Mark Russell Vinson
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I am a curious and dogged scientist who has studied plants, invertebrates, and fish from caves, springs, rivers, lakes and wetlands throughout the world. I am comfortable in uncomfortable places. I want my future to be full of adventures in support of fisheries conservation.

Ph.D. Utah State University. Watershed Science. 1994-1998.
M.S. Idaho State University. Biology. 1986-1988.
B.S. University of Wisconsin-Stevens Point. Water Resources & Fisheries. 1982-1986.

Chief, U.S. Geological Survey Lake Superior Biological Station | 2008 – present
I oversee research, administrative operations, and safety programs. I supervise and mentor 7-10 people (2-3 scientists, 2-4 biological technicians, a ship captain, a vessel mate, and a vessel engineer). I manage a 1.25-million-dollar annual base budget, a 10,000-square foot research facility, a 12,000-square foot vessel base, the 107-foot research vessel KIYI, several smaller vessels, and ~million dollars of research equipment. I am the primary media and public information contact for USGS Lake Superior research activities and for updates on the status and trends of the Lake Superior fish community. I am a team leader on broad multi-scientist projects and a primary investigator on specific projects. I lead two annual Lake Superior fish population surveys that can be experienced here: https://www.youtube.com/watch?v=VpuPjxWyU7w. I spend ~80 days in the field a year.

Director National Aquatic Monitoring Center and Research Assistant Professor | 1992 – 2008
The development of this Center (www.usu.edu/buglab) occurred at the beginning of the biomonitoring revolution. I oversaw study designs and the identification of 32,000 invertebrate and fish stomach content samples and provided the results of these samples in hundreds of reports. The field and laboratory techniques and taxonomic products produced guided the establishment of standard data collection and analysis procedures for numerous biomonitoring programs. I led a major public campaign to restore salmonflies (Plecoptera: Pteronarcyidae) to the Logan River, Utah which were expatriated in the 1960s. I was recruited to lead fish and invertebrate surveys throughout the United States, and in Africa, the Arctic, and Pakistan.

Hydrologist, U.S. Bureau of Land Management | 1988-1992
Developed a water quality monitoring program for four million acres of public land stretching from the central Idaho mountains to the Oregon and Nevada borders.

Special Assignments
Expedition leader. Pakistan Ministry of Environment, 2008. India proposed constructing a large on the Neelum River (a.k.a., Kishanganga River in India) that divides India and Pakistan. Pakistan was

stridently opposed to this project (https://www.chinadialogue.net/article/4176-Water-wager%20). I led fish and invertebrate surveys along the infamous "The Line of Control", wrote reports, and trained Pakistan scientists on data collection methods. This work contributed to the establishment of a minimum streamflow for the Neelum River.

Expedition leader. Smithsonian Institution, 2006. I led a biological survey for the Smithsonian Institution in Gabon, Africa to assess the impact of petroleum extraction on aquatic biota. Data were used for defining environmental rehabilitation targets. Wrote a report on our findings and trained local and Smithsonian scientists on data collection methods and taxonomy. Aspects of this work are described in "*Effects of oil pollution on aquatic macroinvertebrate assemblages in Gabon wetlands*" and in the book "*Catching Crocodiles in the Heart of Darkness*".

Significant national and regional scientific team involvement

1. **PACFISH INFISH Interior Columbia River Basin Effectiveness Monitoring Team, 2000 to 2008.** This team designed and implemented the Effectiveness Monitoring of Aquatic and Riparian Resources within the range of PACFISH/INFISH (The Upper Columbia River Basin). This was a multi-agency multi-million dollar a year project. I was responsible for co-developing the overall study design, selecting indicators, establishing field and laboratory methods for aquatic invertebrate collections, processing all the aquatic invertebrate samples, and managing the invertebrate data. Numerous scientific publications and management decisions have been based on this work.
2. **Expert panel to assess the operations of Glen Canyon Dam, 2000-2008.** This western river science all-star team that reviewed science activities of the Grand Canyon Monitoring and Research Center with respect to past, present, and future operations of Glen Canyon Dam on endangered fishes in the Colorado River Ecosystem. I provided expertise on the effects of dam multi-level discharge structures (B11).
3. **Sustainable Rangelands Roundtable, 2002-2006.** This is an international organization that promotes the social, economic, and environmental sustainability of rangelands through the development and widespread use of criteria & indicators for rangeland assessments, and by providing a forum for dialogue on the sustainability of rangelands. I developed an indicator within the soil/water criterion group to assess aquatic ecosystem health (B28, B29).
4. **Utah Aquatic Nuisance Species Team, 2002-2008.** A team of composed of industry, local, state, and federal governments. Tour purpose was to share information, promote education activities, and share research results with resource agency directors.
5. **Utah Fish Health Board, 2006-2008.** Appointed by the Utah Governor's Office. The board has regulatory authority to list pathogens and develop procedures to carry out the protection of

