Corey G. Dunn

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PRIMARY RESEARCH INTERESTS

Conservation Biology, Freshwater Fish & Invertebrate Management, Invasive Species, Population & Community Ecology, Stream & River Ecology, Riverine Landscape Ecology

EDUCATION

Doctor of Philosophy, Natural Resources
University of Missouri, Columbia, MO
Missouri Cooperative Fish and Wildlife Research Unit
Adviser: Dr. Craig Paukert
Dissertation: *Assessment and Diversity of Fish Communities in Non-wadeable Tributaries of the Missouri and Mississippi rivers*

Master of Science, Fish and Wildlife Conservation
Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA
Virginia Cooperative Fish and Wildlife Research Unit
Adviser: Dr. Paul Angermeier
Thesis: *Habitat and Imperilment of the Candy Darter Etheostoma osburni in the New River Drainage, USA*

Bachelor of Science, Biological Sciences
Virginia Tech, Blacksburg, VA
Concentration: Pre-Medicine
Honors Program Commonwealth Scholar (completion of honors curriculum)
GPA: 3.85, *Summa cum laude*

RESEARCH EXPERIENCE & APPOINTMENTS

2023–Pres	Unit Leader & Research Fish Biologist, United States Geological Survey, North Carolina Cooperative Fish & Wildlife Research Unit
2023–Pres	Assistant Professor, North Carolina State University, Department of Applied Ecology; dual faculty member of Biology and Fisheries, Wildlife, & Conservation Biology programs; Research affiliate of Southeastern Climate Adaptation Science Center
2020–2023	Assistant Unit Leader, Mississippi Cooperative Fish & Wildlife Research Unit, United States Geological Survey
2020–2023	Assistant Professor, Department of Wildlife, Fisheries, & Aquaculture, Mississippi State University

2020	Postdoctoral Research Associate, Department of Wildlife, Fisheries, & Aquaculture, Mississippi State University
2014–2019	Graduate Research Assistant, School of Natural Resources, University of Missouri; Missouri Cooperative Fish & Wildlife Research Unit
2010–2013	Graduate Research Assistant, Department of Fish &Wildlife Conservation, Virginia Tech; Virginia Cooperative Fish & Wildlife Research Unit
2009	Research Technician, Department of Fish & Wildlife Conservation, Virginia Tech

PEER-REVIEWED PUBLICATIONS

Published

1. **Dunn, C.G.**, D.A. Schumann, M.E. Colvin, M. Wagner, D.T. Jones-Farrand, K. Evans, S. McRae, & E. Rivenbark. 2024. Using resiliency, redundancy, and representation within a Bayesian belief network to assess imperilment of riverine fishes. *Ecosphere*. https://doi.org/10.1002/ecs2.4738
2. Miranda, L.E., **C.G. Dunn**, T. Tompkins, & J. Morris. 2023. Patterns of zero and nonzero counts indicate spatiotemporal distributions, aggregation, and dispersion of invasive carp. *Management of Biological Invasions* 14(2): 363-377: https://doi.org/10.3391/mbi.2023.14.2.12
3. Besson, J.C. J. Neary, J.D. Stafford, **C.G. Dunn**, & L.E. Miranda. 2023. Fish functional gradients along a reservoir cascade. *Freshwater Biology*. https://doi.org/10.1111/fwb.14087
4. Bouska, K, B. Healy, M. Moore, **C.G. Dunn**, J. Spurgeon, & C. Paukert. 2023. Diverse portfolios: investing in tributaries for restoration of large river fishes in the Anthropocene. *Frontiers in Environmental Science*. https://doi.org/10.3389/fenvs.2023.1151315
5. **Dunn, C.G.**, M. Moore, N. Sievert, C. Paukert, & R. DiStefano. 2022. Extreme-flow events, temperature, and life history explain variation in long-term recruitment dynamics of lotic crayfishes in Ozark rivers. *Freshwater Science*. [DOI]
6. **Dunn, C.G.**, & C.P. Paukert. 2021. Accounting for dispersal and local habitat when evaluating tributary use by riverine fishes. *Ecosphere* 12(8): e03711. [DOI][PDF]
7. **Dunn, C.G.,** & C.P. Paukert. 2020. A flexible survey design for monitoring spatiotemporal fish richness in rivers: optimizing efficiency by integrating gears. *Canadian Journal of Fisheries and Aquatic Sciences*. [DOI][PDF]
8. **Dunn, C.G.**, & P.L. Angermeier. 2019. Remaining populations of an upland stream fish persist in refugia defined by habitat features at multiple scales. *Diversity and Distributions*. [DOI][PDF]
9. **Dunn, C.G.**, B. Brooke, R.A. Hrabik, & C.P. Paukert. 2018. Intensive sampling reveals underreported use of great-river tributaries by large-river specialist fishes in Missouri. *Southeastern Naturalist* 17(3): 512–520. [DOI][PDF]
10. **Dunn, C.G.**, & P.L. Angermeier. 2016. Development of habitat suitability indices for Candy Darter *Etheostoma osburni*, with cross-scale validation across representative populations. *Transactions of the American Fisheries Society* 145:1266–1281. [DOI][PDF]

11. **Dunn, C.G.** 2016. Documentation of Eastern Hellbender (*Cryptobranchus alleganiensis alleganiensis*) predation on stream-fish nest associates. *Northeastern Naturalist* 23(3): 8–11. [DOI][PDF]

Submitted

1. **Dunn, C.G.**, & C.P. Paukert. *In revision.* Pinpointing biodiversity hotspots: local habitat and regional connectivity shape longitudinal fish richness within contrasting riverine metacommunities.
2. Daniel, W.M. et al. *In review*. Vertebrates in Trade that Pose High Invasion Risk to the United States.
3. Besson, J.C., L.E. Miranda, M.E. Colvin, & **C.G. Dunn**. *In review*. Distribution and dispersion patterns of Silver Carp in an oxbow lake of the Mississippi River.
4. Stewart, R.R., T.L. Cox, M.E. Colvin, **C.G. Dunn**, M.W. Rogers, & L.E. Miranda. *In review*. Simulation tools for evaluating statistical power to monitor invasive carps.

TECHNICAL REPORTS

1. **Dunn, C.G.**, M.E. Colvin, K. Evans, D. Schumann. 2020–2021. Integrating-conservation planning tools to develop a transparent conservation blueprint for southeastern aquatic species. Annual report to United States Fish and Wildlife Service, Region 4, Atlanta, GA.
2. **Dunn, C.G.** 2019. Conservation and management of Missouri's mid-sized rivers: development of sampling protocols and application to Priority Watershed rivers. Final report to Missouri Department of Conservation. Jefferson City, MO. [PDF]
3. **Dunn, C.G.** 2013. Comparison of habitat suitability among sites supporting strong, localized, and extirpated populations of Candy Darters (*Etheostoma osburni*). Final report to Virginia Department of Game and Inland Fisheries. Richmond, VA. [PDF]

