

IISD-ELA Publications – March 2017

In press

- Vincent, J. L., M. J. Paterson, B. C. Norman, E. P. Gray, J. F. Ranville, A. B. Scott, P. C. Frost, and M. A. Xenopoulos. 2017. Chronic and pulse exposure effects of silver nanoparticles on natural lake phytoplankton and zooplankton. *Ecotoxicology* **in press**.
- Venkiteswaran, J. J., S. L. Schiff, M. J. Paterson, N. A. P. Flinn, H. Shao, and R. J. Elgood. 2017. Increasing nitrogen deposition with low $\delta^{15}\text{N-NH}_4^+$ and $\delta^{15}\text{N-NO}_3^-$ values at the Experimental Lakes Area, northwestern Ontario, Canada. *FACETS* **in press**.
- Schiff, S. L., J. M. Tsuji, L. Wu, J. J. Venkiteswaran, L. A. Molot, R. Elgood, M. J. Paterson, and J. D. Neufeld. 2017. Millions of boreal shield lakes can be used to probe Archaean Ocean biogeochemistry. *Scientific Reports* **in press**.
- Kidd, K. A., S. Wellman, C. L. Podemski, P. J. Blanchfield, and M. J. Paterson. 2017. Incorporation of wastes by native species during and after an experimental aquaculture operation. *Freshwater Science* **in press**.

2017

- Guzzo, M. M., and P. Blanchfield. 2017. Climate change alters the quantity and phenology of habitat for lake trout (*Salvelinus namaycush*) in small Boreal Shield lakes. *Canadian Journal of Fisheries and Aquatic Sciences*: **ASAP**.
- Anderson, J., G. Scrimgeour, V. Palace, M. Sutor, and J. Wilcockson. 2017. Quantifying Elements in Arctic Grayling and Bull Trout in the South Nahanni River Watershed, Northwest Territories, Using Nonlethal Tissue Samples. *North American Journal of Fisheries Management* **37**:50-63.

2016

- Zhang, Y., D. J. Jacob, H. M. Horowitz, L. Chen, H. M. Amos, D. P. Krabbenhoft, F. Slemr, V. L. St. Louis, and E. M. Sunderland. 2016. Observed decrease in atmospheric mercury explained by global decline in anthropogenic emissions. *Proceedings of the National Academy of Sciences* **113**:526-531.
- Wiltse, B., A. M. Paterson, D. L. Findlay, and B. F. Cumming. 2016. Seasonal and decadal patterns in *Discostella* (Bacillariophyceae) species from bi-weekly records of two boreal lakes (Experimental Lakes Area, Ontario, Canada). *Journal of Phycology* **52**:817-826.
- Williams, C. J., P. C. Frost, A. M. Morales-Williams, J. H. Larson, W. B. Richardson, A. S. Chiandet, and M. A. Xenopoulos. 2016. Human activities cause distinct dissolved organic matter composition across freshwater ecosystems. *Global Change Biology* **22**:613-626.



- Shen, L., J. Fischer, J. Martin, M. E. Hoque, L. Telgmann, H. Hintelmann, C. D. Metcalfe, and V. Yargeau. 2016. Carbon Nanotube Integrative Sampler (CNIS) for passive sampling of nanosilver in the aquatic environment. *Science of the Total Environment* **569–570**:223-233.
- Orihel, D. M., T. Bisbicos, C. T. R. Darling, A. P. Dupuis, M. Williamson, and D. C. G. Muir. 2016. Probing the debromination of the flame retardant decabromodiphenyl ether in sediments of a boreal lake. *Environmental Toxicology and Chemistry* **35**:573-583.
- Havens, S. M., C. J. Hedman, J. D. C. Hemming, M. G. Mieritz, M. M. Shafer, and J. J. Schauer. 2016. Influence of Acidification on the Partitioning of Steroid Hormones among Filtrate, Filter Media, and Retained Particulate Matter. *Journal of Environmental Quality* **45**:1776-1781.
- Hampton, S. E., A. W. E. Galloway, S. M. Powers, T. Ozersky, K. H. Woo, R. D. Batt, S. G. Labou, C. M. O'Reilly, S. Sharma, N. R. Lottig, E. H. Stanley, R. L. North, J. D. Stockwell, R. Adrian, G. A. Weyhenmeyer, L. Arvola, H. M. Baulch, I. Bertani, L. L. Bowman, C. C. Carey, J. Catalan, W. Colom-Montero, L. M. Domine, M. Felip, I. Granados, C. Gries, H.-P. Grossart, J. Haberman, M. Haldna, B. Hayden, S. N. Higgins, J. C. Jolley, K. K. Kahilainen, E. Kaup, M. J. Kehoe, S. MacIntyre, A. W. Mackay, H. L. Mariash, R. M. McKay, B. Nixdorf, P. Nöges, T. Nöges, M. Palmer, D. C. Pierson, D. M. Post, M. J. Pruett, M. Rautio, J. S. Read, S. L. Roberts, J. Rücker, S. Sadro, E. A. Silow, D. E. Smith, R. W. Sterner, G. E. A. Swann, M. A. Timofeyev, M. Toro, M. R. Twiss, R. J. Vogt, S. B. Watson, E. J. Whiteford, and M. A. Xenopoulos. 2016. Ecology under lake ice. *Ecology Letters*:n/a-n/a.
- Geisler, M. E., M. D. Rennie, D. M. Gillis, and S. N. Higgins. 2016. A predictive model for water clarity following dreissenid invasion. *Biological Invasions* **18**:1989-2006.
- Fernie, K. J., L. Cruz-Martinez, L. Peters, V. Palace, and J. E. G. Smits. 2016. Inhaling Benzene, Toluene, Nitrogen Dioxide, and Sulfur Dioxide, Disrupts Thyroid Function in Captive American Kestrels (*Falco sparverius*). *Environmental Science & Technology* **50**:11311-11318.
- Diodato, N., S. Higgins, G. Bellocchi, F. Fiorillo, N. Romano, and F. M. Guadagno. 2016. Hydro-climatic forcing of dissolved organic carbon in two boreal lakes of Canada. *Science of the Total Environment* **571**:50-58.
- Cruz-Font, L., B. J. Shuter, and P. J. Blanchfield. 2016. Energetic costs of activity in wild Lake Trout: a calibration study using acceleration transmitters and positional telemetry. *Canadian Journal of Fisheries and Aquatic Sciences* **73**:1237-1250.
- Chen, J., M. D. Rennie, B. Sadi, W. Zhang, and N. St-Amant. 2016. A study on the levels of radioactivity in fish samples from the experimental lakes area in Ontario, Canada. *Journal of Environmental Radioactivity* **153**:222-230.
- Charles, C., D. Gillis, L. Hrenchuk, and P. Blanchfield. 2016. A method of spatial correction for acoustic positioning biotelemetry. *Animal Biotelemetry* **4**:5.



Blakelock, G. C., M. A. Xenopoulos, B. C. Norman, J. L. Vincent, and P. C. Frost. 2016. Effects of silver nanoparticles on bacterioplankton in a boreal lake. *Freshwater Biology* **61**:2211-2220.

Anderson, J. C., B. J. Park, and V. P. Palace. 2016. Microplastics in aquatic environments: Implications for Canadian ecosystems. *Environmental Pollution* **218**:269-280.

2015

Xenopoulos, M. A., and P. C. Frost. 2015. The dawn of a new era for the Experimental Lakes Area. *Limnology and Oceanography Bulletin* **24**:85-87.

Watson, S. B., B. A. Whitton, S. N. Higgins, H. W. Paerl, B. W. Brooks, and J. D. Wehr. 2015. Harmful algal blooms. Pages 873-920 *Freshwater Algae of North America 2nd ed.* Elsevier, San Diego.

Wang, M., T. R. Moore, J. Talbot, and J. L. Riley. 2015. The stoichiometry of carbon and nutrients in peat formation. *Global Biogeochemical Cycles* **29**:113-121.

Vincent, J. 2015. Responses of primary producers and grazers to silver nanoparticle exposure. Trent University, Peterborough, ON.

Sharma, S., D. K. Gray, J. S. Read, C. M. O'Reilly, P. Schneider, A. Qudrat, C. Gries, S. Stefanoff, S. E. Hampton, S. Hook, J. D. Lenters, D. M. Livingstone, P. B. McIntyre, R. Adrian, M. G. Allan, O. Anneville, L. Arvola, J. Austin, J. Bailey, J. S. Baron, J. Brookes, Y. Chen, R. Daly, M. Dokulil, B. Dong, K. Ewing, E. de Eyto, D. Hamilton, K. Havens, S. Haydon, H. Hetzenauer, J. Heneberry, A. L. Hetherington, S. N. Higgins, E. Hixson, L. R. Izmet'eva, B. M. Jones, K. Kangur, P. Kasprzak, O. Koster, B. M. Kraemer, M. Kumagai, E. Kuusisto, G. Leshkevich, L. May, S. MacIntyre, D. M++ller-Navarra, M. Naumenko, P. Noges, T. Noges, P. Niederhauser, R. P. North, A. M. Paterson, P. D. Plisnier, A. Rigosi, A. Rimmer, M. Rogora, L. Rudstam, J. A. Rusak, N. Salmaso, N. R. Samal, D. E. Schindler, G. Schladow, S. R. Schmidt, T. Schultz, E. A. Silow, D. Straile, K. Teubner, P. Verburg, A. Voutilainen, A. Watkinson, G. A. Weyhenmeyer, C. E. Williamson, and K. H. Woo. 2015. A global database of lake surface temperatures collected by in situ and satellite methods from 1985–2009. *Scientific Data* **2**:150008.

Rolfhus, K. R., J. P. Hurley, R. A. Bodaly, and G. Perrine. 2015. Production and retention of methylmercury in inundated boreal forest soils. *Environmental Science & Technology* **49**:3482-3489.

Rennie, M. D., B. C. Weidel, R. M. Claramunt, and E. S. Dunlop. 2015. Changes in depth occupied by Great Lakes lake whitefish populations and the influence of survey design. *Journal of Great Lakes Research* **41**:1150-1161.

Rankine, B. 2015. Fate and effects of the glyphosate adjuvant, polyethoxylated tallow amine (POEA) in shallow freshwater ecosystems. University of Manitoba.



- O'Reilly, C. M., S. Sharma, D. K. Gray, S. E. Hampton, J. S. Read, R. J. Rowley, P. Schneider, J. D. Lenters, P. B. McIntyre, B. M. Kraemer, G. A. Weyhenmeyer, D. Straile, B. Dong, R. Adrian, M. G. Allan, O. Anneville, L. Arvola, J. Austin, J. L. Bailey, J. S. Baron, J. D. Brookes, E. de Eyto, M. T. Dokulil, D. P. Hamilton, K. Havens, A. L. Hetherington, S. N. Higgins, S. Hook, L. R. Izmet'eva, K. D. Joehnk, K. Kangur, P. Kasprzak, M. Kumagai, E. Kuusisto, G. Leshkevich, D. M. Livingstone, S. MacIntyre, L. May, J. M. Melack, D. C. Mueller-Navarra, M. Naumenko, P. Noges, T. Noges, R. P. North, P. D. Plisnier, A. Rigosi, A. Rimmer, M. Rogora, L. G. Rudstam, J. A. Rusak, N. Salmaso, N. R. Samal, D. E. Schindler, S. G. Schladow, M. Schmid, S. R. Schmidt, E. Silow, M. E. Soylu, K. Teubner, P. Verburg, A. Voutilainen, A. Watkinson, C. E. Williamson, and G. Zhang. 2015. Rapid and highly variable warming of lake surface waters around the globe. *Geophysical Research Letters* **42**:10773-10781.
- Norman, B. C., M. A. Xenopoulos, D. Braun, and P. C. Frost. 2015. Phosphorus availability alters the effects of silver nanoparticles on periphyton growth and stoichiometry. *PLOS one* **10**:e0129328.
- Nicholson, M. E., M. D. Rennie, and K. E. Mills. 2015. Apparent extirpation of prey fish communities following the introduction of northern pike (*Esox lucius*). *Canadian Field-Naturalist* **129**:165-173.
- Murray, L. 2015. Effect of Nanosilver particles on metabolism and cortisol release in rainbow trout (*Oncorhynchus mykiss*). University of Manitoba.
- Karmakar, M., K. R. Laird, and B. F. Cumming. 2015. Diatom-based evidence of regional aridity during the mid-Holocene period in boreal lakes from northwest Ontario (Canada). *The Holocene* **25**:166-177.
- Jackson, T. A. 2015. Weathering, secondary mineral genesis, and soil formation caused by lichens and mosses growing on granitic gneiss in a boreal forest environment. *Geoderma* **251-252**:78-91.
- Furtado, L. M., B. C. Norman, M. A. Xenopoulos, P. C. Frost, C. D. Metcalfe, and H. Hintelmann. 2015. Environmental fate of silver nanoparticles in boreal lake ecosystems. *Environmental Science & Technology* **49**:8441-8450.
- Fera, S. A., M. D. Rennie, and E. S. Dunlop. 2015. Cross-basin analysis of long-term trends in the growth of lake whitefish in the Laurentian Great Lakes. *Journal of Great Lakes Research* **41**:1138-1149.
- Dupuis, L. V., B. J. Hann, and M. Paterson. 2015. Littoral cladoceran community reassembly following the cessation of disturbance. *Journal of Paleolimnology* **54**:121-135.
- de Kerckhove, D. T., M. D. Rennie, and R. Cormier. 2015. Censoring government scientists and the role of consensus in science advice. *EMBO reports* **16**:263-266.
- Cruz-Font, L. 2015. Behavioural ecology of lake trout: From movement ecology to bioenergetics. University of Toronto.



Cheng, I., X. Xu, and L. Zhang. 2015. Overview of receptor-based source apportionment studies for speciated atmospheric mercury. *Atmos. Chem. Phys.* **15**:7877-7895.

Blanchfield, P. J., K. A. Kidd, M. F. Docker, V. P. Palace, B. J. Park, and L. D. Postma. 2015. Recovery of a wild fish population from whole-lake additions of a synthetic estrogen. *Environmental Science & Technology* **49**:3136-3144.

2014

Yu, J., H. He, Z. Liu, K. Li, Y. Hu, P. Zhong, and E. Jeppesen. 2014. Cyanobacteria-derived nitrogen uptake by benthic invertebrates in Lake Taihu: a mesocosm study using ¹⁵N labeling. *Knowledge and Management of Aquatic Ecosystems* **415**:07.

Wiltse, B. 2014. The response of *Discostella* species to climate change at the Experimental Lakes Area, Canada. Queens University, Kingston.

Wasylenko, B. A., D. T. Callaghan, P. J. Blanchfield, and G. G. Pyle. 2014. *Salvelinus namaycush* spawning substratum attracts egg predators and opportunists through chemosensory cues. *Journal of Fish Biology* **84**:1562-1573.

Vasseur, D. A., J. W. Fox, A. Gonzalez, R. Adrian, B. E. Beisner, M. R. Helmus, C. Johnson, P. Kratina, C. Kremer, C. de Mazancourt, E. Miller, W. A. Nelson, M. Paterson, J. A. Rusak, J. B. Shurin, and C. F. Steiner. 2014. Synchronous dynamics of zooplankton competitors prevail in temperate lake ecosystems. *Proceedings of the Royal Society B* **2104** **281**:20140633.

Samarasin, P., C. K. Minns, B. J. Shuter, W. M. Tonn, and M. D. Rennie. 2014. Fish diversity and biomass in northern Canadian lakes: northern lakes are more diverse and have greater biomass than expected based on species- $\delta^{15}N$ energy theory. *Canadian Journal of Fisheries and Aquatic Sciences* **72**:226-237.

Ruan, X., F. Schellenger, and F. L. Hellweger. 2014. Accounting for nitrogen fixation in simple models of lake nitrogen loading/export. *Environmental Science & Technology* **48**:5667-5673.

Plumb, J., P. Blanchfield, and M. Abrahams. 2014. A dynamic-bioenergetics model to assess depth selection and reproductive growth by lake trout (*Salvelinus namaycush*). *Oecologia* **175**:549.

Oswald, C. J., A. Heyes, and B. A. Branfireun. 2014. Fate and transport of ambient mercury and applied mercury isotope in terrestrial upland soils: Insights from the METAALICUS watershed. *Environmental Science & Technology* **48**:1023-1031.

Oswald, C. J., and B. A. Branfireun. 2014. Antecedent moisture conditions control mercury and dissolved organic carbon concentration dynamics in a boreal headwater catchment. *Water Resources Research* **50**:6610-6627.



