

Curriculum Vitae
Jared J. Homola

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Education

Ph.D., Ecology and Environmental Sciences, University of Maine, Orono, Maine, anticipated 2017
M.Sc., Biology with Aquatic Sciences Emphasis, Grand Valley State University, Allendale, Michigan, August 2013.
B.Sc., Fisheries and Wildlife, Michigan State University, East Lansing, Michigan, December 2010.

Professional Experience

Teaching Assistant, School of Biology and Ecology, University of Maine, September 2015 – present, Supervisors:
Dr. Michael Kinnison, Dr. Cynthia Loftin.
IGERT Trainee, NSF-IGERT on Abrupt Climate Change/Graduate Research Assistant, University of Maine,
September 2013 – August 2015, Supervisors: Dr. Michael Kinnison, Dr. Cynthia Loftin
Graduate Research Assistant, Annis Water Resources Institute, Grand Valley State University, Muskegon,
Michigan, January 2011 – August 2013, Supervisor: Dr. Carl Ruetz III
Molecular Ecology Laboratory Technician, Michigan State University, East Lansing, Michigan,
October 2008 – January 2011, Supervisor: Dr. Kim Scribner
Lake Sturgeon Hatchery Technician, Michigan State University, Tower, Michigan,
May 2009 – August 2009 & May 2010 – August 2010, Supervisors: Ben Rook (2009), John Bauman (2010)

Publications

- 7) **Homola, J.J.**, C.R. Ruetz III, R.A. Thum, and S.L. Kohler. Submitted. Complex post-glacial recolonization inferred from population genetic structure of a sedentary fish in tributaries of eastern Lake Michigan, U.S.A. Submitted to Journal of Fish Biology.
- 6) C.R. Ruetz III, B.S. Harris, J.N. McNair, and **J.J. Homola**. 2015. Evaluation of removal and mark-recapture methods for estimating abundance of a small, non-game fish. North American Journal of Fisheries Management 35:62-74.
- 5) **Homola, J.J.**, C.R. Ruetz III, S.L. Kohler, and R.A. Thum. 2014. Weak effects of a microsporidian parasite on a benthic fish in Michigan streams. Canadian Journal of Fisheries and Aquatic Sciences 71:915-926.
- 4) **Homola, J.J.**, K.T. Scribner, R.F. Elliott, M.C. Donofrio, J. Kanefsky, K.M. Smith, and J.N. McNair. 2012. Genetic assessment of natural inter-population straying rates for spawning populations of lake sturgeon, *Acipenser fulvescens* across the Lake Michigan basin. Transactions of the American Fisheries Society 141:1374-1388.
- 3) **Homola, J.J.**, J. Kanefsky, K.T. Scribner, T.G. Kalish, and M.A. Tonello. 2012. Genetic identification of two putative world record Michigan salmonids resolves stakeholder and manager questions. Journal of Great Lakes Research 38:176-179.
- 2) Yen, T.Y., K.T. Scribner, J.A. Crossman, P.S. Forsythe, E.A. Baker, J. Kanefsky, **J.J. Homola**, and C. Davis. 2011. Relative larval loss among females during dispersal of lake sturgeon (*Acipenser fulvescens*). Environmental Biology of Fishes 91:459-469.

- 1) **Homola, J.J.**, K.T. Scribner, E.A. Baker, and N.A. Auer. 2010. Genetic assessment of straying rates of wild and hatchery reared lake sturgeon (*Acipenser fulvescens*) in Lake Superior tributaries. *Journal of Great Lakes Research* 36:798-802.

