presenter underlined)

10. Euclide, PT. 2021. How population genetics protects walleye from overfishing in the Great Lake. Purdue Biology Department Seminar.
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 Ludsin, 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.
1. Euclide, PT, Marsden, JE. 2018. Habitat fragmentation in the Lake Champlain basin. Vermont Fish and Wildlife Department. Essex, Vermont

---

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/

GRANTS, AWARDS, and FUNDING (to date direct total: $1,085,320)

2023 – 2025 Understanding Klondike Reef ecotypes for lake trout restoration in the lower Great Lakes. US Fish and Wildlife Great Lakes Fish and Wildlife Restoration Act. Co-PI: $ 179,250.

2023 – 2024 Delineation of stock structure and habitat usage of Lake Superior walleye to inform restoration objectives. US Fish and Wildlife Great Lakes Fish and Wildlife Restoration Act. Co-PI: $188,653.75.

2023 - 2025 Defining connectivity of Great Lakes smallmouth bass populations using genomics and telemetry. Great Lakes Fishery Commission PI: $254,913. Grant No. TBD

2022 - 2024 Using adaptive genetic variation to improve lake whitefish genetic stock assignment in Lake Erie. US Fish and Wildlife Great Lakes Fish and Wildlife Restoration Act. PI: $101,140. Grant No: F22AP02898-00

2022 - 2023 Supplemental genetic analysis funding for the Alaska hatchery research program. Alaska Department of Fish and Game internal funding contract. PI. $144,694.

2019 – 2022 Using genomics to delineate stock structure and create a standardized genetic resource for great lakes walleye. Great Lakes Fishery Commission. Co-PI: $195,670. Grant No: 2019_LAR_440830

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. PI: $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. PI: $10,000

2013 Graduate Student Senate Travel Grant. PI: $300

2012, 2013 Rubenstein School Graduate Student Association Mini-Grant. PI: $200

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 • Molecular Ecology • Conservation Science and Practice • Conservation Genetics

Grant Reviewer:

Great Lakes Fishery Trust – 2023 • Washington Sea Grant - 2023

Professional participation:

2023 American Fisheries Society Session Chair: Research to inform walleye management: Native, introduced, and invasive aspects

2022 – Pres. Faculty/staff advisor Purdue American Fisheries Society Student Club – Indiana Chapter

2022 Joint Aquatic Sciences Meeting Session Chair: Genetic Applications in Conservation and Restoration Biology

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 58th Annual IAGLR Conference, Burlington, VT

Society Membership:

2016 – Pres. International Association of Great Lakes Research

2016 – Pres. American Fisheries Society

TEACHING and OUTREACH

Outreach and workshops facilitated

2022 – Pres. Spring and fall Illinois-Indiana Sea Grant Lake Michigan Fisheries Workshops.

2020 – 2022 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 6th -12th 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

Staff supervision

Noah Haas, Jadyn Alford, Giaia Cannoot

Student research mentorship

2022 – 2023 Rachel Kraus (development of genetic barcoding assay for alewife and gizzard shad), Undergraduate independent research, (2 years)

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)