ALAN D. STEINMAN

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Annis Water Resources Institute
Grand Valley State University
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EDUCATION:

Post-doc	1987-92	Oak Ridge National Laboratory	Ecosystem Ecology
Ph.D.	1987	Oregon State University	Botany/Aquatic Ecology
M.S.	1983	University of Rhode Island	Botany
B.S.	1979	University of Vermont (cum laude)	Botany

EMPLOYMENT HISTORY

Allen and Helen Hunting Research Professor of Water Resources, Annis Water Resources Institute, Grand Valley State University, Muskegon, MI: August, 2022 - present.

- Teach graduate level courses
- Principal investigator for research projects dealing with eutrophication, ecosystem restoration, primary productivity, and water resources policy
- Community outreach and service
- Advancement leadership and activities

Allen and Helen Hunting Director and Professor of Water Resources, Annis Water Resources Institute, Grand Valley State University, Muskegon, MI: August, 2001-August, 2022.

- Supervise 65-person Institute devoted to water resources research, geospatial information technology, and education/outreach
- Teach graduate level courses
- Principal investigator for research projects dealing with eutrophication, ecosystem restoration, primary productivity, and water resources policy
- Community outreach and service
- Advancement leadership and activities

Director, Lake Okeechobee Department, South Florida Water Management District (SFWMD), West Palm Beach, FL: September, 1999 – August, 2001.

- Supervise 50-person program devoted to ecosystem-level research, modeling, regulation, and the planning, construction, and implementation of public works projects dealing with the restoration of Lake Okeechobee and its watersheds; manage and evaluate staff; develop and oversee a $20 million annual budget; provide technical guidance for the research program; manage external contracts; and conduct research on nutrient cycling and primary productivity
- Adjunct Professor, Department of Biology, Florida Atlantic University, 1994-present

Director, Okeechobee Systems Research Division, South Florida Water Management District (SFWMD), West Palm Beach, FL: September 1996-99.

- Supervise 25-person division devoted to ecosystem-level research and modeling, dealing with

the restoration of Lake Okeechobee and its watershed, and the estuaries that connect to the lake; manage and evaluate staff; develop and oversee a $3.5 million annual budget; provide technical guidance for the research program; manage external contracts; and conduct research on nutrient cycling and primary productivity

Supervising Professional Environmental Scientist, SFWMD, West Palm Beach, FL: November 1993-Sept. 1996.

- Manage ecosystem research program on Lake Okeechobee and associated estuaries; conduct research on aquatic and agro-ecosystems; provide guidance to limnological and estuarine projects; manage and evaluate 9 scientists and technicians; serve as contract manager for limnological and estuarine research projects

Senior Scientist, Science Applications International Corporation (SAIC), San Diego, CA: October 1992 October 1993.

- Conduct research on Tijuana River
- Adjunct Professor, Department of Biology, San Diego State University

COURSES TAUGHT:

Introductory Botany; Plant Physiology; Stream Ecology; Emerging Issues in Water Resources

ACADEMIC AWARDS AND HONORS:

- **2025 Award of Excellence** from the Society for Freshwater Science. This award recognizes a person's outstanding contributions to freshwater science (https://freshwater-science.org/awards-programs/award-excellence), 2025.
- **Distinguished Contribution in a Discipline Award**, in recognition of exceptional achievements in research, Grand Valley State University, 2025.
- **McNALMS Dr. Niles R. Kevern Lifetime Achievement Award**, given to a Michigan limnologist or aquatic scientist who has significantly contributed to the advancement of the understanding of lakes, has provided leadership in addressing key lake issues, and has exhibited excellence in promoting lake ecology and/or management. 2024.
- **CR Everson Award**. West Michigan Environmental Action Council (for long-term dedication and contribution to environmental protection in Michigan). 2024.
- **Nomination**, 2022 Jim LaBounty Best Paper Award in Lake and Reservoir Management for Kindervater, Oudsema, Hassett, Partridge, and **Steinman**. Assessment of the effectiveness of muck-digesting bacterial pellets. Lake and Reservoir Management 38: 150-164.
- **Fellow**, Society of Freshwater Science, 2021.
- **Award of Excellence for 2017**, National Garden Clubs, Inc. 2017.
- **Keiser Distinguished Lecturer in Life Sciences**, Ohio Northern University, 2016.
- **Patricia B. Johnson Award** for Leadership and Innovative Grantmaking, Community Foundation for Muskegon County, 2016: https://cffmc.org/past-news/dr-alan-steinman-receives-foundation-award/
- **Michigan Environmental Hall of Fame** (on behalf of AWRI), 2016.
- **Natural Resource Custodian Award**, Muskegon Conservation District, 2013
- **Sustainability Champion,** Grand Valley State University, 2012
- **Paul Harris Fellow**, Rotary Foundation of Rotary International, 2011
- **Outstanding Achievement Award** (as part of the MI Groundwater Conservation Advisory Council for development of Water Withdrawal Assessment Tool), Renewable Natural Resources Foundation, 2010

- **State Program Innovation Award** (as part of the MI Groundwater Conservation Advisory Council for development of Water Withdrawal Assessment Tool), Environmental Council of States, 2010
- **2008-2009 Muskegon (MI) Agent of Change, Muskegon Chamber of Commerce, 2009**
- **Massapequa (NY) High School Hall of Fame,** 2009
- **Outstanding Reviewer Award**, Journal of Environmental Quality (JEQ), 2007
- **Environmental Excellence Award**, Muskegon Area Environmental Coordinating Council, 2005
- **Public Health Partnership Award**, Michigan Association for Local Public Health, 2004.
- **Certified Senior Ecologist**, Ecological Society of America, 2001.
- **Joan Hodges Queneau Palladium Medal** (as part of the Restudy Team) for restoration of the Everglades, National Audubon Society, 2000.
- **U.S. Army Corps of Engineers 1999 Outstanding Planning Achievement Award**: in recognition of the Restudy team's contributions to advancing the state of the art in the practice of water resources planning
- **Research Award for Foreign Specialists**: To present research on long-term ecosystem research as guest of the National Institute of Agro-Environmental Sciences (NIAES), Tsukuba, Japan, 3/97.
- **Invited Research Scientist**: To conduct research on aquatic bryophytes in the Kuparuk River at the Toolik Lake, Alaska LTER site, 7/93.
- **Sigma Xi Graduate Student Travel Award**, OSU: 1987.
- **Sigma Xi**: Oregon State University. 1984
- **Best Student Paper**: Northeast Algal Symposium. Woods Hole, MA. 1983
- **Phi Beta Kappa**: University of Vermont. 1979.
- **Lambort Award**. Top student in the study of the Hebrew language. Univ. of Vermont. 1976

MANAGEMENT COURSES/TRAINING:

- Situational Leadership, Capturing Brand You, Forging Breakthroughs, Building Community, Self Management, Innovation, High Impact Hiring, Partnering for Results, Reframing Change, and Managing Change
- What Matters Most: A Time Management Seminar
- Ethics, Sunshine, and Public Records
- Leadership Performance Training
- 360-Degree Feedback
- Emergency Operations Center Team Training
- Supplier Diversity Training
- Interpersonal and Communication Skills: A Seminar for the Technical Professional
- Effective Customer Service Leadership Training
- Key to Behavioral Interviewing and Candidate Selection
- Improving Managerial Skills of the New Manager
- Key to Performance Appraisal
- Key to Coaching and Counseling
- Diversity Awareness

PUBLICATIONS: (Total = 219); * = graduate student; ** = undergraduate student

A. Peer-Reviewed Journals:

196. Steinman, A.D., Woznicki, S., Hassett, M.C., Tyrrell, K., and A.M. Porter. In Press. Salinization of lakes across a land use spectrum. Lake and Reservoir Management.
195. **Steinman, A.D.**, Godwin, C., Stow, C., Rutherford, E., Uzarski, D.G., Bratton, J., Chaffin, J., Kapuscinski, K., Chaganti, S.R., Errera, R., Rowe, M., O'Reilly, K., Reavie, E., and Woolnough,

D. In Press. Great Lakes Integrated Mesocosm Research (GLIMR). Journal of Great Lakes Research.

194. Deng, D., **Steinman, A.D.**, He, S., Xue, Q., Xie, L. 2026. EPS composition and function in Microcystis species: insights into toxin-mediated cyanobacterial aggregation. Journal of Environmental Chemical Engineering. 14, 124655.

193. McAfee, B.J., Tyrrell, K., Hassett, M.C., Jones, S.E., and **A.D. Steinman**. In Press. Fifty years of change in Muskegon Lake water quality. Journal of Great Lakes Research.
192. Velasquez, P.*, Partridge, C., Hamsher, S., and **A.D. Steinman**. 2026. Plastisphere Biodiversity on Microplastics in a Salt-Impacted Lake. Water 18, 1006. https://doi.org/10.3390/w18091006.
191. Velasquez, P.*, Green, L., Scott, J. and **A.D. Steinman**. 2025. Year-Round Characterization of Microplastics and 6-PPD Quinone in a Suburban Lake System Impacted by Highway Runoff. Microplastics 4, 91. https://doi.org/10.3390/microplastics4040091
190. Cheng, C., **Steinman, A.D.**, Xue, Q., and Xie, L. 2025. Homeostatic response of calcium and potassium ions in Microcystis and Chlorella to MC-LR. Ecotoxicology and Environmental Safety. 304, 119144.
189. **Steinman, A.D.**, Tyrrell, K., and Hassett, M.C. 2025. Effect of Sand Capping on Phosphorus Release from Phosphorus-Enriched Coastal Wetland Sediments: A Laboratory Study. Journal of Water Resources and Protection. 17(8): 575-589.
188. Lucas, K.M.* and **A.D. Steinman**. 2025. Impact of climate change and restoration on phosphorus loading in an impaired wetland. Science of the Total Environment. 981, 179515.
187. Romanski, A.**, Partridge, C., and **Steinman, A.D.** 2025. Periphyton response to additions of glucose and hydrogen peroxide as control measures of harmful algal blooms. Journal of Water Resource and Protection. 17: 47-67.
186. Tang, X., **Steinman, A.D.**, He, S., Xue, Q., Xu, Y., and Xie, L. 2024. Simultaneous electrochemical removal of three microcystin congeners and sulfamethoxazole in natural water. Chemosphere. 367, 143558.
185. Linz, D., Partridge, C., Hassett, M., Sienkiewicz, N., Tyrrell, K., Henderson, A., Tardini, R., Lu, J., **Steinman, A.D**, and Vesper, S. 2024. Changes in Cyanobacterial Phytoplankton Communities in Lake Water Mesocosms Treated with Either Glucose or Hydrogen Peroxide. Microorganisms 12, 1925.
184. Linz, D., Struewing, I., Sienkiewicz, N., **Steinman, A.D.,** Partridge, C.G., McIntosh, K., Allen, J., Lu, J. and Vesper, S., 2024. Periodic addition of glucose suppressed cyanobacterial abundance in additive lake water samples during the entire bloom season. Journal of Water Resource and Protection, 16(2): 140-155.
183. Sheets, K, Hassett, M., Orzechowski, R., and **A.D. Steinman**. 2024. Ecological status of a retired mine lake in a protected dune ecosystem. Inland Waters. DOI: 10.1080/20442041.2024.2330858.
182. Bergstrom, R.D., Johnson, L.B., Sterner, R.W., Lenters, J.D., Twiss, M., and **A.D. Steinman**. 2024. Climate Change: A Bibliometric Study of the Great Lakes Basin. Journal of Great Lakes Research 50: 102316.
181. Van Zenen, A., Hughes, S. and **Steinman, A.D**. 2024. Assessing Policy Drivers and Barriers for Sustainable Groundwater Management in Michigan. Michigan Journal of Public Affairs 20: 42-57.
180. Vesper, S., Linz, D., Struewing, I., Sienkiewicz, N., **Steinman, A.,** Partridge, C., Mcintosh, K., and Lu, J. In Press. Periodic addition of glucose suppressed Cyanobacterial abundance in additive lake water samples during the entire bloom season. Journal of Water Resource and Protection 16: 140-155.

179. Foley, E.* and **Steinman, A.D.** 2023. Urban lake water quality responses to elevated road salt. Science of the Total Environment. 905, 167139. https://doi.org/10.1016/j.scitotenv.2023.167139
178. Mader, M.M.*, Ruetz, C.R. III, Woznicki, S.A. and **A.D. Steinman**. 2023. Land cover and water quality in Drowned River Mouths: evidence of a latitudinal gradient in Eastern Lake Michigan. Journal of Great Lakes Research. 49, 102237.
177. Cheng, C., **Steinman, A.D**., Xue, Q. and Xie, L. 2023. The osmotic stress of *Vallisneria natans* (Lour.) Hara leaves originating from the disruption of calcium and potassium homeostasis caused by MC-LR. Water Research. 245, 120575.
176. Molloseau, J.** and **A.D. Steinman**. 2023. Chloride and phosphorus retention in salt-contaminated soils. Journal of Freshwater Ecology. 38, 2241478.
175. Cheng, C., **Steinman, A.D.**, Xue, Q. and Xie, L. 2023. The disruption of calcium and hydrogen homeostasis of *Vallisneria n*atans (Lour.) Hara caused by microcystin-LR. Aquatic Toxicology. 254, 106377. https://doi.org/10.1016/j.aquatox.2022.106377
174. Fergen, J.T., Bergstrom, R.D., Twiss, M.R., Johnson, L., **Steinman, A.D.**, and V. Gagnon. 2023. Community capacity in the Laurentian Great Lakes Basin: the importance of Social, Human, and Political Capital for community responses to climate-driven disturbances. Journal of Environmental Planning and Management. Doi: 10.1080/09640568.2022.2144164.
173. Hassett, M.C. and **A.D. Steinman**. 2022. Wetland restoration through excavation: sediment removal results in dramatic water quality improvement. Land 11(9), 1559; https://doi.org/10.3390/land11091559
172. Cheng, C., **Steinman, A.D**., Zhang, K., Lin, Q., Xue, Q., Xing, X. and Xie, L. 2022. Risk assessment and identification of factors influencing the historical concentrations of microcystin in Lake Taihu, China. Journal of Environmental Sciences 127: 1-14.
171. Fergen, J.T., Bergstrom, R.D., Twiss, M.R., Johnson, L., **Steinman, A.D.**, and Gagnon, V. 2022. Updated census in the Laurentian Great Lakes Watershed: A framework for evaluating the population of the region. Journal of Great Lakes Research 48: 1337-1344.
170. **Steinman, A.D.,** Uzarski, D.G., Lusch, D., Miller, C., Doran, P., Zimnicki, T., Fry, L., Chu, P., Allan, J., Asher, J., Bratton, J., Carpenter, D., Dempsey, D., Drummond, C., Erickson, M., Esch, J., Garwood, A., Haefner, R., Harrison, A., Lemke, L., Nicholas, J., Ogilvie, W., O'Leary, B., Sachs, P., Seelbach, P., Seidel, T., Suchy, A., Yellich, J. 2022. Groundwater in Crisis? Addressing groundwater challenges in Michigan as a template for the Great Lakes. Sustainability 14(5), 3008; doi:10.3390/su14053008
169. **Steinman, A.D.**, M. Hassett, M. Oudsema, and C. Penn. 2022. Reduction of phosphorus using electric arc furnace slag filters in the Macatawa Watershed (Michigan). Front. Environ. Sci. 10: 863137; doi.org/10.3389/fenvs.2022.863137.
168. Orzechowski, R.M.* and **A.D. Steinman**. 2022. Assessment of shoreline restoration using macroinvertebrates in a Great Lakes Area of Concern. Environmental Monitoring and Assessment 194:260. https://doi.org/10.1007/s10661-022-09899-5.
167. Bergstrom, R.D., Johnson, L.B., Sterner, R.B., Bullerjahn, G.S., Fergen, J.T., Lenters, J.D., Norris, P.E., and **Steinman, A.D.** 2022. Building a research network to better understand climate governance in the Great Lakes. Journal of Great Lakes Research 48: 1329-1336.
166. Su, X., **Steinman, A.D.,** Zhang, Y., Ling, H., Guo, X. and D. Wu. 2022. Significant temporal and spatial variability in nutrient concentrations in a Chinese eutrophic shallow lake and its major tributaries. Water, 14, 217. https://doi.org/10.3390/w14020217
165. Tang, X., **Steinman, A.D.,** Xue, Q., Xu, Y. and Xie, L. 2022. Simultaneous electrochemical removal of *Microcystis aeruginosa* and sulfamethoxazole and its ecologic impacts on *Vallisneria spiralis*. Science of the Total Environment. 815, 152769. https://doi.org/10.1016/j.scitotenv.2021.152769