- Molot, L. A., S. B. Watson, I. F. Creed, C. G. Trick, S. K. McCabe, M. J. Verschoor, R. J. Sorichetti, C. Powe, J. J. Venkiteswaran, and S. L. Schiff. 2014. A novel model for cyanobacteria bloom formation: the critical role of anoxia and ferrous iron. *Freshwater Biology* **59**:1323-1340.
- Martens, M. T., A. J. Wall, G. G. Pyle, B. A. Wasylenko, W. A. Dew, R. H. Devlin, and P. J. Blanchfield. 2014. Growth and feeding efficiency of wild and aquaculture genotypes of rainbow trout (*Oncorhynchus mykiss*) common to Lake Huron, Canada. *Journal of Great Lakes Research* **40**:377-384.
- Madenjian, C., P. Blanchfield, L. Hrenchuk, and J. Walleghem. 2014. Mercury elimination rates for adult northern pike *Esox lucius*: Evidence for a sex effect. *Bulletin of Environmental Contamination and Toxicology*:1-5.
- Kidd, K. A., M. J. Paterson, M. D. Rennie, D. L. Findlay, C. L. Podemski, P. J. Blanchfield, and K. Liber. 2014. Direct and indirect responses of a freshwater food web to a potent synthetic estrogen. *Philosophical Transactions of the Royal Society B: Biological Sciences* **369**:20130578.
- Jeziorski, A., A. M. Paterson, I. Watson, B. F. Cumming, and J. P. Smol. 2014. The influence of calcium decline and climate change on the cladocerans within low calcium, circumneutral lakes of the Experimental Lakes Area. *Hydrobiologia* **722**:129-142.
- Havens, S., M. D. Rennie, P. Blanchfield, M. Paterson, and S. N. Higgins. 2014. Evaluation of eutrophication and water level drawdown on Lake Whitefish (*Coregonus clupeaformis*) productivity; Fish habitat assessment. 3110.
- Guzzo, M. M., M. D. Rennie, and P. J. Blanchfield. 2014. Evaluating the relationship between mean catch per unit effort and abundance for littoral cyprinids in small boreal shield lakes. *Fisheries Research* **150**:100-108.
- Furtado, L. M., M. E. Hoque, D. M. Mitrano, J. F. Ranville, B. Cheever, P. C. Frost, M. A. Xenopoulos, H. Hintelmann, and C. D. Metcalfe. 2014. The persistence and transformation of silver nanoparticles in littoral lake mesocosms monitored using various analytical techniques. *Environmental Conservation* **11**:419-430.
- Furtado, L. M. 2014. Fate of silver nanoparticles in lake mesocosms. Trent University.
- Creed, I. F., A. T. Spargo, J. A. Jones, J. M. Buttle, M. B. Adams, F. D. Beall, E. G. Booth, J. L. Campbell, D. Clow, K. Elder, M. B. Green, N. B. Grimm, C. Miniati, P. Ramlal, A. Saha, S. Sebestyen, D. Spittlehouse, S. Sterling, M. W. Williams, R. Winkler, and H. Yao. 2014. Changing forest water yields in response to climate warming: results from long-term experimental watershed sites across North America. *Global Change Biology* **20**:3191-3208.
- Charles, C. 2014. An examination of predator habitat usage: movement analysis in a marine fishery and freshwater fish. University of Manitoba, Winnipeg.



Blanchfield, P. J., E. B. Taylor, and D. A. Watkinson. 2014. Morphological and genetic analyses identify a new record of a glacial relict: pygmy whitefish (*Prosopium coulterii*) from northwestern Ontario. *Canadian Journal of Zoology* **92**:267-271.

Blakelock, G. 2014. Effects of silver nanoparticles on lake bacterioplankton. Trent University.

2013

Wetton, M. 2013. Effect of waste loading from freshwater cage aquaculture on benthic invertebrates and sediment chemistry. University of Manitoba.

Wells, P. G. 2013. Canadian aquatic science and environmental legislation under threat. *Marine Pollution Bulletin*.

Wasylenko, B. A., P. J. Blanchfield, and G. G. Pyle. 2013. Chemosensory cues attract lake trout *Salvelinus namaycush* and an egg predator to the spawning substratum. *Journal of Fish Biology* **82**:1390-1397.

Wasylenko, B. A. 2013. Lake trout and their egg predators' ability to locate spawning substrate using olfaction. Lakehead University, Thunder Bay, ON.

Venkiteswaran, J. J., S. L. Schiff, V. L. St.Louis, C. J. D. Matthews, N. M. Boudreau, E. M. Joyce, K. G. Beaty, and R. A. Bodaly. 2013. Processes affecting greenhouse gas production in experimental boreal reservoirs. *Global Biogeochemical Cycles* **27**:567-577.

Van Walleghem, J. L. A., P. J. Blanchfield, L. E. Hrenchuk, and H. Hintelmann. 2013. Mercury elimination by a top predator, *Esox lucius*. *Environmental Science & Technology* **67**:4147-4154.

Rankine, B., A. Ross, S. Mittermuller, and V. P. Iace. 2013. Examination of the fate and effects of the glyphosate adjuvant, POEA, using mesocosms in a small pre-Cambrian shield lake. 3030.

Pinel-Alloul, B., A. Andre, P. Legendre, J. A. Cardille, K. Patalas, and A. Salki. 2013. Large-scale geographic patterns of diversity and community structure of pelagic crustacean zooplankton in Canadian lakes. *Global Ecology and Biogeography*.

Owens, B. 2013. Last-minute reprieve for Canada's research lakes. *Nature*.

Orihel, D., H. K. Swanson, and J. J. Venkiteswaran. 2013. Scientists on saving science: Lessons learned from the campaign to save the Experimental Lakes Area. *ASLO Bulletin* **22**:76-78.

Martens, M. T. 2013. The comparative growth and survival of a naturalized and aquaculture strain of rainbow trout (*Oncorhynchus mykiss*) in laboratory and whole-ecosystem experiments University of Manitoba, Winnipeg.

Mailman, M., R. A. Bodaly, M. J. Paterson, S. Thompson, and R. Flett. 2013. Low-Level Experimental Selenite Additions Decrease Mercury in Aquatic Food Chains and Fish Muscle but Increase Selenium in Fish Gonads. *Arch Environ Contam Toxicol*:1-9.



- Mackay, M. D. 2013. A Process-Oriented Small Lake Scheme for Coupled Climate Modeling Applications. *Journal of Hydrometeorology* **13**:1911-1924.
- Ma, S., K. R. Laird, M. V. Kingsbury, C. M. Lewis, and B. F. Cumming. 2013. Diatom-inferred changes in effective moisture during the late Holocene from nearshore cores in the southeastern region of the Winnipeg River Drainage Basin (Canada). *The Holocene* **23**:568-578.
- Hoag, H. 2013. Ecology: Lady of the lakes. *Nature* **502**:612-613.
- Hoag, H. 2013. Test lakes facing closure. *Nature* **488**:437-438.
- Fischer, J. 2013. The Development and Use of Passive Samplers for Monitoring Dissolved and Nanoparticulate Silver in the Aquatic Environment. Trent University.
- de Kerckhove, D. T., C. K. Minns, and B. J. Shuter. 2013. The length of environmental review in Canada under the Fisheries Act. *Canadian Journal of Fisheries and Aquatic Sciences*:1-5.
- Chadwick, S. P., C. L. Babiarez, J. P. Hurley, and D. E. Armstrong. 2013. Importance of hypolimnetic cycling in aging of "new" mercury in a northern temperate lake. *Science of the Total Environment* **448**:176-188.

2012

- Zigah, P. K., E. C. Minor, and J. P. Werne. 2012. Radiocarbon and stable-isotope geochemistry of organic and inorganic carbon in Lake Superior. *Global Biogeochemical Cycles* **26**:n/a-n/a.
- Zhang, L., P. Blanchard, D. Johnson, A. Dastoor, A. Ryzhkov, C. J. Lin, K. Vijayaraghavan, D. Gay, T. M. Holsen, J. Huang, J. A. Graydon, V. L. St.Louis, M. S. Castro, E. K. Miller, F. Marsik, J. Lu, L. Poissant, M. Pilote, and K. M. Zhang. 2012. Assessment of modeled mercury dry deposition over the Great Lakes region. *Environmental Pollution* **161**:272-283.
- Zhang, L., P. Blanchard, D. A. Gay, E. M. Prestbo, M. R. Risch, D. Johnson, M. Narayani, R. Zsolway, T. M. Holsen, E. K. Miller, M. S. Castro, J. A. Graydon, V. L. St.Louis, and J. A. Dalziel. 2012. Estimation of speciated and total mercury dry deposition at monitoring locations in eastern and central North America. *Atmos. Chem. Phys* **12**:4327-4340.
- Wall, A. J., and P. J. Blanchfield. 2012. Habitat use of lake trout (*Salvelinus namaycush*) following species introduction. *Ecology of Freshwater Fish* **21**:300-308.
- Vandergucht, D. M. 2012. An evaluation of ecological stoichiometry in pelagic systems. University of Saskatchewan, Saskatoon.
- Templer, P. H., M. C. Mack, F. S. C. III, L. M. Christenson, J. E. Compton, H. D. Crook, W. S. Currie, C. J. Curtis, D. B. Dail, C. M. D'Antonio, B. A. Emmett, H. E. Epstein, C. L. Goodale, P. Gundersen, S. E. Hobbie, K. Holland, D. U. Hooper, B. A. Hungate, S. Lamontagne, K. J. Nadelhoffer, C. W. Osenberg, S. S. Perakis, P. Schleppei, J. Schimel, I. K. Schmidt, M. Sommerkorn, J. Spoelstra, A. Tietema, W. W. Wessel, and D. R. Zak. 2012. Sinks for nitrogen inputs in terrestrial ecosystems: a meta-analysis of ¹⁵N tracer field studies. *Ecology* **93**:1816-1829.



- Schindler, D. W. 2012. The dilemma of controlling cultural eutrophication of lakes. *Proceedings of the Royal Society B: Biological Sciences*.
- Quinlan, R., M. J. Paterson, and J. P. Smol. 2012. Climate-mediated changes in small lakes inferred from midge assemblages: the influence of thermal regime and lake depth. *Journal of Paleolimnology* **48**:297-310.
- Pernica, P., and M. Wells. 2012. Frequency of episodic stratification in the near surface of Lake Opeongo and other small lakes. *Water Quality Research Journal of Canada* **47**:227-237.
- Orihel, D. M., and R. C. Rooney. 2012. A field-based technique for sediment incubation experiments. *Journal of Limnology* **71**:233-235.
- Moos, M. T., and B. F. Cumming. 2012. Climate-fire interactions during the Holocene: a test of the utility of charcoal morphotypes in a sediment core from the boreal region of north-western Ontario (Canada). *International Journal of Wildland Fire* **21**:640-652.
- Minns, C. K., and B. J. Shuter. 2012. A semi-mechanistic seasonal temperature-profile model (STM) for the period of stratification in dimictic lakes. *Canadian Journal of Fisheries and Aquatic Sciences* **70**:169-181.
- Malakoff, D. 2012. Environmental science feels pinch in Canada's budget. *Science* **336**:1627.
- Knapp, A. K., M. D. Smith, S. E. Hobbie, S. L. Collins, T. J. Fahey, G. J. A. Hansen, D. A. Landis, K. J. L. Pierre, J. M. Melillo, T. R. Seastedt, G. R. Shaver, and J. R. Webster. 2012. Past, Present, and Future Roles of Long-Term Experiments in the LTER Network. *Bioscience* **62**:377-389.
- Hrenchuk, L. E., P. J. Blanchfield, M. J. Paterson, and H. H. Hintelmann. 2012. Dietary and Waterborne Mercury Accumulation by Yellow Perch: A Field Experiment. *Environmental Science & Technology* **46**:509-516.
- Hoag, H. 2012. Canada's renowned freshwater research site to close. *Nature*.
- Hering, J. G., D. L. Swackhamer, and W. H. Schlesinger. 2012. An unparalleled scientific resource endangered. *Environmental Science and Technology* **46**:8525-8526.
- Graydon, J. A., V. L. St.Louis, S. E. Lindberg, K. A. Sandilands, J. W. M. Rudd, C. A. Kelly, R. Harris, M. T. Tate, D. P. Krabbenhoft, C. A. Emmerton, H. Asmath, and M. Richardson. 2012. The role of terrestrial vegetation in atmospheric Hg deposition: Pools and fluxes of spike and ambient Hg from the METAALICUS experiment. *Global Biogeochem. Cycles* **26**:GB1022.
- Flinn, N. A. P. 2012. The use of carbon and nitrogen stable isotopes to examine the sources, sinks, and cycling of nitrogen in a small, artificially eutrophic boreal lake. University of Waterloo, Waterloo ON.
- Dodds, W. K., C. T. Robinson, E. E. Gaiser, G. J. A. Hansen, H. Powell, J. M. Smith, N. B. Morse, S. L. Johnson, S. V. Gregory, T. Bell, T. K. Kratz, and W. H. McDowell. 2012. Surprises and Insights from Long-Term Aquatic Data Sets and Experiments. *Bioscience* **62**:709-721.
- Cheng, I., L. Zhang, P. Blanchard, J. A. Graydon, and V. L. S. Louis. 2012. Source-receptor relationships for speciated atmospheric mercury at the remote Experimental Lakes Area, northwestern Ontario, Canada. *Atmos. Chem. Phys* **12**:1903-1922.



- Beisner, B. E. 2012. A plankton research gem: the probable closure of the Experimental Lakes Area, Canada. *Journal of Plankton Research*.
- Aukes, P. 2012. Use of Liquid Chromatography – Organic Carbon Detection to Characterize Dissolved Organic Matter from a Variety of Environments. University of Waterloo.
- Anderson, M. 2012. Physical and Geochemical Characterization of Two Wetlands in the Experimental Lakes Area, North-western Ontario, Canada. University of Waterloo.
- Amos, H. M., D. J. Jacob, C. D. Holmes, J. A. Fisher, Q. Wang, R. M. Yantosca, E. S. Corbitt, E. Galarneau, A. P. Rutter, M. S. Gustin, A. Steffen, J. J. Schauer, J. A. Graydon, V. L. S. Louis, R. W. Talbot, E. S. Edgerton, Y. Zhang, and E. M. Sunderland. 2012. Gas-particle partitioning of atmospheric Hg(II) and its effect on global mercury deposition. *Atmos. Chem. Phys* **12**:591-603.

2011

- Vander Zanden, M. J., Y. Vadeboncoeur, and S. Chandra. 2011. Fish Reliance on Littoral Benthic Resources and the Distribution of Primary Production in Lakes. *Ecosystems* **14**:894-903.
- Scott, J. T., and M. J. McCarthy. 2011. Response to Comment: Nitrogen fixation has not offset declines in the Lake 227 nitrogen pool and shows that nitrogen control deserves consideration in aquatic ecosystems. *Limnology and Oceanography* **56**:1548-1550.
- Rolfhus, K., B. Hall, B. Monson, M. Paterson, and J. Jeremiason. 2011. Assessment of mercury bioaccumulation within the pelagic food web of lakes in the western Great Lakes region. *Ecotoxicology* **20**:1520-1529.
- Paterson, M. J., D. W. Schindler, R. E. Hecky, D. L. Findlay, and K. J. Rondeau. 2011. Comment: Lake 227 shows clearly that controlling inputs of nitrogen will not reduce or prevent eutrophication of lakes. *Limnology and Oceanography* **56**:1545-1547.
- Paterson, M. J., C. L. Podemski, L. J. Wesson, and A. P. Dupuis. 2011. The effects of an experimental freshwater cage aquaculture operation on *Mysis diluviana*. *Journal of Plankton Research* **33**:25-36.
- Oswald, C. J. 2011. Hydrological, Biogeochemical and Landscape Controls on Mercury Distribution and Mobility in a Boreal Shield Soil Landscape. University of Toronto, Toronto.
- Mowat, L. D., V. L. St. Louis, J. A. Graydon, and I. Lehnerr. 2011. Influence of Forest Canopies on the Deposition of Methylmercury to Boreal Ecosystem Watersheds. *Environmental Science & Technology* **45**:5178-5185.
- Moos, M. T., and B. F. Cumming. 2011. Changes in the parkland-boreal forest boundary in northwestern Ontario over the Holocene. *Quaternary Science Reviews* **30**:1232-1242.
- Lehnerr, I. 2011. Production and cycling of methylated mercury species in high Arctic freshwater and marine ecosystems. University of Alberta.



