

Curriculum Vitae

John T. Lehman

Mar 2017

Department of Ecology and Evolutionary Biology
Natural Science Building, University of Michigan, Ann Arbor, Michigan 48109-1048
Phone: 734-615-3758 E-mail: jtlehman@umich.edu

Education

Yale University, 1970 - 1974, B.S./M.S. (Biology)
University of Washington, 1974 - 1978, Ph.D. (Zoology)

Professional Appointments

Professor of Biology/Ecology and Evolutionary Biology, University of Michigan 1988-present.
Associate Professor of Biology, University of Michigan 1983-1987.
Assistant Professor of Biology, University of Michigan 1978-1983.

Awards and Fellowships

Phi Beta Kappa; Yale, 1973.
Summa Cum Laude, Exceptional Distinction in Biology; Yale, 1974.
NSF Graduate Fellow; University of Washington, 1974-1977.
Henry Russel Award, 1982: the highest recognition by the University of Michigan for achievements of junior faculty.
A Tale of Two Lakes, Special Rotunda Display and Research Feature, University of Michigan Exhibit Museum, 1992-1993
Distinguished Faculty Governance Award, 1999: the highest elected award conferred university-wide by faculty at the University of Michigan
Chandler-Misener Award 2004: most notable paper of 2002, *Journal of Great Lakes Research*

Professional Service (abbreviated)

Expert witness to Michigan Department of Environmental Quality regarding Huron River NPDES permits (present)
Advisor to Ann Arbor, Dexter, Chelsea and Loch Alpine regarding Huron River environmental quality (present)
Advisor to Livingston County regarding Thompson Lake environmental quality (present)
Advisor to Jiuzhaigou National Park, China, World Natural Heritage, World Biosphere Reserve, 2011
Blue Ribbon Commission on the State of Lake St. Clair: 2007-2008
MacArthur Foundation-sponsored African Lakes Training Program Scientific Advisor, 2000-2001
Steering Committee, IDEAL: International Decade for the East African Lakes (co-chair 2001-2002)
National Academy of Science, National Research Council committee "Applications of ecological theory to environmental problems": 1983-1985.
Chair Steering Committee "Basic Issues in Great Lakes Research" 1987-1988.
Awards Subcommittee, Ecological Society of America: 1987-1990.
National Science Foundation Advisory Committee on Ocean Sciences: 1987-1991.
Future of American Society of Limnology and Oceanography Committee, 1989
NAS Ocean Studies Board Review Panel for Office of Naval Research Ocean Biology 1992.
Vice President, American Society of Limnology and Oceanography 1991-1992.
President, American Society of Limnology and Oceanography 1992-1994.
Council of Scientific Society Presidents 1992-1995.
NSF Freshwater Initiative Planning Committee, 1992.
Council of Ocean Affairs 1993
Council of Great Lakes Research Managers/Research Development Roundtable
NSF Land Margin Ecosystem Research, UW-Milwaukee representative.

NSF Univ. National Oceanographic Laboratory System, Univ. Michigan representative
NSF Ocean Science Long Range Planning Committee, 1993.
NSF Ocean Science Strategic Plan for Research and Education 1993-1994
NSF Coastal Ocean Processes, Great Lakes Science and Implementation Plan 1994.
Steering Committee, International Decade for the East African Lakes 1992-present.
Huron River Watershed Council (appointed County Representative) 1995-1998
USGS/NBS Scientific Opportunities Workshop 1996

Administrative and Faculty Governance Service

Current

Member, Senate Advisory Committee on University Affairs (by election; advisory to UM president and provost)
Chair, Academic Affairs Advisory Committee (advisory to UM provost)
Chair, Faculty Hearing Committee
Member, Administration Evaluation Committee

Previous

University Faculty Senate Secretary (by university-wide election) 1994-2015
Chair, Administration Evaluation Committee, University of Michigan 2004-2014
University-wide Faculty Executive Committee (SACUA) member (by election) 2009-2011
Faculty Grievance Procedures Task Force (appointment by provost) 2009
Faculty Grievance Policy Task Force (appointment by provost) 2008
Chair, Senate Assembly Faculty Grievance Procedures Task Force 2006
Executive Committee Member-at-Large, AAUP Univ. Michigan Ann Arbor Chapter 1998-2010
Governing Council, Sigma Xi Univ. Michigan Chapter 1998-2008
University Faculty Senate Rules Committee 1994-2010
Chair, *University Record* Faculty Perspectives Page 1997-2008
Chair, Academic Affairs Advisory Committee (advisory to Provost and Executive Vice President for Academic Affairs) 2006-2008
University-wide Faculty Executive Committee (SACUA) member 2003-2006
Chapter Vice President, AAUP Univ. Michigan Ann Arbor Chapter 1998-2002
President, Sigma Xi Univ. Michigan Chapter 2000-2001
Vice President, Sigma Xi Univ. Michigan Chapter 1999-2000
Symposium organizer: "Research Universities and the Undergraduate: Designing Education for the 21st Century", Ann Arbor 1998
Univ. Michigan Biological Station Executive Committee 1985-1999
Center for Great Lakes and Aquatic Sciences Executive Committee 1989-2002
Research Vessel Committee 1985-2001
Graduate Chair, Department of Biology
Chair, Environmental Biology Group
Department of Biology Executive Committee
Great Lakes Curriculum Development Committee; Great Lakes internal review committee
Great Lakes Research Facilities Planning Committee
AAUP Chapter Delegate to National Meeting 1998, 1999
Chair, Biology Nominations Committee
Water Resources Committee, university-wide; Water Science Committee, university-wide
Great Lakes Director search committee
graduate student evaluation committees
faculty search committees

Review Panels

Canada Foundation for Innovation
National Science Foundation Ocean Sciences Biological Oceanography; Sea Grant
Environmental Protection Agency Environmental Biology, Graduate Fellowships, STAR programs

Editorial Service

Editorial Board, Associate Editor, Special Issue Editor: *Limnology and Oceanography*
Editorial Board, *Oecologia*; Special Topics Editor, *Ecology*
Editor, *Environmental Change and Response in East African Lakes*
Editor, *Basic Issues in Great Lakes Research*
Strategic Editor, *Journal of Plankton Research*

Expert Advisory Functions

Jiuzhaigou World Heritage Park, China: design aquatic science monitoring and research program
Univ. Wisconsin-Milwaukee: Biological Sciences undergraduate and graduate external program review
Province of Alberta, Cumulative Envir. Management Association: End Pit Lakes technical review
Dean of College of Biological Sciences: Gray Freshwater Institute, Univ. Minnesota
Vice-Chancellor Univ. Minnesota-Duluth: Lake Superior Center
Canada Department of Fisheries and Oceans: Experimental Lakes Area
State of Michigan, Department of Environmental Quality, Office of Attorney General
Municipalities of Ann Arbor, Dexter, Loch Alpine, Chelsea, Michigan; City of Brighton, Michigan;
Livingston County, Michigan

Courses Taught

University of Michigan

Case Studies in Limnology; Ecological Knowledge and Environmental Problem Solving;
Oceanography: Marine Ecology, Limnology: Freshwater Ecology, Limnology Laboratory; Case
Studies in Limnology; Quantitative Zooplankton Ecology, Predictive Models in Limnology,
Foundations of Limnological Principles, Large Lakes - Ecological Structure and Function,
Mathematical Models in Aquatic Science

Universities other than UM

Limnology - University of Washington, Seattle
Limnology - Makerere University, Uganda

Technical Experience of Prof. John T. Lehman

Research publications in international books and journals include nutrient dynamics, biogeochemistry, tracer methods, microanalytical methods, climate change, sediment chemistry, plankton ecology, primary productivity, food web structure, and mathematical modeling.

