

Curriculum Vitae
Hayden Thomas Mattingly

Director and Professor of Environmental Studies
School of Environmental Studies, PO Box 5152
Tennessee Technological University
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Areas of Specialization

- Stream fish and crayfish ecology and conservation
- Endangered species management and recovery
- Large-scale environmental and conservation planning

Education

Doctor of Philosophy	1999, Fisheries and Wildlife, University of Missouri-Columbia
Master of Science	1991, Biological Sciences, Old Dominion University
Bachelor of Science	1988, Biology (Mathematics minor), Western Kentucky University

Dissertation and Thesis

Mattingly, H. T. 1999. Spatially nested models of habitat use by the Niangua darter, *Etheostoma nianguae*, a threatened Ozark stream fish. Ph.D. Dissertation, University of Missouri. 195 pp.

Mattingly, H. T. 1991. A laboratory study of predation on the Trinidadian guppy, *Poecilia reticulata*, by two natural piscine predators: effects of predator size, prey size, and habitat complexity. M.S. Thesis, Old Dominion University. 51 pp.

Professional Experience

Interim Director. Center for the Management, Utilization and Protection of Water Resources (Water Center), Tennessee Tech University. 2023-present.

Director. School of Environmental Studies, Tennessee Tech University. 2017-2021 and 2023-present.

Professor of Environmental Studies, Tennessee Tech University. 2017-present.

Interim Director. School of Environmental Studies, Tennessee Tech University. 2014-2017.

Academic Coordinator. School of Environmental Studies, Tennessee Tech University. 2012-2014.

Professor of Biology. Tennessee Tech University. 2010-2017.

Associate Professor of Biology. Tennessee Tech University. 2005-2010.

Assistant Professor of Biology. Tennessee Tech University. 2001-2005.

Instructor of Biology. Morehead State University, Kentucky. 1999-2001.

Instructor of Biology. Southeast Missouri State University. 1997-1998.

Graduate Research Assistant. Univ. Missouri-Columbia. 1993-1997, 1998-1999.

Instructor. University of Missouri-Columbia. 1995.

Instructor-Naturalist. St. Croix Environmental Center, Wisconsin. 1992-1993.

Aquatic Toxicology Lab Technician. Applied Marine Research Lab (VA). 1989-1992.

Graduate Teaching and Research Assistant. Old Dominion University, Virginia. 1989-1991.

Fisheries Summer Aide. Kentucky Dept. Fish and Wildlife Resources. 1986-1988.

Selected Awards and Honors

- 2020** – Wings Up 100 Award, Tennessee Tech University; for researchers who acquired more than \$100,000 in external funding that year.
- 2019** -- Non-instructional Faculty Assignment Award, Tennessee Tech University. Awarded to Hayden Mattingly for working as volume editor and manuscript co-author for an upcoming special issue of *Southeastern Naturalist* devoted to aquatic fauna of Tennessee's Barrens Plateau.
- 2014** -- Research and Creative Activity Award. Presented to one faculty member each year by the College of Arts and Sciences, Tennessee Tech University. Awarded to Hayden Mattingly for serving as volume editor and co-author on seven manuscripts for Special Issue 4 of *Southeastern Naturalist*.
- 2013** -- Best Student Presentation Award. Presented by Southeastern Fishes Council to Brianna Zuber (co-author Hayden Mattingly) for her presentation on species-habitat associations of a rare Tennessee stream fish at four spatial scales.
- 2012** – Non-instructional Faculty Assignment Award, Tennessee Tech University. Awarded to Hayden Mattingly for working as volume editor and manuscript co-author for special issue on Blackside Dace for the peer-reviewed journal *Southeastern Naturalist*.
- 2011** -- W. Don Baker Memorial Award for Best Scientific Presentation. Presented by American Fisheries Society, North Carolina Chapter, to Tyler Black (co-authors Hayden Mattingly and David Smith) for his presentation on habitat use of stream-dwelling crayfish during reproductive seclusion.
- 2005** -- Dequine Best Fisheries Presentation Award. Presented by the Southeastern Association of Fish and Wildlife Agencies to Hayden Mattingly and Jason Detar for their presentation and manuscript on Southern Redbelly Dace anesthesia.

Lecture and Laboratory Courses Taught

Tennessee Technological University

- Biology 1000 – Introduction to Biological Methods.
- Biology 1010 -- General Biology (laboratory).
- Biology 1110 -- General Zoology.
- Wildlife and Fisheries Science 4730 (5730) -- Conservation Biology.
- Biology/Wildlife and Fisheries Science 4810 (5810) -- Ichthyology.
- Biology/Wildlife and Fisheries Science 4840 (5840) – Limnology.
- Biology 4990 -- Topics (Various topics for undergraduate students).
- Biology 6660 -- Fish Ecology.
- Biology 6980 -- Topics: Applied Logistic Regression.
- Biology 6990 -- Research and Thesis.
- Environmental Sciences Biology 7120 -- Endangered Species Biology.
- Environmental Sciences Biology 7970 – Topics: Scientific Journal Review.
- Environmental Sciences Integrated Research 7970 – Topics: Environmental Astacology.
- Environmental Sciences Biology 7990 -- Research and Dissertation.
- Environmental Sciences Integrated Research 7990 – Research and Dissertation.
- Environmental Sciences 7900 – Scientific Writing and Grantsmanship.
- Environmental Sciences 7910 – Seminar.

Other universities

- Biology 105 -- Introduction to Biological Sciences.
- Biology 160 -- Introduction to Biological Principles.
- Biology 171L -- Principles of Biology Laboratory.
- Zoology 200 -- Animal Biology.
- Biology 589 -- Special Topics.
- Natural Resources 70 -- Ecology and Renewable Resource Management.

Biological Sciences 115N -- General Biology I Laboratory.
Biological Sciences 116N -- General Biology II Laboratory.

Graduate Students (chair)

Current graduate students

- Brooke Grubb (Ph.D.) Environmental Sciences-Biology, expected graduation May 2025. Co-advised with Dr. Kit Wheeler.
- Tanya Khan (Ph.D.) Environmental Sciences-Biology, expected graduation July 2024.

Completed graduate student internship projects, theses, and dissertations

- Kendell J. Hamm. M.S. Biology, **2023**. Thesis: Life history of Pristine Crayfish, *Cambarus pristinus*. Employment: Ecologist at RES (private consulting firm), Athens, Georgia.
- Samantha A. Allen. Ph.D. Environmental Sciences-Integrated Research, **2022**. Dissertation: Integrated analysis of hydrology, anthropogenic threats, and land use relationships within stream ecosystems of a major military base. Employment: School of Environmental Studies faculty member at Tennessee Tech University.
- Valerie J. Jones. M.S. Biology, **2022**. Thesis: Summer habitat use of the Bluemask Darter (*Etheostoma akatulo*) in the Collins River at Two Spatial Scales, with Implications for species reintroduction in the Calfkiller River. Employment: Ecologist II at RES (private consulting firm), Louisville, Kentucky.
- D. Wesley Giddens. P.S.M. Environmental Informatics, **2021**. U.S. Fish and Wildlife Service, Internship Project: An online decision support tool for guiding reintroduction efforts for the Bluemask Darter in the Calfkiller River. Employment: Recovery biologist at U.S. Fish and Wildlife Service, Tennessee Ecological Services Field Office, Cookeville, Tennessee.
- W. Grady Wells. Ph.D. Environmental Sciences-Biology, **2019**. Dissertation: Aspects of life history, species-habitat associations, species-community associations, and distribution of the Pygmy Madtom, *Noturus stanauli*. Employment: Biology faculty member at Sewanee: The University of the South, Sewanee, Tennessee.
- John W. Johansen. Ph.D. Environmental Sciences-Biology, **2018**. Dissertation: Using multiscale rarity patterns to inform conservation actions in a diverse and understudied taxonomic group. Employment: Biology laboratory coordinator at Austin Peay State University, Clarksville, Tennessee.
- Matthew D. Padgett. M.S. Biology, **2018**. Thesis: Distribution and threat analysis of the Obey Crayfish, *Cambarus obeyensis*. Employment: U.S. Fish and Wildlife Service, Dale Hollow National Fish Hatchery.
- Samantha A. Allen. P.S.M. Environmental Informatics, **2018**. Center for the Management, Utilization and Protection of Water Resources, TTU, Internship Project: Developing a Web-based geodatabase for data sharing and collaboration within the Falling Water River watershed. Employment: School of Environmental Studies faculty member at Tennessee Tech University.
- Amy E. Stafford. P.S.M. Environmental Informatics, **2017**. U.S. Fish and Wildlife Service, Internship Project: Southeastern Stream Temperature Monitoring Project (STMP): Prioritizing future monitoring sites in Tennessee. Employment: Idaho National Laboratory, Idaho Falls.
- Thomas C. Boersig, III. M.S. Biology, **2016**. Thesis: Life history and habitat associations of *Cambarus obeyensis*, an endemic crayfish of the Cumberland Plateau. Employment: Missouri Department of Conservation.
- Charles J. Sutherland. P.S.M. Environmental Informatics, **2016**. The Nature Conservancy, Tennessee Chapter, Internship Project: Developing a database for Tennessee cave fauna. Employment: Upper Cumberland Development District, Tennessee.

