Tyler Wagner

Acting Unit Leader and Adjunct Professor of Fisheries Ecology
PA Cooperative Fish & Wildlife Research Unit, USGS
The Pennsylvania State University
Department of Ecosystem Science & Management
University Park, PA 16802

txw19@psu.edu
Ph: 814-360-7781
https://wagneraqualab.weebly.com/

EDUCATION

Ph.D., Fisheries & Wildlife, Michigan State University, E. Lansing, MI	2006
M.S., Fisheries Resources, University of Idaho, Moscow, ID	2000
B.S., Fisheries Resources, University of Idaho, Moscow, ID	1999

POSITIONS HELD

Assistant Unit Leader, PA Cooperative Fish & Wildlife Research Unit, U.S. Geological Survey	2008 – Present
Affiliate Professor of Fisheries Ecology, The Pennsylvania State University	2015 – Present
Adjunct Associate Professor, Department of Fisheries & Wildlife, Michigan State University	2015 – 2020
Adjunct Assistant Professor of Fisheries Ecology, The Pennsylvania State University	2012 – 2015
Adjunct Assistant Professor of Fisheries Ecology, The Pennsylvania State University	2008 – 2012
Postdoctoral Researcher, Quantitative Fisheries Center, Michigan State University	2006 – 2008

AWARDS AND RECOGNITION

- **High-Impact Publications Awards; Penn State University, College of Agricultural Sciences**: Award recognize peer-reviewed research that demonstrates significant impact, or potential for impact, through discoveries that address pressing and emerging critical issues facing agriculture, the environment, and society. (2024)
- **U.S. Geological Survey Performance Award (2008 – 2024)**: U.S. Geological Survey, Cooperative Research Unit Program – Reston, Virginia.
- **U.S. Geological Survey Scientific Excellence Award (2019)** - Awarded for excellence in furthering the mission of the Cooperative Research Units Program.
- **U.S. Geological Survey Scientific Excellence Award (2017)** - Awarded for excellence in furthering the mission of the Cooperative Research Units Program.
- **The Edward D. Bellis Award (2018)** - Awarded to recognize faculty members in the Intercollege Graduate Degree Programs in Ecology for outstanding contribution and dedication to educating and training graduate students in the program.
- **Robert L. Kendall Award for the Best Paper in the Transactions of the American Fisheries Society (2017)**: co-author.
- **U.S. Geological Survey Scientific Excellence Award (2015)** - Awarded for excellence in furthering the mission of the Cooperative Research Units Program.
- **National Fish Habitat Award for Excellence in Scientific Achievement (2015)** - To recognize outstanding achievement in the use of science to improve fish habitat conservation. Awarded to an individual or group who has developed and/or implemented science-based tools, assessments, or methodologies that assist in the conservation of aquatic habitat. This award was given to Wagner for research on brook trout conservation and management in the eastern U.S.

GRANTS (over $13,000,000 in total funding; † = active)

45. †*Pennsylvania Fish & Boat Commission*: Evaluating the post-release dispersal of relocated riverine smallmouth bass weighed in as part of tournaments. PI: **Tyler Wagner**. Total: $218,159

44. †*Minnesota Aquatic Invasive Species Research Center*: Zebra mussel impacts on fish mercury concentrations. co-PIs: Gretchen Hansen (UM), **Tyler Wagner**, Erin Schliep. Total: $101,639.

43. †*Penn State University, College of Ag*: The use of riparian buffer best management practices to reduce thermal stress on trout populations. co-PIs (all PSU): Jason Keagy, **Tyler Wagner**, Tyler Groh. Total: $146,524.

42. †*PA Sea Grant*: Per- and polyfluoroalkyl occurrence and concentrations in lentic invasive snakehead populations: identifying gene expression signatures of toxicity with implications for human consumption advisories. PI: **Tyler Wagner**, co-PIs (all PSU): Jason Keagy, Megan Schall, Calvin Norman. Total: $178,985.

41. †*Great Lakes Fishery Commission*: Defining oxythermal performance metrics for use in physiologically guided abundance models of diverse coregonid ecotypes. co-PsI: Gretchen Hansen (UM) and **Tyler Wagner**. Total: $245,506.

40. †*U.S. Geological Survey*: Quantifying per- and polyfluoroalkyl substances in aquatic environments. PI: **Tyler Wagner**. Total: $75,000.

39. †*U.S. Geological Survey*: Understanding spatiotemporal drivers of fisheries and aquatic resources in the Chesapeake Bay Watershed. PI: **Tyler Wagner**. Total: $546,753.

38. †*U.S. Geological Survey, Southeast Climate Adaptation Science Center*: Putting the sampling design to work: enhancing monitoring programs for improved management and inference of ecological responses to changes in climate. PI: Erin Schliep (NC State), co-PIs: **Tyler Wagner**, Christopher Wikle (Mizzou). Total: $397,469.

37. *PA Sea Grant*: Aquatic food web changes to invasive Flathead Catfish along an invasion gradient. PI: **Tyler Wagner**, co-PIs: Geoff Smith (PA Fish & Boat Commission), Megan Schall (PSU). Total: $118,498.

36. *National Park Service*: Changes in stream fish distribution and occurrence in seven National Park Service units of the Eastern Rivers and Mountains Network. co-PIs (all PSU): **Tyler Wagner** and Franny Buderman. Total: $152,709.

35. *National Science Foundation*: Collaborative Research: RAPID: lake ecosystem responses to fire along gradients of burn characteristics and hydrologic connectivity. PI: Ian McCullough (MSU) et al.; Senior project personnel: **Tyler Wagner**. Total: $177,183.00.

34. *PSU College of Agriculture*: Landscape Transcriptomics as a new tool for natural and agricultural resource management. PI: Jason Keagy (PSU), co-PIs (all PSU): **Tyler Wagner**, Christina Grozinger, Heather Hines, Jill Hamilton, Margot Kaye, Jesse Lasky, Ruairidh Sawers, Tetyana Zhebentyayeva. Total: $25,000.

33. *PSU College of Agriculture*: Landscape transcriptomics as a new tool for natural resources management. PI: Jason Keagy (PSU), co-PIs (all PSU): **Tyler Wagner**, Christina Grozinger, Heather Hines. Total $9,986.

32. *USGS Cooperative Fish and Wildlife Research Units*: Forecasting Aquatic Invasions in Rivers: Using Riverscapes Genetics to Inform Invasive Fish Species Management at Regional Scales. PI: **Tyler Wagner**. Total $200,000.

31. *National Science Foundation*: Scale, Space, and Time: A Unifying Approach to Aquatic Invasions. PI: Brandon Peoples (Clemson), co-PIs: Steve Midway (LSU), Julian Olden (UW), Shweta Singh (Purdue), Traci Birch (LSU), Matthew Hiatt (LSU), Patricia Carbajales (Clemson), Stuart. Borrett (UNCW), Senior project personnel: Gretchen Hansen (Univ. Minnesota), and **Tyler Wagner**. Total $731,464.

30. *U.S. Geological Survey*: Determining the consequences of land management actions on primary drivers influencing smallmouth bass populations; PI: Tyler Wagner. Total $575,000.

29. *Pennsylvania Sea Grant*: Quantifying the Roles of Changing Watershed Conditions and Biotic Interactions in Structuring Pennsylvania Stream Fish Communities; PI: **Tyler Wagner**, co-PIs: Tim Wertz (PA DEP), Matt Shank (SRBC), Megan Schall (PSU), Geoff Smith and Doug Fischer (PA Fish & Boat Commission). Total $100,000.

28. *USGS National Climate Adaptation Science Center*: Fish habitat restoration to promote adaptation: resilience of sport fish in lakes of the Upper Midwest. PI: Gretchen Hansen (Univ. Minnesota), co-PIs: **Tyler Wagner**, Jordan Read (USGS); Erin Schliep (Univ. of Missouri); Zach Feiner (WI DNR); Catherine Hein (WI DNR); Pete Jacobson (MN DNR); Joe Nohner (Midwest Glacial Lakes Partnership and MI DNR); Samantha Oliver (USGS); Kevin Wehrly (MI DNR); Abigail Lynch (USGS National Climate Adaptation Science Center). Total $495,955.

27. *Pennsylvania Sea Grant*: Diet composition of invasive Flathead Catfish in the Susquehanna River Basin: quantifying impacts on native and migratory fishes and recreational fisheries; PI: Megan Schall (PSU), co-PIs: **Tyler Wagner**, Geoff Smith (PA Fish & Boat Commission) and Julian Avery (PSU). Total $183,841.

26. *Pennsylvania Sea Grant*: Comparison of age and growth patterns of Flathead Catfish in invasive and native populations: A meta-analysis with implications for invasive species management in Pennsylvania; PIs: **Tyler Wagner** and Geoff Smith (PA Fish & Boat Commission). Total: $94,869.

25. *R.K. Mellon Freshwater Research Initiative*: Micro-RNA profiles of brook trout in response to thermal stress; PI: **Tyler Wagner**, co-PIs: Luke Iwanowicz (USGS), Shannon White (PSU). Total: $10,000.

24. *R.K. Mellon Freshwater Research Initiative*: Emerging contaminants in groundwater: implications for smallmouth bass health in the Susquehanna River Basin; PI: **Tyler Wagner**, co-PIs: Vicki Blazer (USGS). Total: $13,827.

23. *National Science Foundation*, MacroSystems Biology and Early NEON Science: A macrosystems ecology framework for continental-scale prediction and understanding of lakes; PI: Patricia. Soranno (MSU), co-PIs: Kendra Cheruvelil (MSU), Pang-Ning Tan (MSU), Jiayu Zhou (MSU), Emily Stanley (UW), Corinna Gries (UW), Noah Lottig (UW), Tyler Wagner, Ephraim Hanks (PSU), Erin Schliep (UM). Total: $4,257,250; Amount to Wagner: $268,876.

22. *U.S. Geological Survey*: Establishing a strategy for assessing risk of endocrine-disrupting compounds to aquatic and terrestrial organisms; PI: **Tyler Wagner**, Co-PIs (all USGS): Vicki Blazer, Donald Tillett, Patrick Phillips. Total $408,380.

21. *Pennsylvania Sea Grant*: Preliminary determination of density and distribution of Flathead Catfish Pylodictis olivaris in the Susquehanna River and select tributaries; co-PIs: T**yler Wagner** and Geoff Smith (PA Fish & Boat Commission). Total: $71,072.

20. *R.K. Mellon Freshwater Research Initiative*: An investigation into the role of groundwater as a point source of emerging contaminants to smallmouth bass in the Susquehanna River basin; PI: **Tyler Wagner**, co-PIs: Vicki Blazer (USGS), Megan Schall (PSU), Jonathan Niles (SU). Total: $19,891.

19. *R.K. Mellon Freshwater Research Initiative*: Population genetic structure of brook trout in the Loyalsock Creek watershed; PI: **Tyler Wagner**, co-PIs: Victoria Braithwaite (PSU), Shannon White (PSU), Meredith Bartron (USFWS), Jonathan Niles (SU). Total: $12,500.

18. *R.K. Mellon Freshwater Research Initiative*: Phenotype-specific gene expression in brook trout in the Loyalsock Creek Watershed; PI: **Tyler Wagner**, co-PIs: Shannon White (PSU), Victoria Braithwaite (PSU), Luke Iwanoxicz (USGS), Jonathan Niles (SU). Total: $17,500.

17. *R.K. Mellon Freshwater Research Initiative*: Investigation of genetic population structure of smallmouth bass in the Susquehanna River basin; PI: **Tyler Wagner**, co-PI: Megan Schall (PSU). Total: $13,500.

16. *Pennsylvania Sea Grant*: Investigating the role of contaminants and parasite prevalence in the observed mortality of smallmouth bass in the Susquehanna River basin; PI: **Tyler Wagner**, co-PIs: Vicki Blazer (USGS), Geoff Smith (PA Fish & Boat Commission). Total: $74,900.

15. *Pennsylvania Sea Grant*: Quantifying seasonal movement dynamics and thermal habitat use of smallmouth bass in the Susquehanna River basin: implications for fish disease and fisheries management; PI: **Tyler Wagner**. Total: $30,000.

14. *U.S. Geological Survey*, Pennsylvania Water Resources Research Center Small grants program: Determining how fish populations cope with rapid environmental fluctuation: A cast study in Pennsylvania streams; co-PIs: **Tyler Wagner** and Victoria Braithwaite (PSU), Shannon White (PSU). Total: $17,950.

13. *U.S. Geological Survey*, Northeast Climate and Wildlife Science Center: A decision support mapper for conserving stream fish habitats of the Northeast; PI: Craig Paukert (USGS), Co-PIs: Dana Infante (MSU), **Tyler Wagner**, Jana Stewart (USGS), Joanna Whittier (UM). Total: $199,881.

12. *National Park Service*: Fish community assessment in the Eastern Rivers and Mountains Network and integration with existing monitoring data; PI: **Tyler Wagner**. Total: $148,615.