Over 300 at-sea ship days as Chief Scientist on research vessels of the U.S. academic fleet (University National Oceanic Laboratory System) operating in the St. Lawrence Great Lakes Erie, Huron, Michigan, and Superior from 1983 to 1997; plus additional shipboard research cruises on Lakes Victoria, Edward, and Albert in East Africa, 1991-1995, and Lake Huron 1998-2003. Chief Scientist duties involve preparation of detailed cruise plans to fulfill research objectives, direction of all on-board scientific activities, and preparation of post-cruise assessments.

Coupled numerical climate forecasts from second generation General Circulation Models (GCM climate projections) with lake physical mixing models and with models for biological productivity of Great Lakes in North America and East Africa.

Applied Advanced Very High Resolution Radiometer (AVHRR) satellite imagery to lake surface temperature and mixing dynamics of North American and East African lakes.

Applied LANDSAT thematic mapper spectral data to particle suspension and detection of algal blooms.

Applied NEXRAD next generation weather radar to precipitation estimation and erosion rates at watershed scales.

Participation in bilateral scientific projects in East Africa sponsored by U.S. science agencies: U.S. National Science Foundation and National Oceanic and Atmospheric Administration.

Co-Chair (2001 to 2002) of Steering Committee for IDEAL- an International Decade for the East African Lakes. IDEAL develops and oversees research projects in East Africa with multilateral support and in collaboration with African scientists.

Established nutrient chemistry and zooplankton sampling facilities at the Uganda Freshwater Fisheries Research Organisation (now FIRI) at Jinja, Uganda from 1991 to 1995.

Provided technical training for UFFRO/FIRI staff in zooplankton collection, sample processing, and archival procedures for samples and data.

Scientific adviser (2001 to 2002) for technical training program for aquatic science professionals sponsored by MacArthur Foundation, University of Nairobi

Designed water quality and food web sampling studies for nearshore and offshore waters of Lake Victoria conducted by Ugandan scientists.

Developed numerical models of food web dynamics, lake mixing processes, and nutrient recycling.

Developed research plans, quality assurance plans, and numerical models for river and lake analyses including phosphorus dynamics, nutrient loading from point and non-point sources, internal P cycling, and nutrient budgets for aquatic ecosystems in North America and Africa.

Scientific Publications by John T. Lehman

JTL 2016. Empirical decryption of point source and nonpoint source loading in the context of a total phosphorus TMDL. *Lake and Reservoir Management* 32: 259-269.

Burgess, S., E.W. Jackson, L. Schwarzman, N. Gezon, and **JTL**. 2015. Improved estimates of calanoid copepod biomass in the St. Lawrence Great Lakes. *Journal of Great Lakes Research* 41: 484-491.

Doubek, J.P. and **JTL**. 2014. Historical trophic position of *Limnocalanus macrurus* in Lake Michigan. *Journal of Great Lakes Research* 40: 1027-1032.

JTL 2014. Understanding the role of induced mixing for management of nuisance algal blooms in an urbanized reservoir. *Lake and Reservoir Management* 30: 1-9.

JTL, J.P. Doubek, and E.W. Jackson. 2013. Effect of reducing allochthonous P load on alkaline phosphatase activity of phytoplankton in an urbanized watershed, SE Michigan, U.S.A. *Lake and Reservoir Management* 29: 116-125.

McDonald, K.E. and **JTL**. 2013. Dynamics of *Aphanizomenon* and *Microcystis* (cyanobacteria) during experimental manipulation of an urban impoundment. *Lake and Reservoir Management* 29: 103-115.

Jackson, E.W., J.P. Doubek, J.S. Schaeffer, and **JTL**. 2013. Historical and Recent Biomass and Food Web Relations of *Limnocalanus* in Lake Huron. *Journal of Great Lakes Research* 39: 404-408.

JTL 2013. Ecosystem Function Measurement, Aquatic and Marine Communities. In S. A. Levin (ed.), *Encyclopedia of Biodiversity*, second edition. Volume 3, pp. 64-71. Waltham, MA: Academic Press.