- Steven R. Hewett. P.S.M. Environmental Informatics, **2016**. City of Lebanon, Tennessee, Internship Project: Geospatial analysis and database development to enhance effective management of infrastructural features for the City of Lebanon, Tennessee. Employment: City of Clovis, New Mexico.
- Brianna C. Zuber. Ph.D. Environmental Sciences-Biology, **2014**. Dissertation: Post-spawning distribution, abundance, and species-habitat associations of the Barrens darter (*Etheostoma forbesi*). Employment: Faculty member at Mendocino College, California.
- Anabel E. Lereculeur. M.S. Biology, **2013**. Thesis: Roosting ecology of the northern long-eared bat, *Myotis septentrionalis*, in Catoosa Wildlife Management Area. Employment: Environmental consulting firm in Florida.
- Katrina M. Smith. M.S. Biology, **2011**. Thesis: Habitat requirements of the Black Mountain salamander in Tennessee. Co-advised with Dr. Sean Blomquist.
- Tyler R. Black. Ph.D. Environmental Sciences-Biology, **2011**. Dissertation: Habitat use of stream-dwelling crayfish during reproductive seclusion and vulnerability of juvenile crayfish to an herbicide. Employment: Senior Environmental Scientist at RKK, North Carolina.
- Allison V. Watts. M.S. Biology, **2009**. Thesis: Efficacy of *in situ* artificial refugia to increase recruitment of the Barrens topminnow in the presence of invasive western mosquitofish. Employment: City of Newport News, Virginia.
- Shawna S. Herleth-King. M.S. Biology, **2009**. Thesis: Habitat use of two crayfishes, *Orconectes meeki meeki* and *Orconectes williamsi*, in a small Missouri Ozark stream. Employment: U.S. Army Corps of Engineers, Chicago, Illinois.
- Andrew C. Abernathy. M.S. Biology, **2007**. Thesis: Population status and environmental correlates of the rare striated darter, *Etheostoma striatulum*, in the Duck River system, Tennessee. Employment: Giles County Public Schools, Tennessee.
- Jacob T. Westhoff. M.S. Biology, **2007**. Thesis: Barrens topminnow coexistence with invasive western mosquitofish: The potential roles of artificial refuge and species density. Employment: Assistant Unit Leader, U.S. Geological Survey, Cooperative Research Unit, School of Natural Resources, University of Missouri, Columbia.
- Paul D. Benton. M.S. Biology, **2007**. Thesis: Swimming performance of the Barrens topminnow and western mosquitofish: implications for barrier design and topminnow conservation. Employment: Oregon Department of Transportation.
- Tyler R. Black. M.S. Biology, **2007**. Thesis: Population densities and performance of predictive habitat models for the threatened blackside dace (*Phoxinus cumberlandensis*). Employment: Senior Environmental Scientist at RKK, North Carolina.
- Emily A. Bizwell. M.S. Biology, **2006**. Thesis: Aggressive interactions between the endangered Nashville crayfish (*Orconectes shoupi*) and two coexisting crayfish species. Employment: U.S. Fish and Wildlife Service, Washington, DC.
- Brena K. Jones. M.S. Biology, **2005**. Thesis: Predictive habitat models for conservation of the threatened blackside dace (*Phoxinus cumberlandensis*). Employment: Biologist at North Carolina Wildlife Resources Commission.
- Kirk A. Hansen. M.S. Biology, **2005**. Thesis: Effects of bridge replacement on stream fish communities in western Tennessee. Employment: Iowa Department of Natural Resources.
- Malabika Laha. M.S. Biology, **2004**. Thesis: Impacts of invasive mosquitofish on the imperiled Barrens topminnow: A laboratory study. Past employment: Vanderbilt University.
- Jason E. Detar. M.S. Biology, **2004**. Thesis: Population densities and movement patterns of the threatened blackside dace, *Phoxinus cumberlandensis*. Employment: Pennsylvania Fish and Boat Commission.

Graduate Student Committees (non-chair)

- (60) Palk, Holly (M.S. Biology)
- (59) Pedraza, Tara (P.S.M. Environmental Informatics)
- (58) Fagan, Garrett (P.S.M. Environmental Informatics)
- (57) Hooper, Jeremy (P.S.M. Environmental Informatics)
- (56) Nabors, Lori (P.S.M. Environmental Informatics)
- (55) Rogers, Bobby (P.S.M. Environmental Informatics)
- (54) Reynolds, Susan (Ph.D. Environmental Sciences-Integrated Research)
- (53) Womble, Spencer (Ph.D. Environmental Sciences-Biology)
- (52) Roberson, Philip (Ph.D. Environmental Sciences-Geosciences)
- (51) Phillips, Melody (P.S.M. Environmental Informatics)
- (50) Place, Rebecca (P.S.M. Environmental Informatics)
- (49) Robbins, Natalie (P.S.M. Environmental Informatics)
- (48) Wade, Oliver (P.S.M. Environmental Informatics)
- (47) Hauser, Taylor (P.S.M. Environmental Informatics)
- (46) Usher, Jacob (P.S.M. Environmental Informatics)
- (45) Womble, Spencer (M.S. Biology)
- (44) Kocher, Lesta (Ph.D. Environmental Sciences-Chemistry)
- (43) Lee, Javion (P.S.M. Environmental Informatics)
- (42) Sanz Sancho, Ernesto (P.S.M. Environmental Informatics)
- (41) Litmer, Allison (M.S. Biology)
- (40) Paine, Robert (Ph.D. Environmental Sciences-Biology)
- (39) Njoku, Emmanuel (P.S.M. Environmental Informatics)
- (38) Hart, Kimberly (M.S. Biology)
- (37) Medley, Justin (P.S.M. Environmental Informatics)
- (36) Thacker, James Heath (M.S. Biology)
- (35) Camp, Mieko (Ph.D. Environmental Sciences-Biology)
- (34) Foley, Ryan (M.S. Biology)
- (33) Potoka, Kathryn (M.S. Biology)
- (32) Granstaff, Emily (M.S. Biology)
- (31) Brooke, Christopher (M.S. Biology)
- (30) Johnson, Aubree (M.S. Biology)
- (29) Billings, Shane (M.S. Biology)
- (28) Ehlo, Chase (M.S. Biology)
- (27) Carter, Margot (M.S. Biology)
- (26) Russell, Drew (M.S. Biology)
- (25) Miller, Jason (M.S. Biology)
- (24) Bangaru, Sreekanth (M.S. Mechanical Engineering)
- (23) Bergen, Darrin (M.S. Biology)
- (22) Harvey, James (M.S. Civil and Environmental Engineering)
- (21) Wyatt, Samantha (M.S. Biology)
- (20) Davis, Johnathan (Ph.D. Environmental Sciences-Biology)
- (19) Schmidt, Christina (M.S. Biology)
- (18) Pendergrass, Alisha (Ph.D. Environmental Sciences-Chemistry)
- (17) Casto-Yerty, Michelle (M.S. Biology)
- (16) Twyman, Walter (M.S. Biology)
- (15) Darden, Rufus (M.S. Biology)
- (14) Bolin, Kris (M.S. Biology)
- (13) Russ, William (M.S. Biology)
- (12) Ashton, Matthew (M.S. Biology)

- (11) Kerns, Janice (M.S. Biology)
- (10) Mengel, Malissa (M.S. Biology)
- (9) Lavoie, Leah (M.S. Biology)
- (8) Goldsworthy, Cory (M.S. Biology)
- (7) Fleming, Brian (M.S. Biology)
- (6) Simmons, Jeffrey (M.S. Biology)
- (5) Shaffer, Gregory (M.S. Biology)
- (4) Scholten, George (M.S. Biology)
- (3) Carbaugh, Jason (M.S. Biology)
- (2) Bryan, Danny (Ph.D. Environmental Sciences-Biology)
- (1) Johnson, Andrea (M.S. Biology)

Externally Funded Full-time Employees

- Yoichiro Kanno, Postdoctoral Research Associate (2011-2012).
- Joseph A. Daraio, Postdoctoral Research Associate (2009-2010).
- Sean M. Blomquist, Postdoctoral Research Associate (2008-2010).
- Barbara Rosensteel, Research Specialist (2011).
- Trisha D. Johnson, Research Specialist (2006-2011).
- Brianna C. Zuber, Research Assistant 2 (2014).
- Samantha Wyatt, Research Assistant 2 (2010-2013).
- V. Malissa Davis, Research Assistant 2 (2009-2010).
- Charles J. Sutherland, Research Assistant 1 (2011-2013).