11. *US Fish & Wildlife Service*: Structured decision making for Key Deer management and recovery; Co-PIs (both USGS): Duane Diefenbach, **Tyler Wagner**. Total: $81,386.

10. *U.S. Geological Survey*, Northeast Climate and Wildlife Science Center: Characterization of spatial and temporal variability in fishes in response to climate change; Co-PIs Tyler Wagner, Brian Irwin (USGS), and Jim Bence (MSU). Total: $149,945.

9. *U.S. Geological Survey*, Chesapeake Bay Priority Ecosystems Science: Linking fish health, contaminants, and population dynamics of smallmouth bass populations in the Susquehanna River, Pennsylvania; PI: **Tyler Wagner**. Total: $300,000.

8. *U.S. Geological Survey*: Transboundary management and conservation: linking large-scale dynamics to ecological monitoring and management; PI: **Tyler Wagner**, co-PIs: Brian Irwin (USGS), Joseph Zydlewski (USGS). Total: $117,427.

7. *National Science Foundation*, MacroSystems Biology and Early NEON Science: The effects of cross-scale interactions on freshwater ecosystem state across space and time; PI: Patricia Soranno (MSU), Co-PIs: Kendra Cheruveli (MSU), Pang-Ning Tan (MSU), T**yler Wagner**, Emily Stanley (UM) and others. Total: $1,310,583.

6. *U.S. Geological Survey*, National Climate Change & Wildlife Science Center: Managing the nations fish habitat at multiple spatial scales in a rapidly changing climate; PI: **Tyler Wagner**. Total: $235,445.

5. *Pennsylvania Fish & Boat Commission*: Evaluation of wild trout resources and restoration efforts in Pennsylvania; PI: **Tyler Wagner**. Total: $104,741.

4. *Pennsylvania Fish & Boat Commission*: Distributions of PCB congeners in Pennsylvania streams and fish: implications for risk management and fish health; PI: **Tyler Wagner**. Total: $284,924.

3. *U.S Fish & Wildlife Service*: Habitat use, movement and genetic composition of lake trout in the Niagara River and Niagara Bar; PI: **Tyler Wagner**. Total: $142,292.

2. *U.S Fish & Wildlife Service*: Comparative energetics of lake trout morphotypes; PI: **Tyler Wagner**. Total: $125,050.

1. *U.S Fish & Wildlife Service*, Great Lakes Fish and Wildlife Restoration Act: Spatial and temporal components of variation in Great Lake percid populations: implications for conservation and management; PI: **Tyler Wagner**, co-PIs: Brian Irwin (USGS), Jim Bence (MSU). Total: $67,878.

PUBLICATIONS (* = graduate student, † = postdoc ‡ = undergraduate, ⋆ = co-leads)

2025

140. Soranno, P.A., P.J. Hanly, K.E. Webster, **T. Wagner**, A. McDonald, A. Shuvo, E.M. Schliep, K.L. Reinl, I.M. McCullough, P-N. Tan, N.R. Lottig, and K.S. Cheruvelil. 2025. Abrupt changes in algal biomass of thousands of US lakes are related to climate and are more likely in low-disturbance watersheds. Proceedings of the National Academy of Sciences 122(9):e2416172122.

139. Waraniak†, J., S. Batchelor*, **T. Wagner**, J. Keagy. 2025. Landscape transcriptomic analysis detects thermal stress responses and potential adaptive variation in wild brook trout (Salvelinus fontinalis) during successive heatwaves. Science of the Total Environment 969: 178960.

138. Schall, M.K., G.D. Smith, V.S. Blazer, H.L. Walsh, and **T. Wagner**. 2025 Factors influencing the prevalence of hyperpigmented melanistic lesions in smallmouth bass Micropterus dolomieu in the Susquehanna River Basin, Pennsylvania. Journal of Fish Diseases 48(1):e14033.

2024

137. Stum*, M.B., C. Tzilkowski, M. Marshall, F. Buderman, and **T. Wagner**. In press. Decadal changes in stream fish communities and contemporary ecological drivers of species occupancy in two Appalachian U.S. National Parks. Transactions of the American Fisheries Society.

136. Waraniak†, J. M.S. Eackles, J. Keagy, G.D. Smith, M. Schall, S. Stark, S.L. White, D.C. Kazyak, **T. Wagner**. 2024. Population genetic structure and demographic history reconstruction of introduced flathead catfish (Pylodictis olivaris) in two US mid-Atlantic rivers. Journal of Fish Biology 105:1614-1627.

135. Custer*, C.A., J.S. North, E.M. Schliep, M.R. Verhoeven, G.J.A. Hansen, **T. Wagner**. 2024. Predicting climate change effects using a joint species, spatially dependent physiologically guided abundance model. Ecology, Statistical Report 105:e4362.

134. Stark*, S., M.K. Schall, G.D. Smith, A.P. Maloy, J.A. Coombs, **T. Wagner**, J. Avery. 2024. Feeding Habits and Ecological Implications of the Invasive Flathead Catfish, Pylodictis olivaris, in the Susquehanna River Basin, Pennsylvania. Transactions of the American Fisheries Society 153:591–610.

133. McLaughlin†, P., K. Krause, K. Maloney, T. Woods, and **T. Wagner**. 2024. Evaluating the effectiveness of joint species distribution modeling for freshwater fish communities within large watersheds. Canadian Journal of Fisheries and Aquatic Sciences 81:1248-1263.

132. **Wagner, T**., P. McLaughlin‡, K.E. Faunce, S. Austin, K. Smalling. 2024. The effects of wastewater reuse on smallmouth bass (Micropterus dolomieu) relative abundance in the Shenandoah River Watershed, USA. Environmental Toxicology and Chemistry 43:1138–1148.

131. Custer*, C.A., D.P. Fischer, G. Smith, A. Henning, M.K. Schall, M. Shank, T.A. Wertz, and **T. Wagner**. 2024. Quantifying the relative importance of biotic and abiotic factors in landscape-based models of stream fish distributions. Community Ecology 25(2), 145-196.

130. White, S.L., J. Keagy, S. Batchelor, J. Langlois•, N. Thomas•, and **T. Wagner**. 2023. Movement beyond the mean: decoupling sources of individual variation in brook trout movement across seasons.Environmental Biology of Fishes 106:2205–2218.

129. North, J.S., E.M. Schliep, G.J.A. Hansen, J. Kundel, C.A. Custer*, P. McLaughlin, and **T. Wagner**. 2024. Accounting for spatio-temporal variation in catchability in joint species distribution models. Journal of Applied Ecology 61:186-201.

2023

128. Lapierre J.F., K.E. Webster, E. Hanks, **T., Wagner** , P.A. Soranno, I.M. McCullough, K.L. Reinl, M. Domka and N.R. Lotting. 2023. A continuous classification of the 476,697 lakes of the conterminous US based on geographic archetypes. Limnology and Oceanography 68:2759-2773..

127. McCullough‡, I.M., J.A. Brentrup, **T. Wagner**, J-F. Lapierre, J. Henneck, A.M. Paul, M. Belair, M.A. Mortiz, C.T. Filstrup. 2023. Fire characteristics and hydrologic connectivity influence short-term responses of north temperate lakes to wildfire. Geophysical Research Letters 50(16), p.e2023GL103953.

126. Smalling, K.L., K.M. Romanok, P.M. Bradley, M.C. Morriss, J.L. Gray, L.K. Kanagy, S.E. Gordon, B.W. Williams, S.E. Breitmeyer, D.K. Jones, L.A. DeCicco, C.A. Eagles-Smith, and **T. Wagner**. 2023, Per- and Polyfluoroalkyl Substances (PFAS) in United States Tapwater: Comparison of Underserved Private-Well and Public-Supply Exposures and Associated Health Implications, Environment International, p. 108033

125. **Wagner, T.**, E.M. Schliep, J.S. North, H. Kundel, J.K. Ruzich, C.A. Custer*, and G.J.A. Hansen. 2023. Predicting climate change impacts on poikilotherms using physiologically guided species abundance models. Proceedings of the National Academy of Sciences: 15: e2214199120

124. Keagy, J., C. Drummond, K. Gilbert, C. Grozinger, J. Hamilton, H. Hines, J. Laske, C. Logan, R. Sawers, and **T. Wagner**. 2023. Landscape transcriptomics as a tool for addressing global change effects across diverse species. Molecular Ecology Resources.

123. Schall, M.K., G.D. Smith, V.S. Blazer, H.L. Walsh, T. Wertz, D. Shull, and **T. Wagner**. 2023. Assembling the right pieces: developing an interdisciplinary team to study disease, decline, and recovery of a world-class Smallmouth Bass fishery. Fisheries 48:287-294.

2022

122. Liang†, Z., Y. Xu, G. Zhao, W. Lu, Z. Fu, S. Wang, and **T. Wagner**. 2023. Approaching the upper boundary of stressor-response relationships: Identifying factors using a novel framework integrating quantile regression with interpretable machine learning. Frontiers of Environmental Science and Engineering 17:p.76.

121. Gordon, S., **T. Wagner**, K. Smalling, and O. Devereux. 2023. Estrogenic activity response to best management practice implementation in agricultural watersheds in the Chesapeake Bay Watershed. Journal of Environmental Management 326:116734..

120. McCullough, I.M., Hanly, P.J., King, K.B.S., and **T. Wagner**. 2022. Freshwater corridors in the conterminous US: a coarse-filter approach based on lake-stream networks. Ecosphere e4326.

119. McLaughlin†, P., R. Alexander, J. Blomquist, O. Devereux, G. Noe, K. Smalling, and **T. Wagner**. 2022. Power Analysis for Detecting the Effects of Best Management Practices on Reducing Nitrogen and Phosphorus Fluxes to the Chesapeake Bay Watershed, USA. Ecological Indicators 136:108713.

118. Cheruvelil, K.S., K. Webster, K. King, A. Poisson, and **T. Wagner**. 2022. Taking a macroscale perspective to improve understanding of shallow lake total phosphorus and chlorophyll a. Hydrobiologia 849:3663-3677.

2021

117. **Wagner, T.**, McLaughlin†, P., Smalling, K., Breitmeyer, S., Gordon, S., and Noe, G.B., 2021. The statistical power to detect regional temporal trends in riverine contaminants in the Chesapeake Bay Watershed, USA. Science of the Total Environment 812: 152435.

116. Sweka, J.A. and **T. Wagner**. 2021. Influence of seasonal extreme flows on Brook Trout recruitment. Transactions of the American Fisheries Society.

115. Qui, Q., Y. Xu, S.S. Matsuzaki, K. Komatsu, Z. Liang, **T. Wagner**. 2021. A framework to track temporal dependence of chlorophyll–nutrient relationships: implications for lake eutrophication management. Journal of Hydrology 603:127134.

114. White, S.L., M.S. Eackles, **T. Wagner**, M. Schall, G. Smith, J. Avery, and D.C. Kazyak. 2021. Optimization of a suite of flathead catfish (Pylodictis olivaris) microsatellite markers for understanding the population genetics of introduced populations in the northeast United States. BMC Research Notes 14:314.

113. Liang,† Z., Y. Liu, Y. Xu, **T. Wagner**. 2021. Bayesian change point quantile regression approach to enhance the understanding of shifting phytoplankton-dimethylsulfide relationships in aquatic ecosystems. Water Research p.117287.

112. Massie*, D.L., Y. Li, and **T. Wagner**. 2021. A framework for detecting macroscale drivers on fish growth. Canadian Journal of Fisheries and Aquatic Sciences 78:165-172.

111. Smith, G.D., D.L. Massie, J. Perillo, **T. Wagner**, D. Pierce. 2021. Range expansion and factors affecting abundance of invasive Flathead Catfish at the Delaware and Susquehanna rivers, Pennsylvania, USA. North American Journal of Fisheries Management 41:S205-S220.

110. Smalling, K.L., O.H. Devereux, S.E. Gordon, P. Phillips, V.S. Blazer, M.L. Hladik, D.W. Kolpin, M.T. Meyer, A.J. Sperry, and **T. Wagner**. 2021. Environmental and anthropogenic drivers of contaminants in agricultural watersheds with implications for land management. Science of the Total Environment 145687.

109. Massie*, D.L., G.J.A. Hansen, Y. Li, G.G. Sass., and **T. Wagner**. 2021. Do lake-specific characteristics mediate the temporal relationship between walleye growth and warming water temperatures? Canadian Journal of Fisheries and Aquatic Sciences 78:913-923.

108. Gatch, A. Z. Biesinger, E. Bruestly, C. Karboski, K. Lee, **T. Wagner**, M. Bartron, D. Gorsky. 2021. Discovery of Successful River Spawning by Lake Trout (*Salvelinus namaycush*) in the Lower Niagara River, Lake Ontario. Journal of Great Lakes Research 47:486-493.