- Goldenberg, S. Z. and **JTL** 2012. Diatom response to the whole lake manipulation of a eutrophic urban impoundment. *Hydrobiologia* 691: 71-80.
- JTL**, D.W. Bell, J.P. Doubek, and K.E. McDonald 2011. Reduced additions to river phosphorus for three years following implementation of a lawn fertilizer ordinance. *Lake and Reservoir Management* 27: 390-397.
- JTL** 2011. Nuisance cyanobacteria in an urbanized impoundment: Interacting internal phosphorus loading, nitrogen metabolism, and polymixis. *Hydrobiologia* 611:277-287.
- Doubek, J. P. and **JTL** 2011. Historical biomass of *Limnocalanus* in Lake Michigan. *Journal of Great Lakes Research* 37: 159-164.
- JTL**, D. W. Bell, and K. E. McDonald 2009. Reduced river phosphorus following implementation of a lawn fertilizer ordinance. *Lake and Reservoir Management* 25: 307-312.
- Lehman, E.M., K. E. McDonald, and **JTL** 2009. Whole lake selective withdrawal experiment to control harmful cyanobacteria in an urban impoundment. *Water Research* 43: 1187-1198.
- JTL** 2009. Lake Victoria, p. 215-241. *In* H. Dumont [ed.], *The Nile*. Kluwer.
- JTL** and D. A. Lehman 2009. W. T. Edmondson 1924-1991. Biographical Memoir, National Academy of Sciences, 30 pp. <http://books.nap.edu/html/biomems/wedmondson.pdf>
- Ferris, J. A. and **JTL**. 2008. Nutrient budgets and river impoundments: Interannual variation and implications for detecting future changes. *Lake and Reservoir Management* 24: 273-281.
- JTL** 2008. Point source and non-point source phosphorus loading to Lake St. Clair from the Clinton River, southeast Michigan, USA. *Proceedings of the 4th Binational Lake St. Clair Conference*.
- JTL** 2008. Optimal foraging theory: Lessons and application to adaptive engineering systems. *Proceedings of the ASME Dynamic Systems and Control Conference*.
- Ferris, J. A. and **JTL**. 2007. Interannual variation in diatom bloom dynamics: roles of hydrology, nutrient limitation, sinking, and whole lake manipulation. *Water Research* 41: 2551-2562.
- JTL**, J. A. Ferris, and R. A. Platte. 2007. Role of hydrology in development of a vernal clear water phase in an urban impoundment. *Freshwater Biology* 52: 1773-1781.
- JTL**, A. Bazzi, T. Noshier, and J. O. Nriagu. 2004. Copper inhibition of algal growth in Saginaw Bay ó Lake Huron. *Canadian Journal of Fisheries and Aquatic Sciences* 61: 1871-1880.
- JTL**, S. E. B. Abella, A. H. Litt, and W. T. Edmondson. 2004. Environmental Fingerprints of Biocomplexity: Taxon-specific Growth of Phytoplankton in Lake Washington. *Limnology and Oceanography* 49: 1446-1456.
- Edmondson, W.T., S. E. Abella, and **JTL** 2003. Phytoplankton in Lake Washington: long-term changes 1950-1999. *Archiv für Hydrobiologie Suppl.* 139/3: 1-52.
- JTL** 2002. Mixing patterns and plankton biomass of the St. Lawrence Great Lakes under climate change scenarios. *Journal of Great Lakes Research* 28: 583-596.
- Bazzi, A., **JTL**, J. O. Nriagu, D. Hollandsworth, N. Irish, and T. Noshier. 2002. Chemical speciation of dissolved copper in Saginaw Bay, Lake Huron with Square Wave Anodic Stripping Voltammetry. *Journal of Great Lakes Research* 28: 466-478.
- JTL** 2002. Application of satellite AVHRR to water balance, mixing dynamics, and the chemistry of Lake Edward, East Africa, p. 235-260. *In* E. Odada and D. Olago [eds.], *The East African Great Lakes: Limnology, Palaeolimnology and Biodiversity*. Kluwer.

- Jonna, R. and **JTL** 2002. Invasion of Lake Victoria by the large bodied herbivorous cladoceran *Daphnia magna*, p. 321-333. *In* E. Odada and D. Olago [eds.], The East African Great Lakes: Limnology, Palaeolimnology and Biodiversity. Kluwer.
- JTL** 2001. Ecosystem functioning in aquatic & marine communities, measurement & analysis of, p. 311-320. *In* S. Levin [ed.], Encyclopedia of Biodiversity. Volume 2. Academic Press.
- JTL**, R. J. Foy, and D. A. Lehman. 2001. Inverse model method for estimating assimilation by aquatic invertebrates. *Aquatic Sciences* 63: 168-181.
- Hoffman, J.C., M.E. Smith, and **JTL**. 2001. Perch or Plankton: Top-down control of *Daphnia* by yellow perch (*Perca flavescens*) or *Bythotrephes cederstroemi* in an inland lake? *Freshwater Biology* 46: 759-775.
- JTL**, A. S. Brooks, and J. C. Zastrow. 2000. Water Ecology. Chapter 5, Great Lakes Regional Assessment. U. S. Global Change Program.
- Nosher, T.M, **JTL**, and J. Nriagu. 2000. Evidence for copper inhibition of algal growth in Saginaw Bay ó Lake Huron, MI. Contribution Number 1236, Univ. Michigan, School of Public Health, Ann Arbor, MI (CD-ROM).
- JTL** 1998. [Editor] Environmental Change and Response in East African Lakes. Kluwer.
- JTL**, K. Halat, B. Betz, L. M. Ndawula and V. Kiggundu. 1998. Secondary production by the lake fly *Chaoborus* in Lake Victoria, East Africa, p. 135-145. *In* Environmental Change and Response in East African Lakes. Kluwer.
- JTL**, A.H. Litt, R. Mugidde, and D.A. Lehman. 1998. Nutrients and plankton biomass in the rift lake sources of the White Nile: Lakes Albert and Edward, p. 157-172. *In* Environmental Change and Response in East African Lakes. Kluwer.
- Mbahinzireki, G.B., **JTL**, and H. Ochieng. 1998. *Caridina nilotica*: Spatial distribution and egg production in Lake Victoria, Uganda, p. 117-124. *In* Environmental Change and Response in East African Lakes. Kluwer.
- Holtzman, J. and **JTL** 1998. Role of apatite weathering in the eutrophication of Lake Victoria, p. 89-98. *In* Environmental Change and Response in East African Lakes. Kluwer.
- JTL**, R. Mugidde, and D.A. Lehman. 1998. Lake Victoria plankton ecology: Mixing depth and climate-driven control of lake condition, p. 99-116. *In* Environmental Change and Response in East African Lakes. Kluwer.
- JTL** 1998. Role of climate in the modern condition of Lake Victoria. *Theoret. Appl. Climatology* 61: 29-37.
- Sullivan, C. and **JTL** 1998. Character variation and evidence for spine length selection in the invertebrate predator *Bythotrephes* (Crustacea: Cladocera) from Lakes Michigan, Huron, and Erie. *Arch. Hydrobiol.* 142: 35-52.
- Bilkovic, D.M. and **JTL** 1997. Lipid content and size variation of *Bythotrephes* (Cladocera: Cercopagidae) from Lakes Erie, Huron and Michigan. *J. Great Lakes Research* 23: 149-159.
- JTL**, D.M. Bilkovic, and C. Sullivan. 1997. Predicting development, metabolism, and secondary production for the invertebrate predator *Bythotrephes*. *Freshwater Biology* 38:343-352.
- JTL**, G.B. Mbahinzireki, and L.M. Ndawula. 1996. *Caridina nilotica* in Lake Victoria: abundance, biomass, and diel vertical migration. *Hydrobiologia* 317: 177-182.
- Branstrator, D.K., L.M. Ndawula, and **JTL**. 1996. Zooplankton dynamics in Lake Victoria. *In* T. C. Johnson and E. Odada [eds.], Limnology, Climatology and Paleolimnology of the East African Lakes. Gordon and Breach.