Presented Research

- 23) K. Tanaka, S.L. Belknap, and **J.J. Homola**. Stakeholder concerns guiding ecological modeling: Development of a spatio-temporal model of shell disease in American lobster. Oral presentation at the 145th Annual Meeting of the American Fisheries Society, August 16-20, 2015, Portland, Oregon.
- 22) **Homola, J.J.**, M.T. Kinnison, and C.S. Loftin. Comparative population structure of vernal pool amphibians in a developing landscape. Poster presentation at the 71st Annual Northeast Association of Fish and Wildlife Agencies, April 19-21, 2015. Newport, Rhode Island.
- 21) **Homola, J.J.**, M.T. Kinnison, and C.S. Loftin. Eco-evolutionary responses of spatially structured species experiencing climatic changes. Oral presentation at Harold W. Borns Symposium, April 9-10, 2015, Orono, Maine.
- 20) **Homola, J.J.**, M.T. Kinnison, and C.S. Loftin. Adapting to transforming environments: Consequences of climate change and urbanization on vernal pool amphibians. Oral presentation at the Maine Association of Wetland Scientists Annual Meeting, March 24, 2015, Brunswick, Maine.
- 19) K. Tanaka, S.L. Belknap, and **J.J. Homola**. Modeling Epizootic Shell Disease in American lobster (*Homarus americanus*): A Case Study in Long Island Sound. Poster presentation at the University of Maine Graduate Student Expo, April 2-3, 2015, Orono, Maine.
- 18) K. Tanaka, S.L. Belknap, and **J.J. Homola**. Shell disease in American lobster: Identification of infection-promoting environmental factors and projects for an expanding epizootic. Poster presentation at the 144th Annual Meeting of the American Fisheries Society, August 17-21, 2014, Québec City, PQ, Canada.
- 17) K. Tanaka, S.L. Belknap, and **J.J. Homola**. Shell disease in American lobster (*Homarus americanus*): An interdisciplinary approach to understanding disease emergence, expansion, and management. Poster presentation at the 10th International Workshop on Lobster Biology and Management, May 18-23, 2014, Cancún, Mexico.
- 16) **Homola, J.J.**, M.T. Kinnison, and C.S. Loftin. Exploring limits of evolutionary rescue in vernal pool amphibians facing abrupt climate change. Oral presentation at Harold W. Borns Symposium, April 17-18, 2014, Orono, Maine.
- 15) **Homola, J.J.**, M.T. Kinnison, C.S. Loftin, A.J. Calhoun, K.P. Bell, K. Capps, M.L. Hunter, D.M. Bauer, and E.J. Nelson. Of pools and people: Application of vernal pool amphibian landscape genetics in a socio-environmental coupled-systems model. Poster presentation at the 70th Annual Northeast Association of Fish and Wildlife Agencies, April 13-15, 2014, Portland, Maine.
- 14) Ruetz III, C.R., B.S. Harris, J.N. McNair, and **J.J. Homola**. Mark-recapture and removal methods for estimating sculpin abundance in streams. Oral presentation at the Annual Meeting of the Society for Freshwater Science, May 19-23, 2013, Jacksonville, Florida.
- 13) **Homola, J.J.**, C.R. Ruetz III, S.L. Kohler, and R.A. Thum. Landscape genetics of mottled sculpin: insights into historic stream colonization. Oral presentation at the Annual Meeting of the Michigan Chapter of the American Fisheries Society, February 19-21, 2013, Gaylord, Michigan.
- 12) Harris, B.S., C.R. Ruetz III, **J.J. Homola**, and J.N. McNair. Evaluating removal and mark-recapture methods for estimating abundance of a small, non-game fish. Oral presentation at the 142nd Annual Meeting of the American Fisheries Society, August 19-23, 2012, Minneapolis-St. Paul, Minnesota.
- 11) **Homola, J.J.**, K.T. Scribner, R.F. Elliott, M.C. Donofrio, J. Kanefsky, K.M. Smith, and J.N. McNair. Genetic assessment of natural inter-population straying rates for spawning populations of lake sturgeon,

Acipenser fulvescens across the Lake Michigan basin. Oral presentation at the 142nd Annual Meeting of the American Fisheries Society, August 19-23, 2012, Minneapolis-St. Paul, Minnesota.

