



CURRICULUM VITAE

OF

W. GREGORY COPE

WORK ADDRESS

North Carolina State University
Department of Applied Ecology
Box 7617
Raleigh, North Carolina 27695-7617
Phone: 919-515-5296
Fax: 919-515-5327
E-mail: greg_cope@ncsu.edu

HOME ADDRESS

110 Lake Meadow Drive
Apex, North Carolina 27502
Phone: 919-363-4708

CURRENT POSITIONS

William Neal Reynolds Distinguished Professor
of Applied Ecology & Environmental Toxicology
Department of Applied Ecology
North Carolina State University
Box 7617
Raleigh, North Carolina 27695-7617

Adjunct Faculty
Department of Fish and
Wildlife Conservation
Virginia Tech University
Blacksburg, Virginia 24061

Graduate Faculty in Fisheries,
Wildlife, and Conservation Biology
and
Graduate Faculty in Water Resources
North Carolina State University
Raleigh, North Carolina 27695-7617

EDUCATION

- Ph.D. Iowa State University, Ames, IA 50011.
August 1991.
Double major: Toxicology and Fisheries Biology.
- M.S. University of Wisconsin-La Crosse, La Crosse, WI 54601.
May 1988.
Major: Biology, emphasis in Aquatic Sciences.
- B.S. Lenoir-Rhyne University, Hickory, NC 28603.
May 1983.
Major: Environmental Science.

RESEARCH INTERESTS

Linkages among sentinel organisms, environmental health, and human health. Effects of anthropogenic stresses on aquatic organisms, with emphasis on fish and mollusks. Bioavailability, transport, and fate of contaminants in aquatic ecosystems.

PROFESSIONAL EXPERIENCE

Interim Department Head, Department of Applied Ecology, North Carolina State University, Raleigh, North Carolina 27695-7617. August 2021 to June 2022. Perform all aspects of administrative duties related to the operation of the Department, including budget, personnel, strategic planning for academic, research, and Extension programs, and building and maintaining relationships with cooperators and stakeholders internal and external to the University.

Director, Yates Mill Aquatic Conservation Center (YMACC), College of Agriculture and Life Sciences, North Carolina State University, Raleigh, North Carolina 27695-7617. August 2015 to present. Perform all aspects of administrative duties related to the operation, maintenance, and productivity of the Center, including construction/renovation planning and design, budget, personnel, research, education, and outreach programs, and establishing and maintaining relationships with cooperators and stakeholders at state and federal natural resource management agencies. The YMACC provides propagation, culture, and research related to conservation and restoration of imperiled species of native freshwater mussels, freshwater snails, and non-game fishes and amphibians of the Atlantic Slope drainages of North Carolina. The YMACC staff and students assist the Center's cooperators in the U.S. Fish and Wildlife Service, NC Wildlife Resources Commission, and the NC Department of Transportation in implementing applied research findings and on-the-ground conservation and management strategies. In addition, the YMACC staff and students partner with Wake County Yates Mill Historic County Park staff to deliver education and outreach programs to citizens and K-12 students.

William Neal Reynolds Distinguished Professor of Applied Ecology and Environmental Toxicology (38% Research), Extension Toxicology Specialist (57% Extension), and Teaching (5%), Department of Applied Ecology, North Carolina State University, Raleigh, North Carolina 27695-7617. March 2015 to present. (Professor, March 2011 to February 2015; Associate Professor, March 2003 to March 2011; Assistant Professor, March 1997 to March 2003). Supervise and conduct research related to the effects of environmental contaminants and other stressors on aquatic organisms, with emphasis on fish and invertebrates, and the fate, bioavailability, and transport of contaminants in aquatic ecosystems. This research utilizes sentinel aquatic organisms, biomarkers of exposure, effect, or susceptibility, or alternative toxicological models from which linkages to environmental and human health are evaluated. Major areas of research include: 1) evaluating the ecological risks of pesticides, persistent organochlorine pollutants (POPs), and metals in resident or experimental organisms, 2) effects of waterborne and sediment-associated contaminants on fish and unionid mussels in inland waterways, 3) efficacy of constructed wetlands and other Best Management Practices (BMPs) for reducing non-point source pollution from urban (e.g., polycyclic aromatic hydrocarbons) and agricultural (e.g., nutrients) watersheds, and 4) the effects of contaminants on threatened and endangered species of fish, mussels, and snails. Participate in teaching, advising and supervising graduate student research at the M.S. and Ph.D. levels and research and teaching at the post-doctoral scholar level. Co-instruct graduate courses in Agricultural Chemical Risk Assessment (Applied Ecology 592), Fundamentals of Toxicology (Toxicology 701), Biochemical Toxicology (Toxicology 710), Environmental Toxicology (Toxicology 715), Wildlife Toxicology (Toxicology 820W), Toxicology Seminar (Toxicology 801), Responsibilities in Science (Toxicology 820B), Water Quality Applications (Biological and Agricultural Engineering 590Q), Invasive and Exotic Species (Forestry FW 602), Introduction to Biological Research (AEC 592), and Environmental Assessment Capstone (EA 665). Serve as scientific advisor to various state and federal agencies; prepare briefing and budgetary materials for University administration and state officials; prepare research reports; publish research results in national and international peer-reviewed journals; present research results at scientific conferences and seminars.

Department Extension Leader, Department of Applied Ecology, North Carolina State University, Raleigh, North Carolina 27695-7617. March 1997 to August 2021. Direct and manage the Department's extension (public outreach) program, personnel, budget, and strategic planning. Activities include developing and conducting specialized training in toxicology, water quality, and pesticides in support of NC Cooperative Extension Service field faculty and county agents, preparing extension-related publications, and organizing and conducting short courses and state, national, and international meetings.

Coordinator, North Carolina Agromedicine Institute, Department of Applied Ecology, North Carolina State University, Raleigh, North Carolina 27695-7617. March 1997 to August 2021. Manage budget, programs, and approximately 35 faculty on the NC State University campus who hold faculty affiliate appointments in the NC Agromedicine Institute, a collaborative partnership between NC State University, East Carolina University, NC A&T State University, and other organizations to address the occupational and environmental health and safety issues of individuals and populations involved in Agriculture, Forestry, and Fisheries.

Associate Director, Community Outreach and Education Core, Center for Human Health and the Environment,

Department of Applied Ecology, North Carolina State University, Raleigh, North Carolina 27695-7617. January 2009 to August 2015. Participated on the senior leadership team of a Center funded by the National Institute for Environmental Health Sciences, whose aim was to understand how human health, at both the individual and population level, are affected by environmental factors and to implement this knowledge to prevent and/or reduce the adverse impacts of environment exposures on human health.

Assistant Department Head, Department of Environmental and Molecular Toxicology, North Carolina State University, Raleigh, North Carolina 27695-7633. January 2002 to December 2008. Performed all aspects of administrative duties for operation of the Department, acted as Department Head in the absence of the incumbent.

Agricultural Programs Accountability Leader, North Carolina Agricultural Research Service (NC State University, College of Agriculture and Life Sciences). January 2003 to December 2004. Led reporting efforts for National Goals 2 and 3 (“A Safe and Secure Food and Fiber System” and “A Healthy, Well-Nourished Population”) for the Annual Plan of Work to the U.S. Department of Agriculture.

Graduate Faculty, Actively participate as an **appointed Graduate Faculty Member and Member of the Executive Committee of the Fisheries, Wildlife, and Conservation Biology Program** through teaching, advising, and supervising graduate student research at the M.S. and Ph.D. level. Serve as a member of the NC State University **Graduate Faculty in Water Resources**, a multi-college, multi-disciplinary graduate curriculum. **Cooperating Faculty Member** of the U.S. Geological Survey’s, North Carolina Cooperative Fish and Wildlife Research Unit at NC State University.

Research Fishery Biologist, U.S. Geological Survey, Biological Resources Discipline, Upper Midwest Environmental Sciences Center, 2630 Fanta Reed Rd., La Crosse, Wisconsin 54603. September 1991 to March 1997. Supervise and conduct research in four primary areas of responsibility; 1) effects of waterborne and sediment-associated contaminants on fish and invertebrates, 2) nontoxicant methods for controlling zebra mussels, 3) biology and ecology of zebra mussels in large rivers, and 4) methods for relocating and preserving the biodiversity of native unionid mussels. Research on waterborne and sediment-associated contaminants includes the bioaccumulation and sublethal effects of polychlorinated biphenyls, organochlorine pesticides, cadmium, mercury, and methylmercury on fish, mayflies, zebra mussels, and native unionid mussels in large rivers. This research focused on the development and application of biochemical, physiological, pathological, and toxicological methods, such as RNA:DNA ratios, glycogen content, cholinesterase activity, and bioturbation as biomarkers of sublethal stress. Research on nontoxicant methods for controlling zebra mussels included strategies for preventing zebra mussel attachment by inhibiting the biochemical pathways necessary for the formation of the byssal threads. This research involved the testing of selected antioxidants and other chemicals on zebra mussels and non-target organisms such as fish and native bivalves. Research on the biology and ecology of zebra mussels included the reproduction, settlement, growth rate, and habitat colonization of zebra mussels in the Upper Mississippi River. Research on native unionid mussels included factors that influence the survival and physiological condition of unionid mussels during relocations mandated under the Endangered Species Act. Primary duties for the aforementioned research included: design of research projects and experiments; development of research and quality assurance protocols, preparation of Standard Operating Procedures (SOP’s) for Good Laboratory Practices (GLP); analysis and interpretation of data; preparation of research reports; publication of research results in national and international peer-reviewed journals; presentation of research results at scientific conferences and seminars; supervision of technicians, graduate students, and student volunteers; cooperation with various state and federal agencies; preparation of annual reports for the Research Center’s annual work plan; responsibility for project budgets; purchase of equipment and supplies.

In addition, I served as **Acting Leader** of the Section of Aquatic Ecology at the Upper Midwest Environmental Sciences Center in La Crosse, Wisconsin from December 1996 through February 1997 and as **Acting Leader** of the Section of Toxicology at the National Fisheries Research Center (now known as the Upper Midwest Environmental Sciences Center) in La Crosse, Wisconsin from September 1993 through December 1993 upon retirement or reassignment of incumbent. Technical aspects of these positions included the supervision of sections with approximately 14 to 20 research biologists, technicians, and graduate students. Primary focus of research in the Sections concerned the effects of waterborne and sediment-associated contaminants on fish and invertebrates, the control and biological effects of exotic species in the Great Lakes and large rivers, and the registration of fishery chemicals and drugs for the aquaculture industry and state and federal fish hatcheries. Planned, directed, and supervised Section research; provided administrative guidance for

Section on fiscal management and annual work planning; managed contractual research with universities and government agencies. Provided **Congressional Testimony** on the invasion of the inland waterways of the United States by the exotic zebra mussel and prepared briefing and budget materials for various members of the U.S. congressional delegation and Department of the Interior administration.

Adjunct Faculty, Department of Biology, University of Wisconsin-La Crosse, La Crosse, Wisconsin 54601. September 1991 to 2007. Participation included teaching, advising graduate student research at the M.S. level, and career counseling for students. Co-instructed a 4-credit graduate course (Biology 701), entitled "Effective Scientific Communication in the Biological Sciences," during the spring 1993 and 1996 semesters. Participate in two graduate-level courses in environmental toxicology; one entitled "Aquatic Toxicology" (4 credit course), and the other entitled "Aquatic Contaminants" (2 credit course).

Graduate Research Assistant (Ph.D. Candidate). Department of Animal Ecology, Iowa Cooperative Fish and Wildlife Research Unit, Iowa State University, Ames, Iowa 50011 and U.S. Fish and Wildlife Service, National Fisheries Contaminant Research Center, Field Research Station, La Crosse, Wisconsin 54602. January 1988 to August 1991. Research on the biochemical effects of aqueous and sediment-associated cadmium on juvenile fish. This research focused on whole-body accumulation, hepatic metal-binding proteins (metallothioneins), and hepatic nonthionein cytosolic cadmium as sub-lethal indicators of exposure to waterborne and sediment-associated cadmium in juvenile bluegills. Primary duties included: construction of toxicity test exposure chambers; performing toxicity tests to assess the biochemical effects of aqueous and suspended, cadmium-contaminated riverine sediments on juvenile bluegills; collection of relatively uncontaminated and contaminated riverine sediment; analysis of sediment samples for particle size, organic carbon, and heavy metals; analysis of fish for biochemical variables and heavy metals; chemical analysis of water; maintenance of pond and laboratory cultures of fish eggs, larval, and juvenile fish.

Graduate Research Assistant. River Studies Center, University of Wisconsin-La Crosse, La Crosse, Wisconsin 54601. June 1987 to December 1987. Primary duties included: aquatic toxicology research; scientific writing; administration; preparation and analysis of fish for total mercury; establishment of a Standard quality assurance program for all metal analyses; analysis and interpretation of data; supervision of laboratory technicians; purchasing of equipment and supplies.

Graduate Teaching Assistant (M.S. Candidate). Department of Biology and Microbiology, University of Wisconsin-La Crosse, La Crosse, Wisconsin 54601. January 1985 to May 1987. Primary duties included: instruction of laboratory sections of Introductory Biology; preparation of lectures, demonstrations, and computer simulations; writing, administering, and grading laboratory examinations; recording and maintaining student records; supervision of work-study assistants.
Description of Duties Associated with M.S. Thesis Research Project. I designed, implemented, and completed an M.S. thesis research project that evaluated the physicochemical factors influencing mercury accumulation in yellow perch and *aufwuchs* in north-central Wisconsin seepage lakes. The technical aspects of the research included: construction of artificial substrate samplers for *aufwuchs*; collection and analysis of fish and *aufwuchs* samples; analysis of age and growth of fish; chemical analysis of water; analysis of *aufwuchs* production (chlorophyll a, biomass); publication of research results in international peer-reviewed journals; presentation of research results at scientific conferences and seminars.

Field and Laboratory Technician. River Studies Center, University of Wisconsin-La Crosse, La Crosse, Wisconsin 54601. June 1986 to August 1986 and June 1985 to August 1985. Assessed contamination and bioavailability of metals in sediment from acid-susceptible lakes in north-central Wisconsin. Primary duties included: collection of sediment with a peristaltic pump, Ekman dredge, and a SCUBA-operated core sampler; analysis of sediment samples for mercury, aluminum, lead, and cadmium; chemical analysis of water; responsibility for laboratory quality assurance program.

Fisheries Technician. Duke Power Company Environmental Laboratories, Route 4, Box 531, Huntersville, North Carolina 28078. June 1983 to February 1984, June 1982 to August 1982, and June 1981 to August 1981. Research on fish populations in reservoirs, rivers, and small streams related to the licensing and operation of hydroelectric, fossil fuel, and nuclear power generating facilities. Primary duties were field sampling, sample analysis, and scientific writing, including: sampling of larval fish with push net, circular trawl net, and tucker trawl gear; sampling of adult fish by gillnetting, electrofishing, and rotenone; analysis of age and growth of fish; identification and analysis of larval fish; chemical analysis of water; preparation of in-house reports and sections for standard procedure manuals.

Teaching Assistant. Lenoir-Rhyne University, Hickory, North Carolina 28603. August 1982 to May 1983. Primary duties included: instruction of laboratory sections of Introductory Geology; preparation of brief lectures and demonstrations; administering and grading laboratory examinations; recording and maintaining student records.

PROFESSIONAL ORGANIZATIONS

American Fisheries Society
 Freshwater Mollusk Conservation Society
 Gamma Sigma Delta Honor Society
 Sigma Xi
 Society of Environmental Toxicology and Chemistry

PROFESSIONAL ACTIVITIES

American Fisheries Society

Past-President, North Carolina Chapter, 2014-2015.
 President, North Carolina Chapter, 2013-2014.
 President-Elect, North Carolina Chapter, 2012-2013.
 Chair, North Carolina Chapter Awards Committee, 2002-2022.
 Chair, North Carolina Chapter Education and Outreach Committee, 2005-2009.
 Chair, North Carolina Chapter Outreach Committee, 2002-2005.
 Associate Editor, *Transactions of the American Fisheries Society*, 2000-2001.
 Member, Publication Awards Committee, 1993-1994.
 Member, Resource Policy Committee, 1992-1993.

Freshwater Mollusk Conservation Society

Journal Editor-in-Chief, *Freshwater Mollusk Biology & Conservation*, 2010-2020
 Member, 11th Biennial Workshop Program Committee, 2017-2018
 Chair, 9th Biennial Symposium Technical Program Committee, 2014-2015
 Past-President, 2011-2013
 President, 2009-2011
 President-Elect, 2007-2009
 Co-Chair, Awards Committee, 2009-2019
 Chair, Awards Committee, 2002-2009
 Chair, 4th Biennial Symposium Technical Program Committee, 2004-2005
 Chair, 3rd Biennial Symposium Technical Program Committee, 2002-2003
 Co-Chair, Water Quality Committee, 2001-2003

North American Agromedicine Consortium

Co-Chair, 12th Annual Meeting Program Committee, 1999
 Chair, Awards Committee, 1999

Society of Environmental Toxicology and Chemistry

Co-Chair, Special Mollusk Platform Session and Mollusk Continuing Education Course, 2013.
 Member, Carolinas Chapter Board of Directors, 2002-2005.
 Member, Carolinas Chapter Annual Meeting Program Committee, 2004-2005.
 Co-Chair, Carolinas Chapter Annual Meeting Program Committee, 2001-2002.
 Member, North America Awards and Fellowships Committee, 2000-2003.
 Chair, Carolinas Chapter Awards Committee, 2000-2002.
 Member, Carolinas Chapter Executive Board, 1999-2000.
 Member, Carolinas Chapter Board of Directors, 1998-2000.
 Member, 19th Annual Meeting Program Committee, 1998.
 Past President, Midwest Chapter, 1996-1997.
 President, Midwest Chapter, 1995-1996.
 Vice President, Midwest Chapter, 1994-1995.
 Chair, Midwest Chapter Annual Meeting Program Committee, 1993-1994.
 Chair, Midwest Chapter Awards Committee, 1993-1997.
 Member, Midwest Chapter Executive Board, 1993-1997.

Sigma Xi

President, University of Wisconsin-La Crosse Chapter, 1996-1997.
 President-elect, University of Wisconsin-La Crosse Chapter, 1995-1996.
 Vice President, University of Wisconsin-La Crosse Chapter, 1994-1995.

HONORS, AWARDS, AND SERVICE

Fellow, American Fisheries Society, 2022.
 Fellow, Society of Environmental Toxicology and Chemistry, 2022.
 Meritorious Service Award, Freshwater Mollusk Conservation Society, 2021.
 Outstanding Subject Matter Programming by a Team Award for Pesticide Education and Agromedicine.
 Presented by the North Carolina Association of Cooperative Extension Specialists, 2021.
 Member, Yates Mill Historic Park Advisory Board, 2020-present.
 Member, White Lake Technical Advisory Committee, 2018-2020.
 Member, Science Advisory Board for North Carolina Department of Environmental Quality and North Carolina
 Department of Health and Human Services, 2017-2019.
 William Neal Reynolds Distinguished Professor, 2015-present
 Faculty Affiliate, Southeast Climate Adaptation Science Center, U.S. Geological Survey and North Carolina State
 University, 2015-present
 Member, Eno River Hydrilla Management Technical Advisory Committee, 2014-present.
 Member, Lake Waccamaw Technical Advisory Committee, 2013-present.
 Member, Steering Committee for Triangle Health Collaborative Workshop on Hydrofracking and Environmental and
 Public Health Consequences, 2012.
 Member, Steering Committee for US Environmental Protection Agency Workshop on Major Ion Toxicity in Aquatic
 Systems, 2012.
 Search for Excellence Award, Outstanding Extension Specialist Team, Presented by the North Carolina State
 Grange and the North Carolina Cooperative Extension Service, 2012.
 Board of Directors, The Foundation for Toxicology and Agromedicine, 2010-present.
 Technical Advisor to the North Carolina Department of Health and Human Services for the issuance of Public
 Health Fish Consumption Advisories, 2009-2019.
 Distinguished Service Award, American Fisheries Society, North Carolina Chapter, 2009.
 Outstanding Service and Achievement Recognition, College of Agriculture and Life Sciences, NC State University,
 2006.
 Technical and Scientific Advisor to the Toxicology Education Foundation for Communications, 2006-present.
 W. Don Baker Memorial Award, Best Platform Presentation by a Professional Member, American Fisheries Society,
 NC Chapter Annual Meeting, 2006.
 Outstanding Service and Achievement Recognition, College of Agriculture and Life Sciences, NC State University,
 2005.
 Member, North Carolina Wildlife Commission Nongame Wildlife Advisory Committee and Mollusk Scientific Council,
 2005-present.
 W. Don Baker Memorial Award, Best Platform Presentation by a Professional Member, American Fisheries Society,
 NC Chapter Annual Meeting, 2004.
 Technical Advisor to the North Carolina Wildlife Resources Commission for development of the State
 Comprehensive Wildlife Conservation Plan, 2004-2005.
 Technical Advisor to the Water Resources Research Institute of North Carolina, 2003-2004.
 Member, Board of Directors, North Carolina Association of Cooperative Extension Specialists, 2003-2005.
 Technical Advisor to the Crop Protection Association of North Carolina, Inc., 2001-present.
 Scientific Advisor to the NC Department of Environment and Natural Resources for the assessment of ecological
 and human health effects of mercury in the environment, 2000-2001.
 Special Recognition Award, Outstanding Service to the Education Task Force, Cape Fear River Assembly, 2000.
 Glaxo-Wellcome Lecturer, Glaxo-Wellcome Corporation, Research Triangle Park, NC, 1999-2000.
 Special Recognition Award, Outstanding Service to the Steering Committee, NC Agromedicine Program, 1999.
 Advisor to Oak Ridge Associated Universities on Interactions in the Environmental Sciences, 1999.
 Advisor to the North Carolina Cape Fear River Assembly Education Task Force for the development of an
 integrated long-range strategic plan, 1999.
 Scientific Advisor to the University of North Carolina-Chapel Hill led project entitled "Preventing Agricultural

- Chemical Exposure Among North Carolina Farmworkers; PACE", 1998-1999.
- Scientific Advisor to the U.S. Environmental Protection Agency, Land Grant Universities, National Aeronautics and Space Administration, and the U.S. Department of Agriculture on identifying mechanisms for collaboration among federal and state agencies to improve environmental decision making, 1998.
- Scientific Advisor to the NC Department of Environment and Natural Resources for development of the State's Source Water Assessment Plan, 1998.
- Scientific Advisor to the U.S. Department of Agriculture on identifying mechanisms for collaborative research among federal agencies on Harmful Algal Blooms, 1997.
- Special Recognition Award, Outstanding Service to the Board of Directors, Midwest Chapter of the Society of Environmental Toxicology and Chemistry, 1997.
- Special Recognition Award, Outstanding Service as President, Midwest Chapter of the Society of Environmental Toxicology and Chemistry, 1996.
- Special Act Service Award, Outstanding Performance, National Biological Service, 1996.
- Special Achievement Award, Outstanding Performance, National Biological Service, 1995.
- Special Achievement Award, Outstanding Technical Assistance, National Biological Service, 1995.
- Special Achievement Award, Outstanding Performance, National Biological Survey, 1994.
- Special Achievement Award, Outstanding Performance, U.S. Fish and Wildlife Service, 1992.
- Graduate Student Senator for the Department of Animal Ecology to the Graduate Student Senate, Iowa State University, 1990.
- Graduate Student Representative to the Faculty Council, Department of Animal Ecology, Iowa State University, 1989.
- Graduate Assistant Excellence in Teaching Award, Department of Biology and Microbiology, University of Wisconsin-La Crosse, 1987.
- Graduate Student Representative to the Graduate Committee, Department of Biology and Microbiology, University of Wisconsin-La Crosse, 1985-1986.

MANUSCRIPTS SUBMITTED OR IN PREPARATION

Explanation of Authorship Order: The senior author (first author) had primary responsibility for manuscript content and preparation; * = mentored graduate student or post-doctoral scholar is author.

- Rudershausen, P. J., F. A. Cross, B. J. Runde, D. W. Evans, W. G. Cope, and J. A. Buckel. In review. Total mercury, methylmercury, and selenium concentrations in blue marlin *Makaira nigricans* from a long-term dataset in the western north Atlantic. Target journal: *Science of the Total Environment*.
- Rogers*, J. J., W. F. Henley, A. G. Weberg, J. W. Jones, and **W. G. Cope**. In review. Histological evaluations of organ tissues reveal sub-lethal effects in a freshwater mussel (*Villosa iris*) exposed to chloride and potassium concentrations below benchmark estimates. Target journal: *Aquatic Toxicology*.
- Archambault*, J. M., **W. G. Cope**, T. J. Newton, H. L. Dunn, C. B. Eads, J. W. Jones, and T. J. Kwak. In review. Freshwater mussel populations sequester large masses of aquatic contaminants. Target journal: *Freshwater Biology*.

RESEARCH PUBLICATIONS

Explanation of Authorship Order: The senior author (first author) had primary responsibility for manuscript content and preparation; * = mentored graduate student or post-doctoral scholar is author.