107. Liang†, Z., Y. Xu, Q. Qiu, Y. Liu, W. Lu, and **T. Wagner**. 2021. Developing Joint Nutrient Criteria Using Quantile Regression for Lake Eutrophication Management. Journal of Hydrology 594:125.

106. White†, S.L. and **T. Wagner**. 2021. Behavior at short temporal scales drives dispersal dynamics and survival in a metapopulation of brook trout (Salvelinus fontinalis). Freshwater Biology 66:278–285.

105. Lapierre, J-F., S.M. Collins, S.K. Oliver, E.H. Stanley, **T. Wagner**. 2021. Inconsistent browning of Northeastern US lakes despite increased precipitation and recovery from acidification. Ecosphere 12 e03415.

104. Thompson*, T.J., M.A. Briggs, P.J. Phillips, V.S. Blazer, K.L. Smalling, D.W. Kolpin, **T. Wagner**. 2021. Groundwater discharges as a source of phytoestrogens and other agriculturally derived contaminants to streams. Science of the Total Environment 755, Part 1, 142873.

2020

103. Li†, Y., V.S. Blazer, L.R. Iwanowicz, M.K. Schall†, K. Smalling, D. Tillitt, and **T. Wagner**. 2020. Ecological risk assessment of environmental stress and bioactive chemicals to riverine fish populations: an individual-based model of smallmouth bass *Micropterus dolomieu*. Ecological Modelling 438:109322.

102. Liang†, Z., P.A. Soranno, **T. Wagner**. 2020. The role of phosphorus and nitrogen on chlorophyll *a*: evidence from hundreds of lakes. Water Research 185:116236.

101. Maynard-Bean, E. E. M. Kaye, **T. Wagner**, E.P. Burkhart. 2020. Citizen scientists record novel leaf phenology of invasive shrubs in eastern U.S. forests. Biological Invasions 22:3325–3337.

100. **Wagner, T.**, G.J.A. Hansen, E. Schliep, B. Bethke, A. Honsey, P. Jacobson, B.C. Kline‡, and S.L. White†. 2020. Improved understanding and prediction of freshwater fish communities through the use of joint species distribution models. Canadian Journal of Fisheries and Aquatic Sciences 77: 1540-1551.

99. Schall, M.K., G.D. Smith, V.S. Blazer, H.L. Walsh, Y. Li, and **T. Wagner**. 2020. A fishery after the decline: The Susquehanna River Smallmouth Bass story. Fisheries.

98. Stachelek, J. W. Weng, C.C. Carey, A.R. Kemanian, K.M. Cobourn, **T. Wagner**, K.C. Weathers, P.A. Soranno. 2020. Granular measures of agricultural land-use influence lake nitrogen and phosphorus differently at macroscales. Ecological Applications 30, e02123.

97. Brennan, J.C., R.W. Gale, D.A. Alvarez, J.K. Leet, Y. Li, **T. Wagner**, D.E. Tillitt. 2020. Factors affecting sampling strategies for design of an effects-directed analysis for endocrine-active chemicals. Environmental Toxicology and Chemistry 39:1309-1324.

96. McClure*, C.M., K.L. Smalling, V.S. Blazer, A.J. Sperry, M.K. Schall, D.W. Kolpin, P.J. Phillips, M.L. Hladik, and **T. Wagner**. 2020. Spatiotemporal variation in occurrence and co-occurrence of pesticides, hormones, and other organic contaminants in rivers in the Chesapeake Bay Watershed, United States. Science of The Total Environment 728:138765.

95. White†, S.L., E.M. Hanks, and **T. Wagner**. 2020. A novel quantitative framework for riverscape genetics. Ecological Applications 30:e02147.

94. White†, S., D. DeMario*, L. Iwanowicz, V. Blazer, and **T. Wagner**. 2020. Tissue distribution and immunomodulation in channel catfish (Ictalurus punctatus) following dietary exposure to polychlorinated biphenyl Aroclors and food deprivation. International Journal of Environmental Research and Public Health 17(4)1228.

93. Soranno, P.A., K.S. Cheruvelil, B. Liu, Q. Wang, P-N. Tan, J. Zhou, K.B.S. King, I.M. McCullough, J. Stachelek, M. Bartley, C.T. Filstrup, E.M. Hanks, J-F. Lapierre, N.R. Lottig, E.M. Schliep, **T. Wagner**, K.E. Webster. 2020. Ecological prediction at macroscales using big data: Does sampling design matter? Ecological Applications 30:e02123.

92. White†, S., E. Faulk, C. Tzilkowski, A.S. Weber, M. Marshall, and **T. Wagner**. 2020. Predicting fish species richness and habitat relationships using Bayesian hierarchical multispecies occupancy models. Canadian Journal of Fisheries and Aquatic Sciences 77:602-610.

2019

91. Hansen, G.J.A., T.D. Ahrenstorff, B.J. Bethke, J. Dumke, J. Hirsch, K.E. Kovalenko, J.F. LeDuc, R.P. Maki, H. Rantala, and **T. Wagner**. 2020. Walleye growth declines following zebra mussel and Bythotrephes invasion. Biological Invasions 22:1481-1495.

90. **Wagner, T.**⋆, N.R. Lottig⋆, M.L. Bartley, E.M. Hanks, E.M. Schliep, N.B. Wikle, K.B.S. King, I. McCullough, J. Stachelek, K.S. Cheruvelil, C.T. Filstrup, J.F. Lapierre, B. Liu, P.A. Soranno, P-N. Tan, Q. Wang, K. Webster, and J. Zhou. 2019. Increasing accuracy of lake nutrient predictions in thousands of lakes by leveraging water clarity data. Limnology and Oceanography Letters doi: 10.1002/lol2.10134.

89. Bartley, M.L., E.M. Hanks, E.M. Schliep, P.A. Soranno, and **T. Wagner**. 2019. Identifying and characterizing extrapolation in multivariate response data. PLOSE ONE 14(12): e0225715.

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3. Bremigan, M., P. Soranno, M. Gonzalez, B. Bunnell, K. Arend, W. Renwick, R. Stein, and M. Vanni, K.S. Cheruvelil, K. Webster, C. Stow, and **T. Wagner**. 2008. Linking foodweb and landscape models: hydrogeomorphic mediation of land-use effects on reservoirs. 69th Midwest Fisheries and Wildlife Conference.
2. Benbow, M.E., **T. Wagner**, T. Brenden, P. Suykerbuyk, M. Burns, R.C. Johnson, M. McIntosh, R. Kimbirauskas, R. Kolar, H. Williamson, RW. Merritt, J. Qi, P.L.C. Small, D. Boakye, C. Quaye, and F. Portaels. 2007. New frontiers into the ecology of Buruli ulcer disease – an update on using satellite imagery to quantify landscape-ecology linkages with disease occurrence in West Africa. World Health Organization: Annual meeting of the Global Buruli Ulcer Initiative.
1. **Wagner, T**., M.E. Benbow, M. Burns, R.E. Kolar, R.W. Merritt, J. Qi, and P.L.C. Small. 2006. A landscape-based model for predicting *Mycobacterium ulcerans* infection (Buruli ulcer) presence/absence in Benin, West Africa. Ecology of Infectious Diseases – PI Network Meeting in conjunction with the American Society of Tropical Medicine and Hygiene annual meeting.

PRESENTATIONS (• = undergraduate; * = graduate student, † = postdoc)

171. Waraniak, J. S. Batchelor, T. Wagner, and J. Keagy. 2025. Landscape transcriptomic analysis detects thermal stress responses and potential adaptive variation in wild brook trout (Salvelinus fontinalis) during successive heatwaves. Northeast Fish & Wildlife Conference.
170. Hodgson*, O., S. Stark, M.K. Schall, G.D. Smith, K.L. Smalling, Z. Hopkins, A.K. Tokranov, T. Wagner. 2025. Predatory fish invasion leads to expansion of isotopic niches in a riverine food web. Northeast Fish & Wildlife Conference.

169. Carachilo*, I., T. Wagner, and J. Keagy. 2025. A Landscape Transcriptomics Approach for Evaluating the Effectiveness of Riparian Buffers to Reduce Thermal Stress in Brown Trout (Salmo trutta). Northeast Fish & Wildlife Conference.
168. Chotlos*, M., J. Keagy, M. Kepler Schall, G. Smith, A. Tokranov, Z. Hopkins, K. Smalling, C. Eagles-Smith, T. Wagner. 2025. Occurrence and concentrations of per- and polyfluoroalkyl substances in invasive Channa argus populations: a transcriptomics approach for detecting contaminant exposure. 2025 Penn State Water Conference.
167. Hodgson*, O., S. Stark, M.K. Schall, G.D. Smith, K.L. Smalling, Z. Hopkins, A.K. Tokranov, T. Wagner. 2025. Predatory fish invasion leads to expansion of isotopic niches in a riverine food web. Northeast Fish & Wildlife Conference.
166. Carachilo*, I., T. Wagner, and J. Keagy. 2025. A Landscape Transcriptomics Approach for Evaluating the Effectiveness of Riparian Buffers to Reduce Thermal Stress in Brown Trout (Salmo trutta). Northeast Fish & Wildlife Conference.
165. Waraniak†, J. S. Batchelor, T. Wagner, and J. Keagy. 2025. Landscape transcriptomic analysis detects thermal stress responses and potential adaptive variation in wild brook trout (Salvelinus fontinalis) during successive heatwaves. Northeast Fish & Wildlife Conference.
164. Chotlos*, M., J. Keagy, M. Schall, G. Smith, A. Tokranov, Z. Hopkins, K. Smalling, C. Eagles-Smith, M. Croke, and T. Wagner. 2024. Occurrence and concentrations of per- and polyfluoroalkyl substances in invasive Channa argus populations: a transcriptomics approach for detecting contaminant exposure. River Symposium, Bucknell University.
163. Hodgson*, O., S. Stark, M. Schall, G. Smith, K. Smalling, A. Tokranov, Z. Hopkins, and T. Wagner. 2024. Food web alterations in Susquehanna River habitats invaded by flathead catfish (Pylodictus olivaris). River Symposium, Bucknell University.
162. Carachilo*, I., M. Croke, T. Wagner, and J. Keagy. A Landscape Transcriptomics Approach for Evaluating the Effectiveness of Riparian Buffers to Reduce Thermal Stress in Brown Trout (Salmo trutta). River Symposium, Bucknell University.
161. Collins*, K.M., E.M. Schliep, T. Wagner, and C.K. Wikle. 2024. Model-based decomposition reveals spatially varying temporal shifts in seasonal streamflow profiles across north temperate US rivers. Spatial Data Science for the Environment biannual meeting of the Statistics and the Environment Section of the American Statistical Association. Boulder, CO.
160. Johnson, B., C. Eagles-Smith, K. Smalling, P. Bradley, S. Janssen, T. Wagner, and K. Romanok. 2024. Per- and polyfluoroalkyl (PFAS) substances in fish axial muscle tissue collected throughout the United States. USGS PFAS workshop, Reston, VA.
159. Wagner, T., C. Custer*, J. North, E. Schliep M. Verhoven, GJA Hansen. 2024. Predicting fish responses to climate change using a joint species, spatially dependent physiologically guided abundance model. Annual Meeting of the American Fisheries Society, Honolulu, HI.
158. Waraniak†, J., J. Keagy, and T. Wagner. 2024. Landscape transcriptomics of wild brook trout populations (Salvelinus fontinalis) to successive heatwaves. Annual Meeting of the American Fisheries Society, Honolulu, HI.
157. Hansen, GJA., C. Custer, J. North, E. Schliep M. Verhoven, D. Link, H. Masui, and T. Wagner. 2024. Projected warming and fish community responses in lakes of the Midwestern United States. Annual Meeting of the American Fisheries Society, Honolulu, HI.
156. Keagy, J. J. Waraniak†, and T. Wagner. 2024. A Landscape Transcriptomics Approach to Evaluating and Predicting Organismal Response to Extreme Heat Events. Evolution.
155. Chotlos*, M., J. Keagy, M. Schall, G. Smith, A. Tokranov, Z. Hopkins, K. Smalling, C. Eagles-Smith, M. Croke, and T. Wagner. 2024. Occurrence and concentrations of per- and polyfluoroalkyl substances in invasive Channa argus populations: a transcriptomics approach for detecting contaminant exposure.USGS Chesapeake Bay Workshop. June 23-25th. National Conservation Training Center.
154. Hodgson*, O., S. Stark, M. Schall, G. Smith, K. Smalling, A. Tokranov, Z. Hopkins, and T. Wagner. 2024. Food web alterations in Susquehanna River habitats invaded by flathead catfish (Pylodictus olivaris). USGS Chesapeake Bay Workshop. June 23-25th. National Conservation Training Center.
153. Noe, G., Angermeier, P.L., Barber, L.B., Buckwalter, J., Cashman, M.J., Devereux, O., Doody, T.R., Entrekin, S., Fanelli, R.M., Hitt, N., Huber, M.E., Jasmann, J.R., Maloney, K.O., Mohs, T.G., Sabat-Bonilla, S., Smalling, K., Wagner, T., Wolf, J.C., and Hyer, K.E., 2024, Connecting conservation practices to local stream health in the Chesapeake Bay watershed. USGS Chesapeake Bay Workshop. June 23-25th. National Conservation Training Center.
152. McLaughlin†, P., Y. Li, K. Smalling, and T. Wagner. 2024. Linking best management practices to riverine fish ecology. USGS Chesapeake Bay Workshop. June 23-25th. National Conservation Training Center.
151. Waraniak†, J., M.S. Eackles, J. Keagy, G.D. Smith, M. Schall, S. Stark, S.L. White, D.C. Kazyak, and T. Wagner. 2024. Population genetic structure and demographic history reconstruction of introduced flathead catfish (Pylodictis olivaris) in two US mid-Atlantic rivers. Society for Freshwater Science. Philadelphia, PA.

