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# MATTHEW C. TENEYCK, Ph. D.

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## CURRENT POSITION

### **Director and Assistant Scientist, Lake Superior Research Institute**

University of Wisconsin-Superior, PO Box 2000, Superior, WI. 54880

## EDUCATION

Ph. D. University of Minnesota-Duluth. 2015. Water Resources Science.  
M.S. Oklahoma State University-Stillwater. 2001. Zoology. Minor: Statistics  
B.S. University of Wisconsin-Superior. 1998. Biology. Minor: Chemistry

## SCIENTIFIC AND PROFESSIONAL INVOLVEMENT

- Society of Environmental Toxicology and Chemistry
- International Association of Great Lakes Research
- Member of Editorial Board for *Bulletin of Environmental Contamination and Toxicology*
- Chair of the LSRI Personnel Committee
- Courses taught as part of appointment for Biology and Earth Science Department at University of Wisconsin-Superior:

2001, 2002, 2004	Cell Molecular Botany
2001	Ecology Laboratory
2003	Explorations in Environmental Science
2004	Techniques in Cell Biology
2006, 2013, 2014	Environmental Science
2009	Environmental Science – Distant Learning (Online)

## EMPLOYMENT HISTORY

2013-Present **Assistant Scientist**, Lake Superior Research Institute, University of Wisconsin – Superior

Obtained over \$1.3 million in externally funded research grants that support multi-disciplinary staff as well as students. Served as principal and co-principal investigator on several research projects in the areas of toxicology, environmental science, and invasion ecology. Such projects ranged from developing a rat database for high quality rat inhalation studies, to working cooperatively with colleagues from Northeast Midwest Institute and the University of Wisconsin Superior on the testing of ballast water treatment systems at the bench scale level and to serving as one of the principal investigators on a multi-year project attempting to understand the mechanisms behind aquatic invasions. I have experience in administration of federal, state, and private grants and contracts as well as developed budgets in support of research projects. I have also worked collaboratively with several of LSRI's staff such Amy Eliot, Christine Polkinghorne, Mary Balcer, and Paul Hlina in the development and execution of research projects.

2006-2013 **Associate Researcher**, Lake Superior Research Institute, University of Wisconsin – Superior

Served as manager for LSRI's toxicology testing and culture units. Served as principal investigator (PI)

and Co-PI on environmental research projects. Duties include: supervising and training students in culturing techniques for aquatic organisms; performing general water chemistry characterizations (dissolved oxygen, temperature, pH, alkalinity, hardness, ammonia, conductivity) for the culturing unit and toxicity tests; maintaining quality control charts for reference toxicity tests; and creating, reviewing, and updating standard operating procedures (SOPs).

Served as PI on sediment and water-only toxicology studies. Duties include: designing and building sediment-timed-intermittent-renewal (STIR) system for UV-light and PAH studies; calibrating and maintaining proportional diluters for additive toxicity studies; preparing chemical stocks for additive toxicity exposures; recording measurements of routine water quality parameters for sediment and water-only toxicity studies; creating data sheets for routine data collections; reducing and summarizing data results; working cooperatively with LSRI's QA/QC Manager in verification of data; and preparing written reports. Also served as the primary trainer of all students in toxicity study and aquatic organism culturing procedures. Adjunct lecturer for the UWS Biology Department, by teaching courses in cell/molecular botany, cell biology, and environmental sciences.

2000-2006      **Assistant Researcher**, Lake Superior Research Institute, University of Wisconsin – Superior

Served as manager and primary student supervisor for LSRI's toxicology testing and culture units. Duties included: supervising and training students in culturing techniques for aquatic organisms; performing general water chemistry characterizations (dissolved oxygen, temperature, pH, alkalinity, hardness, ammonia, conductivity) for the culturing unit and toxicity tests; maintaining quality control charts for reference toxicity tests; and creating, reviewing, and updating standard operating procedures (SOPs). Served as an educator for undergraduate classes in ecology and botany, in addition to being a lecturer for LSRI's educational programs aboard the university's research vessel.