109. Wang, N., J. Kunz, D. Hardesty, J. Steevens, T. Norberg-King, E. Hammer, C. Bauer, T. Augspurger, S. Dunn, D. Martinez, M. Barnhart, J. Murray, M. Bowersox, J. Roberts, R. Bringolf, R. Ratajczak, S. Ciparis, **W. G. Cope**, S. Buczek, D. Farrar, L. Rabalais, M. Garton, P. Gillis, C. Bennett, J. Salerno, B. Hester, R. Lockwood, C. Tarr, D. McIntyre, and J. Wardell. 2021. Method development for a short-term 7-d toxicity test with unionid mussels. *Environmental Toxicology and Chemistry*. 40(12):3392-3409.

108. Grieshaber*, C. A., **W. G. Cope**, T. J. Kwak, T. N. Penland*, R. J. Heise, and J. M. Law. 2021. Survival and contaminants in imperiled and common riverine fishes assessed with an in situ bioassay approach. *Environmental Toxicology and Chemistry*. 40(8):2206-2219.
107. **Cope, W. G.**, C. M. Bergeron*, J. M. Archambault*, J. W. Jones, B. Beaty, P. R. Lazaro, D. Shea, J. L. Callihan, and J. J. Rogers*. 2021. Understanding the influence of multiple pollutant stressors on the decline of freshwater mussels in a biodiversity hotspot. *Science of the Total Environment*. Vol. 773, Article no. 144757, 15 pp.
106. Buczek*, S. B., J. M. Archambault*, **W. G. Cope**, and M. A. Heilman. 2020. Evaluation of freshwater mussel sensitivity to multiple forms of floryprauxifen-benzyl. *Bulletin of Environmental Contamination and Toxicology*. 105(4):588-594.
105. Gray*, K. M., C. E. LePrevost, and **W. G. Cope**. 2020. Anglers' views on using signs to communicate fish consumption advisories. *Fisheries*. 45(10):507-516.
104. Penland*, T. N., **W. G. Cope**, T. J. Kwak, M. J. Strynar, C. A. Grieshaber*, R. J. Heise, and F. W. Sessions. 2020. Trophodynamics of per- and polyfluoroalkyl substances in the food web of a large Atlantic slope river. *Environmental Science & Technology*. 54(11):6800-6811.
103. Willis, B. E., J. T. Gravelie, W. M. Bishop, S. B. Buczek, and **W. G. Cope**. 2020. Managing the invasive cyanobacterium *Lyngbya wollei* in a southeastern USA reservoir: evaluation of a multi-year treatment program. *Water, Air, and Soil Pollution*. 231(5), Article 196, 13 pp.
102. Bishop*, W. M., B. E. Willis, **W. G. Cope**, and R. J. Richardson. 2020. Biomass of the cyanobacterium *Lyngbya wollei* alters copper algaecide exposure and risks to a non-target organism. *Bulletin of Environmental Contamination and Toxicology*. 104(2):228-234.
101. Waller, D. L., and **W. G. Cope**. 2019. The status of mussel health assessment and a path forward. *Freshwater Mollusk Biology and Conservation*. 22(2):26-42.
100. Fischer, J. R., T. J. Kwak, H. J. Flowers, **W. G. Cope**, J. M. Rash, and D. A. Besler. 2019. Growth, condition, and trophic relations of stocked trout in southern Appalachian mountain streams. *Transactions of the American Fisheries Society*. 148(4):771-784.
99. Flowers, H. J., T. J. Kwak, J. R. Fischer, **W. G. Cope**, J. M. Rash, and D. A. Besler. 2019. Behavior and survival of stocked trout in southern Appalachian mountain streams. *Transactions of the American Fisheries Society*. 148(1):3-20.
98. Popp*, A., **W. G. Cope**, M. McGregor, T. J. Kwak, T. Augspurger, J. F. Levine, and L. Koch. 2018. A comparison of the chemical sensitivities between in vitro and in vivo propagated juvenile freshwater mussels: implications for standard toxicity testing. *Environmental Toxicology and Chemistry*. 37(12):3077-3085.
97. Johnson*, T. K. B., C. E. LePrevost, T. J. Kwak, and **W. G. Cope**. 2018. Selenium, mercury, and their molar ratio in sportfish from drinking water reservoirs. *International Journal of Environmental Research and Public Health*. 15(9), Article 1864, 17 pp.
96. Rogers*, J. J., W. F. Henley, A. G. Weberg, J. W. Jones, and **W. G. Cope**. 2018. Assessment of growth, survival, and organ tissues of caged mussels (*Bivalvia: Unionidae*) in a river-scape influenced by coal mining in the southeastern USA. *Science of the Total Environment*. 645:1273-1286.
95. Grieshaber*, C. A., T. N. Penland*, T. J. Kwak, **W. G. Cope**, R. J. Heise, J. M. Law, D. Shea, D. D. Aday, J. A. Rice, and S. W. Kullman. 2018. Relation of fish intersex to contaminants in riverine sport fishes. *Science of the Total Environment*. 643:73-89.
94. Bishop*, W. M., B. E. Willis, R. J. Richardson, and **W. G. Cope**. 2018. The presence of algae mitigates the toxicity of copper-based algaecides to a non-target organism. *Environmental Toxicology and Chemistry*. 37(8):2132-2142.
93. Penland*, T. N., C. A. Grieshaber*, T. J. Kwak, **W. G. Cope**, R. J. Heise, and F. W. Sessions. 2018. Food web contaminant dynamics of a large Atlantic slope river: implications for common and imperiled species. *Science of the Total Environment*. 633:1062-1077.

92. Drew*, C. A., M. Eddy, T. J. Kwak, **W. G. Cope**, and T. Augspurger. 2018. Hydrologic characteristics of freshwater mussel habitat: novel insights from modeled flows. *Freshwater Science*. 37(2):343-356.
91. Archambault*, J. M., **W. G. Cope**, and T. J. Kwak. 2018. Chasing a changing climate: reproductive and dispersal traits predict how sessile species respond to global warming. *Diversity and Distributions*. 24(7):880-891.
90. Engman*, A. C., T. J. Kwak, and **W. G. Cope**. 2018. Do postlarval amphidromous fishes transport marine-derived nutrients and pollutants to Caribbean streams? *Ecology of Freshwater Fish*. 27(3):847-856.
89. Flood*, S. L., J. M. Burkholder, and **W. G. Cope**. 2018. Assessment of atrazine toxicity to the estuarine phytoplankter *Dunaliella tertiolecta* (Chlorophyta) under varying nutrient conditions. *Environmental Science and Pollution Research*. 25(12):11409-11423.
88. Buttermore*, E. N., **W. G. Cope**, T. J. Kwak, P. B. Cooney, D. Shea, and P. R. Lazaro. 2018. Contaminants in tropical island streams and their biota. *Environmental Research*. 161:615-623.
87. Archambault*, J. M., S. T. Prochazka, **W. G. Cope**, P. R. Lazaro, and D. Shea. 2018. Polycyclic aromatic hydrocarbons in surface waters, sediments, and unionid mussels: relation to road crossings and implications for chronic mussel exposure. *Hydrobiologia*. 810(1):465-476.
86. Buczek*, S. B., **W. G. Cope**, R. A. McLaughlin, and T. J. Kwak. 2018. Effects of turbidity, sediment, and polyacrylamide on native freshwater mussels. *Journal of the American Water Resources Association*. 54(3):631-643.
85. Powell*, K. W., **W. G. Cope**, C. E. LePrevost, T. Augspurger, A. M. McCarthy, and D. Shea. 2017. A retrospective analysis of agricultural herbicides in surface water reveals risk plausibility for declines in submerged aquatic vegetation. *Toxics*. 5(3):Article no. 21, 1-13.
84. Bishop*, W. M., B. E. Willis, C. L. Lynch, and **W. G. Cope**. 2017. Copper-based aquatic algacide adsorption and accumulation kinetics: Influence of exposure concentration and duration for controlling the cyanobacterium *Lyngbya wollei*. *Bulletin of Environmental Contamination and Toxicology*. 99(3):365-371.
83. Buczek*, S. B., **W. G. Cope**, R. A. McLaughlin, and T. J. Kwak. 2017. Acute toxicity of polyacrylamide flocculants to early life stages of freshwater mussels. *Environmental Toxicology and Chemistry*. 36(10):2715-2721.
82. Lee Pow*, C., K. Tilahun, K. Creech, J. M. Law, **W. G. Cope**, T. J. Kwak, J. A. Rice, D. D. Aday, and S. W. Kullman. 2017. Windows of susceptibility and consequences of early life exposures to 17 β -estradiol on medaka (*Oryzias latipes*) reproductive success. *Environmental Science and Technology*. 51(9):5296-5305.
81. Pandolfo*, T. J., T. J. Kwak, **W. G. Cope**, R. J. Heise, R. B. Nichols, and K. Pacifica. 2017. Declining occurrence and low colonization probability in freshwater mussel assemblages: a dynamic occurrence modeling approach. *Freshwater Mollusk Biology and Conservation*. 20(1):13-19.
80. Leonard*, J. A., **W. G. Cope**, E. J. Hammer, M. C. Barnhart, and R. B. Bringolf. 2017. Extending the toxicity-testing paradigm for freshwater mussels: assessing chronic reproductive effects of the synthetic estrogen 17 α -ethinylestradiol on the unionid mussel *Elliptio complanata*. *Comparative Biochemistry and Physiology Part C: Toxicology & Pharmacology*. 191:14-25.
79. Lee Pow*, C. S. D., J. M. Law, T. J. Kwak, **W. G. Cope**, J. A. Rice, S. W. Kullman, and D. D. Aday. 2017. Endocrine active contaminants in aquatic systems and intersex in common sport fishes. *Environmental Toxicology and Chemistry*. 36(4):959-968.
78. Archambault*, J. M., C. M. Bergeron*, **W. G. Cope**, P. R. Lazaro, J. A. Leonard, and D. Shea. 2017. Assessing toxicity of contaminants in riverine suspended sediments to freshwater mussels. *Environmental Toxicology and Chemistry*. 36(2):395-407.
77. Archambault*, J. M. and **W. G. Cope**. 2016. Life stage sensitivity of a freshwater snail to herbicides used in invasive aquatic weed control. *Freshwater Mollusk Biology and Conservation*. 19(2):69-79.

76. Pandolfo*, T. J., T. J. Kwak, **W. G. Cope**, R. J. Heise, R. B. Nichols, and K. Pacifica. 2016. Species traits and catchment-scale habitat factors influence the occurrence of freshwater mussel populations and assemblages. *Freshwater Biology*. 61(10):1671-1684.
75. Pandolfo*, T. J., T. J. Kwak, and **W. G. Cope**. 2016. Microhabitat suitability and niche breadth of common and imperiled Atlantic Slope freshwater mussels. *Freshwater Mollusk Biology and Conservation*. 19(2):27-50.
74. Archambault*, J. M., C. M. Bergeron*, **W. G. Cope**, R. Richardson, M. Heilman, J. E. Corey, M. D. Netherland, and R. J. Heise. 2015. Sensitivity of freshwater molluscs to Hydrilla-targeting herbicides: providing context for invasive aquatic weed control in diverse ecosystems. *Journal of Freshwater Ecology*. 30(3):335-348.
73. Sackett*, D. K., C. S. D. Lee Pow, M. J. Rubino, D. D. Aday, **W. G. Cope**, S. W. Kullman, J. A. Rice, T. J. Kwak, and J. M. Law. 2015. Sources of endocrine disrupting compounds in North Carolina waterways: a geographic information systems approach. *Environmental Toxicology and Chemistry*. 34(2):437-445.
72. Leonard*, J. A., **W. G. Cope**, M. C. Barnhart, and R. B. Bringolf. 2014. Metabolomic, behavioral, and reproductive effects of the aromatase inhibitor fadrozole hydrochloride on the unionid mussel *Lampsilis fasciola*. *General and Comparative Endocrinology*. 206:213-226.
71. Leonard*, J. A., **W. G. Cope**, M. C. Barnhart, and R. B. Bringolf. 2014. Metabolomic, behavioral, and reproductive effects of the synthetic estrogen 17 α -ethinylestradiol on the unionid mussel *Lampsilis fasciola*. *Aquatic Toxicology*. 150:103-116.
70. Archambault*, J. M., **W. G. Cope**, and T. J. Kwak. 2014. Survival and behaviour of juvenile unionid mussels exposed to thermal stress and dewatering in the presence of a sediment temperature gradient. *Freshwater Biology*. 59(3):601-613.
69. Archambault*, J. M., **W. G. Cope**, and T. J. Kwak. 2014. Influence of sediment presence on freshwater mussel thermal tolerance. *Freshwater Science*. 33(1):56-65.
68. Fritts*, A. K., M. C. Barnhart, M. Bradley, N. Liu, **W. G. Cope**, E. Hammer, and R. B. Bringolf. 2014. Assessment of toxicity test endpoints for the glochidia larvae of freshwater mussels. *Environmental Toxicology and Chemistry*. 33(1):199-207.
67. Archambault*, J. M., **W. G. Cope**, and T. J. Kwak. 2013. Burrowing, byssus, and biomarkers: behavioral and physiological indicators of sublethal thermal stress in freshwater mussels. *Marine and Freshwater Behaviour and Physiology*. 46(4):229-250.
66. Heise, R. J., **W. G. Cope**, T. J. Kwak, and C. B. Eads. 2013. Acute effects of small dam removal on freshwater mussel assemblages. *Walkerana: The Journal of the Freshwater Mollusk Conservation Society*. 16(1):41-52.
65. Sackett*, D. K., D. D. Aday, J. A. Rice, and **W. G. Cope**. 2013. Maternally transferred mercury in wild caught largemouth bass, *Micropterus salmoides*. *Environmental Pollution*. 178:493-497.
64. Sackett*, D. K., **W. G. Cope**, J. A. Rice, and D. D. Aday. 2013. The influence of fish length on tissue mercury dynamics: implications for natural resource management and human health risk. *International Journal of Environmental Research and Public Health*. 10(2):638-659.
63. Sackett*, D. K., D. D. Aday, J. A. Rice, and **W. G. Cope**. 2013. Validation of a predictive model for fish tissue mercury concentrations. *Transactions of the American Fisheries Society*. 142(2):380-387.
62. Choi*, K., **W. G. Cope**, C. A. Harms, and J. M. Law. 2013. Rapid decreases in salinity, but not increases, lead to immune dysregulation in Nile tilapia *Oreochromis niloticus* (Linnaeus). *Journal of Fish Diseases*. 36(4):389-399.
61. Hazelton*, P. D., **W. G. Cope**, S. Mosher, T. J. Pandolfo, J. B. Belden, M. C. Barnhart, and R. B. Bringolf. 2013. Fluoxetine alters freshwater mussel behavior and larval metamorphosis. *Science of the Total Environment*. 445-446:94-100.
60. Prochazka*, S. T., **W. G. Cope**, and L. Recio. 2012. Genotoxic response of unionid mussel hemolymph to hydrogen peroxide and polycyclic aromatic hydrocarbons. *Walkerana: The Journal of the Freshwater Mollusk Conservation Society*. 15(2):113-125.

59. Pandolfo*, T. J., **W. G. Cope**, G. B. Young, J. W. Jones, D. Hua, and S. F. Lingenfelter. 2012. Acute effects of road salts and associated cyanide compounds on the early life stages of the unionid mussel *Villosa iris*. *Environmental Toxicology and Chemistry*. 31(8):1801-1806.
58. Hazelton*, P. D., **W. G. Cope**, T. J. Pandolfo, S. Mosher, M. J. Strynar, M. C. Barnhart, and R. B. Bringolf. 2012. Partial life-cycle and acute toxicity of perfluoroalkyl acids to freshwater mussels. *Environmental Toxicology and Chemistry*. 31(7):1611-1620.
57. Mosher*, S., **W. G. Cope**, F. X. Weber, T. J. Kwak, and D. Shea. 2012. Assessing accumulation and sublethal effects of lead in a unionid mussel. *Walkerana: The Journal of the Freshwater Mollusk Conservation Society*. 15(1):60-68.
56. Pandolfo*, T. J., T. J. Kwak, and **W. G. Cope**. 2012. Thermal tolerances of freshwater mussels and their host fishes: species interactions in a changing climate. *Walkerana: The Journal of the Freshwater Mollusk Conservation Society*. 15(1):69-82.
55. Mosher*, S., **W. G. Cope**, F. X. Weber, D. Shea, and T. J. Kwak. 2012. Effects of lead on Na⁺,K⁺-ATPase and hemolymph ion concentrations in the freshwater mussel *Elliptio complanata*. *Environmental Toxicology*. 27(5):268-276.
54. **Cope, W. G.**, F. M. Holliman, T. J. Kwak, N. C. Oakley, P. R. Lazaro, D. Shea, T. Augspurger, J. M. Law, J. P. Henne, and K. M. Ware. 2011. Assessing water quality suitability for shortnose sturgeon in the Roanoke River, North Carolina, USA with an *in situ* bioassay approach. *Journal of Applied Ichthyology*. 27(1):1-12.
53. Sackett*, D. K., D. D. Aday, J. A. Rice, **W. G. Cope**, and D. B. Buchwalter. 2010. Does proximity to coal-fired power plants influence fish tissue mercury? *Ecotoxicology*. 19(8):1601-1611.
52. Pandolfo*, T. J., **W. G. Cope**, C. Arellano, R. B. Bringolf, M. C. Barnhart, and E. Hammer. 2010. Upper thermal tolerances of early life stages of freshwater mussels. *Journal of the North American Benthological Society*. 29(3):959-969.
51. Bringolf*, R. B., R. M. Heltsley, T. J. Newton, C. B. Eads, S. J. Fraley, D. Shea, and **W. G. Cope**. 2010. Environmental occurrence and reproductive effects of the pharmaceutical fluoxetine in native freshwater mussels. *Environmental Toxicology and Chemistry*. 29(6):1311-1318.
50. Pandolfo*, T. J., **W. G. Cope**, and C. Arellano. 2010. Thermal tolerance of juvenile freshwater mussels (Unionidae) under the added stress of copper. *Environmental Toxicology and Chemistry*. 29(3):691-699.
49. Hewitt*, A. H., T. J. Kwak, **W. G. Cope**, and K. H. Pollock. 2009. Population density and instream habitat suitability of the endangered Cape Fear shiner. *Transactions of the American Fisheries Society*. 138(6):1439-1457.
48. Pandolfo*, T. J., **W. G. Cope**, and C. Arellano. 2009. Heart rate as a sublethal indicator of thermal stress in juvenile freshwater mussels. *Comparative Biochemistry and Physiology – Part A: Molecular & Integrative Physiology*. 154(3):347-352.
47. Sackett*, D. K., D. D. Aday, J. A. Rice, and **W. G. Cope**. 2009. A statewide assessment of mercury dynamics in North Carolina waterbodies and fish. *Transactions of the American Fisheries Society*. 138(6):1328-1341.
46. Heise, R. J., R. B. Bringolf, R. Patterson, **W. G. Cope**, and S. T. Ross. 2009. Plasma vitellogenin and estradiol concentrations in adult Gulf sturgeon from the Pascagoula River drainage, Mississippi. *Transactions of the American Fisheries Society*. 138(5):1028-1035.
45. Tullos*, D. D., D. L. Penrose, G. D. Jennings, and **W. G. Cope**. 2009. Analysis of functional traits in reconfigured channels: implications for the bioassessment and disturbance of river restoration. *Journal of the North American Benthological Society*. 28(1):80-92.
44. **Cope, W. G.**, R. B. Bringolf, S. Mosher, J. A. Rice, R. L. Noble, and H. C. Edwards. 2008. Controlling nitrogen release from farm ponds with a subsurface outflow device: implications for improved water quality in receiving streams. *Agricultural Water Management*. 95(6):737-742.

43. Cope, W. G., R. B. Bringolf, D. B. Buchwalter, T. J. Newton, C. G. Ingersoll, N. Wang, T. Augspurger, F. J. Dwyer, M. C. Barnhart, R. J. Neves, and E. Hammer. 2008. Differential exposure, duration, and sensitivity of unionoidean bivalve life stages to environmental contaminants. *Journal of the North American Benthological Society*. 27(2):451-462.
42. Holliman*, F. M., D. Davis, A. E. Bogan, T. J. Kwak, W. G. Cope, and J. F. Levine. 2008. Magnetic resonance imaging of live freshwater mussels (Unionidae). *Invertebrate Biology*. 127(4):396-402.
41. Holliman*, F. M., T. J. Kwak, W. G. Cope, and J. F. Levine. 2007. Exposure of unionid mussels to electric current: assessing risks associated with electrofishing. *Transactions of the American Fisheries Society*. 136(6):1593-1606.
40. Bringolf*, R. B., W. G. Cope, S. Mosher, M. C. Barnhart, and D. Shea. 2007. Acute and chronic toxicity of glyphosate compounds to glochidia and juveniles of *Lampsilis siliquoidea* (Unionidae). *Environmental Toxicology and Chemistry*. 26(10):2094-2100.
39. Bringolf*, R. B., W. G. Cope, C. B. Eads, P. R. Lazaro, M. C. Barnhart, and D. Shea. 2007. Acute and chronic toxicity of technical-grade pesticides to glochidia and juveniles of freshwater mussels (Unionidae). *Environmental Toxicology and Chemistry*. 26(10):2086-2093.
38. Bringolf*, R. B., W. G. Cope, M. C. Barnhart, S. Mosher, P. R. Lazaro, and D. Shea. 2007. Acute and chronic toxicity of pesticide formulations (atrazine, chlorpyrifos, and permethrin) to glochidia and juveniles of *Lampsilis siliquoidea*. *Environmental Toxicology and Chemistry*. 26(10):2101-2107.
37. Wang, N., T. Augspurger, M. C. Barnhart, J. R. Bidwell, W. G. Cope, F. J. Dwyer, S. Geis, I. E. Greer, C. G. Ingersoll, C. M. Kane, T. W. May, R. J. Neves, T. J. Newton, A. D. Roberts, and D. W. Whites. 2007. Intra- and interlaboratory variability in acute toxicity tests with glochidia and juveniles of freshwater mussels (Unionidae). *Environmental Toxicology and Chemistry*. 26(10):2029-2035.
36. Chaves*, A., D. Shea, and W. G. Cope. 2007. Environmental fate of chlorothalonil in a Costa Rican banana plantation. *Chemosphere*. 69(7):1166-1174.
35. McCarthy*, A. M., J. D. Bales, W. G. Cope, and D. Shea. 2007. Modeling pesticide fate in a small tidal estuary. *Ecological Modelling*. 200(1-2):149-159.
34. Hewitt*, A. H., W. G. Cope, T. J. Kwak, T. Augspurger, P.R. Lazaro, and D. Shea. 2006. Influence of water quality and associated contaminants on survival and growth of the endangered Cape Fear shiner *Notropis mekistocholas*. *Environmental Toxicology and Chemistry*. 25(9):2288-2298.
33. Cope, W. G., M. R. Bartsch, and J. E. Hightower. 2006. Population dynamics of zebra mussels *Dreissena polymorpha* (Pallas, 1771) during the initial invasion of the Upper Mississippi River, USA. *Journal of Molluscan Studies*. 72(2):179-188.
32. Moody, R., P. Turner, D. Shea, J. F. Levine, and W. G. Cope. 2006. Clam gape sensing equipment for water monitoring. *Sea Technology*. 3:28-32.
31. Heltsley*, R. M., W. G. Cope, D. Shea, R. B. Bringolf, T. J. Kwak, and E. G. Malindzak. 2005. Assessing organic contaminants in fish: comparison of a nonlethal tissue sampling technique to mobile and stationary passive sampling devices. *Environmental Science and Technology*. 39(19):7601-7608.
30. Bringolf*, R. B., T. J. Kwak, W. G. Cope, and M. Larimore. 2005. Salinity tolerance of flathead catfish: implications for dispersal of introduced populations. *Transactions of the American Fisheries Society*. 134(4):927-936.
29. Allen*, D. G., D. P. Green, G. E. Bolton, L. Jaykus, and W. G. Cope. 2005. Detection and identification of histamine-producing bacteria associated with harvesting and processing mahi-mahi and yellowfin tuna. *Journal of Food Protection*. 68(8):1676-1682.
28. Gustafson*, L. L., M. K. Stoskopf, W. Showers, W. G. Cope, C. Eads, R. Linnehan, T. J. Kwak, B. Andersen, and J. F. Levine. 2005. Reference ranges for hemolymph chemistries from *Elliptio complanata* of North Carolina. *Diseases of Aquatic Organisms*. 65(2):167-176.