164. Kindervater, E., Oudsema, M., Hassett, M., Partridge, C.G., and **Steinman, A.D**. 2022. Assessment of the effectiveness of muck-digesting bacterial pellets. Lake and Reservoir Management 38: 150-164. DOI: 10.1080/10402381.2022.2029635.
163. Iavorivska, L., Veith, T.L., Cibin, R., Preisendanz, H.E., and **A.D. Steinman**. 2021. Mitigating lake eutrophication through stakeholder-driven hydrologic modeling of agricultural conservation practices: A case study of Lake Macatawa, Michigan. Journal of Great Lakes Research 47: 1710-1725.
162. Scott, J., Gunderson, K., Green, L., Rediske, R.R. and **Steinman, A.D.** 2021. Perfluoroalkylated substances (PFAS) associated with microplastics in a lake environment. Toxics 9, 106. https://doi.org/10.3390/toxics9050106. (Selected as one of the 2021–2022 Hot Articles)
161. Kleindl, P.** and **A.D. Steinman**. 2021. Contrasting trajectories in macrophyte community development after shoreline restoration: water level obscures trends. Aquatic Botany 169: 103327. https://doi.org/10.1016/j.aquabot.2020.103327.
160. Wan, X., **Steinman, A.D.**, Gu, Y., Zhu, G., Xue, Q., and Xie, L. 2020. Occurrence and potential risk assessment of microcystin and its relationship with environmental factors in lakes of Eastern Plain Ecoregion, China. Environmental Science and Pollution Research 27: 45095–45107. https://doi.org/10.1007/s11356-020-10384-0.
159. **Steinman, A.D.** and E. Kindervater. 2020. Ecosystem restoration in the Everglades and Great Lakes ecosystems: past, present, and future preventive management. Inland Waters, DOI: 10.1080/20442041.2020.1804272 (Invited).
158. **Steinman, A.D.**, Scott, J., Green, L., Partridge, C., Oudsema, M., Hassett, M. Kindervater, E., and R. Rediske. 2020. Persistent Organic Pollutants, Metals, and the Bacterial Community Composition Associated with Microplastics in Muskegon Lake (MI). Journal of Great Lakes Research 46: 1444-1458.
157. Zhang, M., **Steinman, A.D**., Xu, Y., Xue, Q., Zhao, Y., and L. Xie. 2020. Effects of erythromycin and sulfamethoxoazole on *Microcystis aeruginosa*: cytotoxic endpoints, production, and release of microcystin-LR. Journal of Hazardous Materials 399:1230121. https://doi.org/10.1016/j.jhazmat.2020.123021.
156. Xue, Q., **Steinman, A.D.**, Xie, L., Yao, L., Su, X., Cao, Q., and Cai, Y. 2020. Seasonal variation and potential risk assessment of microcystin in the sediments of Lake Taihu. Environmental Pollution. 259, 113884.
155. Strayer, D.L., Adamovich, B.V., Adrian, R., Aldridge, D.C., Balogh, C.S., Burlakova, L., Tóth, L.G., Hetherington, A.L., Jones, T., Karatayev, A., Madill, J.B., Makarevich, O.A., Marsden, J.E., Martel, A.L., Minchin, D., Nalepa, T.F., Noordhuis, R., Fried-Petersen, H., Robinson, T.J., Rudstam, L.G., Schwalb, A.N., Smith, D.R., **Steinman, A.D**., and Jeschke, J.M. 2019. Long-term population dynamics of zebra and quagga mussels (*Dreissena polymorpha* and *D. rostriformis*): a cross-system analysis. Ecosphere 10(4): e02701.
154. Yao, L., **Steinman, A.D.,** Xiang, W., Xiubo, S., Xie, L. 2019. A new method based on diffusive gradients in thin films for in situ monitoring microcystin-LR in waters. Scientific Reports 9:17528.
153. Wan, X., **Steinman, A.D.**, Shua, X., Cao, Q., Yao, L. and Xie, L. 2019. Combined toxicity effects of microcystin-LR and phenanthrene on growth and antioxidant system of *Lemna gibba*. Ecotoxicology and Environmental Safety 185: https://doi.org/10.1016/j.ecoenv.2019.109668.
152. Su, X.**, **Steinman, A.D.**, Oudsema, M., Hassett, M. and L. Xie. 2019. The influence of nutrients limitation on phytoplankton growth and microcystins production in Spring Lake, USA. Chemosphere 234: 34-42.
151. Kindervater, E.** and **A.D. Steinman**. 2019. Phosphorus Retention in West Michigan Two-stage Agricultural Ditches. Journal of American Water Resources Association 55: 1183–1195. https://doi.org/10.1111/1752-1688.12763.

150. Uzarski, D.G., Wilcox, D.A., Brady, V.J., Cooper, M., Albert, D.A., Ciborowski, J., Danz, N., Garwood, A., Gathman, J., Gehring, T., Grabas, G., Howe, R., Johnson, L., Lamberti, G., Moerke, A., Niemi, G., Redder, T., Ruetz, C., **Steinman, A.D.**, Tozer, D., and O'Donnell, K. 2019. Leveraging a landscape-level monitoring and assessment program for developing resilient shorelines throughout the Laurentian Great Lakes. Wetlands ttps://doi.org/10.1007/s13157-019-01139-w.
149. Smith, S.D.P., Bunnell, D.B., Burton Jr., G.A., Ciborowski, J.J.H., Davidson, A.D., Dickinson, D.E., Eaton, L.A., Esselman, P.C., Evans, M.A., Kashian, D.R., Manning, N.F., McIntyre, P.B., Nalepa, T.F., Pérez-Fuentetaja, A., **Steinman, A.D.,** Uzarski, D.G., Allan, J.D. 2019. Evidence for interactions among environmental stressors in the Laurentian Great Lakes. Ecological Indicators 101: 203-211.
148. Oldenborg, K.** and **A.D. Steinman**. 2019. Impact of sediment dredging on sediment phosphorus flux in a restored riparian wetland. Science of the Total Environment 650: 1969-1979.
147. **Steinman, A.**D., Hassett, M, and M. Oudsema. 2018. Effectiveness of best management practices to reduce phosphorus loading to a highly eutrophic lake. International Journal of Environmental Research and Public Health 15(10), 2111; https://doi.org/10.3390/ijerph15102111.
146. Cao, Q.**, **Steinman, A.D**., Wan, X., and L. Xie. 2018. Combined toxicity of microcystin-LR and copper on lettuce (*Lactuca sativa* L.). Chemosphere 206: 474-482.
145. Cao, Q.**, **A.D. Steinman**, X. Wan, and L. Xie. 2018. Bioaccumulation of microcystin congeners in soil-plant system and human health risk assessment: A field study from Lake Taihu region of China. Environmental Pollution 240: 44-50.
144. Cao, Q.**, **Steinman, A.D.**, Yao, L., and L. Xie. 2018. Effects of light, microorganisms, farming chemicals and water content on the degradation of microcystin-LR in agricultural soils. Ecotoxicology and Environmental Safety 156: 141-147.
143. **Steinman, A.D**., Hassett, M.C., Oudsema, M., and R. Rediske. 2018. Alum efficacy 11 years following treatment: phosphorus and macroinvertebrates. Lake and Reservoir Management 34: 167-181.
142. Liu, B., McClean, C.E., Long, D.T., **Steinman, A.D.**, and R.J. Stevenson. 2018. Lake eutrophication and recovery over a 200-year period of post-native American settlement was determined by a complex set of local and regional factors. Science of the Total Environment 628-629: 1352-1361.
141. Isely, P., Sterrett Isely, E., Hause, C., and **A.D. Steinman**. 2018. A socioeconomic analysis of habitat restoration in the Muskegon Lake Area of Concern. Journal of Great Lakes Research 44: 330-339.
140. Su, X.**, **Steinman, A.D.**, Xue, Q., Zhao, Y., and L. Xie. 2018. Evaluating the contamination of microcystins in Lake Taihu, China: The application of equivalent total MC-LR concentration. Ecological Indicators 89: 445-454.
139. Salk, K.R.**, **Steinman, A.D**., and N.E. Ostrom. 2018. Wetland restoration and hydrological reconnection results in enhanced watershed nitrogen retention and removal. Wetlands 38: 349-359.
138. Cao, Q.**, **Steinman, A.D.**, Yao, L., and Xie, L. 2017. Toxicological and biochemical responses of the earthworm *Eisenia fetida* to cyanobacterial toxins. Scientific Reports 7: 15954.
137. Cao, Q.**, **Steinman, A.D.**, Yao, L., and L. Xie. 2017. Increment of root membrane permeability caused by microcystins result in more elements uptake in rice (*Oryza sativa*). Ecotoxicology and Environmental Safety 145: 431-435.
136. Kraff, D. and **A.D. Steinman**. 2018. Integrated watershed management in Michigan: challenges and proposed solutions. Journal of Great Lakes Research 44:197-207.
135. Su, X.**, Xie, L., **Steinman, A.D.**, Xue, Q., Tang, X., and Zhao, Y. 2017. Response of bacterial communities to cyanobacterial harmful algal blooms in Lake Taihu, China. Harmful Algae 68: 168-177.

134. Cao, Q., **Steinman, A.D.**, Su. X.**, and Xie, L. 2017. Effects of microcystins contamination on soil enzyme activities and microbial community in two typical lakeside soils. Environmental Pollution 231: 134-142.
133. Su, X.**, **Steinman, A.D.**, Xue, Q., Zhao, Y., Xie, L., and Tang, X. 2017. Temporal patterns of phyto- and bacterioplankton and their relationships with environmental factors in Lake Taihu, China. Chemosphere 184: 299-308.
132. Sterner, R.W, P. Ostrom, N.E. Ostrom, J.V. Klump, **A.D. Steinman**, E.A. Dreelin, M.J. Vander Zanden, and A. Fisk. 2017. Grand challenges for research in the Laurentian Great Lakes. Limnology & Oceanography 62: 2510-2523.
131. **Steinman, A.D**., Cardinale, B.J., Munns, W.R., Ogdahl, M.E. et al. 2017. Ecosystem services in the Great Lakes. Journal of Great Lakes Research 43: 161–168. DOI 10.1016/j.jglr.2017.02.004
130. Gillett, N.D., Oudsema, M. and **A.D. Steinman**. 2017. Live diatoms as indicators of urban stormwater runoff. Environmental Monitoring and Assessment. 189: 37. DOI 10.1007/s10661-016-5747-8
129. Clement, D.R. and **A.D. Steinman**. 2017. Phosphorus loading and ecological impacts from agricultural tile drains in a west Michigan watershed. Journal of Great Lakes Research 43: 50-58. http://dx.doi.org/10.1016/j.jglr.2016.10.016.
128. Uzarski, D.G., Brady, V.J., Cooper, M., Wilcox, D.A., Albert, D.A., Axler, R., Bostwick, P., Brown, T., Ciborowski, J., Danz, N., Gathman, J., Gehring, T., Grabas, G., Garwood, A., Howe, R., Johnson, L., Lamberti, G., Moerke, A., Murry, B., Niemi, G., Norment, C., Ruetz, C., **Steinman, A.D.**, Tozer, D., Wheeler, R., O'Donnell, K., and J. Schneider. 2017. Standardized measures of coastal wetland condition: Implementation at a Laurentian Great Lakes basin-wide scale. Wetlands 37:15–32. DOI: 10.1007/s13157-016-0835-7
127. **Steinman, A.D.**, Abdimalik, M.*, Ogdahl, M.E., and Oudsema, M. 2016. Nutrient impact on planktonic vs benthic algae in a eutrophic lake. Lake and Reservoir Management 32: 402-409.
126. **Steinman, A.D** and M.E. Ogdahl. 2016. From wetland to farm and back again: water quality implications of a habitat restoration project. Environmental Science and Pollution Research 23: 22596-22605. DOI 10.1007/s11356-016-7485-4.
125. Xue, Q., Su, X.**, **Steinman, A.D**., Cai, Y., Zhao, Y. and Xie, L. 2016. Accumulation of microcystins in a dominant Chironomid Larvae (*Tanypus chinensis*) of a large, shallow and eutrophic Chinese lake, Lake Taihu. Scientific Reports 6, 31097; doi: 10.1038/srep31097.
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10. **Steinman, A.D.** & T. Ladewski. 1987. Quantitative shape analysis of *Eunotia pectinalis* (Bacillariophyceae) and its application to seasonal distribution patterns. Phycologia 26: 467-477.
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6. Lamberti, G.A., Ashkenas, L.R., Gregory, S.V., & **Steinman, A.D.** 1987. Effects of three herbivores on periphyton communities in laboratory streams. Journal of the North American Benthological Society 6: 92-104.
5. **Steinman, A.D.** & C.D. McIntire. 1986. Effects of current velocity and light energy on the structure of periphyton assemblages in laboratory streams. Journal of Phycology 22: 352-361.
4. Sheath, R.G., Burkholder, J.M., Hambrook, J.H., Hogeland, A.M., Hoy, E., Kane, M.E., Morison, M.O., **Steinman, A.D.**, & K.L. Van Alstyne. 1986. Characteristics of softwater streams in R.I. III. Distribution of macrophyte vegetation in a small drainage basin. Hydrobiologia 140: 183-191.
3. Sheath, R.G., Burkholder, J.M., Morison, M.O., **Steinman, A.D.**, & Van Alstyne, K.L. 1986. Effect of tree canopy removal by gypsy moth larvae on the macroalgal community of a Rhode Island headwater stream. Journal of Phycology 22: 567-570.
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B. Peer-Reviewed Book Chapters:

23. **Steinman, A.D.,** Suchy, A., Carrick, H., and A. Harrison. 2023. Phosphorus dynamics in coastal wetlands. In: Uzarski, D. et al. (Eds). Wetlands: Ecology, Conservation, and Management. (pp. xxx-xxx). Spring Press, New York, NY.
22. **Steinman, A.D.** and B. Spears. 2020. What is internal loading and why does it occur? In A.D. Steinman and B. M. Spears (Eds.), Internal Phosphorus Loading: Causes, Case Studies, and Management (pp. 3-13). Plantation, FL: J. Ross Publishing.
21. Kindervater, E., Hahn, N. and **A.D. Steinman**. 2020. Factors influencing internal phosphorus loading: A meta-analysis. In A.D. Steinman and B. M. Spears (Eds.), Internal Phosphorus Loading: Causes, Case Studies, and Management (pp. 433-444). Plantation, FL: J. Ross Publishing.
20. Spears, B. and **A.D. Steinman**. 2020. Synthesis, implications, and recommendations. In A.D. Steinman and B. M. Spears (Eds.), Internal Phosphorus Loading: Causes, Case Studies, and Management (pp. 445-457). Plantation, FL: J. Ross Publishing.
19. **Steinman, A.D.**, G.A. Lamberti, P. Leavitt, and D.G. Uzarski. 2017. Biomass and pigments of benthic algae. Pages 223-241. In: Methods in Stream Ecology. Vol 1 (3rd Ed.) R. Hauer and G. Lamberti (Eds). Elsevier Press.
18. **Steinman, A.D.** and S. Duhamel. 2017. Phosphorus limitation, uptake, and turnover in stream algae. Pages 197-218. In: Methods in Stream Ecology. Vol II (3rd Ed.) R. Hauer and G. Lamberti (Eds). Elsevier Press.