Funded Projects

\$2,859,713 in External Funding while at Tennessee Tech University
(\$2,435,723 as Principal Investigator; **\$423,990** as Co-Principal Investigator)

- (38) Mattingly H.T. Development of a population monitoring plan for Brawleys Fork Crayfish, *Cambarus williamsi*. **\$15,000** from Tennessee Wildlife Resources Agency. 2022-2023.
- (37) Hurt C. and H.T. Mattingly. Genomic insights into adaptive potential to inform conservation of at-risk species. **\$14,260** from Tennessee Tech University, Faculty Research Grant. 2022-2023.
- (36) Mattingly H.T. and C. Hurt. Conservation science to support recovery implementation for the Hardin Crayfish and Pristine Crayfish: Genetics, life history, and species status assessment. **\$100,000** from U.S. Fish and Wildlife Service. 2021-2023.
- (36) Mattingly, H.T. Species Status Assessments for two Tennessee crayfishes proposed for federal listing under the U.S. Endangered Species Act. **\$31,132.08** from U.S. Fish and Wildlife Service via U.S. Geological Survey. 2020-2021.
- (35) Mattingly, H.T. and C. Wheeler. Range-wide population status assessment for the striated darter, *Etheostoma striatulum*. **\$42,127.50** from Tennessee Wildlife Resources Agency. 2019-2021.
- (34) Mattingly, H.T. Life history and habitat requirements of Brawley's Fork Crayfish, *Cambarus williamsi*. **\$45,000** from U.S. Fish and Wildlife Service. 2018-2021.
- (33) Mattingly, H.T., J.N. Murdock, C. Wheeler, and W.K. Gibbs. AEDC bat-related aquatic resources study 2018: Evaluation of aquatic resources to support bat foraging habitat at Arnold Engineering Development Center, Arnold Air Force Base, with an emphasis on rare, threatened and endangered species. **\$129,689.56** from U.S. Fish and Wildlife Service. 2018-2022.
- (32) Mattingly, H.T. and J.W. Johansen. Rangewide population status assessment for the rare Barrens darter, *Etheostoma forbesi*. **\$40,000** from U.S. Fish and Wildlife Service. 2017-2018.

- (31) Mattingly, H.T. and J. Perkin. Development of a fish index of biotic integrity for West Tennessee. **\$9,186** from The Nature Conservancy. 2017-2018.
- (30) Mattingly, H.T. and J. Perkin. Determining bluemask darter ecological requirements at multiple spatial scales to support reintroductions in the Calfkiller River system. **\$30,000** from U.S. Fish and Wildlife Service. 2017-2022.
- (29) Kenney, S., W.G. Wells, and H.T. Mattingly. Substrate preferences of the endangered pygmy madtom. **\$3,000** from Tennessee Tech University, Creative Inquiry Summer Experience program for undergraduate researchers. Summer 2016.
- (28) Mattingly, H.T., C. Hurt, and W.G. Wells. Environmental DNA detection, population status, and habitat use of the Pygmy Madtom, *Noturus stanauli*. **\$96,000** from Tennessee Wildlife Resources Agency. 2014-2018.
- (27) Mattingly, H.T. and J.W. Johansen. Life history of the Obey Crayfish, *Cambarus obeyensis*: Implications for species conservation. **\$45,000** from Tennessee Wildlife Resources Agency. 2013-2016.
- (26) Mattingly, H.T. Scientific support for the Cumberland Habitat Conservation Plan, 2012-2013. **\$165,770** from The Nature Conservancy. 2012-2014. (\$40,000 de-obligated in August 2013).
- (25) Carver, B.D. and H.T. Mattingly. Summer roosting ecology of the Northern Long-eared Bat (*Myotis septentrionalis*) at Catoosa Wildlife Management Area. **\$10,000** from Tennessee Wildlife Resources Agency. 2012-2013.
- (24) Mattingly, H.T., B.A. Rosensteel, and Y. Kanno. Scientific support for the Cumberland Habitat Conservation Plans, 2011-2012. **\$312,512** from The Nature Conservancy. 2011-2012.
- (23) Mattingly, H.T., T.D. Johnson, J.A. Daraio, V.M. Davis, and E. Hart. Scientific support for the Cumberland Habitat Conservation Plans, 2010-2011. **\$285,000** from The Nature Conservancy. 2010-2011.
- (22) Mattingly, H.T. and B.C. Zuber. Monitoring plans for the rare Barrens darter and Barrens topminnow in Tennessee. **\$42,500** from U.S. Fish and Wildlife Service. 2009-2012.
- (21) Mattingly, H.T., S.M. Blomquist, T.D. Johnson, and E. Hart. Scientific coordination for the Cumberlands HCP project, 2009-2010. **\$380,000** from The Nature Conservancy. 2009-2010.
- (20) Mattingly, H.T. Volitional swimming performance of the endangered Roanoke logperch. **\$10,500** from U.S. Fish and Wildlife Service. 2009-2010.
- (19) Neary, V.S. and H.T. Mattingly. Swimming performance of the endangered Roanoke logperch, *Percina rex*. **\$45,500** from U.S. Fish and Wildlife Service. 2008-2009.
- (18) Mattingly, H.T. Science advisory coordination for the Cumberlands Habitat Conservation Plan. **\$184,233** from The Nature Conservancy. 2008-2009.
- (17) Mattingly, H.T. Life history, reproductive ecology, and burrowing behavior of Meek's and Williams' crayfish. **\$70,168** from Missouri Department of Conservation. 2007-2009.
- (16) Mattingly, H.T. Population status and monitoring of the imperiled Barrens topminnow, *Fundulus julisia*, 2007-2009. **\$12,000** from Tennessee Wildlife Resources Agency. 2007-2009.
- (15) Mattingly, H.T. and D.L. Combs. Distribution, status, and species-habitat relationships of the rare Barrens darter, *Etheostoma forbesi*. **\$50,000** from U.S. Fish and Wildlife Service. 2007-2011.
- (14) Mattingly, H.T. Science committee coordination for the Cumberlands Habitat Conservation Plan. **\$66,495** from The Nature Conservancy. 2007-2008.
- (13) Mattingly, H.T. Distribution, status, and species-habitat relationships of the rare striated darter, *Etheostoma striatulum*, a species of management concern in the upper Duck River, Tennessee. **\$20,000** from Tennessee Wildlife Resources Agency. 2006-2007.
- (12) Mattingly, H.T. Science advisory committee coordination for the Northern Cumberland Plateau Habitat Conservation Plan. **\$18,500** from The Nature Conservancy. 2006-2007.
- (11) Mattingly, H.T. and T.R. Black. Impacts of human resource-extraction activities on blackside dace reproductive ecology: evaluating the role of siltation. **\$20,759** The Nature Conservancy. 2006-07.
- (10) Mattingly, H.T. Evaluating reintroductions of the Barrens topminnow. **\$20,000** from Tennessee Wildlife Resources Agency. 2005-2006.

- (9) Mattingly, H.T. Competition between endangered Nashville crayfish and two coexisting crayfish species. **\$3,500** from Tennessee Technological University, Faculty Research Grant. 2005-2006.
- (8) Mattingly, H.T. and J.B. Layzer. Distribution and abundance of the blackside dace in key watersheds of the Upper Cumberland River system. **\$10,000** from U.S. Geological Survey. 2005-2007.
- (7) Mattingly, H.T. Identifying mechanisms of species coexistence for Barrens topminnow populations exposed to invasive mosquitofish. **\$24,000** from U.S. Fish and Wildlife Service. 2005-2009.
- (6) Mattingly, H.T. and V.S. Neary. Conservation and recovery of Barrens topminnow populations exposed to invasive mosquitofish: identifying mechanisms of mosquitofish control. **\$104,151** from Arnold Engineering and Development Center (U.S. Air Force), Tennessee Wildlife Resources Agency, and U.S. Fish and Wildlife Service. 2005-2008.
- (5) Mattingly, H.T. Conservation status of the threatened blackside dace in selected Cumberland River streams. **\$11,000** from U.S. Fish and Wildlife Service. 2004-2007.
- (4) Bettoli, P.W. and H.T. Mattingly. Evaluating reintroductions of Barrens topminnows. **\$80,000** from Tennessee Wildlife Resources Agency. 2002-2005.
- (3) Mattingly, H.T. Factors affecting the distribution and recovery of the threatened blackside dace in Kentucky and Tennessee. **\$45,000** from U.S. Fish and Wildlife Service. 2002-2005.
- (2) Cook, S.B., D.L. Combs, G.K. Ensor, and H.T. Mattingly. Assessment of stream habitat and biological communities associated with bridges and culverts in Tennessee. **\$288,490** from Tennessee Department of Transportation. 2002-2004.
- (1) Mattingly, H.T. The role of predation in the evolution of Trinidadian guppy (*Poecilia reticulata*) life history patterns. **\$672** from Sigma Xi, The Scientific Research Society. 1990-1991.