27. Neal, J. W., N. M. Bacheler, R. L. Noble, D. Shea, and **W. G. Cope**. 2005. The mystery of Dos Bocas Reservoir, Puerto Rico: explaining extreme spatial heterogeneity in largemouth bass distribution. *Caribbean Journal of Science*. 41(4):804-814.
26. Thorsen*, W. A., D. Forestier, T. Sandifer, P.R. Lazaro, **W. G. Cope**, and D. Shea. 2004. Elimination rate constants of 46 polycyclic aromatic hydrocarbons in the unionid mussel, *Elliptio complanata*. *Archives of Environmental Contamination and Toxicology*. 47(3):332-340.
25. Thorsen*, W. A., **W. G. Cope**, and D. Shea. 2004. Bioavailability of PAHs: effects of soot carbon and PAH source. *Environmental Science and Technology*. 38(7):2029-2037.
24. Augspurger, T. P., A. E. Keller, M. C. Black, **W. G. Cope**, and F. J. Dwyer. 2003. Water quality guidance for protection of freshwater mussels (Unionidae) from ammonia exposure. *Environmental Toxicology and Chemistry*. 22(11):2569-2575.
23. **Cope, W. G.**, T. J. Newton, and C. M. Gatenby. 2003. Review of techniques to prevent introduction of zebra mussels (*Dreissena polymorpha*) during native mussel (Unionoidea) conservation activities. *Journal of Shellfish Research*. 22(1):177-184.
22. Greseth*, S. L., **W. G. Cope**, R. G. Rada, D. L. Waller, and M. R. Bartsch. 2003. Biochemical composition of three species of unionid mussels after emersion. *Journal of Molluscan Studies*. 69(2):101-106.
21. **Cope, W. G.**, M. C. Hove, D. L. Waller, D. J. Hornbach, M. R. Bartsch, L. A. Cunningham, H. L. Dunn, and A. R. Kapuscinski. 2003. Evaluation of relocation of unionid mussels to *in situ* refugia. *Journal of Molluscan Studies*. 69(1):27-34.
20. Doran*, W. J., **W. G. Cope**, R. G. Rada, and M. B. Sandheinrich. 2001. Acetylcholinesterase inhibition in the threeridge mussel (*Amblyma plicata*) by chlorpyrifos: implications for biomonitoring. *Ecotoxicology and Environmental Safety*. 49(1):91-98.
19. Bartsch*, M. R., D. L. Waller, **W. G. Cope**, and S. J. Gutreuter. 2000. Emersion and thermal tolerances of three species of unionid mussels: survival and behavioral effects. *Journal of Shellfish Research*. 19(1):233-240.
18. Naimo, T. J., **W. G. Cope**, E. M. Monroe, J. L. Farris, and C. D. Milam. 2000. Influence of diet on survival, growth, and physiological condition of fingernail clams *Musculium transversum*. *Journal of Shellfish Research*. 19(1):23-28.
17. Naimo, T. J., J. G. Wiener, **W. G. Cope**, and N. S. Bloom. 2000. Bioavailability of sediment-associated mercury to *Hexagenia* mayflies in a contaminated floodplain river. *Canadian Journal of Fisheries and Aquatic Sciences*. 57(5):1092-1102.
16. Naimo, T. J., **W. G. Cope**, and M. R. Bartsch. 2000. Sediment-contact and survival of fingernail clams: implications for conducting short-term laboratory tests. *Environmental Toxicology*. 15(1):23-27.
15. **Cope, W. G.**, M. R. Bartsch, R. G. Rada, S. J. Balogh, J. E. Rupprecht, R. D. Young, and D. K. Johnson. 1999. Bioassessment of mercury, cadmium, polychlorinated biphenyls, and pesticides in the Upper Mississippi River with zebra mussels (*Dreissena polymorpha*). *Environmental Science and Technology*. 33(24):4385-4390.
14. Bartsch*, M. R., **W. G. Cope**, and R. G. Rada. 1999. Effects of cadmium-spiked sediment on cadmium accumulation and bioturbation by nymphs of the burrowing mayfly *Hexagenia bilineata*. *Water, Air and Soil Pollution*. 109(1-4):277-292.
13. **Cope, W. G.**, M. R. Bartsch, and L. L. Marking. 1997. Efficacy of candidate chemicals for preventing attachment of zebra mussels (*Dreissena polymorpha*). *Environmental Toxicology and Chemistry*. 16(9):1930-1934.
12. **Cope, W. G.**, M. R. Bartsch, and R. R. Hayden. 1997. Longitudinal patterns in abundance of the zebra mussel (*Dreissena polymorpha*) in the upper Mississippi River. *Journal of Freshwater Ecology*. 12(2):235-238.
11. **Cope, W. G.**, J. G. Wiener, M. T. Steingraeber. 1996. Test system for exposing fish to resuspended, contaminated sediment. *Environmental Pollution*. 91(2):177-182.

10. **Cope, W. G.**, and D. L. Waller. 1995. Evaluation of freshwater mussel relocation as a conservation and management strategy. *Regulated Rivers: Research & Management*. 11(2):147-155.
9. Waller, D. L., J. J. Rach, **W. G. Cope**, and G. A. Miller. 1995. Effects of handling and aerial exposure on the survival of unionid mussels. *Journal of Freshwater Ecology*. 10(3):199-207.
8. **Cope, W. G.**, J. G. Wiener, M. T. Steingraeber, and G. J. Atchison. 1994. Cadmium, metal-binding proteins, and growth in bluegill (*Lepomis macrochirus*) exposed to contaminated sediments from the Upper Mississippi River Basin. *Canadian Journal of Fisheries and Aquatic Sciences*. 51(6):1356-1367.
7. **Cope, W. G.**, J. G. Wiener, and G. J. Atchison. 1994. Hepatic cadmium, metal-binding proteins, and bioaccumulation in bluegills exposed to aqueous cadmium. *Environmental Toxicology and Chemistry*. 13(4):553-562.
6. Waller, D. L., J. J. Rach, **W. G. Cope**, L. L. Marking, S. W. Fisher, and H. Dabrowska,. 1993. Toxicity of candidate molluscicides to zebra mussels *Dreissena polymorpha* and selected nontarget organisms. *Journal of Great Lakes Research*. 19(4):695-702.
5. Waller, D. L., J. J. Rach, **W. G. Cope**, and J. A. Luoma. 1993. A sampling design for a relocation study with freshwater mussels. *Journal of Freshwater Ecology*. 8(4):397-399.
4. **Cope, W. G.**, and R. G. Rada. 1992. Accumulation of mercury by *aufwuchs* in Wisconsin seepage lakes: implications for monitoring. *Archives of Environmental Contamination and Toxicology*. 23(2):172-178.
3. **Cope, W. G.** 1991. Metallothionein and bioaccumulation of cadmium in juvenile bluegills exposed to aqueous and sediment-associated cadmium. Ph.D. Thesis, Iowa State University, Ames, IA.
2. **Cope, W. G.**, J. G. Wiener, and R. G. Rada. 1990. Mercury accumulation in yellow perch in Wisconsin seepage lakes: relation to lake characteristics. *Environmental Toxicology and Chemistry* 9(7):931-940.
1. **Cope, W. G.** 1988. Factors influencing mercury accumulation in yellow perch (*Perca flavescens*) and *aufwuchs* in selected north-central Wisconsin lakes. M.Sc. Thesis, University of Wisconsin-La Crosse, La Crosse, WI. 69 p.

BOOKS AND BOOK CHAPTERS

Explanation of Authorship Order: Significance of Contribution is First, Second, and Last Author (denotes leader)

9. Hodgson, E., and **W. G. Cope** (Co-Editors). 2015. *Dictionary of Agromedicine*, 1st Edition. North Carolina Cooperative Extension Service On-line Resource, Raleigh, NC. <http://appliedecology.cals.ncsu.edu/extension/toxicology/dictionary-of-agromedicine/>
8. **Cope, W. G.** 2010. Exposure classes: toxicants in air, water, soil, domestic, and occupational settings. Chapter 3 (Pages 31-47) In Hodgson, E., Ed., *A Textbook of Modern Toxicology*, 4th Edition. John Wiley & Sons, Inc., Hoboken, NJ.
7. **Cope, W. G.**, and E. Hodgson. 2010. Use classes: metals, agricultural chemicals, food additives and contaminants, toxins, solvents, therapeutic drugs, drugs of abuse, combustion products, and cosmetics. Chapter 4 (Pages 49-75) In Hodgson, E., Ed., *A Textbook of Modern Toxicology*, 4th Edition. John Wiley & Sons, Inc., Hoboken, NJ.
6. Thorsen, W. A., **W. G. Cope**, and D. Shea. 2006. Toxicokinetics of environmental contaminants in freshwater mussels. Chapter 8 In Farris, J. L. and Van Hassel, J. H., Eds., *Freshwater Bivalve Ecotoxicology*, CRC Press, Boca Raton, FL.
5. Newton, T. J. and **W. G. Cope**. 2006. Biomarker responses of unionid mussels to environmental contaminants. Chapter 10 In Farris, J. L. and Van Hassel, J. H., Eds., *Freshwater Bivalve Ecotoxicology*, CRC Press, Boca Raton, FL.
4. Ingersoll, C. G., T. Augspurger, C. Barnhart, J. Bidwell, M. Black, **W. G. Cope**, R. B. Bringolf, and 16 other co-authors. 2005. Standard guide for conducting laboratory toxicity tests with freshwater mussels. American Society for Testing and materials (ASTM), ASTM E2455-05, ASTM Annual Book of Standards, Volume 11.05, ASTM, West Conshohocken, PA.

3. **Cope, W. G.** 2004. Exposure classes: toxicants in air, water, soil, domestic, and occupational settings. Chapter 4 (Pages 33-48) In Hodgson, E., Ed., *A Textbook of Modern Toxicology*, 3rd Edition. John Wiley & Sons, Inc., Hoboken, NJ.
2. **Cope, W. G.**, R. B. Leidy, and E. Hodgson. 2004. Use classes: metals, agricultural chemicals, food additives and contaminants, toxins, solvents, therapeutic drugs, drugs of abuse, combustion products, and cosmetics. Chapter 5 (Pages 49-74) In Hodgson, E., Ed., *A Textbook of Modern Toxicology*, 3rd Edition. John Wiley & Sons, Inc., Hoboken, NJ.
1. **Cope, W. G.** 2000. Contaminants in Wildlife. Chapter 22 (Pages 130-133) In Williams, L. K. and Langley, R. L., Eds., *Environmental Health Secrets*. Hanley & Belfus, Inc., Philadelphia, PA.

PEER-REVIEWED EXTENSION AND OUTREACH PUBLICATIONS

Explanation of Authorship Order: Significance of Contribution is First, Second, and Last Author (denotes leader); * = mentored graduate student or post-doctoral scholar is author.

43. LePrevost, C. E., **W. G. Cope**, Y. Shen, and D. Wrights. 2021. A new open-source web application with animations to support learning of neuron-to-neuron signaling. *The American Biology Teacher*. 83(9):593-595.
42. LePrevost, C. E., G. Denlea, L. Dong, and **W. G. Cope**. 2021. Investigating audience response system technology during pesticide training for farmers. *Journal of Agricultural Education and Extension*. 27(1):73-87.
41. Harwell, E., C. E. LePrevost, and **W. G. Cope**. 2020. Pesticides and your respiratory system: what we know about a lifetime of farm exposures and lung and airway health. A slide set, transcript, discussion questions, and 5-minute video with an introduction to the Agricultural Health Study for private pesticide applicator certification training in North Carolina. North Carolina State University Cooperative Extension Service and North Carolina Department of Agriculture & Consumer Services, Raleigh, NC.
40. Storm, J. F., C. E. LePrevost, C. Arellano, and **W. G. Cope**. 2018. Certified Safe Farm implementation in North Carolina: hazards, safety improvements, and economic incentives. *Journal of Agromedicine*. 23(4):381-392.
39. **Cope, W. G.**, A. J. Reyes, and C. E. LePrevost. 2017. When a Good Pesticide Application Goes Bad. A slide set and 10-minute video with questions for private pesticide applicator certification training in North Carolina. North Carolina State University Cooperative Extension Service and North Carolina Department of Agriculture & Consumer Services, Raleigh, NC.
38. Storm, J. F., C. E. LePrevost, R. Tutor-Marcom, and **W. G. Cope**. 2016. Adapting Certified Safe Farm to North Carolina agriculture: an implementation study. *Journal of Agromedicine*. 21(3):269-283.
37. LePrevost*, C. E., M. R. Blanchard, and **W. G. Cope**. 2014. Personal Goals and Perceived Barriers of Farmworker Pesticide Trainers: Implications for Workplace Safety and Health. *Journal of Agricultural Safety and Health*. 20(4):267-282.
36. LePrevost*, C. E., J. F. Storm, C. R. Asuaje, C. Arellano, and **W. G. Cope**. 2014. Assessing the Effectiveness of the Pesticides and Farmworker Health Toolkit: A Curriculum for Enhancing Farmworkers' Understanding of Pesticide Safety Concepts. *Journal of Agromedicine*. 19(2):96-102.
35. LePrevost*, C. E., J. F. Storm, C. R. Asuaje, and **W. G. Cope**. 2014. The Pesticides and Farmworker Health Toolkit: an innovative model for developing an evidence-informed program for a low-literacy, Latino immigrant audience. *Journal of Extension*. 52(3):1-10.
34. LePrevost*, C. E., M. R. Blanchard, and **W. G. Cope**. 2013. Beliefs of science educators who teach pesticide risk to farmworkers. *International Journal of Environmental and Science Education*. 8(4):587-609.
33. LePrevost, C. E., K. M. Gray, M. Hernandez-Pelletier, B. D. Bouma, C. Arellano, and **W. G. Cope**. 2013. Need for improved risk communication of fish consumption advisories to protect maternal and child health: influence of primary informants. *International Journal of Environmental Research and Public Health*. 10(5):1720-1734.

32. LePrevost*, C. E., J. F. Storm, M. R. Blanchard, C. R. Asuaje, and **W. G. Cope**. 2013. Engaging Latino farmworkers in the development of symbols to improve pesticide safety and health education and risk communication. *Journal of Immigrant and Minority Health*. 15(5):975-981.
31. LePrevost*, C. E., M. R. Blanchard, and **W. G. Cope**. 2011. The pesticide risk beliefs inventory: a quantitative instrument for the assessment of beliefs about pesticide risks. *International Journal of Environmental Research and Public Health*. 8(6):1923-1935.
30. LePrevost*, C. E., J. F. Storm, C. Asuaje, G. Miller, B. Bunch, and **W. G. Cope**. 2011. Pesticides and farmworker health toolkit for strawberries. Publ. Nos. AG-MED-31 and AG-MED-32 (includes English and Spanish curricula, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC.
29. LePrevost*, C. E., J. F. Storm, C. Asuaje, G. Miller, B. Bunch, and **W. G. Cope**. 2011. Pesticides and farmworker health toolkit for landscape and turfgrass. Publ. Nos. AG-MED-29 and AG-MED-30 (includes English and Spanish curricula, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC.
28. LePrevost*, C. E., J. F. Storm, C. Asuaje, G. Miller, B. Bunch, and **W. G. Cope**. 2011. Pesticides and farmworker health toolkit for blueberries. Publ. Nos. AG-MED-27 and AG-MED-28 (includes English and Spanish curricula, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC.
27. LePrevost*, C. E., J. F. Storm, C. Asuaje, D. Babbs, B. Bunch, and **W. G. Cope**. 2011. Pesticides and farmworker health toolkit for tomatoes. Publ. Nos. AG-MED-22 and AG-MED-23 (includes English and Spanish curricula, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC.
26. LePrevost*, C. E., J. F. Storm, C. Asuaje, G. Miller, B. Bunch, and **W. G. Cope**. 2011. Pesticides and farmworker health toolkit for grapes. Publ. Nos. AG-MED-20 and AG-MED-21 (includes English and Spanish curricula, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC.
25. LePrevost*, C. E., J. F. Storm, C. Asuaje, G. Miller, B. Bunch, and **W. G. Cope**. 2011. Pesticides and farmworker health toolkit for apples. Publ. Nos. AG-MED-18 and AG-MED-19 (includes English and Spanish curricula, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC.
24. LePrevost*, C. E., J. F. Storm, C. Asuaje, D. Babbs, B. Bunch, and **W. G. Cope**. 2011. Pesticides and farmworker health toolkit for Christmas trees. Publ. Nos. AG-MED-16 and AG-MED-17 (includes English and Spanish curricula, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC.
23. LePrevost*, C. E., J. F. Storm, C. Asuaje, G. Miller, B. Bunch, and **W. G. Cope**. 2011. Pesticides and farmworker health toolkit for cucumbers. Publ. Nos. AG-MED-13 and AG-MED-14 (includes English and Spanish curricula, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC.
22. LePrevost*, C. E., J. F. Storm, C. Asuaje, G. Miller, B. Bunch, and **W. G. Cope**. 2011. Pesticides and farmworker health toolkit for bell peppers. Publ. Nos. AG-MED-11 and AG-MED-12 (includes English and Spanish curricula, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC.
21. LePrevost*, C. E., J. F. Storm, C. Asuaje, D. Babbs, B. Bunch, and **W. G. Cope**. 2011. Pesticides and farmworker health toolkit for sweetpotatoes. Publ. Nos. AG-MED-9 and AG-MED-10 (includes English and Spanish curricula, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC.
20. LePrevost*, C. E., J. F. Storm, C. Asuaje, D. Babbs, B. Bunch, and **W. G. Cope**. 2011. Pesticides and farmworker health toolkit for tobacco. Publ. Nos. AG-MED-7 and AG-MED-8 (includes English and Spanish curricula, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC.
19. DeBusk, K. M., W. F. Hunt, D. L. Osmond, and **W. G. Cope**. 2009. Water quality of rooftop runoff: implications for residential water harvesting systems. *Urban Waterways*. Publ. No. AG-588-18W, North Carolina State University Cooperative Extension Service Press, Raleigh, NC, 6pp.

18. Barwick, R. D., **W. G. Cope**, D. H. Barwick, D. McHenry, S. McRae, and W. A. Mitchell. 2006. Enhancing your waterfront property and aquatic resources. North Carolina State University Press, Raleigh, NC, 6pp.
17. Storm, J. F., **W. G. Cope**, W. G. Buhler, and K. McGinnis. 2005. Understanding the Agricultural Health Study. An accredited online course for private pesticide applicator certification training in North Carolina. North Carolina State University Cooperative Extension Service and North Carolina Department of Agriculture & Consumer Services, Raleigh, NC.
16. Bernhardt, J. H., W. G. Buhler, **W. G. Cope**, R. L. Langley, K. McGinnis, W. Meggs, D. Norton, J. F. Storm, D. Sumner, and A. Branigan. 2005. Pesticide Related Illness and Health Issues. An accredited online course for Continuing Medical Education for Physicians. Eastern Area Health Education Center, Office of Continuing Medical Education, Brody School of Medicine, East Carolina University, Greenville, NC, 7 modules.
15. Storm, J. F., **W. G. Cope**, W. G. Buhler, and K. McGinnis. 2004. Understanding the Agricultural Health Study, Part 1: Overview. Publ. No. AG-MED-24, North Carolina State University Cooperative Extension Service Press, Raleigh, NC, 6pp.
14. Storm, J. F., **W. G. Cope**, W. G. Buhler, and K. McGinnis. 2004. Understanding the Agricultural Health Study, Part 2: Pesticide Exposure. Publ. No. AG-MED-25, North Carolina State University Cooperative Extension Service Press, Raleigh, NC, 8pp.
13. Storm, J. F., **W. G. Cope**, W. G. Buhler, and K. McGinnis. 2004. Understanding the Agricultural Health Study, Part 3: Health Findings. Publ. No. AG-MED-26, North Carolina State University Cooperative Extension Service Press, Raleigh, NC, 6pp.
12. **Cope, W. G.**, J. A. Rice, S. L. Bryant, and F. A. Harris. 2003. Help protect our waters: stop the invaders! A full-color educational poster on aquatic nuisance species in North Carolina. North Carolina State University Cooperative Extension Service Press, Raleigh, NC, 1p.
11. **Cope, W. G.**, D. C. Sanders, F. J. Louws, J. F. Walgenbach, A. Chaves, J. D. Stern, J. F. Storm, and W. G. Buhler. 2003. Pesticides and human health: tomatoes. Publ. Nos. AG-MED-22 and AG-MED-23 (English and Spanish versions, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC, 6pp each.
10. **Cope, W. G.**, R. A. Allen, T. B. Sutton, A. Chaves, J. D. Stern, J. F. Storm, and W. G. Buhler. 2003. Pesticides and human health: grapes. Publ. Nos. AG-MED-20 and AG-MED-21 (English and Spanish versions, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC, 6pp each.
9. Bogan, A. E., **W. G. Cope**, J. Alderman, and T. Savidge. 2002. A workbook and key to the freshwater bivalves of North Carolina. North Carolina Museum of Natural Sciences and North Carolina State University, Raleigh, NC, 101 pp, 10 color plates.
8. Doll, B. A., **W. G. Cope**, and J. M. Burkholder. 2000. Recreational water quality: a fact sheet for coastal vacationers and water_dependent businesses. North Carolina Sea Grant Press, Raleigh, NC, 12 pp.
7. **Cope, W. G.**, R. C. Avery, J. F. Storm, and R. C. Luginbuhl. 1999. Pesticides and human health: tobacco. Publ. No. AG-MED-15, North Carolina State University Cooperative Extension Service Press, Raleigh, NC, 20pp.
6. **Cope, W. G.**, R. C. Avery, J. F. Storm, and R. C. Luginbuhl. 1999. Pesticides and human health: apples. Publ. Nos. AG-MED-18 and AG-MED-19 (English and Spanish versions, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC, 6pp each.
5. **Cope, W. G.**, R. C. Avery, J. F. Storm, and R. C. Luginbuhl. 1999. Pesticides and human health: Christmas trees. Publ. Nos. AG-MED-16 and AG-MED-17 (English and Spanish versions, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC, 6pp each.
4. **Cope, W. G.**, R. C. Avery, J. F. Storm, and R. C. Luginbuhl. 1998. Pesticides and human health: tobacco. Publ. Nos. AG-MED-7 and AG-MED-8 (English and Spanish versions, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC, 6pp each.

3. **Cope, W. G.**, R. C. Avery, J. F. Storm, and R. C. Luginbuhl. 1998. Pesticides and human health: sweet potatoes. Publ. Nos. AG-MED-9 and AG-MED-10 (English and Spanish versions, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC, 6pp each.
2. **Cope, W. G.**, R. C. Avery, J. F. Storm, and R. C. Luginbuhl. 1998. Pesticides and human health: green peppers. Publ. Nos. AG-MED-11 and AG-MED 12 (English and Spanish versions, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC, 6pp each.
1. **Cope, W. G.**, R. C. Avery, J. F. Storm, and R. C. Luginbuhl. 1998. Pesticides and human health: cucumbers. Publ. Nos. AG-MED-13 and AG-MED-14 (English and Spanish versions, respectively), North Carolina State University Cooperative Extension Service Press, Raleigh, NC, 6pp each.

PROPOSALS FUNDED

Explanation of Authorship Order: Principal Investigator is First, Second, and thereafter reflect Co-PI Contribution (unless otherwise noted)

- Cope, W. G.**, and C. B. Eads. 2022. Research and development of a water quality testing program targeting imperiled aquatic species and their habitats at extant and re-introduction sites in the Complete 540 project area. Funded by the North Carolina Department of Transportation, \$2,000,000 for ten years.
- Cope, W. G.**, and C. B. Eads. 2022. Research and development of in vitro propagation of freshwater mussels for restoration. Funded by the North Carolina Department of Transportation, \$1,000,000 for ten years.
- Cope, W. G.**, C. B. Eads, T. Ben-Horin, H. Evans, R. Hoch, and C. A. Drew. 2022. Establishment of quantitative conservation targets for imperiled freshwater mussel populations in the Complete 540 Project Area. Funded by the North Carolina Department of Transportation, \$450,000 for four years.
- Cope, W. G.**, and C. B. Eads. 2021. Research for propagation and restoration of the Magnificent Ramshorn aquatic snail associated with conservation efforts at the Yates Mill Aquatic Conservation Center. Funded by the North Carolina Department of Transportation, \$250,000 for ten years.
- Cope, W. G.**, C. B. Eads, T. Ben-Horin, H. Evans, R. Hoch, and J. Roberts. 2021. Genetic and fitness analysis of imperiled mussel species in the Complete 540 Project Area. Funded by the North Carolina Department of Transportation, \$900,000 for four years.
- Cope, W. G.**, J. F. Levine, and C. B. Eads. 2021. Mollusk restoration and recovery: bridging propagation and culture research for the Yates Mill Aquatic Conservation Center. Funded by the North Carolina Wildlife Resources Commission, \$214,296 for two years.
- Cope, W. G.** and T. J. Kwak. 2020. Advancing the knowledge of freshwater mussel conservation: examining the role of manganese on recent mussel die-offs and enigmatic declines. Funded by the U.S. Geological Survey and U.S. Fish and Wildlife Service, Science Support Program, \$206,890 for three years.
- Cope, W. G.** and T. J. Kwak. 2019. Impacts of sea level rise and associated salinity changes on at-risk native freshwater mussels and their habitats in Atlantic coastal rivers. Funded by the U.S. Geological Survey, Southeast Climate Adaptation Science Center, \$225,129 for two years.
- Cope, W. G.**, J. M. Archambault, and C. E. LePrevost. 2018. Ecosystem services provided by freshwater mussels: Impacts on water quality and public awareness. Funded by the Duke Energy Water Resources Fund through the North Carolina Community Foundation, \$70,408 for 18 months.
- Cope, W. G.**, J. M. Burkholder, T. J. Kwak, and C. A. Layman. 2017. Evaluating the nutrient cycling ability of native freshwater mussels under eutrophic conditions: an ecosystem services perspective. Funded by the North Carolina Wildlife Resources Commission, \$199,500 for three years.