Utah fish. We developed statewide aquaculture disease control plans to sample and test public and private aquaculture operations to prevent and control disease.

6. **Southern Nevada Water Authority Environmental Impact Study Team, 2004-2008.** This team developed the EIS for a 3-billion-dollar project to transfer groundwater from northern Nevada to the city of Las Vegas. The team met monthly for four years. I provided expertise on potential impacts of the project to spring ecosystems in northern Nevada.
7. **USA Fly Fishing Team, 1995-2006.** This team competes in fishing contests worldwide. I provided briefings on local biota and recommended flies to fish with at competition sites worldwide. Points to my reputation for global knowledge on aquatic invertebrates.

Publications

My Google Scholar page lists 76 publications that have been cited >2,000 times: https://scholar.google.com/citations?user=QMxU4nIAAAAJ&hl=en&oi=ao. *indicates an undergraduate student, **graduate student, or a ***postdoc that I mentored.

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51. Sider, M, Sitar, S., and **M.R. Vinson**. 2020. The status of Siscowet Lake Trout in 2017. Chapter in the State of Lake Superior in 2017. Great Lakes Fishery Commission Special Publication 20-01.
50. Gorman, O.T., **M.R. Vinson**, D.L. Yule. 2020. The status of prey fishes in 2017. Chapter in the State of Lake Superior in 2017. Great Lakes Fishery Commission Special Publication 20-01.
49. Matthias, B.G., T.R. Hrabik, J.C. Hoffman, O.T. Gorman, M.J. Seider, **M.R. Vinson**, D.L. Yule, M.E. Sierszen, P.M. Yurista. The status of Lake Superior ecosystem in 2017. Chapter in the State of Lake Superior in 2017. Great Lakes Fishery Commission Special Publication 20-01.
48. Lucke*, V.S., T.R. Stewart, **M.R. Vinson**, J.D. Glase, and J.D. Stockwell. 2020. Spring larval Coregonus diets and zooplankton community patterns in the Apostle Islands, Lake Superior. Journal of Great Lakes Research, https://doi.org/10.1016/j.jglr.2020.07.001.
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46. Rosinski*, C.L., **M.R. Vinson**, and D.L. Yule. 2020. Niche partitioning among native Ciscoes (Coregonus spp.) and non-native Rainbow Smelt in Lake Superior. Transactions of the American Fisheries Society 149:184–203, https://doi.org/10.1002/tafs.10219.

45. **Vinson, M.R.**, L. Chavarie, C.L. Rosinski*, H.K. Swanson. 2020. Trophic Ecology. Book chapter in Lake Charr *Salvelinus namaycush*: Biology, Ecology, Distribution, and Management. Edited by A. Muir, M. Hansen, S. Riley, C. Krueger. Springer Fish & Fisheries Series – Series Ed.: D. Noakes.

44. Chavarie, L., J. Hoffmann**, A.M. Muir, C.C. Krueger, C.R. Bronte, K.L. Howland, C. Gallagher, S.P. Sitar, M.J. Hansen, **M.R. Vinson**, L.L. Loseto, W. Tonn, and H. Swanson. 2019. Dietary vs non-dietary fatty acid profiles of lake trout morphs from Lake Superior and Great Bear Lake: Are fish really what they eat? Canadian Journal of Fisheries and Aquatic Sciences. 77:1209–1220, https://doi.org/10.1139/cjfas-2019-0343.

43. Weidel, B., J. Hoyle, M. Connerton, J. Holden, and **M. Vinson**. 2019. Lake Ontario cisco dynamics based on long-term surveys. Proceedings of the 13th International Coregonid Symposium, Ashland WI. Special issue, Advances in Limnology.