- Jeziorski, A. 2011. Crustacean zooplankton sedimentary assemblages and the calcium concentration of softwater Ontario lakes. Queens University.
- Flear, K. 2011. Changes in scaled-chrysophyte assemblages in response to recent climate change in northwestern Ontario. Queen's University.
- Enache, M., A. Paterson, and B. Cumming. 2011. Changes in diatom assemblages since pre-industrial times in 40 reference lakes from the Experimental Lakes Area (northwestern Ontario, Canada). *Journal of Paleolimnology* **46**:1-15.

2010

- Azevedo, P. A., C. L. Podemski, R. H. Hesslein, S. E. M. Kasian, D. L. Findlay, and D. P. Bureau. 2011. Estimation of waste outputs by a rainbow trout cage farm using a nutritional approach and monitoring of lake water quality. *Aquaculture* **311**:175-186.
- Zhang, J., J. Hudson, R. Neal, J. Sereda, T. Clair, M. Turner, D. Jeffries, P. Dillon, L. Molot, K. Somers, and R. Hesslein. 2010. Long-term patterns of dissolved organic carbon in lakes across eastern Canada: Evidence of a pronounced climate effect. *Limnology and Oceanography* **55**:30-42.
- Winder, M., and J. E. Cloern. 2010. The annual cycles of phytoplankton biomass. *Philosophical Transactions of the Royal Society B: Biological Sciences* **365**:3215-3226.
- Shurin, J. B., M. Winder, R. Adrian, W. Keller, B. Matthews, A. M. Paterson, M. J. Paterson, B. Pinel-Alloul, J. A. Rusak, and N. D. Yan. 2010. Environmental stability and lake zooplankton diversity – contrasting effects of chemical and thermal variability. *Ecology Letters* **13**:453-463.
- Scott, J. T., and M. J. McCarthy. 2010. Nitrogen fixation may not balance the nitrogen pool in lakes over timescales relevant to eutrophication management. *Limnology and Oceanography* **55**:1265-1270.
- Rosenberg, D. M., M. A. Turner, W. Jansen, T. Mosindy, and D. A. Watkinson. 2010. Threats to Lake of the Woods and the Winnipeg River by the rusty crayfish (*Orconectes rusticus*), an aquatic invader. TWR-005, Science and Information Branch.
- Rooney, R. C., and C. L. Podemski. 2010. Freshwater rainbow trout (*Oncorhynchus mykiss*) farming affects sediment and pore-water chemistry. *Marine and Freshwater Research* **61**:513-526.
- Patterson, K. 2010. The fate of farmed rainbow trout (*Oncorhynchus mykiss*) released from commercial aquaculture operations in Lake Huron. University of Manitoba, Winnipeg.
- Paterson, M. J., C. L. Podemski, W. J. Findlay, D. L. Findlay, and A. G. Salki. 2010. The response of zooplankton in a whole-lake experiment on the effects of a cage aquaculture operation for rainbow trout (*Oncorhynchus mykiss*). *Canadian Journal of Fisheries and Aquatic Sciences* **67**:1852-1861.



- Paerl, H. W., and J. T. Scott. 2010. Throwing Fuel on the Fire: Synergistic Effects of Excessive Nitrogen Inputs and Global Warming on Harmful Algal Blooms. *Environmental Science & Technology* **44**:7756-7758.
- Oelbermann, M., and S. L. Schiff. 2010. Inundating Contrasting Boreal Forest Soils: CO₂ and CH₄ Production Rates. *Ecoscience* **17**:216-224.
- Oelbermann, M., and S. L. Schiff. 2010. The Redistribution of Soil Organic Carbon and Nitrogen and Greenhouse Gas Production Rates During Reservoir Drawdown and Reflooding. *Soil Science* **175**:72-80.
- Mowat, L. D. 2010. Influence of forest canopies on the deposition of methylmercury to boreal ecosystem watersheds. University of Alberta.
- Moos, M. T. 2010. Tracking long-term Holocene climate trends in Lake 239 (Experimental Lakes Area, NW Ontario) using diatoms, pollen, and charcoal. Ph. D. thesis:1-270.
- Molot, L. A., G. Li, D. L. Findlay, and S. B. Watson. 2010. Iron-mediated suppression of bloom-forming cyanobacteria by oxine in a eutrophic lake. *Freshwater Biology* **55**:1102-1117.
- Kingsbury, M. V. 2010. Diatom assemblages in relation to water-depth gradients in eight boreal shield lakes from northwestern Ontario, Canada. Queen's University.
- Hrenchuk, L. 2010. Accumulation of dietary and waterborne mercury by fish - experimental and whole-ecosystem approaches using enriched stable isotopes. M. Sc.
- Helmus, M. R., W. Keller, M. J. Paterson, N. D. Yan, C. H. Cannon, and J. A. Rusak. 2010. Communities contain closely related species during ecosystem disturbance. *Ecology Letters* **13**:162-174.
- Godard, D. R. 2010. Pathological examination of fish exposed to explosive based instantaneous pressure change. University of Manitoba, Winnipeg, MB.
- Ghorpade, S. M. 2010. Interactions between natural organic matter and mercury transport in a boreal watershed. M. Sc. Thesis:1-132.
- Fox, J. W., W. A. Nelson, and E. McCauley. 2010. Coexistence mechanisms and the paradox of the plankton: quantifying selection from noisy data. *Ecology* **91**:1774-1786.
- Duggarila, B. 2010. Analyzing sustainable energy opportunities for a small scale off-grid facility: a case study at Experimental Lakes Area (ELA), Ontario. University of Manitoba, Winnipeg, MB.

2009

- Xenopoulos, M. A., P. R. Leavitt, and D. W. Schindler. 2009. Ecosystem-level regulation of boreal lake phytoplankton by ultraviolet radiation. *Canadian Journal of Fisheries and Aquatic Sciences* **66**:2002-2010.
- Watson, I. 2009. Using fossil crustacean zooplankton remains to explore calcium decline in the Experimental Lakes Area (North Western Ontario). Queens University, Kingston.



- Vinebrooke, R. D., M. A. Turner, D. L. Findlay, and M. J. Paterson. 2009. A stressor-independent test for biodiversity – ecosystem function relationships during a 23-year whole-lake experiment. *Canadian Journal of Fisheries and Aquatic Sciences* **66**:1903-1909.
- Turner, M. A., D. L. Findlay, H. M. Baulch, L. M. Armstrong, S. E. Kasian, D. K. McNicol, and R. D. Vinebrooke. 2009. Benthic algal communities: recovery from experimental acidification. *Canadian Journal of Fisheries and Aquatic Sciences* **66**:1875-1891.
- Siwik, E. I. H., L. M. Campbell, and G. Mierle. 2009. Fine-scale mercury trends in temperate deciduous tree leaves from Ontario, Canada. *Science of the Total Environment* **407**:6275-6279.
- Seckar, D. 2009. Interactions between *Chaoborus* spp. and *Mysis relicta* and their impact on pelagic crustacean zooplankton in mesocosms at the Experimental Lakes Area. University of Manitoba.
- Schindler, D. W., and R. E. Hecky. 2009. Eutrophication: More Nitrogen Data Needed. *Science* **324**:721-772b.
- Schindler, D. W. 2009. A personal history of the Experimental Lakes Project. *Canadian Journal of Fisheries and Aquatic Sciences* **66**:1837-1847.
- Rooney, R. C., and C. L. Podemski. 2009. Effects of an experimental rainbow trout (*Oncorhynchus mykiss*) farm on invertebrate community composition. *Canadian Journal of Fisheries and Aquatic Sciences* **66**:1949-1964.
- Rooney, R. C., and M. J. Paterson. 2009. Ecosystem effects of rainbow smelt (*Osmerus mordax*) invasions in inland lakes: a literature review. 2845.
- Rajani, V., and D. Orihel. 2009. A dynamic phosphorus cycling model for a eutrophic boreal lake.
- Putt, A. 2009. Changes in the depth distribution of lake trout (*Salvelinus namaycush*) and their prey *Mysis relicta* in response to freshwater aquaculture operations in the Experimental Lakes Research Area, Ontario. University of Manitoba.
- Plumb, J. M., and P. J. Blanchfield. 2009. Performance of temperature and dissolved oxygen criteria to predict habitat use by lake trout (*Salvelinus namaycush*). *Canadian Journal of Fisheries and Aquatic Sciences* **66**:2011-2023.
- Phillips, I. D., R. D. Vinebrooke, and M. A. Turner. 2009. Ecosystem consequences of potential range expansions of *Orconectes virilis* and *Orconectes rusticus* crayfish in Canada - a review. *Environmental Reviews* **17**:235-248.
- Phillips, I. D., R. D. Vinebrooke, and M. A. Turner. 2009. Experimental reintroduction of the crayfish species *Orconectes virilis* into formerly acidified Lake 302S (Experimental Lakes Area, Canada). *Canadian Journal of Fisheries and Aquatic Sciences* **66**:1892-1902.
- Parker, B. R., D. W. Schindler, K. G. Beaty, M. P. Stainton, and S. E. Kasian. 2009. Long-term changes in climate, streamflow, and nutrient budgets for first-order catchments at the Experimental Lakes Area (Ontario, Canada). *Canadian Journal of Fisheries and Aquatic Sciences* **66**:1848-1863.



- Palace, V. P., R. E. Evans, K. G. Wautier, K. H. Mills, P. J. Blanchfield, B. J. Park, C. L. Baron, and K. A. Kidd. 2009. Interspecies differences in biochemical, histopathological, and population responses in four wild fish species exposed to ethynylestradiol added to a whole lake. *Canadian Journal of Fisheries and Aquatic Sciences* **66**:1920-1935.
- Moos, M. T., K. R. Laird, and B. F. Cumming. 2009. Climate-related eutrophication of a small boreal lake in northwestern Ontario: a palaeolimnological perspective. *The Holocene* **19**:359-367.
- Lehnherr, I., and V. L. Louis. 2009. Importance of Ultraviolet Radiation in the Photodemethylation of Methylmercury in Freshwater Ecosystems. *Environmental Science & Technology* **43**:5692-5698.
- Kullman, M. A., K. A. Kidd, C. L. Podemski, M. J. Paterson, and P. J. Blanchfield. 2009. Assimilation of freshwater salmonid aquaculture waste by native aquatic biota. *Canadian Journal of Fisheries and Aquatic Sciences* **66**:1965-1975.
- Jones, H. P., and O. J. Schmitz. 2009. Rapid Recovery of Damaged Ecosystems. *PLOS one* **4**:e5653.
- Jansen, W., P. Geard, T. Mosindy, G. Olson, and M. Turner. 2009. Relative abundance and habitat association of three crayfish (*Orconectes virilis*, *O. rusticus*, and *O. immunis*) near an invasion front of *O. rusticus*, and long-term changes in their distribution in Lake of the Woods, Canada. *Aquatic Invasions* **4**.
- Hesslein, R. H., M. A. Turner, D. Guss, and M. Lyng. 2009. Separating the effects on water chemistry of climate variation and experimental manipulation in the long-term acidification and recovery of lakes. *Canadian Journal of Fisheries and Aquatic Sciences* **66**:1864-1874.
- Hall, B. D., K. A. Cherewyk, M. J. Paterson, and R. A. Bodaly. 2009. Changes in methyl mercury concentrations in zooplankton from four experimental reservoirs with differing amounts of carbon in the flooded catchments. *Canadian Journal of Fisheries and Aquatic Sciences* **66**:1910-1919.
- Graydon, J. A., V. L. Louis, H. Hintelmann, S. E. Lindberg, K. A. Sandilands, J. W. M. Rudd, C. A. Kelly, M. T. Tate, D. P. Krabbenhoft, and I. Lehnherr. 2009. Investigation of Uptake and Retention of Atmospheric Hg(II) by Boreal Forest Plants Using Stable Hg Isotopes. *Environmental Science & Technology* **43**:4960-4966.
- Graydon, J. A. 2009. Influence of terrestrial vegetation on mercury deposition to the boreal forest ecosystem. Ph. D. thesis.
- Graham, M. D., and R. D. Vinebrooke. 2009. Extreme weather events alter plankton communities in boreal lakes. *Limnology and Oceanography* **54**:2481-2492.
- Graham, M. D. 2009. Primary producers and consumers in boreal lakes under a changing environment. Ph.D. University of Alberta.



- Frazer, L. V. 2009. Paleolimnological reconstruction of cladoceran community reassembly following experimental manipulation of two boreal shield lakes. University of Manitoba, Winnipeg, MB.
- Findlay, D. L., C. L. Podemski, and S. E. M. Kasian. 2009. Aquaculture impacts on the algal and bacterial communities in a small boreal forest lake. *Canadian Journal of Fisheries and Aquatic Sciences* **66**:1936-1948.
- Demarty, M., J. Bastien, A. Tremblay, R. H. Hesslein, and R. Gill. 2009. Greenhouse Gas Emissions from Boreal Reservoirs in Manitoba and Quebec, Canada, Measured with Automated Systems. *Environmental Science & Technology* **43**:8908-8915.
- Clasen, J. L., and C. A. Suttle. 2009. Identification of Freshwater Phycodnaviridae and Their Potential Phytoplankton Hosts, Using DNA pol Sequence Fragments and a Genetic-Distance Analysis. *Applied and Environmental Microbiology* **75**:991-997.
- Clarisse, O., D. Foucher, and H. Hintelmann. 2009. Methylmercury speciation in the dissolved phase of a stratified lake using the diffusive gradient in thin film technique. *Environmental Pollution* **157**:987-993.
- Bouffard, A., and M. Amyot. 2009. Importance of elemental mercury in lake sediments. *Chemosphere* **74**:1098-1103.
- Blanchfield, P. J., L. S. Tate, and C. L. Podemski. 2009. Survival and behaviour of rainbow trout (*Oncorhynchus mykiss*) released from an experimental aquaculture operation. *Canadian Journal of Fisheries and Aquatic Sciences* **66**:1976-1988.
- Blanchfield, P. J., L. S. Tate, J. M. Plumb, M.-L. Acolas, and K. G. Beaty. 2009. Seasonal habitat selection by lake trout (*Salvelinus namaycush*) in a small Canadian shield lake: constraints imposed by winter conditions. *Aquatic Ecology* **43**:777-787.
- Blanchfield, P. J., M. J. Paterson, J. A. Shearer, and D. W. Schindler. 2009. Johnson and Vallentyne's legacy: 40 years of aquatic research at the Experimental Lakes Area. *Canadian Journal of Fisheries and Aquatic Sciences* **66**:1831-1836.
- Baulch, H. M., M. A. Turner, D. L. Findlay, R. D. Vinebrooke, and W. F. Donahue. 2009. Benthic algal biomass — measurement and errors. *Canadian Journal of Fisheries and Aquatic Sciences* **66**:1989-2001.

2008

- Zhang, J. 2008. Long-term patterns of dissolved organic carbon in boreal lakes. University of Saskatchewan, Saskatoon, SK.
- White, M., M. Xenopoulos, K. Hogsden, R. Metcalfe, and P. Dillon. 2008. Natural lake level fluctuation and associated concordance with water quality and aquatic communities within small lakes of the Laurentian Great Lakes region. *Hydrobiologia* **613**:21-31.
- Wellman, S. J. 2008. Nutrient flow in a freshwater food web during and after an experimental aquaculture operation. University of New Brunswick.