- Cope, W. G.**, J. F. Levine, C. B. Eads, T. J. Kwak, J. A. Rice, J. M. Burkholder, and R. J. Richardson. 2016. Aquatic species restoration and research at the Eastern Aquatic Conservation Facility at Yates Mill (NC). Funded by the National Fish and Wildlife Foundation, \$1,120,000 for four years.
- Richardson, R. J., J. A. Rice, and **W. G. Cope**. 2016. Evaluation of the biology, ecology, and control of *Aldrovanda* within a risk analysis framework. Funded by the U.S. Department of Defense, Legacy Program, \$16,744 for one year.
- LePrevost, C. E. and **W. G. Cope**. 2016. Agricultural chemical risk assessment: development of a new, blended-learning course. Funded by the North Carolina State University, DELTA Grants Program, \$8,000 for one year.
- LePrevost, C. E., **W. G. Cope**, and J. F. Storm. 2015. Community Outreach and Education Core (COEC) of the Center for Human Health and the Environment (CHHE). Funded by the National Institute for Environmental Health Sciences, **COEC \$722,445 for five years**; CHHE \$6,125,298 for five years.
- Cope, W. G.** 2014. Facilitating responsible *Hydrilla* control: evaluating the chronic toxicity of aquatic herbicides on the rare panhandle pebblesnail (*Somatogyrus virginicus*). Funded by the U.S. Fish and Wildlife Service, Invasive Species Program, \$30,000 for one year.
- Cope, W. G.**, T. J. Kwak, D. Shea, M. McGregor, C. Owen, and A. L. Velasco. 2013. Advancing the tools of freshwater mussel conservation: determining the relative sensitivity of in vitro and in vivo propagated juveniles. Funded by the U.S. Fish and Wildlife Service, Science Support Program, \$122,348 for three years.
- Kwak, T. J., **W. G. Cope**, R. J. Heise, and F. W. Sessions. 2013. Robust Redhorse recovery and habitat restoration: assessing water quality stressors and food web contaminant dynamics. Funded by the U. S. Fish and Wildlife Service, State Wildlife Grants Competitive Grant Program, \$460,000 for three years.
- Cope, W. G.**, R. P. Tutor-Marcom, J. F. Storm, B. Gallagher, T. Britton, and C. E. LePrevost. 2013. AgriSafe-NC and Certified Safe Farm expansion. Funded by the North Carolina Tobacco Trust Fund Commission, \$300,000 for three years.
- McLaughlin, R. A., and **W. G. Cope**. 2013. Erosion, sediment, and turbidity control and monitoring research to meet water quality goals. Funded by the NC Department of Transportation, \$309,048 for three years.
- Cope, W. G.**, C. E. LePrevost, and J. F. Storm. 2012. Assessing the effectiveness of audience response system technology in pesticide applicator training. Funded by the NIOSH Southeast Center for Agricultural Health and Injury Prevention, \$14,999 for one year.
- Cope, W. G.**, D. Shea, and J. W. Jones. 2012. Recent precipitous declines of endangered freshwater mussels in the Clinch River: An in situ assessment of water quality stressors related to energy development and other land-use. Funded by the U.S. Fish and Wildlife Service, Science Support Program, \$286,641 for three years.
- Aday, D. D., S. W. Kullman, **W. G. Cope**, T. J. Kwak, J. A. Rice, and J. M. Law. 2011. A comprehensive examination of endocrine disrupting compounds and intersex fish in North Carolina water bodies. Funded by the North Carolina Wildlife Resources Commission, \$493,258 for five years.
- Storm, J. F., **W. G. Cope**, and C. E. LePrevost. 2011. Rolling out the pesticides and farmworker health toolkit across North Carolina: a train-the-trainer proposal. Funded by the North Carolina Department of Agriculture and Consumer Services, \$19,999 for one year.
- Kwak, T. J., C. A. Drew, **W. G. Cope**, and T. Augspurger. 2010. Hierarchical habitat suitability models for imperiled mussels: building strategic habitat conservation tools for mussel recovery in the South Atlantic Landscape Conservation Collaborative. Funded by the U.S. Fish and Wildlife Service, \$245,000 for three years.
- Cope, W. G.**, M. C. Barnhart, R. B. Bringolf, and T. P. Augspurger. 2010. Contaminants of emerging concern in the Great Lakes Basin: studies evaluating differing modes of action and reproductive effects with freshwater mussels. Funded by the U.S. Environmental Protection Agency, \$300,000 for three years.

- Bringolf, R. B., M. C. Barnhart, and **W. G. Cope**. 2010. Determining the appropriate duration of toxicity tests with glochidia of native freshwater mussels. Funded by the U.S. Environmental Protection Agency, \$145,000 for two years.
- Cope, W. G.**, J. F. Storm, and K. Wooten. 2010. Farm safety and health improvement fund. Funded by the North Carolina Tobacco Trust Fund Commission, \$153,000 for two years.
- Kwak, T. J., **W. G. Cope**, J. Bales, T. J. Newton, R. J. Heise, and B. N. Karns. 2009. Modeling the response of imperiled freshwater mussels to anthropogenically induced changes in water temperature, habitat, and flow in streams of the southeastern and central United States. Funded by the U. S. Geological Survey (USGS), \$648,000 for three years. **(Note: Dr. Cope wrote and led proposal development and will direct or co-direct the Ph.D. and M.S. students on the project, Dr Kwak is listed as PI because of USGS requirement to have a USGS employee as responsible PI on these funds).**
- Cope, W. G.** 2009. Acute effects of cyanide compounds on freshwater mussels. Funded by the U.S. Fish and Wildlife Service, \$24,000 for two years.
- Cope, W. G.**, R. P. Tutor, and E. J. Jones. 2009. Protecting the safety and health of North Carolina's farmers through the AgriSafe and Certified Safe Farm Program. Funded by the North Carolina Tobacco Trust Fund Commission, \$500,000 for two years.
- Cope, W. G.**, R. B. Bringolf, and M. C. Barnhart. 2008. Acute and reproductive effects of emerging contaminants on freshwater mussels. Funded by the U.S. Fish and Wildlife Service, \$115,000 for two years.
- Cope, W. G.**, J. F. Storm, and C. LePrevost. 2007. Pesticides and farmworker health: a toolkit to enhance pesticide safety training for Hispanic/Latino workers. Funded by the North Carolina Department of Agriculture and Consumer Services, \$223,785 for three years.
- Aday, D. D., **W. G. Cope**, and J. A. Rice. 2007. Exploring mercury transport mechanisms in aquatic systems: a statewide assessment of factors affecting methylmercury contamination of food webs and fish. Funded by the Water Resources Research Institute, \$94,953 for two years.
- Cope, W. G.**, R. B. Bringolf, D. Shea, M. C. Barnhart, and H. L. Dunn. 2006. Assessing the exposure and relative sensitivity of native freshwater mussels to environmental stressors and laboratory conditions. Funded by the U.S. Environmental Protection Agency, \$130,000 for three years.
- Cope, W. G.**, T. J. Kwak, and D. Shea. 2006. Platinum markers as indicators of transportation impact to freshwater mussels. Funded by the NC Department of Transportation, \$165,345 for three years.
- Cope, W. G.**, and R. D. Barwick. 2005. Techniques to maintain healthy aquatic ecosystems associated with waterfront development in North Carolina. Funded by the North Carolina State University, Office of Extension, Engagement and Economic Development, \$8,000 for eight months.
- Cope, W. G.**, D. Shea, J. A. Sabella, J. H. Bernhardt, and M. Ahmedna. 2005. Assessing exposure to pharmaceuticals and personal care products in rural agricultural settings. Funded by the U.S. Department of Agriculture, \$276,870 for two years.
- Cope, W. G.**, D. Shea, R. B. Bringolf, and R. M. Heltsley. 2005. Endocrine and reproductive effects of the pharmaceutical fluoxetine on native freshwater mussels: proximity to measured environmental concentrations. Funded by the Water Resources Research Institute, \$79,573 for two years.
- Holliman, F. M., T. J. Kwak, **W. G. Cope**, and J. F. Levine. 2004. Assessing risk of electrofishing mortality and sublethal effects to freshwater mussels. Funded by the North Carolina Wildlife Resources Commission; \$110,000 for two years.
- Cope, W. G.**, C. S. Hofelt, S. Gustke, J. A. Sabella, J. H. Bernhardt, J. E. Gibson, M. Ahmedna, and I. Goktepe. 2004. Assessing pesticides and other environmental hazards in rural agricultural settings. Funded by the U.S. Department of Agriculture, \$230,301 for two years.

- Cope, W. G.**, D. Shea, and J. F. Levine. 2004. Monitoring water quality with bivalve-based sensors. Funded by Nekton Research, LLC; \$42,563 for two years.
- Storm, J. F., **W. G. Cope**, W. G. Buhler, and R. McRackan. 2004. Understanding the Agricultural Health Study and the Farm Family Exposure Study. Funded by the North Carolina Cooperative Extension Service; \$7,500 for six months.
- Cope, W. G.**, G. A. LeBlanc, D. Shea, and J. F. Levine. 2003. Assessing hazards of pesticides to native freshwater mussels. Funded by the NC Department of Agriculture and Consumer Services, \$136,637 for three years.
- Shea, D., **W. G. Cope**, and A. Chaves. 2003. Predicting environmental exposure to pesticides in surface waters of North Carolina. Funded by the NC Department of Agriculture and Consumer Services, \$122,066 for two years.
- Cope, W. G.**, S. Gustke, J. H. Bernhardt, M. Ahmedna, and J. A. Sabella. 2003. Furthering agricultural health and safety through clinical surveillance, information dissemination and disaster monitoring. Funded by the U.S. Department of Agriculture, \$258,183 for two years.
- Levine, J. F., **W. G. Cope**, A. E. Bogan, D. Shea, D. Eggleston, and J. F. Gregory. 2003. A comparison of the impacts of culverts versus bridges on stream habitat and aquatic fauna. Funded by the NC Department of Transportation; \$483,449 for two years.
- Cope, W. G.**, J. A. Rice, S. L. Bryant, and F. A. Harris. 2003. Aquatic nuisance species educational materials for North Carolina. Funded by the North Carolina Cooperative Extension Service through U.S. Department of Agriculture, Renewable Resources Extension Act funds; \$6,000 for six months.
- Cope, W. G.**, A. E. Bogan, J. Alderman, and T. Savidge. 2002. A workbook and key to the freshwater bivalves of North Carolina. Funded by the North Carolina Cooperative Extension Service through U.S. Department of Agriculture, Renewable Resources Extension Act funds; \$8,051 for six months.
- Cope, W. G.**, and T. J. Kwak. 2002. *In situ* and whole effluent toxicity testing with North Carolina's threatened and endangered fishes. Funded by the U.S. Fish and Wildlife Service; \$25,000 for two years.
- Cope, W. G.**, J. F. Storm, R. A. Allen, W. G. Buhler, A. Chaves, F. J. Louws, D. C. Sanders, and T. B. Sutton. 2002. Pesticides and human health: crop-specific bilingual educational materials for workers and producers of tomatoes and grapes. Funded by the North Carolina Department of Agriculture and Consumer Services, \$24,358 for two years.
- Cope, W. G.**, W. Gebreyes, S. Gustke, B. Burlingham, M. Ahmedna, and J. Owens. 2002. Farm injuries and illness in North Carolina. Funded by the U.S. Department of Agriculture, \$260,030 for two years.
- Shea, D., and **W. G. Cope**. 2002. Development of a standardized process for ranking and prioritizing contaminants in the Contaminant Assessment Process (CAP): chemical classification system. Funded by the U.S. Fish and Wildlife Service, \$24,500 for one year.
- Cope, W. G.**, and T. J. Kwak. 2001. Assessment of water quality on federally threatened spotfin chub and federally endangered shortnose sturgeon populations. Funded by the U.S. Fish and Wildlife Service; \$37,800 for three years.
- Cope, W. G.** 2001. Farm injury and illness: an agromedicine approach to heat-related illness. Funded by the U.S. Department of Agriculture, \$266,005 for two years.
- Storm, J. F., **Cope, W. G.**, Buhler, W. G., and M. K. McGinnis. 2001. Educating agricultural and health practitioners about the Agricultural Health Study. Funded by the National Institute for Occupational Safety and Health, \$96,708 for three years.
- Levine, J. F., **W. G. Cope**, M. Stoskopf, A. Bogan, L. Gustafson, W. Showers, and D. Shea. 2000. Assessment of the impact of highway runoff on the health of freshwater mussels in North Carolina streams. Funded by the NC Department of Transportation; \$235,651 for two years.
- Cope, W. G.**, and T. J. Kwak. 2000. Cape Fear shiner restoration: water quality assessments and population estimates. Funded by the U.S. Fish and Wildlife Service; \$40,000 for three years.

- Cope, W. G.**, and T. J. Kwak. 2000. Restoration of Cape Fear shiner populations in North Carolina: assessment of habitat suitability; funded by the U.S. Geological Survey, \$56,000 for two years.
- Shea, D., and **W. G. Cope**. 2000. Assessing the impact of pesticide use and water quality on blue crab survival in soft crab shedding operations; funded by North Carolina Fishery Resource Grant Program, \$57,399 for two years.
- Noble, R. L., **W. G. Cope**, and D. Shea. 1999. Water quality and toxicological effects of contaminants on sport fishes of Dos Bocas Reservoir, Puerto Rico; funded by Federal Aid in Sport Fish Restoration Project by the Puerto Rico Department of Natural and Environmental Resources, \$30,000 for two years.
- Cope, W. G.** 1999. Problem analysis of water and sediment pollution in streams draining the Marine Corps Air Station at Cherry Point, North Carolina; funded by the U.S. Marine Corps, \$29,600 for two years.
- LeBlanc, G. A., and **W. G. Cope**. 1999. Evaluation of the City of Raleigh's water supply for the presence of estrogenic compounds; funded by the City of Raleigh, North Carolina, \$3,300 for six months.
- Levine, J. F., **W. G. Cope**, A. E. Bogan. 1999. Closed recirculating system for freshwater mussel propagation; funded by the U.S. Fish and Wildlife Service, \$30,000 for one year.
- Shea, D. and **W. G. Cope**. 1998. Assessment of human health hazards associated with the consumption of fish from four lakes at Fort Bragg, North Carolina; funded by the Wildlife Branch of the Department of the Army, Fort Braag, North Carolina, \$24,787 for one year.
- Burlingham, B. F., M. T. Correa, **W. G. Cope**, and J. F. Storm. 1998. North Carolina Agromedicine Institute transitional funding; funded by the North Carolina Department of Agriculture and Consumer Services, \$49,880 for one year.
- Levine, J. F., and **W. G. Cope**. 1998. Baseline assessment of the Wilson Bay Ecosystem; funded by the City of Jacksonville, North Carolina, \$49,234 for eight months.
- Cope, W. G.**, D. Shea, and G. D. Jennings. 1998. Efficacy of a constructed wetland to reduce nonpoint source pollutants (polycyclic aromatic hydrocarbons) from an urban watershed; funded by the Gaston County, North Carolina Long Creek Watershed Project Team, \$59,600 for two years.
- Cope, W. G.**, J. F. Storm, and R. C. Luginbuhl. 1997. Pesticides and human health; funded by the North Carolina Department of Agriculture and Consumer Services, \$35,051 for one year.
- Cope, W. G.**, D. L. Waller, and S. Jennings. 1996. Development of *in situ* refugia as a method for preserving the biodiversity of unionid mussels in the St. Croix River; funded by the National Park Service, \$210,000 for three years.
- Cope, W. G.**, and D. L. Waller. 1995. Quality assurance monitoring of a freshwater mussel relocation project (Phase II) on the St. Croix River, Wisconsin and Minnesota; funded by the Wisconsin Department of Transportation, \$35,000 for two years.
- Cope, W. G.**, and D. L. Waller. 1995. Behavioral and organismal responses of unionid mussels to various temperatures during aerial exposure; funded by the U.S. Fish and Wildlife Service, \$80,000 for two years.
- Waller, D. L., and **W. G. Cope**. 1994. Quality assurance monitoring of a freshwater mussel relocation project (Phase I) on the St. Croix River, Wisconsin and Minnesota; funded by the Wisconsin Department of Transportation, \$22,000 for two years.
- Wiener, J. G., R. G. Rada, **W. G. Cope**, and T. J. Naimo. 1993. Assessment of the bioavailability of mercury in riverine sediments to a benthic invertebrate; funded by the U.S. Environmental Protection Agency, \$332,235 for three years.

POST-DOCTORAL TRAINEES

Christine M. Bergeron, Ph.D. Research activity: Assessment of water quality stressors related to energy development and other land-use on imperiled freshwater mussels. NC State University, 2012-2015.

Jeremy A. Leonard, Ph.D. Research activity: Effects of endocrine disrupting compounds on mussel and fish; estrogenicity analysis of surface waters. NC State University, 2014.

C. Ashton Drew, Ph.D. Research activity: Hierarchical habitat suitability models for imperiled mussels: building strategic habitat conservation tools for mussel recovery in the South Atlantic Landscape Conservation Collaborative. NC State University, 2010-2014.

Joseph A. Daraio, Ph.D. Research activity: Modeling the effects of climate change on imperiled freshwater mussels and fish. NC State University, 2010-2012.

Robert B. Bringolf, Ph.D. Research activity: Assessing endocrine toxicity and other toxicological hazards of pesticides to freshwater mussels. NC State University, 2004-2007.

F. Michael Holliman, Ph.D. Research activity: Effects of contaminants on threatened and endangered fishes and electrofishing injury assessment on freshwater mussels. NC State University, 2004-2007.

GRADUATE STUDENT ADVISEES

Major or Co-major Advisor

Edie G. Nissen. M.S. expected December 2025. Thesis: Conservation genetics of at-risk native freshwater mussels. NC State University.

Loretta M. Lutackas. M.S. expected December 2025. Thesis: Effects antibiotics on the efficacy of in vitro propagation of imperiled native freshwater mussels. NC State University.

Clayton L. Lynch. M.S. expected December 2025. Thesis: Examining the role of manganese on recent mussel die-offs and enigmatic declines. NC State University.

Madison Polera. Ph.D. expected December 2025. Thesis: Development and evaluation of health metrics for imperiled freshwater mussels. NC State University.

Joseph K. McIver. M.S. expected December 2022. Thesis: Effects of sea level rise and associated salinity changes on at-risk native freshwater mussels and their habitats in Atlantic coastal rivers. NC State University.

Meredith Shehdan. M.S. (non-thesis) completed May 2022. Thesis: mussel filtration and clearance rates: a review of the benefits and downfalls of using a Beckman-Coulter Multisizer. NC State University.

Jennifer M. Archambault. Ph.D. completed May 2020. Thesis: Contaminant-related ecosystem functions and services of freshwater mussels (Unionidae) and public views on nature's contributions to water quality. NC State University.

Anna B. Alicea. Ph.D. completed May 2020. Thesis: Assessing the transport, fate and effects of agricultural herbicides in the south Atlantic coastal plain. NC State University.

Sandra L. Mort. Ph.D. completed August 2017. Thesis: Assessment of ecological and human health risks associated with PCB contamination of an aquatic ecosystem. NC State University.

Anakela Popp. M.S. completed May 2017. Thesis: Determining the chemical sensitivity between in vitro and in vivo propagated juvenile unionid mussels. NC State University.

Tiffany N. Penland. M.S. completed May 2017. Thesis: Assessment of food web contaminants in the imperiled Robust Redhorse. NC State University.

- Casey A. Grieshaber. M.S. completed December 2016. Thesis: Assessment of waterborne estrogens and prevalence of intersex fish in North Carolina surface waters. NC State University.
- Sean B. Buczek. M.S. completed December 2015. Thesis: Effects of sediment and sediment erosion control compounds on native freshwater mussels. NC State University.
- Tamara J. Pandolfo. Ph.D. completed May 2014. Thesis: Effects of water temperature, habitat, and flow regime on survival and distribution of native freshwater mussels: implications for global climate change. NC State University.
- Jeremy A. Leonard. Ph.D. completed December 2013. Thesis: Effects of contaminants of emerging concern on reproduction of native freshwater mussels. NC State University.
- Jennifer M. Archambault. M.S. completed December 2012. Thesis: Thermal sensitivity of freshwater mussels: incorporating benthic ecology in laboratory mesocosm experiments. NC State University.
- Catherine E. LePrevost. Ph.D. completed May 2011. Thesis: An examination of farmworker pesticide educators in a southeastern state: informal science educators and risk communication. NC State University.
- Elissa N. Buttermore. M.S. completed May 2011. Thesis: Contaminant and trophic dynamics of tropical stream ecosystems. NC State University.
- Jason W. Mays. M.S. completed May 2009. Thesis: Evaluation of platinum group metals as indicators of transportation impacts on native freshwater mussels. NC State University.
- Tamara J. Pandolfo. M.S. completed December 2008. Thesis: Effects of water temperature fluctuation on the survival of native freshwater mussels. NC State University.
- Shad Mosher. M.S. completed December 2008. Thesis: Evaluation of historic lead contamination as an indicator of transportation impacts on native freshwater mussels. NC State University.
- Sharon T. Prochazka. M.S. completed December 2007. Thesis: Assessing DNA damage in hemocytes of the freshwater mussel *Elliptio complanata* with the comet assay. NC State University.
- Le Roy F. Humphries. M.S. completed May 2006. Thesis: Effects of polycyclic aromatic hydrocarbon exposure on three life stages of freshwater mussels (Bivalvia: Unionidae). NC State University.
- Eun-ah Cho. Ph.D. completed May 2005. Thesis: Bioturbation as a novel method to characterize the toxicity of aquatic sediment. NC State University.
- Kyoungju Choi. Ph.D. completed December 2004. Thesis: Modulation of immune function parameters in fish caused by sudden environmental changes. NC State University.
- Waverly A. Thorsen. Ph.D. completed May 2003. Thesis: Accumulation of polycyclic aromatic hydrocarbons by unionid mussels: comparison to sediment and a passive sampling device. NC State University.
- Annette M. McCarthy. Ph.D. completed December 2002. Thesis: Ecological risk assessment of pesticides in the outer coastal plain of North Carolina. NC State University.
- Amanda K. Howard. M.S. completed December 2002. Thesis: Restoration of Cape Fear shiner populations in North Carolina: assessment of habitat suitability. NC State University.
- Laura W. Muhs. M.S. completed December 2000. Thesis: Problem analysis of water and sediment pollution in streams draining the Marine Corps Air Station at Cherry Point, North Carolina. NC State University.

Wendi J. Doran. M.S. completed December 1999. Thesis: Bioassessment of organophosphate and carbamate insecticides with unionid mussels in the Upper Mississippi River. University of Wisconsin-La Crosse.

Shari L. Greseth. M.S. completed December 1998. Thesis: Sublethal effects of emersion on three species of unionid mussels. University of Wisconsin-La Crosse.

Michelle R. Bartsch. M.S. completed May 1995. Thesis: Bioturbation and bioaccumulation of cadmium by nymphs of the burrowing mayfly *Hexagenia bilineata* exposed to cadmium-spiked sediment. University of Wisconsin-La Crosse. This student received the highest award presented by the College of Science and Allied Health at the University of Wisconsin-La Crosse for excellence in graduate studies. Ms. Bartsch was presented the Graduate Student Achievement Award for exceptional academic achievement in graduate studies and for excellence in thesis research, August 2, 1996.

Thesis Committee Member

Jens Beets. Ph.D. expected May 2024. Thesis: The effect of biotype and ecosystem on growth and herbicide response in *Hydrilla verticillata*. NC State University.

Alyssa R. Spence. Ph.D. expected May 2023. Thesis: Living in the borderland: work-linked spouses teaching agriculture in North Carolina. NC State University.

Roberto Reyes Maldonado. Ph.D. completed December 2022. Thesis: Using a native insect species and its neuromuscular system as models for assessing benthic sediment toxicity in Puerto Rico: *Chironomus* sp. "Florida" (Diptera: Chironomidae). University of Puerto Rico.

Roger D. Lawrie. Ph.D. completed December 2021. Thesis: Pesticide effects on gene expression: from humans to insects. NC State University.

Nicole Lindor. Ph.D. completed August 2021. Thesis: Drivers of reservoir phytoplankton bloom dynamics in changing nutrient regimes, assessed through long-term field data and short-term experiments. NC State University.

Emily L. Vulgamore. M.S. completed May 2021. Efficacy of chemical treatments for control of the invasive cyanobacterium *Lyngbya wollei*. NC State University.

Alayne M. McKnight. M.S. completed December 2019. Thesis: Atrazine, azoxystrobin, and imidacloprid phytoremediation by terrestrial and wetland plant species. NC State University.

Stephanie Gill. M.S. completed May 2019. Thesis: Effects of complex chemical mixtures on the life cycle and gut health of unionid mussels. Central Michigan University.

Peter N. Nelson. Ph.D. completed August 2018. Thesis: Examining plant-insect interactions and residue effects of a neonicotinoid insecticide. NC State University.

Kathleen M. Gray. Ph.D. completed May 2018. Thesis: Subsistence anglers and other at-risk consumers of freshwater fish: tools for communicating consumption advisories. NC State University.

Erika J. Haug. Ph.D. completed May 2018. Thesis: *Hydrilla* physiology and response to aquatic herbicide treatments. NC State University.

Patrick J. Maxwell. M.S. completed August 2017. Thesis: Dislodgeable pesticide residues from turfgrass systems. NC State University.

Shannon M. Auell. M.S. completed May 2017. Thesis: Effects of an aquatic herbicide on riverine non-target organisms. NC State University.

Tomas J. Ivasauskas. Ph.D. completed May 2017. Thesis: Ecology and population dynamics of the Sicklefin Redhorse: an imperiled sucker species in Appalachian mountain streams. NC State University.