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15. Chu, X. and **A.D. Steinman.** 2008. Continuous hydrologic modeling improved by intensive event data, Pages 1-11. In: Proceedings of the World Environmental and Water Resources Congress 2008 Ahupua'a, R.W. Bakcock, Jr. and R. Walton (editors). American Society of Civil Engineers.
14. Stevenson, R.J., M.J. Wiley, S.H. Gage, V.L. Lougheed, C.M. Riseng, P. Bonnell, T.M. Burton, R.A. Hough, D.W. Hyndman, J.K. Koches, D.T. Long, B.C. Pijanowski, J. Qi, **A.D. Steinman**, and D.G. Uzarski. 2008. Watershed Science: Essential, Complex, Multidisciplinary and Collaborative. Pages 231-245. In: Wetland and Water Resource Modeling and Assessment, W. Ji (editor). CRC Press, Boca Raton, FL.
13. **Steinman, A.D.**, G.A. Lamberti, P. Leavitt. 2006. Biomass and pigments of benthic algae. Pages 357-379. In: Methods in Stream Ecology, R. Hauer and G. Lamberti (editors). Academic Press, NY.
12. **Steinman, A.D.** and P. J. Mulholland. 2006. Phosphorus limitation, uptake, and turnover in stream algae. Pages 187-212. In: Methods in Stream Ecology, R. Hauer and G. Lamberti (editors). Academic Press, NY.
11. **Steinman, A.D**. and R. Denning. 2005. The role of spatial heterogeneity in the management of freshwater resources. Pages 367-387 in: Lovett, G.M., Jones, C.G., M.G. Turner, and K.C. Weathers (editors). Ecosystem Function in Heterogeneous Landscapes. Springer, New York.
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9. **Steinman, A.D.**, K.E., Havens, N.G. Aumen, R.T. James, K.-R. Jin, J. Zhang, and B. Rosen. 1999. Phosphorus in Lake Okeechobee: sources, sinks, and strategies. Pages 527-544 in: K.R. Reddy, G.A. O'Connor, and C.L. Schelske (editors). Phosphorus Biogeochemistry of Subtropical Ecosystems: Florida as a case example. CRC/Lewis Publ., New York.
8. Winfree, N.M., Louda, J.W., Baker, E.W., **Steinman, A.D.**, and Havens, K.E. 1997. Application of chlorophyll and carotenoid pigments for the chemotaxonomic assessment of seston, periphyton, and cyanobacterial mats of Lake Okeechobee, Florida. Pages 77-91 in: R.P. Eganhouse (editor). Molecular Markers in Environmental Geochemistry. ACS Symp. Ser. 671, American Chemical Society, Wash., D.C.
7. **Steinman, A.D.** 1996. Effects of grazers on freshwater benthic algae. Pages 341-373 in: R.J. Stevenson, M.L. Bothwell, and R.L. Lowe (editors). Algal Ecology, Academic Press.
6. McIntire, C.D., S.V. Gregory, **A.D. Steinman**, and G.A. Lamberti. 1996. Modeling benthic algal communities: an example from stream ecology. Pages 669-704 in: R.J. Stevenson, M.L. Bothwell, and R.L. Lowe (editors). Algal Ecology, Academic Press.
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4. **Steinman, A.D.** and G.A. Lamberti. 1996. Biomass and pigments of benthic algae. Pages 295-313 in: F. R. Hauer and G.A. Lamberti (editors). Stream Ecology: Field and Laboratory Exercises, Academic Press.
3. Aumen, N.G., **Steinman, A.D.**, and K.E. Havens. 1995. Impacts of non-point source runoff from agricultural operations on Lake Okeechobee, Florida in: Impact of Animal Waste on the Land-Water Interface, Lewis Publ.

2. Havens, K.E. and **A.D. Steinman**. 1994. Influence of soil amendments on biotic systems: aquatic systems. Pages 121-151 in: J.E. Rechcigl (editor). Influence of Soil Amendments on Biotic Systems, Lewis Publishers.
1. Lamberti, G.A., Gregory, S.V., Ashkenas, L.R., Wildman, R.C., and **Steinman, A.D.** 1989. Influence of channel geomorphology on retention of dissolved and particulate matter in a Cascade Mountain stream. In: D. Abell (ed.) California Riparian Systems. USDA Forest Service Gen. Tech. Rep. PSW-110. pp. 33-40.

Books:

1. **Steinman, A.D.** and B. Spears (Editors). 2020. Internal Phosphorus Loading: Causes, Case Studies, and Management. Publisher: J. Ross Publishing, Boca Raton, FL. 466 pp.
2. National Academies of Sciences, Engineering, and Medicine. 2022. Progress Toward Restoring the Everglades: The Ninth Biennial Review – 2022. Washington, DC: The National Academies Press. (authors: Wardrop, D.H., Boggess, W.G., Brown, C., Burke, C.B., Dixon, P.M., Driscoll, C.T., Reddy, K.R., Reed, D.J., Saiers, J., **Steinman, A.D.,** Sutula, M.A., Walters, J.R. https://nap.nationalacademies.org/catalog/26706/progress-toward-restoring-the-everglades-the-ninth-biennial-review-2022?utm_source=NASEM+News+and+Publications&utm_campaign=6f3a718dc8-EMAIL_CAMPAIGN_2022_12_19_05_28&utm_medium=email&utm_term=0_-6f3a718dc8-%5BLIST_EMAIL_ID%5D&mc_cid=6f3a718dc8&mc_eid=2076210f85
3. National Academies of Sciences, Engineering, and Medicine. 2024. Progress Toward Restoring the Everglades: The Tenth Biennial Review – 2024. Washington, DC: The National Academies Press. (authors: Saiers, J. (chair), W.G., Brown, C., Calloway, J., Dixon, P.M., Driscoll, C.T., Emery, M.R., Gitau, M.W., Harwell, M.C., Hopkins, W.A., Quirk, T., Reddy, K.R., Regan, H.M., **Steinman, A.D.**, Walters, J.R., and Wegner, D.L. https://nap.nationalacademies.org/catalog/27875/progress-toward-restoring-the-everglades-the-tenth-biennial-review-2024?utm_source=Division+on+Earth+and+Life+Studies&utm_campaign=24091a0b08-EMAIL_CAMPAIGN_2022_07_19_03_14_COPY_01&utm_medium=email&utm_term=0_3c0b1ad5c8-24091a0b08-234490641&mc_cid=24091a0b08&mc_eid=7ce8915b2f.

Peer-Reviewed Edited Volumes, Symposia, and Comments:

4. **Steinman, A.D.** 2019. Response to Osgood Comment: Alum efficiency 11 years following treatment: Phosphorus and macroinvertebrates. Lake and Reservoir Management 35: 4-7.
3. Silver, P. and **A.D. Steinman** (Editors). 2010. A 25th Anniversary Issue: The Role of J-NABS in Freshwater Benthic Science. Journal of the North American Benthological Society 29(1): 1-382.
2. **Steinman, A.D.** (Editor) 1998. Role of algae in the management of freshwater ecosystems. Journal of Phycology 34: 725-765.
1. Lamberti, G.A. and **A.D. Steinman** (Editors). 1993. Research in artificial streams: applications, uses, and abuses. Journal of the North American Benthological Society 12: 313-384.

Book Reviews/Published Commentaries/Reports:

Allan, J.D., and others. 2020. An Evaluation of Stressor Interactions in the Great Lakes. A report submitted to the International Joint Commission by the Science Advisory Board Science Priority Committee Interacting Stressors Work Group August, 2020.

Evans, K., Isely, P, and **A.D. Steinman**. 2019. From Lumber to Foundries to Revitalization: The Muskegon Lake Story. In: Great Lakes Revival. Editors: Hartig, J.H., Krantzberg, G., Austin,

J.C., and P. McIntyre. Pages 37-46. IAGLR, Ann Arbor, MI.
Atlas of Science. 2015. Rein in the Runoff. http://atlasofscience.org/rein-in-the-runoff/
Austin, J. and **A.D. Steinman.** 2015. Michigan Blue Economy. Making Michigan the World's Freshwater and Freshwater Innovation Capital. Available at: http://michiganblueeconomy.org/
Steinman, A.D. 2005. Lakes Handbook. J. No. Am. Benthol. Soc. 24:441-442 (book review).
Steinman, A.D. and M. Ogdahl. 2004. An innovative funding mechanism for the Muskegon Lake AOC. Journal of Great Lakes Research 30: 341-343.
Steinman, A.D. 1998. Role of algae in the management of freshwater ecosystems (Minireview introduction). J. Phycol. 34: 725.
Steinman, A.D. 1996. Algae and Elemental Cycling in Wetlands. J. No. Am. Benthol. Soc. 15: 138-140 (book review).
Steinman, A.D. 1989. A Biology of the Algae. J. No. Am. Benthol. Soc. 8: 198-199 (book review).

EXTRAMURAL FUNDING (select; total awarded >$60,000,000):

Great Lakes Long-Term Research Project 2026-2027. CIGLR/NOAA. PI. $135,000 (2026-27).
Monitoring of Bear Lake - 2026. Bear Lake-Lake Board. PI. $23,000. (2026)
Lake Macatawa Sediment Analysis. Outdoor Discovery Center. PI. $80,000. (2026-7).
GLRI Lake Michigan Long-term Ecological Research Program: Winter Ecosystems. PI with Ashley Elgin (NOAA). GLRI. $20,850. 2025-2027.
Integrating science, public engagement, and innovative technology for solving the plastic crisis. Michigan Great Lakes Protection Fund. $350,000 (AWRI subcontract: $99,500). 2025-2026.
Developing a Great Lakes quagga mussel bioenergetic and nutrient cycling model to predict response of harmful and nuisance algae to tributary nutrient inputs. CIGLR/NOAA. $52,440. (2024-2026)
Salinization of west Michigan Lakes. PI. USGS. $50,000. (2024-2025).
Monitoring of White Lake - 2024. PI. White Lake Association. $26,000 (2024-2025).
Monitoring of Bear Lake - 2024. PI. Bear Lake-Lake Board. $33,500. (2024).
Impact of climate change and restoration on phosphorus loading in impaired wetlands. Co-PI (with graduate student Kate Lucas). Michigan Space Grant Consortium. $5,000. (2023-2024).
Controlling harmful algal blooms. PI. US EPA ($40,000) and Grand Valley State University $10,000. (2023-2024).
A re-analysis of Little Black Lake. PI. City of Norton Shores and Village of Spring Lake. $13,910. (2023).
Monitoring of Bear Lake (Muskegon Co., MI). Bear Lake-Lake Board. PI. $22,000. (2023).
Northeast Aquatic Resources, LLC. Contract to Fractionate Sediment. PI. $3,333 (2022).
The Cooperative Institute for Great Lakes Research/NOAA: Developing a Great Lakes quagga mussel bioenergetic and nutrient cycling model. CIGLR contract. $33,032 (2022-2024).
The Cooperative Institute for Great Lakes Research/NOAA: Lake Huron Dreissena project. CIGLR contract. $38,077 (2022-2024).
The Cooperative Institute for Great Lakes Research/NOAA: Great Lakes Long Term Research. CIGLR contract. $111,883 (2022-2023).
The Cooperative Institute for Great Lakes Research (CIGLR): Summit on Use of mesocosms for Great Lakes experiments. PI. $20,000. (2022).
Mona Lake Celery Field Restoration. NOAA. Contract. $41,300 (2022-2024).
Great Lakes Plastic Cleanup. Council of Great Lakes Region Foundation. PI. $30,000 (2022-2023).
Economic Impact Analysis of the National Great Lakes Way. Community Foundation for Southeast Michigan. PI. $50,000. (2022).
Monitoring of Bear Lake (Muskegon Co., MI). Bear Lake-Lake Board. PI. $18,238. (2022).

Support for the AWRI Gene Sequencing Lab. Community Foundation for Muskegon County. $5,000. (2021-2022).

Lake Responses to Elevated Levels of Chloride and Phosphorus (with graduate student Ellen Foley). Michigan Space Grant Consortium. $5,000 (2021-2022).

Lake Responses to Elevated Levels of Chloride and Phosphorus (with graduate student Ellen Foley). McNALMS. $1,800 (2021-2022).

Lake Responses to Elevated Levels of Chloride and Phosphorus (with graduate student Ellen Foley). GVSU. $1,500 (2021-2022).

Green Lake Cisco Protection. Michigan Department of Natural Resources. $135,000; AWRI: $51,000 (2020-2022).

Assessing Water Quality for Church Lake Association. Church Lake Homeowners Association. PI. $17,387. (2020-2021).

Mining Matters: Predations Pressure and Water Quality in Young Sand Mine Lakes (with graduate student Katie Sheets). MI Space Grant Consortium. $5,000 (2020-2021).

Assessing Effectiveness of Sediment-Eating Bacteria Pellets. Newaygo County (MI) Water Resources Commissioner. $25,000 (2020).

Bear Lake/Bear Creek Monitoring. Sub-contract. WMSRDC. $13,300 (2020).

Groundwater in Crisis? Addressing Groundwater Challenges in Michigan as a template for the Great Lakes. NOAA-CIGLR. $20,000 (2020-2021).

Great Lakes Long-term Ecological Research Program. PI. UM/CIGLR. $127,500. (2019).

Increasing Water Awareness through Science, Dance, and Music. PI. Frey Foundation. $5,000. (2019).

Integrating Science and Restoration in Muskegon Lake Habitat Focus Area. Co-PI. NOAA. $547,458. (2017-2020).

Increasing Water Awareness through Science, Dance, and Music. PI. CSCE- GVSU. $9,650 (2017-2018).

Proposal to Monitor External Phosphorus Loads to, and Microcystin Concentrations in, Spring Lake during Summer 2017. PI. Spring Lake – Lake Board. $33,952. (2017-2018).

The Cooperative Institute for Great Lakes Research (CIGLR). NOAA. Co-PI. (2017-2022). $20,000,000.

Duck Creek/Duck Lake Sedimentation Investigation. PI. Freshwater Future. $12,500. (2017).

Proposal to Assist the Frey Foundation in Assessing and Prioritizing Watershed and Science-Related Funding Requests. PI. Frey Foundation. $3,620. (2016).

Emily Kindervater Graduate Fellowship. PI. NASA/Michigan Space Grant Consortium. $5,000 (2016-2017).