- JTL** 1996. Pelagic food webs of the East African Great Lakes. *In* T. C. Johnson and E. Odada [eds.], *Limnology, Climatology and Paleolimnology of the East African Lakes*. Gordon and Breach.
- JTL** and D.A. Lehman. 1996. Luigi Provasoli 1908-1992. *In* D. Garbary and M. J. Wynne [eds.], *Prominent Phycologists of the 20th Century*. Lancelot Press.
- JTL** and D.A. Lehman. 1996. Status of the non-indigenous invertebrate predator *Bythotrephes cederstroemi* (Crustacea: Cladocera) in Lakes Erie, Huron, and Michigan. *Proc. Symp. on non-indigenous species in Western Aquatic Ecosystems*. Portland State Univ. Lakes and Reservoirs Program Publication No. 96-8: 7-14.
- Halat, K. and **JTL** 1996. A model for the anomalous distribution of *Chaoborus* in African Great Lakes. *Hydrobiologia* 330: 31-36.
- Ignatow, M.J., G. Mbahinzireki, and **JTL** 1996. Secondary production and energetics of the shrimp *Caridina nilotica* in Lake Victoria, East Africa: Model development and application. *Hydrobiologia* 332: 175-181.
- Branstrator, D.K. and **JTL** 1996. Evidence for juvenile fish predation on *Bythotrephes cederstroemi* in Lake Michigan. *J. Great Lakes Research* 22: 917-924.
- JTL** and D.K. Branstrator 1996. Predicting assimilation and development rates of invertebrate predators. *J. Great Lakes Research* 22: 930-934.
- JTL** and D.K. Branstrator. 1995. A model for growth, development, bioenergetics and diet selection by the invertebrate predator *Bythotrephes cederstroemi*. *J. Great Lakes Research* 21: 610-619.
- JTL** and D.K. Branstrator. 1994. Nutrient dynamics and turnover rates of phosphate and sulfate in Lake Victoria, East Africa. *Limnol. Oceanogr.* 39: 227-233.
- Burkhardt, S. and **JTL** 1994. Prey consumption and predatory effects of an invertebrate predator (*Bythotrephes*: Cladocera, Cercopagidae) based on phosphorus budgets. *Limnol. Oceanogr.* 39: 1007-1019.
- JTL** and C. Caceres. 1993. Food web responses to species invasion by a predatory invertebrate: *Bythotrephes* in Lake Michigan. *Limnology and Oceanography* 37: 879-891.
- JTL** and D.K. Branstrator. 1993. Effects of nutrients and grazing on the phytoplankton of Lake Victoria. *Verh. Internat. Verein. Limnol.* 25: 850-855.
- JTL** 1993. Efficiencies of ingestion and assimilation by an invertebrate predator using C and P dual isotope labeling. *Limnol. Oceanogr.* 38: 1550-1554.
- Branstrator, D.K. and **JTL** 1991. Invertebrate predation in Lake Michigan: Regulation of *Bosmina longirostris* by *Leptodora kindti*. *Limnology and Oceanography* 36: 483-495.
- JTL** 1991. Causes and consequences of cladoceran dynamics in Lake Michigan: Implications of species invasion by *Bythotrephes*. *Journal of Great Lakes Research* 17: 437-445.
- JTL** 1991. Interacting growth and loss rates: the balance of top-down and bottom-up controls in plankton communities. *Limnology and Oceanography* 36: 1546-1554.
- JTL**, J.A. Bowers, R.W. Gensemer, G.J. Warren, and D.K. Branstrator. 1990. *Mysis relicta* in Lake Michigan: Abundances and relationships with their potential prey, *Daphnia*. *Canadian J. Fisheries and Aquatic Sciences* 47: 977-983.
- JTL** and C.D. Sandgren. 1990. Trophic dynamics of Lake Michigan: Response of algal production to changes in the zooplankton community. *Verh. Internat. Verein. Limnol.* 24: 397-400.
- Sandgren, C.D. and **JTL** 1990. Response of chlorophyll *a*, phytoplankton, and microzooplankton to the invasion of Lake Michigan by *Bythotrephes*. *Verh. Internat. Verein. Limnol.* 24: 386-392.
- JTL** 1988. Algal biomass unaltered by food web changes in Lake Michigan. *Nature* 332: 537-538.

- JTL** 1988. Selective herbivory and its role in phytoplankton evolution, p. 369-387. *In* C. D. Sandgren [ed.], Growth and reproductive strategies of freshwater phytoplankton. Cambridge Univ. Press.
- JTL** 1988. Ecological principles affecting community structure and secondary production by zooplankton in marine and freshwater environments. *In* S. Nixon [ed.], Comparative ecology of freshwater and coastal marine ecosystems. *Limnology and Oceanography* 33: 931-945.
- Warren, G.J. and **JTL**. 1988. Young-of-the-year *Coregonus hoyi* in Lake Michigan: Prey selection and influence on the zooplankton community. *Journal of Great Lakes Research* 14: 420-426.
- JTL** 1988. Hypolimnetic metabolism in Lake Washington: Relative effects of nutrient load and food web structure on lake productivity. *Limnology and Oceanography* 33: 1336-1349.
- Dorazio, R.M., J.A. Bowers, and **JTL**. 1987. Food-web manipulations influence grazer control of phytoplankton growth rates in Lake Michigan. *Journal of Plankton Research* 9: 891-899.
- JTL** 1987. Palearctic predator invades North American Great Lakes. *Oecologia* 74: 478-480.
- Scavia, D., G.L. Fahnenstiel, M.S. Evans, D.J. Jude, and **JTL**. 1986. Influence of salmonine predation and weather on long-term water quality trends in Lake Michigan. *Canadian Journal of Fisheries and Aquatic Science*. 43: 435-443.
- JTL** and T. Naumoski. 1986. Net community production and hypolimnetic nutrient regeneration in a Michigan Lake. *Limnology and Oceanography* 31: 788-797.
- JTL** 1986. Control of eutrophication in Lake Washington, p. 302-316. *In* Ecological knowledge and environmental problem-solving. National Academy Press, Washington D.C.
- JTL** 1986. Raising the level of a subarctic lake, p. 318-330. *In* Ecological knowledge and environmental problem-solving. National Academy Press, Washington D.C.
- JTL** 1986. The goal of understanding in limnology. *Limnology and Oceanography* 31: 1160-1166.
- JTL** 1985. Cell quotas of nutrients in phytoplankton established by X-ray analysis. *Proc. International Association for Theoretical and Applied Limnology* 22: 2861-2865.
- JTL** and C.D. Sandgren. 1985. Species-specific rates of growth and grazing loss among freshwater algae. *Limnology and Oceanography* 30: 34-46.
- JTL** and T. Naumoski. 1985. Content and turnover rates of phosphorus in *Daphnia pulex*: effect of food quality. *Hydrobiologia* 128: 119-125.
- JTL** and D. Scavia. 1984. Measuring the ecological significance of microscale nutrient patches. *Limnology and Oceanography* 29: 214-216.
- Naumoski, T. and **JTL**. 1984. Nitrogen loading: influence on dissolved inorganic carbon in natural waters. *Proc. International Association for Theoretical and Applied Limnology* 22: 244-249.
- JTL** 1984. Grazing, nutrient release, and their impacts on the structure of phytoplankton communities, p. 49-72. *In* D. Meyers and J.R. Strickler [eds.], Trophic dynamics of aquatic ecosystems. AAAS Special Symposium.
- Dorazio, R.M. and **JTL**. 1983. Optimal reproductive strategies in age-structured populations of zooplankton. *Freshwater Biology* 13: 157-175.
- JTL** and W.T. Edmondson. 1983. The seasonality of phosphorus deposition in Lake Washington. *Limnology and Oceanography* 28: 796-800.
- JTL** and C.D. Sandgren. 1982. Phosphorus dynamics of the procaryotic nannoplankton in a Michigan Lake. *Limnology and Oceanography* 27: 828-838.
- JTL** and D. Scavia. 1982. Microscale patchiness of nutrients in plankton communities. *Science* 216: 729-730.