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33. **Vinson, M.R.** and T.R. Angradi. 2011. Stomach emptiness in fishes: sources of variation and study design implications. Reviews in Fishery Science 19:63-73. https://doi.org/10.1080/10641262.2010.536856.
32. **Vinson, M.R.** and P. Budy. 2011. Sources of variability and comparability between salmonid stomach contents and isotopic analyses: study design lessons and recommendations. Canadian Journal of Fisheries and Aquatic Sciences 68:137-151. https://doi.org/10.1139/F10-117.
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30. Gorman, O.T., M.P. Ebener, and **M.R. Vinson** [EDS.]. 2010. The state of Lake Superior in 2005. Great Lakes Fishery Commission Special Publication 10-01. http://www.glfc.org/pubs/SpecialPubs/Sp10_1.pdf.
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21. Sepulveda**, A.J., W.T. Collier, W.H. Lowe, and **M.R. Vinson**. 2009. Using nitrogen stable isotopes to detect long-distance movement in a threatened cutthroat trout (*Oncorhynchus clarkii utah*). Canadian Journal of Fisheries and Aquatic Sciences 66:672–682. http://www.nrcresearchpress.com/doi/abs /10.1139/F09-020.
20. **Vinson, M.R.**, E.C. Dinger***, J. Kotynek, and M. Dethier. 2008. Effects of oil pollution on aquatic macroinvertebrate assemblages in Gabon wetlands. African Journal of Aquatic Science 33:261-268. https://doi.org/10.2989/AJAS.2008.33.3.9.621.
19. **Vinson, M.R.** and E.P. Dinger***. 2008. Aquatic invertebrates of the Grand Staircase-Escalante National Monument. Southwestern Naturalist 53:374-384. https://doi.org/10.1894/JS-20.1.
18. **Vinson, M.R.** and M.A. Baker. 2008. Poor growth of North American rainbow trout (*Oncorhynchus mykiss*) fed New Zealand mud snail (*Potamopyrgus antipodarum*). North American Journal of Fisheries Management 28:701-709. https://doi.org/10.1577/M06-039.1.
17. Schultheis, A.S., J.Y. Booth, **M.R. Vinson**, M.P. Miller. 2008. Genetic evidence for cohort splitting in the merovoltine stonefly *Pteronarcys californica* (Newport) in Blacksmith Fork, Utah. Aquatic Insects 30: 187-185. https://doi.org/10.1080/01650420801971350.
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Unpublished technical reports

Listed are significant technical reports that I authored and a few major co-authored reports. Mentoring is denoted as was done for published products.

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11. Kershner, J.L., E.K. Archer, M. Coles-Ritchie, E.R. Cowley, R.C. Henderson, K. Kratz, C.M. Quimby, D.L. Turner, L.C. Ulmer, **M.R. Vinson**. 2004. A plan to monitor the aquatic and riparian resources in the area of PACFISh/INFISH and the biological opinion for bull trout, salmon, and steelhead. Interagency Regional Monitoring Program in the Pacific Northwest. U.S. Department of Agriculture, Rocky Mountain Research Station. Fort Collins. 102 pages.