Lower Muskegon River Wetland Pre-Restoration Monitoring Proposal. PI. NOAA. Total: $7,900,000; AWRI: $110,684. (2016-2018).

Proposal to Conduct an Internal Phosphorus Loading Study on Spring Lake. PI. Spring Lake – lake board. $31,292. (2016-2017).

West Michigan Watershed Sustainable Funding Study. Sub-contractor. Macatawa Area Coordinating Council. $50,000 (Steinman: $5,000) (2016).

Muskegon Lake AOC/Bear Creek Hydrologic/Wetland Restoration. Co-P.I. NOAA. $7,900,000; AWRI: ~$45,000. (2015-2017).

A New Approach to Managing Water in the State of Michigan: A Proposal to Assess the Feasibility of Integrated Watershed Commission. PI. $100.000 Mott Foundation $50,000; Frey Foundation ($30,000); Community Foundation for Muskegon County ($10,000). (2015-2016).

Hemimysis anomala sampling plan in Muskegon Lake. PI. Northeast Midwest Institute. $3,104. (2015).

P loss via tile drains in the Macatawa Watershed. Mentor. McNALMS. $1,000 (2015).

Growing Michigan's Blue Economy Project (addition). PI. Mott Foundation. $25,000. (2014-2015).

Muskegon Lake Area of Concern Stakeholder Involvement and BUI Removal Project. PI. Great Lakes Commission. $8,207. (2014).

Pierson Drain Project. Contract. Muskegon County Drain Commission Office. $6,654 (2014).

Mason Drain Project. PI. Muskegon County Drain Commission Office. $6,512. (2014).
Understanding the ecological importance of an invasive cyanobacterium in Silver Lake, Oceana County, MI. PI. MDEQ. $44,200. (2013-2015).
Growing Michigan's Blue Economy Project. Co-PI. Mott Foundation. $75,000. (2013-2014).
James Smit Graduate Fellowship: 2013. PI. NASA/Michigan Space Grant Consortium. $5,000 (2013-2014).
Water Quality and Hydrology of Silver Lake, Oceana County, MI with Special Emphasis on Response of the Lake to Nutrient Loading. Co-PI. USGS and Silver Lake Improvement Association. $352,708 (AWRI: $60,808; 2012-2015).
Seeking Clarity: Restoring the Macatawa Watershed. Co-PI. Various private funding sources. $12,276,000. (2012-2022).
Mona Lake $P^{18}O_4$ study. PI. Community Foundation for Muskegon County. $20,000 (2012).
Muskegon Lake AOC Mill Debris and Hydrologic Reconnection Design to Remove Fish and Wildlife Related BUIs. NOAA. Co-PI. $313,000 (2011-2013).
Studies to Support Ruddiman Creek Implementation-Ready TMDL. US EPA. PI. $247,212 (2010-2013).
Bear Creek/Bear Lake Watershed Implementation Project. MDNRE. Subcontractor. $92,448 (2010-2013).
Post-Restoration Monitoring of Aquatic Macrophytes and Socio-Economic Value of the Muskegon Lake Shoreline. PI. Community Foundation for Muskegon County. $20,000.
Internal Phosphorus Loading Study in Spring Lake, 2010. PI. Spring Lake – Lake Board. $27,291 (2010-2011).
IUGLS Ecosystems Study Area Working Group: Investigating the Effects of Changes in Lake Level on Coastal Ecosystems. US Army Corps of Engineers. Subcontractor. $30,000 (2009-2010).
Postdoctoral Research Fellow. PI. Paul C. Johnson Foundation. $110,000 (2010-2011).
Algal Bioindicators in Muskegon Lake. PI. Consumers Energy Foundation. $9,950 (2010-2011).
Restoring Habitat in Great Lakes Areas of Concern with Implementation in Muskegon Lake, Michigan. NOAA. Total $10,000,000 (AWRI: $223,000; Steinman: $154,437). (2009-2010).
Effect of restoration on phosphorus dynamics in the Kissimmee River. PI. South Florida Water Management District. $39,300 (2009).
Mona Lake Watershed Phase I Implementation Project. Co-PI. MDEQ. $52,000 (2008-2009).
Flooded Muck Fields as a Source of Phosphorus to Mona Lake. PI. MDEQ. $43,763 (2008-2010).
Algal Bioindicators in Muskegon Lake. PI. Alcoa Foundation. $15,000. (2008-2009).
Algal responses to road run-off in an urbanized catchment. MI Space Grant. $5,000 (2008).
A Study of Surface Run-off from US 31/Seaway on Little Black Creek, Muskegon County, MI. PI. US Department of Transportation. $348,000 (2007-2009).
Alternative stormwater management practices that improve the quality and ecosystem function of water resources in Spring Lake Village and Township. PI. Michigan Sea Grant. $220,000 (2007-09).
Groundwater sustainability workshop. PI. $10,000. GLFT and Joyce Foundation (2007).
Valuation of green infrastructure ecosystem services. PI. $65,000. Kellogg Foundation (2006-2007).
Continued renovations to a research and education facility. PI. $400,000. US Department of Health and Urban Development. (2005-2009).
A hands-on scientific investigation at the Annis Water Resources Institute. PI. $250,000. U.S. Department of Education (2004-2007).
Acquisition of a research facility, training and education space for the Annis Water Resources Institute. PI. $250,000. US Department of Health and Urban Development (2004-2007).
Using Algal Bioindicators to Assess the Status of Muskegon Lake: Integrating Impacts of the Muskegon River Watershed. PI. $25,000. Fremont Area Community Foundation (2006-2007)
Asssessment of cyanobacteria and associated toxins in west Michigan lakes. Co-PI. $58,551. MDEQ (2006-2007)

A Watershed Management Plan for Mona Lake, MI. Co-PI. MDEQ. $167,000 (2004-05).
Nutrient budget for White Lake, MI. Co-PI. MDEQ. $31,000 (2004-05).
Assessment of internal phosphorus loading in Spring Lake, MI. PI. Spring Lake – lake board. $39,000 (2004).
Assessment of internal phosphorus loading in Spring Lake, MI. PI. Spring Lake – lake board. $25,000 (2003).
Environmental analysis of well water in Mecosta County: a comprehensive and integrated approach. Year 2. P.I. Ice Mountain Stewardship Fund. $20,000 (2005)
Environmental analysis of well water in Mecosta County: a comprehensive and integrated approach. Year 1. P.I. Ice Mountain Stewardship Fund. $20,000 (2004).
Enhancing the Muskegon River Initiative: fish recruitment at the interface of the Great Lakes and their watersheds. Co-PI. Great Lake Fishery Trust. Total award $1,600,000 (2004-2007).
Watershed Assessment of Mona Lake Watershed. Co-PI. Mott Foundation. $100,000 (2002-2004).
Influence of Cattle Grazing and Land Use on Freshwater Wetlands in Rangeland Ecosystems. Co-PI. USDA. $277,211 (2000-03).
Lake Okeechobee Restoration Project. PI. State of Florida. $10,000,000 (2000-2005).
Lake Okeechobee Restoration Project. PI. Surface Water Advisory Restoration Grants, State of Florida. $28,500,000 (2000-04).
Agro-ecosystems indicators of sustainability as affected by cattle density in ranch management systems. Co-PI. USDA. $214,549 (1997-1999).
Optimization of best management practices for beef cattle ranching in the Lake Okeechobee basin – Phase 1. Co-PI. US EPA (319 funds). $150,000 (1997-99).
Biological monitoring for South Bay Land Outfall, Tijuana River, San Diego County. P.I. International Boundary and Water Commission $204,358 (1992-93).
Spatial gradients in nutrient recycling and their effect on ecosystem stability. Co-P.I. 1991-1993. NSF $1,250,000 (1990-93).
Nutrient cycling, ecosystem structure, and ecosystem stability. Co-P.I. NSF $350,410 (1987-88).

DEVELOPMENT ACTIVITY (>$6 million):
Kersman Family Instrument Fund. $150,000.
Kersman Family Scholarship Fund. $150,000.
Robert B. Annis Foundation. “AWRI Graduate Student Endowment”. $1,000,000 (2025-2034)
Grand Haven Area Community Foundation. “Graduate Student Fellowship at AWRI”. $25,000 (2025)
Grand Haven Area Community Foundation. “Postdoctoral Fellowships at AWRI”. $50,000 (2024)
Community Foundation for Muskegon County. “Postdoctoral Fellowships at AWRI”. $100,000 (2023)
Robert B. Annis Foundation. “AWRI Summer Internships”. $10,000 (2022)
Robert B. Annis Foundation. “A proposal to establish the Robert B. Annis Fellowship Program”. PI. $110,000 (2022).
Kay Jackson Estate. “AWRI Undergraduate Summer Internship Fund”. $165,000 (2021)
Buzz and Wendy Kersman. “AWRI Graduate Assistantships”. $50,000 (2019)
Robert B. Annis Foundation. “AWRI Summer Internships”. PI. $10,000 (2019)
Allen I. and Helen J. Hunting Research and Innovation Fund. $2,250,000. (2017-present).
Studies in the Macatawa Watershed. Danner Family Trust. $45,000 (2015-16).
AWRI Summer Internships. Robert B. Annis Foundation. $10,000 (2015).
Project Clarity Research Activities. George and Lucile Heeringa Foundation. $25,000 (2014-2015).
Muskegon Lake Long-Term Monitoring. Danner Family Trust. $50,000 (2014-2015).
Great Lakes. Great Promise. A Case for a New AWRI Field Station. Robert B. Annis Foundation. $250,000 ($25,000/yr for 10 yrs)
The Campaign for the AWRI Field Station. Wege Foundation. $50,000.

A proposal to replace the AWRI field station. Anonymous donation. $1,100,000 (2011-2013).
AWRI Postdoctoral Fellowship #1. Anonymous donation. $110,000 (2009-2011).
AWRI Postdoctoral Fellowship #2. Anonymous donation. $110,000 (2010-2012).
AWRI Postdoctoral Fellowship #3. Anonymous donation. $120,000 (2011-2013).
AWRI Postdoctoral Fellowship #4. Anonymous donation. $150,000 (2013-2015).
Paul C Johnson/Hines Corporation Postdoctoral Fellowship. $110,000 (2010-2012).
Robert B. Annis Water Resources Institute Fellowship Program. R.B. Annis Foundation. $750,000 (2009-2019).
William and Kay Jackson Annis Water Resources Fund. Multiple donations by Jackson Family. $326,000 total (2008-2014).
Establishment of Muskegon Lake Research Fund Endowment. Multiple Donors; fund held at Community Foundation for Muskegon County. $280,000 (2003-current)

CONTRACTS MANAGED:

Phosphorus Research in a Constructed Wetland. U.S. Geological Survey. 1998-2000. $160,000.
Aquatic Primary Production in the Kissimmee River-Floodplain System. University of Notre Dame. 1997-2000. $40,000.
Optimization of Best Management Practices for Beef Cattle Ranching in the Lake Okeechobee Basin. Archbold Biological Station. 1997-1999. $280,000.
Food Web Structure in Lake Okeechobee: Florida International University. 1996-1998. $40,000.
Underwater Vegetation Monitoring in the Caloosahatchee Estuary: U.S. Army Corps of Engineers Waterways Experiment Station. 1995-1997. $70,000.
System Response to a Salinity Gradient in the Caloosahatchee Estuary: Harbor Branch Oceanographic Institution. 1995-1997. $335,000.
Phosphorus Uptake and Cycling by Benthic and Planktonic Autotrophs in Lake Okeechobee: Archbold Biological Station. 1995-1997. $110,000.
Pigment Analysis of Benthic and Pelagic Algae: Florida Atlantic University. 1995-1996. $65,000.
Lake Okeechobee Periphyton Cell Counts: San Francisco State University. 1995-1996. $35,000.

INVITED TESTIMONY:

US House of Representatives (Transportation and Infrastructure Subcommittee) and U.S. Senate (Natural Resources Subcommittee). Everglades Restoration Update from National Academy of Sciences Committee. December, 2022.
US House of Representatives. Subcommittee of the Interior. Invasive species and the Great Lakes. December, 2015. https://oversight.house.gov/sites/democrats.oversight.house.gov/files/documents/Mr.%20Steinman%20Testimony.pdf
US Congressional Briefing: Using Geoscience Research to Accelerate Innovation and the Coastal Economy. Ecosystem Restoration in the Great Lakes Yields Significant Return on Investment. Washington, DC. November, 2015.
Michigan House of Representatives Field Hearing, Natural Resources, Tourism, and Outdoor Recreation Committee. Asian carp. Muskegon, MI. May, 2011.
US House of Representatives Field Hearing. Science Committee; Subcommittee on Environment, Technology, and Standards. Great Lakes restoration activities. Grand Rapids, MI. April, 2006. http://commdocs.house.gov/committees/science/hsy27093.000/hsy27093_0.HTM
MI Senate. Committee on Natural Resources and the Environment. Progress of Groundwater Advisory Committee. July, 2005.
US House of Representatives. Subcommittee on Water Resources and Environment. Great Lakes restoration activities. May, 2004. http://www.house.gov/transportation/water/05-20-

04/steinman.pdf

MI Senate. Committee on Natural Resources and the Environment. Progress of Groundwater Advisory Committee. May, 2004.

MI Senate. Committee on Natural Resources and the Environment. Pending groundwater legislation. March, 2003.

Lee County (FL) Circuit Court. Expert witness on emergency order releasing water from Lake Okeechobee. May, 2000.

INVITED SEMINARS/PRESENTATIONS (since 1999; Total >900):

Importance of Water. Grand Rapids Rotary. Grand Rapids, MI. 10/8/26.

Salinization of west Michigan lakes. MS4 Conference hosted by LGROW. Allendale, MI. 5/29/26.

Turning failures into successes. LifeCircles PACE Annual Education Day. Grand Haven, MI. 4/23/2026.

Michigan Has Plenty of Groundwater - Or Does It? Kent Garden Club. Ada, MI. 4/8/26.

Sordid tales, sketchy memories, and associated lessons. Muskegon Community College's Pecha Kucha symposium. Muskegon, MI. 1/29/26.

五大湖区有害藻类水华：范围、成因及控制. Virtual. Anhui University (China). 11/13/25.

Salinization of Michigan Waters. West Michigan Conservation Network. Grand Rapids, MI. 11/14/25.

The myth of groundwater abundance in Michigan. Kalamazoo Garden Council. Otsego, MI. 6/17/25.

Update on Spring Lake. Ottawa County Water Quality Forum. Hudsonville, MI. 3/21/25.

Road Salt: A Necessary Evil?. Tip of the Mitt Watershed Council's Ice Breaker Series. Virtual. 2/26/25.

Climate Change: It is real, and it is more than just temperature: **Keynote Presentation.** Michigan's Premier Public Health Conference 2024. Muskegon, MI. 10/15/24.

Salinization of our inland lakes: A potential ticking time bomb. Michigan Inland Lakes Convention. Grand Rapids, MI. 10/3/24.

Research Perspectives. Alliance for Great Lakes Webinar on Agriculture. Virtual. 8/15/24.

Update on Spring Lake Water Quality. Spring Lake District Library. Spring Lake, MI. 9/11/24.

Status of Groundwater in Michigan. Audubon Society Meeting (Grand Rapids chapter). Grand Rapids, MI. 9/30/24.

Revitalization of Muskegon Lake. Cook Valley Estates. Grand Rapids, MI. 6/12/24.

Ruination to Restoration to Revitalization: the story of a Great Lakes Area of Concern. Arkansas Water Resources Center. Virtual. 6/27/24.