150. Stum*, M., M. Marshall, C. Tzilowski, F. Buderman, and T. Wagner. 2023. Spatiotemporal Trends of Stream Fish Community Occupancy in an Appalachian US National Park. American Fisheries Society Annual Meeting, Grand Rapids, MI.
149. Stark, S.K., M.K. Schall, G.D. Smith, and T. Wagner. 2023. Trophic Impacts by the Invasive Flathead Catfish (Pylodictis olivaris) in the Susquehanna River, PA. American Fisheries Society Annual Meeting, Grand Rapids, MI.
148. Soranno, PA., P. Hanly, KE Webster, KS Cheruvelil, NR Lottig, IM McCullough, A. McDonald, KL Reinl, EM Schliep, A Shuvo, P-N Tan, and T. Wagner. 2023. Abrubpt changes in the productivity of 25,000 lakes in the continental US related to climate change and land use intensification. ASLO Aquatic Sciences Meeting.
147. Hansen, JAG, C. Custer, H. Kundel, JKR Nelson, J. North, L. Platt, JS Read, E. Schliep, M. Verhoven, and T. Wagner. 2023. Nobody said it was easy, no one ever said it would be this hard: quantifying fish responses to climate change in lakes of the Midwestern US. ASLO Aquatic Sciences Meeting.
146. Hansen, G.J.A., E.M. Schliep, J. North, C. Custer, J. Nelson, H. Kundel, and T. Wagner. 2023. Predicting climate change impacts on poikilotherms using physiologically guided species abundance models. Species on the Move Conference.
145. Custer*, CA, EM Schliep, JS North, GJA Hansen, H Kundel, JKR Nelson, T Wagner. 2023. Developing a joint species, spatially dependent physiologically guided abundance model to improve predictions under future climate change scenarios. Northeast Association of Fish & Wildlife Agencies, Hershey, PA.
144. Stum*, M. M. Marshall, C. Tzilkowski, F. Buderman, and T. Wagner. 2023. Documenting Spatiotemporal Trends in Fish Communities of the National Park Service Eastern Rivers and Mountains Network. Northeast Association of Fish & Wildlife Agencies, Hershey, PA.
143. Keagy, J. and T. Wagner. 2023. A Landscape Transcriptomics Approach to Evaluating Thermal Stress in Wild Brook Trout Populations. Northeast Association of Fish & Wildlife Agencies, Hershey, PA.
142. Stark*, S., M. Schall, G. Smith, J. Avery, and T. Wagner. 2023. Investigating community level impacts and trophic positioning of invasive Flathead Catfish, Pylodictis olivaris, in the Susquehanna River. Northeast Association of Fish & Wildlife Agencies, Hershey, PA.
141. Stark*, S., M. Schall, G. Smith, J. Avery, and T. Wagner. 2023. Diet Analysis of Invasive Flathead Catfish in the Susquehanna River Basin. PA Chapter of the American Fisheries Society, Spring Technical Meeting. Lock Have, PA.
140. Thomas•, N.A., M.K. Schall, G.D. Smith, S. Stark. and T. Wagner. 2002. Using stable isotope analysis to investigate trophic positioning of flathead catfish in the Susquehanna River Basin, PA. 17th Annual River Symposium. Bucknell University, Lewsiburg, PA.
139. Batchelor*, S., J. Keagy, and T. Wagner. 2022. A Landscape Transcriptomics Approach to Evaluating Thermal Stress in Wild Populations of Salvelinus fontinalis. Wild Trout Symposium.
138. Batchelor*, S., J. Avery, M.S. Eackles, D.C. Kazyak, M. Schall, K. Smalling, G. Smith, S.L. White, and T. Wagner. 2022. Understanding the spread and impact of invasive flathead catfish in the Chesapeake Bay Watershed, USA. USGS Chesapeake Bay Workshop. June 27-30th. National Conservation Training Center.
137. McLaughlin†, P., R. Alexander, J. Blomquist, O. Devereux, G. Noe, K. Smalling, and T. Wagner. 2022. Power analysis for detecting the effects of BMPs on nutrient flux reductions in the Chesapeake Bay Watershed. USGS Chesapeake Bay Workshop. June 27-30th. National Conservation Training Center.
136. Schall, M.K., V.S. Blazer, H.L. Walsh, G.D. Smith, T. Wertz, and T. Wagner. 2022. Investigating Spatiotemporal Variability in Visual Health Assessments for Adult Smallmouth Bass. Chesapeake Community Research Symposium. Annapolis, MD.
135. Kundel, H., T. Wagner, and G.J.A. Hansen. 2022. Historical Data and Novel Invaders: Impacts of Zebra Mussels on Walleye Recruitment in MN Lakes. Joint Aquatic Sciences Meeting, Grand Rapids, MI.
134. Lapierre, J-F, T. Wagner, and 29 coauthors. 2022. Classification of US lakes as continuous mixtures of geographic archetypes. Joint Aquatic Sciences Meeting, Grand Rapids, MI.
133. Peoples, B., W. Annis, G. Hansen, S. Midway, J. Olden, L. Thompson, T. Wagner, and M. Zink. 2022. FishScales: A contemporary stream fish community database for the conterminous United States. Joint Aquatic Sciences Meeting, Grand Rapids, MI.
132. Stark, S.K., M.K. Schall, G.D. Smith, J.D. Avery, and T. Wagner. 2022. Comparison of collection methods for diet studies of invasive flathead catfish. Northeast Fish & Wildlife Conference.
131. Stark, S.K., Schall, M.K., Smith, G.D., Avery, J.D., **Wagner, T.** 2022. Preliminary diet analysis of the invasive Flathead Catfish in the Susquehanna River Basin. Keystone Coldwater Conference & PA Chapter of the American Fisheries Society. February 25-26, 2022.
130. McLaughlin†, P., Alexander, R., Blomquist, J., Devereux, O., Noe, G., Smalling, K., and Wagner, T., 2022. Power Analysis for Detecting the Effects of Best Management Practices on Reducing Nitrogen and Phosphorus Fluxes to the Chesapeake Bay Watershed, USA. Keystone Coldwater Conference & PA Chapter of the American Fisheries Society. February 25-26, 2022.

129. Custer*, C. , Fischer, D., Henning, A., Hintz, D., Schall, M.K., Shank, M., Smith, G., Wertz, T., and **Wagner, T.** 2022. Quantifying the roles of biotic and abiotic factors structuring stream fish communities. Keystone Coldwater Conference & PA Chapter of the American Fisheries Society. February 25-26, 2022.

128. Hansen, JA., Custer, C., Kundel, H., North, J., Read, J.S., Schliep, E., and **T. Wagner**. 2022. The importance of water temperature in governing lake fish abundance across a landscape of diverse lakes. Midwest Fish and Wildlife Conference.

127. **Wagner, T.** , Y. Li, V.S. Blazer, L.R. Iwanowicz, M.K. Schall, K. Smalling, D. Tillitt. 2021. Ecological risk assessment of environmental stress and bioactive chemicals to riverine fish populations: an individual-based model of smallmouth bass Micropterus dolomieu. Annual Meeting of the American Fisheries Society. Virtual.

126. Schall, M.K., V.S. Blazer, H.L. Walsh, G.D. Smith, T. Wertz, and **T. Wager**. 2021. Where do we go from here?: Quantifying spatiotemporal variability in fish health observations from Smallmouth Bass Micropterus dolomieu after disease and population declines. The Annual Meeting of the American Fisheries Society. Virtual.

125. Stark, S.K., M.K. Schall, J.D. Avery, G.D. Smith, and **T. Wagner**. 2021. Preliminary Diet Analysis of the invasive Flathead Catfish (*Pylodictis olivaris*) in the Susquehanna River Basin, PA. The Annual Meeting of the American Fisheries Society.

124. McCullough, I.M., K.B.S. King, P.J. Hanly, and **T.Wagner**. 2021. Cool, calm, and connected: freshwater connectivity and protected areas in the conterminous US. ESA Annual Meeting, Long Beach, California.

123. King, K., **T. Wagner**, M.T. Bremigan, D. Infante, and K. Cheruvelil. 2021. Crossing ecosystem boundaries to better understand macroscale fish diversity in lakes and streams. Society for Freshwater Scientists Annual Meeting.

122. Blinick, N. S., H. Kundel, T. D. Ahrenstorff, B. J. Bethke, J. Hirsch, D. P. Krabbenhoft, H. M. Rantala, C. Rude, K. Vitense, **T. Wagner**, G.J.A. Hansen. 2021. How do zebra mussels affect walleye recruitment, food webs, and mercury concentrations? Minnesota Aquatic Invasive Species Research Center Research Showcase. September 22, 2021. Virtual Conference.

121. Schall, M.K., G.D. Smith, J.D. Avery, and **T. Wagner**. 2021. Comparing the use of multiple molecular techniques for identification of prey items in invasive Flathead Catfish (Pylodictis olivaris) diets. Southern Division of the American Fisheries Society.

120. Stark, S.K., M.K. Schall, G.D. Smith, J.D. Avery, and **T. Wagner**. 2021. Let's eat! A look at the diet of the invasive Flathead Catfish (Pylodictis olivaris) in the Susquehanna River Basin, PA. Southern Division of the American Fisheries Society.

119. Stark, S.k., M.K. Schall, J.D. Avery, G.D. Smith, and **T. Wagner.** 2021. Evaluating sampling techniques of Flathead Catfish, Plyodictis olivaris, in the Susquehanna River Basin for dietary analysis. Pennsylvania Chapter of the American Fisheries Society Spring Technical Meeting. February 11-12, 2021.

118. Hansen, G., B. Bethke, J. Dumke, J. Hirsch, K. Kovalenko, J. leDuc, R. Maki, H. Rantala, and **T. Wagner.** 2021. Impacts of invasive spiny water fleas and zebra mussels on first-year growth of walleye and yellow perch in Minnesota's large lakes. Rainy-Lake of the Woods Watershed 2021 Forum. March 10-11, 2021.

117. Krause, K., K. Maloney, **T. Wagner**. 2020. Analyzing stream fish communities of the Chesapeake Bay watershed: A joint species distribution modeling approach. Annual Meeting of the American Fisheries Society.

116. McClure*, C., K. Smalling, V.Blazer, and **T. Wagner**. 2020. Maternal sourcing of contaminants from ovary to juvenile Smallmouth Bass in the Chesapeake Bay Watershed. Pennsylvania Chapter of the American Fisheries Society.

115. Massie*, D.L., Hansen, G., Li. Y., and **T. Wagner**. 2020. Do lake-specific characteristics mediate the temporal relationship between Walleye growth and warming water temperatures? Pennsylvania Chapter of the American Fisheries Society.

114. Li, Y. and **T. Wagner**. 2019. Ecological risk assessment of environmental stress and bioactive chemicals to riverine fish populations: an individual-based model of smallmouth bass. American Geophysical Union Annual Conference.

113. Stachelek, J., C.C. Carey, K.M. Cobourn, S.M. Collins, A.R. Kemanian, **T. Wagner**, K.C. Weathers, W. Weng, and P.A. Soranno. 2019. Analysis of 500 lake catchments reveals the relationship between crop type, fertilizer and manure inputs and lake nutrient concentrations. 2019. Ecological Society of America Annual Meeting.

112. White*, S.L., E.M. Hanks, and **T. Wagner**. 2019. A novel quantitative framework for riverscape genetics highlights the importance of mainstem channels for brook trout population connectivity. Annual Meeting of the American Fisheries Society.

111. Massie*, D.L., G. Hansen, Y. Li. and **T. Wagner**. 2019. Do lake-specific characteristics mediate the temporal relationship between Walleye growth and warming water temperature? Annual Meeting of the American Fisheries Society, Reno, NV.

110. McClure, C. K. Smalling, V. Blazer, and **T. Wagner**. 2019. The spatiotemporal dynamics of contaminants in streams of the Chesapeake Bay Watershed. Annual Meeting of the American Fisheries Society.