- Venkiteswaran, J. J. 2008. Greenhouse gas cycling in experimental boreal reservoirs. University of Waterloo, Waterloo, Ontario.
- Thum, R. A., and A. M. Derry. 2008. Taxonomic implications for diaptomid copepods based on contrasting patterns of mitochondrial DNA sequence divergences in four morphospecies. *Hydrobiologia* **614**:197-207.
- Stokstad, E. 2008. Canada's Experimental Lakes. *Science* **322**:1316-1319.
- St. George, S., D. M. Meko, and M. N. Evans. 2008. Regional tree growth and inferred summer climate in the Winnipeg River basin, Canada since AD 1783. *Quaternary Research* **70**:158-172.
- Schindler, D. W., R. E. Hecky, D. L. Findlay, M. P. Stainton, B. R. Parker, M. J. Paterson, K. G. Beaty, M. Lyng, and S. E. Kasian. 2008. Eutrophication of lakes cannot be controlled by reducing nitrogen input: Results of a 37-year whole-ecosystem experiment. *Proceedings of the National Academy of Sciences USA* **105**:11254-11258.
- Sandilands, K. A., C. A. Kelly, J. W. M. Rudd, M. T. Tate, H. Hintelmann, B. Dimock, and R. Harris. 2008. Application of enriched stable mercury isotopes to the Lake 658 watershed for the METAALICUS project, at the Experimental Lakes Area, northwestern Ontario, Canada, 2001-2007. 2813.
- Ryman, J. E., J. L. A. Van Walleghem, and P. J. Blanchfield. 2008. Methylmercury levels in a parasite (*Apophallus brevis* metacercariae) and its host, yellow perch (*Perca flavescens*). *Aquatic Ecology* **42**:495-501.
- Rosenberg, D. M., and M. J. Paterson. 2008. Cooperative research at the Experimental Lakes Area: Proceedings of a workshop between Environment Canada and Fisheries and Oceans Canada, 27-28 February, 2007, Winnipeg, Manitoba. 2844.
- Orihel, D. M., M. J. Paterson, P. Blanchfield, R. A. Bodaly, C. C. Gilmour, and H. H. Hintelmann. 2008. Temporal changes in the distribution, methylation, and bioaccumulation of newly deposited mercury in an aquatic ecosystem. *Environmental Pollution* **154**:77-88.
- Oelbermann, M., and S. L. Schiff. 2008. Quantifying Carbon Dioxide and Methane Emissions and Carbon Dynamics from Flooded Boreal Forest Soil. *Journal of Environmental Quality* **37**:2037-2047.
- Mitchell, C. P. J., B. A. Branfireun, and R. K. Kolka. 2008. Spatial characteristics of net methylmercury production hot spots in peatlands. *Environmental Science and Technology* **42**:1010-1016.
- Mills, K. H., S. M. Chalanchuk, P. J. Blanchfield, and C. L. Podemski. 2008. Enhanced growth and condition of lake trout in a small Ontario lake during cage aquaculture of rainbow trout. 2778.
- Mailman, M. 2008. Assessment of mercury and selenium interactions in freshwater. University of Manitoba, Winnipeg, Manitoba.



- Laird, K. R., and B. F. Cumming. 2008. Diatom-inferred lake level from near-shore cores in a drainage lake in the Experimental Lakes Area, northwestern Ontario, Canada. *Journal of Paleolimnology* **ASAP**.
- Laird, K. R., and B. F. Cumming. 2008. Reconstruction of Holocene lake level from diatoms, chrysophytes and organic matter in a drainage lake from the Experimental Lakes Area (northwestern Ontario, Canada). *Quaternary Research* **69**:292-305.
- Knapp, C. W., D. L. Findlay, K. A. Kidd, and D. W. Graham. 2008. A comparative assessment of molecular biological and direct microscopic techniques for assessing aquatic systems. *Environmental Monitoring and Assessment* **145**:465-473.
- Jeziorski, A., N. D. Yan, A. M. Paterson, A. M. DeSellas, M. A. Turner, D. S. Jeffries, B. Keller, R. C. Weeber, D. K. McNicol, M. E. Palmer, K. McIver, K. Arseneau, B. K. Ginn, B. F. Cumming, and J. P. Smol. 2008. The widespread threat of calcium decline in fresh waters. *Science* **322**:1374-1377.
- Hille, K. A. 2008. Does aquaculture impact benthic ecology? A study on the effects of an experimental cage aquaculture operation on epilithic biofilms. University of Manitoba, Dept of Biology.
- Graydon, J. A., V. L. St.Louis, H. Hintelmann, S. E. Lindberg, K. A. Sandilands, J. W. M. Rudd, C. A. Kelly, B. D. Hall, and L. D. Mowat. 2008. Long-term wet and dry deposition of total and methyl mercury in the remote boreal ecoregion of Canada. *Environmental Science and Technology* **42**:8345-8351.
- Gorski, P. R., D. E. Armstrong, J. P. Hurley, and D. P. Krabbenhoft. 2008. Influence of natural dissolved organic carbon on the bioavailability of mercury to a freshwater alga. *Environmental Pollution* **154**:116-123.
- Creed, I. F., F. D. Beall, T. A. Clair, P. J. Dillon, and R. H. Hesslein. 2008. Predicting export of dissolved organic carbon from forested catchments in glaciated landscapes with shallow soils. *Global Biogeochemical Cycles* **22**:asap.
- Cott, P. A., P. K. Sibley, A. M. Gordon, R. A. Bodaly, K. H. Mills, W. M. Somers, and G. A. Fillatre. 2008. Effects of Water Withdrawal From Ice-Covered Lakes on Oxygen, Temperature, and Fish. *JAWRA Journal of the American Water Resources Association* **44**:328-342.
- Cooley, P. M., and W. G. Franzin. 2008. Predicting the spatial mud energy and mud deposition boundary depth in a small boreal reservoir before and after draw down. *Lake and Reservoir Management* **24**:261-274.
- Clasen, J. L., S. M. Brigden, J. P. Payet, and C. A. Suttle. 2008. Evidence that viral abundance across oceans and lakes is driven by different biological factors. *Freshwater Biology* **53**:1090-1100.
- Clasen, J. L. 2008. Viral ecology of lakes: A descriptive and ecological study of viruses that infect phytoplankton. University of British Columbia, Oceanography.



Bristow, C. E., A. Morin, R. H. Hesslein, and C. L. Podemski. 2008. Phosphorus budget and productivity of an experimental lake during the initial three years of cage aquaculture. *Canadian Journal of Fisheries and Aquatic Sciences* **65**:2485-2495.

Blanchfield, P., L. S. Tate, and J. M. Plumb. 2008. The winter habitat of lake trout in a small boreal lake. 2778.

2007

Wiener, J. G., R. A. Bodaly, S. S. Brown, M. Lucotte, M. C. Newman, D. B. Porcella, R. J. Reash, and E. B. Swain. 2007. Monitoring and evaluating trends in methylmercury accumulation in aquatic biota. Pages 87-122 in R. C. Harris, D. Krabbenhoft, R. Mason, M. W. Murray, R. Reash, and T. Saltman, editors. *Ecosystem Responses to Mercury Contamination*. CRC Press, Webster, NY.

Werner, J. 2007. Development of methods to assess metallothionein expression in lake trout (*Salvelinus namaycush*) during a reproductive cycle and the effects of cadmium and ethynylestradiol. University of Manitoba.

Venkiteswaran, J. J., L. I. Wassenaar, and S. L. Schiff. 2007. Dynamics of dissolved oxygen isotopic ratios: a transient model to quantify primary production, community respiration, and air-water exchange in aquatic ecosystems. *Oecologia* **153**:385-398.

Van Wallegghem, J. L. A., P. J. Blanchfield, and H. Hintelmann. 2007. Elimination of mercury by yellow perch in the wild. *Environmental Science and Technology* **41**:5895-5901.

Suchy, K. D., and B. J. Hann. 2007. Using microfossil remains in lake sediments to examine the invasion of *Eubosmina coregoni* (Cladocera, Bosminidae) in Lake of the Woods, Ontario, Canada. *Journal of Great Lakes Research* **33**:867-874.

Southworth, G., S. Lindberg, H. Hintelmann, M. Amyot, A. Poulain, M. Bogle, M. Peterson, J. Rudd, R. Harris, K. Sandilands, D. Krabbenhoft, and M. Olse. 2007. Evasion of isotopic mercury from a northern temperate lake. *Environmental Toxicology and Chemistry* **26**:53-60.

Shurin, J., S. E. Arnott, H. Hillebrand, A. Longmuir, B. Pinel-Alloul, M. Winder, and N. D. Yan. 2007. Diversity-stability relationship varies with latitude in zooplankton. *Ecology Letters* **10**:127-134.

Plumb, J. M. 2007. Climate-mediated changes in habitat use by lake trout (*Salvelinus namaycush*). University of Manitoba, Winnipeg, Manitoba, Canada.

Orihel, D. M., M. J. Paterson, P. J. Blanchfield, R. A. Bodaly, and H. Hintelmann. 2007. Experimental evidence of a linear relationship between inorganic mercury loading and methylmercury accumulation by aquatic biota. *Environmental Science and Technology* **41**:4952-4958.

Munthe, J., R. A. Bodaly, B. A. Branfireun, C. T. Driscoll, C. C. Gilmour, R. Harris, M. Horvat, M. Lucotte, and O. Malm. 2007. Recovery of Mercury-Contaminated Fisheries. *Ambio* **36**:33-44.



- Mitchell, C. P. J. 2007. Mercury methylation hot spots in peatlands. University of Toronto.
- Mills, K. H., S. M. Chalanchuk, and D. J. Allan. 2007. Long-term impacts of acidification and nutrient additions on a lake whitefish population. *Advances in Limnology* **60**:503-513.
- Miller, C. L., C. C. Gilmour, A. Heyes, and R. P. Mason. 2007. Influence of dissolved organic matter on the complexation of mercury under sulfidic conditions. *Environmental Toxicology and Chemistry* **26**:624-633.
- Li, G. 2007. The role of iron in the control of noxious, bloom forming cyanobacteria in productive and unproductive waters. York University.
- Kullman, M. A., C. L. Podemski, and K. A. Kidd. 2007. A sediment bioassay to assess the effects of aquaculture waste on growth, reproduction, and survival of *Sphaerium simile* (Say) (*Bivalvia*: *Sphaeriidae*). *Aquaculture* **266**:144-152.
- Kidd, K. A., P. J. Blanchfield, K. H. Mills, V. P. Palace, R. E. Evans, J. M. Lazorchak, and R. W. Flick. 2007. Collapse of a fish population after exposure to a synthetic estrogen. *Proceedings of the National Academy of Sciences USA* **104**:8897-8901.
- Keller, W. 2007. Implications of climate warming for Boreal Shield lakes: a review and synthesis. *Environmental Reviews* **15**:99-112.
- Harris, R. C., J. W. M. Rudd, M. Amyot, C. L. Babiarz, K. G. Beaty, P. J. Blanchfield, R. A. Bodaly, B. A. Branfireun, C. C. Gilmour, J. A. Graydon, A. Heyes, H. Hintelmann, J. P. Hurley, C. A. Kelly, D. P. Krabbenhoft, S. E. Lindberg, R. P. Mason, M. J. Paterson, C. L. Podemski, A. Robinson, K. A. Sandilands, G. R. Southworth, V. L. St.Louis, and M. T. Tate. 2007. Whole-ecosystem study shows rapid fish-mercury response to changes in mercury deposition. *Proceedings of the National Academy of Sciences USA* **104**:16586-16591.
- Graham, M. D., R. D. Vinebrooke, B. Keller, J. Heneberry, K. H. Nicholls, and D. L. Findlay. 2007. Comparative responses of phytoplankton during chemical recovery in atmospherically and experimentally acidified lakes. *Journal of Phycology* **43**:908-923.
- Bodaly, R. A., W. Jansen, A. Majewski, R. Fudge, N. Strange, A. Derksen, and D. Green. 2007. Postimpoundment time course of increased mercury concentrations in fish in hydroelectric reservoirs of Northern Manitoba, Canada. *Archives of Environmental Contamination and Toxicology* **53**:379-389.

2006

- Van Walleghem, J. L. A. 2006. The elimination of mercury by fish in the wild. University of Manitoba, Winnipeg MB.
- Sierszen, M. E., G. S. Peterson, and J. V. Scharold. 2006. Depth-specific patterns in benthic-
ûplanktonic food web relationships in Lake Superior. Pages 1496-1503 *Canadian Journal of Fisheries and Aquatic Sciences*. NRC Research Press.
- Schindler, D. W., P. J. Dillon, and H. Schreier. 2006. A review of anthropogenic sources of nitrogen and their effects on Canadian aquatic ecosystems. *Biogeochemistry* **79**:25-44.



- Schindler, D. W. 2006. Recent advances in the understanding and management of eutrophication. *Limnology and Oceanography* **51**:356-363.
- Rooney, R. 2006. The influence of rainbow trout (*Oncorhynchus mykiss*) cage farm on the benthic environment and invertebrate fauna of Lake 375, Experimental Lakes Area. Univ. Manitoba, Winnipeg, MB.
- Radomske, E. H., P. J. Curtis, and E. L. Petticrew. 2006. Phytoplankton and bacterioplankton dependencies on dissolved organic matter (DOM) and inorganic nutrient concentrations in lake enclosures. *Verhandlungen - Internationale Vereinigung für theoretische und angewandte Limnologie* **29**:1301-1305.
- Poulain, A. J., D. M. Orihel, M. Amyot, M. J. Paterson, H. Hintelmann, and G. R. Southworth. 2006. Relationship between the loading rate of inorganic mercury to aquatic ecosystems and dissolved gaseous mercury production and evasion. *Chemosphere* **65**:2199-2207.
- Podemski, C. L., and P. J. Blanchfield. 2006. Overview of the environmental impacts of Canadian freshwater aquaculture. 2450.
- Phillips, I. D. 2006. The boys are back in town: *Orconectes virilis* re-introduction to Lake 302S. University of Alberta.
- Paterson, M. J., P. J. Blanchfield, C. Podemski, H. H. Hintelmann, C. C. Gilmour, R. Harris, N. Ogrinc, J. W. M. Rudd, and K. A. Sandilands. 2006. Bioaccumulation of newly deposited mercury by fish and invertebrates: an enclosure study using stable mercury isotopes. *Canadian Journal of Fisheries and Aquatic Sciences* **63**:2213-2224.
- Palace, V. P., K. G. Wautier, R. E. Evans, P. J. Blanchfield, K. H. Mills, S. M. Chalanchuk, D. Godard, M. E. McMaster, G. R. Tetreault, L. E. Peters, L. Vandenbyllaardt, and K. A. Kidd. 2006. Biochemical and histopathological effects in pearl dace (*Margariscus margarita*) chronically exposed to a synthetic estrogen in a whole lake experiment. *Environmental Toxicology and Chemistry* **25**:1114-1125.
- Orihel, D. M., M. J. Paterson, C. C. Gilmour, R. A. Bodaly, P. J. Blanchfield, H. Hintelmann, R. A. Harris, and J. W. M. Rudd. 2006. Effect of loading rate on the fate of mercury in littoral mesocosms. *Environmental Science and Technology* **40**:5992-6000.
- Miller, C. 2006. The role of organic matter in the dissolved phase speciation and solid phase partitioning of mercury. University of Maryland.
- Mailman, M., and R. A. Bodaly. 2006. The burning question: Does burning before flooding lower methyl mercury production and bioaccumulation? *Science of the Total Environment* **368**:407-417.
- Mailman, M., and R. A. Bodaly. 2006. Strategies to lower methyl mercury concentrations in hydroelectric reservoirs and lakes: A review. *Science of the Total Environment* **368**:224-235.
- Kullman, M. 2006. Assimilation of freshwater salmonid aquaculture waste by native aquatic biota. University of New Brunswick-St. John, Saint John, NB, Canada.



- Graydon, J. A., V. L. St.Louis, S. E. Lindberg, H. H. Hintelmann, and D. P. Krabbenhoft. 2006. Investigation of mercury exchange between forest canopy vegetation and the atmosphere using a new dynamic chamber. *Environmental Science and Technology* **40**:4680-4688.
- Graham, M. D., R. D. Vinebrooke, and M. Turner. 2006. Coupling of boreal forests and lakes: effects of conifer pollen on littoral communities. *Limnology and Oceanography* **51**:1524-1529.
- Eckley, C. S., and H. H. Hintelmann. 2006. Determination of mercury methylation potentials in the water column of lakes across Canada. *Science of the Total Environment*.
- Christensen, M. R., M. D. Graham, R. D. Vinebrooke, D. L. Findlay, M. J. Paterson, and M. A. Turner. 2006. Multiple anthropogenic stressors cause ecological surprises in boreal lakes. *Global Change Biology* **12**:1-7.
- Christensen, M. R. 2006. Impacts of multiple anthropogenic stressors on boreal planktonic communities. M. Sc. Thesis.
- Chadwick, S. P., C. L. Babiarz, J. P. Hurley, and D. E. Armstrong. 2006. Influences of iron, manganese, and dissolved organic carbon on the hypolimnetic cycling of amended mercury. *Science of the Total Environment* **368**:177-188.
- Chadwick, S. P. 2006. Fate and transport of ambient and amended mercury in a stratified temperate lake. University of Wisconsin-Madison.
- Bristow, C. E. 2006. Experimental freshwater cage aquaculture : short term effects on carbon, nitrogen and phosphorus budgets and the metabolism of a boreal shield lake. M. Sc. Thesis.