- JTL** and D. Scavia. 1982. Microscale nutrient patches produced by zooplankton. Proceedings of the National Academy of Sciences, U.S. 79: 5001-5005.
- Edmondson, W.T. and **JTL**. 1981. The effect of changes in the nutrient income on the condition of Lake Washington. *Limnology and Oceanography* 26: 1-29.
- JTL** 1980. Release and cycling of nutrients between planktonic algae and herbivores. *Limnology and Oceanography* 25: 620-632.
- JTL** 1980. Nutrient recycling as an interface between algae and grazers in freshwater communities, p. 251-263. In W.C. Kerfoot [ed.], *Evolution and ecology of zooplankton communities*. American Society of Limnology and Oceanography Special Symposium 3.
- JTL** 1979. Physical and chemical factors affecting the seasonal abundance of *Asterionella formosa* Hass. in a small temperate lake. *Archiv fur Hydrobiologie* 87: 274-303.
- JTL** 1978. Enhanced transport of inorganic carbon into algal cells and its implications for the biological fixation of carbon. *Journal of Phycology* 14: 33-42.
- JTL** and C.D. Sandgren. 1978. Documenting a seasonal change from phosphorus to nitrogen limitation in a small temperate lake, and its impact on the population dynamics of *Asterionella*. *Proc. Internat. Association for Theoretical and Applied Limnology* 20: 375-380.
- JTL** 1978. Aspects of nutrient dynamics in freshwater communities. Ph.D. Thesis, University of Washington, 180 p. Dissertation committee chairman: W.T. Edmondson, Dept. of Zoology.
- JTL** 1977. On calculating drag characteristics for decelerating zooplankton. *Limnology and Oceanography* 22: 170-172.
- JTL** 1976. The filter feeder as an optimal forager, and the predicted shapes of feeding curves. *Limnology and Oceanography* 21: 501-516.
- JTL** 1976. Photosynthetic capacity and luxury uptake of carbon during phosphate limitation in *Pediastrum duplex* (Chlorophyceae). *Journal of Phycology* 12: 190-193.
- JTL** 1976. Ecological and nutritional studies on *Dinobryon* Ehrenb.: seasonal periodicity and the phosphate toxicity problem. *Limnology and Oceanography*. 21: 646-658.
- JTL**, D.B. Botkin, and G.E. Likens. 1975. The assumptions and rationales of a computer model of phytoplankton population dynamics. *Limnology and Oceanography* 20: 343-364.
- JTL**, D.B. Botkin, and G.E. Likens. 1975. Lake eutrophication and the limiting CO₂ concept: a simulation study. *Proc. International Association for Theoretical and Applied Limnology* 19: 300-307.
- JTL** 1975. Reconstructing the rate of accumulation of lake sediment: the effect of sediment focusing. *Quaternary Research* 5: 541-550.
- JTL** and J.W. Porter. 1973. Chemical activation of feeding in the Caribbean reef-building coral *Montastrea cavernosa*. *Biological Bulletin* 145: 140-149.
- JTL** 1973. The San Blas Cuna: An Introduction. *Discovery* 8: 59-64.

Miscellaneous Publications of John T. Lehman (abbreviated)

- Gleason, M., K. Karll, and **JTL**. 2013. Limnological survey of Cordley Lake, SE Michigan August 2013. Report dated 25 November 2013, 13 pp.
- JTL** 2008. River phosphorus drops following P-free fertilizer ordinance. Stormwater, 3 Nov 2008.
- JTL** 2008. Chemical composition of the recent sediments of Ford Lake, Michigan, U.S.A. by X-ray fluorescence spectroscopy and its relationship to phosphorus budgets and internal nutrient loading. Technical Report, <http://www.umich.edu/~hrstudy>

- JTL** 2008. Point source and non-point source phosphorus loading to Lake St. Clair from the Clinton River, Southeast Michigan, USA. Report to the Blue Ribbon Commission on Lake St. Clair.
- Xi, C., W. Guo, K. Bush, **JTL**, J. Nriagu, and D. H. Sherman 2008. Harmful Algal Blooms (HAB) in the Great Lakes. White Paper for GESI Conference "Water, Human Health, and the Environment: Establishing the Research Agenda."
- Huron River Study web site, URL <http://www.umich.edu/~hrstudy/>
- Huron River Citizen Survey Initial Results. Web publication (www.umich.edu/~hrstudy/) 26 Sep 2005.
- Harris, R., I. Jenkinson, and **JTL**. 2004. EDITORIAL. The first 25 years of Journal of Plankton Research: looking to the future. *Journal of Plankton Research* 26: 1-3.
- Nriagu, J.O., P.M. Meier, D.L. Pascual, and **JTL** 2001. Nutrients in Ford and Belleville Lakes, Michigan, 1998-2000. University of Michigan School of Public Health Technical Report.
- JTL** and R. Jonna. 2001. The role of internal nutrient loading in the nuisance algal blooms of 2001 in Ford Lake, Huron River Watershed, Michigan. Technical Report.
- JTL** 2000. The present condition of Ore Lake, Michigan.
- JTL** 2000. IDEAL Malawi Meeting: A Summary. PACOM Newsletter.
- JTL** 2000. We learned how to live in Pallanza. *Journal of Limnology* 59: 1-3.
- JTL** 2000. Good Science and Good Luck. *Hydrobiologia* 435: 1-3.
- JTL** 2000. In Memoriam: W. Thomas Edmondson (1916-2000). *Limnology and Oceanography* 45: 1448
- JTL** 2000. We learned how to live in Pallanza (reprinted). *Bulletin of the American Society of Limnology and Oceanography*
- JTL** 2000. The present condition of Ford and Belleville Lakes, Michigan.
- JTL** [editor] 1998 Research Universities and the Undergraduate: Designing Education for the 21st Century. University of Michigan Sigma Xi Special Report.
- JTL** 1997. How climate change is shaping the modern condition of Lake Victoria. IDEAL Newsletter.
- JTL** 1997. Academic values and academic misconduct. Faculty Perspectives Page, Univ. Michigan *Record*.
- JTL** 1997. Faculty perspectives page is back. Faculty Perspectives Page, Univ. of Michigan *Record*.
- JTL** and D.K. Branstrator 1996. Predicting assimilation and development rates of invertebrate predators. Technical report.
- IDEAL Science and Implementation Plan (multiple authors). 1994. PAGES Special Publication.
- JTL** 1993. Luigi Provasoli, naturalist: 1908-1992. *Limnology and Oceanography* 38: 250-252.
- JTL** 1992. G. Evelyn Hutchinson Medal. *Limnology and Oceanography* 37: 1834.
- IDEAL An International Decade for the East African Lakes (11 authors). 1990. Duke University Marine Laboratory Technical Report.
- Caceres, C. and **JTL**. 1990. The spiny water flea *Bythotrephes* in the Great Lakes. Michigan Sea Grant Publication, 8 p.
- JTL** 1989. Peter Kilham 1943-1989: Intellectual and Scholar. *J. Great Lakes Research* 15: 723-724.