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10. Kershner, J.L., E.K. Archer, M. Coles-Ritchie, E.R. Cowley, R.C. Henderson, K. Kratz, C.M. Quimby, D.L. Turner, L.C. Ulmer, **M.R. Vinson**. 2004. Guide to effective monitoring of aquatic and riparian resources. General Technical Report RMRS-GTR-121. U.S. Department of Agriculture, Rocky Mountain Research Station. Fort Collins, CO. 57 pages. https://www.fs.fed.us/rm/pubs/rmrs_gtr121.pdf.
9. Hawkins, C. J. Ostermiller, **M.R. Vinson**, R.J. Stevenson, J. Olson. 2003. Stream algae, invertebrate, and environmental sampling associated with biological water quality assessments: field protocols. http://files.cfc.umt.edu/cesu/NPS/USU/2003/Hawkins_Field_Protocol.pdf.
8. One of 19 authors. Wagner, F.H., ed. 2003. Preparing for a changing climate – the potential consequences of climate variability and change. Rocky Mountain/Great Basin regional climate-change assessment. A report of the Rocky Mountain/Great Basin Regional Assessment Team for the U.S. Global Change Research Program. http://www.indigodev.com/documents/Rocky_Mtn_Great_Basin_pcc.pdf.
7. **Vinson, M.R.** 2003. Aquatic invertebrate assemblages in the Virgin River in the vicinity of St. George, Utah. Washington County Water Conservation District, St. George, UT. 127 pages.
6. **Vinson, M.R.** and E. Thompson. 2001. A comparison of aquatic invertebrate assemblages in the Green River in Dinosaur National Monument between 1962 and 2001. Dinosaur National Monument, CO. 31 pages. https://www.usu.edu/buglab/Projects/ArchivedProjects/?item=42.
5. **Vinson, M.R.** 2001. A preliminary assessment of wetland invertebrate assemblages in northern Utah. State of Utah Governor's Office, Contract 010681, Salt Lake City, UT. 132 pages. https://www.usu.edu/buglab/Content/Files/UTWet02.pdf.
4. **Vinson, M.R.** 1998. Aquatic invertebrate assemblages downstream from Flaming Gorge Dam. Utah Division of Wildlife Resources, U.S. Bureau of Reclamation, Salt Lake City, UT. 121 pages.
3. **Vinson, M.R.** 1996. A sampling strategy for assessing aquatic invertebrates associated with endangered fish populations in the upper Colorado River Basin. Recovery Implementation Program for the Endangered Fishes of the Upper Colorado River Basin. Recovery Program Project Number 60, U.S. Fish and Wildlife Service, Denver, CO. 16 pages.
2. Angradi, T.R. and **M.R. Vinson**. 1996. Fine sediment – aquatic macroinvertebrate community relationships in headwater streams of the Monongahela National Forest. Technical Report to Monongahela National Forest Supervisor, Elkins, WV. 48 pages.
1. Angradi, T.R. and **M.R. Vinson**. 1995. Status and attitudes toward aquatic macroinvertebrate monitoring on National Forests and Districts of the Bureau of Land Management. U.S.F.S. General Technical Report NE 200. 14 pages.

Submitted manuscripts

1. Scofield, A, T. Hook, D. Bunnell, A. Fisk, J. Hoffman, T. Johnson, B. Weidel, H. Bootsma, B. Crimmins, R. Krauss, S. McNaught, B. Nawrocki, M. Rennie, **M. Vinson**, P. Collingsworth.

Consistent patterns in δ13C and δ15N of multiple trophic levels across the Laurentian Great Lakes. Proceedings of the National Academy of Sciences of the United States of America.

2. Matthias, B.G., T.R. Hrabik, J.C. Hoffman, O.T. Gorman, M.J. Seider, **M.R. Vinson**, D.L. Yule, M.E. Sierszen, P.M. Yurista. Trophic transfer efficiency in the Lake Superior food web: assessing the impacts of non-native species. Journal of Great Lakes Research.
3. **Vinson, M.R.**, Sierszen, M.E., Harvey, C.J., Myers, J.T., Yule, D.L. Declines in lipid content of Lake Superior lake trout, *Salvelinus namaycush*. Journal of Great Lakes Research.
4. **Vinson, M.R.**, T.R. Angradi and L.M. Evrard. Evidence for recent changes in the thermal regime of the Lake Superior nearshore zone. Canadian Journal of Fisheries and Aquatic Sciences.
5. **Vinson, M.R.**, T.R. Angradi and L.M. Evrard. Predicting ice breakup date for Chequamegon Bay of Lake Superior. PlosONE.
   Data release: https://www.sciencebase.gov/catalog/item/5cd07b1ce4b09b8c0b79a358

Invited or noteworthy presentations

Cisco recruitment dynamics. September 2019. The Nature Conservancy Benefactor Gala, Duluth, Minnesota.

Effect of El Nino events on Lake Superior fisheries. May 2016. University of Michigan, Ann Arbor, Michigan.

State of Lake Superior. March 2013. Great Lakes Fishery Commission Annual Lake Committee Meeting. Duluth, Minnesota.

Historical observations of hydrology and aquatic invertebrate changes in the Green River. March 2011. Keynote Address Spring Runoff Conference Utah State University, Logan, Utah.

Ecology and life history of the New Zealand mud snail. March 2010. Department of Fisheries & Oceans Canada. **Ottawa, Canada**.

The natural hydrograph and its influence on native biota. October 2008. **Islamabad, Pakistan**.