Michigan's Groundwater: **Keynote Presentation**. Michigan Gardens Club Annual Conference. Bay City, MI. 6/11/24.

Research and Activities at GVSU's Annis Water Resources Institute (AWRI): **Keynote Presentation**. Michigan Environmental Health Association's Annual Education Conference. Muskegon, MI. 3/21/24.

Climate Change and the Great Lakes. White Lake Water Quality Video Series. Available online: https://wmeac.org/lakeshore-programs/white-lake/. 12/8/23.

Climate Change. Adult Learning, Congregation B'Nai Israel. Muskegon, MI. 10/15/23.

The Restoration and Revitalization of Muskegon Lake. Grand Forum. Grand Rapids, MI. 10/4/23.

AWRI and Muskegon Lake Revitalization. Grand Rapids Rotary Club. Grand Rapids, MI. 9/21/23.

Muskegon Lake Revitalization. National Education Telecommunications Association. Muskegon, MI. 9/14/23.

Update on Bebot. Council of Great Lakes Region. Muskegon, MI. 9/8/23.

Muskegon Lake Revitalization. National Education Telecommunications Association. Muskegon, MI. 9/14/23.

The Restoration and Revitalization of Muskegon Lake. Grand Forum. Grand Rapids, MI. 10/4/23

AWRI and Muskegon Lake Revitalization. Grand Rapids Rotary Club. Grand Rapids, MI. 9/21/23

Old and New Threats to the Great Lakes. Great Lakes Protection Fund. Chicago, IL. 5/10/23.
Internal Phosphorus Loading Overview. Lake Bella Vista Homeowners Association. Virtual. 12/7/22.
Great Lakes. Presentation on behalf of the West Michigan Symphony Gala. Muskegon, MI. 11/16/22.
Church Lake Water Quality Update. Church Lake Homeowners Association. Grand Rapids, MI. 9/12/22.
Project Clarity: Making Progress but Mission not Quite Accomplished. Project Clarity Annual Breakfast. Holland, MI. 5/24/22.
Nutrient Reduction Strategies in the Great Lakes and Florida Everglades. Alliance for Great Lakes. Virtual. 4/5/22.
Groundwater. FLOW (For Love of Water) World Water Day. 3/22/22. Virtual.
What's New at AWRI. Muskegon Rotary. Muskegon, MI. 1/27/22.
Updates on Bear Lake Research. AWRI Seminar Series. 1/14/22. Virtual.
Microplastics. Forest Hills Senior Center. Microplastics. Grand Rapids, MI. 12/14/21.
Bear Lake Status Update. Bear Lake – Lake Board. North Muskegon, MI. 12/9/21.
Overview of AWRI. Muskegon Community College Natural Resources class. Muskegon, MI. 10/26/21.
Role of government in water resources. Congregation B'Nai Israel. Muskegon, MI. 10/10/21.
Church Lake Project Update. Church Lake Homeowner's Association Annual Meeting. Grand Rapids, MI. 6/29/21.
Muskegon Lake AOC Restoration: Informed by Science. Institute for Journalism and Natural Resources. 6/10/21 (VIRTUAL).
Groundwater Under Threat: Understanding the How, Why, When and Where. Michigan Groundwater Table. 5/4/21 (VIRTUAL).
Emerging Water Issues that Face Our Planet. HASP (Hope Academy of Senior Professionals). 3/22/21 (VIRTUAL).
Understanding and Managing Internal P Loading. New England Chapter of North American Lake Management Society Panel. 9/30/20 (VIRTUAL)
Managing Water Resources in Michigan by Watersheds: Fact, Fiction, Frustration. MWEA Watershed Summit. East Lansing, MI. 7/29/20 (VIRTUAL)
Are microplastics a vector for contaminants in Muskegon Lake? Ottawa County Water Quality Forum. Olive Township, MI. 11/19.

Social and Economic Benefits of Shoreline Restoration and Public Access. FLOW Forum—Role of Government in Protecting Human Health and the Environment. Grand Rapids, MI. 12/19.
Social and Economic Benefits of Shoreline Restoration and Public Access. Muskegon Lake Watershed Partnership. Muskegon, MI. 11/19.
Overview of new book: Internal Phosphorus Loading in Lakes: Causes, Case Studies, and Management and brief history of internal phosphorus loading control in Spring Lake, Michigan (USA). First Forum on Aquatic Ecosystem Restoration and Health. Beijing, China. 10/19.
Michigan's Blue Economy. Muskegon in Focus. Muskegon, MI. 9/19.
Regional Water Resources. Muskegon Realtor's Group. Muskegon, MI. 9/19.
Climate Change: Knowns and Unknowns. GVSU Grand Forum. Grand Rapids, MI. 9/19.
Restoration of Two Systems. Johns Hopkins University course visit to AWRI. Muskegon, MI. 7/19.
Climate Change and Water Resources. Michigan Society of Professional Engineers. Lansing, MI. 5/19.
Managing Water Resources in Michigan by Watersheds: Fact, Fiction, Frustration. Michigan Stream and Lake Association (Keynote Presentation). Boyne, MI. 5/19.
Raising Water Awareness through Science, Music, and Dance. Wetland Watch Event. Spring Lake, MI. 5/19.
Grand River Dredging Project. Progressive Women's Alliance. Spring Lake, MI. 4/19.
Ottawa County Groundwater Crisis. Grand Haven Earth Day. Grand Haven, MI 4/19.
Muskegon's Blue Economy. Lakeshore Museum Center. Muskegon, MI. 3/19.

Great Lakes Restoration: Fact, Fiction, or Frustration. C-3 Congregation. Grand Haven, MI. 3/19.
Our Great Lakes and the Annis Water Resources Institute. Field Club. Sarasota, FL. 2/19.
Annis Water Resources Institute: Who We Are and What We Do. GVSU Foundation Forum. Naples, FL. 2/19.
Our Great Lakes: Challenges and Solutions. GVSU Foundation Forum. Naples, FL. 2/19.
Understanding Climate Change and the 4th Annual Climate Change Assessment. Spring Lake District Library Series. Spring Lake, MI. 2/19.
Annis Water Resources Institute: Who We Are and What We Do. GVSU Foundation Forum. North Palm Beach, FL. 1/19.
Our Great Lakes: Challenges and Solutions. GVSU Foundation Forum. North Palm Beach, FL. 1/19.
Restoration of Three Aquatic Ecosystems in West Michigan. UK Centre for Ecology and Hydrology. Midlothian, Scotland. 11/18.
Large scale restoration in the USA: from the everglades to the great lakes. UK Centre for Ecology and Hydrology. Midlothian, Scotland. 11/18.
The Global Water Crisis. Tri-Cities Garden Club District Meeting. Grand Haven, MI. 10/18.
History of the Environmental Committee. Community Foundation for Muskegon County. Muskegon, MI. 8/18 and 10/18.
Understanding Climate Change and its Impacts on Water Resources. Midwest Institute for International/Intercultural Education. Kalamazoo, MI. 8/18.
Great Lakes Challenges and Solutions. Midwest Institute for International/Intercultural Education. Kalamazoo, MI. 8/18.
Great Lakes Challenges and Solutions. First Lutheran Church. North Muskegon, MI. 6/18.
Research and Monitoring Update. Project Clarity Annual Meeting. Holland, MI. 5/18.
Managing Water Resources in Michigan by Watersheds: Fact, Fiction, and Frustration (Keynote). Lower Grand Rapids Organization of Watersheds. Lowell, MI. 5/18.
Michigan's Blue Economy. National Working Waterfronts Conference. Grand Rapids, MI. 5/18.
Restoration of Aquatic Ecosystems in West Michigan. Chinese Academy of Sciences, NIGLAS (Nanjing Institute of Geography and Limnology). Nanjing, China. 4/18.
The Future of Water. MI League of Conservation Voters Panel. Grand Rapids, MI. 3/18.
Michigan's Environment: Challenges for the Future. MSU Fate of the Earth 2018 Event. East Lansing, MI. 3/18.
Blue Economy Initiatives in Battle Creek (MI). City leader meeting. Battle Creek, MI. 2/18.
Water Security. MSU Environmental Science and Public Policy Roundtable. East Lansing, MI. 2/18.
Update on Spring Lake Research. Ottawa County Water Quality Forum. Olive Township, MI. 11/17.
Conservation Challenges in the Great Lakes. The Nature Conservancy, MI Chapter Trustees Meeting. Lansing, MI. 12/17.
Current and Emerging Water Resource Issues Facing the Planet (keynote). 2017 Muskegon Arts and Humanities (AH) Festival. Muskegon, MI. 10/17.
Spring Lake and Great Lakes Status. Tri-Cities Garden Club. Spring Lake, MI. 10/17.
Blue Water Economy. 2017 Mississippi River Legislative Caucus. St. Louis, MO. 9/17.
Great Lakes 101. Great Lakes Protection Fund Board of Directors. Chicago, IL. 9/17.
Restoration efforts in West Michigan aquatic ecosystems: Lessons Learned? Hope Academy of Senior Professionals (HASP). Holland, MI. 8/17.
Two too many problems: too much phosphorus and too many invasive species—facts, fiction, future? Fremont, MI Rotary Club. Fremont, MI. 7/17.
Understanding Climate Change and its Impacts. Mayflower Congregational Church Explorers. Grand Rapids, MI. 5/17.
Science Informing Restoration and Engaging Community: Muskegon Lake as a Case Study. NOAA Regional Summit. Muskegon, MI. 5/17.

Managing Water Resources in Michigan by Watersheds. Grand Rapids Community Foundation (CEO Meeting). Grand Rapids, MI. 5/17.

Lake and Wetland Restoration: A Tale of Three Systems. University of Illinois, Sustainability Seminar Series. Champagne-Urbana, IL. 4/17.

Project Clarity Research and Monitoring Update. Project Clarity Update Breakfast. Holland, MI (4/17).

Managing water in Michigan by Watersheds: Using the Grand River Watershed as an example. Knight Center Media Workshop. Grand Rapids, MI. 4/17.

Long-Term Monitoring of Muskegon Lake. Lakeshore Museum Center, Muskegon, MI. 4/17.

Managing Water Resources in Michigan by Watersheds. Michigan Commission of Agriculture and Rural Development. Lansing, MI. 2/17.

Groundwater in West Michigan. ROAD public meeting: Montague, MI. 2/17.

AWRI: Who we are, what we do, and recent updates. NW Chapter of the Michigan Drain Commissioner's Association: Muskegon, MI. 12/16.

Great Lakes Blue Economy and Great Lakes Challenges (Keynote Lecture). National Caucus of Environmental Legislators. Washington, DC. 12/16.

Aquatic Habitat Restoration and Hydrologic Re-connection of a Former Celery Farm on Bear Creek within the Muskegon Lake Area of Concern. U.S. Fish and Wildlife Service, Conservation Training Center's Restoration Webinar Series. 11/16. https://nctc.fws.gov/topic/online-training/webinars/restoration.html

Ecosystem Restoration from the Everglades to the Great lakes: Fact, Fiction, and (occasional) Frustration. Keiser Distinguished Lecture, Ohio Northern University: Ada, OH. 10/16.

The Role of Science in the Restoration of Aquatic Ecosystems. Ohio Northern University. Ada, OH. 10/16

Challenges and Solutions Facing the Great Lakes. The Garden Club of Michigan. Grosse Pointe Farms, MI. 10/16.

Challenges and Solutions Facing the Great Lakes Charlevoix Garden Club: Challenges and Solutions Facing the Great Lakes. Charlevoix, MI. 10/16.

Michigan's Blue Economy. Philanthropic Educational Organization (PEO), Muskegon, MI. 9/16.

AWRI's Work on Agricultural Issues. Michigan Agricultural Business Association Meeting. Muskegon, MI. 7/16.

Recommendations from USGS-AWRI Silver Lake Study. Silver Lake Annual Meeting. Silver Lake, MI. 6/16.

Impact of Climate Changes. National Garden Club Convention, Grand Rapids, MI. 5/16.

Setting the Stage—Federal and State Large Scale Ecosystem Restoration: Implementation, Political Challenges and Lessons Learned – The Great Lakes. National Conference on Ecosystem Restoration (Plenary Speaker), Ft. Lauderdale, FL. 4/16.

Muskegon Lake: A Case Study for BUI De-listing. Great Lakes Area of Concern Conference, Dearborn, MI. 3/16.

AWRI and Algal Blooms. MI Botanical Club, Grand Rapids, MI. 3/16.

Michigan's Blue Economy. GVSU-CLAS Colloquium, Allendale, MI. 1/16.

Michigan's Blue Economy. Muskegon Rotary Club, Muskegon, MI. 12/15.

Weather and Harmful Algal Blooms. West MI chapter of American Meteorological Society, Grand Rapids, MI. 11/15.

Michigan's Blue Economy: Why Water Matters. Secchia Breakfast Lecture, Grand Rapids, MI. 10/15.

Michigan's Blue Economy. Detroit Grand Lecture Series, Detroit, MI. 6/15.

Muskegon Lake: A model success story combining science, community, and philanthropy. Community Foundation for Muskegon County, , Muskegon, MI. 6/15.

Natural Resources. Discover the Vision, Muskegon Lake 2020. Muskegon, MI. 6/15

Managing Michigan's Water Resources Wisely. Spring Lake Library, Spring Lake, MI. 6/15

An Overview of AWRI. Grand Forum, Muskegon, MI. 5/15

Watershed Approaches in West Michigan. Frey Foundation, Grand Rapids, MI. 5/15
Climate Change and the Great Lakes. A Few Friends for the Environment of the World. Ludington, MI. 4/15.
Michigan's Blue Economy. Kent County Garden Club. Grand Rapids, MI. 4/15.
Current Threats to our Great Lakes and Wetlands with Some Solutions. River City Wild Ones. Calvin College, Grand Rapids, MI. 4/15.
Michigan's Blue Economy. Muskegon County Environmental Coordinating Council, Muskegon, MI. 12/14.
Watersheds and Phosphorus: Degradation, Restoration, and Occasional Frustration. Joseph W. Jones Ecological Research Center. Newton, GA. 10/14.
Threats and Solutions to the Great Lakes. Pfizer Corporation. Portage, MI. 10/14.
Michigan's Blue Economy. Muskegon Leadership Forum. Muskegon, MI 9/14.
Great Lakes and Climate Change. Annual Meeting of the American Water Works Association, Michigan Chapter. Manistee, MI. 9/14.
Using Science to Inform Restoration: Bear Lake Muck Fields as a Case Study. Healing our Waters Annual Conference, Grand Rapids, MI. 9/14.
Blue Water Economy. Northwestern Michigan College. Traverse City, MI. 9/14
Threats and Solutions to the Great Lakes. Grand Haven Rotary Club. Grand Haven, MI. 6/14 and 7/14.
Threats and Solutions to the Great Lakes. Muskegon County Garden Club. Muskegon, MI. 6/14.
Michigan's Blue Economy. Lower Grand River Organization of Watersheds Annual Spring Forum. Grand Rapids, MI. 5/14.
Challenges and Solutions Facing the Great Lakes (100th Anniversary special invited presentation). Kent County Garden Club. Grand Rapids, MI. 4/14.
An Update on Climate Change and the Great Lakes. Spring Lake Library. Spring Lake, MI 4/14.
The Muskegon Lake Area of Concern: Degradation, Restoration, and Occasional Frustration. Wayne State University. Detroit, MI. 4/14
Challenges and Solutions in the Great Lakes. Forest Hills Senior Center. Grand Rapids, MI. 3/14.
*Ecosystem Restoration in the Everglades and west Michigan.*University of Michigan. Ann Arbor, MI. 3/14.
The Blue Economy (Plenary). Council of Michigan Foundations. Muskegon, MI. 3/14
The Blue Economy. Region 4 Economic Development Collaborative. Muskegon, MI. 11/13.
Climate Change and the Great Lakes. Ottawa County Water Quality Forum. Ottawa Co, MI. 11/13.
Great Lakes Water Level Integrated Assessment: ecology. University of Michigan, Graham Institute for Sustainability. Ann Arbor, MI. 10/13.
The Blue Water Economy. Greentown Michiana, South Bend, IN. 10/13
Degradation, Valuation, and Restoration of Muskegon Lake: A Great Lakes Area of Concern. Ohio University, Athens, OH 10/13
Update on AWRI and the Blue Water Economy. Muskegon in Focus, Muskegon, MI. 10/13
Major Challenges in the Great Lakes. Michigan Congressional Staffers Delegation, Muskegon, MI. 7/13
Bear Lake Sediment Study. Muskegon Lake Watershed Partnership, North Muskegon, MI. 7/13
Silver Lake Nutrient Loading Project. Annual Friends of Silver Lake, Silver Lake, MI. 6/13
Blue-Green Algae (Cyanobacteria) Blooms: Challenges and Solutions. Pentwater Lake Association:, Pentwater, MI. 6/13
Challenges and Solutions Facing the Great Lakes (Keynote). Michigan Garden Clubs State Convention, Holland, MI. 5/13
Climate Change and the Great Lakes (Keynote). Michigan Botanical Clubs Annual Foray, Calvin College, Grand Rapids, MI. 5/13
The Great Lakes Ecosystem: Existing Challenges and Putative Solutions (Keynote). Michigan Environmental Hall of Fame, Gerald Ford Museum, Grand Rapids, MI. 5/13