109. Smith, G.D., M.K. Schall, V.S. Blazer, H.L. Walsh, and **T. Wagner**. 2019. The role of disease in altering the population structure of Smallmouth Bass in the Susquehanna River Basin. International Association for Great Lakes Research (IAGLR).
108. Schall, M.K., V.S. Blazer, H.L. Walsh, G. Smith, T. Wertz, and **T. Wagner**. 2019. Quantifying spatial variability in young of year smallmouth bass disease infections in the Chesapeake Bay Watershed. International Association for Great Lakes Research (IAGLR), Brockport, NY.
107. Massie*, D.L., G.D. Smith, T.F. Bonvechio, A.J. Bunch. D.O. Lucchesi, **T. Wagner**. 2018. Spatial variability and macroscale drivers of growth for native and introduced Flathead Catfish populations. Annual Meeting of The American Fisheries Society, Atlantic City, New Jersey.
106. White*, S.L., W.L. Miller, S.A. Dowell, M.L. Bartron, and **T. Wagner**. 2018. Limited hatchery introgression into wild brook trout populations despite reoccurring stocking. Annual Meeting of The American Fisheries Society, Atlantic City, New Jersey.
105. Sweka, J.A. and **T. Wagner**. Effects of stream discharge on young-of-year brook trout density in North Central Pennsylvania. Annual Meeting of the American Fisheries Society, Atlantic City, NJ.
104. Kline•, B., S.L. White, N. Hitt, and **T. Wagner**. Resource use by brook trout (Salvelinus fontinalis) in a thermally complex environment. Annual Meeting of The American Fisheries Society, Atlantic City, New Jersey.
103. **Wagner, T.**, E. Schliep, G. Hansen, B. Bethke, and P. Jacobson. 2018. C'mon, everyone?s doing it: joint distribution models for studying spatiotemporal dynamics of fish communities and their habitat . Annual Meeting of the American Fisheries Society, Atlantic City, NJ.
102. Cheruvelil, K.S., **T. Wagner**, K. Webster, K. King, A. Poisson. 2018. Macroscale patterns and drivers of phosphorus and chlorophyll in shallow lakes. Association for the Sciences of Limnology and Oceanography, Summer Meeting, Victoria, BC, Canada.
101. Filstrup, C.T., J-F. Lapierre, S.K. Oliver, P.A. Soranno, **T. Wagner**, and J.A. Downing. 2018. Spatiotemporal patterns in extreme lake chlorophyll concentrations at the sub-continental scale. Association for the Sciences of Limnology and Oceanography, Summer Meeting, Victoria, BC, Canada.
100. Soranno, P.A., **T. Wagner**, S.M. Collins, J-F. Lapierre, N.R. Lottig, S.K. Oliver. 2018. Spatial variation exceeds temporal variation in lake ecosystem properties at macroscales. Association for the Sciences of Limnology and Oceanography, Summer Meeting, Victoria, BC, Canada.
99. Schall†, M.K., V.S. Blazer, H.L. Walsh, G. Smith, R. Lorantas, T. Wertz, and bf T. Wagner. 2018. Investigating occurrence of disease characteristics and trends in smallmouth bass abundance in rivers within the Chesapeake Bay Watershed. Chesapeake Research & Modeling Symposium, Annapolis, MD.
98. Collins, S.M., S. Yuan, P.-N. Tan, S.K. Oliver, J.F. Lapierre, K.S. Cheruvelil, E. Fergus, N.K. Skaff, J. Stachelek, **T. Wagner**, P.A. Soranno. 2018.c. Society for Freshwater Science, Detroit MI.
97. Thompson*, T.J., V. Blazer, A. Sperry, M. Briggs, and **T. Wagner**. 2018. Groundwater as a source of emerging contaminants to streams of the Chesapeake Bay Watershed. Society for Freshwater Science, Detroit MI.
96. White*, S.L. and **T. Wagner**. 2018. With Connectivity Comes Challenges: Brook Trout Metapopulation Dynamics Reveal Unique Management Challenges. Society for Freshwater Science, Detroit MI.
95. White*, S. W. Miller, S. Dowell, M. Bartron, and **T. Wagner**. 2017. Reproduction of stocked and wild brook trout in Loyalsock Creek Susquehanna River Symposium, Bucknell University.
94. Thompson*, T., **T. Wagner**, V. Blazer, A. Sperry, and M.A. Briggs. 2017. Groundwater as a source of emerging contaminants. Susquehanna River Symposium, Bucknell University.
93. Kline•, B. S. White*, N. Hitt, and **T. Wagner**. 2017. Personality predicts success at using thermal refugia in brook trout (Salvelinus fontinalis). Susquehanna River Symposium, Bucknell University.
92. Thompson*, T.J., **T. Wagner**, V.S. Blazer, P. Phillips, M. Briggs, and A. Sperry. 2017. Groundwater as a source of emerging contaminants in the Chesapeake Bay. U.S. Geological Survey Chesapeake Bay Meeting.
91. Schall*, M.K., V.S. Blazer, H. Walsh, T. Wertz, G. Smith, and **T. Wagner**. 2017. Investigating myxozoan parasite prevalence in young of the year smallmouth bass in the Susquehanna River basin, 2013-2016. U.S. Geological Survey Chesapeake Bay Meeting.
90. White*, S., S. Dowell, M. Bartron, and **T. Wagner**. 2017. Where do all the fish go? Combining multiple measures of fish movement to gain insights into brook trout population connectivity. The Annual Meeting of the American Fisheries Society, Tampa FL.
89. Noring, A.M., G.G. Sass, S.R. Midway, J.A. VanDeHey, J.K. Raabe, D.A. Isermann, J.M. Kampa, T.P. Parks, J. Lyons, M.J. Jennings, G.J.A. Hansen, and **T. Wagner**. 2017. Effects of Cisco on Walleye Growth Trajectories in Northern Wisconsin Lakes. 13th International Coregonid Symposium.

88. Collins, S., K.S. Cheruvelil, E. Fergus, J.F. Lapierre, S. Oliver, J. Skaff, P.A. Soranno, P-N. Tan, **T. Wagner**, S. Yuan. 2017. Which measures of climate are the best predictors of lake water quality at sub-continental scales? Ecological Society of America Annual Meeting, Portland, OR.
87. White*, S., S. Dowell, M. Bartron, and **T. Wagner. 2017**. Where do all the fish go? Combining multiple measures of fish movement to gain insights into brook trout population connectivity. Wild Trout Symposium, West Yellowstone, MT.
86. Schall*, M.K., V.S. Blazer, H.L. Walsh, G. Smith, T. Wertz, and **T. Wagner**. 2017. Evaluating differences in field observations and histological prevalence of myxozoan parasites in young-of-year smallmouth bass in the Susquehanna River Basin, PA. AFS FHS Annual Meeting.
85. Filstrup, C.T., **T. Wagner**, C.A. Stow, S.K. Oliver, E.H. Stanley, K.E. Webster, J.A. Downing. 2016. Nitrogen stress effects on lake phytoplankton vary by region based on land use. Association for the Sciences of Limnology and Oceanography.
84. Lottig, N.R., P-N. Tan, K.S. Cheruvelil, C.E. Scott, E.H. Stanley, P.A. Soranno, C.A. Stow, **T. Wagner**, S. Yuan. 2016. Long-term patterns and drivers of water quality at sub-continental spatial scales. Association for the Sciences of Limnology and Oceanography.
83. Massie•, D., G. Smith, **T. Wagner**. 2016. Comparing relative abundance and population characteristics of Flathead Catfish across a range of establishment levels at the Susquehanna River. Susquehanna River Symposium, Bucknell University.
82. Rhoads•, S., S. White*, **T. Wagner**, and J. Niles. Movers and stayers: what factors influence brook trout movement? Susquehanna River Symposium, Bucknell University.
81. Schall*, M., **T. Wagner**, M. Bartron, V.S. Blazer and J. Niles. 2016. Movement dynamics and population genetics of smallmouth bass in the Susquehanna River Basin. Susquehanna River Symposium, Bucknell University.
80. White*, S., L. Iwanowicz, **T. Wagner**. 2016. Stream temperature and stress protein regulation in Brook Trout. Susquehanna River Symposium, Bucknell University.
79. Li†, Y., **T. Wagner**, Y. Jiao, V. Blazer, D. Tillit, P. Phillips, and D. Kolpin.2016. Risk assessment of endocrine disrupting compounds on fish and wildlife populations in Chesapeake Bay watershed: a simulation study with smallmouth bass. USGS Chesapeake Bay Workshop.
78. Schall*, MK., M.L. Bartron, T. Wertz, J. Niles, V.S. Blazer, **T. Wagner**. 2016. Investigating movement dynamics and population genetics of smallmouth bass in the Susquehanna River Basin. USGS Chesapeake Bay Workshop.
    Thompson*, T., M. Schall*, **T. Wagner**, V. Blazer, A. Sperry and J. Niles. 2016. An investigation into the role of groundwater as a point source of emerging contaminants to smallmouth bass in the Susquehanna River basin. USGS Chesapeake Bay Workshop.
77. Lapierre, J-F., S.M. Collins, D. Seekell, P.A. Soranno, K.S. Cheruvelil, P-N. Tan, C.E. Fergus, N. Skaff, **T. Wagner**, M.T. Bremigan. 2016. Aligning spatial scales improves understanding of biogeochemical relationships between climate, landscape, and limnological properties. Association for the Sciences of Limnology and Oceanography.
76. Oliver, S.K., S. Collins, K.S. Cheruvelil, P.A. Soranno, E.H. Stanley, J-F. Lapierre, N. Lottig, and **T. Wagner**. 2016. Long-term change in lake nutrient concentrations: where are we now? Association for the Sciences of Limnology and Oceanography.
75. Collins, S.M., S.K. Oliver, J-F. Lapierre, E.H. Stanley, J. Jones, **T. Wagner**, P.A. Soranno. 2016. What drives lake nutrients at continental scales, and why is it so hard to predict nutrient ratios? Association for the Sciences of Limnology and Oceanography.
74. Sweka, J.A., L. Davis, and **T. Wagner**. 2016. Survival of Brook and Brown Trout through the Spawning Season in a North Central Pennsylvania Watershed. 146th AFS Annual Meeting in Kansas City, Missouri.
73. Midway, S.R., B. Peoples, J.T. DeWeber, and **T. Wagner**. 2016. Native congener richness, not abiotic factors, predicts cyprinid introductions. Annual Meeting 146th AFS Annual Meeting in Kansas City, Missouri.
72. Ikis, D., E. Post, and **T. Wagner**. 2015. Bird Occupancy Dynamics in Alaskan Wetlands: Why different size ponds matter? Ecological Society of America Annual Meeting.
71. Lapierre, J-F., S.M. Collins, C. Scott, K.S. Cheruvelil, P-N. Tan, M.T. Bremigan, **T. Wagner**, and P.A. Soranno. 2015. The role of spatial structure in determining the strength of the relationships among climate, landscape and limnological properties. Ecological Society of America Annual Meeting.
70. Scott, C.E., C.E. Fergus, S.M. Collins, J-F. Lapierre, N.R. Lottig, C.T. Filstrup, N. Skaff, E.H. Stanley, P-N. Tan, **T. Wagner**, P.A. Soranno, and K.S. Cheruvelil. 2015. Understanding the response of lake water quality at macroscales to measures of regional and global climate. Ecological Society of America Annual Meeting.
69. Fergus, C.E., A.O. Finley, P.A. Soranno, **T. Wagner**. 2015. Examining the nutrient-color paradigm across macroscales: Multivariate spatial relationships among lake phosphorus, water color, and chlorophyll. Ecological Society of America Annual Meeting.