- Branstrator, D.K. and **JTL** 1989. Measuring ingestion and assimilation efficiencies of aquatic invertebrate predators. H.H. Rackham Research Partnership Proposal, University of Michigan. Copyrighted technical report.
- GLUES 1988. Great Lakes Unified Ecosystem Studies: A plan for understanding large aquatic ecosystems. University of Michigan Special Publication.
- JTL** 1988. Good Professor Edmondson. *Limnology and Oceanography* 33: 1236-1246.
- GLRD 1987. Basic Issues in Great Lakes Research. Special Report No. 123 of the Great Lakes Research Division, The University of Michigan.
- JTL** 1982. Nutritional significance of nutrient patches to the phytoplankton: productivity and species composition, p. 210-229. *In Fish Ecology III*, Univ. Miami Tech. Report 82008.
- JTL** 1980. Cycling of P among phytoplankton, herbivorous zooplankton, and the lake water, p. 49-68. *In* D. Scavia and R. Moll [eds.], *Nutrient cycling in the Great Lakes: A summarization of factors regulating the cycling of phosphorus*. Special Report No. 83 of the Great Lakes Research Division.
- JTL** 1979. Grazing, nutrient release, and their formulation in plankton models, p. 59-96. *In* M.W. Lorenzen [ed.], *Phytoplankton-environmental interactions in reservoirs*. U.S. Army Corps of Engineers, Waterways Experiment Station Publ. TC-3265/DACW39-78-C-0088.
- JTL** 1976. An explanation of the functions and variables used in the computer simulation model AGS for predicting phytoplankton population dynamics. Cornell Univ. Mimeo., 13 p.

Book Reviews

- JTL** 1975. Modeling the eutrophication process. *Limnology and Oceanography* 20: 685-686.
- JTL** 1979. Perspectives on lake ecosystem modeling. *American Scientist* 67: 723.
- JTL** 1984. *Limnology*. *Bioscience* 34: 518-519.
- JTL** 1989. Complex interactions in lake communities. *Limnol. Oceanogr.* 34: 487-489.
- JTL** 1993. The ecosystem approach: its use and abuse. *Ecology* 74: 2174.
- JTL** 1995. *Limnology now*. *Limnol. Oceanogr.* 40: 644.
- JTL** 1995. Chrysophyte algae: Ecology, phylogeny and development. *Limnol. Oceanogr.* 40: 1535.
- JTL** 1996. Science and limnology. *Quarterly Review of Biology* 71: 145-146.
- JTL** 1997 *Predictive Limnology*. *Ecology*
- JTL** 2005. The Lakes Handbook, Vol. 1. *Journal of Plankton Research* 27: 297
- JTL** 2006. The Lakes Handbook, Vol. 2. *Journal of Plankton Research* 28: 239.

Invited Presentations by John T. Lehman (abbreviated)

- 1977 Synergistic properties of loss rates in model plankton communities. Univ. California, Santa Barbara.
- 1978 Experimental studies on phytoplankton dynamics. Cornell Univ.
Physical and chemical factors affecting plankton dynamics. Univ. Michigan.
Nutrient recycling as an interface between algae and grazers in freshwater communities. ASLO Special Symposium 3, Dartmouth College.

- 1979 Nutrient loading in Lake Washington and the statistics of budget building. Great Lakes and Marine Environment Seminar Series, Univ. Michigan.
Grazing, nutrient release, and their formulation in plankton models. Symposium: phytoplankton-environmental interactions in reservoirs, Monterey.
- 1980 Estimating growth and loss rates of phytoplankton in situ. Great Lakes and Marine Environment Seminar, Univ. Michigan.
- 1981 Effects of grazing and nutrient release on phytoplankton community structure. AAAS Special Symposium, Toronto.
Grazing, nutrient release, and species specific growth rates of phytoplankton. Univ. Wisconsin, Madison; Univ. Wisconsin, Milwaukee: Recent advances in limnology and oceanography colloquium series.
Species specific dynamics of phytoplankton. Kellogg Biological Station, Michigan State University.
Microscale patchiness of nutrients. Univ. Michigan; McGill Univ.
Species specific growth rates of phytoplankton. McGill Univ.
Nutrient patchiness in plankton communities; Grazing, nutrient release, and species specific growth rates. Univ. Rhode Island; Univ. Penn.; Phila. Acad. Nat. Sci., Yale Univ.
- 1982 Close encounters in planktonic environments. Univ. Michigan Divisional Seminar.
Close encounters: Micropatches and the plankton. Scripps Institution of Oceanography.
Microscale patchiness of nutrients in aquatic systems. Univ. Washington.
Microscale nutrient patchiness in pelagic systems. Fish Ecology III, Key Biscayne.
Limnological Studies in southern Michigan. Univ. Michigan Divisional Seminar.
- 1984 Close encounters among the plankton: measuring their ecological significance; Species specific rates of growth and loss in phytoplankton communities. Univ. California, Davis.
Visiting Distinguished Professor lecture series. Univ. Texas, Arlington.
Nutrient cycling in lake ecosystems. Univ. Notre Dame.
Nutrient dynamics and patchiness. Oak Ridge National Laboratory.
Historical perspective on Limnology. Univ. Michigan Biological Station.
- 1985 Primary productivity in relation to nutrient loading. Ecological Society of America symposium.
Seminar and workshop on plankton ecology. Naturalist-Ecologist Training Program, The University of Michigan Biological Station.
Selective herbivory and its role in phytoplankton evolution. International Phycological Congress. Copenhagen.
Productivity, biomass and species composition of zooplankton in freshwater and marine environments. NSF/UNESCO Spec. Symp., Nairobi.
Trophic dynamics of a changing zooplankton community. Kellogg Biological Station.
- 1986 Zooplankton ecology of Lake Michigan. Student Oceanographic Society, The University of Michigan.
Lake Michigan's changing food web. Bowling Green State Univ.
Seminar and workshop on microheterotrophy. Univ. Michigan Biological Station.