2005

- Yang, Z., and J. T. Teller. 2005. Modeling the history of Lake of the Woods since 11,000 cal yr B.P. using GIS. *Journal of Paleolimnology* **33**:483-498.
- Weidman, R. P., M. A. Turner, and L. G. Goldsborough. 2005. Limitations on the effects of ultraviolet radiation on benthic algae in a clear boreal forest lake. *Journal of the North American Benthological Society* **24**:820-831.
- Watmough, S. A., J. Aherne, C. Alewell, P. Arp, S. Bailey, T. Clair, P. Dillon, L. Duchesne, C. Eimers, I. Fernandez, N. Foster, T. Larssen, E. Miller, M. Mitchell, and S. Page. 2005. Sulphate, nitrogen and base cation budgets at 21 forested catchments in Canada, the United States and Europe. *Environmental Monitoring and Assessment* **109**:1-36.
- Venkiteswaran, J. J., and S. L. Schiff. 2005. Methane oxidation: isotopic enrichment factors in freshwater boreal reservoirs. *Applied Geochemistry* **20**:683-690.
- Turner, M. A., D. B. Huebert, D. L. Findlay, L. L. Hendezel, W. A. Jansen, R. A. Bodaly, L. M. Armstrong, and S. E. M. Kasian. 2005. Divergent impacts of experimental lake-level drawdown on planktonic and benthic plant communities in a boreal forest lake. *Canadian Journal of Fisheries and Aquatic Sciences* **62**:991-1003.



- Tank, S. E., M. A. Xenopoulos, and L. L. Hendzel. 2005. Effect of ultraviolet radiation on alkaline phosphatase activity and planktonic phosphorus acquisition in Canadian boreal shield lakes. *Limnology and Oceanography* **50**:1345–1351.
- Sorensen, J. A., L. W. Kallemeyn, and M. Sydor. 2005. Relationship between mercury accumulation in young-of-the-year yellow perch and water-level fluctuations. *Environmental Science and Technology* **39**:9237-9243.
- Sarica, J., M. Amyot, L. Hare, P. Blanchfield, R. A. Bodaly, H. Hintelmann, and M. Lucotte. 2005. Mercury transfer from fish carcasses to scavengers in boreal lakes: the use of stable isotopes of mercury. *Environmental Pollution* **134**:13-22.
- Sandilands, K. A., J. W. M. Rudd, C. A. Kelly, H. Hintelmann, C. C. Gilmour, and M. T. Tate. 2005. Application of enriched stable mercury isotopes to the Lake 658 watershed from the METAALICUS Project, at the Experimental Lakes Area, northwestern Ontario, Canada. 2597.
- Park, B. J., and K. Kidd. 2005. Effects of the synthetic estrogen ethinylestradiol on early life stages of mink frogs and green frogs in the wild and in situ. *Environmental Toxicology and Chemistry* **24**:2027-2036.
- Page, B. C. 2005. A comparative study of mercury speciation and the vertical movement of newly added mercury across the mercury methylation layer in three contrasting wetlands. Manitoba, Winnipeg, MB.
- Orihel, D. M. 2005. The effects of changes in atmospheric mercury deposition on the bioaccumulation of mercury by fish. Manitoba, Natural Resources Institute, Winnipeg, MB.
- Moos, M. T., K. R. Laird, and B. F. Cummings. 2005. Diatom assemblages and water depth in Lake 239 (Experimental Lakes Area, Ontario): implications for paleoclimatic studies. *Journal of Paleolimnology* **34**:217-227.
- Mitchell, C. P. J., and B. A. Branfireun. 2005. Hydrogeomorphic controls on reduction-oxidation conditions across boreal upland-peatland interfaces. *Ecosystems* **8**:731-747.
- Matthews, C. J. D., J. J. Venkiteswaran, V. L. St.Louis, and S. L. Schiff. 2005. The use of carbon mass balance budgets and stable isotopes to examine processes affecting CO₂ and CH₄ production in the experimental FLUDEX reservoirs. Pages 355-382 in A. Tremblay, L. Varfalvy, C. Roehm, and M. Garneau, editors. *Greenhouse gas emissions - fluxes and processes*. Springer, Berlin.
- Matthews, C. J. D., E. M. Joyce, V. L. St.Louis, S. L. Schiff, J. J. Venkiteswaran, B. D. Hall, R. A. Bodaly, and K. G. Beaty. 2005. Carbon dioxide and methane production in small reservoirs flooding upland boreal forest. *Ecosystems* **8**:267-285.
- Mason, R. P., M. L. Abbott, R. A. Bodaly, O. R. Bullock, Jr., C. T. Driscoll, D. Evers, S. E. Lindberg, M. Murray, and E. B. Swain. 2005. Monitoring the response to changing mercury. *Environmental Science and Technology* **39**:14A-22A.



- Mailman, M., and R. A. Bodaly. 2005. Total mercury, methyl mercury, and carbon in fresh and burned plants and soil in northwestern Ontario. *Environmental Pollution* **138**:161-168.
- Larzilliere, M., D. Roy, P. Chretien, T. Ringuette, and L. Varfalvy. 2005. Development and use of an experimental near infrared open path diode laser prototype for continuous measurement of CO₂ and CH₄ fluxes from boreal hydro reservoirs and lakes. Pages 61-85 in A. Tremblay, L. Varfalvy, C. Roehm, and M. Garneau, editors. *Greenhouse gas emissions - fluxes and processes*. Springer, Berlin.
- Hudson, J. J., and W. D. Taylor. 2005. Rapid estimation of phosphate at picomolar concentrations in freshwater lakes with potential application to P-limited marine systems. *Aquatic Sciences - Research Across Boundaries* **67**:316-325.
- Hintelmann, H., and H. T. Nguyen. 2005. Extraction of methylmercury from tissue and plant samples using acid leaching. *Analytical and Bioanalytical Chemistry* **381**:360-365.
- Hesslein, R. H., R. A. Dwilow, K. G. Beaty, and M. E. Lyng. 2005. A comparison of carbon dioxide net production in three flooded uplands (FLUDEX, 1999-2002) and a flooded wetland (ELARP, 1991-2002) using a dynamic model. Pages 251-265 in A. Tremblay, L. Varfalvy, C. Roehm, and M. Garneau, editors. *Greenhouse gas emissions - fluxes and processes*. Springer, Berlin.
- Hesslein, R. H. 2005. Using gas exchange estimates to determine net production of CO₂ in reservoirs and lakes. Pages 563-574 in A. Tremblay, L. Varfalvy, C. Roehm, and M. Garneau, editors. *Greenhouse gas emissions - fluxes and processes*. Springer, Berlin.
- Hendzel, L. L., C. J. D. Matthews, J. J. Venkiteswaran, V. L. St.Louis, D. Burton, E. M. Joyce, and R. A. Bodaly. 2005. Nitrous oxide (N₂O) fluxes in three experimental boreal forest reservoirs. *Environmental Science and Technology* **39**:4353-4360.
- Hall, B. D., V. L. St.Louis, K. R. Rolfhus, R. A. Bodaly, K. G. Beaty, M. J. Paterson, and K. A. Peech Cherewyk. 2005. Impacts of reservoir creation on the biogeochemical cycling of methyl mercury and total mercury in boreal upland forests. *Ecosystems* **8**:248-266.
- Hall, B. D., H. Manolopoulos, J. P. Hurley, J. J. Schauer, V. L. St.Louis, D. Kenski, J. Graydon, C. L. Babiarz, L. B. Cleckner, and G. L. Keeler. 2005. Methyl and total mercury in precipitation in the Great Lakes region. *Atmospheric Environment* **39**:7557-7569.
- Golding, G. R. 2005. The effect of various physiological conditions on mercury(II) uptake in *Escherichia coli* and *Vibrio anguillarum*. University of Manitoba.
- Findlay, D. L., M. J. Vanni, M. J. Paterson, K. H. Mills, S. E. M. Kasian, W. J. Findlay, and A. G. Salki. 2005. Dynamics of a boreal lake ecosystem during a long-term manipulation of top predators. *Ecosystems* **8**:603-618.
- Findlay, D. L., M. J. Paterson, L. H. Hendzel, and H. J. Kling. 2005. Factors influencing *Gonyostomum semen* blooms in a small boreal reservoir lake. *Hydrobiologia* **533**:243-252.



- Branfireun, B. A., D. P. Krabbenhoft, H. Hintelmann, R. J. Hunt, J. P. Hurley, and J. W. M. Rudd. 2005. Speciation and transport of newly deposited mercury in a boreal forest wetland: A stable mercury isotope approach. *Water Resources Research* **41**.
- Bodaly, R. A., K. G. Beaty, L. H. Hendzel, A. R. Majewski, M. J. Paterson, K. R. Rolfhus, A. F. Penn, V. L. St.Louis, B. D. Hall, C. J. D. Matthews, K. A. Cherewyk, M. Mailman, J. P. Hurley, S. L. Schiff, and J. J. Venkiteswaran. 2005. Mercury and the FLUDEX project: response. *Environmental Science and Technology* **39**:185A-186A.
- Blanchfield, P. J., L. S. Flavelle, T. F. Hodge, and D. M. Orihel. 2005. The response of lake trout to manual tracking. *Transactions of the American Fisheries Society* **134**:346-355.
- Baulch, H. M., D. W. Schindler, M. A. Turner, D. L. Findlay, M. J. Paterson, and R. D. Vinebrooke. 2005. Effects of warming on benthic communities in a boreal lake: Implications of climate change. *Limnology and Oceanography* **50**:1377-1392.
- Asada, T., B. G. Warner, and S. L. Schiff. 2005. Effects of shallow flooding on vegetation and carbon pools in boreal peatlands. *Applied Vegetation Science* **8**:199-208.
- Aherne, J., T. A. Clair, I. F. Dennis, M. Gilliss, S. Couture, D. McNicol, R. Weeber, P. J. Dillon, W. Keller, D. S. Jeffries, S. Page, K. Timoffee, and B. J. Cosby. 2005. Dynamic modelling of lakes in eastern Canada. Netherlands Environmental Assessment Agency:77-84.

2004

- Zhang, J., F. Wang, J. D. House, and B. Page. 2004. Thiols in wetland interstitial waters and their role in mercury and methylmercury speciation. *Limnology and Oceanography* **49**:2276-2286.
- Sukola, R. K. 2004. The stability and characterization of metal sulfide species under oxic conditions. University of Manitoba.
- St.Louis, V. L., J. W. M. Rudd, C. A. Kelly, R. A. Bodaly, M. J. Paterson, K. G. Beaty, R. H. Hesslein, A. Heyes, and A. R. Majewski. 2004. The rise and fall of mercury methylation in an experimental reservoir. *Environmental Science and Technology* **38**:1348-1358.
- Southworth, G., S. Lindberg, M. Bogle, M. Amyot, A. Poulain, H. Hintelmann, M. Olson, and K. Sandilands. 2004. Isotopic tracer studies of volatilization of mercury from a north temperate lake. *RMZ-Materials and Geoenviron* **51**:1765-1768.
- Radomske, E. H. 2004. Dependencies of food web and nutrient cycling dynamics on dissolved organic matter (DOM) and inorganic nutrient concentrations in lake enclosures. University of Northern British Columbia.
- Poulain, A. J., M. Amyot, D. Findlay, S. Telor, T. Barkay, and H. Hintelmann. 2004. Biological and photochemical production of dissolved gaseous mercury in a boreal lake. *Limnology and Oceanography* **49**:2265-2275.
- Poulain, A., D. Orihel, M. Amyot, M. Paterson, G. Southworth, and H. Hintelmann. 2004. Dissolved gaseous mercury formation and evasion in boreal lake enclosures spiked with inorganic mercury. *RMZ-Materials and Geoenviron* **51**:1320-1323.



- Peterson, M., S. Lindberg, G. Southworth, M. Bogle, and J. Graydon. 2004. Investigating mercury re-emission from boreal uplands and wetlands: Latest results from the Experimental Lakes Area, Canada. *RMZ-Materials and Geoenvirom* **51**:1710-1713.
- Page, B., F. Wang, M. Lemes, and J. Zhang. 2004. Methylmercury production in natural waters: A comparative study of three different wetland types to determine the bioavailability of mercury. *RMZ-Materials and Geoenvironment* **51**:1285-1288.
- Orihel, D., M. Paterson, P. Blanchfield, H. Hintelmann, C. Gilmour, and D. Bodaly. 2004. Bioaccumulation of methylmercury in aquatic food webs in response to increases in atmospheric mercury deposition. *RMZ-Materials and Geoenvironment* **51**:1281-1284.
- Mills, K. H., E. C. Gyselman, S. M. Chalanchuk, and D. J. Allan. 2004. Growth, annual survival, age and length frequencies for unexploited lake whitefish populations. *Annales Zoologici Fennici* **41**:263-270.
- Mills, K. H., and S. M. Chalanchuk. 2004. The fin-ray method of aging lake whitefish. *Annales Zoologici Fennici* **41**:215-223.
- Mailman, M. 2004. Effects of burning before flooding on methyl mercury and greenhouse gas concentrations. Univ. of Manitoba, Winnipeg, MB.
- Johnson, M. W., R. H. Hesslein, and T. A. Dick. 2004. Host length, age, diet, parasites and stable isotopes as predictors of yellow perch (*Perca flavescens* Mitchell), trophic status in nutrient poor Canadian shield lakes. *Environmental Biology of Fishes* **71**:379-388.
- Jansen, W., and R. H. Hesslein. 2004. Potential effects of climate warming on fish habitats in temperate zone lakes with special reference to Lake 239 of the experimental lakes area (ELA), northwestern Ontario. *Environmental Biology of Fishes* **70**:1-22.
- Hintelmann, H., N. Ogrinc, K. Sandilands, and B. Dimock. 2004. Distribution of inorganic and methylmercury in METAALICUS Lake 658 after addition of stable mercury isotopes. *RMZ-Materials and Geoenvironment* **51**:1064-1065.
- Hintelmann, H., and R. Harris. 2004. Application of multiple stable mercury isotopes to determine the adsorption and desorption dynamics of Hg(II) and MeHg to sediments. *Marine Chemistry* **90**:165-173.
- Hall, B. D., V. L. St.Louis, and R. A. Bodaly. 2004. The stimulation of methyl mercury production by decomposition of flooded birch leaves and jack pine needles. *Biogeochemistry* **68**:107-129.
- Hall, B. D., and V. L. St.Louis. 2004. Methylmercury and total mercury in plant litter decomposing in upland forests and flooded landscapes. *Environmental Science and Technology* **38**:5010-5021.
- Gyllstrom, M., and L. A. Hansson. 2004. Dormancy in freshwater zooplankton: Induction, termination and the importance of benthic-pelagic coupling. *Aquatic Sciences* **66**:274-295.



- Graydon, J. A., V. L. St.Louis, H. Hintelmann, S. E. Lindberg, and D. Krabbenhoft. 2004. A new dynamic chamber for examining the exchange of Hg(0) between foliage and the atmosphere. *RMZ-Materials and Geoenvironment* **51**:1024-1027.
- Eckley, C., and H. Hintelmann. 2004. Assessing methylmercury formation in lake water using a stable isotope technique. *RMZ-Materials and Geoenvironment* **51**:964-967.
- Bodaly, R. A., and K. A. Kidd. 2004. Mercury contamination of lake trout systems. Pages 147-158. CRC Press.
- Bodaly, R. A., K. G. Beaty, L. H. Hendzel, A. R. Majewski, M. J. Paterson, K. R. Rolfhus, A. F. Penn, V. L. St.Louis, B. D. Hall, C. J. D. Matthews, K. A. Cherewyk, M. Mailman, J. P. Hurley, S. L. Schiff, and J. J. Venkiteswaran. 2004. Experimenting with hydroelectric reservoirs. *Environmental Science and Technology* **38**:346A-352A.
- Blanchfield, P., M. Paterson, C. Podemski, and H. Hintelmann. 2004. The movement of newly deposited mercury through an aquatic food web. *RMZ-Materials and Geoenvironment* **51**:838-840.
- Blanchfield, P., M. Paterson, H. Hintelmann, and R. Harris. 2004. Growth rates and the bioaccumulation of mercury by predatory fish: whole-lake experimental approaches. *RMZ-Materials and Geoenvironment* **51**:835-837.
- Baker, R. F., P. J. Blanchfield, M. J. Paterson, R. J. Flett, and L. Wesson. 2004. Evaluation of nonlethal methods for the analysis of mercury in fish tissue. *Transactions of the American Fisheries Society* **133**:568-576.
- Babiarz, C., J. Hurley, D. Krabbenhoft, S. P. Chadwick, T. Trinko, and M. Tate. 2004. Towards a hypolimnetic mass balance of Hg in a dimictic lake: Early results from the METAALICUS project. *RMZ-Materials and Geoenvironment* **51**:778-782.
- Aoki, K. A. A. 2004. The effects of 17 alpha-ethynylestradiol on *Daphnia*. University of Winnipeg.
- Amyot, M., G. Southworth, S. E. Lindberg, H. Hintelmann, J. D. Lalonde, N. Ogrinc, A. J. Poulain, and K. A. Sandilands. 2004. Formation and evasion of dissolved gaseous mercury in large enclosures amended with ²⁰⁰HgCl₂. *Atmospheric Environment* **38**:4279-4289.