CURRENT COLLABORATIONS

- Examining deterrence potential of existing water infrastructure for limiting invasive carps movements while promoting population connectivity of native fishes. Collaborators: US Geological Survey, U.S. Fish and Wildlife Service, MS State University, NC State University, Auburn University, US Army Corps of Engineers, Mississippi Dept Wildlife Fisheries & Parks
- Efficacy of population genetics as a tool to quantify resiliency, redundancy, and representation of burrowing crayfishes within the Species Status Assessment framework. Collaborators: US Geological Survey, US Fish & Wildlife Service, US Forest Service, NC State University, Mississippi State University
- Species Status Assessment of Piebald Madtom. Collaborators: US Geological Survey, US Fish & Wildlife Service, NC State University, Mississippi State University
- Using conservation genomics, morphometrics, and occupancy modeling to support Species Status Assessments of rivulet crayfishes (*Hobbseus* spp.). Collaborators: US Geological Survey, US Fish & Wildlife Service, US Forest Service, NC State University, Mississippi State University, University of Mississippi

- Development of quantitative tools to support Species Status Assessments of freshwater mussels. Collaborators: US Geological Survey, US Fish & Wildlife Service, NC State University, Mississippi State University
- Developing a cooperative post-stocking conservation framework to evaluate stocking effectiveness and inform restoration efforts. Collaborators: US Geological Survey, NC State University, Mississippi State University
- Developing a framework for managing bigheaded carps in the lower Mississippi River alluvial plain. Collaborators: US Geological Survey, US Fish & Wildlife Service, Mississippi Department of Wildlife, Fisheries, & Parks, NC State University, Mississippi State University
- Data management application for monitoring invasive carps in the Tennessee-Cumberland River systems. Collaborators: US Geological Survey, US Fish & Wildlife Service, Mississippi State University, Tennessee Tech University, all state natural resources agencies in Tennessee and Cumberland river drainages

GRANTSMANSHIP

Competitive funding awarded: cumulative $1,971,385

- 2024: K. Pacifici & **C.G. Dunn**. Aquatic Species Distribution Modeling to Inform Recovery and Conservation. U.S. Fish and Wildlife Service ($200,000; co-PI)
- 2024: S. Brewer & **C.G. Dunn**. Potential for existing water infrastructure to deter invasive carps without disrupting population connectivity of native planktivorous fishes. U.S. Fish and Wildlife Service ($632,526; co-PI).
- 2023: M. Sandel & **C.G. Dunn**. An assessment of Tombigbee Darter status in wadeable streams using backpack electrofishing. Mississippi Department of Wildlife, Fisheries, and Parks ($35,315; co-PI).
- 2022: Z. Barnett & **C.G. Dunn**. Efficacy of population genetics as a tool to quantify resiliency, redundancy, and representation of burrowing crayfishes within the Species Status Assessment framework. Sponsor: US Fish and Wildlife Service ($29,971; co-PI).
- 2022: **C.G. Dunn** & M.E. Colvin. Using a Bayesian belief network to structure Species Status Assessments of data-deficient species: a case study with Piebald Madtom (*Noturus gladiator*). Sponsor: US Fish and Wildlife Service ($73,176; lead PI).
- 2021: **C.G. Dunn** & M.E. Colvin. Developing a cooperative post-stocking conservation framework to evaluate stocking effectiveness and inform restoration efforts. Sponsor: US Fish and Wildlife Service ($26,194; co-PI).
- 2021: **C.G. Dunn** & M.E. Colvin. Using conservation genomics, morphometrics, and occupancy modeling to support Species Status Assessments of rivulet crayfishes (*Hobbseus* spp.). Sponsor: US Fish and Wildlife Service ($314,055; lead PI).
- 2021: **C.G. Dunn** & M.E. Colvin. Development of quantitative tools to support Species Status Assessments of freshwater mussels. Sponsor: U.S. Fish and Wildlife Service ($249,007; lead PI).
- 2021: M.E. Colvin & **C.G. Dunn**. 2021. Use of machine learning to quantify habitat for the Oktibbeha Rivulet Crayfish. Sponsor: College of Forest Resources, Mississippi State University ($3000; co-PI).

- 2021: M.E. Colvin, L.E. Miranda, & **C.G. Dunn**. Data management application for monitoring Asian Carps in the Tennessee-Cumberland River systems. Sponsor: US Fish and Wildlife Service ($148,112; co-PI).
- 2021: **C.G. Dunn,** L.E. Miranda, & M.E. Colvin. Seasonal movements of bigheaded carps in an oxbow lake tributary network. Sponsor: MS Department of Wildlife, Fisheries, and Parks ($243,801; lead PI).
- 2021: L.E. Miranda, **C.G. Dunn**, & M.E. Colvin. Developing an adaptive framework based on connectivity for evaluating management actions that limit bigheaded carps access to floodplain lakes. Sponsor: Mississippi Department of Wildlife, Fisheries, and Parks ($107,595; co-PI).
- 2020: **C.G. Dunn** & M.E. Colvin. Methods to monitor American Eel distribution and status. Sponsor: College of Forest Resources, Mississippi State University ($3000, co-PI)
- 2019: Whittier, J., B. Landwer, & **C.G. Dunn**. Evaluating information needs to develop comprehensive biocriteria for Missouri stream fish communities. Sponsor: Missouri Department of Conservation ($92,842; co-PI).
- 2012: **C.G. Dunn**, & P.L. Angermeier. Comparison of habitat suitability among sites supporting strong, localized, and extirpated populations of Candy Darters (*Etheostoma osburni)*. Sponsor: VA Department of Wildlife Resources via State Wildlife Grant ($12,500, co-PI, project lead)

Grants not awarded

- 2023: M. Sandel, **C.G. Dunn**, A. Fritts, S. Spear. 2023. Risk assessment of Mobile River basin fishes entering the Mississippi River basin through the Tennessee-Tombigbee Waterway ($279,000).
- 2019: P.L. Angermeier, E. Frimpong, & **C.G. Dunn**. Development and application of a multiscale model of habitat suitability for Candy Darter. Sponsor: Virginia Department of Wildlife Resources ($188,200; awarded in 2021 to PLA, EF).

TEACHING & MENTORSHIP

Teaching

Instructor of Record

- 2023: Instructor. Natural Resource and Conservation Decision Making (introduction to structured-decision making; WFA8433). 3 graduate credits. Dept Wildlife, Fisheries, & Aquaculture. Mississippi State University
- 2022: Co-Instructor. Ecology of River Ecosystems (WFA8990). 2 graduate credits. Dept. Wildlife, Fisheries, & Aquaculture. Mississippi State University

Guest lectures given

- 2022: Wildlife and Fisheries Practices (WFA4473), *Role of research in recovery planning under the Endangered Species Act*. Dept. Wildlife, Fisheries, & Aquaculture. Mississippi State University
- 2022: Management of Impounded Rivers, *Using species traits in ecological research*. Dept. Wildlife, Fisheries, & Aquaculture. Mississippi State University (2 lectures)
- 2022: Wildlife Techniques, *Active and passive fish sampling techniques*. Dept. Wildlife, Fisheries, & Aquaculture. Mississippi State University (2 lectures)

- 2021: Wildlife Techniques, *Active and passive fish sampling techniques*. Dept. Wildlife, Fisheries, & Aquaculture. Mississippi State University (2 lectures)
- 2019: Stream Ecology (FW 4002), *Fish diversity within stream ecosystems*. School of Natural Resources. University of Missouri.
- 2018: Advanced Fisheries Science (FW 8001), *Principles of fish conservation*. School of Natural Resources. University of Missouri.
- 2018: Stream Ecology (FW 4002), *Community ecology of stream fishes*. School of Natural Resources. University of Missouri.
- 2013: Ichthyology (FIW 4424), *Fishes of the New River drainage, Virginia*. Department of Fish and Wildlife Conservation. Virginia Tech.
- 2013: Wildlife Biology (FIW 2324), *Stream fish ecology, sampling techniques, and field identification*. Department of Fish and Wildlife Conservation. Virginia Tech
- 2012: Wildlife Biology (FIW 2324), *Stream macroinvertebrate ecology and field identification*. Department of Fish and Wildlife Conservation. Virginia Tech (2 lectures).
- 2011: Wildlife Biology (FIW 2324), *Stream macroinvertebrate ecology and field identification*. Department of Fish and Wildlife Conservation. Virginia Tech (2 lectures).
- 2011: Ichthyology. *Fish survey methods for mountain streams*. Summer course at Mountain Lake Biological Station, University of Virginia.