An Update on the Great Lakes, Water Levels, and the Annis Water Resources Institute. Muskegon Chamber of Commerce, Muskegon, MI. 4/13

Addressing Climate Change and Changing Water Levels. Lower Grand River Organization of Watersheds (LGROW) Forum. East Grand Rapids, MI. 4/13

Eutrophication, Restoration, and Algae in Great Lakes Coastal Ecosystems (Plenary). Northeast Algal Symposium. Mystic, CT. 4/13.

The Great Lakes Ecosystem. Exploring Synthetic Biology in the Great Lakes Workshop. Evanston, IL. 4/13

Ecosystem Restoration from the Everglades to the Great Lakes: Fact, Fiction, and (occasional) Frustration. University of Toledo, Toledo, OH. 3/13.

How Will Climate Change Impact the Great Lakes Area? Hope College, Holland, MI. 3/13.

The Role of Fresh Water in Living Sustainably: Global, Regional, and Local Implications (Keynote). Habitat for Humanity 2013 HOMES Green Building Summit, Roscommon, MI. 1/13

The Health of the Great Lakes. Kent County Health Department, Grand Rapids, MI. 12/12

Bear Lake Internal Phosphorus Loading Update. Muskegon Lake Watershed Partnership, Muskegon, MI. 11/12

Update on Muskegon Lake (panel member). Community Foundation for Muskegon County, Muskegon, MI. 11/12

Climate change and the Great Lakes. Norton Shores Library, Norton Shores, MI. 10/12

Placing White Lake's environmental history in context (Keynote). White Lake District Library, Whitehall, MI. 9/12

Blue economy. Leadership Muskegon, Muskegon, MI. 9/12

Climate change and the Great Lakes. Spring Lake Library, Spring Lake, MI. 7/12

*Environmental Career Outlook—Areas of Opportunity and Business Growth.*West Michigan Air and Waste Management Association Spring Conference, Grand Rapids, MI. 4/12.

Blue Water Economy. Muskegon TED_x, Muskegon, MI. 9/11.

AWRI update/Great Lakes challenges. Scientech Club, Indianapolis, IN. 4/11.

The role of science in Great Lakes restoration. Varnum Water Law Seminar, Grand Rapids, MI. 2/11.

Asian carp: science vs. rhetoric. Fremont Rotary Club, Fremont, MI. 11/10.

Phosphorus release from flooded celery fields. Ottawa County Water Quality Forum, West Olive, MI. 11/10.

Phosphorus in Michigan Waters: overview, monitoring, impacts, and control (Keynote Presentation). Michigan Clean Water Corps Annual Meeting, Roscommon, MI. 10/10.

Lessons Learned from Michigan Groundwater Sustainability Indicators. Workshop on Groundwater Sustainability, Canadian Council of Ministers of the Environment, Edmonton (Canada). 10/10

Great Lakes science and policy. University of Michigan Law School, Ann Arbor, MI. 9/10

Great Lakes problems and solutions. Steelcase University, Grand Rapids, MI 5/10

Philanthropy and the environment. Community Foundation for Muskegon County, Muskegon, MI 5/10

Great Lakes problems and solutions. Whitehall University Women's Club, Montague, MI 3/10

Great Lakes problems and solutions. Annual Varnum Law Seminar (Keynote Speaker), Grand Rapids, MI 2/10

Overview of Asian carp. Muskegon Chamber of Commerce (Asian Carp Summit), Muskegon, MI 2/10

Listening to Your River, Northwest Michigan College, Traverse City, MI 1/10

Hope College (Critical Issues Symposium Invited Speaker), Holland, MI 10/09

Greentown Conference, Grand Rapids, MI 7/09

Michigan State University (Michigan Water Fellow), East Lansing, MI 2/09

Kiwanis Club, Grand Rapids, MI 1/09

MI Dept of Environmental Quality Office of Great Lakes/MI United Conservation Clubs, Muskegon, MI 10/08

Christ Community Church, Spring Lake, MI 9/08

Dirt Dauber Garden Club, Montague, MI 8/08
Michigan State University, East Lansing, MI. 7/08
Little Manistee Watershed Council, Irons, MI 7/08
Muskegon County Planning Commission, Muskegon, MI 7/08
Muskegon County Environmental Coordinating Council, Muskegon, MI 6/08
Muskegon Rotary (Delegation from India), Muskegon, MI 5/08
Lakeshore Progressive Women's Alliance, Spring Lake, MI 4/08
University of Notre Dame, Dept of Biological Sciences, Notre Dame, IN 4/08
University of Michigan, Dept of Civil and Envtl Engineering, Ann Arbor, MI 4/08
West Michigan Regional Issues Council, Grand Rapids, MI 4/08
Mid-Michigan Green Infrastructure Workshop, East Lansing, MI 3/08
MI Sea Grant Regional Fishery Workshop, Grand Haven, MI 3/08
Loyola University, Chicago, IL 1/08
Kellogg Biological Station (keynote), Hickory Corners, MI, 12/07
Central Michigan University, Biology Dept, Mt. Pleasant, MI. 11/07
GVSU Grand Forum, Muskegon, MI, 9/07
Pere Marquette Watershed Council (keynote), Baldwin, MI, 9/07
Scientech Club, Indianapolis, IN, 8/08
Grand Rapids Rotary, Grand Rapids, MI, 5/07
League of Women Voters, Holland, MI, 4/07
Dept of Natural Resources, MSU, 1/07
Muskegon Leadership Council, Muskegon, 11/06
MI Dept of Environmental Quality, Lansing, MI 8/06
Vergennes Township, MI, 5/06
Muskegon County, MI elected officials, 3/06
City of Norton Shores, MI, 1/06
Michigan Turfgrass Association, Grand Rapids, MI, 1/06
NOAA, Great Lakes Environmental Research Lab, Ann Arbor, MI, 10/05
Muskegon City Commissioners, Muskegon, MI, 6/05
1st National Ecosystem Restoration Conference, Plenary Speaker, Orlando, FL, 12/04
USS Pickaway Reunion, Grand Rapids, MI, 10/04
National Association of Conservation Districts: urban, community, and coastal resources committee, Muskegon, MI, 9/04.
Institute of Chemistry and Biology of the Marine Environment, Oldenburg Univ., Oldenburg, Germany, 5/04
MI Lake & Stream Association, Boyne, MI, 4/04
US-EPA Region 5, Chicago, IL, 2/04
Dept of Ecology, Evolutionary Biology, and Behavior, Mich. State Univ., E. Lansing, MI, 11/03
State of the Lake Conference, GVSU-USEPA, Muskegon, MI, 10/03
West Michigan Leadership Academy, Grand Rapids, MI, 10/03
Cary Conference, Inst. of Ecosystem Studies, Millbrook, NY, 5/03
Grand Rapids Rotary, Grand Rapids, MI, 4/03
Kellogg Biological Station (MSU), Hickory Corners, MI, 3/03
Environmental Health Conference, Muskegon, MI, 2/03
West MI Water Environment Assn, Muskegon, MI, 11/02
Dept of Biology, Grand Valley State Univ, Allendale, MI, 9/02
Leadership Academy, Muskegon, MI, 9/02
US-EPA Gulf Ecology Division, Gulf Breeze, FL, 7/02
Lake Macatawa Coordinating Council (keynote speaker), Holland, MI, 4/02.

Dept of Biology, Univ. of Texas-Arlington, Arlington, TX, 3/02.
American Fisheries Society, MI Chapter (keynote address), Muskegon, MI, 2/02.
NOAA, Great Lakes Environmental Research Lab, Ann Arbor, MI, 12/01.
Dept of Biological Sciences, University of Notre Dame, South Bend, IN, 11/01.
Institute of Limnology, University of Uppsala, Uppsala, Sweden 10/01
National Science Foundation, Division of Environmental Biology, Balston, VA, 6/01.
Water Resource Institute, Grand Valley State Univ., Grand Rapids, MI 4/01.
School of Natural Resources, University of Vermont, Burlington, VT 4/01.
Dept of Plant Biology, Ohio University, Athens, OH 3/01.
Dept of Environmental Sciences, George Mason University, Fairfax, VA, 2/01.
Sea Grant, University of Rhode Island, Kingston, RI, 1/01
Indian River Community College, Ft. Pierce, FL, 1/01.
Ecosystem Restoration Workshop, Univ. of Florida, W. Palm Beach, FL, 12/00
AWRA, Florida Chapter, Okeechobee, FL, 8/00.
Center for Natural Resources, Univ. of Florida, FL, 4/00.
Institute of Ecosystem Science, Millbrook, NY, 01/00.
USDA, National Research Initiative Cooperative Grants Program, Washington, DC, 9/99.

CONTRIBUTED SEMINARS: (last 10 years; Total > 400):
Michigan Lake and Stream Association Annual Meeting. Boyne, MI. 5/23
Greater Everglades Ecosystem Research Conference. Coral Springs, FL. 4/23
Emerging Contaminants in the Environment Conference. Champagne, IL. 4/23
Joint Aquatic Sciences Meeting 2022. Grand Rapids, MI. 5/22
Area of Concern Conference. Bear Lake Restoration Overview. Muskegon, MI. 5/22
North American Lake Management Society, Burlington, VT. 11/19.
Society for Freshwater Science, Detroit, MI. 5/18.
Society for Freshwater Science, Milwaukee, WI. 5/15
Healing our Waters Annual Conference, Grand Rapids, MI. 9/14
Society for Freshwater Science, Portland, OR. 5/14
Society for Freshwater Science, Jacksonville, FL. 5/13
Society for Freshwater Science, Louisville, KY. 5/12
International Association of Great Lakes Research, Duluth, MN. 6/11
North American Benthological Society annual meeting, Providence, RI. 5/11

PROFESSIONAL SOCIETIES:
American Society of Limnology and Oceanography
North American Benthological Society
Ecological Society of America
American Association for the Advancement of Science
International Association for Great Lakes Research
Phi Beta Kappa

POSTDOCTORAL ADVISEES:
Lidiia Iavorivska, AWRI: 2017-2019. Current Position: Research Technician, Penn State University, State Park, PA
Geraldine Nogaro, AWRI: 2011-2014. Current Position: Project Biologist, EDF Group, Paris, France.
Nadia Gillett, AWRI: 2010-2012. Current position: Biologist, Portland Water Bureau, Portland, OR.
Kelly Wessell, AWRI: 2005-2006. Current position: Professor, Tompkins Cortland Community College, Cortland, NY

Soon-Jin Hwang, SFWMD: 1995-1997. Current position: Professor, Konkuk University, Korea

M.S. STUDENTS, GVSU—Major Advisor:

Liz Kelley. 2026-2028.

Ashley Suttner. 2025-2027.

Kate Lucas. 2022-2024. Current status: project manager, Barr Consulting (Minneapolis, MN)

- Michigan Space Grant awardee ($5000)
- MI chapter of NALMS ($2000)
- GVSU Presidential Research Grant ($1500)
- Graduate School Citation for Academic Excellence in the Winter 2024 semester

Paris Valasquez. 2021-2024. Current status: GIS intern, Ottawa County (MI) Parks Department

- GVSU Presidential Award ($1,500)

Ellen Foley. 2020-2022. Current status: Development Associate, Leeward Renewable Energy (Chicago, IL).

- Michigan Chapter of the North American Lake Management Society ($1,980)
- MI Space Grant Award ($5,000)
- GVSU Presidential Award ($1,500)
- Graduate School Citations for Academic Excellence in the Winter 2022 semester

Katy Sheets. 2019-DNF. Current status: homemaker

- MI Space Grant Award ($5,000)
- GVSU Presidential Award ($1,500)

Paige Kleindl. 2017-2019. Current status: Ph.D. program at Florida International University (started Fall, 2020)

- West Michigan Chapter Air & Waste Management Association ($2,000)
- Michigan Chapter of the North American Lake Management Society. $2,000.
- Graduate Megan E. Cook Memorial Scholarship from Michigan Lake and Stream Association. $1,500.
- Graduate Dean's Citation for Outstanding Master's Thesis in the Winter 2020 semester

Kim Oldenborg. 2016-2018. Current status: Northeast Lakeshore Total Maximum Daily Load Project Coordinator, Wisconsin Department of Natural Resources. Madison, WI.

- GVSU Presidential Award ($1,350)
- Graduate Dean's Citation for Academic Excellence for Outstanding Publication the Fall 2018 semester

Emily Kindervater. Defended, 2017. Current status: Science Lab Coordinator, Hope College, Holland, MI.

- MI Space Grant Award ($5,000)
- Michigan Chapter, North American Lake Management Society (McNALMS) annual Lakes Applied Research/Outreach award
- Society for Freshwater Science Fellowship Award
- 2nd Place, 3 minute thesis competition, GVSU
- Graduate Dean's Citation for Academic Excellence in the Degree Program in the Fall 2017 semester
- Graduate Dean's Citation for Excellence in Sustainability at GVSU

Delilah Clement. Defended, 2016. Current Status: Sales Rep, Uncle Dan's Outfitters, Chicago, IL.

- Michigan Chapter, North American Lake Management Society (McNALMS) annual Lakes Applied Research/Outreach award

James Smit. Defended, 2014. Current Status: Field Biologist, ERM, Holland, MI.