- Augustin C. Engman. Ph.D. completed May 2017. Thesis: Amphidromous fish recruitment and its ecological role in Caribbean freshwater-marine ecotones. NC State University.
- Stacie L. Flood. Ph.D. completed May 2017. Thesis: Effects of aquatic herbicides on algal production. NC State University.
- Andrew D. McEachran. Ph.D. completed May 2016. Thesis: Fate, transport, and mitigation of human pharmaceuticals in groundwater. NC State University.
- Crystal S. D. Lee Pow. Ph.D. completed December 2015. Thesis: Evaluating the incidence and effects of intersex fish in North Carolina. NC State University.
- Jennifer J. Rogers. M.S. completed August 2015. Thesis: Assessment of mussel declines in the Clinch and North Fork Holston Rivers using histological evaluations of vital organs. Virginia Tech University.
- Kelly L. O'Neal. Ph.D. completed December 2014. Thesis: Efficacy of passive sampling devices for sampling of contaminants in the aquatic environment. NC State University.
- Anna M. Barnes. M.S. completed May 2013. Thesis: Phytotoxicity of silver nanoparticles to hydroponic willow and poplar trees. NC State University.
- Barbara A. Doll. Ph.D. completed May 2013. Thesis: Assessing morphological performance of stream restoration North Carolina. NC State University.
- Dana K. Sackett. Ph.D. completed August 2011. Thesis: Factors affecting mercury accumulation in fishes of North Carolina. NC State University.
- Kristin Bjornsdottir. Ph.D. completed May 2009. Thesis: Prevalence and characterization of toxigenic histamine producing bacteria in fresh tuna from North Carolina. NC State University.
- Jennifer S. Musella. M.S. completed December 2006. Thesis: Impact of plant organic matter on PAH desorption from petrogenic-polluted sediments. NC State University.
- Marc J. Turano. Ph.D. completed May 2006. Thesis: Effect of cyclic feeding on compensatory growth and water quality on hybrid striped bass culture. NC State University.
- Cynthia V. Rider. Ph.D. completed December 2005. Thesis: Effects of chemical mixtures on the endocrine system of the crustacean *Daphnia magna*. NC State University.
- Katrina E. White. Ph.D. completed December 2005. Thesis: Bioavailability of polycyclic aromatic hydrocarbons in the aquatic environment. NC State University.
- Desiree D. Tullos. Ph.D. completed May 2005. Thesis: An investigation of the environmental conditions and processes associated with benthic community composition in restored and upstream reaches of the North Carolina Piedmont. NC State University.
- D. Grey Allen. M.S. completed August 2004. Thesis: Histamine formation and occurrence in commercially caught mahi-mahi and yellow fin tuna in North Carolina. NC State University.
- Xueyan Mu. Ph.D. completed December 2003. Thesis: Anti-ecdysteroid activity of environmental chemicals in the crustacean *Daphnia magna*. NC State University.
- Allen W. Olmstead. Ph.D. completed December 2003. Thesis: Environmental toxicant effects on sexual reproduction in *Daphnia magna*. NC State University.
- Meredith P. Gooding. Ph.D. completed May 2002. Thesis: Changes in testosterone biotransformation as a mechanism of imposex in the marine gastropod *Ilyanassa obsoleta*. NC State University.

Alicia Chaves. Ph.D. completed May 2001. Thesis: Environmental fate of pesticides applied to banana plantations in Costa Rica. NC State University.

Philip A. Poston. Ph.D. completed December 2000. Thesis: Mercury: analytical methods and environmental toxicological assessment. NC State University.

Jeffrey S. Gillette. Ph.D. completed August 2000. Thesis: Polychlorinated biphenyls: isomer-specific effects on enzyme induction and steroid metabolism. NC State University.

Verjean A. Burden. M.S. completed August 1995. Thesis: The effects of ALA-D inhibition on the swimming behavior and growth of rainbow trout *Oncorhynchus mykiss* exposed to sublethal concentrations of lead. University of Wisconsin_La Crosse.

Bradley E. Frazier. M.S. completed August 1994. Thesis: Temporal and vertical distribution of un_ionized ammonia and total ammonia nitrogen in sediment pore water in Pool 8, upper Mississippi River. University of Wisconsin_La Crosse.

MASTERS OF ENVIRONMENTAL ASSESSMENT STUDENT ADVISEES

Janet Clarke, MEA degree completed August 2021. Capstone research activity: Validation of non-lethal sampling techniques to estimate organic chemical contaminant load in Hardhead Catfish from an Atlantic coast estuary. NC State University.

Rachel Ferguson, MEA degree completed May 2020. Capstone research activity: Assessment of persistent organic pollutants in a degraded Atlantic coast estuary. NC State University.

Tara K. B. Johnson, MEA degree completed May 2018. Capstone research activity: Mercury and selenium in sport fishes from drinking water reservoirs. NC State University.

Rebecca Bryan, MEA degree completed December 2016. Capstone research activity: Development and synthesis of a native freshwater mussel toxicity database. NC State University.

Kelly W. Powell, MEA degree completed December 2014. Capstone research activity: Decline of submerged aquatic vegetation in the Albemarle-Pamlico estuarine system: Risk of agricultural herbicides in non-target aquatic plant toxicity. NC State University.

UNDERGRADUATE STUDENT ADVISEES

Matthew Aupperle, Environmental Engineering major, Applied Ecology minor. Research activity: Assessing aquatic herbicide and nutrient effects on native freshwater mussels. NC State University, 2017-2018.

Erin C. Tracy, Biochemistry major (Honors). Research activity: Assessing steroid hormone metabolism and endocrine toxicity of pesticides to freshwater mussels. NC State University, 2006-2007.

Delphine Forestier, Biology. Research activity: Assessing exposure and toxicity of PAHs to freshwater mussels. University of Bordeaux, France, 2002.

PRESENTATIONS AT SCIENTIFIC MEETINGS

Explanation of Authorship: Presenting Author is Underlined

Cope, W. G., J. K. McIver, and R. Boyles. 2022. The salinization of coastal rivers from sea level rise: implications for freshwater mussels. 43rd Annual Meeting of the Society of Environmental Toxicology and Chemistry, Pittsburgh, PA. November 12-16, 2022.

Wang, N., M. C. Barnhart, **W. G. Cope**, P. L. Gillis, and R. B. Bringolf. Development and update of ASTM international standard method for toxicity tests with freshwater mussels. RemTech Europe International Conference and Exhibition, Ferrara, Italy. September 21-23, 2022.

Mclver, J. K., W. G. Cope, T. J. Kwak, R. Boyles, A. Maynard, A. Glen, B. Watson, and M. Fisk. 2022. Assessing the toxicity of sea salt to freshwater mussels: implications for sea level rise in coastal rivers. American Fisheries Society North Carolina Chapter Annual Meeting, Morganton, NC. May 31-June 2, 2022. **Winner of the Richard L. Noble Best Student Platform Presentation Award.**

Mclver, J. K., W. G. Cope, T. J. Kwak, R. Boyles, A. Maynard, A. Glen, B. Watson, and M. Fisk. 2022. Assessing the cumulative toxicity of major sea salt ions to freshwater mussels. Society of Environmental Toxicology and Chemistry Carolinas Chapter Annual Meeting, Research Triangle Park, NC. April 6-8, 2022.

Shehdan, M. L., S. B. Buzcek, and W. G. Cope. 2021. Near real-time tracking of mussel filtration and clearance rates: a review of the benefits and downfalls of using a Beckman-Coulter Multisizer. 12th Biennial Symposium of the Freshwater Mollusk Conservation Society, Virtual, April 12-14, 2021.

Archambault, J. M., C. E. LePrevost, W. G. Cope, and J. L. Harrison. 2021. Public understanding of nature's influences on water quality and implications for communicating about ecosystem services. 12th Biennial Symposium of the Freshwater Mollusk Conservation Society, Virtual, April 12-14, 2021. **Winner of the Best Student Platform Presentation.**

Archambault, J. M., M. L. Shehdan, C. L. Lynch, S. B. Buzcek, and W. G. Cope. 2021. Functional processing of toxic heavy metals by mussels: implications for freshwater ecology and ecosystem service delivery. 12th Biennial Symposium of the Freshwater Mollusk Conservation Society, Virtual, April 12-14, 2021.

Archambault, J. M., C. E. LePrevost, W. G. Cope, and J. L. Harrison. 2021. Public understanding of nature's influences on water quality and implications for communicating about ecosystem services. American Fisheries Society North Carolina Chapter Annual Meeting, Virtual, February 16-17, 2021.

No in-person scientific meetings in 2020 due to COVID-19 pandemic and associated travel restrictions.

Buczec, S. B., J. M. Archambault, and W. G. Cope. 2019. State of the science: ecological toxicity of aquatic herbicides. **Invited Presentation** presented at the 2nd Annual Aquatic Plant Management Workshop, Raleigh, NC, August 13-15, 2019.

Cope, W. G., T. N. Penland, T. J. Kwak, M. J. Strynar, C. A. Grieshaber, R. J. Heise, and F. W. Sessions. 2019. Assessing the trophic dynamics of per- and polyfluoroalkyl substances in the food web of a southeastern USA Atlantic slope river. Society of Environmental Toxicology and Chemistry North America Focused Topic Meeting on Environmental Risk Assessment of Per- and Polyfluoroalkyl Substances, Durham, NC August 12-15, 2019.

Law, J. M., C. Lee Pow, C. Grieshaber, T. Penland, T. Kwak, W. G. Cope, D. Shea, J. Rice, S. Kullman, and D. Aday. 2019. Update on intersex and other endocrine-induced abnormalities in fish. 38th Annual Symposium of the Society of Toxicologic Pathology, Raleigh, NC, June 22-27, 2019.

Buczec, S. B., W. G. Cope, M. L. Shehdan, J. M. Burkholder, T. J. Kwak, T. Ewing, R. A. Hoch, M. A. McGregor, B. T. Watson, A. L. Maynard, M. Bradley, and R. Mair. 2019. Understanding the physiological responses of freshwater mussels to excess nutrients and algae and their influence on nutrient partitioning. 11th Biennial Symposium of the Freshwater Mollusk Conservation Society, San Antonio, TX, April 14-18, 2019.

Archambault, J. M., W. G. Cope, M. L. Shehdan, C. L. Lynch, S. B. Buzcek, T. J. Newton, H. L. Dunn, and Chris B. Eads. 2019. Quantifying pollutant-removal ecosystem services by unionid mussels. 11th Biennial Symposium of the Freshwater Mollusk Conservation Society, San Antonio, TX, April 14-18, 2019.

Archambault, J. M. and W. G. Cope. 2019. Life stage sensitivity of a freshwater snail to herbicides used in invasive aquatic weed control. 11th Biennial Symposium of the Freshwater Mollusk Conservation Society, San Antonio, TX, April 14-18, 2019.

Archambault, J. M., W. G. Cope, and T. J. Kwak. 2019. Chasing a changing climate: considering the role of unionid biological traits in facilitating climate resilience. 11th Biennial Symposium of the Freshwater Mollusk Conservation Society, San Antonio, TX, April 14-18, 2019.

- Buczek, S. B., W. G. Cope, M. L. Shehdan, W. M. Bishop, R. J. Richardson, J. M. Burkholder, T. J. Kwak, J. Nawrocki, T. Warmuth, and M. A. McGregor. 2019. Comparative toxicity of selected algaecides to freshwater mussels. 11th Biennial Symposium of the Freshwater Mollusk Conservation Society, San Antonio, TX, April 14-18, 2019.
- Archambault, J. M., M. L. Shehdan, C. L. Lynch, S. B. Buzcek, and W. G. Cope. 2019. Variation in pollutant-removal ecosystem services of toxic heavy metals by freshwater mussels. American Fisheries Society North Carolina Chapter Annual Meeting, Winston-Salem, NC, February 19-21, 2019.
- Buczek, S. B., W. G. Cope, M. L. Shehdan, W. M. Bishop, R. J. Richardson, J. M. Burkholder, T. J. Kwak, J. Jessup, and T.R. Black. 2019. In situ evaluation of freshwater mussel sensitivity to prescribed algaecide applications in a North Carolina Piedmont reservoir. American Fisheries Society North Carolina Chapter Annual Meeting, Winston-Salem, NC. February 19-21, 2019.
- Waller, D. L., W. G. Cope, E. Leis, T. L. Goldberg, and J. Richard. 2018. The unknown state of freshwater mussel health and disease. 8th International Symposium on Aquatic Animal Health, Prince Edward Island, Canada, September 2-6, 2018.
- Cope, W. G., and T. J. Newton. 2018. Overview of health assessment tools in native freshwater mollusks. **Invited Presentation** presented at the 10th Biennial Workshop of the Freshwater Mollusk Conservation Society, La Crosse, WI, March 13-15, 2018.
- Waller, D. L., and W. G. Cope. 2018. The uncertain state of molluscan health. **Invited Plenary Presentation** presented at the 10th Biennial Workshop of the Freshwater Mollusk Conservation Society, La Crosse, WI, March 13-15, 2018.
- Buczek, S. B., W. G. Cope, M. Shehdan, W. M. Bishop, R. J. Richardson, J. A. Rice, J. M. Burkholder, T. J. Kwak, J. Nawrocki, and T. Warmuth. 2018. Evaluation of freshwater mussel sensitivity to algaecides for potential control of Giant Lyngbya. American Fisheries Society North Carolina Chapter Annual Meeting, Morganton, NC, February 20-22, 2018.
- Archambault, J. M., W. G. Cope, T. J. Newton, and H. L. Dunn. 2018. Is contaminant removal by native freshwater mussels an ecosystem service? American Fisheries Society North Carolina Chapter Annual Meeting, Morganton, NC, February 20-22, 2018. **Winner of the Richard L. Noble Award for the Best Platform Presentation by a Student Member.**
- LePrevost, C. E., W. G. Cope, J. F. Storm, S. L. Joyner, and R. Tutor-Marcom. 2018. An analysis of implementation of the AgriSafe-Certified Safe Farm Program in North Carolina: implications for adoption by other states. Annual Meeting of the Agricultural Safety and Health Council of America, Scottsdale, AZ, February 21-23, 2018.
- Buczek, S. B., and W. G. Cope. 2017. Water quality constituents relevant to freshwater mussels: progress and state of the science. **Invited paper** presented at the Texas Freshwater Mussel Conservation and Stakeholder Summit, Austin, TX, November 14-15, 2017.
- Archambault, J. M., W. G. Cope, T. J. Newton, and H. L. Dunn. 2017. Contaminant removal by native mussels in the Mississippi River: an ecosystem service? Invited paper presented at the 38th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Minneapolis, MN, November 12-16, 2017.
- Cope, W. G. 2017. Sensitivity of freshwater mollusks to Hydrilla-targeting herbicides. **Invited paper** presented at the Conference on Aquatic Invasive Species in the Southeastern United States, Raleigh, NC, October 4-5, 2017.
- Joyner, S. L., W. G. Cope, C. E. LePrevost, J. F. Storm, and R. Tutor-Marcom. 2017. Expansion of the AgriSafe-Certified Safe Farm Program in North Carolina: lessons learned and future opportunities. International Society for Agricultural Safety and Health, Logan, UT, June 25-29, 2017.
- Cope, W. G., T. Augspurger, R. B. Bringolf, P. L. Gillis, T. J. Newton, and N. Wang. 2017. An overview of the sensitivity of freshwater mussels to aquatic contaminants. **Invited paper** presented at the Society for Freshwater Science Annual Meeting, Raleigh, NC, June 4-8, 2017.
- Newton, T. J., W. G. Cope, P. A. Morrison, and C. A. Vaughn. 2017. A national strategy for the conservation of native freshwater mollusks: A blueprint for the future. **Invited paper** presented at the Society for Freshwater Science Annual Meeting, Raleigh, NC, June 4-8, 2017.

- Engman, A. C., T. J. Kwak, J. R. Fischer, and **W. G. Cope**. 2017. The ecological role of amphidromous fish recruitment in Caribbean freshwater-marine ecotones. Society for Freshwater Science Annual Meeting, Raleigh, NC, June 4-8, 2017.
- Cope, W. G.** 2017. Advances in freshwater mollusk research: Perspectives on practice, regulation, and emerging needs. **Invited Plenary Presentation** presented at the 10th Biennial Symposium of the Freshwater Mollusk Conservation Society, Cleveland, OH, March 26-30, 2017.
- Archambault, J. M., **W. G. Cope**, T. J. Newton, and H. L. Dunn. 2017. Valuing pollutant removal by unionoid mussels as an ecosystem service. 10th Biennial Symposium of the Freshwater Mollusk Conservation Society, Cleveland, OH, March 26-30, 2017.
- Popp, A., **W. G. Cope**, M. McGregor, L. Koch, T. J. Kwak, T. Augspurger, and J. F. Levine. 2017. Is juvenile mussel chemical sensitivity influenced by propagation method and age? A comparison of *in vitro* and *in vivo* propagated juveniles. 10th Biennial Symposium of the Freshwater Mollusk Conservation Society, Cleveland, OH, March 26-30, 2017.
- Penland, T. N., C. A. Grieshaber, T. J. Kwak, **W. G. Cope**, R. J. Heise, and F. W. Sessions. 2017. Contaminant dynamics in the food web of a large southeastern regulated river: Implications for common and imperiled species. American Fisheries Society North Carolina Chapter Annual Meeting, New Bern, NC, February 14-16, 2017.
- Popp, A., **W. G. Cope**, M. McGregor, L. Koch, T. J. Kwak, T. Augspurger, and J. F. Levine. 2017. A comparison of *in vitro* and *in vivo* propagated juvenile mussels: Do propagation method and age influence juvenile chemical sensitivity? American Fisheries Society North Carolina Chapter Annual Meeting, New Bern, NC, February 14-16, 2017.
- Grieshaber, C. A., T. N. Penland, T. J. Kwak, **W. G. Cope**, R. J. Heise, F. W. Sessions, J. R. Fischer, J. M. Law, and D. Shea. 2017. Intersex, contaminants, and fish in a regulated, southeastern river. American Fisheries Society North Carolina Chapter Annual Meeting, New Bern, NC, February 14-16, 2017.
- Penland, T. N., C. A. Grieshaber, T. J. Kwak, **W. G. Cope**, R. J. Heise, and F. W. Sessions. 2017. Food web structure and contaminant trophodynamics of an Atlantic drainage large river system. American Fisheries Society Southern Division Annual Meeting, Oklahoma City, OK, February 2-5, 2017.
- Popp, A., **W. G. Cope**, M. McGregor, L. Koch, T. J. Kwak, T. Augspurger, and J. F. Levine. 2016. Does mussel culture propagation method influence juvenile chemical sensitivity? **Invited paper** presented at the 37th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC) and the 7th SETAC World Congress, Orlando, FL, November 5-10, 2016.
- Grieshaber, C. A., T. N. Penland, T. J. Kwak, **W. G. Cope**, R. J. Heise, F. W. Sessions, J. R. Fischer, J. M. Law, and D. Shea. 2016. Relation of intersex and fish health to contaminants in riverine fishes. Presented in the *Best Student Paper Symposium* at the 146th American Fisheries Society Annual Meeting, Kansas City, MO, August 21-25, 2016. **Winner of the American Fisheries Society and Sea Grant Best Student Paper Award.**
- Engman, A. C., T. J. Kwak, J. R. Fischer, and **W. G. Cope**. 2016. A half-moonlight feast: trophic function of postlarval amphidromous goby recruitment in Caribbean freshwater-marine ecotones. Presented in the *Best Student Paper Symposium* at the 146th American Fisheries Society Annual Meeting, Kansas City, MO, August 21-25, 2016.
- Penland, T. N., C. A. Grieshaber, T. J. Kwak, **W. G. Cope**, R. J. Heise, and F. W. Sessions. 2016. Food web structure and contaminant trophodynamics of a freshwater riverine system: implications for an imperiled sucker species. 146th American Fisheries Society Annual Meeting, Kansas City, MO, August 21-25, 2016.
- Kwak, T. J., H. J. Flowers, J. R. Fischer, **W. G. Cope**, J. M. Rash, and D. A. Besler. 2016. Behavior and survival of stocked trout in southern Appalachian mountain streams. 146th American Fisheries Society Annual Meeting, Kansas City, MO, August 21-25, 2016.
- Popp, A., **W. G. Cope**, M. McGregor, L. Koch, T. J. Kwak, T. Augspurger, and J. F. Levine. 2016. Assessing the relative chemical sensitivity of juvenile freshwater mussels from two culture methods. 146th American Fisheries Society Annual Meeting, Kansas City, MO, August 21-25, 2016.

- Kwak, T. J., W. G. Cope, T. J. Pandolfo, J. M. Archambault, and C. A. Drew. 2016. Breaking traditional barriers to model climate change and land use impacts on freshwater mussels. **Invited paper** presented at the 7th World Fisheries Congress, Busan, South Korea, May 23-27, 2016.
- Augspurger, T., N. Wang, C. Ingersoll, **W. G. Cope**, and C. Barnhart. 2016. A decade of progress on freshwater mussel toxicity testing and opportunities for further advancement. 26th Society of Environmental Toxicology and Chemistry Europe Meeting, Nantes, France, May 22-26, 2016.
- Auell, S. M., R. J. Richardson, **W. G. Cope**, and S. T. Hoyle. 2016. Treating *Hydrilla* with fluridone in a lotic system: responses of target and non-target species. Joint Meeting of the North Carolina and Virginia Chapters of the American Fisheries Society, Danville, VA, March 15-17, 2016.
- Flowers, H. J., T. J. Kwak, J. R. Fischer, **W. G. Cope**, J. M. Rash, and D. A. Besler. 2016. Behavior and survival of stocked trout in southern Appalachian mountain streams. Joint Meeting of the North Carolina and Virginia Chapters of the American Fisheries Society, Danville, VA, March 15-17, 2016.
- Gray, K. M., **W. G. Cope**, C. E. LePrevost, K. May, and K. Linehan. 2016. Subsistence anglers and other at-risk consumers of freshwater fish: tools for communicating consumption advisories. Joint Meeting of the North Carolina and Virginia Chapters of the American Fisheries Society, Danville, VA, March 15-17, 2016.
- Fischer, J. R., T. J. Kwak, H. J. Flowers, **W. G. Cope**, J. M. Rash, and D. A. Besler. 2016. Condition, diet, and trophic relations of stocked trout in southern Appalachian mountain streams. Joint Meeting of the North Carolina and Virginia Chapters of the American Fisheries Society, Danville, VA, March 15-17, 2016.
- Popp, A., **W. G. Cope**, M. McGregor, L. Koch, T. J. Kwak, T. Augspurger, and J. F. Levine. 2016. Assessing the influence of propagation and culture methods on juvenile mussel chemical sensitivity: implications for conservation. Joint Meeting of the North Carolina and Virginia Chapters of the American Fisheries Society, Danville, VA, March 15-17, 2016.
- Archambault, J. M., C. M. Bergeron, **W. G. Cope**, P. R. Lazaro, J. A. Leonard, and D. Shea. 2016. Assessing the toxicity of the Clinch River Basin sediment load to the endangered freshwater mussel *Epioblasma brevidens* (Cumberlandian combshell). Joint Meeting of the North Carolina and Virginia Chapters of the American Fisheries Society, Danville, VA, March 15-17, 2016.
Winner of the W. Don Baker Memorial Award for the Best Platform Presentation by a Professional Member.
- Buczek, S. B., **W. G. Cope**, and R. A. McLaughlin. 2016. Effects of turbidity, sediment, and polyacrylamide, on freshwater mussels. **Invited paper** presented at the North Carolina Soil Science Society Annual Conference, Raleigh, NC, January 19-20, 2016.
- Buczek, S. B., **W. G. Cope**, R. A. McLaughlin, and T. J. Kwak. 2015. Minimizing transportation related impacts to native freshwater mussels: a look at the toxicity of polyacrylamide and turbidity. 8th Biennial International Conference on Ecology & Transportation, Raleigh, NC, September 20-24, 2015.
- Rogers, J., W. Henley, A. Graumann, J. W. Jones, and **W. G. Cope**. 2015. Assessing sublethal effects of chloride and potassium on adult rainbow mussels *Villosa iris* using histological evaluations of vital organs. 145th Annual Meeting of the American Fisheries Society, Portland, OR, August 16-20, 2015.
- Lee Pow, C., **W. G. Cope**, D. D. Aday, J. A. Rice, T. J. Kwak, J. M. Law, and S. W. Kullman. 2015. Estrogenic contaminant concentrations and the incidence of intersex in centrarchid fishes: landscape-level relationships in North Carolina. 145th Annual Meeting of the American Fisheries Society, Portland, OR, August 16-20, 2015.
- Fischer, J. R., T. J. Kwak, H. J. Flowers, **W. G. Cope**, J. M. Rash, and D. A. Besler. 2015. Condition, diet, and trophic relations of stocked trout in Appalachian streams. 145th Annual Meeting of the American Fisheries Society, Portland, OR, August 16-20, 2015.
- Bergeron, C. M., J. M. Archambault, **W. G. Cope**, P. R. Lazaro, J. W. Jones, B. Beaty, D. Shea, T. J. Kwak, B. Evans, and S. Alexander. 2015. The influence of sediment and water quality stressors on the unexplained decline of freshwater mussels in the Clinch

River. Annual Meeting of the Chesapeake Potomac Regional Chapter of the Society of Environmental Toxicology and Chemistry, Columbia, MD, April 24, 2015.

Popp, A., **W. G. Cope**, M. McGregor, C. Owen, L. Koch, A. Velasco, C. Ingersoll, N. Wang, T. J. Kwak, and D. Shea. 2015. Advancing the tools of freshwater mussel conservation: determining the relative chemical sensitivity of in vitro and in vivo propagated juvenile mussels. 9th Biennial Symposium of the Freshwater Mollusk Conservation Society, St. Charles, MO, March 22-26, 2015.