68. Cheruvelil, K.S., S. Yuan, S. Collins, C.E. Fergus, C. Filstrup, E. Norton Henry, J-F. Lapierre, C. Scott, P. Soranno, P-N. Tan, **T. Wagner**, K. Webster. 2015. Including the freshwater landscape in a multi-themed regionalization system to capture macroscale patterns. Ecological Society of America Annual Meeting.
67. White*, S.L., C. Gowan, **T. Wagner**, V.A. Braithwaite. 2015. Boldness impairs spatial learning ability in brook trout. American Fisheries Society Annual Meeting, Portland, Oregon.
66. DeWeber, T. and **T. Wagner**. 2015. Predicting mean daily river water temperature to identify brook trout habitat. American Fisheries Society Annual Meeting, Portland, Oregon.
65. DeWeber, T. and **T. Wagner**. 2015. Is that the best metric for predicting climate change effects on brook trout? American Fisheries Society Annual Meeting, Portland, Oregon.
64. Schall*, M.K., V.S. Blazer, **T. Wagner, T**. Wertz, and G. Smith. 2015. Investigation of contaminants and disease characteristics of young of the year smallmouth bass in the Susquehanna River basin, PA. AFS-Fish Health Section Annual Meeting, Ithaca, NY.
63. Lorantas, R., **T. Wagner**, D. Arnold, J. Detar, M. Kaufmann, K. Kuhn, R. Lorson, R. Wnuk, and A. Woomer 2015. Characterizing survival of smallmouth bass from Age 0 to Age 1 in Pennsylvania river sections using electrofishing survey gear catch rate and regression residuals. The Annual Northeast Fish & Wildlife Conference.
62. Filstrup, C.T., S.K. Oliver, E.H. Stanley, C.A. Stow, **T. Wagner**, K.E. Webster, and J.A. Downing. 2015. Regional land use influences nitrogen subsidy-stress effects on lake phytoplankton. Association for the Sciences of Limnology and Oceanography 2015 Aquatic Sciences Meeting, Granada, Spain.
61. Oliver SK, Stanley EH, Cheruvelil KS, Downing J, Fergus CE, Soranno PA, **Wagner T**, Webster K, Winslow L. 2014. Prediction and patterns of lake depth across a 17-state region in the U.S. Joint Aquatic Sciences Meeting. Portland, OR.
60. Kepler*, M.V., V. Blazer, **T. Wagner**, H. Walsh, G. Smith. 2014. Evaluation of potential disease causing agents in young of the year smallmouth bass in the Chesapeake Bay Watershed. International Symposium on Aquatic Animal Health. Portland, OR.
59. Faulk*, E. and **T. Wagner**. 2014. Stream fish communities in the Delaware Water Gap National Recreation Area: A multi-species occupancy approach. American Fisheries Society, 144th Annual Meeting.
58. Vidal, T., C. Jansch, B. J. Irwin, **T. Wagner**, J. R. Bence, J. R. Jackson, L. G. Rudstam, and W. W. Fetzer. 2014. Using variance structure as statistical indicators of large scale ecological change. 144th Annual meeting of the American Fisheries Society.
57. Filstrup, C.T., S. Oliver, E.H. Stanley, C.A. Stow, **T. Wagner**, K.E. Webster, and J.A. Downing. 2014. Subsidy-stress effects of nitrogen on phytoplankton biomass. Joint Aquatic Sciences Meeting.
56. Lottig, N.R., P-N Tan, K.S. Cheruvelil, C.E. Scott, P.A. Soranno, C.A. Stow, S. Yuan, and **T. Wagner**. 2014. Taxonomy of change: using cluster analysis to identify temporal patterns in limnological data. Joint Aquatic Sciences Meeting.
55. Scott, C.E., C.E. Fergus, N.R. Lottig, C.T. Filstrup, **T. Wagner**, E.H. Stanley, and P.A. Soranno. 2014. Which global and regional climate metrics at macroscales best describe lake water quality responses to climate change? Joint Aquatic Sciences Meeting.
54. Midway†, S. M., S. Wayne, G. Hogue, **T. Wagner**, and B. Tracy. 2014. Evaluating changes in stream fish species richness over a 50-year time period within a landscape context. Southern Division of the American Fisheries Society Spring Meeting.
53. Deweber*, J.T. and **T. Wagner**. 2014. A model for predicting daily river water temperature in the Northeast and its utility for management. 70th Annual Northeast Fish & Wildlife Conference, Portland, Maine.
52. Deweber, J.T. and **T. Wagner**. 2014. The future of brook trout in changing climate and landscape. 70th Annual Northeast Fish & Wildlife Conference, Portland, Maine.
51. Smith*, L., and **T. Wagner**. 2013. Seasonal movement patterns and habitat use of the eastern brook trout in north-central Pennsylvania. Annual Meeting of the American Fisheries Society.
50. Deweber*, J. T. and **T. Wagner**. 2013. Climate and land use change implications for native brook trout management. American Fisheries Society Pennsylvania Chapter Fall Technical Meeting.
49. Smith*, L. and **T. Wagner**. 2013. Seasonal movement patterns and habitat use of the eastern brook trout (*Salvelinus fontinalis*) and brown trout (*Salmo trutta*) in north central Pennsylvania. American Fisheries Society Pennsylvania Chapter Fall Technical Meeting.
48. **Wagner, T**., J.T. Deweber*, J. Detar, D. Kristine, and J.A. Sweka. 2013. Spatial and Temporal Dynamics in Brook Trout Density: Implications for Population Monitoring. American Fisheries Society Pennsylvania Chapter Fall Technical Meeting.
47. Smith*, L. and **T. Wagner**. 2013. Seasonal movement patterns and habitat use of the eastern brook trout in north-central Pennsylvania. Annual Meeting of the American Fisheries Society.

46. Kepler*, M.V., **T. Wagner**, J. A. Sweka. 2013. Comparative bioenergetics modeling of two representative strains of lean and humper lake trout (*Salvenlinus namaycush*) morphotypes. 69th Annual Northeast Fish & Wildlife Conference, Saratoga Springs, New York.
45. Filstrup, C. T., **T. Wagner**, P.A. Soranno, E.H. Hill, C.A. Stow. 2013. Regional variability in non-linear chlorophyll response to total phosphorus enrichment in lakes. ASLO 2013 Aquatic Sciences Meeting,New Orleans, LA.
44. Irwin, B. J., and **T. Wagner**. 2013. Shifting variance structure as a potential indicator of fish-population responses to large-scale perturbation. Southern Division of the American Fisheries Society Annual Meeting.
43. Irwin, B. J., and **T. Wagner**. 2013. Using mixed models to quantify variability in fish populations. GA Chapter of the American Fisheries Society, Jekyll Island, GA.
42. Filstrup, C.T., P.A. Soranno, E.H. Stanley, C.A. Stow, **T. Wagner**, K.E. Webster, and J.A. Downing. 2012. Chlorophyll a response to total phosphorus enrichment in lakes differs by spatial scales and among regions: implications for developing water quality criteria at the state level. North American Lake Management Society 32nd International Symposium, Madison, Wisconsin.
41. Kristine, D., J. Detar, R. Lorantas, R. Lorson, **T. Wagner**, D. DeMario. 2012. Assessment of experimental panfish regulations on select Pennsylvania impoundments. American Fisheries Society Annual Meeting. Twin Cities, MN.
40. Salvesen*, K., M. Bartron, and **T. Wagner. 2012**. Genetic assessment of the Klondike lake trout strain: Comparison of wild and hatchery strains. American Fisheries Society Annual Meeting.
39. Deweber*, T. and **T. Wagner**. 2012. Linking climate and land use projections to stream habitat. American Fisheries Society Annual Meeting. Twin Cities, MN.
38. **Wagner, T**., B.J. Irwin, J.R. Bence, W. Lui, D.B. Hayes. 2012. Developing expectations for detecting temporal change in freshwater fisheries surveys. 68th Annual Northeast Fish and Wildlife Conference. Charleston, West Virginia.
37. Detar, J., D. Kristine, T. Greene, and **T. Wagner**. 2012. Evaluation of catch and release regulations for wild brook trout in Pennsylvania streams. East Coast Trout Management and Culture Workshop V, Frostburg, MD.
36. Lottig, N., E. Stanley, P. Hanson, and **T. Wagner**. 2012. Long-term changes in lake chemistry related to sulfate deposition and climate. North American Lake Management Society 32nd International Symposium.
35. Lottig, N., **T. Wagner**, E. Norton, K. Cheruvelil, C.A. Stow, J.A. Downing, and K.E. Webster. 2012. Non-monotonic trends in citizen-based regional lake water clarity. North American Lake Management Society 32nd International Symposium.
34. DeMario*, D.A., L.R. Iwanowicz, **T. Wagner**, M.V. Kepler, and D.C. Honeyfield. 2011. Effects of dietary restriction on PCB congener dynamics and their association with health in channel catfish. American Fisheries Society Annual Meeting.
33. **Wagner, T**., B.J. Irwin, J.R. Bence, W. Liu, and D.B. Hayes. 2011. The role of variance components and survey design in detecting trends in recreational fisheries monitoring data. 6th World Recreational Fishing Conference.
32. Cheruvelil K.S., P.A. Soranno, K.E. Webster, M.T. Bremigan, **T.Wagner**, and C.A. Stow. 2010. Landscape limnology: integrating freshwater, terrestrial, and human landscapes for ecological understanding, natural resource management and conservation. ASLO/NABS Summer Meeting.
31. Sweka, J.A., **T. Wagner**, J. Detar. 2011. Determination of a representative reach to estimate brook trout biomass in Pennsylvania streams. American Fisheries Society 141st Annual Meeting. Seattle, WA.
30. Irwin, B.J., **T. Wagner**, W. Liu, J.R. Bence, and D.B. Hayes. 2011. Developing negative binomial mixed models to partition variance in fishery-independent survey data. American Fisheries Society 141st Annual Meeting. Seattle, WA.
29. Mollenhauer*, R., J. Sweka, M. Kepler, and **T. Wagner**. 2011. Seasonal movement and habitat use of wild brook trout in central Pennsylvania. Pennsylvania Chapter of AFS Spring Technical Meeting.
28. Mollenhauer*, R., J. Sweka, M. Kepler, and **T. Wagner**. 2011. Habitat use of wild brook trout in central Pennsylvania. 67th Annual Northeast Fish and Wildlife Conference, Manchester, New Hampshire.
27. Sweka, J., **T. Wagner**, and J. Detar. 2011. Determination of a representative sample reach for estimation of native brook trout biomass in Pennsylvania streams. 67th Annual Northeast Fish and Wildlife Conference, Manchester, New Hampshire.
26. Deweber, J. T. and **T. Wagner**. 2011. Predicted impacts of climate change on stream habitat and brook trout populations in the eastern United States. 6th World Recreational Fishing Conference, Berlin, Germany.
25. Diefenbach, D. R., **T. Wagner**, S. A. Christensen, A. S. Norton. 2010. Using multilevel models to quantify heterogeneity in resource selection. Annual Conference of The Wildlife Society, Snowbird, Utah.
24. Detar, J., D. Kristine, R.T. Greene, R. Weber, and **T. Wagner**. 2010. Evaluation of brook trout enhancement regulations in Northcentral Pennsylvania. Annual Meeting of the American Fisheries Society.