- 1987 Apr-June College Visiting Professor, The University of Washington, Department of Zoology. Limnology lectures and analysis of historical data from Lake Washington.
Lake Michigan's changing food web: Invasion by the invertebrate planktivore *Bythotrephes*. Univ. Konstanz.
- 1988 G. W. Comita Memorial Lecture and visiting distinguished scientist. North Dakota State University.
Food web dynamics in Lake Michigan; Microscale nutrient patchiness. Duke University; Duke University Marine Lab.
- 1989 Hypolimnetic processes in Lake Washington. NOAA/GLERL.
Lake Michigan's changing food web. Univ. Wisconsin-Milwaukee; UC Santa Barbara.
- 1990 Ecological effects of species invasion in Lake Michigan. Freshwater Institute, Winnipeg.
Exotic species in the Great Lakes. Institute of Water Resources, Lansing.
Food web structure, plankton dynamics, and community ecology of the Lake Michigan ecosystem. American Society of Limnology and Oceanography
Species invasion and food web changes in Lake Michigan. Kellogg Biological Station, Michigan State Univ.
- 1991 Bottom-up vs top-down control of aquatic food webs: lessons from limnology. American Society of Limnology and Oceanography Special Symposium.
- 1992 Biodiversity and climate change in Lake Victoria, East Africa. Univ. Michigan ; Cornell University.
Experimental studies of grazing and nutrient dynamics in Lake Victoria. Uganda Freshwater Fisheries Research Organisation.
IDEAL: Climate change in East Africa. National Science Foundation, Limnos Group.
- 1993 Pelagic food webs of the East African Great Lakes. International Symposium on the Limnology, Climatology, and Paleoclimatology of the East African Lakes, Jinja, Uganda.
Limnology in East Africa. Univ. Michigan Biological Society.
- 1994 A case study of species invasion in Lake Michigan. American Soc. Limnol. Oceanogr.
- 1995 *Bythotrephes* in the North American Great Lakes. North American Lake Management Society; Univ. Montreal.
- 1996 Trophic Dynamics in Lake Michigan: A case study approach. University of Washington.
Bythotrephes in the North American Great Lakes. Spec. Symposium, Portland State Univ.
Lake Victoria plankton ecology: Annual patterns of algal response to nutrient enhancement. ASLO IDEAL Special Symposium. (with R. Mugidde and D.A. Lehman)
Comparison studies of the rift lake sources of the White Nile: Lakes Edward and Albert, East Africa. ASLO IDEAL Special Symposium. (with A.H. Litt).
Caridina nilotica: Its distribution and egg production in Lake Victoria, Uganda. ASLO IDEAL Special Symposium. (with G.B. Mbahinzireki and H. Ochieng).
- 1997 Role of climate in the modern condition of Lake Victoria. UM Global Change Program 7th Anniversary Lecture.
Use of dual isotopes to measure ingestion and assimilation explained- AGAIN! CGLAS special symposium, University of Michigan.

- How to identify and predict the effects of invading species in lakes. Huron Mountain Wildlife Foundation
- 2000 Energy and water balance, mixing depth, and the chemistry of Lake Edward, East Africa. Keynote presentation, IDEAL Second International Symposium, Malawi.
- 2001 The Present Condition of Ore Lake, Michigan. City of Brighton.
Effects of Climate Change on Lower Food Web Processes. U.S. EPA and National Wildlife Foundation Workshop, Milwaukee: Climate Change and the Water Ecology of the Great Lakes.
- 2002 Biomanipulation of lake food webs by an invading invertebrate predator. Univ. Michigan-Dearborn
- 2003 Ann Arbor's dilemma: Assigning responsibility for environmental problems. Univ. Michigan School of Public Health; public lecture hosted by Huron River Watershed Council.
- 2004 Nuisance algae and the Huron River: Recent changes and future trends. Public lecture hosted by Huron River Watershed Council.
- 2005 Highlights of key findings to date relevant to Middle Huron Partners. Middle Huron Partners, 21 Apr 2005
Survey results and Ford Lake algal blooms, 2005. Middle Huron Partners, 6 Oct 2005
Causes and possible corrections for nuisance algal conditions in Huron River lakes. Middle Huron Partners, 8 Nov 2005
Adaptive strategies to improve the condition of Ford Lake. Ford Lake Water Conservation Advisory Committee and Board of Trustees, 14 Nov 2005
- 2006 Giving you a better view: Solutions to Ford Lake's water quality problems. Public lecture, Eagle Crest Resort, 19 Oct 2006
Whole lake experiments to control harmful algal blooms in multi-use watersheds. Middle Huron Partners, 8 Nov 2006
Evaluation of academic administrators by faculty: The University of Michigan experience. Michigan State University, 2006
- 2007 Whole lake experiments to control harmful algal blooms in multi-use watersheds. National Water Conference, Savannah, Jan 2007
One dam problem after another: Transforming lake communities to improve environmental quality. Sigma Xi Annual Address, Apr 2007.
- 2008 Point source and non-point source phosphorus loading to Lake St. Clair from the Clinton River, Southeast Michigan, USA. 4th Binational Lake St. Clair Conference, Great Lakes Commission, Mar 2008
Whole lake experiments and algal blooms. National Water Conference, Reno, Feb 2008
- 2009 Watershed nutrients, P-free fertilizer, internal nutrient loading, and TMDLs. Southeast Michigan Council of Governments, Detroit, Jan 2009.
Lake models and lake experiments to control algal species composition. National Water Conference, St. Louis, Feb 2009.
River phosphorus and lawn fertilizer: case study of Ann Arbor, Michigan and the Huron River. Metropolitan Washington, D.C. Council of Governments, 11 Dec 2009

- 2010 Two Stories from Southeast Michigan: Whole Lake Experiments to Control Harmful Cyanobacteria; Reduced River Phosphorus Following Implementation of a Lawn Fertilizer Ordinance. Indiana University/Purdue University Symposium: Blue-Green Algal Blooms and Nutrients that Cause Them, Jun 2010
- 2011 Reduced River Phosphorus Following Implementation of a Lawn Fertilizer Ordinance; Chesapeake Bay Commission, Jan 2011
U.S. EPA webinar, Sep 2011
Limnological Principles and Eutrophication. University of Sichuan, China, Jul 2011
- 2014 One Dam Problem after Another: Perturbations, Policies, Perspectives. University of Minnesota-Duluth, Oct 2014
- 2016 Lessons from the Huron River, SE Michigan. Maumee River Basin Partners, Defiance, OH, Aug 2016

Contributed Papers (50+ lecture or poster presentations to professional scientific societies)

National Water Conference
Phycological Society of America
Ecological Society of America
International Association for Theoretical and Applied Limnology
American Society of Limnology and Oceanography
Mid-West Water Chemistry Symposium
International Conference on Heavy Metals in the Environment

Scientific Outreach

Scientific advisory to municipalities of Ann Arbor, Brighton, Chelsea, Dexter, Loch Alpine, and Ypsilanti Twp, MI

Scientific advisor to numerous lake associations

Scientific advisor to Jiuzhaigou World Heritage Park

Scientific adviser to Livingston County, MI

Scientific adviser to Province of Alberta

Scientific adviser to the Water Conservation Advisory Board, Ypsilanti Charter Township, 2004-present.

