Mary E. Ogdahl

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Education

M.S., Environmental Science/Applied Ecology, 2002
Indiana University, Bloomington, IN

B.A., *summa cum laude,* Biology, Minor in Geology, 2000
Wittenberg University, Springfield, OH

Professional Experience

Research Associate & Lab Manager, Annis Water Resources Institute, Grand Valley State University, Muskegon, MI: 2004-Present

- Implemented multiple scientific research projects, including experimental planning and set-up, coordination of field sampling, and collection and processing of field samples
- Managed large datasets; analyzed and reported data from research projects
- Assisted in writing and proofreading scientific manuscripts and reports
- Developed project budgets and contributed to project proposals, particularly work plans
- Wrote and implemented Quality Assurance Project Plans for the collection and analysis of data
- Analyzed samples in the laboratory for algal biomass, macrophyte identification, and invertebrate community composition
- Maintained, constructed, and acquired laboratory and field equipment; trained students and staff on their use
- Served as webmaster for institute-wide website and maintained institute presence on social media
- Supervised technicians, graduate students, and student interns in field and laboratory work
- Coordinated the production of the institute's annual review newsletter

Aquatic Biologist, Grand Traverse Band of Ottawa and Chippewa Indians, Peshawbestown, MI: 2002-2004

- Implemented the Grand Traverse Band's Water Quality Program, which involved surface water monitoring, groundwater protection, wetland management and protection, and nonpoint source pollution prevention
- Analyzed and reported water quality data
- Identified macroinvertebrate samples for bioassessment of streams
- Participated in watershed collaboration activities — local, Lake Michigan, and the Great Lakes basin
- Developed and used environmental education materials, presentations, and activities
- Developed and implemented Quality Assurance Project Plans for the collection and analysis of data

Other Experience

Teaching Assistant, Indiana University School of Public and Environmental Affairs, Bloomington, IN: 2000-2002

- Assisted in laboratory and lecture instruction of graduate and undergraduate students in Limnology, Stream Ecology, and Computing for Environmental Scientists
- Instructed students in physical, chemical, and biological lake and stream sampling techniques
- Guided students through macroinvertebrate, plankton, fish, and periphyton identification
- Directed chemical analyses in the laboratory for nutrients and other water quality parameters
- Maintained and prepared field and laboratory equipment

Research Assistant, Indiana University School of Public and Environmental Affairs, Bloomington, IN: 2000

- Collected field data and water samples from designated lakes for the Indiana Clean Lakes Program
- Conducted laboratory analyses to determine nutrient content (nitrogen & phosphorous) of water samples
- Implemented quality assurance / quality control protocols in the laboratory and field
- Results used in Indiana's biennial 305(b) report to the U.S. Environmental Protection Agency

Research Assistant, Wittenberg University, Springfield, OH: 1999

- Led intensive field survey that tracked wood turtles (*Clemmys insculpta*) using radio telemetry to estimate their home range
- Wrote grant proposal to successfully fund project
- Shared data with the U.S. Forest Service to supplement Huron National Forest management plan

Publications

Ogdahl, M.E., and A.D. Steinman. In Press. Factors influencing macrophyte growth and recovery following shoreline restoration activity. Aquatic Botany.

Steinman, A.D., **M.E. Ogdahl**, M. Weinert, and D.G. Uzarski. 2014. Influence of water level fluctuation duration and magnitude on sediment-water nutrient exchange in coastal wetlands. Aquatic Ecology 48:143–159. DOI: 10.1007/s10452-014-9472-5.

Ogdahl, M.E., A.D. Steinman, and M. Weinert. 2014. Laboratory-determined phosphorus flux from lake sediments as a measure of internal phosphorus loading. Journal of Visualized Experiments-Environment 85: e51617. DOI: 10.3791/51617. http://www.jove.com/video/51617/

Steinman, A.D., **M.E. Ogdahl**, K. Thompson, M.J. Cooper, and D.G. Uzarski. 2012. Water level fluctuations and sediment-water nutrient exchange in Great Lakes coastal wetlands. Journal of Great Lakes Research 38: 766-775.

Steinman, A.D., and **M.E. Ogdahl**. 2012. Macroinvertebrate response and internal phosphorus loading in a Michigan lake following alum treatment. Journal of Environmental Quality 41: 1540-1548.

Steinman, A.D., **M.E. Ogdahl**, K. Wessell, B. Biddanda, S. Kendall, and S. Nold. 2011. Periphyton response to simulation nonpoint source pollution in the lower Muskegon River watershed. Aquatic Ecology 45: 439-454. DOI: 10.1007/s10452-011-9366-8.

Steinman, A.D., and **M.E. Ogdahl**. 2011. Does converting agricultural fields to wetlands retain or release phosphorus? Journal of the North American Benthological Society 30: 820-830.

Steinman, A.D., **M.E. Ogdahl,** and C. R. Ruetz III. 2011. An environmental assessment of a small shallow lake threatened by urbanization. Environmental Monitoring and Assessment 173: 193-209. DOI: 10.1007/s10661-010-1381-z.