1998-2000      **Graduate Student/Research Assistant**, Oklahoma State University-Stillwater

Examined the relationship of chemical residue lipid-normalized tissue on the biota-soil accumulation factor and studied the chronic effects of organic toxicants on invertebrate organism populations. Developed microcolorimetric sulphophosphovanillin-lipid analysis technique for earthworms (*E. fetida*); in addition to developing and maintaining soil toxicology tests. Developed HPLC and GC methods for the analysis of environmental samples and maintained aquatic organisms for toxicity testing program. Operated electrofishing gear, sediment collecting equipment, and insect collecting equipment as part of a team project at a Superfund site in Picher, OK. Using various software packages, entered, summarized, and presented data from studies. Developed and edited standard operating procedures (SOPs). Taught graduate and undergraduate classes in stream ecology and limnology; served as zoology department representative to Graduate and Professional Student Association (GPSA) and the zoology faculty council.

Summer 1998    **Stream Ecologist Technician II**, Department of Natural Resources; Brule, WI.

Supervised a sampling team and measured physical stream parameters such as: canopy cover; riparian zone; woody debris; substrate composition; stream reaches and channel units. Collected and identified cold-water stream fishes. Operated and maintained stream electro-fishing equipment, field vehicles and other sampling equipment. Organized and summarized field data.

## **PUBLICATIONS**

Briski, E., L. E. Allinger, M. Balcer, A. Cangelosi, L. Fanberg, T. P. Markee, N. Mays, C. N. Polkinghorne, K. R. Prihoda, E. D. Reavie, D. H. Regan, D. M. Reid, H. J. Saillard, T. Schwerdt, H.

Schaefer, **M. C. TenEyck**, C. J. Wiley, and S. A. Bailey. 2013. Multidimensional approach to invasive species prevention. *Environ. Sci. Technol.* 47, 1216–1221.

TenEyck, M. C., and T.P. Markee. 2007. Additive toxicity of nonylphenol, nonylphenol monoethoxylate, and nonylphenol diethoxylate to selected freshwater species, *Pimephales promelas* (fathead minnow) and *Ceriodaphnia dubia*. *Arch. Environ. Contam. Toxicol.* 53, 599-606.

## **CURRENT REPORTS**

Cangelosi, A., M. Aliff, L. Allinger, M. Balcer, K. Beesley, L. Fanberg, S. Hagedorn, T. Mangan, N. Mays, C. Polkinghorne, K. Prihoda, J. Radniecki, E. Reavie, D. Regan, E. Ruzycski, H. Saillard, H. Schaefer, T. Schwerdt, M. Stoolmiller and **M. C. TenEyck**. 2015. Land-Based Status Test of the JFE BallastAce Ballast Water Management System and Components at the GSI Testing Facility. Final report submitted to Great Ships Initiative, Northeast-Midwest Institute, Washington, D. C., USA.

TenEyck, M. C., N. Mays and A. Cangelosi. 2014. Bench-Scale Test Findings: Electrolytic Cell Component of the SiCURE™ Ballast Water Management System. Final report submitted to Great Ships Initiative, Northeast-Midwest Institute, Washington, D.C., USA.

TenEyck, M. C., N. Mays and A. Cangelosi. 2013. Bench-Scale Test Findings: Sodium Hydroxide Ballast Water Treatment. Final report submitted to Great Ships Initiative, Northeast-Midwest Institute, Washington, D.C., USA.

TenEyck, M. C., N. Mays and A. Cangelosi. 2013. Bench-Scale Test Findings: Bacoustics Ballast Water Treatment System. Final report submitted to Great Ships Initiative, Northeast-Midwest Institute, Washington, D.C., USA.

TenEyck, M. C., N. Mays and A. Cangelosi. 2013. Bench-Scale Test Findings: BallaClean 501 and BallaClean 701 (in combination with Hydrogen Peroxide). Final report submitted to Great Ships Initiative, Northeast-Midwest Institute, Washington, D.C., USA.

TenEyck, M.C. and D.K., Branstrator. 2012. Final report: Testing Relationships Between Propagule Pressure and Establishment Success of a Nonnative Species, *Daphnia magna*. Final report submitted to The Great Lakes Maritime Research Institute, Duluth, MN., USA.

TenEyck, M. C., N. Mays and A. Cangelosi. 2011. Bench-Scale Test Findings: AquaMost Ballast Water Treatment System. Final report submitted to Great Ships Initiative, Northeast-Midwest Institute, Washington, D.C., USA.

TenEyck, M. C., N. Mays and A. Cangelosi. 2011. Bench-Scale Test Findings: Hydrated Lime, Ca(OH)<sub>2</sub>. Final report submitted to Great Ships Initiative, Northeast-Midwest Institute, Washington, D.C., USA.