Pandolfo, T. J., T. J. Kwak, **W. G. Cope**, R. J. Heise, R. B. Nichols, and K. Pacifici. 2015. Biotic and abiotic influences on the occurrence and detection of freshwater mussels at multiple scales. 9th Biennial Symposium of the Freshwater Mollusk Conservation Society, St. Charles, MO, March 22-26, 2015.

Newton, T. J., and **W. G. Cope**. 2015. The Freshwater Mollusk Conservation Society: perspectives on its beginning, near-term, and future. **Invited paper** presented at the 9th Biennial Symposium of the Freshwater Mollusk Conservation Society, St. Charles, MO, March 22-26, 2015.

Cope, W. G., H. L. Dunn, and D. L. Waller. 2015. An evaluation of mussel relocation as a conservation strategy: 25 years revisited. **Invited paper** presented at the 9th Biennial Symposium of the Freshwater Mollusk Conservation Society, St. Charles, MO, March 22-26, 2015.

Cope, W. G., T. Augspurger, R. B. Bringolf, E. Hammer, C. G. Ingersoll, T. J. Newton, and N. Wang. 2015. Advances in molluscan toxicology over the past 25 years: the importance of people, places, and perspectives. **Invited paper** presented at the 9th Biennial Symposium of the Freshwater Mollusk Conservation Society, St. Charles, MO, March 22-26, 2015.

Buczek, S. B., **W. G. Cope**, R. A. McLaughlin, and T. J. Kwak. 2015. Turbidity control in aquatic systems with polyacrylamide: assessing differences in formulation and resulting toxicity to native freshwater mussels. 9th Biennial Symposium of the Freshwater Mollusk Conservation Society, St. Charles, MO, March 22-26, 2015.

Bergeron, C. M., J. M. Archambault, **W. G. Cope**, P. R. Lazaro, J. W. Jones, B. Beaty, D. Shea, T. J. Kwak, B. Evans, and S. Alexander. 2015. Water and sediment quality stressors and unexplained declines of freshwater mussels in the Clinch River. 9th Biennial Symposium of the Freshwater Mollusk Conservation Society, St. Charles, MO, March 22-26, 2015.

Archambault, J. M., C. M. Bergeron, **W. G. Cope**, R. Richardson, M. Heilman, J. E. Corey, M. D. Netherland, and R. J. Heise. 2015. Consideration of the effects of herbicides on non-target species in management of invasive aquatic weeds. 9th Biennial Symposium of the Freshwater Mollusk Conservation Society, St. Charles, MO, March 22-26, 2015.

Archambault, J. M., C. M. Bergeron, **W. G. Cope**, P. R. Lazaro, J. A. Leonard, and D. Shea. 2015. Assessing the toxicity of recently-deposited sediments of the Clinch River watershed to juvenile freshwater mussels. 9th Biennial Symposium of the Freshwater Mollusk Conservation Society, St. Charles, MO, March 22-26, 2015.

Grieshaber, C., T. Penland, T. J. Kwak, **W. G. Cope**, R. J. Heise, F. Sessions, J. R. Fischer, J. A. Leonard, C. Lee Pow, J. M. Archambault, F. Weber, D. Shea, J. M. Law, J. A. Rice, S. W. Kullman, and D. D. Aday. 2015. Water quality and intersex fish in the Yadkin-Pee Dee River. Presented at the Annual Meeting of the American Fisheries Society North Carolina Chapter, Carolina Beach, NC, February 24-25, 2015.

Buczek, S. B., **W. G. Cope**, R. A. McLaughlin, and T. J. Kwak. 2015. Controlling turbidity in streams: assessing polyacrylamide toxicity to native freshwater mussels. Presented at the Annual Meeting of the American Fisheries Society North Carolina Chapter, Carolina Beach, NC, February 24-25, 2015.

Lee Pow, C., **W. G. Cope**, D. D. Aday, J. A. Rice, T. J. Kwak, J. M. Law, and S. W. Kullman. 2015. Relating the incidence of intersex in centrarchid fishes to estrogenic contaminant concentrations across North Carolina. Presented at the Annual Meeting of the American Fisheries Society North Carolina Chapter, Carolina Beach, NC, February 24-25, 2015. **Winner of the Richard L. Noble Award for the Best Platform Presentation by a Student Member.**

- Buczek, S. B., W. G. Cope, and R. A. McLaughlin. 2015. Is treating runoff turbidity with polyacrylamide an issue? A freshwater mussels' point of view. **Invited paper** presented at the 58th Annual Meeting of the Soil Science Society of North Carolina, Raleigh, NC, January 20-21, 2015.
- Lee Pow, C., W. G. Cope, D. D. Aday, J. A. Rice, T. J. Kwak, J. M. Law, and S. W. Kullman. 2014. Relationships between estrogenic contaminant concentrations and incidence of intersex in centrarchid fishes across North Carolina. 35th Society of Environmental Toxicology and Chemistry North America Meeting, Vancouver, BC, Canada, November 9-13, 2014.
- Buczek, S. B., W. G. Cope, and R. A. McLaughlin. 2014. Polyacrylamide toxicity to native freshwater mussels. **Invited paper** presented at the International Erosion Control Association Conference, Charlotte, NC, August 18-19, 2014.
- Cope, W. G., J. M. Archambault, C. M. Bergeron, R. Richardson, M. Heilman, J. E. Corey, M. D. Netherland, and R. J. Heise. 2014. Providing context for invasive aquatic weed control in diverse ecosystems: sensitivity of freshwater mollusks to hydrilla-targeting herbicides. Presented at the 54th Annual Meeting of the Aquatic Plant Management Society, Savannah, GA, July 13-16, 2014.
- Archambault, J. M., C. M. Bergeron, W. G. Cope, R. Richardson, M. Heilman, J. E. Corey, M. D. Netherland, and R. J. Heise. 2014. Sensitivity of freshwater mollusks to hydrilla-targeting herbicides. Presented at the Annual Meeting of the American Fisheries Society North Carolina Chapter, Durham, NC, February 18-19, 2014. **Winner of the W. Don Baker Memorial Award for the Best Platform Presentation by a Professional Member.**
- Leonard, J. A., W. G. Cope, M. C. Barnhart, and R. B. Bringolf. 2013. Using traditional and emerging toxicity endpoints to assess endocrine disruption in freshwater mussels when exposed to the synthetic estrogen 17 α -ethinylestradiol. **Invited paper** presented at the 34th Society of Environmental Toxicology and Chemistry North America Meeting, Nashville, TN, November 16-21, 2013.
- Archambault, J. M., W. G. Cope, and T. J. Kwak. 2013. Closer to reality: incorporating components of the benthos in lethal and sublethal experiments of thermal sensitivity in freshwater mussels. **Invited paper** presented at the 34th Society of Environmental Toxicology and Chemistry North America Meeting, Nashville, TN, November 16-21, 2013.
- Bringolf, R. B., A. C. Fritts, M. C. Barnhart, and W. G. Cope. 2013. Glochidia toxicity testing: the viability endpoint and standardizing test duration. **Invited paper** presented at the 34th Society of Environmental Toxicology and Chemistry North America Meeting, Nashville, TN, November 16-21, 2013.
- Bergeron, C. M., M. Johnson, A. White, J. Rogers, P. R. Lazaro, J. W. Jones, B. Beaty, B. Evans, S. Alexander, and W. G. Cope. 2013. Relation of contaminants in sediment and water to unexplained declines of freshwater mussels in the Clinch River. 34th Society of Environmental Toxicology and Chemistry North America Meeting, Nashville, TN, November 16-21, 2013.
- Leonard, J. A., W. G. Cope, M. C. Barnhart, and R. B. Bringolf. 2013. Disrupting the steroid hormone cascade: effects of the aromatase inhibitor fadrozole hydrochloride on the unionid mussel *Lampsilis fasciola*. 34th Society of Environmental Toxicology and Chemistry North America Meeting, Nashville, TN, November 16-21, 2013.
- Rogers, J., W. Henley, A. Graumann, J. W. Jones, and W. G. Cope. 2013. Assessing the sublethal effects of chloride, potassium, and ammonia on adult *Villosa iris* using histological evaluations of vital organs. 34th Society of Environmental Toxicology and Chemistry North America Meeting, Nashville, TN, November 16-21, 2013.
- Lee Pow, C., W. G. Cope, D. D. Aday, J. A. Rice, T. J. Kwak, J. M. Law, and S. W. Kullman. 2013. Statewide assessment of estrogenic contaminants and intersex in North Carolina streams and rivers. 34th Society of Environmental Toxicology and Chemistry North America Meeting, Nashville, TN, November 16-21, 2013.
- Leonard, J. A., W. G. Cope, M. C. Barnhart, and R. B. Bringolf. 2013. Disrupting the steroid hormone cascade: effects of the aromatase inhibitor fadrozole hydrochloride on the unionid mussel *Lampsilis fasciola*. 8th Biennial Symposium of the Freshwater Mollusk Conservation Society, Guntersville, AL, March 10-14, 2013.

- Archambault, J. M., W. G. Cope, and T. J. Kwak. 2013. Thermal sensitivity of freshwater mussels: incorporating benthic ecology into laboratory mesocosm experiments. 8th Biennial Symposium of the Freshwater Mollusk Conservation Society, Guntersville, AL, March 10-14, 2013.
- Rogers, J., W. Henley, A. Graumann, J. W. Jones, and W. G. Cope. 2013. Assessing the sublethal effects of chloride on adult *Villosa iris* using histological evaluations. 8th Biennial Symposium of the Freshwater Mollusk Conservation Society, Guntersville, AL, March 10-14, 2013.
- Archambault, J. M., W. G. Cope, and T. J. Kwak. 2013. Burrowing, byssus, and biomarkers: behavioral and physiological indicators of sublethal thermal stress in freshwater mussels. 8th Biennial Symposium of the Freshwater Mollusk Conservation Society, Guntersville, AL, March 10-14, 2013.
- Leonard, J. A., W. G. Cope, M. C. Barnhart, and R. B. Bringolf. 2013. Assessing acute and chronic biochemical and reproductive effects of the synthetic estrogen 17 α -ethinylestradiol on the unionid mussel *Elliptio complanata*. 8th Biennial Symposium of the Freshwater Mollusk Conservation Society, Guntersville, AL, March 10-14, 2013.
- Leonard, J. A., W. G. Cope, M. C. Barnhart, and R. B. Bringolf. 2013. Metabolomic, behavioral, and reproductive effects of the synthetic estrogen 17 α -ethinylestradiol on the unionid mussel *Lampsilis fasciola*. 8th Biennial Symposium of the Freshwater Mollusk Conservation Society, Guntersville, AL, March 10-14, 2013.
- Bringolf, R. B., A. C. Fritts, M. C. Barnhart, and W. G. Cope. 2013. Is glochidia viability indicative of infectivity, the ability to attach and metamorphose? 8th Biennial Symposium of the Freshwater Mollusk Conservation Society, Guntersville, AL, March 10-14, 2013.
- Bergeron, C. M., M. Johnson, A. White, J. Rogers, P. R. Lazaro, J. W. Jones, B. Beaty, B. Evans, S. Alexander, and W. G. Cope. 2013. Recent precipitous declines of freshwater mussels in the Clinch River: influence of sediment and water quality stressors. 8th Biennial Symposium of the Freshwater Mollusk Conservation Society, Guntersville, AL, March 10-14, 2013.
- Pandolfo, T. J., T. J. Kwak, W. G. Cope, R. J. Heise, and R. B. Nichols. 2013. Modeling environmental effects on the occupancy of common and imperiled freshwater mussels at multiple spatial scales. 8th Biennial Symposium of the Freshwater Mollusk Conservation Society, Guntersville, AL, March 10-14, 2013.
- Archambault, J. M., W. G. Cope, and T. J. Kwak. 2013. Burrowing, byssus, and biomarkers: behavioral and physiological indicators of sublethal thermal stress in freshwater mussels. Annual Meeting of the Carolinas Chapter of the Society of Environmental Toxicology and Chemistry, Raleigh, NC, March 7-9, 2013.
- Leonard, J. A., W. G. Cope, M. C. Barnhart, and R. B. Bringolf. 2013. Linking classical and emerging toxicity endpoints to assess the effects of 17-alpha-ethinylestradiol on native freshwater mussels. Annual Meeting of the Carolinas Chapter of the Society of Environmental Toxicology and Chemistry, Raleigh, NC, March 7-9, 2013.
- Archambault, J. M., W. G. Cope, and T. J. Kwak. 2013. Changes in burrowing behavior and byssus production indicate sublethal thermal stress in freshwater mussels. Annual Meeting of the North Carolina Chapter of the American Fisheries Society, Burlington, NC, February 26-27, 2013.
- Cope, W. G., D. K. Sackett, D. D. Aday, and J. A. Rice. 2012. Dynamics and modeling of fish mercury in North Carolina waters. **Invited paper** presented at the Annual Meeting of the North Carolina Chapter of the North American Lake Management Society, Charlotte, NC, October 4, 2012.
- Archambault, J. M., W. G. Cope, and T. J. Kwak. 2012. Ecological relevance in freshwater mussel thermal tolerance tests: implications for climate change. **Selected for presentation in the Best Student Platform Symposium.** 142nd Annual Meeting of the American Fisheries Society, St. Paul, MN, August 19-23, 2012.
- Pandolfo, T. J., T. J. Kwak, and W. G. Cope. 2012. Thermal tolerances of freshwater mussels and their host fishes: species interactions in a changing climate. **Selected for presentation in the Best Student Platform Symposium; awarded Honorable Mention.** 142nd Annual Meeting of the American Fisheries Society, St. Paul, MN, August 19-23, 2012.

- Sackett, D. K., M. Rubino, C. Lee-Pow, M. Law, D. D. Aday, **W. G. Cope**, S. Kullman, J. A. Rice, and T. J. Kwak. 2012. Measuring sources of endocrine disrupting compounds in North Carolina waterways: a GIS-based sampling approach for studies of intersex fish. 142nd Annual Meeting of the American Fisheries Society, St. Paul, MN, August 19-23, 2012.
- Drew, C. A., T. J. Kwak, **W. G. Cope**, T. Augspurger, S. McRae, and T. J. Pandolfo. 2012. Building strategic habitat conservation tools for freshwater mussel recovery: use of hierarchical landscape models. Society for Conservation Biology North American Congress, Oakland, CA, July 15-18, 2012.
- Kwak, T. J., **W. G. Cope**, T. J. Newton, J. D. Bales, J. A. Daraio, C. A. Drew, T. J. Pandolfo, J. M. Archambault, A. M. Ganser, R. J. Heise, R. B. Nichols, T. Augspurger, and B. N. Karns. 2012. Breaking traditional barriers to model climate change and land use impacts on freshwater mussels. **Invited paper** presented at the 8th Biennial Workshop of the Freshwater Mollusk Conservation Society, Athens, GA, April 19-20, 2012.
- Drew, C. A., T. J. Kwak, **W. G. Cope**, T. Augspurger, S. McRae, and T. J. Pandolfo. 2012. Hierarchical landscape models for endemic unionid mussels: building strategic habitat conservation tools for mussel recovery. **Invited paper** presented at the Annual Symposium of the International Association for Landscape Ecology, Newport, RI, April 8-12, 2012.
- LePrevost, C. E., M. R. Blanchard, and **W. G. Cope**. 2012. Characterizing farmworker pesticide educators in a southeastern state: an examination of informal science educator's beliefs about teaching, pesticides, and self. Annual Meeting of the National Association for Research in Science Teaching, Indianapolis, IN, March 25-28, 2012.
- Leonard, J. A., **W. G. Cope**, M. C. Barnhart, and R. B. Bringolf. 2012. Biochemical and reproductive effects of the synthetic estrogen 17- α -ethinylestradiol on the unionid freshwater mussel *Lampsilis fasciola*. Annual Meeting of the North Carolina Chapter of the American Fisheries Society, Raleigh, NC, February 28-29, 2012.
- Archambault, J. M., **W. G. Cope**, and T. J. Kwak. 2012. Enhancing relevance to climate change in freshwater mussel thermal tolerance tests. Annual Meeting of the North Carolina Chapter of the American Fisheries Society, Raleigh, NC, February 28-29, 2012.
- Pandolfo, T. J., T. J. Kwak, and **W. G. Cope**. 2012. Thermal tolerances of freshwater mussels and their host fishes: species interactions in a changing climate. Annual Meeting of the North Carolina Chapter of the American Fisheries Society, Raleigh, NC, February 28-29, 2012.
- Archambault, J. M., **W. G. Cope**, T. J. Kwak, and T. J. Pandolfo. 2011. Enhanced ecological relevance in laboratory tests to determine thermal tolerance of juvenile freshwater mussels in sediment. **Invited paper** presented at the 3rd Thermal Ecology and Regulation Symposium, Minneapolis, MN, October 11-12, 2011.
- Pandolfo, T. J., T. J. Kwak, **W. G. Cope**, R. J. Heise, and R. B. Nichols. 2011. Microhabitat suitability of common and imperiled Atlantic Slope freshwater mussels. 141st Annual Meeting of the American Fisheries Society, Seattle, WA, September 4-8, 2011.
- Buttermore, E. N., T. J. Kwak, **W. G. Cope**, P. B. Cooney, P. R. Lazaro, and D. Shea. 2011. Contaminants and trophic dynamics in tropical island stream ecosystems. 141st Annual Meeting of the American Fisheries Society, Seattle, WA, September 4-8, 2011.
- Sackett, D. K., D. D. Aday, J. A. Rice, and **W. G. Cope**. 2011. Exploring the influence of fish body size on tissue mercury dynamics: implications for natural resource management and human health risk. 141st Annual Meeting of the American Fisheries Society, Seattle, WA, September 4-8, 2011.
- Leonard, J. A., **W. G. Cope**, M. C. Barnhart, and R. B. Bringolf. 2011. Using metabolomics to investigate endocrine stress in *Elliptio complanata* and other freshwater mussel species. 7th Biennial Symposium of the Freshwater Mollusk Conservation Society, Louisville, KY, April 11-15, 2011.
- Pandolfo, T. J., T. J. Kwak, **W. G. Cope**, R. J. Heise, and R. B. Nichols. 2011. Modeling effects of climate and land use changes on common and imperiled freshwater mussel occurrence in the Tar River Basin, North Carolina. 7th Biennial Symposium of the Freshwater Mollusk Conservation Society, Louisville, KY, April 11-15, 2011.

- Archambault, J. M., W. G. Cope, T. J. Kwak, and T. J. Pandolfo. 2011. Development of laboratory tests to determine thermal tolerance of juvenile freshwater mussels in sediment. 7th Biennial Symposium of the Freshwater Mollusk Conservation Society, Louisville, KY, April 11-15, 2011.
- Bringolf, R. B., A. C. Fritts, M. C. Barnhart, and W. G. Cope. 2011. Is glochidia viability accurately determined by NaCl exposure? 7th Biennial Symposium of the Freshwater Mollusk Conservation Society, Louisville, KY, April 11-15, 2011.
- LePrevost, C. E., M. R. Blanchard, and W. G. Cope. 2011. Quantifying informal science educator's beliefs about pesticide risk: development of the pesticide risk belief inventory. Annual Meeting of the National Association for Research in Science Teaching, Orlando, FL, April 3-6, 2011.
- Cope, W. G., T. J. Kwak, N. C. Oakley, F. M. Holliman, R. B. Bringolf, and K. J. Dockendorf. 2011. Recovery of shortnose sturgeon and American shad in the Roanoke River: water quality implications. Annual Meeting of the North Carolina Chapter of the American Fisheries Society, Charlotte, NC, February 22-23, 2011.
- Buttermore, E. N., T. J. Kwak, W. G. Cope, P. B. Cooney, D. Shea, and P. R. Lazaro. 2011. Contaminants and food web dynamics in Puerto Rico stream ecosystems. Annual Meeting of the North Carolina Chapter of the American Fisheries Society, Charlotte, NC, February 22-23, 2011.
- Kwak, T. J., P. B. Cooney, E. N. Buttermore, W. G. Cope, P. R. Lazaro, D. Shea, and C. G. Lilyestrom. 2011. Urbanization impacts in tropical stream ecosystems: fish, habitat, and contaminants in Puerto Rico. **Invited paper** presented at the Annual Meeting of the American Society of Limnology and Oceanography, San Juan, PR, February 13-18, 2011.
- Buttermore, E. N., W. G. Cope, T. J. Kwak, P. B. Cooney, D. Shea, and P. R. Lazaro. 2010. Contaminants in stream ecosystems of Puerto Rico. 31st Annual Meeting of the Society of Environmental Toxicology and Chemistry, Portland, OR, November 7-11, 2010.
- Bringolf, R. B., A. C. Fritts, W. G. Cope, and M. C. Barnhart. 2010. What is the appropriate duration for toxicity tests with glochidia? **Invited paper** presented at the 31st Annual Meeting of the Society of Environmental Toxicology and Chemistry, Portland, OR, November 7-11, 2010.
- Buttermore, E. N., T. J. Kwak, P. B. Cooney, D. Shea, P. R. Lazaro, and W. G. Cope. 2010. Recreational and subsistence stream fisheries of Puerto Rico: Are there contaminant concerns? 140th Annual Meeting of the American Fisheries Society, Pittsburgh, PA, September 12-16, 2010.
- Sackett, D. K., D. D. Aday, J. A. Rice, and W. G. Cope. 2010. Evaluating mercury contamination in fish: a multi-model approach. 3rd USGS Modeling Conference, Denver, CO, June 7-11, 2010.
- Cope, W. G. 2010. The effects of transportation-related pollutants in road runoff on native freshwater mussels. **Invited paper** presented at the 2nd Symposium of the Clinch-Powell Clean Rivers Initiative, Abingdon, VA, May 25-26, 2010.
- LePrevost, C. E., J. F. Storm, M. R. Blanchard, C. R. Asuaje, K. G. Harris, and W. G. Cope. 2010. The pesticides and farmworker health toolkit: a crop-specific, interactive educational package. Annual Meeting of the Priester National Extension Health Conference, Mobile, AL, April 20-22, 2010.
- Hazelton, P. D., W. G. Cope, M. C. Barnhart, and R. B. Bringolf. 2010. Effects of PFOS on early life stages of freshwater mussels. Joint Meeting of the Society of Environmental Toxicology and Chemistry Carolinas and Southeast Chapters, Athens, GA, March 25-27, 2010. **Winner of the Best Student Platform Presentation.**
- LePrevost, C. E., M. R. Blanchard, J. F. Storm, C. R. Asuaje, and W. G. Cope. 2010. The importance of visual materials for educating Latino farmworkers about pesticide risks. Annual Meeting of the National Association for Research in Science Teaching, Philadelphia, PA, March 20-24, 2010.
- Heise, R. J., W. G. Cope, T. J. Kwak, and C. B. Eads. 2010. Techniques for restoring imperiled aquatic species: assessing the effects of dam removal on a freshwater mussel assemblage. **Invited paper** presented at the Annual Meeting of the American Fisheries

Society Southern Division, Asheville, NC, February 25-28, 2010. **Winner of the W. Don Baker Memorial Award for the Best Platform Presentation by a Professional Member.**

Kwak, T. J., W. G. Cope, and R. J. Heise. 2010. Habitat suitability of the endangered Cape Fear shiner: implications for species recovery. **Invited paper** presented at the Annual Meeting of the American Fisheries Society Southern Division, Asheville, NC, February 25-28, 2010.

Buttermore, E. N., T. J. Kwak, W. G. Cope, P. B. Cooney, D. Shea, and P. R. Lazaro. 2010. Contaminants in stream ecosystems of Puerto Rico: implications for recreational and subsistence fisheries. Annual Meeting of the American Fisheries Society Southern Division, Asheville, NC, February 25-28, 2010.

Tutor, R. P., J. F. Storm, S. Brown-Singleton, E. J. Jones, B. Spivey, K. Wooten, B. Kirk, K. J. Donham, L. Grafft, N. Roy, and W. G. Cope. 2010. Putting research into practice: adapting and implementing the AgriSafe and Certified Safe Farm programs to the diverse agriculture of North Carolina. Annual Meeting of the Agricultural Safety and Health Council of America, Dallas, TX, January 27-28, 2010.

LePrevost, C. E., J. F. Storm, M. R. Blanchard, C. R. Asuaje, K. G. Harris, and W. G. Cope. 2010. Development of visual and interactive materials for educating Latino farmworkers about pesticide risks. Annual Meeting of the Agricultural Safety and Health Council of America, Dallas, TX, January 27-28, 2010.

Hazelton, P. D., W. G. Cope, M. C. Barnhart, and R. B. Bringolf. 2010. Effects of PFOS on early life stages of freshwater mussels. Annual Meeting of the American Fisheries Society Georgia Chapter, Perry, GA, January 26-27, 2010.

Hazelton, P. D., W. G. Cope, Q. Huang, and R. B. Bringolf. 2009. Sublethal effects of PFOS on early life stages of freshwater mussels. 30th Annual Meeting of the Society of Environmental Toxicology and Chemistry, New Orleans, LA, November 19-23, 2009.

Sackett, D. K., D. D. Aday, J. A. Rice, W. G. Cope, and D. B. Buchwalter. 2009. Fish tissue mercury responses to distance from coal-fired power plants: does local point source contamination matter? 139th Annual Meeting of the American Fisheries Society, Nashville, TN, August 30-September 3, 2009.