Ogdahl, M.E., V.L. Lougheed, R.J. Stevenson, and A.D. Steinman. 2010. Influences of multi-scale habitat on metabolism in a coastal Great Lakes watershed. Ecosystems 11:222-238. DOI: 10.1007/s10021-009-9312-y.

Steinman, A.D., **M. Ogdahl**, and M. Luttenton. 2009. An analysis of internal phosphorus loading in White Lake, Michigan. Pages 311-325. F.R. Miranda and L.M. Bernard (editors). Lake Pollution Research Progress. Nova Science Publishers, NY.

Steinman, A.D., X. Chu, and **M. Ogdahl.** 2009. Spatial and temporal variability of internal and external phosphorus loads in an urbanizing watershed. Aquatic Ecology 43: 1-18.

Cymbola, J., **M**. **Ogdahl**, and A.D. Steinman. 2008. Phytoplankton response to light and internal phosphorus loading from sediment release. Freshwater Biology 53: 2530-2542.

Steinman, A.D**.**, **M. Ogdahl**, R. Rediske, C.R. Ruetz III, B.A. Biddanda, and L. Nemeth. 2008. Current status and trends in Muskegon Lake, Michigan. Journal of Great Lakes Research 34: 169-188.

Steinman, A.D. and **M. Ogdahl**. 2008. Ecological effects after an alum treatment in Spring Lake, Michigan. Journal of Environmental Quality 37:22-29.

Steinman, A.D. and **M.E. Ogdahl**. 2006. Environmental conditions (of freshwater sustainability). Water Resources IMPACT 8:39-40.

Steinman, A.D., and **M. Ogdahl**. 2004. An innovative funding mechanism for the Muskegon Lake AOC. Journal of Great Lakes Research 30:341–343.

Presentations

"Using Macrophytes to Assess Restoration Success in Muskegon Lake, Michigan." Society for Freshwater Science Annual Meeting, Jacksonville, FL, May 2013.

"Reconciling the Bear Lake Phosphorus TMDL with Scientific Data Needed for Management Decisions." Michigan Water Environment Association Annual Conference, Boyne Falls, MI, June 2013.

"Phosphorus Reduction to Achieve Total Maximum Daily Load (TMDL) Requirements: The Role of Internal Loading in a West Michigan Lake." Society for Freshwater Science Annual Meeting, Louisville, KY, May 2012.

"Long-Term Ecological Responses to Alum Treatment in Spring Lake, Michigan." North American Benthological Society Annual Meeting, Providence, RI, May 2011.

"Long-Term Ecological Responses to Alum Treatment in Spring Lake, Michigan." Michigan Chapter of the North American Lake Management Society Annual Conference, Tustin, MI, September 2011.

"Environmental Effects of Road Runoff on Little Black Creek." North American Benthological Society Annual Meeting, Grand Rapids, MI, May 2009.

"Spatial and Temporal Variability in Periphyton Response to Simulated Nonpoint Source (NPS) Inputs in the Muskegon River Watershed, Michigan." North American Benthological Society Annual Meeting, Salt Lake City, UT, May 2008.

"Ecological Responses to Alum Treatment in Spring Lake, Michigan." North American Benthological Society Annual Meeting, Columbia, SC, May 2007.

"A Methodology for Assessing Erosion Control Best Management Practice (BMP) Effectiveness." National Nonpoint Source Monitoring Workshop, Austin, TX, August 2007.

"Macro- and Microhabitat Influences on Algal Productivity in a Coastal Great Lakes Watershed." North American Benthological Society Annual Meeting, Anchorage, AK, May 2006.

"Benthic Metabolism in the Lower Muskegon River Watershed." International Association for Great Lakes Research Annual Conference, Ann Arbor, MI, May 2005.

Honors and Awards

- Employee of the Year, Annis Water Resources Institute, Grand Valley State University, 2009
- Graduate Academic Award for Highest MSES GPA, School of Public and Environmental Affairs, Indiana University, 2002
- Graduate Assistantship, School of Public and Environmental Affairs, Indiana University, 2000-2002
- Melissa Clark Academic Scholarship, Indiana University, 2001
- Phi Beta Kappa, Wittenberg University, 2000
- Wittenberg University Scholar Award, 2000
- Wittenberg University Departmental Honors Award in Biology, 2000
- Wittenberg University Outstanding Achievement Award in Biology, 2000
- Wittenberg University Faculty Research Fund Board Student Research Award, 1999

Transferable Skills

- Exceptional writing and editing ability
- Excellent communication and interpersonal skills
- Advanced computer skills — Microsoft Access, R, Sigma Plot, ArcView, ArcGIS, Dreamweaver
- Use of equipment and protocols for collecting physical, biological, and chemical data in a variety of aquatic habitats
- Identification of aquatic macroinvertebrates, freshwater plankton, terrestrial and aquatic vegetation
- Analysis of samples in the laboratory for algal biomass, nutrients, and other water quality parameters
- Use of Geographical Information Systems (GIS) for spatial data analysis