Global patterns in aquatic invertebrate biodiversity. June 2008. **Islamabad, Pakistan**.

Global freshwater biodiversity. December 2006. **Gamba, Gabon, Africa**.

Aquatic invasive species. March 2003. Plenary talk American Fisheries Society Meeting, Grand Junction, Colorado.

A history of the Green River downstream from Flaming Gorge Dam. November 2000. Grand Canyon Monitoring and Research Center, Mesa, Arizona.

Effects of climate warming on stream invertebrate assemblages. February 2000. International Think Tank to assess climate-change effects on aquatic ecosystems. Salt Lake City, Utah.

Contributed Presentations

I have given >200 presentations and been a co-author on another 200 presentations that were given at national and international professional and societal meetings. Five recent and five older examples are

shown.

Lake Superior multi-trophic level survey results. State of Lake Superior Conference. October 2018. Houghton, MI.

Lake Superior lean and siscowet lake charr trophic overlap. June 2018. International Lake Charr Symposium. Duluth, MN.

Winter Severity and Survival of Larval and Age-1 Ciscoes in Lake Superior. September 2017. International Coregonid Symposium. Bayfield, WI.

Trophic ecology of four morphotypes of Lake Trout in Lake Superior. May 2016. International Association of Great Lakes Researchers. Toronto, Canada. Co-author with Justin Hoffman.

Exploring trends, causes, and consequences of declining lipids in Lake Superior lake trout. May 2016. Association for the Society of Limnology and Oceanography. Santa Fe, NM. Co-author with Michael Sierszen.

Sources of variability in salmonid isotopic analyses: identifying an appropriate sample. February 2009. American Fisheries Society Annual Meeting, Duluth, MN.

Effects of sample collector and taxonomist on macroinvertebrate sample accuracy and bias. May 2008. North American Benthological Society Annual Meeting, Salt Lake City, UT.

Biotic variability across multiple spatial scales: implications for defining reference conditions and assessing the ecological integrity of streams. September 1998. International Water Pollution Conference, Vienna, Austria. Co-author with Charles Hawkins.

Patterns of local and regional taxa richness in streams of North America. August 1998. XXVII International Limnological Society Congress, Dublin, Ireland. Co-author with Charles Hawkins.

Effectiveness of an a priori ecoregion classification in predicting the composition of stream invertebrate assemblages. June 1998. North American Benthological Society Annual Meeting. Prince Edwards Island, Canada. Co-author with Charles Hawkins.

Videos

https://www.youtube.com/user/AshlandRiolover/videos. Channel followers >550, views >400,000.

Television and radio

3-6 interviews per year. Canadian Broadcasting Company - As it Happens, Quirks and Quarks, Wisconsin Public Radio, National Public Radio All Things Considered, British Broadcasting Company Scotland,

Newspaper and magazines: 3-10 interviews per year. TIME, TROUT, High Country News, local and regional newspapers

Professional and Scientific Service

Examples over the past 10 years

Subject Matter Expert. Risk Assessment for Pygmy Whitefish. Department of Fisheries & Oceans Canada. Ottawa, Canada. December 2019.

Symposium Planning Committee, 2018 International Charr Symposium. Duluth, MN.

Symposium Planning Committee, 2017 International Coregonus Symposium. Bayfield, WI.

Symposium Co-Chair. What swims beneath: innovative applications for emerging problems. 2014 International Association of Great Lakes Researchers Conference, Hamilton, Ontario.

Symposium Co-Chair. The new food web: emerging methods for bringing together social and ecological networks. 2012 American Fisheries Society Annual Conference, St. Paul, MN.

Chair Local Arrangements Committee. 2013 Lake Superior Coordinated Science and Monitoring Workshop, Duluth, MN.

Chair Local Arrangements Committee. 2010 Ecology of Lake Superior Conference, Duluth, MN.

Subject Matter Expert. Risk Assessment for the New Zealand mud snail in Canadian Waters. Department of Fisheries & Oceans Canada. Ottawa, Canada. March 2010.