Other teaching

- Completion of *College Science Teaching* (BIO SCI8724): A course focused on pedagogy, course development, and techniques for inquiry-based instruction within higher education.

Mentorship of students and research associates

Graduate students and Post-graduate Research Associates

- 2024–Present: Adviser for Postdoctoral Research Associate, Bonnie Myers. Evaluating alternative dispersal pathways for imperiled crayfishes. North Carolina State University.
- 2023–Present: Adviser for Postdoctoral Research Associate, Sara Cathey. Developing risk assessment framework for calculating imperilment risk of crayfishes in the southeastern US. North Carolina State University
- 2023–Present. Adviser for MSc student, Devin Rabun. Habitat suitability of roadside ditches for supporting petitioned burrowing crayfishes. North Carolina State University
- 2022–Present: Adviser for MSc student, Talmadge Tomlinson. Occupancy and threats to rivulet crayfishes. Mississippi State University
- 2021–2022: Co-adviser for Postdoctoral Research Associate, Taylor Stewart. Developing an application for managing standardized monitoring data of invasive carps in the Tennessee and Cumberland river basins. Mississippi State University
- 2021–Present: Adviser for MSc student, Joshua Stafford. Seasonal movement of bigheaded carps in Eagle Lake, Mississippi. Mississippi State University
- 2021–Present: Co-adviser for Hafez Ahmad (MSc). Network typology of oxbow lakes in the Lower Mississippi Alluvia Valley. Mississippi State University, Dept. Wildlife, Fisheries, and Aquaculture
- 2020–2023: Co-adviser for post-MSc Research Associate, Logan Sleezer. Integrating conservation planning tools to develop a transparent conservation blueprint for southeastern aquatic fishes. Mississippi State University

Undergraduate scholars

- 2023: Advisor for undergraduate research internship. M. Cheatham. data-management and curation of biological collections. Wildlife, Fisheries, & Aquaculture 3000, 3 undergraduate credits. Mississippi State University.
- 2020–2021: Co-adviser for undergraduate research project: H. Blische. Use of video and machine learning to identify wetted ditch habitat for headwater crayfishes. Undergraduate Research Scholars Program. Mississippi State University
- 2019–2020: Co-adviser for undergraduate research project: H. Blische. Methods to Monitor American Eel Distribution and Status. Undergraduate Research Scholars Program. Mississippi State University
- 2020: Mentor for undergraduate research project: B. Wilmoth. Evaluating accuracy of inexpensive acoustic water level sensors. Undergraduate Research Scholars Program. Mississippi State University
- 2020: Mentor for undergraduate research project: B. Wilmoth. Using boat-mounted Radio Frequency Identification to estimate stocking exploitation and efficiency of Passive Integrated Transponders. Undergraduate Research Scholars Program. Mississippi State University
- 2019: Mentor for undergraduate research project. L. Mott. An update on diet of wild Black Carp (*Mylopharyngodon piceus*) in the Mississippi River basin: taxa accumulation and recent additions to Unionid mussel species consumed (3 credits, University of Missouri)
- 2017: Mentor for post-baccalaureate-led research: B. Brooke and R. Kramer. Seasonal dynamics of Blue Suckers Cycleptus elongatus. University of Missouri
- 2016: Co-adviser for undergraduate research project: M. Mabery. Population dynamics of Gravel Chub in two Missouri rivers. 3 credits, University of Missouri

Graduate committees

- 2022–Present: D. Shoemaker (PhD). Vulnerability of reservoir fish habitats in a changing climate. Mississippi State University, Dept. Wildlife, Fisheries, and Aquaculture
- 2022–Present: M. Palmieri (MSc). Invasive bigheaded carps distributional patterns in lakes of the Mississippi Alluvial Valley. Mississippi State University, Dept. Wildlife, Fisheries, and Aquaculture
- 2022. C. Aldridge (PhD). Towards structured planning and learning at the state fisheries agency scale. Mississippi State University, Dept. Wildlife, Fisheries, and Aquaculture
- 2021–2023. J. Moreland (MSc). Understanding dietary and physical influences of invasive cichlids in Puerto Rico reservoir systems. Mississippi State University, Dept. Wildlife, Fisheries, and Aquaculture
- 2020–2023. J. Besson (MSc). Bigheaded carps interactions within a floodplain system in the Mississippi Alluvial Valley. Mississippi State University, Dept. Wildlife, Fisheries, and Aquaculture

AWARDS & HONORS

Mentee recognition

- 2024: J Stafford (MSc student). Jimmie Pigg and Melissa Coughlin Memorial Scholarship, Wamwater Streams Committee of Southern Division of American Fisheries Society. Awarded for outstanding research, scholarship, and professional involvement.

- 2024: J Stafford (MSc student). Robert M. Jenkins Reservoir Research Scholarship, Reservoir Technical Committee of Southern Division of American Fisheries Society. Awarded for outstanding research, scholarship, and professional involvement.
- 2023: J Stafford (MSc student). John E. Skinner Memorial Award, American Fisheries Society. Top award presented to graduate students by the parent chapter of AFS for professional involvement, leadership, research, and scholarship.
- 2023. J Stafford (MSc student). Outstanding service award. Awarded by MS Chapter of American Fisheries Society.
- 2023. D Shoemaker (PhD student). Best poster award. Mississippi Chapter of American Fisheries Society.
- 2023. D Shoemaker (PhD student). Best poster award. Graduate Research Symposium, Mississippi State University

C. Dunn – Professional recognition

- 2023: Regional Director's Employee Award for At-Risk Species Conservation. U.S. Fish & Wildlife Service. Recognized for role in team successfully recovering population of Yoknapatawpha Darter
- 2023: Selected for National Science Foundation-funded workshop on Bayesian Hierarchical Modeling.