2003

- Yoshida, T., J. Urabe, and J. J. Elser. 2003. Assessment of "top-down" and "bottom-up" forces as determinants of rotifer distribution among lakes in Ontario, Canada. *Ecological Research* **18**:639-650.
- Xenopoulos, M. A., and D. W. Schindler. 2003. Differential responses to UVR by bacterioplankton and phytoplankton from the surface and the base of the mixed layer. *Freshwater Biology* **48**:108-122.
- Xenopoulos, M. A., D. M. Lodge, J. Frentress, T. A. Kreps, S. D. Bridgham, E. Grossman, and C. J. Jackson. 2003. Regional comparisons of watershed determinants of dissolved organic carbon in temperate lakes from the Upper Great Lakes region and selected regions globally. *Limnology and Oceanography* **48**:2321-2334.



- Xenopoulos, M. A., and P. C. Frost. 2003. UV radiation, phosphorus, and their combined effects on the taxonomic composition of phytoplankton in a boreal lake. *Journal of Phycology* **39**:291-302.
- Vinebrooke, R. D., D. W. Schindler, D. L. Findlay, M. A. Turner, M. Paterson, and K. H. Mills. 2003. Trophic dependence of ecosystem resistance and species compensation in experimentally acidified Lake 302S (Canada). *Ecosystems* **6**:101-113.
- Vinebrooke, R. D., M. D. Graham, D. L. Findlay, and M. A. Turner. 2003. Resilience of epilithic algal assemblages in atmospherically and experimentally acidified boreal lakes. *Ambio* **32**:196-202.
- Valeo, C., K. Beaty, and R. Hesslein. 2003. Influence of forest fires on climate change studies in the central boreal forest of Canada. *Journal of Hydrology* **280**:91-104.
- Swanson, H. K., T. A. Johnston, W. C. Leggett, R. A. Bodaly, R. R. Doucett, and R. A. Cunjak. 2003. Trophic positions and mercury bioaccumulation in rainbow smelt (*Osmerus mordax*) and native forage fishes in northwestern Ontario lakes. *Ecosystems* **6**:289-299.
- St.Louis, V. L., A. D. Partridge, C. A. Kelly, and J. W. M. Rudd. 2003. Mineralization rates of peat from eroding peatlands in reservoirs. *Biogeochemistry* **64**:97-100.
- Scott, K. J. 2003. Development and use of mer-lux bioreporter for the measurement and characterization of bioavailable Hg(II) in defined media and aquatic environmental samples. University of Manitoba, Winnipeg, MB.
- Saquet, M. A. M. 2003. Greenhouse gas flux and budget from an experimentally flooded wetland using stable isotopes and geochemistry. University of Waterloo, Dept of Earth Sciences.
- Pelley, J. 2003. Estrogen knocks out fish in whole-lake experiment. Pages 313A-314A *Environmental Science and Technology*.
- Park, B. J. 2003. Effects of the environmental estrogen 17 α -ethynylestradiol on early development of green frogs (*Rana clamitans*) and mink frogs (*R. septentrionalis*) at the Experimental Lakes Area (Ontario, Canada). Univ. of Manitoba, Winnipeg, MB.
- Ogrinc, N., H. Hintelmann, C. Eckley, and S. Lojen. 2003. Biogeochemical influence on carbon isotope signature in boreal lake sediments. *Hydrobiologia* **494**:207-213.
- Moore, T. R., L. Matos, and N. T. Roulet. 2003. Dynamics and chemistry of dissolved organic carbon in Precambrian Shield catchments and an impounded wetland. *Canadian Journal of Fisheries and Aquatic Sciences* **60**:612-623.
- Molot, L. A., and P. J. Dillon. 2003. Variation in iron, aluminum and dissolved organic carbon mass transfer coefficients in lakes. *Water Research* **37**:1759-1768.
- Matthews, C. J. D., V. L. St.Louis, and R. H. Hesslein. 2003. Comparison of three techniques used to measure diffusive gas exchange from sheltered aquatic surfaces. *Environmental Science and Technology* **37**:772-780.



- Lindberg, S. E., G. Southworth, M. Peterson, H. Hintelmann, J. Graydon, V. St.Louis, M. Amyot, and D. Krabbenhoft. 2003. Quantifying reemission of mercury from terrestrial and aquatic systems using stable isotopes: Results from the METAALICUS study. *EOS* **84**:B31E-0364.
- Lalonde, J. D., M. Amyot, M.-R. Doyon, and J.-C. Auclair. 2003. Photo-induced Hg(II) reduction in snow from the remote and temperate Experimental Lakes Area (Ontario, Canada). *Journal of Geophysical Research* **108**.
- Lalonde, J. D. 2003. Les réactions d'oxydoréduction du Hg dans l'eau de surface et la neige. Université du Québec, INRS-ETE, Quebec, QC.
- Kidd, K. 2003. Hormones and Hormone Mimics in the Aquatic Environment. Pages 1, 6-7 *Eco-Journal*. Manitoba Eco-Network Inc., Winnipeg, MB.
- Kelly, C. A., J. W. M. Rudd, and M. H. Holoka. 2003. The effect of pH on mercury uptake by an aquatic bacterium: implications for Hg cycling. *Environmental Science and Technology* **37**:2941-2946.
- Jeffries, D. S., T. A. Clair, S. Couture, P. J. Dillon, J. Dupont, W. Keller, D. K. McNicol, M. Turner, R. Vet, and R. Weeber. 2003. Assessing the recovery of lakes in southeastern Canada from the effects of acidic deposition. *Ambio* **32**:176-182.
- Hall, B. D. 2003. Impacts of reservoir creation on the biogeochemical cycling of methylmercury in boreal forest uplands. Ph. D. thesis:231.
- Graydon, J. A. 2003. Mechanisms of mercury deposition under boreal forest canopies: contributions of new and recycled inputs. University of Alberta Dept of Biological Sciences M.Sc. thesis.
- Frost, P. C., S. E. Tank, M. A. Turner, and J. J. Elser. 2003. Elemental composition of littoral invertebrates from oligotrophic and eutrophic lakes. *Journal of the North American Benthological Society* **22**:51-62.
- Findlay, D. L. 2003. Response of phytoplankton communities to acidification and recovery in Killarney Park and the Experimental Lakes Area, Ontario. *Ambio* **32**:190-195.
- Donahue, W. F., M. A. Turner, D. L. Findlay, and P. R. Leavitt. 2003. The role of solar radiation in structuring the shallow benthic communities of boreal forest lakes. *Limnology and Oceanography* **48**:31-47.
- Davies, J.-M., R. H. Hesslein, C. A. Kelly, and R. E. Hecky. 2003. PCO₂ method for measuring photosynthesis and respiration in freshwater lakes. *Journal of Plankton Research* **25**:385-395.
- Crusius, J., and R. Wanninkhof. 2003. Gas transfer velocities measured at low wind speed over a lake. *Limnology and Oceanography* **48**:1010-1017.
- Baulch, H. M., T. W. Nord, M. Y. Ackerman, J. D. Dale, R. R. Hazewinkel, D. W. Schindler, and R. D. Vinebrooke. 2003. Climate warming experiments: design of a mesocosm heating system. *Limnology and Oceanography: Methods* **1**:10-15.



- Babiarz, C. L., J. P. Hurley, D. P. Krabbenhoft, C. Gilmour, and B. A. Branfireun. 2003. Application of ultrafiltration and stable isotopic amendments to field studies of mercury partitioning to filterable carbon in lake water and overland runoff. *Science of the Total Environment* **304**:295-303.
- Arnott, S. E., B. Keller, P. J. Dillon, N. Yan, M. Paterson, and D. Findlay. 2003. Using temporal coherence to determine the response to climate change in boreal shield lakes. *Environmental Monitoring and Assessment* **88**:365-388.

2002

- Xenopoulos, M. A., P. C. Frost, and J. J. Elser. 2002. Joint effects of UV radiation and phosphorus supply on algal growth rate and elemental composition. *Ecology* **83**:423-435.
- Xenopoulos, M. A. 2002. The effects of solar radiation and water column mixing on the phytoplankton of boreal lakes. Univ. of Alberta, Edmonton, AB.
- Venkiteswaran, J. J. 2002. A process-based stable isotope approach to carbon cycling in recently flooded upland boreal forest reservoirs. Univ. Waterloo, Waterloo, ON.
- Urabe, J., W. Makino, K. Hayakawa, and J. J. Elser. 2002. Food quality determinants for *Daphnia* growth in P-limited lakes. *Verhandlungen - Internationale Vereinigung für theoretische und angewandte Limnologie* **28**:1089-1094.
- Urabe, J., M. Kyle, W. Makino, T. Yoshido, T. Andersen, and J. J. Elser. 2002. Reduced light increases herbivore production due to stoichiometric effects of light/nutrient balance. *Ecology* **83**:619-627.
- Rusak, J. A., N. D. Yan, K. M. Somers, K. L. Cottingham, F. Micheli, S. R. Carpenter, T. M. Frost, M. J. Paterson, and D. J. McQueen. 2002. Temporal, spatial, and taxonomic patterns of crustacean zooplankton variability in unmanipulated north-temperate lakes. *Limnology and Oceanography* **47**:613-625.
- Renner, R. 2002. Newly deposited mercury may be more bioavailable. *Environmental Science and Technology* **36**:226A.
- Poulain, A. J. 2002. Réduction biologique et photochimique du mercure dans un lac du bouclier canadien. INRS, Université du Québec, Québec, Québec.
- Peech Cherewyk, K. A. 2002. Methylmercury bioaccumulation in zooplankton: an assessment of exposure routes and accumulation in newly flooded reservoirs. University of Manitoba, Winnipeg, Manitoba.
- Paterson, M. J., D. L. Findlay, A. G. Salki, L. L. Hendzel, and R. H. Hesslein. 2002. The effects of *Daphnia* on nutrient stoichiometry and filamentous cyanobacteria: a mesocosm experiment in a eutrophied lake. *Freshwater Biology* **47**:1217-1233.
- Palace, V. P., R. E. Evans, K. Wautier, C. Baron, L. Vandenbyllaardt, W. Vandersteen, and K. A. Kidd. 2002. Induction of vitellogenin and histological effects in wild fathead minnows from a lake experimentally treated with the synthetic estrogen, ethynylestradiol. *Water Quality Research Journal of Canada* **37**:637-650.



- Mills, K. H., S. M. Chalanchuk, D. L. Findlay, D. J. Allan, and B. R. McCulloch. 2002. Condition, recruitment, and abundance of lake whitefish (*Coregonus clupeaformis*) in a fertilized lake. *Archiv fur Hydrobiologia Special Issues in Advanced Limnology* **57**:423-433.
- Mills, K. H., S. M. Chalanchuk, D. J. Allan, and R. A. Bodaly. 2002. Abundance, survival, condition, and recruitment of lake whitefish (*Coregonus clupeaformis*) in a lake subjected to winter drawdown. *Archiv fur Hydrobiologia Special Issues in Advanced Limnology* **57**:209-219.
- Mills, K. H., S. M. Chalanchuk, and D. J. Allan. 2002. Abundance, annual survival, and recruitment of unexploited and exploited lake charr, *Salvelinus namaycush*, populations at the Experimental Lakes Area, northwestern Ontario. *Environmental Biology of Fishes* **64**:281-292.
- Mills, K. H., S. M. Chalanchuk, and D. J. Allan. 2002. Biomass and production of lake charr during the acidification and pH recovery of a small Ontario lake. *Environmental Biology of Fishes* **64**:293-301.
- Matthews, C. J. D. 2002. Greenhouse gas production in experimental reservoirs flooding upland boreal forest. University of Alberta, Edmonton, AB.
- Makino, W., J. Urabe, J. J. Elser, and C. Yoshimizu. 2002. Evidence of phosphorus-limited individual and population growth of *Daphnia* in a Canadian Shield lake. *Oikos* **96**:197-205.
- Majewski, A. R., P. J. Blanchfield, V. P. Palace, and K. Wautier. 2002. Waterborne 17 α -ethynylestradiol affects aggressive behaviour of male fathead minnows (*Pimephales promelas*) under artificial spawning conditions. *Water Quality Research Journal of Canada* **37**:697-710.
- Hintelmann, H., R. Harris, A. Heyes, J. P. Hurley, C. A. Kelly, D. P. Krabbenhoft, S. Lindberg, J. W. M. Rudd, K. J. Scott, and V. L. St. Louis. 2002. Reactivity and mobility of new and old mercury deposition in a boreal forest ecosystem during the first year of the METAALICUS study. *Environmental Science and Technology* **36**:5034-5040.
- Gontcharov, A. A., D. L. Findlay, H. J. Kling, and M. M. Watanabe. 2002. Desmids (Desmidiaceae, Streptophyta) from the Experimental Lakes Area, Ontario, Canada. The genera *Actinotaenium* and *Cosmarium*. *Algological Studies* **106**:17-41.
- Golding, G. R., C. A. Kelly, R. Sparling, P. C. Loewen, J. W. M. Rudd, and T. Barkay. 2002. Evidence for facilitated uptake of Hg(II) by *Vibrio anguillarum* and *Escherichia coli* under anaerobic and aerobic conditions. *Limnology and Oceanography* **47**:967-975.
- Frost, P. C., and M. A. Xenopoulos. 2002. Ambient solar ultraviolet radiation and its effects on phosphorus flux into boreal lake phytoplankton communities. *Canadian Journal of Fisheries and Aquatic Sciences* **59**:1090-1095.
- Frost, P. C., R. S. Stelzer, G. A. Lamberti, and J. J. Elser. 2002. Ecological stoichiometry of trophic interactions in the benthos: understanding the role of C:N:P ratios in lentic and lotic habitats. *Journal of the North American Benthological Society* **21**:515-528.



- Frost, P. C., J. J. Elser, and M. A. Turner. 2002. Effects of caddisfly grazers on the elemental composition of epilithon in a boreal lake. *Journal of the North American Benthological Society* **21**:54-63.
- Frost, P. C., and J. J. Elser. 2002. Growth responses of littoral mayflies to the phosphorus content of their food. *Ecology Letters* **5**:232-240.
- Frost, P. C., and J. J. Elser. 2002. Effects of light and nutrients on the net accumulation and elemental composition of epilithon in boreal lakes. *Freshwater Biology* **47**:173-183.
- Elser, J. J., P. C. Frost, M. Kyle, J. Urabe, and T. Andersen. 2002. Effects of light and nutrients on plankton stoichiometry and biomass in a P-limited lake. *Hydrobiologia* **481**:101-112.
- Baulch, H. M. 2002. Effects of increased temperature on epilithon and the implications of climate change. M. Sc. Thesis.

2001

- Xenopoulos, M. A., and D. W. Schindler. 2001. Physical factors determining ultraviolet radiation flux into ecosystems. *in* C. S. Cockell and A. R. Blaustein, editors. *Ecosystems, Evolution, and Ultraviolet Radiation*. Springer-Verlag, New York.
- Xenopoulos, M. A., and D. W. Schindler. 2001. The environmental control of near-surface thermoclines in boreal lakes. *Ecosystems* **4**:699-707.
- Wiens, A. P., and D. M. Rosenberg. 2001. Methylmercury fluxes in Diptera and trichoptera emerging from an experimental reservoir in northwestern Ontario, Canada. paper in prep.
- Watkins, E. M., D. W. Schindler, M. A. Turner, and D. Findlay. 2001. Effects of solar ultraviolet radiation on epilithic metabolism, and nutrient and community composition in a clear-water boreal lake. *Canadian Journal of Fisheries and Aquatic Sciences* **58**:2059-2070.
- Vinebrooke, R. D., M. A. Turner, K. A. Kidd, B. J. Hann, and D. W. Schindler. 2001. Truncated foodweb effects of omnivorous minnows in a recovering acidified lake. *Journal of the North American Benthological Society* **20**:629-642.
- St. Louis, V. L., J. W. M. Rudd, C. A. Kelly, B. D. Hall, K. R. Rolfhus, K. J. Scott, S. E. Lindberg, and W. Dong. 2001. Importance of the forest canopy to fluxes of methyl mercury and total mercury to boreal ecosystems. *Environmental Science and Technology* **35**:3089-3098.
- Sellers, P., C. A. Kelly, and J. W. M. Rudd. 2001. Fluxes of methylmercury to the water column of a drainage lake: The relative importance of internal and external sources. *Limnology and Oceanography* **46**:623-631.
- Schulz, K., and R. W. Sterner. 2001. Zooplankton food quality in large lakes - growth of *Daphnia* on high P content seston from Lake Superior. *Verhandlungen - Internationale Vereinigung für theoretische und angewandte Limnologie* **27**:1855-1860.