23. Sweka, J.A. and **T. Wagner**. 2010. Evaluation of hypotheses for explaining temporal trends in Atlantic salmon parr densities in Northeast U.S. Rivers. Annual Meeting of the American Fisheries Society.
22. Kepler*, M.V., **T. Wagner**, B.J. Irwin, J.R. Bence, D.B. Hayes, and N.P. Lester. 2010. Spatial and temporal variation in Great Lakes percid catch-per-effort data. Annual Meeting of the American Fisheries Society.
21. Cheruvelil, K.S. P.A. Soranno, K.E. Webster, M.T. Bremigan, **T. Wagner**, C.A. Stow. 2010. Landscape limnology: integrating freshwater, terrestrial, and human landscapes for ecological understanding, natural resource management and conservation. ASLO/NABS Summer Meeting.
20. Rennie, M. D., M.P. Ebener, and **T. Wagner**. 2010. Can migration mitigate the effects of ecosystem change? Patterns of dispersal, energy acquisition and allocation in Great Lakes lake whitefish (*Coregonus clupeaformis*). International Association for Great Lakes Research. Toronto, Canada.
19. Lorantas, R.M., **T. Wagner**, D.A. Miko, D.A. Arnold, J. Detar, M.L. Kaufman, K. Kuhn, R. Lorson, and R.T. Wnuk. 2010. Evaluation of riverine smallmouth bass recruitment indices on Pennsylvania Rivers. Annual Meeting of the American Fisheries Society.
18. **Wagner, T**. K. Spence Cheruvelil, P.A. Soranno, K.E. Webster. 2009. A hierarchical Bayesian approach to modeling regional variation in total phosphorus – chlorophyll a relationships. North American Lake Management Society.
17. Cheruvelil, K.S., P.A. Soranno, K.E. Webster, M.T. Bremigan, **T. Wagner**, C.A. Stow. 2009. Freshwater ecosystem classification for landscape-scale management. 57th Annual Meeting of the North American Benthological Society.
16. DeMario* D., **T. Wagner**, D. Miko, R. Lorantas, R. Lorson, J. Detar, D. Kristine, J. Weigle. 2009. Evaluation of panfish enhancement regulations in Pennsylvania lakes. 65th Northeastern Fish and Wildlife Conference.
15. **Wagner T**., P.A. Soranno, M.T. Bremigan, K.S. Cheruvelil, K.E. Webster, C.A. Stow. 2009. Freshwater ecosystem classification for landscape-scale management. 65th Northeastern Fish and Wildlife Conference.
14. **Wagner, T**., Jones, M. L., Ebener, M. P., Arts, M. P., Brenden, T. O., Honeyfield, D. C., Wright, G. M., Faisal, M. 2008. Spatial and temporal dynamics of lake whitefish health indicators: linking individual-based indicators to a management-relevant endpoint. 69th Midwest Fisheries and Wildlife Conference.
13. Arts M.T., A. Blukacz, R. Claramunt, M. Ebener, M. Faisal, J. Fitzsimmons, D. Honeyfield, J. Hoyle, T. Johnson, M. Jones, R.E. Kinnunen, M.A. Koops, T. Mezek, A.M. Muir, A. Richards, T.M. Sutton, **T. Wagner**, and G. Wright. 2008. Fatty acid profiles of lake whitefish (*Coregonus clupeaformis*) in the ever-changing Great Lakes. American Society of Limnology and Oceanography Aquatic Sciences Meeting.
12. **Wagner, T**., B. Irwin, J. R. Bence, D. B. Hayes, and N. Lester. 2008. Spatial and temporal components of variation in Great Lakes fish populations: implications for management and conservation. Annual meeting of the Great Lakes Fishery Commission's Fishery Research Board.
11. Arts M.T., A. Blukacz, R. Claramunt, M. Ebener, M. Faisal, J. Fitzsimmons, D. Honeyfield, J. Hoyle, T. Johnson, M. Jones, R.E. Kinnunen, M.A. Koops, T. Mezek, A.M. Muir, A. Richards, T.M. Sutton, **T. Wagner**, and G. Wright. 2007. Spatial and temporal patterns in fatty acid profiles of lake whitefish (*Coregonus clupeaformis*) in the Great Lakes in relation to fish condition and inferred diet. Plenary talk. Societas Internationalis Limnologia (SIL) 30th Congress.
10. **Wagner, T**., J.R. Bence, M.T. Bremigan, D.B. Hayes, and M.J. Wilberg. 2006. Regional trends in fish mean length at age: components of variance and the power to detect trends. Annual Meeting of the American Fisheries Society.
9. **Wagner, T**., M.T. Bremigan, K.S. Cheruvelil, P.A. Soranno, N.A. Nate, and J.E. Breck. 2005. Comparing multiscale predictors of fish growth: towards a regional framework for fish management. American Society of Limnology and Oceanography Aquatic Sciences Meeting.
8. **Wagner, T**., M.T. Bremigan, K.S. Cheruvelil, P.A. Soranno, N.A. Nate, and J.E. Breck. 2004. Comparing multiscale predictors of fish growth: towards a regional framework for fish management. Midwest Fish and Wildlife Conference.
7. **Wagner, T**., A.K. Jubar, and M.T. Bremigan. 2004. Can habitat alteration and spring fishing explain black bass nest distribution and success? Midwest Fish and Wildlife Conference.
6. Congleton, J., B. LaVoie, **T. Wagner**, D. Jones, D. Fryer, J. Evavold, and B. Sun. 2003. Blood-chemistry correlates of nutritional condition in migrating juvenile chinook salmon. Symposium on Use of Physiology to Assist in Management of Declining Fish Stocks, Annual Meeting of American Fisheries Society.
5. **Wagner, T**. and J.L. Congleton. 2003. Chemical indices in migrating juvenile chinook salmon: putting together the pieces of the puzzle. Symposium on Use of Physiology to Assist in Management of Declining Fish Stocks, Annual Meeting of American Fisheries Society.
4. Jones, D. T., **T. Wagner**, and J.L. Congleton. 2003. Blood chemistry and swimming performance of fed and fasted juvenile Chinook salmon exposed to confinement stressors. 24th Annual Smolt Workshop.
3. **Wagner, T**. and J.L. Congleton. 2002. Evaluation of physiological condition of transported salmonids and effects on survival. Anadromous Fish Evaluation Program Annual Meeting.
2. **Wagner, T**. and C.M. Falter. 2001. Response of an aquatic macrophyte community to fluctuating water levels in an oligotrophic lake. Idaho Chapter American Fisheries Society.

1. **Wagner, T**. and C.M. Falter. 2000. The effects of higher winter water levels on the aquatic macrophyte community of lake Pend Oreille, Idaho, North American Lake Management Society Symposium.

CODE AND DATA PRODUCTS (* = graduate student, † = postdoc ‡ = undergraduate, ⋆ = co-leads)

32. O'Brien†, R. and T. Wagner. R code for the spatio-temporal analysis of smallmouth bass (*Micropterus dolomieu*) growth in Pennsylvania Rivers. Version 1.0.0: U.S. Geological Survey software release. Reston, Va. https://doi.org/10.5066/P133LQUM
31. **Wagner, T**. and S. Breitmeyer. 2025. Code for the analysis of fish anomalies in the Chesapeake Bay Watershed. Version 1.0.0: U.S. Geological Survey Software Release, https://doi.org/10.5066/P1NJV3HQ.
30. Collins, K., E.M. Schliep, **T. Wagner**, and C.K. Wikle. R code for model-based decomposition of spatially varying temporal shifts in seasonal streamflow profiles across north temperate US Rivers. Version 1.0.0: U.S. Geological Survey software release. https://doi.org/10.5066/P13SGRXL
29. Hodgson*, O., S. Stark, M.K. Schall, G.D. Smith, Z.H. Hopkins, A.K. Tokranov, K.L. Smalling, and **T. Wagner**. R scripts for the analysis of a predatory fish invasion on a riverine food web. https://doi.org/10.5066/P16KW2QC
28. Hodgson*, O. and **T. Wagner**. Data release for stable isotope data describing a predatory fish invasion on a riverine food web. https://doi.org/10.5066/P1DHTVLV
27. Waraniak†, J., J. Keagy, and **T. Wagner**. Data release for landscape transcriptomic analysis detects thermal stress responses and potential adaptive variation in wild brook trout (*Salvelinus fontinalis*) during successive heatwaves. https://doi.org/10.5066/P1JJXOBH
26. Waraniak†, J., J. Keagy, and T. Wagner. R code release for landscape transcriptomic analysis to detect thermal stress responses and potential adaptive variation in wild brook trout (Salvelinus fontinalis) during successive heatwaves. Version 1.0.0: U.S. Geological Survey software release. Reston, Va. https://doi.org/10.5066/P1JJXOBH
25. **Wagner, T.** Climate-driven declines in fish abundance workflow and analysis. 2024. Version 1.0.0: U.S. Geological Survey Software Release. https://doi.org/10.5066/P13R5LMI
24. **Wagner, T**., A. McDonald, and P. Hanly. R and Python code for analysis of productivity in thousands of US lakes in response to climate over the last 30 years. https://doi.org/10.5066/P15PMPVG
23. McLaughlin†, P., Krause, K., Maloney, K., Woods, T., and Wagner, T. 2023. R code for evaluating the effectiveness of joint species distribution modeling for riverine fish communities: U. S. Geological survey software release, https://doi.org/10.5066/P9AH5MDN
22. Waraniak†, J., M.S. Eackles, J. Keagy, G.D. Smith, M. Schall, S. Stark, S.L. White, D.C. Kazyak, and **T. Wagner**. R code for evaluating population genetic structure and demographic history reconstruction of introduced flathead catfish (*Pylodictis olivaris*) in two US mid-Atlantic rivers Version 1.0.0: U.S. Geological Survey software release. Reston, Va. https://doi.org/10.5066/P13VRDLF
21. White, S., Waraniak†, J., Eackles, M., Keagy, J., Smith, G., Schall, M., Stark, S., Kazyak, D., **Wagner, T.**, 2023, Microsatellite genotypes for flathead catfish used for analysis of genetic structuring in Pennsylvania rivers: U.S. Geological Survey data release, https://doi.org/10.5066/P13QEOK3
20. **Wagner, T**. and M. Stum. 2024. R code for estimating decadal changes in stream fish communities and contemporary ecological drivers of species occupancy in two Appalachian U.S. National Parks Version 1.0.0: U.S. Geological Survey software release. Reston, Va. https://doi.org/10.5066/P1KGDEWL
19. Stark, S., Schall, M.K., and **Wagner, T**. 2024. Feeding Habits and Ecological Implications of the Invasive Flathead Catfish, Pylodictis olivaris in the Susquehanna River Basin, Pennsylvania. U.S. Geological Survey software release; https://doi.org/10.5066/P9GP5TPH
18. **Wagner, T.**, McLaughlin, P., Faunce, K., Austin, S., and Smalling, K., 2023, Data release for accumulated wastewater calculations for smallmouth bass sampling sites in the Shenandoah River Watershed, USA: U.S. Geological Survey data release, https://doi.org/10.5066/P9JTAHXZ
17. **Wagner, T.**, P. McLaughlin, K. E. Faunce, S. Austin, and K. Smalling. R code for estimating the effects of wastewater reuse on smallmouth bass (Micropterus dolomieu) relative abundance in the Shenandoah River Watershed, USA Version 1.0.0: U.S. Geological Survey software release. Reston, Va. https://doi.org/10.5066/P9JMXJ7B
16. North, J.S., E.M. Schliep, G.J.A. Hansen, J. Kundel, C.A. Custer, P. McLaughlin, and **T. Wagner**. 2023. R code for accounting for spatio-temporal variation in catchability in joint species distribution models. U.S. Geological Software release: https://doi.org/10.5066/P9DALGBL
15. Kundel, H., **T. Wagner**, and G.J.A. Hansen. Widespread declines in walleye recruitment following zebra mussel invasion in Minnesota lakes. Version 1.0.0: U.S. Geological Survey software release. Reston, Va. https://doi.org/10.5066/P9IL595W

14. Smalling, K.L., K.M. Romanok, P.M. Bradley, M.C. Morriss, J.L. Gray, L.K. Kanagy, S.E. Gordon, B.M. Williams, S.E. Breitmeyer, D.K. Jones, C.A. Eagles-Smith, and **T. Wagner**. Per- and Polyfluoroalkyl Substances (PFAS) in U.S. Tapwater: Comparison of Public-Supply and Underserved Private-Well Exposures and Associated Health Implications. Version 1.0.0: U.S. Geological Survey software release. Reston, Va. https://doi.org/10.5066/P9MCYEVS
13. Custer, C., North, J. S., Schliep, E. M., and **Wagner, T**. 2023. R code for predicting fish responses to climate change using a joint species, spatially dependent physiologically guided abundance model. U.S. Geological Survey software release, https://doi.org/10.5066/P959EMT5
12. Schall, M.K., G.D. Smith, V.S. Blazer, H.L. Walsh, and **T. Wagner**. R code for identifying factors influencing the prevalence of hyperpigmented melanistic lesions in smallmouth bass Micropterus dolomieu in the Susquehanna River Basin, Pennsylvania. https://doi.org/10.5066/P1RLB5RX
11. **Wagner, T.**, E.M. Schliep, J.S. North, H. Kundel, J.K. Ruzich, C.A. Custer, and G.J.A. Hansen. Predicting climate change impacts on poikilotherms using physiologically guided species abundance models. Version 1.1.0: U.S. Geological Survey software release. Reston, Va. https://doi.org/10.5066/P9YYGI5R
10. Maynard-Bean, E. et al. R code and data for fitting hierarchical linear models to forest shrub phenology data in eastern forests. https://doi.org/10.5281/zenodo.3939230
9. Thompson, T. et al. R code and data for performing Bayesian censored regression analysis of groundwater and surface water contaminants in rivers in the Chesapeake Bay Watershed. https://doi.org/10.5281/zenodo.3888674
8. Liang, Z., et al. R code for performing quantile regression for setting joint nutrient criteria. https://doi.org/10.5281/zenodo.3956328
7. Li, Y. et al. R code for performing ecological risk assessment: individual-based model for smallmouth bass. https://doi.org/10.5281/zenodo.3956465
6. Massie, D. et al. Power Analysis: First release of framework developed in Massie et al. 2020. R scripts for performing power analysis for macroscale fish growth investigations. https://doi.org/10.5281/zenodo.3610495
5. McClure, C. et. al. Contaminant occurrence: Code for Bayesian hierarchical joint-contaminant model. https://doi.org/10.5281/zenodo.3746590
4. **Wagner, T**. Analysis of groundwater and surface water contaminants in rivers in the Chesapeake Bay Watershed. Data and model code. https://doi.org/10.5281/zenodo.3888674
3. Hansen, G. J.A., B.J. Bethke, T.D. Ahrenstorff, J. Dumke, J. Hirsch, K.E. Kovalenko, J.F. LeDuc, R.P. Maki, H.M. Rantala, **T. Wagner.** 2019. Data and R code for analysis of walleye and yellow perch age-0 length in Minnesota's Large Lakes. Retrieved from the Data Repository for the University of Minnesota, https://doi.org/10.13020/t9tr-y063
2. **Wagner T**. 2019. Updated release of code and data for Wagner et al., includes new code and metadata (Version v1.2.0). http://doi.org/10.5281/zenodo.3484680
1. Wagner, T. 2019. txw19/Eco_variation: Spatial and temporal variation of ecosystem properties at macroscales (Version v1.0.0). http://doi.org/10.5281/zenodo.2628379

TEACHING

- Advances in Ecology, Pennsylvania State University (2021, 2022, 2024)
- Analysis of Freshwater Fisheries Data (Emphasis on Bayesian statistical models for analyzing fisheries data) (2024)
- Joint species distribution models, Pennsylvania State University (2022)
- Quantitative Methods in Ecology, Pennsylvania State University (2009-2014, 2016-2017)
- Hierarchical Models in Ecology, Pennsylvania State University (2015)
- Structured Decision Making and Adaptive Management of Natural Resources, Pennsylvania State University (2012)
- Developed an on-line course introducing students to the programming language R, Michigan State University (2007-2008)
- Limnology, Michigan State University (2006)

NON-CREDIT INSTRUCTION († = invited)

- *Analysis of Freshwater Fisheries Data*†:This 2-day workshop provided an introduction to the programming environment R, in addition to Bayesian estimation and inference and hierarchical models. Participants included Unit cooperators from USGS and The Pennsylvania Fish & Boat Commission in addition to scientists and managers from the PA Department of Environmental Quality and the Susquehanna River Basin Commission (March 21–22, 2024).