Journal Publications

- (36) Allen SA, Wells WG, Mattingly HT. 2022. A large-scale MaxEnt model for the distribution of the endangered Pygmy Madtom, *Noturus stanauli*. *Journal of Fish and Wildlife Management* 13(2):437-446. <https://doi.org/10.3996/JFWM-21-057>
- (35) Thacker JH, Krosnick SE, Mattingly HT, Call GP, Maynard SC, Adams DS, Wheeler K. 2022. Ecological correlates of reproductive output in a Tennessee population of Short's Bladderpod, *Physaria globosa* (Brassicaceae). *Castanea* 87(1):20–38.
- (34) Paine RTR, Hurt CR, Mattingly HT. 2021. Monitoring a miniscule madtom: Environmental DNA surveillance of the endangered pygmy madtom (*Noturus stanauli* Etnier & Jenkins 1980) in the Duck and Clinch rivers, Tennessee. *Environmental DNA* 3(4):745-759.
- (33) Ennen JR, Kuhajda BR, Fix S, Sweat SC, Zuber B, Watt AV, Mattingly HT, Cecala KK. 2021. Assessing the success of conservation efforts for a North American topminnow at risk of extinction from spatially variable mosquitofish invasions. *Freshwater Biology* 66(3):458-467. <https://doi.org/10.1111/fwb.13652>
- (32) Wells WG, Davis JL, Mattingly HT. 2020. Evaluation of microhabitat conditions used by *Noturus stanauli* (Pygmy Madtom) in the Clinch River, Tennessee. *Southeastern Naturalist* 19(3):537-552.
- (31) Wells WG, Mattingly HT. 2020. Evaluation of benthic fish communities in the Clinch and Duck rivers as habitat indicators for the endangered Pygmy Madtom, *Noturus stanauli*. *Southeastern Fishes Council Proceedings* 59:47-59. <https://trace.tennessee.edu/sfcproceedings/vol1/iss59/8>
- (30) Wells WG, Mattingly HT. 2019. Preliminary analysis of age-class structure and longevity for the endangered Pygmy Madtom. *Copeia* 107:447-450.
- (29) Johansen JW, Mattingly HT, Padgett MD. 2016. Population densities of two rare crayfishes, *Cambarus obeyensis* and *Cambarus pristinus*, on the Cumberland Plateau of Tennessee. *Southeastern Naturalist* 15(2):275-290.
- (28) Black TR, Mattingly HT, Smith DD. 2015. Utilization of PIT telemetry to assess microhabitat affinities of stream-dwelling female crayfish during reproductive seclusion. *Freshwater Crayfish* 21:71-82.

- (27) Herleth-King SS, Mattingly HT, DiStefano RJ. 2015. Habitat use of *Orconectes meeki meeki* and *Orconectes williamsi* in an intermittent Ozark stream. *Freshwater Crayfish* 21:103-114.
- (26) Rakes, P.L., M.A. Petty, J.R. Shute, C.L. Ruble, and H.T. Mattingly. 2013. Spawning and captive propagation of Blackside Dace, *Chrosomus cumberlandensis*. *Southeastern Naturalist* 12 (Special Issue 4): 162-170.
- (25) Bivens, R.D., B.D. Carter, C.E. Williams, E.M. Scott, Jr., D.E. Stephens, V.R. Bishop, and H.T. Mattingly. 2013. New occurrence records of Blackside Dace, *Chrosomus cumberlandensis*, in the Big South Fork Cumberland River drainage. *Southeastern Naturalist* 12 (Special Issue 4): 171-175.
- (24) McAbee, K.T., N.P. Nibbelink, T.D. Johnson, and H.T. Mattingly. 2013. Informing recovery management of the threatened Blackside Dace, *Chrosomus cumberlandensis*, using a Bayesian-belief network model. *Southeastern Naturalist* 12 (Special Issue 4): 143-161.
- (23) Mattingly, H.T., and T.R. Black. 2013. Nest association and reproductive microhabitat of the threatened Blackside Dace, *Chrosomus cumberlandensis*. *Southeastern Naturalist* 12 (Special Issue 4): 49-63.
- (22) Black, T.R., B.K. Jones, and H.T. Mattingly. 2013. Development and validation of habitat models for the threatened Blackside Dace, *Chrosomus cumberlandensis*, at two spatial scales. *Southeastern Naturalist* 12 (Special Issue 4): 27-48.
- (21) Black, T.R., J.E. Detar, and H.T. Mattingly. 2013. Population densities of the threatened Blackside Dace, *Chrosomus cumberlandensis*, in Kentucky and Tennessee. *Southeastern Naturalist* 12 (Special Issue 4): 6-26.
- (20) Detar, J.E., and H.T. Mattingly. 2013. Movement patterns of the threatened Blackside Dace, *Chrosomus cumberlandensis*, in two southeastern Kentucky watersheds. *Southeastern Naturalist* 12 (Special Issue 4): 64-81.
- (19) Westhoff, J.T., A.V. Watts, and H.T. Mattingly. 2013. Efficacy of artificial refuge to enhance survival of young Barrens topminnows exposed to western mosquitofish. *Aquatic Conservation: Marine and Freshwater Ecosystems* 23: 65-76.
- (18) DiStefano, R.J., T.R. Black, S.S. Herleth-King, Y. Kanno, and H.T. Mattingly. 2013. Life histories of two populations of the imperiled crayfish *Orconectes (Procericambarus) williamsi* (Decapoda: Cambaridae) in southwestern Missouri, U.S.A. *Journal of Crustacean Biology* 33: 15-24.
- (17) Bergen, D.R., D.L. Combs, and H.T. Mattingly. 2012. Comparative nesting biology of two sympatric darters (Percidae: *Etheostoma: Catonotus*) in headwater streams of the Caney Fork River, Tennessee. *Copeia* 2012: 432-439.
- (16) Kanno, Y., C.U. Schmidt, S.B. Cook, and H.T. Mattingly. 2012. Variation in microhabitat use of the threatened spotfin chub (*Erimonax monachus*) among stream sites and seasons. *Ecology of Freshwater Fish* 21: 363-374.
- (15) Abernathy, A.C., and H.T. Mattingly. 2011. Population status and environmental associations of the rare striated darter, *Etheostoma striatulum*. *Southeastern Fishes Council Proceedings* 53: 1-12.
- (14) Bizwell, E.A., and H.T. Mattingly. 2010. Aggressive interactions of the endangered Nashville Crayfish. *Southeastern Naturalist* 9: 359-372.
- (13) Hansen, K.A., and H.T. Mattingly. 2010. Threatened fishes of the world: *Etheostoma forbesi* Page and Ceas, 1992 (Percidae). *Environmental Biology of Fishes* 87: 249-250.
- (12) Black, T.R., S.S. Herleth-King, and H.T. Mattingly. 2010. Efficacy of internal PIT tagging of small-bodied crayfish for ecological study. *Southeastern Naturalist* 9 (Special Issue 3): 257-266.
- (11) Laha, M., and H.T. Mattingly. 2007. Ex situ evaluation of impacts of invasive mosquitofish on the imperiled Barrens topminnow. *Environmental Biology of Fishes* 78: 1-11.
- (10) Laha, M., and H.T. Mattingly. 2006. Identifying environmental conditions to promote species coexistence: an example with the native Barrens topminnow and invasive western mosquitofish. *Biological Invasions* 8: 719-725.

- (9) Hansen, K.A., B.K. Jones, M. Laha, and H.T. Mattingly. 2006. Population status and nesting biology of the rare Barrens darter, *Etheostoma forbesi*. *The American Midland Naturalist* 155: 63-69.
- (8) Detar, J.E., and H.T. Mattingly. 2005. Response of southern redbelly dace to clove oil and MS-222: effects of anesthetic concentration and water temperature. *Proceedings of the Annual Conference Southeastern Association of Fish and Wildlife Agencies* 58(2004): 219-227.
- (7) Mattingly, H.T., and D.L. Galat. 2004. Predictive performance of a summer microhabitat model for the threatened Niangua darter, *Etheostoma nianguae*. *Journal of Freshwater Ecology* 19: 109-114.
- (6) Mattingly, H.T., J. Hamilton and D.L. Galat. 2003. Reproductive ecology and captive breeding of the threatened Niangua darter, *Etheostoma nianguae*. *The American Midland Naturalist* 149: 375-383.
- (5) Mattingly, H.T., and D.L. Galat. 2002. Distributional patterns of the threatened Niangua darter, *Etheostoma nianguae*, at three spatial scales, with implications for species conservation. *Copeia* 2002: 573-585.
- (4) Martin, A.D., G.A. Zapfe, and H.T. Mattingly. 1999. Abundance of the brook darter, *Etheostoma burri*, in selected Black River tributaries. *Journal of Freshwater Ecology* 14: 141-148.
- (3) Mattingly, H.T. 1997. Seeking balance in higher education. *Conservation Biology* 11: 1049-1052.
- (2) Strange, R.M., and H.T. Mattingly. 1997. Threatened fishes of the world: *Etheostoma nianguae* Gilbert and Meek, 1887 (Percidae). *Environmental Biology of Fishes* 49: 196.
- (1) Mattingly, H.T., and M.J. Butler, IV. 1994. Laboratory predation on the Trinidadian guppy: implications for the size-selective predation hypothesis and guppy life history evolution. *Oikos* 69: 54-64.