TenEyck, M. C., N. Mays and A. Cangelosi. 2010. Bench-Scale Test Findings: Ozone (O<sub>3</sub>) and Sonic Energy. Final report submitted to Great Ships Initiative, Northeast-Midwest Institute, Washington, D.C., USA.

TenEyck, M. C. and A. Cangelosi. 2009. Bench-Scale Test Findings: Sodium Chloride (NaCl) - Brine. Final report submitted to Great Ships Initiative, Northeast-Midwest Institute, Washington, D.C., USA.

TenEyck, M. C. and A. Cangelosi. 2009. Bench-Scale Test Findings: Sodium Hydroxide (NaOH). Final report submitted to Great Ships Initiative, Northeast-Midwest Institute, Washington, D.C., USA.

TenEyck, M. C. and A. Cangelosi. 2009. Bench-Scale Test Findings: Sodium Hypochlorite Solution. Final report submitted to Great Ships Initiative, Northeast-Midwest Institute, Washington, D.C., USA.

TenEyck, M. C., N. Mays and A. Cangelosi. 2009. Bench-Scale Test Findings: SeaKleen 80® (Menadione). Final report submitted to Great Ships Initiative, Northeast-Midwest Institute, Washington, D.C., USA.

### **Funded Research Proposals**

Bioaccumulation of Toxins to Aquatic Invertebrates, Munger Slip, Duluth, MN. 2015. Bay West, Inc. \$48,605.

How Clean is Clean? 2014. Great Lakes Protection Fund #960.1. \$210,480.

Douglas County Aquatic Invasive Species Coordinator. 2011. Douglas County Land Conservation Department. \$144,800.

Characterizing the Risk-release Relationship for Aquatic Invasive Species in the Great Lakes. 2011. Great Lakes Protection Fund #960.0. \$414,771.

Development of Rodent Inhalation Database with High Quality Data. 2010. International QSAR Foundation. \$13,000.

Toxicity Evaluation of Thiopave Eluate to Aquatic Organisms and Agricultural Plants. 2010. Shell Oil Products US (SOPUS). \$17,697.

Developing Strategic Databases and QSAR Models For Identifying Persistent Bioaccumulative Toxic (PBT) Chemicals in the Great Lakes. 2007. QSAR Foundation. \$40,000.

Evaluation of Sediments from the St. Louis River Area of Concern, Superior, WI., for Toxicity to *Hyallella azteca* and *Chironomus dilutus* Exposed in Bioassays. 2007. Earth Tech. Inc. \$119,256.

Toxicity Evaluation of Sediments from Hog Island Inlet and Newton Creek, Lake Superior, at Superior, WI. 2006. Short, Elliott and Hendrickson, Inc. \$9,000.

Toxicity Reduction Evaluation of Water From Tire Shreds, In Oak Grove, Minnesota. 2006. Minnesota Department of Transportation. \$20,052.

Evaluation of Sediments from the Ashland Harbor Lakefront Site for Toxicity to *Hyallella azteca*, *Pimephales promelas*, *Chironomus dilutus*, and *Lumbriculus variegatus* Exposed in a variety of Bioassays. 2005. URS Corporation. \$167,887.

Toxicity of Ferrate to *D. magna*, a Freshwater Zooplankton. 2005. Ferrate Treatment Technologies, LLC. \$10,488.

Additive Toxicity of Nonylphenol, Nonylphenol Monoethoxylate, and Nonylphenol Diethoxylate to Selected Freshwater Species, *Pimephales promelas* (Fathead Minnow) and *Ceriodaphnia dubia*. 2005. U.S. EPA GLNPO. \$10,000.

Toxicity Evaluation of Water From Tire Shreds, In Oak Grove, Minnesota. 2005. Minnesota Department of Transportation. \$5,366.

Toxicity Evaluation of Effluent Water from the Rice Lake Landfill, Rice Lake WI. 2003. Cooper Engineering Company, Inc. \$3,662.

Dioxin Emissions Inventory Project for the Lake Superior Basin. 2002. U.S. EPA GL-97513101-0. \$49,738.

Toxicity Evaluation of Sediments from Hog Island Inlet, Lake Superior, at Superior, WI. 2002. Short Elliott and Hendrickson, Inc. \$33,900.