Journal Reviewer –I review ~one journal paper per month. Journals include: African Journal of Agricultural Research, American Midland Naturalist, American Geophysical Union, Aquatic Sciences, Archiv Für Hydrobiologie, Biological Invasions, Canadian Field Naturalist, Canadian Journal of Fisheries and Aquatic Sciences, Conservation Biology, Ecological Applications, Ecological Entomology, Ecology, EcoSphere, Environmental Management, Freshwater Biology, Fundamental and Applied Limnology, Global Ecology and Biogeography, Hydrobiologia, Insect Ecology, Journal of Applied Ecology, Journal of the Arizona-Nevada Academy of Science, Journal of Biogeography, Journal of the North American Benthological Society, Journal of Tropical Ecology, Lakes & Reservoirs: Research and Management, New Zealand Journal of Marine and Freshwater Research, North American Journal of Fisheries Management, Transactions of the American Fisheries Society, Western North American Naturalist.

Grant Reviewer – U.S. Environmental Protection Agency, U.S Geological Survey

USGS Research Grade Evaluation Panels – 2009, 2013

American Fisheries Society. Numerous assignments over the past 25 years. An example being co-organized a symposium on, “The New Food Web: Emerging Methods for Bringing Together Social and Ecological Networks” at 2012 national meeting.

Society for Freshwater Science. Taxonomic Certification Committee. 2005 to 2010. Chair of the Local

Arrangements Committee for 2008 Annual Meeting of the North American Benthological Society, Salt Lake City, UT (1,100 people). Organized local arrangements, field trips, designed the logo and SWAG bags, and handled daily crises. Field trip leader for a two-day trip exploring aquatic habitats of the Great Basin (25 people).

Academic Service

Academic appointments

Utah State University, Research Assistant Professor, 1999-2008

Students or postdocs advised or mentored

Graduate Student, Major advisor

- Bennett Hestmark. Master's student 2007-2010. Historical changes in aquatic plants in the Green and Yampa Rivers, Dinosaur National Monument. Publication B39.
- Annie Caries. Master's student 2005-2007. Impacts of slot canyon hikers on aquatic invertebrate assemblages in the North Fork of the Virgin River, Utah. Publication B26.
- Tarita Harju. Master's student 2004-2006. Modeling regional distribution and local food web dynamics of the New Zealand mud snail (*Potamopyrgus antipodarum*).

Graduate Student, Committee Member - ~Five Masters and one PhD student, 1999-2008.

Undergraduate student research mentor - ~one per year since 1999, recent examples shown

- Kaity Tapper, 2018-2020, Ontogenetic change in siscowet Lake Trout diets. Presentation at International Lake Charr Symposium. Will lead to a publication. Currently a student at Northland College.
- Will Otte, 2017-2019, Lake Superior Deepwater Sculpin age and growth. Publication B52. Currently a Master's student at Northern Michigan University.
- Joe Mrnak, 2015-2016, Age and growth of Rainbow Smelt in Lake Superior. AFS presentation. Currently a PhD student at UW-Madison.
- Taylor Lepak, 2013-2014, Age and growth of Kiyi in Lake Superior. Publication B42. Currently a high school science teacher.
- Taylor Stewart, 2012-2014, Age and growth of Pygmy Whitefish in Lake Superior. Publication B41. Currently a PhD student at University of Vermont.
- Kristin Brunk, 2012-2013, Mayflies in Chequamegon Bay, Lake Superior. Publication B36. Currently a PhD student at UW-Madison.

Courses taught and seminars presented

2000-2008, Aquatic Entomology, Utah State University

University Seminars: ~50 mostly between 1998-2008. About one a year since 2008.

Technical Training Provided

- Course organizer. Trawling and fish behavior workshop. Great Lakes state and federal agency biologists and ship crew. Ann Arbor, MI. November 2013. This fundamental question had not been previously addressed in the Great Lakes.
- Course organizer and instructor. Pakistan Ministry of Environment. Islamabad and Kashmir, Pakistan. Stream gaging and fish and invertebrate collection and identification. October 2008.
- Course organizer and instructor. Smithsonian Institution, Gabon, Africa. Aquatic invertebrate collection and identification. December 2006.
- Course organizer and instructor. Annual (1995-2008) Two-day summer continuing education class for high school teachers on aquatic ecology. 10-15 people per year.
- Instructor. Aquatic invasive species identification class. March 2003. Continuing education class for American Fisheries Society Meeting, Grand Junction, CO. 40 people
- Course organizer and instructor. Aquatic invasive species identification class. January 2003. Utah Fish Health Board, Salt Lake City, UT. 25 people.

References – available upon request