- Schindler, D. W. 2001. The cumulative effect of climate warming and other human stresses on Canadian freshwaters in the new millenium. *Canadian Journal of Fisheries and Aquatic Sciences* **58**:18-29.
- Rosenberg, D. M., A. P. Wiens, B. Bilyj, and L. Armstrong. 2001. Peatland Chironomidae (Diptera): effects of flooding on emergence from Lake 979, Experimental Lakes Area, Ontario. *Journal of the North American Benthological Society* **20**:448-467.
- Renner, R. 2001. Follow the mercury. Pages 229A-230A *Environmental Science and Technology*.
- Patalas, K. 2001. Planktonic crustaceans in lakes of Canada.
- Palace, V. P., K. Wautier, R. E. Evans, C. L. Baron, J. Werner, C. J. Ranson, J. F. Klaverkamp, and K. Kidd. 2001. Effects of 17- β estradiol exposure on metallothionein and fat soluble antioxidant vitamins in juvenile lake trout (*Salvelinus namaycush*). *Bulletin of Environmental Contamination and Toxicology* **66**:591-596.
- Kling, H. J., and D. L. Findlay. 2001. Dominant scaled and non-scaled chrysophytes in Northwest Ontario Shield lakes. *Nova Hedwigia. Beiheft* **122**:75-97.
- Kelso, J. R. M., R. J. Steedman, J. M. Gunn, K. E. Smokorowski, N. P. Lester, W. G. Cole, C. K. Minns, and K. E. Mills. 2001. A framework for the advancement of aquatic science - Lake habitat experiments as an example. *Aquatic Ecosystem Health and Management* **4**:453-461.
- Kelly, C. A., E. Fee, P. S. Ramlal, J. W. M. Rudd, R. H. Hesslein, C. Anema, and E. U. Schindler. 2001. Natural variability of carbon dioxide and net epilimnetic production in the surface waters of boreal lakes of different sizes. *Limnology and Oceanography* **46**:1054-1064.
- Joyce, E. M. 2001. The impact of experimental reservoir creation on greenhouse gas fluxes from forested uplands. Univ. Alberta, Edmonton, AB.
- Johnston, T. A., R. A. Bodaly, M. A. Latif, R. J. P. Fudge, and N. E. Strange. 2001. Intra- and interpopulation variability in maternal transfer of mercury to eggs of walleye (*Stizostedion vitreum*). *Aquatic Toxicology* **52**:73-85.
- Johnson, M. W. 2001. Indicators (parasites and stable isotopes) of trophic status of yellow perch (*Perca flavescens* Mitchell) in nutrient poor Canadian Shield lakes. University of Manitoba, Winnipeg, Manitoba.
- Harris, R. C. 2001. Controls on fluxes of mercury in aquatic food webs: Application of the Dynamic Mercury Cycling Model to four enclosure experiments with additions of stable mercury isotopes.
- Gerrard, P. M., and V. L. St.Louis. 2001. The effects of experimental reservoir creation on the bioaccumulation of methylmercury and reproductive successive of tree swallows (*Tachycineta bicolor*). *Environmental Science and Technology* **35**:1329-1338.
- Frost, P. C. 2001. Ecological stoichiometry of trophic interactions in the benthos of boreal lakes. Arizona State Univ., Tempe, AZ.



- Findlay, D. L., and H. J. Kling. 2001. Protocols for monitoring biodiversity: Phytoplankton in fresh waters. Ecological Monitoring and Assessment Network (EMAN), Environment Canada. Ecological Monitoring and Assessment Network (Environment Canada).
- Findlay, D. L., S. E. M. Kasian, M. P. Stainton, K. Beaty, and M. Lyng. 2001. Climatic influences on algal populations of boreal forest lakes in the Experimental Lakes Area. *Limnology and Oceanography* **46**:1784-1793.
- Elser, J. J., K. Hayakawa, and J. Urabe. 2001. Nutrient limitation reduces food quality for zooplankton: *Daphnia* responses to seston phosphorus enrichment. *Ecology* **82**:898-903.
- Allan, C. J., A. Heyes, N. T. Roulet, V. L. St.Louis, and J. W. M. Rudd. 2001. Spatial and temporal dynamics of mercury in Precambrian Shield upland runoff. *Biogeochemistry* **52**:13-40.

2000

- Weidman, R. P. 2000. Distribution of ultraviolet light effects on epilithon within the littoral zone of an oligotrophic boreal forest lake. Univ. Manitoba, Winnipeg, MB.
- Webster, K. E., P. A. Soranno, S. B. Baines, T. K. Kratz, C. J. Bowser, P. J. Dillon, P. Campbell, E. J. Fee, and R. E. Hecky. 2000. Structuring features of lake districts: landscape controls on lake chemical responses to drought. *Freshwater Biology* **43**:499-515.
- Watkins, E. M. 2000. Effects of solar ultraviolet radiation on epilithic metabolism, pigment and community composition in a clear-water, boreal lake. University of Alberta, Edmonton, AB.
- Sterner, R. W., J. H. Schampel, K. L. Schulz, A. E. Galford, and J. J. Elser. 2000. Joint variation of zooplankton and seston stoichiometry in lakes and reservoirs. *Verhandlungen - Internationale Vereinigung für theoretische und angewandte Limnologie* **27**:3009-3014.
- Sterner, R. W., and N. B. George. 2000. Carbon, nitrogen, and phosphorus stoichiometry of cyprinid fishes. *Ecology* **81**:127-140.
- St.Louis, V. L., C. A. Kelly, E. Duchemin, J. W. M. Rudd, and D. M. Rosenberg. 2000. Reservoir surfaces as sources of greenhouse gases to the atmosphere: a global estimate. *Bioscience* **50**:766-775.
- Rabasco, R. M. 2000. Trophic effects of macrophyte removal on fish populations in a boreal lake. Univ. Manitoba, Winnipeg, MB.
- Mills, K. H., S. M. Chalanchuk, and D. J. Allan. 2000. Recovery of fish populations in Lake 223 from experimental acidification. *Canadian Journal of Fisheries and Aquatic Sciences* **57**:192-204.
- McCullough, G. 2000. Spatial-temporal patterns in litterfall on a small lake in the boreal forest of North-western Ontario. report to Methods and Approaches to the Analysis of Biological Data.



- Lockhart, W. L., R. W. MacDonald, P. M. Outridge, P. Wilkinson, J. B. DeLaronde, and J. W. M. Rudd. 2000. Tests of the fidelity of lake sediment core records of mercury deposition to known histories of mercury contamination. *Science of the Total Environment* **260**:171-180.
- Lamontagne, S., S. L. Schiff, and R. J. Elgood. 2000. Recovery of ¹⁵N-labelled nitrate applied to a small upland boreal forest catchment. *Canadian Journal of Forest Research* **30**:1165-1177.
- Lamontagne, S., and S. L. Schiff. 2000. Response of soil microorganisms to an elevated nitrate input in an open *Pinus banksiana* - *Cladina* forest. *Forest Ecology and Management* **137**:13-22.
- Klaverkamp, J. F., K. Wautier, and C. L. Baron. 2000. A modified mercury saturation assay for measuring metallothionein. *Aquatic Toxicology* **50**:13-25.
- Jansen, W. 2000. Experimental removal of macrophytes in Lake 191 of the Experimental lakes Area, Ontario: Implications for fish habitat management in small lakes.
- Jansen, W. 2000. Experimental drawdown of Lake 226 in the Experimental Lakes Area, Ontario: Implications for fish habitat management in lakes and reservoirs with fluctuating water levels.
- Jansen, W. 2000. Experimental reduction of winter water levels of a small boreal lake: effects on water chemistry.
- Hudson, J., W. Taylor, and D. W. Schindler. 2000. Phosphate concentration in lakes. *Nature* **406**:54-56.
- Heyes, A., T. R. Moore, J. W. M. Rudd, and J. J. Dugoua. 2000. Methyl mercury in pristine and impounded boreal peatlands, Experimental Lakes Area, Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* **57**:2211-2222.
- Hann, B. J., and M. A. Turner. 2000. Littoral microcrustacea in L302S in the Experimental Lakes Area of Canada: acidification and recovery. *Freshwater Biology* **43**:133-146.
- Guildford, S. J., and R. E. Hecky. 2000. Total nitrogen, total phosphorus, and nutrient limitation in lakes and oceans: Is there a common relationship? *Limnology and Oceanography* **45**:1213-1223.
- Grover, J. P., and T. H. Chrzanowski. 2000. Seasonal patterns of substrate utilization by bacterioplankton: case studies in four temperate lakes of different latitudes. *Aquatic Microbial Ecology* **23**:41-54.
- Gerrard, P. M. 2000. The effects of experimental reservoir creation on the bioaccumulation of methylmercury and reproductive success of tree swallows (*Tachycineta bicolor*). Univ. Alberta, Edmonton, AB.
- Galford, A. E., and R. W. Sterner. 2000. Correlations and seasonal patterns in grazing and potential phytoplankton growth. *Verhandlungen - Internationale Vereinigung für theoretische und angewandte Limnologie* **27**:2996-3000.



- Embury, J. R. 2000. Food web structure, mercury biomagnification and carbon pathways in an experimentally flooded wetland. University of Manitoba, Winnipeg MB.
- Elser, J. J., R. W. Sterner, A. E. Galford, T. H. Chrzanowski, D. L. Findlay, K. H. Mills, M. J. Paterson, M. P. Stainton, and D. W. Schindler. 2000. Pelagic C:N:P stoichiometry in a eutrophied lake: responses to a whole-lake food web manipulation. *Ecosystems* **3**:293-307.
- Eddy, J. B. 2000. Estimation of the abundance, biomass, and growth of a northwestern Ontario population of finescale dace (*Phoxinus neogaeus*), with comments on the sustainability of local commercial baitfish harvests. Univ. Manitoba, Winnipeg, MB.
- Donahue, W. F. 2000. The direct and indirect effects of solar ultraviolet radiation in boreal lakes of the Experimental Lakes Area, northwestern Ontario. Univ. Alberta, Edmonton, AB.
- Dodson, S. I., S. E. Arnott, and K. L. Cottingham. 2000. The relationship in lake communities between primary productivity and species richness. *Ecology* **81**:2662-2679.
- Currie, R. S., W. L. Fairchild, M. H. Holoka, and D. C. G. Muir. 2000. Long-term fate and bioavailability of sediment-associated 2,3,7,8-tetrachlorodibenzofuran in littoral enclosures. *Environmental Toxicology and Chemistry* **19**:1491-1500.
- Cottingham, K. L., J. A. Rusak, and P. R. Leavitt. 2000. Increased ecosystem variability and reduced predictability following fertilisation: evidence from paleolimnology. *Ecology Letters* **3**:340-348.
- Boudreau, N. M. 2000. Soil carbon, carbon dioxide and methane in three experimentally flooded upland boreal forest reservoirs: A $\delta^{13}\text{C}$ inventory of sources and processes. Univ. of Waterloo, Waterloo, ON.
- Benson, B. J., J. D. Lenters, J. J. Magnuson, M. Stubbs, T. K. Kratz, P. J. Dillon, R. E. Hecky, and R. C. Lathrop. 2000. Regional coherence of climatic and lake thermal variables of four lake districts in the Upper Great Lakes Region of North America. *Freshwater Biology* **43**:517-527.

1999

- Stoddard, J. L., D. S. Jeffries, A. Lukewille, T. A. Clair, P. J. Dillon, C. T. Driscoll, M. Forsius, M. Johannessen, J. Kahl, J. H. Kellog, Kemp, A, J. Mannio, D. T. Monteith, P. S. Murdoch, S. Patrick, A. Rebsdorf, B. L. Skjelkvale, M. P. Stainton, T. Traaen, H. van Dam, K. E. Webster, J. Wieting, and A. Wilander. 1999. Regional trends in aquatic recovery from acidification in North America and Europe. *Nature* **401**:575-578.
- Stewart, A. R., and D. F. Malley. 1999. Effect of metal mixture (Cu, Zn, Pb, and Ni) on cadmium partitioning in littoral sediments and its accumulation by the freshwater macrophyte *Eriocaulon septangulare*. *Environmental Toxicology and Chemistry* **18**:436-447.
- Stewart, A. R. 1999. Accumulation of Cd by a freshwater mussel (*Pyganodon grandis*) is reduced in the presence of Cu, Zn, Pb, and Ni. *Canadian Journal of Fisheries and Aquatic Sciences* **56**:467-478.



- Scott, K. J., C. A. Kelly, and J. W. M. Rudd. 1999. The importance of floating peat to methane fluxes from flooded peatlands. *Biogeochemistry* **47**:187-202.
- Meichel, G. W. 1999. A survey of microorganisms for the ability to methylate mercury and further investigations into factors affecting mercury methylation. University of Manitoba, Winnipeg, MB.
- Malley, D. F., H. R. Ronicke, D. L. Findlay, and B. Zippel. 1999. Feasibility of using near-infrared reflectance spectroscopy for the analysis of C, N, P, and diatoms in lake sediments. *Journal of Paleolimnology* **21**:295-306.
- Levine, S. N., and D. W. Schindler. 1999. Influence of nitrogen to phosphorus supply ratios and physicochemical conditions on cyanobacteria and phytoplankton species composition in the Experimental Lakes Area, Canada. *Canadian Journal of Fisheries and Aquatic Sciences* **56**:451-466.
- Leavitt, P. R., D. L. Findlay, R. I. Hall, and J. P. Smol. 1999. Algal responses to dissolved organic carbon loss and pH decline during whole-lake acidification: Evidence from paleolimnology. *Limnology and Oceanography* **44**:757-773.
- Lamontagne, S., and S. L. Schiff. 1999. The response of a heterogeneous upland boreal shield catchment to a short term NO₃- addition. *Ecosystems* **2**:460-473.
- Kidd, K. A., M. J. Paterson, R. H. Hesslein, D. C. G. Muir, and R. E. Hecky. 1999. Effects of northern pike (*Esox lucius*) additions on pollutant accumulation and food web structure, as determined by d¹³C and d¹⁵N, in a eutrophic and an oligotrophic lake. *Canadian Journal of Fisheries and Aquatic Sciences* **56**:2193-2202.
- Jeremiason, J. D., S. J. Eisenreich, M. J. Paterson, K. G. Beaty, R. Hecky, and J. J. Elser. 1999. Biogeochemical cycling of PCBs in lakes of variable trophic status: A paired lake experiment. *Limnology and Oceanography* **44**:889-902.
- Jeremiason, J. D., S. J. Eisenreich, and M. J. Paterson. 1999. Accumulation and recycling of PCBs and PAHs in artificially eutrophied Lake 227. *Canadian Journal of Fisheries and Aquatic Sciences* **56**:650-660.
- Huebert, D. 1999. Upland Flooding Experiment. Vegetation analysis, 2nd ed.
- Hann, B. J., and M. A. Turner. 1999. Exploitation by microcrustacea of a new littoral habitat in an acidified lake. *Hydrobiologia* **416**:65-75.
- Findlay, D. L., S. E. M. Kasian, M. T. Turner, and M. P. Stainton. 1999. Responses of phytoplankton and epilithon during acidification and early recovery of a lake. *Freshwater Biology* **42**:159-175.
- Findlay, D. L., R. E. Hecky, S. E. Kasian, M. P. Stainton, L. L. Hendzel, and E. U. Schindler. 1999. Effects on phytoplankton of nutrients added in conjunction with acidification. *Freshwater Biology* **41**:131-145.
- Elser, J. J., and J. Urabe. 1999. The stoichiometry of consumer-driven nutrient recycling: theory, observations, and consequences. *Ecology* **80**:735-751.