Edited Publications and Associated Articles

- (3) Mattingly, H.T., and M.A. Floyd. 2013. Conclusions and future directions: Ecology and conservation of the threatened Blackside Dace, *Chrosomus cumberlandensis*. *Southeastern Naturalist* 12 (Special Issue 4): 181-188.
- (2) Mattingly, H.T. 2013. Introduction: Ecology and conservation of the threatened Blackside Dace, *Chrosomus cumberlandensis*. *Southeastern Naturalist* 12 (Special Issue 4): 4-5.
- (1) Mattingly, H.T. (Volume Editor). 2013. Ecology and conservation of the threatened Blackside Dace, *Chrosomus cumberlandensis*. *Southeastern Naturalist* 12 (Special Issue 4). 188 pp.

Book Chapters

- (1) Zuber, B.C. and Mattingly, H.T. *Etheostoma forbesi* – Barrens Darter. pp. XX-XX, In: George, A.L. (Ed.). Conservation Plans for Imperiled Fishes of the Mobile, Tennessee, and Cumberland Rivers. Tennessee Aquarium Institute, Chattanooga, TN. [In Press.]

Book Reviews

- (2) Mattingly, H.T. 1998. Book review: The diversity of fishes, 1997, by G.S. Helfman, B.B. Collette, and D.E. Facey. *Copeia* 1998: 536-538.
- (1) Mattingly, H. T. 1996. Book review: Fishes: An Introduction to Ichthyology, 1996, 3rd Ed., by P.B. Moyle and J.J. Cech, Jr. [and] Biology of Fishes, 1996, 2nd Ed., by C.E. Bond. *Copeia* 1996: 1050-1054.

Conference Papers

- (1) Harvey, J.A., V.S. Neary, and H.T. Mattingly. 2009. Assessment of exhaustion-threshold curves for fish volitionally swimming in culverts. 33rd International Association of Hydraulic Engineering and Research Biennial Congress Proceedings.

Selected Technical Recent Presentations (presenters underlined)

- Allen SA, Mattingly HT. “Using GIS and MaxEnt modeling to predict spring locations and assess aquatic resources in the karst landscape surrounding Arnold Air Force Base, Tullahoma, TN.” Oral presentation at Tennessee Geographic Information Council Annual Meeting, Montgomery Bell State Park, Burns, TN. April 2022
- Blum PW, Allen SA, Caudle JJ, Khan TN, Gibbs WK, Mattingly HT, Murdock JN, Wheeler C, Womble KI. “A 20-year comparison of stream ecosystem changes on a military installation in the Tennessee Barrens Plateau.” Poster presentation at Joint Aquatic Sciences Meeting 2022, Grand Rapids, MI. May 2022.
- Khan TN, Mattingly HT. “Seasonal microhabitat use by Brawleys Fork Crayfish, *Cambarus williamsi*, a Tennessee state-protected species.” Poster presentation at Joint Aquatic Sciences Meeting 2022, Grand Rapids, MI. May 2022.
- Khan TN, Mattingly HT. “Seasonal microhabitat use by Brawleys Fork Crayfish, *Cambarus williamsi*, a Tennessee state-protected species.” Oral presentation at International Association of Astacology IAA23 Meeting, Hluboka nad Vltavou, Czech Republic. June 2022.
- Hamm KJ and Mattingly HT. “Life history of Pristine Crayfish, *Cambarus pristinus*.” Poster presentation at Southeastern Fishes Council Annual Meeting, Athens, GA. November 2022.
- Grubb B and Mattingly HT. “Habitat characteristics at multiple spatial scales for a narrow endemic crayfish, *Faxonius wrighti*.” Oral presentation at Southeastern Fishes Council Annual Meeting, Athens, GA. November 2022.
- Boersig, Thomas, III, Hayden Mattingly, and John Johansen. “Life History of the Obey Crayfish, *Cambarus obeyensis*, an Endemic Crayfish of the Cumberland Plateau.” Oral presentation at American Fisheries Society Southern Division Annual Meeting, Wheeling, West Virginia. February 2016.
- Kenney, Sara, William Wells, Hayden Mattingly, and Jeannette Wolak. “Evaluation of Madtom Diurnal Substrate Use in the Clinch River, Tennessee.” Poster presentation at Tennessee Academy of Science Annual Meeting, Clarksville, Tennessee. November 2016.
- Padgett, Matthew, Hayden Mattingly, John Johansen, and Chuck Sutherland. “Distribution and threat analysis of the Obey Crayfish, *Cambarus obeyensis*.” Oral presentation at the American Fisheries Society Tennessee Chapter Annual Meeting, Knoxville, Tennessee. March 2017.
- Mattingly, Hayden, John Johansen, Matthew Padgett, and Thomas Boersig. “Preliminary ecological information for a new species of *Orconectes* from the Barrens Plateau region of Tennessee.” Oral presentation at the American Fisheries Society Tennessee Chapter Annual Meeting, Knoxville, Tennessee. March 2017.
- Stafford, Amy, Emily Granstaff, and Hayden Mattingly. “Southeastern Stream Temperature Monitoring Project (STMP): Prioritizing Future Monitoring Sites in Tennessee.” Poster presentation at Tennessee Geographic Information Council’s annual conference, Knoxville, Tennessee. April 2017. **2nd Place Award, Best Spatial Analysis.**

Technical Presentations and Seminars (2001-2013, with presenters underlined)

- Zuber, B.C., and H.T. Mattingly. Species-habitat associations of a rare Tennessee stream fish at four spatial scales. Southeastern Fishes Council Annual Meeting, Lake Guntersville State Park, AL. November 2013. **Best Student Presentation Award**. (105)
- Johansen, J.W., H.T. Mattingly, and M.D. Padgett. Comparison of rarity patterns in two crayfishes on the Cumberland Plateau. Southeastern Fishes Council Annual Meeting, Lake Guntersville State Park, AL. November 2013. (104)
- Johansen, J.W., H.T. Mattingly, and D.I. Withers. A new drainage basin distributional record for Brawley's Fork Crayfish, *Cambarus williami*, in Tennessee. 8th Annual Student Research Day, Tennessee Technological University, Cookeville, TN. April 2013. (103)
- Johansen, J.W., H.T. Mattingly, and B.C. Zuber. New crayfish diversity in the Collins River drainage of Tennessee. 8th Annual Student Research Day, Tennessee Technological University, Cookeville, TN. April 2013. (102)
- Lereculeur, A.E., H.T. Mattingly, and B.D. Carver. Summer roosting ecology of the northern long-eared bat (*Myotis septentrionalis*) at Catoosa WMA. Southeastern Bat Diversity Network and 23rd Colloquium on Conservation of Mammals in the Southeastern United States, Fall Creek Falls State Park, Pikeville, TN. February 2013. (101)
- Johansen, J.W., H.T. Mattingly, and D.I. Withers. A new drainage basin distributional record for Brawley's Fork Crayfish, *Cambarus williami*, in Tennessee. American Fisheries Society Southern Division Meeting, Nashville, TN. February 2013. (100)
- Johansen, J.W., H.T. Mattingly, and B.C. Zuber. New crayfish diversity in the Collins River drainage of Tennessee. American Fisheries Society Southern Division Meeting, Nashville, TN. February 2013. (99)
- Zuber, B.C., and H.T. Mattingly. Species-habitat associations of a rare Tennessee stream fish at two spatial scales. American Fisheries Society Southern Division Meeting, Nashville, TN. February 2013. (98)
- Lereculeur, A.E., and H.T. Mattingly. Summer roosting ecology of the northern long-eared bat (*Myotis septentrionalis*) at Catoosa WMA. Tennessee Bat Working Group Annual Meeting, Fall Creek Falls State Park, TN. November 2012. (97)
- Johansen, J.W., and H.T. Mattingly. Development of species-habitat models to inform conservation planning for freshwater species covered by the Cumberland Habitat Conservation Plan. Society for Freshwater Science Annual Meeting, Louisville, KY. June 2012. (96)
- Johansen, J.W., and H.T. Mattingly. Using species-habitat models to inform conservation strategies for rare crayfish species. 2012 Annual Student Research Day, Tennessee Technological University, Cookeville, TN. April 2012. (95)
- Zuber, B.C., and H.T. Mattingly. Distribution and microhabitat associations of the rare Barrens darter, *Etheostoma forbesi*. Tennessee Chapter of the American Fisheries Society Annual Meeting, Fall Creek Falls State Park, TN. March 2012. (94)
- Johansen, J.W., and H.T. Mattingly. Development of species-habitat models to inform conservation planning for freshwater species covered by the Cumberland Habitat Conservation Plan. Tennessee Chapter of the American Fisheries Society Annual Meeting, Fall Creek Falls State Park, TN. March 2012. (93)
- Johansen, J.W., and H.T. Mattingly. Development of species-habitat models to inform conservation planning for freshwater species covered by the Cumberland Habitat Conservation Plan. Southeastern Fishes Council Annual Meeting, Chattanooga, TN. November 2011. **First Place Award for Poster Presentations (Best Poster Award)**. (92)
- Zuber, B.C., and H.T. Mattingly. Distribution and microhabitat associations of the rare Barrens darter, *Etheostoma forbesi*. Southeastern Fishes Council Annual Meeting, Chattanooga, TN. November 2011. (91)