LePrevost, C. E., M. R. Blanchard, J. F. Storm, C. R. Asuaje, K. G. Harris, and W. G. Cope. 2009. Development of visual and interactive materials for educating Latino farmworkers about pesticide risks. North American Pesticide Applicator Certification and Safety Education Meeting, Charleston, SC, August 11-13, 2009.

Hazelton, P. D., W. G. Cope, M. C. Barnhart, and R. B. Bringolf. 2009. Evaluating the effects of emerging contaminants on reproduction in fatmucket (*Lampsilis siliquoidea*). 6th Biennial Symposium of the Freshwater Mollusk Conservation Society, Baltimore, MD, April 19-24, 2009.

Pandolfo, T. J., W. G. Cope, R. B. Bringolf, and M. C. Barnhart. 2009. Beating the heat: upper thermal tolerances of the early life stages of freshwater mussels. 6th Biennial Symposium of the Freshwater Mollusk Conservation Society, Baltimore, MD, April 19-24, 2009.

Mays, J. W., W. G. Cope, T. J. Kwak, and D. Shea. 2009. Bioaccumulation of platinum group metals in the freshwater mussel *Elliptio complanata*. 6th Biennial Symposium of the Freshwater Mollusk Conservation Society, Baltimore, MD, April 19-24, 2009. **Winner of the Best Student Platform Presentation.**

Mosher, S., and W. G. Cope. 2009. Na⁺,K⁺-ATPase activity as a biomarker of lead exposure in freshwater mussels. 6th Biennial Symposium of the Freshwater Mollusk Conservation Society, Baltimore, MD, April 19-24, 2009.

Newton, T. J., and W. G. Cope. 2009. Biological responses of unionid mussels to environmental contaminants. **Invited Plenary Paper** presented at the 17th Annual Meeting of the Society of Environmental Toxicology and Chemistry Midwest Chapter, La Crosse, WI, March 30-April 1, 2009.

- Pandolfo, T. J., and W. G. Cope. 2009. Implications of temperature sensitivities for managing native mussel populations and their host fishes. **Invited Short Course Presentation** at the Annual Meeting of the North Carolina Chapter American Fisheries Society, Burlington, NC, February 23-25, 2009.
- Pandolfo, T. J., W. G. Cope, R. B. Bringolf, and M. C. Barnhart. 2009. Temperature sensitivities of freshwater mussels and implications for population management. **Invited paper** presented at the 8th Annual Surface Water Monitoring and Standards Meeting, Chicago, IL, February 10-12, 2009.
- Cope, W. G., R. B. Bringolf, R. M. Heltsley, C. Eads, T. J. Newton, S. Fraley, and D. Shea. 2009. Accumulation and effects of pharmaceuticals on native freshwater mussels. **Invited paper** presented at the 8th Annual Surface Water Monitoring and Standards Meeting, Chicago, IL, February 10-12, 2009.
- Pandolfo, T. J., W. G. Cope, R. B. Bringolf, M. C. Barnhart, and C. Arellano. 2008. High and dry: effects of water temperature on early life stages of freshwater mussels and implications for drought conditions. **Invited paper** presented at the Environmental Flows—Water for People and Nature in the Southeast Conference, Athens, GA, October 27-29, 2008.
- Cope, W. G. 2008. Understanding mercury dynamics in aquatic ecosystems and its importance in protecting the health of resident biota and humans. **Invited paper** presented at the 11th Annual Meeting of the Water Resources Research Institute of North Carolina, Raleigh, NC, October 8-9, 2008.
- Sackett, D. K., D. D. Aday, J. A. Rice, and W. G. Cope. 2008. A statewide assessment of fish tissue mercury dynamics. **Invited paper** presented at the 11th Annual Meeting of the Water Resources Research Institute of North Carolina, Raleigh, NC, October 8-9, 2008.
- Sackett, D. K., D. D. Aday, J. A. Rice, and W. G. Cope. 2008. A statewide assessment of mercury dynamics in North Carolina waterbodies and fish. 138th Annual Meeting of the American Fisheries Society, Ottawa, Canada, August 17-21, 2008.
- Cope, W. G., T. J. Newton, and C. G. Ingersoll. 2008. Chemical impacts to freshwater mussels: a comparison of life stage exposure and sensitivity. **Invited paper** presented at the 22nd Annual Meeting of the Society for Conservation Biology, Chattanooga, TN, July 13-17, 2008.
- Pandolfo, T. J., W. G. Cope, R. B. Bringolf, and M. C. Barnhart. 2008. Effects of water temperature on early life stages of freshwater mussels: implications for effluent criteria and climate change. 17th Annual Meeting of the Carolinas Chapter of the Society of Environmental Toxicology and Chemistry, Morehead City, NC, April 3-5, 2008. **Winner of the Best Student Platform Presentation.**
- Mosher, S., W. G. Cope, T. J. Kwak, and D. Shea. 2008. Biomarkers of lead exposure in the freshwater mussel *Elliptio complanata* for assessing transportation related impacts. 17th Annual Meeting of the Carolinas Chapter of the Society of Environmental Toxicology and Chemistry, Morehead City, NC, April 3-5, 2008.
- Pandolfo, T. J., W. G. Cope, R. B. Bringolf, and M. C. Barnhart. 2008. Early life stage sensitivity of freshwater mussels to a range of common and extreme water temperatures. **Invited paper** presented at the 7th Annual Surface Water Monitoring and Standards Meeting, Chicago, IL, March 18-20, 2008.
- Cope, W. G., R. B. Bringolf, R. M. Heltsley, C. Eads, T. J. Newton, S. Fraley, and D. Shea. 2008. Effects of fluoxetine on freshwater mussel reproduction: relation to environmental occurrence. **Invited paper** presented at the 7th Annual Surface Water Monitoring and Standards Meeting, Chicago, IL, March 18-20, 2008.
- Cope, W. G., R. B. Bringolf, S. Mosher, P. Lazaro, C. Eads, C. Barnhart, and D. Shea. 2008. A comprehensive assessment of the hazards of current use pesticides to native freshwater mussels. **Invited paper** presented at the 7th Annual Surface Water Monitoring and Standards Meeting, Chicago, IL, March 18-20, 2008.
- Cope, W. G. 2008. Review of historic and emerging contaminants in fish. **Invited Short Course Presentation** at the Annual Meeting of the North Carolina Chapter American Fisheries Society, Greenville, NC, February 18-20, 2008.

- Newton, T. J., W. G. Cope, and C. G. Ingersoll. 2007. An overview of the sensitivity of unionid mussels to aquatic contaminants. **Invited paper** presented at the 68th Midwest Fish & Wildlife Conference, Madison, WI, December 9-12, 2007.
- Cho, Eun-ah, W. G. Cope, D. Shea, M. Matthews, and S. Mort. 2007. Assessing the toxicity of selected pharmaceuticals and personal care products (PPCPs) with *Ceriodaphnia dubia* and BioTurbTox. 13th International Symposium on River and Lake Environments, Jeju Island, South Korea, October 17-19, 2007.
- Pandolfo, T. J., W. G. Cope, R. B. Bringolf, D. B. Buchwalter, and M. C. Barnhart. 2007. Sensitivity of early life stages of freshwater mussels to a range of common and extreme water temperatures. **Invited paper** presented at the 2nd Thermal Ecology and Regulation Symposium, Denver, CO, October 2-3, 2007.
- Cope, W. G., D. Shea, and E. G. Nichols. 2007. Polycyclic aromatic hydrocarbons (PAHs): a review of factors influencing their environmental fate, bioavailability, and toxicity to freshwater mussels. **Invited paper** presented at the Coal Mining and the Aquatic Environment Symposium, Abingdon, VA, September 5-7, 2007.
- Bringolf, R. B., R. M. Heltsley, C. Eads, T. J. Newton, S. Fraley, D. Shea, and **W. G. Cope**. 2007. Effects of fluoxetine on freshwater mussel reproduction: relation to environmental occurrence. Annual Meeting of the Water Resources Research Institute of North Carolina, Raleigh, NC, March 27-28, 2007.
- Cope, W. G., A. D. Christian, R. B. Bringolf, N. Wang, T. J. Newton, J. L. Farris, T. Augspurger, F. J. Dwyer, M. C. Barnhart, R. J. Neves, E. Hammer, and C. G. Ingersoll. 2007. Freshwater mussel ecosystem ecology: the integrated functional roles of water quality, pollution, and physical habitat in supporting adult and early life stages of freshwater mussels and their role in nutrient recycling. **Invited Plenary Presentation** at the 5th Biennial Symposium of the Freshwater Mollusk Conservation Society, Little Rock, AR, March 12-15, 2007.
- Cope, W. G. 2007. Water quality and stream restoration efforts: implications for freshwater mussels. **Invited paper** presented at the 5th Biennial Symposium of the Freshwater Mollusk Conservation Society, Little Rock, AR, March 12-15, 2007.
- Prochazka, S. T., W. G. Cope, R. B. Bringolf, and L. Recio. 2007. Assessing DNA damage in hemocytes of the freshwater mussel *Elliptio complanata* with the comet assay: implications for establishing a non-lethal screening tool. 5th Biennial Symposium of the Freshwater Mollusk Conservation Society, Little Rock, AR, March 12-15, 2007.
- Pandolfo, T. J., W. G. Cope, R. B. Bringolf, D. B. Buchwalter, M. C. Barnhart, and H. L. Dunn. 2007. Sensitivity of glochidia, juvenile, and adult native freshwater mussels to a range of common and extreme water temperatures. 5th Biennial Symposium of the Freshwater Mollusk Conservation Society, Little Rock, AR, March 12-15, 2007.
- Mays, J. W., W. G. Cope, T. J. Kwak, and D. Shea. 2007. Bioaccumulation of platinum group metals in the freshwater mussel *Elliptio complanata*: a new indicator of transportation related impacts?. 5th Biennial Symposium of the Freshwater Mollusk Conservation Society, Little Rock, AR, March 12-15, 2007.
- Mosher, S., W. G. Cope, R. B. Bringolf, T. J. Kwak, and D. Shea. 2007. Evaluation of ALA-D in the freshwater mussel *Elliptio complanata* as a biomarker of lead exposure and an indicator of transportation impact. 5th Biennial Symposium of the Freshwater Mollusk Conservation Society, Little Rock, AR, March 12-15, 2007.
- Bringolf, R. B., R. M. Heltsley, C. Eads, T. J. Newton, S. Fraley, D. Shea, and **W. G. Cope**. 2007. Environmental occurrence of fluoxetine and its effects on freshwater mussel reproduction. 5th Biennial Symposium of the Freshwater Mollusk Conservation Society, Little Rock, AR, March 12-15, 2007.
- Bringolf, R. B., S. Mosher, P. Lazaro, C. Eads, C. Barnhart, D. Shea, and **W. G. Cope**. 2007. A comprehensive assessment of the hazards of current use pesticides to native freshwater mussels. 5th Biennial Symposium of the Freshwater Mollusk Conservation Society, Little Rock, AR, March 12-15, 2007.
- Holliman, F. M., D. Davis, A. E. Bogan, T. J. Kwak, **W. G. Cope**, and J. F. Levine. 2007. Magnetic resonance imaging of live freshwater mussels (Unionidae). 5th Biennial Symposium of the Freshwater Mollusk Conservation Society, Little Rock, AR, March 12-15, 2007.

- Barwick, R. D., and **W. G. Cope**. 2007. Shoreline habitat improvement techniques: evaluating the attitudes of lake front property owners. Annual Meeting of the American Fisheries Society, Joint Meeting of North Carolina and Virginia Chapters, Danville, VA, February 26-28, 2007. **Winner of the W. Don Baker Memorial Award for the Best Platform Presentation by a Professional Member.**
- Barwick, R. D., and **W. G. Cope**. 2007. Evaluating property owner willingness to implement shoreline habitat improvement techniques. Annual Meeting of the American Fisheries Society Southern Division, Memphis, TN, February 8-11, 2007.
- Heltsley, R. M., **W. G. Cope**, and D. H. Adams. 2006. Adipose fin as a non-lethal biomonitoring tool for predicting organic contaminants in marine fish. 27th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Montreal, Canada, November 5-9, 2006.
- Heltsley, R. M., **W. G. Cope**, R. B. Bringolf, C. B. Eads, and D. Shea. 2006. Environmental concentrations of prozac induce spawning in freshwater mussels. 27th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Montreal, Canada, November 5-9, 2006.
- Heltsley, R. M., **W. G. Cope**, and D. H. Adams. 2006. Non-lethal samples predict organic contaminant concentrations in marine fish. 232nd Annual Meeting of the American Chemical Society, San Francisco, CA, September 10-14, 2006.
- Heltsley, R. M., **W. G. Cope**, R. B. Bringolf, C. B. Eads, and D. Shea. 2006. Prozac elicits spawning in native freshwater mussels. 232nd Annual Meeting of the American Chemical Society, San Francisco, CA, September 10-14, 2006.
- Cope, W. G.**, R. B. Bringolf, S. Mosher, J. A. Rice, R. L. Noble, and H. C. Edwards. 2006. Efficacy of a pond outflow device for reducing nitrogen release to receiving streams. **Invited paper** presented at the North Carolina Pond Management Workshop, Clayton, NC, June 6, 2006.
- Musella, J. S., E. G. Nichols, **W. G. Cope**, and C. S. Hofelt. 2006. Impact of plant organic matter on PAH desorption from petrogenic polluted sediments. Annual Meeting of the Carolinas Chapter of the Society of Environmental Toxicology and Chemistry, Clemson, SC, April 6-8, 2006.
- Cope, W. G.**, and J. L. Farris. 2006. Challenges to water quality guidance for protection and propagation of freshwater mussels. **Invited paper** presented at the Freshwater Mollusk Conservation Society Special Workshop entitled "Propagation and Captive Care of Freshwater Mollusks," Columbus, OH, March 5-7, 2006.
- Cope, W. G.**, R. M. Heltsley, D. Shea, R. B. Bringolf, T. J. Kwak, and E. G. Malindzak. 2006. Development of novel, non-lethal sampling techniques to assess organic contaminants in fish. Annual Meeting of the American Fisheries Society North Carolina Chapter, Greensboro, NC, January 31 - February 1, 2006. **Winner of the W. Don Baker Memorial Award for the Best Platform Presentation by a Professional Member.**
- Bringolf, R. B., **W. G. Cope**, R. M. Heltsley, C. B. Eads, and D. Shea. 2005. Reproductive effects of the pharmaceutical fluoxetine on a native freshwater mussel. 26th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Baltimore, MD, November 13-17, 2005.
- Heltsley, R. M., **W. G. Cope**, D. Shea, R. B. Bringolf, T. J. Kwak, and E. G. Malindzak. 2005. Assessing organic contaminants in fish: evaluating non-lethal sampling techniques and mobile passive sampling devices. 26th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Baltimore, MD, November 13-17, 2005.
- Ingersoll, C. G., T. Augspurger, C. Barnhart, **W. G. Cope**, J. Dwyer, C. Bishop, R. Neves, T. Newton, A. Roberts, and N. Wang. 2005. Development of an ASTM standard guide for conducting laboratory toxicity tests with freshwater mussels. 26th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Baltimore, MD, November 13-17, 2005.
- Holliman, F. M., T. J. Kwak, **W. G. Cope**, and J. F. Levine. 2005. Effects of electrofishing on survival and behavior of native freshwater mussels. 135th Annual Meeting of the American Fisheries Society, Anchorage, AK, September 11-15, 2005.

- Holliman, F. M., D. Davis, T. J. Kwak, **W. G. Cope**, and J. F. Levine. 2005. Magnetic resonance imaging of live freshwater mussels: implications for biomonitoring. 135th Annual Meeting of the American Fisheries Society, Anchorage, AK, September 11-15, 2005.
- Cope, W. G.**, R. B. Bringolf, R. M. Heltsley, and D. Shea. 2005. Preliminary findings of reproductive effects of the pharmaceutical fluoxetine on a native freshwater mussel. 4th Biennial Symposium of the Freshwater Mollusk Conservation Society, St. Paul, MN, May 15-18, 2005.
- Bringolf, R. B., **W. G. Cope**, L. F. Humphries, P. R. Lazaro, C. B. Eads, C. Barnhart, D. Shea, and J. F. Levine. 2005. Assessing the hazards of current use pesticides to early life stages of native freshwater mussels. 4th Biennial Symposium of the Freshwater Mollusk Conservation Society, St. Paul, MN, May 15-18, 2005.
- Humphries, L. F., **W. G. Cope**, J. F. Levine, P. R. Lazaro, C. B. Eads, D. Shea, and A. E. Bogan. 2005. Acute and chronic toxicity of polycyclic aromatic hydrocarbons to native freshwater mussels. 4th Biennial Symposium of the Freshwater Mollusk Conservation Society, St. Paul, MN, May 15-18, 2005.
- Holliman, F. M., T. J. Kwak, **W. G. Cope**, and J. F. Levine. 2005. Effects of electrofishing on survival and behavior on native freshwater mussels. 4th Biennial Symposium of the Freshwater Mollusk Conservation Society, St. Paul, MN, May 15-18, 2005.
- Holliman, F. M., D. Davis, T. J. Kwak, **W. G. Cope**, and J. F. Levine. 2005. *In vivo* magnetic resonance imaging of freshwater mussels. 4th Biennial Symposium of the Freshwater Mollusk Conservation Society, St. Paul, MN, May 15-18, 2005.
- Wang, N., T. Augspurger, C. Barnhart, J. Bidwell, **W. G. Cope**, J. Dwyer, S. Geis, E. Greer, C. Ingersoll, C. Kane, R. Neves, T. Newton, A. Roberts, C. Tibbott, and D. Whites. 2005. Developing standardized guidance for conducting toxicity tests with the early life stages of freshwater mussels. 4th Biennial Symposium of the Freshwater Mollusk Conservation Society, St. Paul, MN, May 15-18, 2005.
- Turner, P. M., **W. G. Cope**, D. Shea, J. F. Levine, and R. Moody. 2005. Evaluation of physicochemical conditions on the valve movement response of Asian clams: implications for broadband biomonitoring of surface waters. Annual Meeting of the Carolinas Chapter of the Society of Environmental Toxicology and Chemistry, Raleigh, NC, March 31-April 2, 2005.
- Holliman, F. M., T. J. Kwak, **W. G. Cope**, and J. F. Levine. 2005. Effects of electrofishing on survival and behavior of native freshwater mussels. Annual Meeting of the American Fisheries Society North Carolina Chapter, Greensboro, NC, February 8-9, 2005.
- Kwak, T. J., R. B. Bringolf, **W. G. Cope**, and M. S. Larimore. 2005. Salinity tolerance of flathead catfish: implications for dispersal of introduced populations. Annual Meeting of the American Fisheries Society North Carolina Chapter, Greensboro, NC, February 8-9, 2005.
- Wang, N., C. Ingersoll, E. Greer, D. Whites, A. Roberts, J. Dwyer, T. Augspurger, C. Kane, C. Tibbott, R. Neves, C. Barnhart, J. Bidwell, **W. G. Cope**, S. Geis, and T. Newton. 2004. Intra- and inter-laboratory variability in toxicity tests with glochidia of freshwater mussels. 25th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Portland, OR, November 14-18, 2004.
- Thorsen, W. A., **W. G. Cope**, and D. Shea. 2004. Variations in soot carbon-water distribution coefficients with different soot types. 25th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Portland, OR, November 14-18, 2004.
- Cho, Eun-ah, **W. G. Cope**, and D. Shea. 2004. Assessing the toxicity of Neuse River sediments with BioTurbTox: a new chironomid bioturbation test. 25th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Portland, OR, November 14-18, 2004.
- Newton, T. J., and **W. G. Cope**. 2004. An overview of the sensitivity of unionid mussels to aquatic contaminants. **Invited paper** presented at the 134th Annual Meeting of the American Fisheries Society, Madison, WI, August 22-26, 2004.
- Storm, J. F., **W. G. Cope**, W. G. Buhle, and K. McGinnis. 2004. Educating Agricultural and Health Practitioners about the Agricultural Health Study. 2004 National Symposium on Agricultural Health and Safety, Keystone, Colorado, June 20-24, 2004.

- Cope, W. G., G. A. LeBlanc, L. McMillan, and S. L. Van Horn. 2004. Assessing the presence of estrogenic chemicals with sentinel fish. Annual Meeting of the American Fisheries Society North Carolina Chapter, Asheville, NC, February 4-5, 2004. **Winner of the W. Don Baker Memorial Award for the Best Platform Presentation by a Professional Member.**
- Cope, W. G., and T. J. Newton. 2003. Biological responses of unionid mussels to environmental contaminants. **Invited paper** presented at the 24th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Austin, TX, November 8-13, 2003.
- Thorsen, W. A., W. G. Cope, and D. Shea. 2003. Toxicokinetics of environmental contaminants in freshwater mussels. **Invited paper** presented at the 24th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Austin, TX, November 8-13, 2003.
- Cho, Eun-ah, W. G. Cope, and D. Shea. 2003. Bioturbation as an indicator of sediment toxicity and its influence on contaminant flux. 24th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Austin, TX, November 8-13, 2003.
- Cope, W. G. 2003. Overview of the environmental toxicology and chemistry of mercury. **Invited paper** presented at the Eloise S. Cofer Symposium on Children's Environmental Health, Research Triangle Park, NC, October 8, 2003.
- Cho, Eun-ah, W. G. Cope, and D. Shea. 2003. Bioturbation: a reliable method for hazard assessment. Annual Meeting of the Carolinas Chapter of the Society of Environmental Toxicology and Chemistry, Charleston, SC, April 2-4, 2003.
- Cope, W. G. 2003. Relocation versus translocation: what's in a name? 3rd Biennial Symposium of the Freshwater Mollusk Conservation Society, Durham, NC, March 16-19, 2003.
- Shea, D., W. G. Cope, P. R. Lazaro, C. B. Eads, J. F. Levine, L. L. Gustafson, and M. K. Stoskopf. 2003. Assessment of contaminants in highway runoff on the health of freshwater mussels in North Carolina streams. 3rd Biennial Symposium of the Freshwater Mollusk Conservation Society, Durham, NC, March 16-19, 2003.
- Augsburger, T. P., A. E. Keller, M. C. Black, W. G. Cope, and F. J. Dwyer. 2003. Evaluation of water quality criteria for protection of freshwater mussels (Unionidae) from ammonia exposure. 3rd Biennial Symposium of the Freshwater Mollusk Conservation Society, Durham, NC, March 16-19, 2003.
- Gustafson, L. L., J. F. Levine, W. Showers, W. G. Cope, C. B. Eads, R. Linnehan, T. J. Kwak, E. F. Andersen, and M. K. Stoskopf. 2003. Reference ranges for hemolymph chemistries from *Elliptio complanata* of North Carolina. 3rd Biennial Symposium of the Freshwater Mollusk Conservation Society, Durham, NC, March 16-19, 2003.
- Thorsen, W. A., W. G. Cope, D. Shea, and P. R. Lazaro. 2003. Monitoring PAH transport and accumulation in an urban watershed with relocated unionid mussels and passive sampling devices. 3rd Biennial Symposium of the Freshwater Mollusk Conservation Society, Durham, NC, March 16-19, 2003.
- Cope, W. G., D. Shea, W. A. Thorsen, and P. R. Lazaro. 2002. Monitoring PAH transport and accumulation in an urban watershed with transplanted unionid mussels and passive sampling devices. **Invited Paper** presented at the 23rd Annual Meeting of the Society of Environmental Toxicology and Chemistry, Salt Lake City, UT, November 16-20, 2002.
- Thorsen, W. A., W. G. Cope, and D. Shea. 2002. Uptake of polycyclic aromatic hydrocarbons by the freshwater mussel, *Elliptio complanata*. 23rd Annual Meeting of the Society of Environmental Toxicology and Chemistry, Salt Lake City, UT, November 16-20, 2002.
- Howard, A. K., W. G. Cope, T. J. Kwak, and D. Shea. 2002. Assessing the effects of water quality on the endangered Cape Fear shiner with in situ toxicity tests. **Invited Paper** presented at the 23rd Annual Meeting of the Society of Environmental Toxicology and Chemistry, Salt Lake City, UT, November 16-20, 2002.
- McCarthy, A. M., J. Bales, W. G. Cope, and D. Shea. 2002. Conceptual model for simulating pesticide transport in estuaries. 23rd Annual Meeting of the Society of Environmental Toxicology and Chemistry, Salt Lake City, UT, November 16-20, 2002.