C. Dunn – Graduate school, competitive support awarded: $11,570

Recognized research

- 2018: Winemiller Excellence in Data Analytics Award: annually awarded to one researcher at Univ. Missouri for exceptional achievement in data analytics. Awarded for developing re-sampling procedure that optimizes efficiency of multi-gear survey designs. (Co-sponsors: U. Missouri Statistics and Business departments; $500)
- 2018: Best Student Poster, U. Missouri School of Natural Resources Research Symposium ($50)
- 2017: *Honorable Mention* (runner up) research poster, Annual Meeting of American Fisheries Society
- 2017: Best Student Poster, U. Missouri School of Natural Resources Research Symposium ($50)
- 2017: Most Innovative Student Research, U. Missouri Life Sciences Research Symposium ($100)
- 2015: Best Student Aquatics Presentation, Missouri Natural Resources Conference ($65)
- 2012: Best Student Paper, Virginia American Fisheries Society Research Symposium ($100)

Scholarships and travel awards

- 2019: Carl Morrow Scholarship: awarded for natural resource contributions, academics, and societal involvement (Sponsor: Conservation Federation of Missouri; $1,000)
- 2018: Trans World Airlines Scholarship: an award across U. Missouri system of universities recognizing academics and impactful environmental research ($7,000)
- 2018: Finalist John E. Skinner Memorial Award: awarded to distinguished fisheries students to attend annual meeting of the American Fisheries Society. (Sponsor: Education Section of the American Fisheries Society; $285)
- 2017: Charles P. Bell Graduate Scholarship: awarded for service and contributions to natural resources (Sponsor: Conservation Federation of Missouri; $600)
- 2017: Jimmie Pigg and Melissa Coughlin Memorial Outstanding Student Achievement

Award: awarded for excellence in warmwater streams research, education, and public service. (Sponsor: Warmwater Streams Committee, Southern Division American Fisheries Society; $520)

- 2017: Janice Lee Fenske Memorial Award finalist (Sponsor: North Central Division American Fisheries Society)
- 2017: Douglas D. Randall Young Scientist Development Award: awarded for promising research and academic achievements. (Sponsor: U. Missouri Life Sciences; $600)
- 2017: Joan Duffy Memorial Travel Award: awarded for professional involvement, research, and academics (Sponsor: North Central Division American Fisheries Society; $200)
- 2016: Student Achievement Award: awarded for academics and extra-curricular involvement (Sponsor: Missouri chapter of the American Fisheries Society ($500)

Undergraduate: $1,000

- 2009: Dean's List every semester as an undergraduate
- 2009: Graduated >95th percentile of undergraduate class at VT
- 2008: Outstanding Community Service Scholarship ($500)
- 2005: Christmas Mother Scholarship ($500)

PRESENTATIONS AT CONFERENCES & MEETINGS, 18 invited, 86 total

Invited presentations/seminars

**Led by undergraduate, graduate, or post-graduate mentees*

1. *Sleezer, L.J., **Dunn, C.G.,** M.E. Colvin, D.A. Schumann, M Wagner, D.T. Jones-Farrand, E. Rivenbark, S. McRae, & J. Gilbert. 2024. Believe it or not – A Bayesian network for aiding Species Status Assessments of data-deficient fishes. Invited to present at symposium on non-game fish conservation. Southern Division of the American Fisheries Society. Chattanooga TN
2. *Stafford, J.D., C.G Dunn, M.E. Colvin, L.E. Miranda, & D. Riecke. 2024. Efficacy of modified barrier operations on Silver Carp movements into an impounded waterbody. Reservoir Technical Committee meeting, Chattanooga, Tennessee.
3. **Dunn, C.G.**, Sleezer, L.J., M.E. Colvin, D.A. Schumann, M Wagner, D.T. Jones-Farrand, E. Rivenbark, S. McRae, & J. Gilbert. 2024. Believe it or not – A Bayesian network for estimating imperilment of data-deficient fishes. Invited to present at symposium on non-game fish conservation. Southern Division of the American Fisheries Society. Chattanooga TN
4. **Dunn, C.G.**, Sleezer, L.J., M.E. Colvin, D.A. Schumann, M Wagner, D.T. Jones-Farrand, E. Rivenbark, S. McRae, & J. Gilbert. 2024. Believe it or not – A Bayesian network for estimating imperilment of data-deficient fishes. Invited to present at the USGS Friday Findings webinar series. Virtual.
5. Bouska, K.L., B.D. Healy, M.J. Moore, **C.G. Dunn**, & C.P. Paukert. 2023. Diverse portfolios: investing in tributaries for restoration of large-river fishes. Invited to present at USGS Ecosystem Mission Area Friday Findings Webinar, virtual.
6. **Dunn, C.G.**, Sleezer, L.J., M.E. Colvin, D.A. Schumann, M Wagner, D.T. Jones-Farrand, E. Rivenbark, S. McRae, & J. Gilbert. 2023. Believe it or not – A Bayesian network for estimating imperilment of data-deficient fishes. Invited to present at special session on using

structured decision making to support data-deficient species conservation. Annual meeting of the American Fisheries Society. Grand Rapids, Michigan

7. **Dunn, C.G.** 2023. Conserving riverine fishes through cooperator-driven research, graduate education, and service. Invited by Department of Applied Ecology, North Carolina State University, Raleigh, NC.
8. **Dunn, C.G.** 2022. Confronting carps on three invasion fronts: research overview of carps in the lower Mississippi and Tennessee-Tombigbee rivers. Invited by U.S. Geological Survey Invasive Carps Community of Practice (*Virtual*).
9. **Dunn, C.G.** 2022. Still waters run deep, but do they harbor big-river fishes? Invited by Department of Natural Resource Ecology & Management, Iowa State University. Ames, IA.
10. **Dunn. C.G.** 2020. Confronting invasive species head on through education, cooperator-driven research, and management support. Invited by Department of Wildlife, Fisheries, and Aquaculture, Starkville, MS. (*Virtual*).
11. **Dunn, C.G.** 2020. Navigating the river continuum: regional influences on fish populations and communities in river networks. Invited by Department of Natural Resources Management, Texas Tech University, Lubbock, TX (*Virtual*).
12. **Dunn, C.G.** & C.P. Paukert. 2020. Casting a wider net: adapting standardized fish community sampling to include imperiled riverine fishes. Invited by organizers of Endangered Species Research and Management symposium, Midwest Fish and Wildlife Conference. Springfield, IL.
13. **Dunn, C.G.** 2019. Navigating the continuum: regional influences on fish populations and diversity in southeastern river networks. Invited by Aquatic Ecology Group at Oak Ridge National Laboratory. Oak Ridge, TN.
14. **Dunn, C.G.** 2019. Carps, suckers, carp-suckers, and non-suckers: what fish live in Missouri's large rivers? Invited by organizers of Big Muddy Speaker Series. Rocheport, MO.
15. **Dunn, C.G.**, & C.P. Paukert. 2017. In pursuit of a silver bullet: does standardized sampling need to accommodate seasonal influences on fish richness across large rivers of Missouri? Invited by administrators of D.R. Young Scientist Development fund, U. Missouri Life Sciences Research Symposium. Columbia, MO. (**Recognized as Most Innovative Student Research**)
16. **Dunn, C.G.** 2017. Insight into overlooked frontiers: Missouri's large rivers support diverse and dynamic fish communities. Invited by North American Native Fishes Association. Meramec State Park, MO.
17. **Dunn, C.G.** 2016. Development of sampling methodology for documenting fish richness patterns within mid-sized rivers of Missouri. Invited by Columbia Environmental Research Center (USGS). Columbia, MO.
18. **Dunn, C.G.** 2013. Conservation of the Candy Darter (*Etheostoma osburni*), an imperiled species endemic to the New River drainage, USA. Invited by faculty in the Department of Fish and Wildlife, University of Missouri, Columbia.