- Johansen, J.W., and H.T. Mattingly. Diversity and conservation status of the crayfishes of the Appalachian Plateau. Tennessee Academy of Science Annual Meeting, Jackson, TN. October 2011. (90)
- Johansen, J.W., H.T. Mattingly, D.I. Withers, and G.M. Rohrbach. Logistic regression models to predict the distribution of *Cambarus pristinus* in Tennessee. 2011 Annual Student Research Day, Tennessee Technological University, Cookeville, TN. April 2011. **Research Award Winner for Environmental Sciences-Biology Category.** (89)
- Zuber, B.C., and H.T. Mattingly. Annual monitoring of Barrens topminnow populations. Rare Fishes Annual Meeting, Cookeville, TN. March 2011. (88)
- Bergen, D.R., H.T. Mattingly, and B.C. Zuber. Dispersal patterns of stocked Barrens topminnows. Rare Fishes Annual Meeting, Cookeville, TN. March 2011. (87)
- Black, T.R., H. T. Mattingly, and David. D. Smith. Habitat use of stream-dwelling crayfish during reproductive seclusion. North Carolina Chapter, American Fisheries Society Meeting, Charlotte, NC. February 2011. **Best Scientific Presentation Award (W. Don Baker Memorial Award).** (86)
- Johansen, J.W., H.T. Mattingly, D.I. Withers, and G.M. Rohrbach. Logistic regression models to predict the distribution of *Cambarus pristinus* in Tennessee, USA. 18th Symposium of International Association of Astacology, Columbia, MO. July 2010. (85)
- Zuber, B.C., H.T. Mattingly, and R.C. Harrington. Distribution and abundance of the rare Barrens darter, *Etheostoma forbesi*. Tennessee Chapter of the American Fisheries Society Annual Meeting, Fall Creek Falls State Park, TN. March 2010. (84)
- Watts, A.V., and H.T. Mattingly. Winter 2010 monitoring of Barrens topminnow populations. Rare Fishes Annual Meeting, Cookeville, TN. March 2010. (83)
- Zuber, B.C., and H.T. Mattingly. Distribution and abundance of the rare Barrens darter, *Etheostoma forbesi*. Rare Fishes Annual Meeting, Cookeville, TN. March 2010. (82)
- Bergen, D.R., D.L. Combs, and H.T. Mattingly. Comparative nesting biology of the Barrens and fringed darters. Rare Fishes Annual Meeting, Cookeville, TN. March 2010. (81)
- Blomquist, S.M., T.D. Johnson, R.K. Miles, M. Thurman, V.M. Davis, and H.T. Mattingly. A community-based approach to setting conservation goals and objectives for multiple fish species on the Cumberland Plateau in Tennessee. Southern Division of the American Fisheries Society Meeting, Asheville, NC. February 2010. (80)
- Black, Tyler R., and H.T. Mattingly. Habitat use of female Meek's Crayfish during reproductive seclusion. Southern Division of the American Fisheries Society Meeting, Asheville, NC. February 2010. (79)
- Blomquist, S.M., T.D. Johnson, R.K. Miles, M. Thurman, V.M. Davis, and H.T. Mattingly. A community-based approach to setting conservation goals and objectives for multiple fish species on the Cumberland Plateau in Tennessee. Southeastern Fishes Council Annual Meeting, Guntersville, AL. November 2009. (78)
- Watts, A.V., and H.T. Mattingly. Efficacy of in situ artificial refugia to increase recruitment of the Barrens topminnow in the presence of invasive western mosquitofish. Southeastern Fishes Council Annual Meeting, Guntersville, AL. November 2009. (77)
- Zuber, B.C., H.T. Mattingly, and R.C. Harrington. Distribution and abundance of the rare Barrens darter, *Etheostoma forbesi*. Southeastern Fishes Council Annual Meeting, Guntersville, AL. November 2009. (76)
- Mattingly, H.T. Arts and Sciences impacting our region: The Cumberland Habitat Conservation Plan. Tennessee Technological University, College of Arts and Sciences, Board of Visitors Annual Meeting, Invited Presentation, Cookeville, TN. October 2009. (75)
- Harvey, J.A., V.S. Neary, and H.T. Mattingly. Assessment of exhaustion-threshold curves for fish volitionally swimming in culverts. 33rd International Association of Hydraulic Engineering and Research Biennial Congress, Vancouver, BC, Canada. August 2009. (74)

- Black, T.R., and H.T. Mattingly. Habitat use of female Hairy Crayfish during reproductive seclusion. American Fisheries Society 139th Annual Meeting, Nashville, TN. August 2009. (73)
- Blomquist, S.M., T.D. Johnson, H.T. Mattingly, A.J. Wyss, E. Woodle, D. Ostermeier, K.O. Lannom, and K. Medlock. Multispecies habitat conservation plans in the Cumberland: developing new partnerships for freshwater conservation in Tennessee. American Fisheries Society 139th Annual Meeting, Nashville, TN. August 2009. Invited symposium presentation. (72)
- Bergen, D.R., D.L. Combs, and H.T. Mattingly. Nesting biology, chronology, and hybridization risks of the rare Barrens darter. American Fisheries Society 139th Annual Meeting, Nashville, TN. August 2009. (71)
- Watts, A.V., and H.T. Mattingly. Monitoring Barrens topminnow populations during winter 2008-2009. Barrens Fishes Annual Meeting, Crossville, TN. March 2009. (70)
- Watts, A.V., and H.T. Mattingly. Efficacy of *in situ* artificial refugia to increase recruitment of the imperiled Barrens topminnow in the presence of western mosquitofish. Barrens Fishes Annual Meeting, Crossville, TN. March 2009. (69)
- Bergen, D.R., D.L. Combs, and H.T. Mattingly. Comparative nesting biology of the Barrens and fringed darters. Barrens Fishes Annual Meeting, Crossville, TN. March 2009. (68)
- Watts, A.V., and H.T. Mattingly. Efficacy of *in situ* artificial refugia to increase recruitment of the imperiled Barrens topminnow in the presence of western mosquitofish. American Fisheries Society, Tennessee Chapter Annual Meeting, Montgomery Bell State Park, Burns, TN. March 2009. (67)
- Black, T.R., and H.T. Mattingly. Habitat use of female Hairy Crayfish during reproductive seclusion. American Fisheries Society, Tennessee Chapter Annual Meeting, Montgomery Bell State Park, Burns, TN. March 2009. (66)
- Herleth-King, S.S., and H.T. Mattingly. Habitat use of two crayfishes, *Orconectes meeki meeki* and *Orconectes williamsi*, in a small Missouri Ozark stream. American Fisheries Society, Tennessee Chapter Annual Meeting, Montgomery Bell State Park, Burns, TN. March 2009. (65)
- Black, T.R., J.E. Detar, B.K. Jones, and H.T. Mattingly. Ecology and conservation of the threatened blackside dace, *Phoxinus Cumberlandensis*, a threatened stream fish in Kentucky and Tennessee, USA. Southeastern Fishes Council Annual Meeting, Chattanooga, TN. November 2008. (Student poster award, third place). (64)
- Blomquist, S.M., H.T. Mattingly, T.D. Johnson, and A.J. Wyss. Conservation planning for eight fish species on the Cumberland Plateau. Southeastern Fishes Council Annual Meeting, Chattanooga, TN. November 2008. (63)
- Blomquist, S.M., A.J. Wyss, T.D. Johnson, and H.T. Mattingly. Multi-species conservation planning on the Cumberland Plateau: How can this effort help Tennessee herpetofauna? Tennessee Herpetological Society 14th Annual Meeting, Sewanee, TN. September 2008. (62)
- Johnson, T.D., M. Thurman, R.K. Miles, A.J. Wyss, and H.T. Mattingly. Objective criteria for selecting covered species and activities in multispecies Habitat Conservation Plans on the Cumberland Plateau, Tennessee. Society for Conservation Biology Global Meeting, Chattanooga, TN. July 2008. (61)
- Black, T.R., J.E. Detar, B.K. Jones, and H.T. Mattingly. Ecology and conservation of the threatened blackside dace, *Phoxinus Cumberlandensis*, a threatened stream fish in Kentucky and Tennessee, USA. Society for Conservation Biology Global Meeting, Chattanooga, TN. July 2008. (60)
- Harvey, J.A., V.S. Neary, and H.T. Mattingly. An ecohydraulic approach to controlling western mosquitofish in Barrens topminnow habitats in middle Tennessee. Tennessee Water Resources Symposium, Montgomery Bell State Park, TN. April 2008. (59)