Scientific adviser to the Environmental Commission, Van Buren Township, 2004-present.

Results of whole lake experiments. Presentation to Middle Huron Partners, 12 Feb 2008

Giving you a better view: Solutions to Ford Lake's water quality problems. Public lecture, Eagle Crest Resort, 19 Oct 2006

Whole lake experiments to control harmful algal blooms in multi-use watersheds. Presentation to Middle Huron Partners, 8 Nov 2006

Adaptive Strategies to improve the condition of Ford Lake, Presentation to Water Conservation Advisory Committee, 14 Nov 2005

Causes and possible corrections for nuisance algae conditions in Huron River lakes, Presentation to Middle Huron Partners, 8 Nov 05

The algal toxin microcystin in the Huron River Lakes, Presentation to Middle Huron Partners, 8 Nov 2005

Survey Results and Ford Lake Algal Blooms, Presentation to Middle Huron Partners, 6 Oct 2005

Highlights of Key Findings to Date Relevant to Middle Huron Partners, 21 Apr 2005

Unanimous vote by Board of Trustees, Ypsilanti Charter Township to endorse and facilitate cooperation with whole lake experimental manipulation of Ford Lake, December 2005

Telephone surveys conducted by grant subcontractor to State and Municipal officials regarding effectiveness of Huron River research results in environmental policy setting, 2006.

Progress Reports in Huron River Watershed Council Newsletters 2004 to 2006

“Giving You a Better View” brochure mailed to ca. 3000 households, 2004

Public opinion survey of ca. 3500 households in middle Huron drainage regarding knowledge and perceptions of aquatic environmental issues: Huron River Citizen Survey Initial Results, 26 Sep 2005.

Media Coverage

Television

One dam problem after another: Transforming lake communities to improve environmental quality. Sigma Xi 2007 Annual Address; U-M TV Channel 22 (recurring broadcast).

Internet

University of Michigan features Huron River research on its News and Information website:
<http://www.umich.edu/news/index.html?Releases/2007/Nov07/slime>

Radio

Interview with David Fair on WEMU Public Radio program *Issues of the Environment* on 11 July 2007

Interview with David Fair on WEMU Public Radio program *Issues of the Environment* on 28 July 2004

Interview with Charity Nebbe on Michigan Public Radio program *Stateside* on 6 July 2004

Newspaper

Cutting down on the 'pea soup' in lakes. *Ann Arbor News*, 8 Oct 2006.

Getting a grip on nuisance algae. *Ann Arbor News*, 3 July 2004.

New Bluegreen Algae Study. *Spinal Column Newsweekly*, 26 Nov 2003.

Community Newsletters

Huron River Report. The Newsletter of the Huron River Watershed Council, Fall 2003

Lake Ledger, Charter Township of Van Buren, Winter 2004

Research Grants to John T. Lehman (abbreviated)

NSF Graduate Fellowship, University of Washington, 1974-1977.

NSF DEB79-22143+NSF DEB81-16428, Nutrient fluxes in plankton communities, \$125K.

Institute for Water Research, Nitrogen loading: Influence on the dissolved inorganic carbon in natural waters, \$8K.

NOAA NA79-RAC00120, Formulations for zooplankton in ecosystem models, \$47K.

NOAA NA81-RAH00003, A dynamic lake ecosystem model, \$82K.

NSF BSR86-05418: Facility improvements for the Douglas Lake Biological Field Station, \$24K (NSF) + \$34K (UM). PI= Lehman, co-PIs= R. Fogel, S. Kilham.

ONR Ocean Biology N00014-84-K-0671: Temporal and spatial microstructure of nutrients in pelagic systems, \$244K.

- NSF OCE86-11947: A workshop to establish a long-range plan for Great Lakes research, \$55K. PI= Lehman, co-PI= W. C. Kerfoot.
- NSF OCE84-15970+ OCE86-13880+ OCE87-16187: Trophic dynamics of a changing zooplankton community, \$363K. (plus additional support for UM-CGLAS ship operations @ \$400K.)
- Sea Grant MICHU-SG-92-302-R/ES-5: Causes and consequences of cladoceran dynamics in Lake Michigan: Implications for recruitment success of forage fish species, \$150K.
- UM Rackham School of Graduate Studies: Ecological genetics of Great Lakes zooplankton, \$9K.
- UM Global Change Program: World Lake Climate Studies- Lake Victoria Pilot Deployment, \$25K.
- NOAA National Undersea Research Center: Data base for biodiversity and climate changes in East Africa: Lake Victoria, \$47K. (plus ship and submersible operations @ \$25K.)
- NSF OCE92-07945: Molecular tracers of trophic links in pelagic food webs, \$45K.
- UM OVPR: Topographic survey and database for Lake Victoria, \$19K.
- NSF OCE89-10999: Trophic dynamics of a changing zooplankton community, \$412K. (plus additional support for UM-CGLAS ship operations @ \$430K.)
- NSF-94-SC-NSR-1007: IDEAL Limnology, \$12K.
- Nat. Geographic Soc.: Biological exploration of the lake sources of the White Nile, \$18K.
- NSF DEB-9318035: Biodiversity and climate change in East Africa: Lake Victoria IDEAL Limnology, \$289K. + NSF REU-Supplements: \$8K.
- NSF OCE-9508087: Phosphorus dynamics: Contributions by bacteria and zooplankton to recycling processes in Lakes Michigan, Huron, and Erie, \$301K (+ budget for ship operations @ \$300K)
- U.S. EPA Cooperative Agreement No. CX826421-01-0: Regional Assessment of Climate Change Impacts in the Upper Great Lakes Region (PI= P. Sousounis), \$730K.
- Sea Grant: Bioregulation of trace metals in the Great Lakes (PI= J. Nriagu), \$164K.
- U.S. EPA: Mercury: Transport and fate through a watershed (PI= J. Nriagu), \$896K.
- U.S. EPA: Adaptive management for improved water quality in multi-use watersheds, \$746K
- DOA: Whole lake experiments to improve water quality in multi-use watersheds. \$383K