Conferences & symposia

19. **Dunn, C.G.**, & C.P. Paukert. 2024. Casting a wider net: optimizing sampling to monitor imperiled fishes in southeastern rivers. Annual meeting of the North Carolina Chapter of the American Fisheries Society, Sylva, NC
20. *Raburn, D, H. Ahmad, P. Allison Jr., S. B. Adams, Z. C. Barnett, R. Garrick, K.A. Sterling, S. Cathey, M. E. Colvin, & **C.G. Dunn**. 2024. Uncharted waters: high-resolution stream networks reveal hidden habitats for petitioned headwater crayfishes. Mississippi Crayfish Working Group Meeting, Moss Point, MS
21. *Raburn, D.M., H. Ahmad, P. Allison Jr., S.B. Adams, Z.C. Barnett, R. Garrick, K.A. Sterling, S. Cathey, M.E. Colvin, & **C.G. Dunn**. Uncharted waters: high-resolution stream networks reveal hidden habitats for petitioned headwater crayfishes. Southern Division of the American Fisheries Society.
22. *Cathey, S. E., M. E. Colvin, & **C.G. Dunn**. 2024. Developing a standardized quantitative framework for evaluating imperilment of southeastern crayfishes. Annual meeting of the Southern Division of the American Fisheries Society. Chattanooga, Tennessee.
23. *Allison, Patrick, Jr., **C.G. Dunn**, S.B. Adams, J. Breinholt, K. Sterling, D. Raburn, Z. Barnett, and R. Garrick. 2024. An Integrative Approach to Species Delimitation of *Hobbseus* Crayfishes (Decapoda: Cambaridae). Mississippi Crayfish Working Group Meeting, Moss Point, MS
24. *Allison, P. Jr., **C.G. Dunn**, S. B. Adams, J. Breinholt, K. Sterling, D. Raburn, Z. Barnett, & R. Garrick. 2023. An Integrative Approach to Species Delimitation of *Hobbseus* Crayfishes (Decapoda: Cambaridae). Annual meeting of the Southern Division of the American Fisheries Society. Chattanooga, Tennessee.
25. *Stafford, J.D., **C.G Dunn**, M.E. Colvin, L.E. Miranda, & D. Riecke. 2024. A tale of two dams: evaluating efficacy of modified barrier operations on Silver Carp movements. Annual meeting of the Southern Division of the American Fisheries Society. Chattanooga, Tennessee.
26. *Ahmad, H., L. E. Miranda, **C.G. Dunn**, M. Boudreau, M. Colvin, & P. Dash. 2024. Hydrologic connectivity in oxbow lakes of the Lower Mississippi Alluvial Valley. Annual Meeting of the Mississippi Chapter, American Fisheries Society, Tupelo, Mississippi.
27. *Palmieri, M. L.E. Miranda. **C.G. Dunn**, L. Burger, & D. Riecke. 2024. Bigheaded carp distribution patterns in oxbow lakes of the Lower Mississippi Alluvial Valley. Annual Meeting of the Mississippi Chapter, American Fisheries Society, Tupelo, Mississippi.
28. *Palmieri, M. L.E. Miranda, **C.G. Dunn**, L. Burger, & D. Riecke. 2024. Bigheaded carp distribution patterns in oxbow lakes of the Lower Mississippi Alluvial Valley. Annual Meeting of the Southern Division, American Fisheries Society, Chattanooga, Tennessee.
29. *Ahmad, H. L.E. Miranda, **C. Dunn**, & M. Colvin. 2023. Hydrological connectivity patterns in oxbow lakes of the Lower Mississippi Alluvial Valley. Annual Meeting of American Fisheries Society, Grand Rapids, Michigan.
30. *Palmieri, M, L.E. Miranda, **C. Dunn**, L. Burger, and D. Riecke. 2023. Invasive bigheaded carp distribution patterns in lakes of the Lower Mississippi Alluvial Valley. Annual Meeting of American Fisheries Society. Grand Rapids, MI.

31. *Shoemaker, D.J., L.E. Miranda, **C. Dunn**, R.P. Boyles, and K.M. Hunt. Challenges evaluating reservoir fish habitats in a changing climate. Annual Meeting of the American Fisheries Society. Grand Rapids, MI.
32. *Stafford, J.D., **C.G Dunn**, M.E. Colvin, L.E. Miranda, and D. Riecke. 2023. Influence of barrier operations on passage rates of Silver Carp throughout a floodplain network. Annual meeting of the American Fisheries Society. Grand Rapids, Michigan.
33. *Ahmad, H. L.E. Miranda, & **C.G. Dunn**. 2023. Connectivity of oxbow lakes in the Lower Mississippi Alluvial Valley. Annual Meeting of the Mississippi Chapter of the American Fisheries Society, Natchez, Mississippi.
34. *Palmieri, M, L.E. Miranda, **C.G. Dunn**, L. Burger, & D. Riecke. 2023. Invasive bigheaded carp distribution patterns in lakes of the Lower Mississippi Alluvial Valley. Annual meeting of the Mississippi Chapter of the American Fisheries Society, Natchez, MS.
35. *Shoemaker, D.S., L.E. Miranda, & **C.G. Dunn**. 2023. Vulnerability of reservoir fish habitats to climate change. Mississippi State University graduate research symposium (**Best Student Poster**).
36. *Shoemaker, D.S., L.E. Miranda, & **C.G. Dunn**. 2023. Vulnerability of reservoir fish habitats to climate change. Annual meeting of the Mississippi Chapter of the American Fisheries Society, Natchez, MS (**Best Student Poster**)
37. *Stafford, J.D., **C.G. Dunn**, M.E. Colvin, L.E. Miranda, & D. Riecke. 2023. Passage of Silver Carp *Hypophthalmichthys molitrix* through water-control structures in a floodplain network. Annual meeting of the Mississippi Chapter of the American Fisheries Society.
38. *Sleezer, L.J., **C.G. Dunn**, M.E. Colvin, D.A. Schumann, M. Wagner, D.T. Jones-Farrand, E. Rivenbark, S. McRae, J. Gilbert. 2022. Assessing imperilment risk for data-deficient freshwater fishes – A Bayesian belief network approach. Southeastern Fishes Council, Athens, GA.
39. *Stewart, T.R., M.E. Colvin, **C.G. Dunn**, M.W. Rogers, & L.E. Miranda. 2022. Teamwork makes the dream work: an app to standardize inter-agency invasive carps surveillance. 152. Annual Meeting of the American Fisheries Society. Spokane, Washington.
40. *Stewart, T.R., T.L. Cox, M.E. Colvin, **C.G. Dunn**, M.W. Rogers, & L.E. Miranda. 2022. Simulation tools for estimating statistical power to monitor invasive carps. 152. Annual Meeting of the American Fisheries Society. Spokane, Washington.
41. *Besson, J.B., M.E. Colvin, L.E. Miranda, & **C.G. Dunn**. 2022. Movers and stayers: a look into the movements of Silver Carp in an oxbow lake system. Annual meeting of the Mississippi chapter of the American Fisheries Society, Hattiesburg, MS.
42. *Stafford, J.D. **C.G. Dunn**, M.E. Colvin, L.E. Miranda, & D.K. Riecke. 2022. Seasonal movements of Silver Carp (*Hypophthalmichthys molitrix*) in a hydrologically regulated oxbow network. Annual meeting of the Mississippi chapter of the American Fisheries Society, Hattiesburg, MS.
43. **Dunn, C.G.**, & C.P. Paukert. 2021. Pinpointing biodiversity hotspots: local habitat and regional connectivity shape fish richness along rivers with contrasting habitat diversity. Annual meeting of the Southeastern Fishes Council Columbus, GA. *Virtual*.