- Howard, A. K., T. J. Kwak, and **W. G. Cope**. 2002. Is the endangered Cape Fear shiner limited by water quality, physical habitat, or both? 132nd Annual Meeting of the American Fisheries Society, Baltimore, MD, August 18-22, 2002.
- Thorsen, W. A., **W. G. Cope**, and D. Shea. 2002. Soot carbon and PAH source control PAH bioavailability. 224th Annual Meeting of the American Chemical Society, Boston, MA, August 18-22, 2002.
- Howard, A. K., T. J. Kwak, and **W. G. Cope**. 2002. What limits the endangered Cape Fear shiner: water quality or physical habitat? Annual Meeting of the American Society of Ichthyologists and Herpetologists, Kansas City, MO, July 3-8, 2002.
- McCarthy, A. M., **W. G. Cope**, and D. Shea. 2002. Pesticide contamination in the Albemarle-Pamlico Sound, NC; 2000-2001. Annual Meeting of the Carolinas Chapter of the Society of Environmental Toxicology and Chemistry, Raleigh, NC, April 25-27, 2002.
- Thorsen, W. A., D. Shea, and **W. G. Cope**. 2002. Soot carbon and PAH source control PAH bioavailability. Annual Meeting of the Carolinas Chapter of the Society of Environmental Toxicology and Chemistry, Raleigh, NC, April 25-27, 2002.
- Cho, Eun-ah, **W. G. Cope**, and D. Shea. 2002. Bioturbation mediated release of copper from spiked Sediment into overlying water. Annual Meeting of the Carolinas Chapter of the Society of Environmental Toxicology and Chemistry, Raleigh, NC, April 25-27, 2002. **Winner of Best Student Poster Presentation Award.**
- Howard, A. K., T. J. Kwak, and **W. G. Cope**. 2002. Is the endangered Cape Fear shiner limited by physical habitat? A suitability analysis. Annual Meeting of the North Carolina Chapter of the American Fisheries Society, Huntersville, NC, February 5-6, 2002.
- Thorsen, W. A., D. Shea, and **W. G. Cope**. 2001. Bioavailability of particle and sediment-sorbed PAHs in unionid mussels. 22nd Annual Meeting of the Society of Environmental Toxicology and Chemistry, Baltimore, MD, November 11-15, 2001.
- Cho, Eun-ah, **W. G. Cope**, and D. Shea. 2001. Bioturbation as an indicator for risk assessment. Second Graduate Student Symposium, North Carolina State University, Raleigh, NC, October 22, 2001. **Winner of Best Student Poster Presentation Award.**
- McCarthy, A. M., **W. G. Cope**, and D. Shea. 2001. Pesticide use and exposure in the North Carolina coastal plain. Annual Conference of the North Carolina Water Resources Research Institute, Raleigh, NC, March 29, 2001.
- Watson, W. A., **W. G. Cope**, and D. Shea. 2001. Accumulation of polycyclic aromatic hydrocarbons by unionid mussels: comparison to sediment and a passive sampling device. Annual Conference of the North Carolina Water Resources Research Institute, Raleigh, NC, March 29, 2001.
- Watson, W. A., **W. G. Cope**, and D. Shea. 2001. Accumulation of PAHs by unionid mussels. Second Symposium of the Freshwater Mollusk Conservation Society, Pittsburgh, PA, March 11-14, 2001.
- Cope, W. G.** 2000. Bioassessment of contaminants in the Upper Mississippi River with zebra mussels. **Invited Paper** presented at the 52nd Annual Meeting of the American Chemical Society, New Orleans, LA, December 6-8, 2000.
- Augsburger, T. P., M. C. Black, A. E. Keller, and **W. G. Cope**. 2000. Review of ammonia toxicity to freshwater mussels. 21st Annual Meeting of the Society of Environmental Toxicology and Chemistry, Nashville, TN, November 12-16, 2000.
- McCarthy, A. M., **W. G. Cope**, and D. Shea. 2000. Pesticide use and exposure in the North Carolina coastal plain. 21st Annual Meeting of the Society of Environmental Toxicology and Chemistry, Nashville, TN, November 12-16, 2000.
- Watson, W. A., **W. G. Cope**, P. R. Lazaro, and D. Shea. 2000. Accumulation of polycyclic aromatic hydrocarbons in unionid mussels: comparison to sediment and a passive sampling device. 21st Annual Meeting of the Society of Environmental Toxicology and Chemistry, Nashville, TN, November 12-16, 2000.
- Cope, W. G.** 2000. Mercury contamination of aquatic ecosystems. **Invited Paper** presented at the 82nd Meeting of the NC Department of Environment and Natural Resources, Science Advisory Board, Raleigh, North Carolina, April 27, 2000.

- Shea, D., **W. G. Cope**, P. R. Lazaro, and W. A. Watson. 2000. Persistent organic pollutants in an urban watershed. **Invited Paper** presented at the 8th Annual Long Creek Watershed Workshop, Gastonia, North Carolina, March 14, 2000.
- Cope, W. G.** 2000. Water quality and human health: issues and solutions. **Invited Paper** presented at the Inaugural Meeting of the NC Agromedicine Institute Research Forum, Greenville, North Carolina, January 13, 2000.
- Doran, W. J., **W. G. Cope**, R. G. Rada, M. B. Sandheinrich, D. L. Waller, and S. T. Cooper. 1999. Effect of chlorpyrifos on acetylcholinesterase activities of the unionid mussel *Amblema plicata*. 20th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Philadelphia, PA, November 14-18, 1999.
- Bartsch, M. R., D. L. Waller, **W. G. Cope**, H. L. Dunn, S. Jennings, and R. G. Rada. 1999. Preserving the biodiversity of unionid mussels in the St. Croix River by development of *in situ* refugia. 11th Annual St. Croix River Research Rendezvous, Marine-On-St. Croix, Minnesota, October 19, 1999.
- Cope, W. G.**, J. F. Storm, and R. C. Luginbuhl. 1999. Improving farm worker health and safety with bilingual educational resources: an example with pesticide & human health training. 12th Annual Meeting of the North American Agromedicine Consortium, Raleigh, NC, September 25-28, 1999.
- Thompson, E. J., D. W. Fogarty, **W. G. Cope**, D. Shea, C. J. Allan, and M. D. Sobsey. 1999. Taking a closer look at the Long Creek Watershed: phosphorus, pathogens, and PAHs. 7th National Nonpoint Source Monitoring Workshop, Morro Bay, California, September 12-17, 1999.
- Naimo, T. J., **W. G. Cope**, E. M. Monroe, J. L. Farris, and C. D. Milam. 1999. Survival and condition of fingernail clams *Musculium transversum* fed 4 diets during a 112-day laboratory exposure. 47th Annual Meeting of the North American Benthological Society, Duluth, MN, May 25-28, 1999.
- Cope, W. G.**, M. R. Bartsch, and J. E. Hightower. 1999. Invasion dynamics of zebra mussels in the Upper Mississippi River. **Invited Paper** presented at the 9th International Zebra Mussel & Aquatic Nuisance Species Conference, Duluth, MN, April 26-30, 1999.
- Doran, W. J., **W. G. Cope**, R. G. Rada, M. B. Sandheinrich, D. L. Waller, and S. T. Cooper. 1999. Effect of chlorpyrifos on acetylcholinesterase activities of the unionid mussel *Amblema plicata*. 7th Annual Meeting of the Midwest Chapter of the Society of Environmental Toxicology and Chemistry, La Crosse, WI, March 25-26, 1999. **Winner of Best Student Platform Presentation Award.**
- Cope, W. G.**, and J. L. Farris. 1999. Conceptual framework for assessing the effects of contaminants on unionid mussels. **Invited Paper** presented at the 1st Annual Meeting of the Freshwater Mollusk Conservation Society, Chattanooga, TN, March 17-19, 1999.
- Naimo, T. J., **W. G. Cope**, E. M. Monroe, J. L. Farris, and C. D. Milam. 1999. The effects of diet and holding time on survival and condition of fingernail clams *Musculium transversum*. 1st Annual Meeting of the Freshwater Mollusk Conservation Society, Chattanooga, TN, March 17-19, 1999.
- Cope, W. G.** 1998. Pesticides and human health: a review of principles, mechanisms, and effects. **Invited Paper** presented at the 50th Annual Meeting of the Crop Protection Association of North Carolina, Raleigh, North Carolina, December 14_15, 1998.
- McCarthy, A. M., **W. G. Cope**, and D. Shea. 1998. Vulnerability of the North Carolina outer coastal plain to contaminant stress: risk assessment and field evaluation. 19th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Charlotte, North Carolina, November 15-19, 1998.
- Greseth, S. L., R. G. Rada, D. L. Waller, M. R. Bartsch, and **W. G. Cope**. 1998. Sublethal effects of aerial exposure on three species of unionid mussels. 19th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Charlotte, North Carolina, November 15-19, 1998.
- Cope, W. G.** and J. F. Storm. 1998. Water quality and human health. **Invited Paper** presented at the Cape Fear River Conference, Clinton, North Carolina, October 15, 1998.

- Doran, W. J., M. B. Sandheinrich, R. G. Rada, **W. G. Cope**, D. L. Waller, and S. T. Cooper. 1998. Effects of chlorpyrifos on acetylcholinesterase activities of the unionid mussel *Amblema plicata*. 30th Annual Meeting of the Mississippi River Research Consortium, La Crosse, WI, April 23-24, 1998.
- Greseth, S. L., R. G. Rada, D. L. Waller, M. R. Bartsch, and **W. G. Cope**. 1998. Changes in nutritional status in *Lampsilis cardium*, *Quadrula pustulosa*, and *Elliptio dilatata* exposed to air. 30th Annual Meeting of the Mississippi River Research Consortium, La Crosse, WI, April 23-24, 1998.
- Naimo, T. J., J. G. Wiener, **W. G. Cope**, and N. S. Bloom. 1998. Bioavailability of sediment-associated mercury to *Hexagenia* mayflies in a contaminated floodplain river. 6th Annual Meeting of the Midwest Chapter of the Society of Environmental Toxicology and Chemistry, Argonne, IL, April 1-3, 1998.
- Greseth, S. L., R. G. Rada, D. L. Waller, M. R. Bartsch, and **W. G. Cope**. 1998. Sublethal effects of emersion on three species of unionid mussels. 6th Annual Meeting of the Midwest Chapter of the Society of Environmental Toxicology and Chemistry, Argonne, IL, April 1-3, 1998.
- Waller, D. L., M. R. Bartsch, **W. G. Cope**, H. L. Dunn, S. Jennings, and R. G. Rada. 1998. Conservation of unionid mussels in the St. Croix River: development of *in situ* refugia. Conservation, Captive Care, & Propagation Freshwater Mussel Symposium, Columbus, Ohio, March 6-8, 1998.
- Cope, W. G.**, M. R. Bartsch, R. G. Rada, S. J. Balogh, J. E. Rupprecht, R. D. Young, and D. K. Johnson. 1997. Bioassessment of cadmium, mercury, polychlorinated biphenyls, and pesticides in the Upper Mississippi River with zebra mussels (*Dreissena polymorpha*). 18th Annual Meeting of the Society of Environmental Toxicology and Chemistry, San Francisco, California, November 16-20, 1997.
- Doran, W. J., D. L. Waller, M. B. Sandheinrich, R. G. Rada, and **W. G. Cope**. 1997. Effect of chlorpyrifos on acetylcholinesterase activity in *Amblema plicata plicata* at 15 and 25°C. 18th Annual Meeting of the Society of Environmental Toxicology and Chemistry, San Francisco, California, November 16-20, 1997.
- Greseth, S. L., R. G. Rada, **W. G. Cope**, D. L. Waller, and M. R. Bartsch. 1997. Sublethal effects of emersion on three species of freshwater unionid mussels. 18th Annual Meeting of the Society of Environmental Toxicology and Chemistry, San Francisco, California, November 16-20, 1997.
- Waller, D. L., M. R. Bartsch, S. Jennings, H. L. Dunn, **W. G. Cope**, and R. G. Rada. 1997. Conservation of unionid mussels in the St. Croix River: monitoring *in situ* refugia. 9th Annual St. Croix River Research Rendezvous, Marine-On-St. Croix, Minnesota, October 14, 1997.
- Cope, W. G.**, M. R. Bartsch, R. G. Rada, S. J. Balogh, J. E. Rupprecht, R. D. Young, and D. K. Johnson. 1997. Use of zebra mussels (*Dreissena polymorpha*) to assess cadmium, mercury, polychlorinated biphenyls, and pesticides in the Upper Mississippi River. 5th Annual Meeting of the Midwest Chapter of the Society of Environmental Toxicology and Chemistry, Green Bay, Wisconsin, April 2-4, 1997.
- Greseth, S. L., **W. G. Cope**, R. G. Rada, M. R. Bartsch, and D. L. Waller. 1997. Sublethal effects of acclimation temperature, exposure temperature, and duration of exposure on three species of unionid mussels. 5th Annual Meeting of the Midwest Chapter of the Society of Environmental Toxicology and Chemistry, Green Bay, Wisconsin, April 2-4, 1997.
- Cope, W. G.**, M. R. Bartsch, D. L. Waller, and J. A. Luoma. 1996. Variation in emersion and thermal tolerances of selected freshwater unionid mussels. 17th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Washington, DC, November 17-21, 1996.
- Naimo, T. J., J. G. Wiener, **W. G. Cope**, and N. S. Bloom. 1996. Bioavailability of sediment-associated mercury to *Hexagenia* mayflies in a contaminated floodplain river. 17th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Washington, DC, November 17-21, 1996.

- Cope, W. G., M. R. Bartsch, D. L. Waller, H. L. Dunn, S. Jennings, and R. G. Rada. 1996. Conservation of unionid mussels in the St. Croix River: development of in situ refugia. 8th Annual St. Croix River Research Rendezvous, Marine-On-St. Croix, Minnesota, October 15, 1996.
- Waller, D. L., W. G. Cope, H. L. Dunn, and B. A. Sietmann. Monitoring components of a mussels relocation project. 8th Annual St. Croix River Research Rendezvous, Marine-On-St. Croix, Minnesota, October 15, 1996.
- Naimo, T. J., J. G. Wiener, W. G. Cope, and N. S. Bloom. 1996. Bioavailability of sediment-associated mercury to *Hexagenia* mayflies in the contaminated Sudbury River (Massachusetts, USA). Fourth International Conference on Mercury as a Global Pollutant, Hamburg, Germany, August 4-9, 1996.
- Cope, W. G. 1996. Biology and distribution of zebra mussels. **Invited Paper** presented at the Annual Meeting of the Wisconsin Chapter of The Wildlife Society, La Crosse, Wisconsin, March 1-2, 1996.
- Bartsch, M. R., W. G. Cope, and R. G. Rada. 1995. Bioturbation and bioaccumulation of cadmium by nymphs of the burrowing mayfly *Hexagenia bilineata* exposed to cadmium-spiked sediment. Second Society of Environmental Toxicology and Chemistry World Congress, Vancouver, British Columbia, Canada, November 5-9, 1995.
- Waller, D. L., W. G. Cope, and H. L. Dunn. 1995. Monitoring components of a freshwater mussel relocation project on the St. Croix River. Second International Meeting on the Conservation and Management of Freshwater Mussels, St. Louis, Missouri, October 16-18, 1995.
- Cope, W. G., R. R. Hayden, and M. R. Bartsch. 1995. Differences in shell morphology between a riverine and lacustrine population of zebra mussels. 27th Annual Meeting of the Mississippi River Research Consortium, La Crosse, Wisconsin, April 27-28, 1995.
- Cope, W. G., M. R. Bartsch, and R. R. Hayden. 1995. Population dynamics of zebra mussels in the upper Mississippi River three years after invasion. 27th Annual Meeting of the Mississippi River Research Consortium, La Crosse, Wisconsin, April 27-28, 1995.
- Bartsch, M. R., W. G. Cope, and R. G. Rada. 1995. Bioaccumulation of cadmium by nymphs of the burrowing mayfly *Hexagenia bilineata* as an indicator of exposure to sediment-associated cadmium. 27th Annual Meeting of the Mississippi River Research Consortium, La Crosse, Wisconsin, April 27-28, 1995.
- Bartsch, M. R., W. G. Cope, and R. G. Rada. 1995. Bioaccumulation of cadmium by nymphs of the burrowing mayfly *Hexagenia bilineata* exposed to cadmium-spiked sediment. 3rd Annual Meeting of the Midwest Chapter of the Society of Environmental Toxicology and Chemistry, Wisconsin Dells, Wisconsin, April 6-7, 1995. **Winner of Best Student Platform Presentation Award.**
- Cope, W. G., R. R. Hayden, and M. R. Bartsch. 1995. Differences in shell morphology between a riverine and lacustrine population of zebra mussels. 5th International Zebra Mussel Conference, Toronto, Ontario, Canada, February 21-24, 1995.
- Cope, W. G., M. R. Bartsch, and R. R. Hayden. 1995. Population dynamics of zebra mussels in the upper Mississippi River three years after invasion. 5th International Zebra Mussel Conference, Toronto, Ontario, Canada, February 21-24, 1995.
- Jackson, L. K., D. C. DuLaney, W. G. Cope, S. W. Fisher, and B. W. Anderson. 1995. Prevention of zebra mussel attachment with antioxidants formulated into paints. 5th International Zebra Mussel Conference, Toronto, Ontario, Canada, February 21-24, 1995.
- Cope, W. G., and D. L. Waller. 1994. An evaluation of freshwater mussel relocation as a conservation and management strategy. International Conference on Sustaining the Ecological Integrity of Large Floodplain Rivers. La Crosse, Wisconsin, July 12-15, 1994.
- Cope, W. G., T. J. Naimo, and M. R. McPeak. 1994. Settlement, growth rate, and habitat colonization of zebra mussels in the upper Mississippi River. 26th Annual Meeting of the Mississippi River Research Consortium, La Crosse, Wisconsin, April 28-29, 1994.
- McPeak, M. R., and W. G. Cope. 1994. Candidate antioxidants for preventing zebra mussel attachment: toxicity to fish. 26th Annual Meeting of the Mississippi River Research Consortium, La Crosse, Wisconsin, April 28-29, 1994.

- Cope, W. G.**, and T. J. Naimo. 1994. Settlement, growth rate, and habitat colonization of zebra mussels in the upper Mississippi River. 4th International Zebra Mussel Conference, Madison, Wisconsin, March 7-10, 1994.
- Cope, W. G.**, and M. R. McPeak. 1994. Candidate antioxidants for preventing zebra mussel attachment: toxicity to fish. 4th International Zebra Mussel Conference, Madison, Wisconsin, March 7-10, 1994.
- Waller, D. L., J. J. Rach, and **W. G. Cope**. 1993. Survival of freshwater mussels following handling and time out of water. 55th Annual Midwest Fish and Wildlife Conference, St. Louis, Missouri, December 11-15, 1993.
- Cope, W. G.**, and M. R. McPeak. 1993. Inhibition of zebra mussel attachment with antioxidants: a potential control method. 14th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Houston, Texas, November 14-18, 1993.
- Cope, W. G.** 1993. Sublethal responses of juvenile bluegills to suspended, cadmium-contaminated sediments. **Invited Paper** presented at the Annual Meeting of the Upper Mississippi River Conservation Committee, Prairie du Chein, Wisconsin, October 7, 1993.
- Cope, W. G.**, J. G. Wiener, G. J. Atchison, and M. T. Steingraeber. 1993. Bioaccumulation and biochemical effects of sediment-associated cadmium to juvenile bluegills. Presented at the First International Conference on Contaminated Aquatic Sediments, Milwaukee, Wisconsin, June 14-16, 1993.
- Cope, W. G.** 1993. Inhibition of zebra mussel attachment with antioxidants. **Invited paper** presented at the Dairyland Power Cooperative Zebra Mussel Control Technology Conference, La Crosse, Wisconsin, May 4-5, 1993.
- Waller, D. L., J. J. Rach, and **W. G. Cope**. 1993. The effects of handling and time out of water on the survival of freshwater mussels. 25th Annual Meeting of the Mississippi River Research Consortium. La Crosse, Wisconsin, April 22-23, 1993.
- McPeak, M. R., and **W. G. Cope**. 1993. Inhibition of byssal thread development as a potential method for control of zebra mussels. 25th Annual Meeting of the Mississippi River Research Consortium. La Crosse, Wisconsin, April 22-23, 1993.
- Cope, W. G.**, M. R. McPeak, and T. J. Naimo. 1993. Testing contaminated sediment with fingernail clams. 25th Annual Meeting of the Mississippi River Research Consortium. La Crosse, Wisconsin, April 22-23, 1993.
- Cope, W. G.**, L. L. Marking, and M. R. McPeak. 1993. Growth of zebra mussels in the Upper Mississippi River. 25th Annual Meeting of the Mississippi River Research Consortium. La Crosse, Wisconsin, April 22_23, 1993.
- Naimo, T. J., **W. G. Cope**, and M. R. McPeak. 1993. Importance of sediment contact on short-term survival of fingernail clams in contaminated sediment evaluations. First Annual Meeting of the Midwest Regional Chapter of the Society of Environmental Toxicology and Chemistry. Marine on St. Croix, Minnesota, March 24-26, 1993.
- Cope, W. G.**, and M. R. McPeak. 1993. Inhibition of zebra mussel attachment as a potential nontoxicant control method. First Annual Meeting of the Midwest Regional Chapter of the Society of Environmental Toxicology and Chemistry. Marine on St. Croix, Minnesota, March 24-26, 1993.
- Cope, W. G.**, J. G. Wiener, G. J. Atchison, and M. T. Steingraeber. 1993. Sublethal responses of juvenile bluegills to suspended, cadmium-contaminated sediments. First Annual Meeting of the Midwest Regional Chapter of the Society of Environmental Toxicology and Chemistry. Marine on St. Croix, Minnesota, March 24-26, 1993.
- Cope, W. G.**, and M. R. McPeak. 1993. Inhibition of byssal thread development as a potential method for control of zebra mussels. Third International Zebra Mussel Conference, Toronto, Ontario, Canada, February 22-26, 1993.
- Naimo, T. J., **W. G. Cope**, and M. R. McPeak. 1993. Bioassessment of sediment toxicity with fingernail clams. Presented at the joint meeting of the Illinois and Iowa Chapters of the American Fisheries Society, Bettendorf, Iowa, February 16-18, 1993.
- Waller, D. L., J. J. Rach, and **W. G. Cope**. 1992. The effects of handling and time out of water on the survival of freshwater mussels. Presented at a special symposium on "The Conservation and Management of Freshwater Mussels", sponsored by the Upper Mississippi River Conservation Committee, St. Louis, Missouri, October 12-14, 1992.

Cope, W. G., and D. L. Waller. 1992. An evaluation of mussel relocation as a conservation strategy. Presented at a special symposium on "The Conservation and Management of Freshwater Mussels", sponsored by the Upper Mississippi River Conservation Committee, St. Louis, Missouri, October 12-14, 1992.

Rach, J. J., D. L. Waller, and **W. G. Cope**. 1992. The effects of handling and time out of water on the survival of threeridge mussels *Amblema plicata plicata*. 40th Annual Meeting of the North American Benthological Society, Louisville, Kentucky, May 26-29, 1992.

Cope, W. G., and R. G. Rada. 1992. Accumulation of mercury by *aufwuchs* in Wisconsin seepage lakes: implications for monitoring. 40th Annual Meeting of the North American Benthological Society, Louisville, Kentucky, May 26-29, 1992.

Cope, W. G., T. J. Naimo, and D. L. Waller. 1992. Zebra mussel interactions with unionids in North America: implications for the Upper Mississippi River System. **Invited Paper** presented at the Zebra Mussel Interaction with Unionids in North America Workshop, Ann Arbor, Michigan, May 20-21, 1992.

Beckett, D. C., B. W. Green, S. A. Thomas, A. C. Miller, and **W. G. Cope**. 1992. Macroinvertebrates of selected habitats of the upper Mississippi River. 24th Annual Meeting of the Mississippi River Research Consortium, La Crosse, Wisconsin, April 30-May 1, 1992.

Cope, W. G., and R. G. Rada. 1992. Limitations of *aufwuchs* as biomonitors of mercury in Wisconsin seepage lakes. 16th Annual Meeting of the Wisconsin Section of the American Water Resources Association, La Crosse, Wisconsin, March 12-13, 1992.

Waller, D. L., **W. G. Cope**, L. L. Marking, and J. J. Rach. 1992. Toxicity of candidate chemicals for control of zebra mussels to native bivalves. Second International Zebra Mussel Conference, Toronto, Ontario, Canada, February 19-21, 1992.

Cope, W. G., J. G. Wiener, G. J. Atchison, and M. T. Steingraeber. 1992. Responses of juvenile bluegills exposed to sediment-associated cadmium: bioaccumulation and biochemical effects. Presented at the joint meeting of the Wisconsin and Illinois Chapters of the American Fisheries Society, Waukegan, Illinois, February 11-13, 1992.

Cope, W. G., G. J. Atchison, J. G. Wiener, and M. T. Steingraeber. 1991. Metallothionein and free cadmium in fish liver: indicators of exposure to aqueous and sediment-associated cadmium. 12th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Seattle, Washington, November 3-7, 1991.

Cope, W. G., G. J. Atchison, J. G. Wiener, and M. T. Steingraeber. 1991. Bioaccumulation of cadmium in juvenile bluegills exposed to resuspended river sediment. 23rd Annual Meeting of the Mississippi River Research Consortium, La Crosse, Wisconsin, April 25-26, 1991.

Rada, R. G., J. G. Wiener, and **W. G. Cope**. 1988. Mercury enrichment and bioavailability in seepage lakes in north-central Wisconsin. International Conference on Trace Metals in Lakes, Hamilton, Ontario, Canada, August 15-18, 1988.

Cope, W. G., R. G. Rada, and J. G. Wiener. 1988. Factors affecting mercury accumulation in yellow perch and *aufwuchs* in north-central Wisconsin lakes. **Invited paper** presented at the Ninth Annual Meeting of the Society of Environmental Toxicology and Chemistry, Arlington, Virginia, November 13-17, 1988.

CONGRESSIONAL TESTIMONY

Cope, W. G. 1991. Strategies for the control of zebra mussels and present efforts and future needs in zebra mussel research. Presented at the public hearing on "The infiltration of zebra mussels into the inland waterways of the United States" sponsored by U.S. Representative Richard J. Durbin, Quincy, Illinois, November 11, 1991.