- 10) **Homola, J.J.**, C.R. Ruetz III, and S.L. Kohler. Environmental and fish community influences on presence of a microsporidian parasite in mottled sculpin. Poster presentation at the 142nd Annual Meeting of the American Fisheries Society, August 19-23, 2012, Minneapolis-St. Paul, Minnesota.
- 9) **Homola, J.J.**, C.R. Ruetz III, and S.L. Kohler. Population- and individual-level effects of a microsporidian infection on mottled sculpins in Michigan streams. Oral presentation at the Joint Meeting of the Michigan and Wisconsin Chapters of the American Fisheries Society, February 7-9, 2012, Marinette, Wisconsin.
- 8) **Homola, J.J.**, C.R. Ruetz III, and S.L. Kohler. Individual-level effects of a microsporidian disease on mottled sculpins in Michigan streams. Poster presentation at 72nd Midwest Fish and Wildlife Conference. December 4-8, 2011, Des Moines, Iowa.
- 7) Harris, B.S., **J.J. Homola**, and C.R. Ruetz III. Evaluating removal and mark-recapture methods for estimating abundance of a small, non-game fish. Oral presentation at 72nd Midwest Fish and Wildlife Conference. December 4-8, 2011, Des Moines, Iowa.
- 6) Harris, B.S., **J.J. Homola**, and C.R. Ruetz III. Comparing two common methods for estimating stream fish abundance. Poster presentation at Fifth Annual West Michigan Regional Undergraduate Science Conference. November 12, 2011, Grand Rapids, Michigan.
- 5) Provo, S.A., **J.J. Homola**, C.R. Ruetz III, and S.L. Kohler. Effects of disease relative to infection intensity in stream fish. Poster presentation at Fifth Annual West Michigan Regional Undergraduate Science Conference. November 12, 2011, Grand Rapids, Michigan.
- 4) **Homola, J.J.**, C.R. Ruetz III, M.J. Breen, and S.L. Kohler. Apparent seasonal survival of a disease-infected population of mottled sculpin in a Michigan stream. Poster presentation at the Annual Meeting of the Michigan Chapter of the American Fisheries Society, April 6-7, 2011, Petoskey, Michigan.
- 3) **Homola, J.J.**, K.T. Scribner, R.F. Elliott, M.C. Donofrio, E.A. Baker, and N.A. Auer. Genetic assessment of dispersal rates for wild and hatchery lake sturgeon and occupancy of riverine habitats during non-spawning periods. Oral presentation at the American Fisheries Society, 140th Annual Meeting, September 12-16, 2010, Pittsburgh, Pennsylvania.
- 2) **Homola, J.J.**, K.T. Scribner, E.A. Baker, and N.A. Auer. Assessment of straying rates for wild and hatchery-reared lake sturgeon (*Acipenser fulvescens*) in Lake Superior tributaries. Oral presentation at the Michigan State University Undergraduate Research and Arts Forum, April 16, 2010, East Lansing, Michigan.
- 1) **Homola, J.J.**, K.T. Scribner, E.A. Baker, and N.A. Auer. Genetic assessment of hatchery-reared lake sturgeon (*Acipenser fulvescens*) straying and recruitment into non-target streams. Poster presentation at the Annual Meeting of the Michigan Chapter of the American Fisheries Society, February 24-25, 2010, Grayling, Michigan.

Fellowships and Research Funding Awards

Janet Waldron Doctoral Research Fellowship - \$25,000 plus tuition

Maine Association of Wetland Scientists Research Stipend, 2014 - \$500

University of Maine Adaptation to Abrupt Climate Change IGERT, Shell disease in Gulf of Maine American lobster: Identification of infection-promoting agents and projections for an expanding epizootic - \$36,083

National Science Foundation, Integrative Graduate Education and Research Traineeship - \$60,000 plus tuition

Grand Valley State University Presidential Research Grant, August 2011 - \$1000

Michigan State University College of Agriculture and Natural Resources Undergraduate Research Funding, December 2009 - \$1000

Professional Service

Graduate Student Government Senator for Ecology and Environmental Science program (EES), UMaine, 2015-present

Graduate Student Representative to the EES Executive Committee, UMaine, 2016-present

Graduate Student Representative to the EES Steering Committee, UMaine, 2016-present