44. *Besson, H., M.E. Colvin, & **C.G. Dunn**. 2021. Evaluating movement of Silver Carp in an oxbow lake to inform barrier placement and operation. Annual meeting of the American Fisheries Society. Baltimore, MD.

45. *Blische, H., M.E. Colvin, & **C.G. Dunn**. 2021. Distribution and detection of American Eels Anguilla rostrata in Mississippi. Undergraduate research symposium. Mississippi State University.

46. *Blische, H., M.E. Colvin, & **C.G. Dunn**. 2021. Distribution and detection of American Eels Anguilla rostrata in Mississippi. Meeting of the Mississippi Chapter of the American Fisheries Society. *Virtual*.

47. *Blische, H., M.E. Colvin, & **C.G. Dunn**. 2021. Distribution and detection of American Eels Anguilla rostrata in Mississippi. Southern Division of the American Fisheries Society annual meeting. *Virtual*.

48. *Besson, J., M.E. Colvin, L.E. Miranda, & **C.G. Dunn**. 2021. A framework for analyzing Silver Carp interaction within a floodplain system in the Mississippi Alluvial Valley. Meeting of the Mississippi Chapter of the American Fisheries Society. *Virtual*.

49. *Mott, L., B. Poulton, P. Kroboth, D. Chapman, A. E. George, Stephen McMurray, S. Fairman, C. Paukert, & **C.G. Dunn**. 2020. Diet of invasive wild Black Carp in the Mississippi River basin: an assessment of richness and mollusk prey. Annual meeting of the American Fisheries Society (*Virtual*).

50. *Wilmoth, B.M., M.E. Colvin, N. Temple, E. Sparks, & **C.G. Dunn**. 2020. Evaluating accuracy of inexpensive acoustic water level sensors. Southern Division of the American Fisheries Society annual meeting. Little Rock, AR.

51. *Wilmoth, B.M., M.E. Colvin, & **C.G. Dunn**. 2020. Using boat-mounted Radio Frequency Identification to estimate stocking exploitation and estimate efficiency of Passive Integrated Transponders. Southern Division of the American Fisheries Society annual meeting. Little Rock, AR.

52. Paukert, C.P., & **C.G. Dunn**. 2020. Developing a riverine sampling protocol to meet stakeholder needs: a critical first step in monitoring restoration efforts. World Fisheries Conference. Adelaide, Australia. (*Canceled due to Coronavirus pandemic*)

53. *Wilmoth, B.M., M.E. Colvin, N. Temple, E. Sparks, & **C.G. Dunn**. 2020. Evaluating accuracy of inexpensive acoustic water level sensors. Meeting of the Mississippi Chapter of the American Fisheries Society. Gulfport, MS.

54. *Wilmoth, B.M., M.E. Colvin, & **C.G. Dunn**. 2020. Using boat-mounted Radio Frequency Identification to estimate stocking exploitation and estimate efficiency of Passive Integrated Transponders. Meeting of the Mississippi Chapter of the American Fisheries Society. Gulfport, MS.

55. *Mott, L., B.C. Poulton., P. Kroboth, D. Chapman, A. George S., McMurray, S. Faiman., **C.G. Dunn**, & C.P. Paukert. 2020. An update on diet of wild Black Carp (*Mylopharyngodon piceus*) in the Mississippi River basin: taxa accumulation and recent additions to Unionid mussel species consumed. Missouri Natural Resources Conference. Osage Beach, MO.

56. **Dunn, C.G.**, & C.P. Paukert. 2019. A structured approach for incorporating manager feedback into the survey design of a standardized riverine fish sampling protocol. Missouri Natural Resources Conference. Osage Beach, MO.

57. **Dunn, C.G.**, & C.P. Paukert. 2018. A flexible multiple-gear survey design for documenting fish richness in large rivers. Meeting of the American Fisheries Society. Atlantic City, NJ.

58. **Dunn, C.G.**, & C.P. Paukert. 2018. Predicting riverine refugia: both space and habitat influence the distributions of big-river fishes within large tributaries. School of Natural Resources Research Day Symposium. Columbia, MO. (**Best Student Poster**)

59. **Dunn, C.G.**, & C.P. Paukert. 2018. Test-driving a newly developed fish sampling protocol to identify biodiversity hotspots in two Missouri mid-sized rivers. Missouri Natural Resources Conference. Osage Beach, MO.

60. **Dunn, C.G.**, & C.P. Paukert. 2017. Predicting potential refugia: spatially explicit determinants of great-river fish richness within two unimpounded tributaries of the Missouri and Mississippi rivers. Meeting of the American Fisheries Society. Tampa, FL. (***Honorable Mention*** **Best Student Poster)**

61. **Dunn, C.G.**, & C.P. Paukert. 2017. Influences of downriver connectivity and site conditions on richness patterns of great-river fishes within free-flowing tributary networks. Meeting of Society for Freshwater Science. Raleigh, NC.

62. **Dunn, C.G.**, & C.P. Paukert. 2017. Temporal considerations when designing a standardized fish survey for large rivers: do richness and method efficiency vary seasonally? School of Natural Resources Research Day Symposium. Columbia, MO. (**Best Student Poster**)

63. **Dunn, C.G.**, & C.P. Paukert. 2017. In pursuit of a silver bullet: does standardized sampling need to accommodate seasonal and regional influences on fish richness across large rivers of Missouri? Midwest Fish and Wildlife Research Conference. Lincoln, NE.

64. **Dunn, C.G.**, & C.P. Paukert. 2017. Does standardized fish sampling within mid-sized rivers of Missouri need to account for seasonal and regional influences on fish species richness? Missouri Natural Resources Conference. Osage Beach, MO.

65. *Brooke, B., *R. Kramer, **C.G. Dunn**, & C.P. Paukert. 2017. Seasonal dynamics of Blue Suckers *Cycleptus elongatus* inhabiting great-river tributaries. Midwest Fish and Wildlife Conference. Lincoln, NE.

66. *Brooke, B., R. Kramer, **C.G. Dunn**, & C.P. Paukert. 2017. Seasonal population characteristics of Blue Sucker *Cycleptus elongatus* within large Missouri and Mississippi river tributaries. Missouri Natural Resources Conference. Osage Beach, MO.

67. **Dunn, C.G.**, & C.P. Paukert. 2016. Emerging distributional patterns and preliminary results from the Missouri mid-sized rivers fish sampling protocol: a scalable multi-method tool for studying Missouri's large-river fish assemblages. Missouri Natural Resources Conference. Osage Beach, MO.

68. *Mabery, M., **C.G. Dunn**, & C.P. Paukert. 2016. Population dynamics of Gravel Chub in two Missouri rivers. Missouri Natural Resources Conference. Osage Beach, MO.