- *An Introduction to R with a focus on water quality data*: 2-day workshop, PA Department of Environmental Protection (September 21 - 22, 2016)
- *Bayesian hierarchical modeling*†: 3-day workshop, Virginia Institute of Marine Science (May 24 – 26, 2016)
- *Hierarchical modeling of left-censored data*: 1-day workshop, Penn State Univ. (September 29, 2015)
- *Bayesian hierarchical modeling*†: 2-day workshop, The Univ. of Missouri (June 16 – June 18, 2015)
- *Bayesian hierarchical modeling*†: 2-day, The Ohio State Univ. (April 22 – April 24, 2015)
- *An Introduction to Bayesian Estimation and Inference Using JAGS*: 2-day workshop, Penn State Univ. (June 17 – 18, 2013)
- *An Introduction to Multilevel Models and their Application in Forest, Fish, and Wildlife Management*: 2-day workshop, Penn State Univ. (September 27 – 28, 2012)
- *An Introduction to R*: 2-day workshop, Penn State Univ. (August 14 – 15, 2008)

SELECT RESEARCH PROJECT OUTREACH (presented by PIs, co-PIs, or students)

- Forever Problems? Invasive Catfish and PFAS. 2024. Penn State Extension Webinar. Approximately 227 participants from 8 states, DC, and England.
- Earth Day Invasive Species Booth at Penn State Hazleton Student Government Association Earth Day Celebration, undergraduate students led a booth and provided invasive species education, Hazleton. 2024. Approximately 50 participants.
- Wildlife Leadership Academy, Brookies Camp, Lecture on Invasive Species. 2024. Approximately 30 participants.
- Getting to know Brook Trout and Invasive Species, Wildlife Leadership Academy Brookies Camp. 2023. Approximate number of students 30.
- Get to Know Aquatic Invasive Species, Penn State Extension Webinar, Zoom. 2022. 131 participants signed up for webinar.
- Floating Classroom Series – Hiawatha River- Invasive Invaders Lecture, A partnership with the Middle Susquehanna Riverkeeper. 2022. Approximate number of people 70.
- Aquatic Invasive Species: Threats to Biodiversity in Our Own Backyard, Hazleton Library Speaker Series, Hazleton, PA. 2022. Approximate number of people 35.
- A look inside the diet of invasive Flathead Catfish from the Susquehanna River Basin, Pennsylvania, Penn State Hazleton Library Speaker Series, Hazleton, PA. 2022. Approximate number of people 30.

EDUCATIONAL OUTREACH

- *Earth's habitats and wetland ecology*: I created outreach materials and talked with approximately 80 elementary school children about Earth's habitats and wetland ecology. (2024)
- *Vernal pool ecology*: I created outreach materials and talked with approximately 70 elementary school children about vernal pool ecology. (2023)
- *Invasive species and climate change*: The Wagner Lab at Penn State University talked with approximately 90 local elementary school children about fish ecology and threats to freshwater fish biodiversity, including invasive species and climate change. The event included a presentation and activities. (2022)
- *Vernal pool ecology*: During the COVID-19 pandemic, I created an outreach video on vernal pools for use by local elementary schools. (2021)
- *Water quality*: The Wagner Lab discussed the importance of water quality and stream health with 160 first and second grade students at a local school. (2019)
- *Fish movement ecology*: Overview of radio telemetry for studying movement and habitat use of stream fishes provided to students from the State College Area School District Learning Enrichment/Gifted Support Program. They visited a study stream and received hands-on activities and instruction. (2010)

GRADUATE AND POST-DOC TRAINING

Major Advisor
Hodgson, Olivia - MS (2023 - present)
Chotlos, Matt - MS (2024 - present)
Carachilo, Isaac - MS (2024 - present)
Custer, Christopher - PhD (2020 - 2024)
Stum, Morgan - MS (2021 - 2024)
McClure, Catherine - MS (2018 - 2022)
Thompson, Tyler - MS (2016 - 2020)
White, Shannon - PhD (2014 - 2019)
Massie, Danielle - MS (2018 - 2020)
Kepler, Megan - PhD (2013 - 2017)
Faulk, Evan - MS (2012 - 2015)
Salvesen, Kelley - MS (2011 - 2015)
Deweber, Jefferson - PhD (2010 - 2014)
Hall, Lara - MS (2013 - 2014)
Smith, Lori - MS (2011 - 2013)
Kepler, Megan - MS (2011 - 2013)
DeMario, Devin - MS (2009 - 2013)
Mollenhauer, Robert - MS (2008 - 2011)

Postdoctoral Researchers Advised
Rebecca O'Brien (2025 - present)
Justin Waraniak (2023 - present)
McLaughlin, Paul (2020 - present)
Liang,Zhongyao (2019-2021)
White, Shannon (2019-2020)
Schall, Megan (2018)
Li, Yan (2015 - 2017)
Midway, Stephen (2013 - 2015)

PROFESSIONAL SERVICE AND ENGAGEMENT

- Member, Science and Data Team, The Midwest Glacial Lakes Partnership (MGLP) (2024 - present)
- Member of the Chesapeake Bay Trust Technical Review Committee (2019)
- Editorial Board Member - Scientific Reports (2016 - 2017)
- Secretary Treasurer - Education Section of the American Fisheries Society (2015 - 2016)
- President, PA Chapter of the American Fisheries Society (2010 - 2011)
- Peer reviewer for (select): *Limnology & Oceanography*, *Nature Communications*, *Ecological Applications* (guest editor), *Transactions of the American Fisheries Society*, *Austral Ecology*, *Canadian Journal of Fisheries and Aquatic Sciences*, *Ecosphere*, *Environmental Science and Technology*
- Editorial Board Member: *Scientific Reports* (2016)
- Officer: American Fisheries Society, Secretary-Treasurer, Education Section (2015-2016
- Committe and Working Group: Northeastern Division Representative for the Education Section of the American Fisheries Society (2014-2015)
- Officer: American Fisheries Society, President- PA Chapter of AFS (2010-2011)
- Committee and Working Group Leader: American Fisheries Society, Student Activities subcommittee chair for AFS Annual Meeting (2010)

UNIVERSITY/USGS SERVICE

- Co-Chair of the Graduate Admissions Committee for Penn State's Intercollege Graduate Degree Program in Ecology (2022 – present)
- Member of USGS-OSQI-RGE panel member - Fisheries and Aquatic Organisms (2023)
- Member of the Graduate Admissions Committee for Penn State's Intercollege Graduate Degree Program in Ecology (2020 – 2021)
- Member of the Graduate Admissions Committee for Penn State's Intercollege Graduate Degree Program in Ecology (2011 – 2013)

TECHNICAL ADVISORY PANELS AND WORKSHOPS

- Member of the Chesapeake Bay Program Brook Trout Action Team to develop a management strategy for brook trout in the Chesapeake Bay
- Member of the Chesapeake Bay brook trout technical team to provide expertise on statistical model development and application
- Technical review panel member to review and comment on stock assessment and simulation models of management performance for the Lake Erie Percid Management Advisory Group
- Provided technical assistance/expert opinion to Ontario Ministry of Natural Resources and Forestry, through Cambium Inc., to help guide efforts to manage and monitor both brook trout and their habitat across southern Ontario
- Provided expert opinion on Trout Unlimited's conservation portfolio analysis for the eastern range of the brook trout
- Facilitated Structured Decision Making workshops for the Pennsylvania Bureau of Forestry to develop a decision model for managing deer with respect to forest vegetation conditions

CURRENT MEMBERSHIPS IN PROFESSIONAL SOCIETIES

- Association for the Sciences of Limnology and Oceanography
- Ecological Society of America
- American Fisheries Society

SELECT MEDIA COVERAGE OF SCHOLARLY WORK AND INFORMATION TRANSFER

Limnology

- "A fresh look at fresh water: Researchers create a 50,000-lake database": National Science Foundation here and R package to access database here
- "Despite Changes in Climate, Land Use and Management Practices, Lakes Stay Surprisingly Static": UW-Madison here, Science Daily coverage here, and StarTribune coverage here
- "Researchers harness 'big data' to see the big picture on lakes, nutrient cycles": Penn State News link here
- "Citizen scientists provide clarity for lake researchers' questions": Penn State News link here
- "Clarity for lake researchers' water quality questions": National Science Foundation press release here
- "Over 60 years of citizen science observations detect trends in Midwestern lakes": EurekAlert news release here
- "Citizen scientists provide clarity for lake researchers' big questions": University of Wisconsin press release here
- "MSU researches freshwater relationships": Michigan State University news link here

Aquatic contaminates

- Understanding how chemical exposure from wastewater effluent may be affecting smallmouth bass populations in the Shenandoah River Watershed: USGS Science Summary
- Research on PFAS in US drinking water covered by various media outlets, including NPR, The Weather Channel, The Washington Post, USA Today, CBS Nightly News, and highlighted by USGS
- Research on the statistical power to detect regional trends in in riverine contaminants in the Chesapeak Bay Watershed highlighted as a Science Summary on the USGS Chesapeake Bay Activities Website.

- Research investigating groundwater discharges as sources of phytoestrogens and herbicides highlighted by the USGS Environmental Health Program.

Climate change and fisheries

- "Wildfires contribute to nutrient-rich, murky water in lakes": University of Minnesota Press. here
- "Innovative method predicts the effects of climate change on cold-blooded animals": PSU News here
- "From brook trout to walleyes, warming waters to play havoc with fisheries": PSU press release here
- "Lake turbidity mitigates impact of warming on walleyes in upper Midwest lakes": PSU press release here

Trends in global shark attacks

- Manuscript on global shark attacks, published in PLoS ONE, was highlighted by CNN, US News and World Reports, among others. The story by the Honolulu Star-Advertiser was picked up by the Associate Press, and occurred in the New York Times, Washington Post, and other news outlets.

Research on brook trout ecology in the northeastern U.S.

- "Larger streams are critical for wild brook trout conservation": Penn State News link here
- Penn State brook trout researchers featured in new 'Expedition Chesapeake' film: Penn State News story - link here
- "Few hatchery brook trout genes present in Pennsylvania watershed wild fish": National Science Foundation, 'News from the Field' - highlighting Penn State News story - link here
- "Few hatchery brook trout genes present in Pa. watershed wild fish": Penn State News link here
- "Fisheries scientists are probing ways that wild brook trout adapt to a changing world": Pittsburgh Post-Gazette link here
- "Science Provides a Glimpse into a Possible Future for Anglers": U.S. Geological Survey National Climate Change and Wildlife Science Center link here
- "Brook trout behavior and genetics could help populations adapt to habitat change": Pennsylvania Angler and Boater magazine link here
- "Brook trout personality, genetics could help populations adapt to habitat change": Penn State News link here
- "A race against the clock for brook trout conservation": The Wildlife Management Institute story is found here and The Widlife Society coverage is found here
- "Brook Trout Research (Shocking)": Local ABC News TV affiliate coverage found here
- "For trout fishermen, climate change will mean more driving time, less angling": Penn State News link here
- "Climate Change May Cost Fishermen More Time, Money in Search of Brook Trout": AccuWeather coverage found here here
- "New model identifies Eastern U.S. stream sections holding wild brook trout"; Science Daily News link here
- "New model identifies eastern stream sections holding wild brook trout": Penn State News link here

Transboundary fisheries research

- "New Comprehensive Approach to Inland Fisheries Management": Louisiana State University news link here and SciencDaily link here

Key Deer Management

- Research on the the management of the endangered Key deer was covered by Al Jazeera America and the YouTube video release is here

U.S. Geological Fact Sheet

- Noe, G., Angermeier, P.L., Barber, L.B., Buckwalter, J., Cashman, M.J., Devereux, O., Doody, T.R., Entrekin, S., Fanelli, R.M., Hitt, N., Huber, M.E., Jasmann, J.R., Maloney, K.O., Mohs, T.G., Sabat-Bonilla, S., Smalling, K., Wagner, T., Wolf, J.C., and Hyer, K.E., 2024, Connecting conservation practices to local stream health in the Chesapeake Bay watershed: U.S. Geological Survey Fact Sheet 2024–3030, 4 p., https://doi.org/10.3133/fs20243030