- Graduate Dean's Citation for Academic Excellence in the Major for Fall 2014
- Best Student Presentation at the Environmental Risk and Decision Making

- MI Space Grant Award ($5,000)
- Cook Leadership Academy Awardee

Whitney Nelson. Defended, 2011. Current status: Scientist Novozymes Biologicals, Inc. Fayetteville, AR
- Outstanding Master's Thesis, GVSU
- GVSU's nominee for the Midwestern Association of Graduate Schools Distinguished Master's Thesis Competition for 2012-13

Kelli Johnson. Defended, 2010. Current status: Staff Scientist I, Bradburne, Briller & Johnson, LLC, Chicago, IL

Matt Cooper. Defended 2009. Current status: Professor, Muskegon Community College. Muskegon, MI.
- Outstanding Master's Thesis, GVSU.

Jennifer Cymbola. Defended, 2007. Current status: Affiliate Faculty, Grand Valley State University, Allendale, MI

M.S. STUDENTS—Committee Member:

Renee Tardani (M.S.-committee member; GVSU). 2024-present.
Anna Briem (M.S.-committee member; GVSU). 2022-present.
Maggie Peterson (M.S.-committee member; GVSU). 2020-present.
Billy Mulligan (M.S.-committee member; GVSU). 2020-present.
Megan Mader (M.S.-committee member; GVSU). 2019-present.
Jay Zuidema (M.S.-committee member; GVSU). 2016-2018.
Sarah Stamann (M.S.-committee member; GVSU). 2013-2015.
Bill Keiper (M.S.-committee member; GVSU). 2007-2010.
Jennifer Jermalowicz-Jones (M.S.-committee member; GVSU). 2004-2007.
Kathy Pietro (M.S.-committee member; Florida Atlantic University). 1995-1998.

Ph.D. STUDENTS—Committee Member:

Bridget Wheelock (Ph.D.-committee member; CMU). 2024-present.
Kateri Salk (Ph.D.-committee member; MSU). 2012-2017.
Lauren Kinsman (Ph.D.-committee member; MSU). 2007-2012.
Janine Rueegg (Ph.D.-committee member; Univ. Notre Dame). 2007-2011.
Michelle Evans-White (Ph.D.-committee member; Univ. Notre Dame). 2002-2006.

PROFESSIONAL SERVICE AND ACTIVITIES

I. Professional Service--Editorial Activities:

Review Editor:	Frontiers in Environmental Science: Freshwater (2023-present)
Associate Editor:	Freshwater Biology (2015-2022).
Guest Co-Editor:	Journal of Great Lakes Research: Special Issue titled Assigning agency: how communities, individuals, and organizations engage in environmental cleanup and revitalization.
Editorial Board:	Freshwater Biology (2010-2015).
Associate Editor:	Journal of the North American Benthological Soc. (1992-1995; 2002-2012).
Associate Editor:	ISRN Ecology (2010-2012)
Editorial Board:	TheScientificWorld Journal (2001-2011).
Associate Editor:	Journal of Phycology (1997-2000)
Editorial Board:	Journal of Phycology (1996-2000)

II. Professional Service—Boards/Committees:

Member:	NOAA's Ecosystems Science and Management Working Group (2023-2025)

Member:	National Academy of Sciences Committee to Review Everglades Restoration (2021-present)
Member:	External Advisory Board, Michigan State University Water Alliance (2024-2026)
Advisor:	Great Lakes and St. Lawrence Cities Initiative (2022-present)
Member:	Michigan Groundwater Table (2021-2022)
Organizer:	CIGLR Summit on "Great Lakes Integrated Mesocosm Research" (2022).
Member:	Technical Advisory Panel for the H2Ohio Wetland Monitoring Program (2020-2021)
Co-Chair:	Local Arrangements Committee, Joint Aquatic Sciences Meeting 2022 (2021-2022)
Organizer:	CIGLR Summit on "Michigan Groundwater in Crisis" (2020).
Member:	IJC Work Group Phase II Great Lakes Early Warning System (2020-2021).
Member:	US EPA's Great Lakes Advisory Board (2020-present).
Member:	Ottawa County (MI) Groundwater Executive Team (2018-present).
Member:	IJC Great Lakes Early Warning System External Advisory Committee (2017-present)
Co-Organizer:	CIGLR Summit on "Revisiting the Prescription": Identifying a conceptual framework for approaches to restoring and protecting the Great Lakes (2018).
Member:	Michigan Environmental Hall of Fame Advisory Committee (2017-present)
Reviewer:	Progress Toward Restoring the Everglades: The Sixth Biennial Review, 2016. National Academy of Sciences (2016)
Member:	Science and Information Subcommittee (SIS) to the US EPA Great Lakes Advisory Board (2016-2018)
Member:	Ottawa County (MI) Groundwater Advisory Task Force (2015-2018).
Member:	University of Michigan's Water Center Advisory Board (2015-2018).
Member:	MDEQ advisory committee for a project on water quality research and education at post-secondary academic institutions in MI (2014-2015).
Member:	NOAA NERRS (National Estuarine Research Reserve System) Science Collaborative Advisory Board (2014-2017)
Steering Comm:	University of Michigan, Steering Committee, University of Michigan's GLEAM II (Great Lakes Environmental Assessment and Mapping project (2014-2015)
Executive Comm:	NOAA, Habitat Blueprint for Muskegon Lake (2014-2016)
Executive Comm:	Society of Freshwater Science, Academic Delegate (2012-2015)
Co-Chair:	Sponsorship and Development Committee, Society of Freshwater Science (2012-2014)
Chair:	Program Committee Chair, Annual Meeting of North American Benthological Society, 2009 Grand Rapids, MI.
Member:	Stormwater Management Exploratory Team, Water Environment Research Foundation (2006)
Member:	Award of Excellence Subcommittee, North American Benthological Society, 2003 – 2005 (Subcommittee Chair: 2004).
Member:	ASLO Journal Committee, American Society of Limnology and Oceanography, 1997-2001.
Member:	Executive Committee, North American Benthological Society, 1993-5.
Member:	Program Committee, Annual Meeting of North American Benthological Society, 1994 Orlando, FL.
Treasurer:	Sigma Xi chapter, South Florida Water Management District, 1994-1997.
Member:	Elections and Place Committee, North American Benthological Society, 1991/2.

III. Panels/Workshops/Committees/Organizer (chronological):

Invited Moderator:	Midwest Climate Adaptation Science Center; Improving Climate-informed Restoration. Michigan State University, East Lansing, MI. 8/24.
Invited Reviewer:	United Nations Environment Program's Our Phosphorus Future project, 2020.
Discussion Panel:	Margaret Sellers Walker Distinguished Practitioner Lecture Series: Opportunities and Challenges for Water. Grand Rapids, MI. 10/19.
Discussion Panel:	MSU Environmental Science and Public Policy Roundtable. Title: Water Security. East Lansing, MI. 2/18.
Discussion Panel:	MSU Fate of the Earth 2018 Event. Title: Michigan's Environment: Challenges for the Future. East Lansing, MI. 3/18.
Discussion Panel:	The Future of Water Panel. Grand Rapids Art Museum. 3/18.
Organizer:	Workshop on "Sustainable Management of Iconic Lakes—Lessons Learned from Lake Michigan and Lake Kinneret" with Israeli delegation. September, 2016.
Advisory Panel:	US EPA Science and Information Subcommittee, Great Lakes Advisory Board 2016-2018.
Review Panel:	US EPA STAR Grant Panel: Graduate Fellowship Review. 2015.
Discussion Panel:	Film documentary *Project: Ice*. 9/14.
Review Panel:	University of Michigan Water Center (2014)
Workgroup Member:	International Joint Commission—Seasonal and Long-Term Fluctuations in Great Lakes Water Levels (2013-2014).
Review Panel:	Selected to participate in the independent external peer review panel to review the Comprehensive Efficacy Study, Chicago Sanitary and Ship Canal Dispersal Barriers Risk Reduction Study and Integrated Environmental Assessment as a subcontractor to Battelle. 2013.
Review Panel:	US EPA STAR Grant Panel: Graduate Fellowship Review. 2013.
Invited Presenter:	"Translating Science/Telling Stories: Agriculture, Water Quality, and Changing the Climate Conversation". Kellogg Biological Station, Hickory Corners, MI. 7/12.
Invited Attendee:	White House Summit on the Great Lakes Region, Washington, DC. 2/12.
Council Member:	Management Council, Cooperative Institute of Limnology and Ecosystem Research (CILER), Ann Arbor, MI. 2011-2017.
Expert Panel:	The Keystone Center's Michigan Youth Policy Summit, Kalamazoo, MI. 7/2011
Review Panel:	US EPA STAR Grant Panel: Extreme Event Impacts on Air Quality and Water Quality with a Changing Global Climate. 2011.
Workshop Participant:	Invited speaker and participant in Canadian Council of Ministers of the Environment -sponsored workshop: "Workshop on Groundwater Sustainability", Edmonton, AB, 10/10.
Technical Advisory Committee:	Healing our Waters Coalition. 2009—present.
Work Group:	Lake Michigan Nearshore Monitoring Work Group. 2008
Review Panel:	U.S. EPA STAR Grant Panel: Consequences of Global Change for Water Quality. 2008.
Review Panel:	Great Lakes Biological Station of Central Michigan University. 2008-present.
Review Panel:	MN Sea Grant Advisory Panel, Duluth, MN. 2008, 2004, 2002.
Advisory Board:	USEPA Science Advisory Board Nutrient Criteria. 2010.
Advisory Board:	USEPA Science Advisory Board on Report on the Environment. 2012, 2008, 2004.
Advisory Group:	International Joint Commission, Upper Great Lakes Study Public Interest Advisory Group. 2007-2012.
Steering Committee:	Water Technology Cluster, Michigan Economic Development Corporation.

2008-2011.

Organizer: Plenary Organizer (Freshwater Conservation), North American Benthological Society, 2007 Columbia, SC.

Steering Committee: Water Pathogens in Michigan, Michigan Water Fellows, MSU. 2007-2008.

Program Reviewer: M.S. Program in Natural Sciences, SUNY Plattsburgh, May, 2007.

Michigan's Phosphorus Management Advisory Council: 2006-2007.

Michigan's Groundwater Conservation Advisory Council: Chair – sustainability subcommittee 2003-2006; 2006-2008.

Co-organizer: Sustainable Water Resources Research Workshop, Ann Arbor, MI. 4/05.

Great Lakes Regional Collaboration issue teams member: 1) sustainable development (water uses work group); 2) nonpoint source pollution (chair – nutrients work group). 2005.

USEPA Workshop Invited Speaker. Nutrients and autotrophs in freshwater. Chicago, IL. 2/04.

Cary Conference Invited Speaker. Institute of Ecosystem Studies, Milbrook, NY. 5/03.

Steering Committee Member: Great Lakes Fishery & Ecosystem Support Plan. U.S. Army Corps of Engineers. 2002-2003.

Panel Member: US Geologic Survey/BRD Contaminants Program Review. Portland, OR. 2/02

Opponent: Invited opponent to disputation defense of Maria Kahlert, University of Uppsala, Sweden. 10/01.

Panel Member: National Science Foundation, Ecosystems Panel. 1998-2002.

Panel Member: Grand Canyon Monitoring and Research Center, Park City, UT, 9/97.

Emergency Operations Center Management Team: South Florida Water Management District, 1999 -2001.

Workshop Participant: Invited speaker and participant in US EPA-sponsored workshop: "Nutrient Criteria for Streams and Rivers, Washington, DC, 12/98.
- Authored addendum of nutrient criteria manual addressing aquatic macrophytes

Co-organizer: Co-organizer of special session at 46th Annual Meeting of the North American Benthological Society: "Lotic-lentic linkages". Charlottetown, PEI, Canada, 5/98.

Co-organizer: Co-organizer of special session at 40th Annual Meeting of the North American Benthological Society: "Research in Artificial Streams: Applications, Uses, and Abuses". Louisville, KY, 5/92.

Invited Guest: Participant in joint U.S.-Russian study investigating the effects of UV-B radiation on aquatic primary production. Sponsored by the U.S. Dept of Energy and the Academy of Sciences of the Russian Republic, Moscow, Russia, 1/92.

Workshop Participant: Invited speaker and participant in US EPA-sponsored workshop: "Recovery Application", Duluth, MN, 10/88.

IV. Media Interactions (since 2016):

2026:

- Interview with Keith Schneider (Circle of Blue) on the GLRI. February 12, 2026. https://www.circleofblue.org/2026/opinion/great-lakes-lawmakers-push-back-against-federal-environmental-rollbacks/
- WZZM-TV interview on Rep. Scholten's proposed legislation banning microplastic pollution. February 13, 2026: https://www.wzzm13.com/article/news/local/legislation-targets-nurdles-pollution-in-us-waterways-michigan-to-test-great-bubble-barrier/69-d07e6edf-9546-436f-980d-40fb006547eb
- Interview with Garret Ellison (MLive) on nurdle spill. February 26, 2026: https://www.mlive.com/environment/2026/02/michigan-nurdle-spill-underscores-a-chronic-great-lakes-threat.html

- Interview with Hannah Doctor-Loeb on the Great Bubble Barrier for Smithsonian: https://www.smithsonianmag.com/innovation/could-this-dutch-invention-help-tackle-plastic-pollution-in-americas-waterways-180989651/
-

2025:

- Victoria Witke (WKAR News) interview on the Great Bubble Barrier: December 16, 2025.
- Alliance for the Great Lakes communication: November 6, 2025: https://greatlakes.org/2025/11/big-win-one-of-the-most-polluted-areas-in-the-great-lakes-is-now-restored/
- WZZM-TV interview with Chris Fleszar on Michigan Microplastics week. October 17, 2025.
- Garret Ellison story on Adelaide Point includes quotes from Al: https://www.mlive.com/environment/2025/05/controversy-engulfs-ambitious-new-muskegon-lake-waterfront-development.html
- Rachel Watson interview (Crain's Business) on economic impacts of low water levels in the Great Lakes. March 31, 2025. https://www.crainsgrandrapids.com/news/hospitality-tourism/michigan-marinas-brace-for-lower-lake-levels-as-boating-and-cruise-season-nears/
- Kelly House interview (Bridge magazine) on numerous water quality issues facing Michigan. March 27, 2025.
- Heather Van Dyke story in Ottawa News Network on Spring Lake presentation. March 25, 2025. https://www.ottawanewsnetwork.org/expert-spring-lake-needs-new-action-to-manage-phosphorus/?ref=ottawa-news-network-newsletter
- University of Rhode Island alumni magazine feature. Spring, 2025. https://www.uri.edu/magazine/issues/spring-2025/michigans-blue-economy-expert/
- Interview with Mike Scott with LAKE Magazine in Oakland County on the impact of Canada geese population growth in Michigan. March 7, 2025.
- WZZM interview on NOAA reductions in force. February 27, 2025.
- Ottawa News Service interview with Heather Peters regarding the water quality status of Spring Lake. January 29, 2025.
- MLive interview with Garrett Ellison on freeze of federal grants. January 29, 2025. https://www.mlive.com/environment/2025/01/trump-grants-freeze-sows-confusion-in-great-lakes-restoration-circles.html

2024:

- WOOD-TV interview with Amanda Porter on low ice levels in the Great Lakes: February 26, 2024: https://www.woodtv.com/news/michigan/theres-almost-no-ice-on-lake-michigan-what-that-means-for-erosion-algae/
- WZZM-TV interview with Chris Fleszar on climate change impacts: March 7, 2024.
- FOX-TV interview with Sam Lanstra on impacts from loss of ice: March 15, 2024.
- Al was interviewed by Kate Armanini from the Chicago Tribune on impacts from loss of ice. Published April 2nd, 2024.
- Al was interviewed by Alex Walters from Capital News Services about salinization of our groundwater: https://news.jrn.msu.edu/2024/04/salty-groundwater-in-michigan-could-hurt-agriculture-business-and-homeowners/
- FOX-TV interview with Sam Lanstra on upwelling in the Great Lakes: July 3, 2024.
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2023:

- Interview with Andy O'Reilly on Harmful Algal Bloom movie and panel. Muskegon Cable TV. February 15, 2023: https://muskegonchannel.com/muskegon-metro-area/2321-the-erie-situation-a-documentary-film-by-david-ruck-frauenthal-feb-23rd?fbclid=IwAR2VOg0HOuytFI49QEhcoEEHWuo20iktaqPjWidzzE6e_oVn3zzI6ZRYhwI

2022:

- Bi-monthly Radio Interview on Water-Related Issues: WGVU radio: https://www.wgvunews.org/search/google/annis%20water%20resources
- Interview with John Flesher, AP on groundwater crisis in Michigan. January 21, 2022: https://www.freep.com/story/news/local/michigan/2022/02/26/even-water-rich-michigan-no-guarantee-enough-everyone/6954803001/
- Interview with Kelly House, MLive reporter on salinization of lakes. January 31, 2022: https://www.bridgemi.com/michigan-environment-watch/grand-rapids-lake-and-consequences-michigans-road-salt-addiction?utm_source=dlvr.it&utm_medium=twitter
- Interview with Matthew Witkos, FOX17 reporter on Great Lakes water levels. February 15, 2022: https://www.fox17online.com/news/local-news/great-lakes-water-levels-are-two-feet-lower-than-records-set-in-2020
- Interview with Kate Carlson, MIBiz reporter on de-listing of Muskegon Lake. May 24, 2022. https://mibiz.com/sections/economic-development/muskegon-lake-cleanup-milestone-paves-way-for-federal-delisting-as-contaminated-area
- Interview with Brian Vernellis, GV Next on stepping down. August 8, 2022: https://www.gvsu.edu/gvnext/2022/qa-al-steinman-reflects-on-his-two-decades-as-director-of-annis-water-resources-institute.htm
- Interview with Audrey Whitaker, Bridge magazine reporter on Muskegon Lake recover. August 11, 2022: https://www.bridgemi.com/michigan-environment-watch/two-generations-and-70-million-later-muskegon-lake-restored
- Interview with Abigail Ham, MIBiz reporter on shoreline hardening. August 15, 2022: https://mibiz.com/sections/economic-development/great-lakes-report-highlights-land-use-pressures-natural-solutions
- Newsmakers, WGVU-TV interview with Patrick Center on climate change and water supply. August 22, 2022.
- WZZM-TV interview on BeBot and Pixie Drone deployment. August 23, 2022: https://www.wzzm13.com/article/news/local/muskegon/beach-cleaning-robots-muskegon/69-9c017b62-4d0b-4d2b-9f8f-70dfa4edaa2c
- Interview with Brian Vernellis, GVNext on BeBot and Pixie Drone deployment. August 23, 2022. https://www.gvsu.edu/gvnext/2022/awri-operated-drones-to-clean-up-plastic-on-beaches-waterways.htm
-

2021:

- Bi-monthly Radio Interview on Water-Related Issues: WGVU radio: https://www.wgvunews.org/search/google/annis%20water%20resources
- Great Lakes Now: https://www.greatlakesnow.org/2021/01/federal-tax-dollars-funding-great-lakes-restoration-initiative/
- December 21st, 2020: interview with Sandy McPhee, Great Lakes Now on GLRI: https://www.pbs.org/video/agenda-investment-kb3rid/
- March 24, 2021: Great Lakes Echo interview with Brianna Lane on Lake Michigan.

- March 31, 2021: WGVU interview with Daniel Boothe on Wolverine PFAS proposed clean-up.
- April 2, 2021: GVSU Lanthorn interview with Audrey Whitaker on Ottawa County Groundwater Board.
- April 7, 2021: WOOD-TV interview with Justin Koller on Great Lakes water levels.
- June 10, 2011: GRCC interview with Sam Tucker: https://thecollegiatelive.com/2021/06/scientists-say-microplastics-arent-the-great-lakes-biggest-threat/
- June 30, 2021: WOOD-TV interview with Whitney Burney on algal blooms: https://www.woodtv.com/news/michigan/green-algae-plaguing-lake-michigan-but-experts-say-it-wont-stay/
- November 5, 2021: TV-6 (Lansing) interview with Ya-Marie Sesay on warming temperatures in the Great Lakes: https://www.wlns.com/news/expert-the-great-lakes-warming-above-average-is-a-concern/

2020:

- Bi-monthly Radio Interview on Water-Related Issues: WGVU radio: https://www.wgvunews.org/search/google/annis%20water%20resources
- January 21, 2020: interview with Joe Boomgaard, MIBiz on outdoor recreation in Michigan.
- June 3, 2020: interview with John Flesher, Associated Press on release of State of Great Lakes Report 2019.
- June 3, 2020: interview with Alexandra Yetter, Bloomberg Industrial Press on Great Lakes Advisory Board: https://news.bloomberglaw.com/environment-and-energy/epa-recreates-great-lakes-advisory-board-after-three-year-gap
- June 4, 2020: interview with WKTV on Great Lakes Advisory Board: https://www.wktvjournal.org/epa-re-establishes-great-lakes-advisory-board/
- June 4, 2020: interview with Holland Sentinel on Great Lakes Advisory Board: http://new.newsedge.com/?cmmd=readStory&uurp2=1&key=68EBlPPirZTihxQNzmBvS9yMh7AZjJUmgJUSTvu8mX8Rc7jXIbsh_v0sjzI6frqoOg9GTadzlBqd68MPVMQzAMt60QrRT7ODMWJ4wz3W9BqvI3AnBXNunfZPSUH-2LBp&client=rssfeed_22555_s162473&uurp=1
- June 19, 2020: interview with Detroit Free Press about floating islands: https://www.freep.com/story/news/local/michigan/2020/06/19/bizarre-floating-island-meandering-in-muskegon-lake/3223308001/
- June 22, 2020: interview with Mlive about floating islands.
- June 23, 2020: radio interview with WOOD radio about floating islands
- July 8, 2020: interview with WOOD-TV regarding algal blooms in Lake Michigan
- July 21, 2020: interview on Great Lakes issues with Peter Sinclair, Yale Climate Connections
- July 24, 2020: interview with Lexi Krupp, Interlochen Radio on Great Lakes temperatures: https://www.interlochenpublicradio.org/post/why-lake-michigan-was-ten-degrees-hotter-it-should-have-been
- August 4th, 2020: interview with Garrett Ellison at Mlive on Early Warning Systems for the Great Lakes.
- November 12th, 2020: interview with Ginger Zee on Good Morning America about climate change impacts on Great Lakes water levels.

https://www.goodmorningamerica.com/news/video/lake-michigan-faces-effects-climate-change-coastal-erosion-77237276

- December 1st. 2020: interview with Alexa Krupp, Interlochen Radio on late fall cyanobacteria blooms.
- December 21st, 2020: interview with Sandy McPhee, Great Lakes Now on GLRI: https://www.pbs.org/video/agenda-investment-kb3rid/

2019:

Bi-monthly Radio Interview on Water-Related Issues: WGVU radio: https://www.wgvunews.org/search/google/annis%20water%20resources

8/28: Interview with Tanya Cabala for Andy O'Riley's Muskegon Channel on water resource issues. https://muskegonchannel.com/muskegon-metro-area/1076-dr-alan-steinman-the-allen-and-helen-hunting-director-of-the-gvsu-robert-b-annis-water-resources-institute-a-conversation-about-water-invasive-carp-and-climate-change?fbclid=IwAR1N8mE0h4Ubc0zPP7gJD4rnGBlKfWv5iFKHVF20QkeZsxJsLUEHbFB-MYY

7/26: Interview with Fox-TV on beach grass washing up at Grand Haven State Park. https://fox17online.com/2019/07/26/large-amounts-of-dune-grass-washing-up-on-grand-haven-beach/

6/20: Interview with WZZM-TV on social media posts involving river discharge to Lake Michigan: https://www.wzzm13.com/article/news/verify/verify-is-the-discolored-water-from-the-kalamazoo-river-polluting-lake-michigan/69-af0574dd-c72a-4841-857c-64249acc7dcd

6/19: Recorded Academic Minute for Inside Higher Ed: https://www.insidehighered.com/quicktakes/2019/06/19/academic-minute-phosphorus-and-aquatic-ecosystems

5/16: Interview with FOX TV on microplastics in the Great Lakes: https://fox17online.com/2019/05/16/west-michigan-researchers-focus-in-on-plastic-pollution-in-lakes/

4/4: Interview with Andy Balaskovitz, MiBiz on WOTUS rule: https://www.mibiz.com/sections/economic-development/water-rules-could-test-michigan-s-no-stricter-than-federal-law

3/20: WZZM TV interview on GLRI funding: https://www.wzzm13.com/video/news/trump-promises-to-fund-great-lakes-restoration-initiative/69-d33abd37-57a4-4162-8589-5be13acb9f2c

2/12: MSU Today interview; MITechnews on GVSU-MSU MOU: https://msutoday.msu.edu/news/2019/msu-gvsu-join-forces-to-address-water-challenges/

2/7: Interview with GVSU Lanthorn on GVSU-MSU water MOU

1/31: Interview with Andrew Bloc from Great Lakes Echo on effect of federal shutdown on water research: http://greatlakesecho.org/2019/02/07/ciglr-between-government-shutdowns-great-lakes-researchers-struggle-to-carry-on/

2018:

Bi-monthly Radio Interview on Water-Related Issues: WGVU radio

9/18: WZZM interview on warming waters: https://www.wzzm13.com/video/news/great-lakes-water-temps-increasing/69-8255425

9/15: GVSU News Forum on Ottawa County groundwater management plan: https://www.gvsu.edu/gvnow/2018/gvsu-to-partner-with-ottawa-county-on-groundwater-management-plan-10643.htm

9/15: GVSU News Forum on microplastics project: https://www.gvsu.edu/gvnow/2018/gvsu-researchers-investigate-biological-chemical-effects-of-microplastics-10665.htm
9/15: GVSU News Forum on Japanese visit: https://www.gvsu.edu/gvnow/2018/annis-water-resources-institute-hosts-delegation-from-japan-10659.htm
7/9: WZZM-TV interview on plastics in the Great Lakes: https://www.wzzm13.com/article/news/local/verify/verify-are-straws-the-biggest-great-lakes-pollutant/69-572148547
6/22: WZZM-TV interview on Executive Order regarding new National Ocean Policy. https://www.wzzm13.com/video/news/local/lakeshore/president-trump-changes-policy-on-lakes-and-oceans/69-8168733
6/7: WOOD-radio interview with Chuck Latour on microplastics.
3/19: MiBiz interview and story with Andy Balaskovitz on GLRI funding: https://mibiz.com/item/25665-communities,-researchers-make-case-for-federal-great-lakes-funding
2/15: MiBiz interview with Marla Miller on Blue Economy initiatives.
1/16: WOOD-radio interview with Chuck Latour on Great Lakes water levels.

2017:

Bi-monthly Radio Interview on Water-Related Issues: WGVU radio

10/31: WGVU radio interview on Asian Carp: http://wgvunews.org/post/researchers-question-capability-electrical-barriers-blocking-asian-carp-entry-lake-michigan
10/16: WGVU Newsmakers TV interview with Patrick Center on Asian Carp.
9/11: WGVU news interview on Asian Carp. http://wgvunews.org/post/many-voice-concerns-over-army-corps-engineers-asian-carp-plan
9/7: WZZM television interview on storm surges.
8/7: WZZM television interview on release of Asian carp report.
7/27: Michigan NPR interview with April Van Buren on nitrogen in lakes. http://michiganradio.org/post/inland-lakes-cyanobacteria-should-pay-more-attention-nitrogen-levels
4/12: WZZM television interview with Jon Mills on NASA chief hydrologist claiming there could be a water pipeline to Phoenix in 50 years.
3/21: WGHN radio interview with Vi Ray Wazny on proposed cuts to the Great Lakes Restoration Initiative.
3/16: WOOD-TV, interview with Sarah Hurwitz on proposed cuts to the Great Lakes Restoration Initiative. http://woodtv.com/2017/03/16/great-lakes-funding-in-peril-under-trumps-budget-proposal/.
3/13: Grand Rapids Business Journal, on proposed cuts to the Great Lakes Restoration Initiative. http://www.grbj.com/articles/87473-great-lakes-funding-is-in-jeopardy.
3/3: Interview with Dana Chicklas, Fox 17 news on proposed cuts to the Great Lakes Restoration Initiative.

2016:

Bi-monthly Radio Interview on Water-Related Issues: WGVU radio

1/14: WGVU-TV West Michigan Newsmakers interview on invasive species: http://video.wgvu.org/video/2365646797/
1/19: Grand Rapids Business Journal interview on Flint water crisis: http://www.grbj.com/articles/84311-foundation-asks-gvsu-researcher-to-study-flint-water-crisis
2/26: Radio interview with The Pledge 96.5 FM on Lake Macatawa water quality
3/1: GVSU Lanthorn interview on appointment to EPA committee.

4/22: Radio interview with Chuck Latour (Heartmedia) on water diversion request by Waukesha, WI.
5/26: Interview with John Barnes (Detroit News) regarding high water levels.
6/2: Interview with Cynthia Canty (Stateside), MI Public Radio on water levels in the Great Lakes.
7/27: Interview with WZZM-TV on warming temperatures in the Great Lakes.
8/10: Interview with Nick Manes, MIBiz on redevelopment of Muskegon Lake shoreline.
10/26: Interview with Ty Bateman, CBS, Fox, ABC, NBC TV stations in Lima, OH regarding Kaiser Lecture. http://www.hometownstations.com/story/33492498/restoring-the-ecosystem-and-its-connection-to-the-government.

CURRENT CIVIC ACTIVITIES (Muskegon):
Alliance for the Great Lakes, Board of Directors (executive committee): 2022-present
West Michigan Symphony, Governance Committee: 2019-present
Goodwill Industries of West Michigan, Board of Directors (vice chair): 2009-present
Grand Valley Piano Chamber Series, Board of Directors (president): 2023-present
Muskegon Lake Watershed Partnership. 2002-present

PAST CIVIC ACTIVITIES (Muskegon):
Community Foundation for Muskegon County, Board of Trustees: 2011-2020.
Community Foundation for Muskegon County, Environmental Committee. 2001-2020.
MI Chapter of The Nature Conservancy, Board of Trustees: 2011-2017.
Muskegon Rotary, Member: 2001-2015.
West Michigan Symphony, Board of Directors: 2010-2014.
Muskegon Rotary. Board of Directors: 2006-2009; Program Committee chair: 2004-05; Community Fund Committee Member: 2007-present.
Congregation B'Nai Israel, Board of Directors: 2010-2013.
Hackley Hospital, Institutional Review Board. 2005-2008.
United Way, Cabinet Member, 2006 Campaign for Muskegon County; Captain 2001-2002.
Muskegon Red Cross, Co-chair Hero's Campaign. 2004.
West Michigan Strategic Alliance, Green Infrastructure Leadership Council. 2001-2010
Land Conservancy for West Michigan, Board of Directors. 2002-2007.
Muskegon Chamber of Commerce, Development Committee. 2002-2007.
Tall Ships Muskegon, Board of Directors. 2001-2012.