- Black, T.R., S.S. Herleth-King, and H.T. Mattingly. Efficacy of internal PIT tagging of small-bodied crayfish for ecological study. American Fisheries Society, Tennessee Chapter Annual Meeting, Fall Creek Falls State Park, TN. March 2008. (58)
- Black, T.R., S.S. Herleth-King, and H.T. Mattingly. Efficacy of internal PIT tagging of small-bodied crayfish for ecological study. American Fisheries Society, Southern Division Meeting, Wheeling, WV. March 2008. (57)
- Mattingly, C.A., H.T. Mattingly, and T.D. Johnson. Sustainable research at Tennessee Technological University: Scientific support for the Cumberland HCP project. University Day at the State Legislature, Nashville, TN. March 2008. (Video presentation can be viewed at the following link: <http://www.youtube.com/watch?v=x9X0TePPaw0>). (56)
- Mattingly, H.T., T.D. Johnson, and A. Knox. Sustainable research at Tennessee Technological University: Scientific support for the Cumberland HCP project. University Day at the State Legislature, Nashville, TN. March 2008. (Poster presentation). (55)
- Watts, A.V., and H.T. Mattingly. Monitoring Barrens topminnow populations during winter/spring 2008. Rare Fishes Annual Meeting, Cookeville, TN. March 2008. (54)
- Watts, A.V., and H.T. Mattingly. Evaluating artificial refugia for enhancing in situ survival of juvenile Barrens topminnows. Rare Fishes Annual Meeting, Cookeville, TN. March 2008. (53)
- Harvey, J.A., V.S. Neary, and H.T. Mattingly. An ecohydraulic approach to controlling western mosquitofish invasion of Barrens topminnow habitats. Rare Fishes Annual Meeting, Cookeville, TN. March 2008. (52)
- McAbee, K., N.P. Nibbelink, and H.T. Mattingly. Development of a comprehensive management tool for a federally threatened minnow, *Phoxinus cumberlandensis* (blackside dace). American Fisheries Society, Georgia Chapter Meeting, Lake Oconee, GA. January 2008. (51)
- Black, T.R., and H.T. Mattingly. Impacts of logging disturbance on blackside dace (*Phoxinus cumberlandensis*) reproductive ecology. Cumberland Habitat Conservation Plan Science Advisory Committee Meeting, Cumberland Mountain State Park, Crossville, TN. September 2007. (50)
- Johnson, T.D., and H.T. Mattingly. Required components of HCPs: The Science Advisory Committee's role in providing scientific support. Cumberland Habitat Conservation Plan Science Advisory Committee Meeting, Cumberland Mountain State Park, Crossville, TN. September 2007. (49)
- Mattingly, H.T. Assessing threats, take, and mitigation strategies for endangered aquatic species in the Cumberland HCP: A survey-based approach. Special Session on Aquatic Habitat Conservation Plans, North American Benthological Society 55th Annual Meeting, Columbia, SC. June 2007. Invited presentation. (48)
- Black, T.R., and H.T. Mattingly. Impacts of logging disturbance on blackside dace (*Phoxinus cumberlandensis*) reproductive ecology. North American Benthological Society 55th Annual Meeting, Columbia, SC. June 2007. (47)
- Benton, P.D., H.T. Mattingly, and V.S. Neary. Swimming performance of the Barrens topminnow and western mosquitofish: Implications for barrier design and topminnow conservation. Kennesaw State University, Kennesaw, GA. April 2007. Invited seminar. (46)
- Mattingly, H.T. Acting locally: Tennessee Technological University initiatives to reduce impacts of global climate change. Invited presentation, Window on the World Symposium, Tennessee Technological University, Cookeville. April 2007. (45)
- Benton, P.D., H.T. Mattingly, and V.S. Neary. Swimming and jumping performance of western mosquitofish and Barrens topminnows: Implications for barrier design. Rare Fishes Meeting, Morristown, TN. March 2007. (44)
- Westhoff, J.T. and H.T. Mattingly. Behavior and survival of Barrens topminnows along a density gradient of western mosquitofish. Rare Fishes Meeting, Morristown, TN. March 2007. (43)

- Abernathy, A.C. and H.T. Mattingly. Striated darter population status in the Duck River watershed. Rare Fishes Meeting, Morristown, TN. March 2007. (42)
- Black, T.R. and H.T. Mattingly. Blackside dace population status and performance of predictive habitat models. Rare Fishes Meeting, Morristown, TN. March 2007. (41)
- Wyss, A. and H.T. Mattingly. The Cumberland Habitat Conservation Plan for water resources: Implications for conservation of endangered aquatic species in Kentucky and Tennessee. Rare Fishes Meeting, Morristown, TN. March 2007. (40)
- Benton, P.D., H.T. Mattingly, and V.S. Neary. Swimming performance of the Barrens topminnow and western mosquitofish: Implications for barrier design and topminnow conservation. American Fisheries Society, Southern Division Meeting, Memphis, TN. February 2007. (39)
- Westhoff, J.T. and H.T. Mattingly. Mechanisms for coexistence of the introduced western mosquitofish and native Barrens topminnows with an emphasis on density and artificial refuges. American Fisheries Society, Southern Division Meeting, Memphis, TN. February 2007. (38)
- Abernathy, A.C. and H.T. Mattingly. Population status and environmental correlates for the rare striated darter in the Duck River, Tennessee. American Fisheries Society, Southern Division Meeting, Memphis, TN. February 2007. (37)
- Black, T.R. and H.T. Mattingly. Population densities and performance of predictive habitat models for the threatened blackside dace *Phoxinus cumberlandensis*. American Fisheries Society Southern Division Meeting, Memphis, TN. February 2007. (36)
- Benton, P.D., and H.T. Mattingly. Evaluating jumping performance of the Barrens topminnow (*Fundulus julisia*) and western mosquitofish (*Gambusia affinis*). American Fisheries Society Southern Division Meeting, Memphis, TN. February 2007. (35)
- Bizwell, E.A., and H.T. Mattingly. Aggressive interactions between the endangered Nashville crayfish and two coexisting crayfish species. American Fisheries Society, Southern Division Meeting, Memphis, TN. February 2007. (34)
- Benton, P.D., H.T. Mattingly, and V.S. Neary. Swimming performance of the Barrens topminnow (*Fundulus julisia*) and western mosquitofish (*Gambusia affinis*): Implications for barrier design and topminnow conservation. U.S. Fish and Wildlife Service, Fish Barrier Workshop and Conference, Asheville, NC. November 2006. (33)
- Mattingly, H.T. Aquatic wildlife in the Cumberlands. Water Forum, Cumberland Mountain State Park, Crossville, TN. August 2006. (32)
- Mattingly, H.T., V.S. Neary, P.D. Benton, J.T. Westhoff, and J.A. Harvey. Conservation of Barrens topminnow populations exposed to invasive western mosquitofish: A multidisciplinary and ecohydraulic research approach. World Environmental and Water Resources Congress 2006, Omaha, NE. May 2006. (31)
- Black, T.R. and H.T. Mattingly. Population densities and habitat affinities of the threatened blackside dace, *Phoxinus cumberlandensis*. American Fisheries Society, Tennessee Chapter Annual Meeting, Paris Landing State Park, TN. March 2006. (30)
- Abernathy, A.C. and H.T. Mattingly. Proposed status survey for *Etheostoma striatulum*. Rare Fishes Meeting, Morristown, TN. February 2006. (29)
- Benton, P.D. and H.T. Mattingly. Swimming performance of the Barrens topminnow (*Fundulus julisia*) and western mosquitofish (*Gambusia affinis*): Implications for barrier design and topminnow conservation. Rare Fishes Meeting, Morristown, TN. February 2006. (28)
- Black, T.R. and H.T. Mattingly. Population densities and habitat affinities of the threatened blackside dace, *Phoxinus cumberlandensis*. Rare Fishes Meeting, Morristown, TN. February 2006. (27)
- Westhoff, J.T. and H.T. Mattingly. Mechanisms for coexistence of introduced western mosquitofish (*Gambusia affinis*) and native Barrens topminnows (*Fundulus julisia*) with