Ad hoc reviewer for: African Journal of Biotechnology, Canadian Journal of Fisheries and Aquatic Sciences, Fisheries Research, and Scientific Research and Essays

Teaching Experience

Teaching assistant, BIO208 Anatomy and Physiology Laboratory – University of Maine, Spring 2016

Teaching assistant, BIO331 Vertebrate Biology Laboratory – University of Maine, Fall 2015

Guest lecturer, ECO581 Agent-based Modeling – University of Maine, Fall 2014

Guest lecturer, BIO362 Fish Biology – Grand Valley State University, Fall 2012

Honors

Grand Valley State University's nominee for the 2016 Midwest Association of Graduate Schools Master's Thesis Award for Biological/Life Sciences

University of Maine School of Biology and Ecology Graduate Student Travel Award, 2014

Grand Valley State University Graduate Dean's Citation for Outstanding Thesis

Grand Valley State University Graduate Dean's Citation for Academic Excellence in Biology

2013 Stevan Phelps Memorial Award from the Genetics Section of The American Fisheries Society for best genetics paper for lead authored publication TAFS (2012) 141:1374 – 1388

Grand Valley State University Academic Conference Fund Grant, 2012

Michigan Chapter of the American Fisheries Society Chapter Travel Grant, 2012

First place research presentation at Michigan State University Undergraduate Research and Arts Forum – Environmental Science and Natural Resources category, 2010

Finalist for Michigan State University student employee of the year, 2010

Professional Affiliations

American Fisheries Society (2010 – present)

Michigan Chapter of the American Fisheries Society (2010 – present)

Atlantic International Chapter of the American Fisheries Society (2014 – present)

The Society for the Study of Evolution (2014 – present)

American Society of Naturalists (2015 – present)

Training & Certifications

Wilderness First Aid, Primary Care Consultants, 2014

Adult and child CPR/AED, Primary Care Consultants, 2014

Adult and child CPR/AED, American Red Cross, 2012

First Aid, American Red Cross, 2012

U.S. Department of the Interior training

- NCS Defensive Driving II, 2014
- Laboratory Safety, 2014
- Safety: Authorities, Roles, and Responsibilities, 2014
- USGS Industrial Hygiene Safety Program, 2014
- USGS Safety Program Requirements, 2014

University-specific training

University of Maine

- Responsible Conduct of Research, 2014
- Field work safety, 2013
- Institutional Animal Use and Care – amphibian specific, 2013

Grand Valley State University

- Animal care and use, 2011
- Laboratory safety, 2011

Michigan State University

- Animal care and use – general, 2010
- Animal care and use – fisheries specific, 2010
- Biohazard safety, 2010
- Animal husbandry training – fisheries specific, 2010

Computer Skills

Proficient in Microsoft Word, Excel, and PowerPoint, ImageJ image analysis software, GeneClass, Geneious, NetLogo, GAMA, GenePop, FSTAT, GeneMapper, MEGA, Arlequin, and Structure; familiar with R, MARK, ArcMap 10, MIGRATE, PYTHON, and BASINS

Laboratory Skills

Technique proficiency: Qiagen DNEasy blood and tissue extraction and troubleshooting, microsatellite polymerase chain reaction optimization, execution, and troubleshooting, Sanger DNA sequencing techniques, agarose and polyacrylamide gel electrophoresis, fish necropsy, otolith aging
Equipment use proficiency: Applied Biosystems 3130 Genetic Analyzer, NanoDrop ND-2000 spectrophotometer, Hitachi FMBIO II scanner and associated software packages

Field Skills

Technique proficiency: Backpack and boat electrofishing, gill netting, fyke netting, large fish capture using dip nets, fish egg take and *in vitro* fertilization, basic care and feeding of larval and juvenile fish, embryonic and larval amphibian handling, davit and ramp boat launching
Equipment use proficiency: Small boats, outboard motors, vehicle equipped with manual transmission, chainsaws, snowmobiles, ATV's, arc/MIG welding, oxy-acetylene cutting/heating torches, GPS
Maintenance and basic repair of equipment: General automotive, small engines, chainsaws, outboard motors, snowmobiles, ATV's