69. **Dunn, C.G.**, & C.P. Paukert. 2015. Development of the Missouri mid-sized rivers fish sampling protocol with preliminary results from the lower Gasconade River, Missouri. Missouri Natural Resources Conference. Osage Beach, MO. (**Best Student Presentation**)

70. **Dunn, C.G.**, & C.P. Paukert. 2015. Development of a spatially balanced fish sampling protocol for mid-sized rivers of Missouri. Meeting of the American Fisheries Society. Portland, OR.

71. **Dunn, C.G.**, & P.L. Angermeier. 2013. Distribution of Candy Darter reflects range-wide variation in stream temperature regime and substrate composition. Meeting of the American Fisheries Society. Little Rock, AR.

72. **Dunn, C.G.**, & P.L. Angermeier. 2013. Factors shaping the ichthyofauna of the New River drainage. New River Symposium. Radford, VA.

73. **Dunn, C.G.**, & P.L. Angermeier. 2012. Candy Darter habitat and behavior and their implications for conservation. Joint Virginia Tech and Virginia chapters of the American Fisheries Society research symposium. Blacksburg, VA. (**Best Student Presentation).**

74. **Dunn, C.G.**, & P.L. Angermeier. 2011. Ecology of saddled darters in the New River drainage. New River Symposium. Athens, WV.

75. **Dunn, C.G.**, & P.L. Angermeier. 2011. Habitat use and behavior of Candy Darters *Etheostoma osburni* may mediate interactions with an introduced congener. Southern Division of the American Fisheries Society annual meeting. Tampa, FL.

Meetings & outreach

76. Dunn, C.G. 2023. From pre-med to fish doc: lessons from an early career fisheries professional. Invited seminar to North Carolina State University sub-unit of the American Fisheries Society.

77. Pinder, M., D. Kirk, & **C.G. Dunn**. 2022. Presence and habitat assessment of federally Endangered Candy Darters in Cripple Creek, Virginia. Annual meeting of Candy Darter Conservation Committee. Virtual.

78. **Dunn, C.G.** 2021. From pre-med to fish professor: lessons from an early career natural resources professional. 2021. Seminar to Mississippi State chapter of the American Fisheries Society.

79. **Dunn, C.G.** 2021. From pre-med to a fish professor: lessons from an early career natural resources professional. Seminar to Mississippi State chapter of the Wildlife Society.

80. **Dunn, C.G.**, & C.P. Paukert. 2020. Standard sampling protocols in Missouri's mid-sized rivers. Concluding seminar to the Missouri Department of Conservation. Columbia, MO.

81. **Dunn, C.G.**, & C.P. Paukert. 2018. Predicting riverine refugia: both space and habitat influence the distributions of big-river fishes within large tributaries. Missouri Cooperative Fish and Wildlife Research Unit coordinators meeting. Columbia, MO.

82. Angermeier, P.L., K. McBaine, & **C.G. Dunn**. 2016. Habitat quantity and quality parameters. U.S. Fish and Wildlife Service Species Status Assessment for Candy Darter. Blacksburg, VA.

83. **Dunn, C.G.**, & C.P. Paukert. 2016. Development of a standardized fish sampling protocol for mid-sized rivers of Missouri. Missouri Cooperative Fish and Wildlife Research Unit collaborators meeting. Columbia, MO.

84. **Dunn, C.G.**, & C.P. Paukert. 2014. Development of the Missouri mid-sized rivers fish sampling protocol with preliminary results from the lower Gasconade River. Missouri Cooperative Fish and Wildlife Research Unit collaborators meeting. Columbia, MO.

85. **Dunn, C.G.**, & P.L. Angermeier. 2013. Distribution of Candy Darter reflects range-wide variation in stream temperature regime and substrate composition. Meeting of the Candy Darter Conservation Committee. Blacksburg, VA.

86. **Dunn, C.G.**, & co-authors. 2009. Longitudinal fish community patterns in Chestnut Creek, Virginia. Service-learning presentation through FIW3514: Fisheries Techniques seminar to the City of Galax. Galax, Virginia.

TECHNICAL SUPPORT PROVIDED TO AGENCIES & ORGANIZATIONS

- 2015–Present: Reviewer for peer-reviewed scientific journals and US Geological Survey (15 journals, 36 reviews): *Canadian Journal of Zoology (3), Ecological Indicators*, *Ecosphere (2)*, *Diversity & Distributions*, *Fisheries (4), Freshwater Science (2), Journal of Fish Biology (2), Nature*, *North American Journal of Fisheries Management (4), PLoS ONE (3), Southeastern Fishes Council Proceedings, Southeastern Naturalist, Transactions of the American Fisheries Society (3), Urban Ecosystems, USGS Fundamental Science Practices review (7)*
- 2024–Present: Governing Board, Robust Redhorse Conservation Committee
- 2024–Present: Faculty Adviser, North Carolina State sub-unit of the American Fisheries Society
- 2010–Present: Member of Candy Darter Conservation Committee: a group of biologists who recommend management actions for the federally endangered Candy Darter; Cooperators: VA Dept Wildlife, WV Division of Natural Resources, USDA Forest Service, US Fish and Wildlife Service)
- 2023: Served as technical expert for guidance on selecting Species of Conservation Concern for Mississippi State Wildlife Action Plan.
- 2023: Led annual monitoring to evaluate success of re-introduced population of Yoknapatawpha Darter (*Etheostoma faulkneri*; Cooperator: U.S. Fish and Wildlife Service).
- 2023: Served as technical expert for rapid-prototyping to identify ecological needs of petitioned crayfishes. Cooperator: U.S. Fish and Wildlife Service
- 2022: Co-facilitator of structured-decision making workshop on control strategies of invasive Black Carps. Cooperator: U.S. Geological Survey, U.S. Fish and Wildlife Service).
- 2022: Analyze data to on the potential translocation of an Endangered fish. Cooperators: Virginia Department of Wildlife Resources and USDA Forest Service
- 2021–2022: Served on technical team for US Geological Survey/US Fish and Wildlife Service horizon scan of high-risk invasive fishes to the United States
- 2020–2022: Served on advisory panel for US Fish and Wildlife Service horizon scan for high-risk invasive aquatic taxa (plants, invertebrates, fish) in the southeastern US.
- 2019: Provided technical support to US Fish and Wildlife Service on least-invasive sampling protocols for Candy Darter

- 2017–2019: Volunteered as subject-matter expert of aquatic ecology and fish biology on committee of non-government conservation organization
- 2016–2019: Served as technical expert of large-river fish communities and sampling methodology for development of ecological flow standards for the Missouri Department of Conservation
- 2018: Led workshop using structured-decision making framework to elicit feedback from cooperating partner agency biologists when developing fish sampling protocols
- 2018: Provided technical support to US Fish and Wildlife Service in Missouri on study design for detecting range expansions of invasive fish species (demonstrated management impact)
- 2016–2018: Provided guidance to United States Fish and Wildlife Service as technical expert during *Species Status Assessment* of the Candy Darter by US Fish and wildlife Service, leading to listing and designation of critical habitat under the U.S. Endangered Species Act (policy decision)
- 2017: Provided technical support to Missouri Department Conservation on sampling of Flathead Catfish and buffalo-fishes in Ozark rivers
- 2016: Trained Missouri Department of Conservation biologists on large-river sampling techniques to support dam relicensing by Federal Energy Regulatory Commission (demonstrated management and policy impacts)