- emphasis on density and artificial habitat. Rare Fishes Meeting, Morristown, TN. February 2006. (26)
- Black, T.R. and H.T. Mattingly. Population densities and habitat affinities of the threatened blackside dace, *Phoxinus cumberlandensis*. American Fisheries Society, Southern Division Meeting, San Antonio, TX. February 2006. (25)
 - Black, T.R. and H.T. Mattingly. Population densities and habitat affinities of the threatened blackside dace, *Phoxinus cumberlandensis*. Fifth Annual Fisheries Student Colloquium, Greenville, NC. November 2005. (24)
 - Mattingly, H.T., D.E. Stephens, J.E. Detar, and C.F. Walton. Annual and seasonal trends in blackside dace *Phoxinus cumberlandensis* catch rates, with implications for species monitoring. 59th Annual Conference of Southeastern Association of Fish and Wildlife Agencies, St. Louis, MO. October 2005. (23)
 - Mattingly, H.T., B.K. Jones and E.A. Bizwell. Ecology and conservation of endangered aquatic species in Kentucky and Tennessee. Invited seminar, Aquaculture Research Center, Kentucky State University, Frankfort, KY. March 2005. (22)
 - Jones, B.K. and H.T. Mattingly. Predictive habitat models for conservation of the federally threatened blackside dace *Phoxinus cumberlandensis*. American Fisheries Society, Tennessee Chapter Annual Meeting, Fall Creek Falls, TN. March 2005. (21)
 - Mattingly, H.T. and D.L. Galat. Predictive performance of a microhabitat model for a rare Ozark stream fish. Tennessee EPSCoR Environmental Summit, Tennessee Technological University, Cookeville, TN. February 2005. (20)
 - Jones, B.K. and H.T. Mattingly. Predictive habitat models for conservation of the threatened blackside dace, *Phoxinus cumberlandensis*. American Fisheries Society, Southern Division Meeting, Virginia Beach, VA. February 2005. (19)
 - Jones, B.K. and H.T. Mattingly. Predictive habitat models for conservation of the threatened blackside dace, *Phoxinus cumberlandensis*. Fourth Annual Fisheries Student Colloquium, Marineland, FL. November 2004. (18)
 - Detar, J.E. and H.T. Mattingly. Response of southern redbelly dace to clove oil and MS-222: effects of anesthetic concentration and water temperature. 58th Annual Conference of Southeastern Association of Fish and Wildlife Agencies, Hilton Head, SC. November 2004. **Best Fisheries Presentation Award.** (17)
 - Laha, M. (H.T. Mattingly as “Mentor”). The impact of introduced mosquitofish on the imperiled Barrens topminnow. TTU Chapter Sigma Xi Graduate Student Paper Contest, Cookeville, TN. April 2004. (16)
 - Detar, J.E. and H.T. Mattingly. Population densities and movement patterns of the threatened blackside dace (*Phoxinus cumberlandensis*). American Fisheries Society, Tennessee Chapter Annual Meeting, Fall Creek Falls, TN. March 2004. (15)
 - Jones, B.K. and H.T. Mattingly. Building a predictive habitat model for the blackside dace, *Phoxinus cumberlandensis*. American Fisheries Society, Tennessee Chapter Annual Meeting, Fall Creek Falls, TN. March 2004. (14)
 - Laha, M. and H.T. Mattingly. Effects of water temperature on the growth of Barrens topminnow and western mosquitofish. American Fisheries Society, Tennessee Chapter Annual Meeting, Fall Creek Falls, TN. March 2004. (13)
 - Detar, J.E. and H.T. Mattingly. Population densities and movement patterns of the threatened blackside dace (*Phoxinus cumberlandensis*). American Fisheries Society, Southern Division Meeting, Oklahoma City, OK. February 2004. (12)
 - Laha, M. and H.T. Mattingly. Effect of water temperature on the growth of Barrens topminnow (*Fundulus julisia*) and western mosquitofish (*Gambusia affinis*). 113th Meeting of the Tennessee Academy of Science, Franklin, TN. November 2003. **Third Place award.** (11)

- Detar, J.E. and H.T. Mattingly. Determining population densities and movement patterns of the threatened blackside dace, *Phoxinus cumberlandensis*, in northern Tennessee and southeastern Kentucky. Third Annual Future Fisheries Professionals Student Colloquium, Morgantown, WV. November 2003. (10)
- Jones, B.K. and H.T. Mattingly. Building a predictive habitat model for the blackside dace, *Phoxinus cumberlandensis*. Third Annual Future Fisheries Professionals Student Colloquium, Morgantown, WV. November 2003. (9)
- Hansen, K.A. and H.T. Mattingly. Identifying pre-impact sources of variation within and among warmwater stream fish communities of western Tennessee. Third Annual Future Fisheries Professionals Student Colloquium, Morgantown, WV. November 2003. (8)
- Mattingly, H.T. and D.L. Galat. Predictive performance of a microhabitat model for a rare Ozark stream fish. Percis III: Third International Symposium for Percid Fish Biology, Madison, WI. July 2003. (7)
- Mattingly, H.T. and D.L. Galat. Predictive performance of a microhabitat model for a rare Ozark stream fish. Society for Conservation Biology 17th Annual Meeting, Duluth, MN. June 2003. (6)
- Detar, J.E. and H.T. Mattingly. Response of southern redbelly dace to clove oil and MS-222: effects of anesthetic concentration and water temperature. American Fisheries Society, Tennessee and Arkansas Chapters Annual Meeting, Jackson, TN. March 2003. (5)
- Detar, J.E. and H.T. Mattingly. Determining population densities and movement patterns of the federally threatened blackside dace (*Phoxinus cumberlandensis*) in southern Kentucky and northern Tennessee. Second Annual Future Fisheries Professionals Student Colloquium, Cookeville, TN. November 2002. (4)
- Mattingly, H.T. Ecology and conservation of a threatened Ozark stream fish. Invited seminar, Department of Biological Sciences, Old Dominion University, Norfolk, VA. October 2002. (3)
- Mattingly, H.T. Predator-prey relationships among freshwater stream fishes in Trinidad and Tobago, West Indies. Invited seminar, Tennessee Technological University, Student Fisheries Association, Department of Biology, Cookeville, TN. January 2002. (2)
- Mattingly, H.T. Ecology and conservation of a threatened Ozark stream fish. Invited presentation, Sigma Xi, The Scientific Research Society, Tennessee Technological University Chapter, Cookeville, TN. October 2001. (1)

University, Community, and Professional Service

Significant Service to Tennessee Board of Regents and Tennessee Technological University

- Graduate Studies Executive Committee member, TTU
- University Research Advisory Council member, TTU
- Environmental and Sustainability Studies Committee, TTU
- Green Power Task Force, TTU Faculty Representative, Tennessee Board of Regents
- Sustainable Campus Fee Committee Faculty Representative, TTU
- Green Power Energy Task Force, TTU
- Chair, Environmental Management System Committee, TTU
- University Day at the State Legislature, TTU
- Faculty Advisor, Student Conservation Biology Association, TTU
- Windows on the World Symposium, Keynote Speaker on Climate Change, TTU
- Curriculum Committee, College of Arts and Sciences
- Tenure and Promotion Committee (ad hoc), Earth Sciences
- Graduate Policies Committee, Biology
- Planning and Review Committee, Biology
- Writer, Quality Enhancement Plan, Biology

- Undergraduate SOAR and Wildlife and Fisheries Sciences academic advisor, Biology
- Chair, Quality Enhancement Plan Implementation Committee, Biology
- Chair, Curriculum Committee, Biology (2001-2007)
- Curator, Fish Museum, Biology (2001-2014)

Examples of Community Service

- Musical Performer with Gina Mattingly of “Nature Songs for Kids,” Cookeville Nature Fest
- Musical Entertainment at Southeastern Wildlife Conclave for students, Fall Creek Falls Park
- Musical Performer at GeoConclave for students, Fall Creek Falls State Park
- Musical Performer at TTU Festival of Writing
- American Red Cross CPR and First Aid Certification
- Capshaw Elementary School, aquatic animal presentations
- Woodbury Schools “4-H on the Farm,” presentations on stream life
- Stream Cleanup of Spring Creek at Waterloo, service project with Conservation Biology students
- Science Fair Judge, Cumberland Plateau Regional Science and Engineering Fair

Significant Professional Service

- Editorial Board Member, *Southeastern Naturalist* (2013-present)
- Past President, Tennessee Chapter of the American Fisheries Society (AFS) (2010-2011)
- President, Tennessee Chapter AFS (2009-2010)
- President-Elect, Tennessee Chapter AFS (2008-2009)
- Annual Meeting Program and Arrangements Chair, Tennessee Chapter AFS (2009)
- Session Moderator, AFS Meetings (State, Southern Division, National)
- Co-founder, Upper Cumberland Chapter, Society for Conservation Biology
- U.S. Fish & Wildlife Service Technical Advisor, Niangua Darter Recovery Team and Bluemask Darter Technical Team
- Special Issue Volume Editor, *Southeastern Naturalist*
- Guest Editor, *Southeastern Naturalist*
- Grant Proposal Reviewer, National Science Foundation
- Book Chapter Reviewer, *Bond’s Biology of Fishes* by Michael Barton
- Manuscript Reviewer for *The American Midland Naturalist*, *Biological Invasions*, *Conservation Biology*, *Copeia*, *Ecology of Freshwater Fish*, *Environmental Biology of Fishes*, *Journal of Biogeography*, *Journal of Freshwater Ecology*, *Journal of Great Lakes Research*, *Pacific Science*, *River Research and Applications*, *Southeastern Naturalist*, *Southwestern Naturalist*, and *Transactions of the American Fisheries Society*