PROFESSIONAL SOCIETY MEMBERSHIP

- 2009–Present: The American Fisheries Society
    - 2017–Present: Education Section
    - 2016–2020: Student Sub-section of the Education Section
    - 2014–2019: North Central Division: Missouri chapter, Student chapter at U. Missouri (Fisheries and Aquatic Sciences Society)
    - 2009–2013, 2020–Present: Southern Division: Virginia Tech, Mississippi, North Carolina chapters
- 2010–Present: The Southeastern Fishes Council
- 2017–Present: The Society for Freshwater Science
- 2016–2019: Conservation Federation of Missouri
- 2013–2019: Wildlife and Fisheries Sciences Graduate Student Organization at U. Missouri
- 2010–2013: Fish and Wildlife Conservation Graduate Student Association at Virginia Tech

LEADERSHIP & SERVICE

Professional

Mississippi State University (2020–Present)

- 2022: Member of MSU tenure-track faculty search committee
- 2021: Volunteer judge for student presentations at annual meeting of Mississippi chapter of American Fisheries Society

Graduate school

University of Missouri (2014–2019)

- 2017–2019: Serve on the Rivers, Streams, and Fisheries Advisory Committee for Conservation Federation of Missouri

- 2014–2019: Biomonitoring Chair for Fisheries and Aquatic Sciences Society: Led 10 events biomonitoring stream macroinvertebrates totaling 71 volunteers (142 volunteer hrs.) for Missouri Stream Team
- 2018: Technical Editor of Dillard et al. 2018. *Still Hooked: Our First 50 Years*. Missouri Chapter of the American Fisheries Society, pp. 290
- 2018: Volunteer educator for aquatic reading celebration at elementary school
- 2014–2018: Certified volunteer for the Columbia Aquatic Restoration Program
- 2017: Volunteer educator for over 70 elementary school children with Missouri River Relief
- 2014–2015: President of Wildlife and Fisheries Sciences Graduate Student Organization

Virginia Tech (2010–2013)

- 2010–2013: Volunteer and assistant organizer for three community fishing tournaments '*Mud Bass*' for VT chapter of the American Fisheries Society
- 2012: Delegate for Fish and Wildlife Conservation Graduate Student Assembly
- 2012: Grant reviewer for Graduate Student Assembly
- 2012: Student-faculty representative for Fish and Wildlife Graduate Student Association
- 2012: Volunteer for stream-fish surveys with the Tennessee Valley Authority
- 2010–2012: Volunteer for multiple stream and wetland restoration projects
- 2011: Conservation and Science Chair for VT chapter of the American Fisheries Society
- 2011: Assisted with surveys for endangered freshwater mussels with VT researchers
- 2010: Guest lecturer on fish ecology at local elementary schools for the *Trout in the Classroom* program organized by Trout Unlimited

Undergraduate *(2005–2009)*

- 2008–2009: Community service chair for organization completing over 5000 hours of service (recognized by Virginia Tech)
- 2008–2009: Coach for Special Olympics of Southwest Virginia
- 2008–2009: Mentor for Big Brothers Big Sisters of Southwest Virginia
- 2008–2009: Certified Nursing Assistant; weekly caregiver in assisted-living facility
- 2008: Team leader for service trip to rebuild damaged house following Hurricane Katrina
- 2008: Participant in service trip to Nicaraguan
- 2008: Volunteered with New River Valley Habitat for Humanity
- 2008: Participated in multiple fundraisers for women's shelter of Radford, VA via membership in Alpha Epsilon Delta Pre-Medicine honor and service society.

POPULAR MEDIA

- 2023: Research featured in Mississippi Outdoors article: "Tracking Carp Movements in the Delta"
- 2023: Feature in Wildlife Management Institute's Outdoor News Bulletin: Expanding biologists toolbox for assessing the status of southeastern freshwater fishes: https://wildlifemanagement.institute/outdoor-news-bulletin/march-2023/expanding-biologists-toolbox-assessing-status-southeastern
- 2023, Mar: Crayfish research featured on front page of Columbus-Starkville Dispatch newspaper: https://cdispatch.com/news/2023-03-25/are-these-mudbugs-rare-or-just-tough-to-catch/
- 2023, Jan: Crayfish research featured on front page of Starkville Daily Newspaper: https://starkvilledailynews.pressreader.com/starkville-daily-news/20230118

- 2016, 2018, 2020: Published photographs in *Virginia Wildlife Magazine* and Candy Darter Species Status Assessment by United States Fish and Wildlife Service, *Fisheries* magazine

RESEARCH SKILLSET (demonstrated skills during previous or ongoing research)

Technical

- R programming language (since 2012)
- Database management and data wrangling in Access or R
- Geographic Information Systems (ArcGIS; since 2011)
    - Advanced watershed analyses
    - Geospatial analyses and autocorrelation
    - Riverscape connectivity modeling
    - Species distribution modeling
- Netica (Bayesian belief networks)
- Open-source species' distributional databases (GBIF, iDIG, MARIS, FISHNET2, BISON)
- PRESENCE (Occupancy modeling software)
- Statistical Analysis Software (SAS)
- WinBUGS / JAGs (Bayesian MCMC procedures)

Advanced statistical analyses

- Age- and stage-based matrix population dynamics models
- Bayesian inference (MCMC procedures)
- Directed Acyclic Graphs (Bayesian belief and decision networks)
- Linear, additive, and generalized linear models
- Machine learning methods
- Mixed-effects modeling
- Multivariate methods (e.g., direct and indirect ordination, distance-based analyses)
- Occupancy, CJS, and other hierarchical models
- Randomization procedures – k-fold validation, permutation, simulation
- Structured Decision Making frameworks

General field

- CPR and First Aid (through 2022)
- Fish identification
- Mark-recapture population estimation
- Stream temperature monitoring
- Underwater observational survey techniques

Large-river research

- Benthic trawling
- Boat electrofishing (Dept of Interior Crew-Leader Certification)
- Large-river habitat assessment
- Acoustic Current Doppler Profiler
- Side-scan sonar imagery
- Motorboat Operator Certification (Dept of Interior MOCC through 2025)
- Motorboat Operator Instructor Certification (Dept of Interior MOICC thru 2025)
- Over-the-water training (Dept of Interior certified through 2024)
- Passive-sampling methods

- Acoustic telemetry

Wadeable stream research

- Backpack electrofishing (Dept of Interior Crew-Leader Certification)
- Wadeable stream habitat assessment

General laboratory

- Aquaculture and husbandry
- Diet analysis
- Fish age and growth analysis
- Larval fish identification
- Macroinvertebrate identification

PROFESSIONAL WORKSHOPS TAKEN

- Bayesian Models for Ecologists. Two-week course on Bayesian hierarchical model funded by National Science Foundation. Colorado State University, Fort Collins, CO. June 2023.
- Structured Decision Making. National Conservation Training Center. June 2022, Shepherdstown, WV.
- Write Winning Grant Proposals. Office of Research and Economic Development, Mississippi State University. February 2020, Starkville, MS.
- Crayfish Ecology and Identification. US Fish and Wildlife Service. February 2020, Grenada, MS.
- Bayesian hierarchical modeling. Pennsylvania Cooperative Fish and Wildlife Research Unit. June, 2015. Columbia, MO.
- Small-bodied Fish Identification. Missouri Department of Conservation. March 2015, Columbia, MO.