- Elser, J. J. 1999. The pathway to noxious cyanobacteria blooms in lakes: the food web as the final turn. *Freshwater Biology* **42**:537-543.
- Dyck, B. S., and J. M. Shay. 1999. Biomass and carbon pool of two bogs in the Experimental Lakes Area, northwestern Ontario. *Canadian Journal of Botany* **77**:291-304.
- Delorme, P. D., W. L. Lockhart, K. H. Mills, and D. C. G. Muir. 1999. Long-term effects of toxaphene and depuration in lake trout and white sucker in a natural ecosystem. *Environmental Toxicology and Chemistry* **18**:1992-2000.
- Dachs, J., S. J. Eisenreich, J. E. Baker, F.-C. Ko, and J. D. Jeremiason. 1999. Coupling of phytoplankton uptake and air-water exchange of persistent organic pollutants. *Environmental Science and Technology* **33**:3653-3660.
- Cooley, P. M. 1999. A manual for analysis and display of lake habitat and fish position information using GIS: physical and hydraulic habitat, drawdown, and acoustic telemetry., Winnipeg.
- Callcott, D. R. 1999. Predicting late winter oxygen profiles in temperate lakes. Trent University, Peterborough, Watershed Ecosystems Program.
- Branfireun, B. A., N. T. Roulet, C. A. Kelly, and J. W. M. Rudd. 1999. In situ sulfate stimulation of mercury methylation in a boreal wetland: towards a link between acid rain and methyl mercury contamination in remote environments. *Global Biogeochemical Cycles* **13**:743-750.
- Bodaly, R. A., and R. J. P. Fudge. 1999. Uptake of mercury by fish in an experimental boreal reservoir. *Archives of Environmental Contamination and Toxicology* **37**:103-109.
- Bird, G. A., K. H. Mills, and W. J. Schwartz. 1999. Accumulation of ⁶⁰Co and ¹³⁷Cs in lake whitefish in a Canadian Shield lake. *Water, Air, and Soil Pollution* **114**:303-322.
- Bird, G. A., U. Bergström, S. Nordlinder, S. L. Neal, and G. M. Smith. 1999. Model simulations of the fate of ¹⁴C added to a Canadian shield lake. *Journal of Environmental Radioactivity* **42**:209-223.
- Begout Anras, M. L., P. M. Cooley, R. A. Bodaly, L. Anras, and R. J. P. Fudge. 1999. Movement and habitat use by lake whitefish during spawning in a boreal lake: integrating acoustic telemetry and geographic information systems. *Transactions of the American Fisheries Society* **128**:939-952.

1998

- Weidman, R. P., D. R. Cruikshank, and C. J. Ranson. 1998. Trace metal data in water from lakes and streams of the Experimental Lakes Area, Northwestern Ontario, 1987-1996., Winnipeg, MB.
- Webster, K. E. 1998. Responses of lakes to drought: Geomorphic and landscape controls. Ph.D. University of Wisconsin-Madison.



- Stewart, A. R. 1998. Effect of a metal mixture (Cu, Zn, Pb, and Ni) on the bioavailability and bioaccumulation of cadmium in natural systems. Univ. Manitoba, Winnipeg, MB.
- Sterner, R. W. 1998. Demography of a natural population of *Daphnia retrocurva* in a lake with low food quality. *Journal of Plankton Research* **20**:471-489.
- Sichewski, K. B., and D. R. Cruikshank. 1998. Temperature profiles and Secchi disk transparency for 18 lakes in the Experimental Lakes Area, 1994-1996. Winnipeg.
- Shuter, B. J., M. L. Jones, R. M. Korver, and N. P. Lester. 1998. A general, life history based model for regional management of fish stocks: The inland lake trout (*Salvelinus namaycush*) fisheries of Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* **55**:2161-2177.
- Sellers, T. J., B. R. Parker, D. W. Schindler, and W. M. Tonn. 1998. Pelagic distribution of lake trout (*Salvelinus namaycush*) in small Canadian Shield lakes with respect to temperature, dissolved oxygen, and light. *Canadian Journal of Fisheries and Aquatic Sciences* **55**:170-179.
- Schindler, D. W., and S. R. Carpenter. 1998. Editorial: Workshop on ecosystem manipulation. *Ecosystems* **1**:321-322.
- Schindler, D. W. 1998. Sustaining aquatic ecosystems in boreal regions. *Conservation Ecology* **2**:18.
- Schindler, D. W. 1998. Replication versus realism: the need for ecosystem-scale experiments. *Ecosystems* **1**:323-334.
- Schindler, D. W. 1998. A dim future for boreal waters and landscapes. *Bioscience* **48**:157-164.
- Schiff, S., R. Aravena, E. Mewhinney, R. Elgood, B. Warner, P. Dillon, and S. Trumbore. 1998. Precambrian Shield wetlands: hydrologic control of the sources and export of dissolved organic matter. *Climatic Change* **40**:167-188.
- Rudd, J. W. M., C. C. Gilmour, and R. A. Bodaly. 1998. Introduction: Fourth International Conference, Mercury as a Global Pollutant. [Editorial introduction to papers from Fourth International Conference, Hamberg, Germany, 4-8 August, 1996.]. *Biogeochemistry* **40**:97-100.
- Paterson, M. J., J. W. M. Rudd, and V. St.Louis. 1998. Increases in total and methylmercury in zooplankton following flooding of a peatland reservoir. *Environmental Science and Technology* **32**:3868-3874.
- Paterson, M. J., D. C. G. Muir, B. Rosenberg, E. J. Fee, C. Anema, and W. Franzin. 1998. Does lake size affect concentrations of atmospherically derived polychlorinated biphenyls in water, sediment, zooplankton, and fish? *Canadian Journal of Fisheries and Aquatic Sciences* **55**:544-553.
- Paterson, A. M., B. F. Cumming, J. P. Smol, J. M. Blais, and R. L. France. 1998. Assessment of the effects of logging, forest fires, and drought on lakes in northwestern Ontario: a 30-year paleolimnological perspective. *Canadian Journal of Forest Research* **28**:1546-1556.



- Mills, K. H., B. R. McCullough, S. M. Chalanchuk, D. J. Allan, and M. P. Stainton. 1998. Growth, size, structure, and annual survival of lake whitefish (*Coregonus clupeaformis*) during the eutrophication and oligotrophication of Lake 226, the Experimental Lakes Area, Canada. *Archiv fur Hydrobiologia Special Issues in Advanced Limnology* **50**:151-160.
- McKenzie, C., S. Schiff, R. Aravena, C. Kelly, and V. St.Louis. 1998. Effect of temperature on production of CH₄ and CO₂ from peat in a natural and flooded boreal forest wetland. *Climatic Change* **40**:247-266.
- McCullough, G. K. 1998. The contribution of forest litterfall to phosphorus inputs into Lake 239, Experimental Lakes Area, northwestern Ontario. Pages 159-168 in M. K. Brewin and D. M. A. Monita, editors. *Forest-fish conference: land management practices affecting aquatic ecosystems. proc. Forest-Fish Conf. may 1-4, 1996, Calgary, Alberta. Nat. Resour. Can., Can. For. Serv. Inf. Rep. NOR-X-356. Can. For. Serv., Edmonton, Alberta.*
- Malley, D. F. 1998. Near-infrared spectroscopy as a potential method for routine sediment analysis to improve rapidity and efficiency. *Water Science and Technology* **37**:181-188.
- Mackay, N. A., and J. J. Elser. 1998. Nutrient recycling by *Daphnia* reduces N₂ fixation by cyanobacteria. *Limnology and Oceanography* **43**:347-354.
- Mackay, N. A., and J. J. Elser. 1998. Factors potentially preventing trophic cascades: food quality, invertebrate predation, and their interaction. *Limnology and Oceanography* **43**:339-347.
- Lockhart, W. L., P. Wilkinson, B. N. Billeck, R. A. Danell, R. V. Hunt, G. J. Brunskill, J. Delaronde, and V. St.Louis. 1998. Fluxes of mercury to lake sediments in central and northern Canada inferred from dated sediment cores. *Biogeochemistry* **40**:163-173.
- Lamontagne, S. 1998. Nitrogen cycling in the upland Boreal Shield forest: Response to an experimental addition of nitrate. Univ. Waterloo, Waterloo, ON.
- Lamontagne, S. 1998. Nitrogen mineralization in upland Precambrian Shield catchments: Contrasting the role of lichen-covered bedrock and forested areas. *Biogeochemistry* **41**:53-69.
- Hrabik, T. R., J. J. Magnuson, and A. S. McLain. 1998. Predicting the effects of rainbow smelt on native fishes in small lakes: evidence from long-term research on two lakes. *Canadian Journal of Fisheries and Aquatic Sciences* **55**:1364-1371.
- Hopkinson, C. S., A. E. Giblin, R. H. Garritt, J. Tucker, and M. A. Hullar. 1998. Influence of the benthos on growth of planktonic estuarine bacteria. *Aquatic Microbial Ecology* **16**:109-118.
- Heyes, A., T. R. Moore, and J. W. M. Rudd. 1998. Mercury and methylmercury in decomposing vegetation of a pristine and impounded wetland. *Journal of Environmental Quality* **27**:591-599.
- Harris, R. C., and R. A. Bodaly. 1998. Temperature, growth and dietary effects on fish mercury dynamics in two Ontario lakes. *Biogeochemistry* **40**:175-187.



- Hall, B. D., D. M. Rosenberg, and A. P. Wiens. 1998. Methyl mercury in aquatic insects from an experimental reservoir. *Canadian Journal of Fisheries and Aquatic Sciences* **55**:2036-2047.
- Gunn, J., and K. H. Mills. 1998. The Potential for Restoration of Acid-Damaged Lake Trout Lakes. *Restoration Ecology* **6**:390-397.
- Gorham, E. 1998. Acid deposition and its ecological effects: a brief history of research. *Environmental Science and Policy* **1**:153-166.
- Elser, J. J., and D. K. Foster. 1998. N:P stoichiometry of sedimentation in lakes of the Canadian shield: Relationships with seston and zooplankton elemental composition. *Ecoscience* **5**:56-63.
- Elser, J. J., T. H. Chrzanowski, R. W. Sterner, and K. H. Mills. 1998. Stoichiometric constraints on food-web dynamics: A whole-lake experiment on the Canadian Shield. *Ecosystems* **1**:120-136.
- Dyck, B. S. 1998. The species composition, aboveground biomass and carbon content of vegetation in two basin bogs in the Experimental Lakes Area, north-western Ontario. Univ. Manitoba, Winnipeg, MB.
- Donahue, W. F., D. W. Schindler, S. J. Page, and M. P. Stainton. 1998. Acid-induced changes in DOC quality in an experimental whole-lake manipulation. *Environmental Science and Technology* **32**:2954-2960.
- Donahue, W. F., and D. W. Schindler. 1998. Diel emigration and colonization responses of blackfly larvae (Diptera: Simuliidae) to ultraviolet radiation. *Freshwater Biology* **40**:357-365.
- Donahue, W. F. 1998. Evidence for interference in fluorometric hydrogen peroxide determinations using scopoletin-horseradish peroxidase. *Environmental Toxicology and Chemistry* **17**:783-787.
- Currie, R. S., D. C. G. Muir, W. L. Fairchild, M. H. Holoka, and R. E. Hecky. 1998. Influence of nutrient additions on cadmium bioaccumulation by aquatic invertebrates in littoral enclosures. *Environmental Toxicology and Chemistry* **17**:2435-2443.
- Conroy, J. C., and B. Bilyj. 1998. Water mites from Canada, with description of a new species, *Atractides (Atractides) ontarioensis* (Acari: Hygrobatidae). *International Journal of Acarology* **24**:137-142.
- Chalanchuk, S. M. 1998. Growth of white sucker, *Catostomus commersoni*, in thirty-one lakes at the Experimental Lakes Area, northwestern Ontario., Winnipeg.
- Brown, S. B., K. H. Mills, and T. J. Hara. 1998. Capture-induced changes in plasma cortisol, thyroid hormones, glucose, and electrolytes in lake whitefish (*Coregonus clupeaformis*) and white sucker (*Catostomus commersoni*) from softwater lakes. *Archiv fur Hydrobiologia Special Issues in Advanced Limnology* **50**:273-282.
- Branfireun, B. A., and N. T. Roulet. 1998. The baseflow and stormflow hydrology of a Precambrian shield headwater peatland. *Hydrologic Processes* **12**:57-72.



- Branfireun, B. A., D. Hilbert, and N. T. Roulet. 1998. Sinks and sources of methylmercury in a boreal catchment. *Biogeochemistry* **41**:277-291.
- Blais, J. M., R. L. France, L. E. Kimpe, and R. J. Cornett. 1998. Climatic changes in northwestern Ontario have had a greater effect on erosion and sediment accumulation than logging and fire: evidence from ^{210}Pb chronology in lake sediments. *Biogeochemistry* **43**:235-252.
- Bird, G. A., W. J. Schwartz, M. Motycka, and J. Rosentreter. 1998. Behavior of ^{60}Co and ^{134}Cs in a Canadian Shield lake over 5 years. *Science of the Total Environment* **212**:115-135.
- Bird, G. A., W. J. Schwartz, and M. Motycka. 1998. Fate of ^{60}Co and ^{134}Cs added to the hypolimnion of a Canadian Shield lake: accumulation in biota. *Canadian Journal of Fisheries and Aquatic Sciences* **55**:987-998.
- Bird, G. A., R. H. Hesslein, K. H. Mills, W. J. Schwartz, and M. A. Turner. 1998. Bioaccumulation of radionuclides in fertilized Canadian Shield Basins. *Science of the Total Environment* **218**:67-83.
- Begout Anras, M. L., R. A. Bodaly, and R. McNicol. 1998. Use of an acoustic beam actograph to assess the effects of external tagging procedure on lake whitefish swimming activity. *Transactions of the American Fisheries Society* **127**:329-335.

1997

- Sterner, R. W., J. W. Elser, E. J. Fee, S. J. Guildford, and T. H. Chrzanowski. 1997. The light:nutrient ratio in lakes: the balance of energy and materials affects ecosystem structure and process. *American Naturalist* **150**:663-684.
- Stephenson, M., M. Motycka, and W. J. Schwartz. 1997. Carbon-14 activity in the water, sediments and biota of Lakes 226, 226 south and 224, Experimental Lakes Area 1989-1994. TR634.
- Smith, D., and I. Davies. 1997. International co-operative program on assessment and monitoring of acidification of rivers and lakes: 8th task force meeting, 1992. Winnipeg.
- Sichewski, K. B., D. R. Cruikshank, and R. P. Weidman. 1997. A fish and chemical survey of eight lakes at the Experimental Lakes Area, northwestern Ontario.
- Sharma, S. 1997. Fluxes of dimethyl sulfide from lakes of the Canadian Boreal Shield. York Univ., Toronto, ON.
- Sellers, P. 1997. Sediment flux and photodegradation of methylmercury in two boreal drainage lakes. Univ. Manitoba, Winnipeg, MB.
- Schindler, D. W., P. J. Curtis, S. E. Bayley, B. R. Parker, K. G. Beaty, and M. P. Stainton. 1997. Climate-induced changes in the dissolved organic carbon budgets of boreal lakes. *Biogeochemistry* **36**:9-28.
- Schindler, D. W., and P. J. Curtis. 1997. The role of DOC in protecting freshwaters subjected to climatic warming and acidification from UV exposure. *Biogeochemistry* **36**:1-8.



- Schindler, D. W. 1997. Widespread effects of climatic warming on freshwater ecosystems in North America. *Hydrologic Processes* **11**:1043-1067.
- Samek, M. 1997. The community structure of heterotrophic and autotrophic bacteria and microflagellates in four lakes of the Precambrian Shield and the possible roles of bacteria in mercury dynamics in freshwater systems. University of Manitoba, Winnipeg, MB.
- Rosenberg, D. M., F. Berkes, R. A. Bodaly, R. E. Hecky, C. A. Kelly, and J. W. M. Rudd. 1997. Large-scale impacts of hydroelectric development. *Environmental Reviews* **5**:27-54.
- Ray, M. A. 1997. The role of bacteria in a freshwater fish kill of an experimentally acidified lake. Univ. Western Ontario, London, ON.
- Poschadel, C. D. 1997. Floating peat island formation at an experimentally flooded wetland: impacts on methane and carbon dioxide production and flux rates to the atmosphere. University of Waterloo.
- Paterson, M. J., D. Findlay, K. Beaty, W. Findlay, E. U. Schindler, M. Stainton, and G. McCullough. 1997. Changes in the planktonic food web of a new experimental reservoir. *Canadian Journal of Fisheries and Aquatic Sciences* **54**:1088-1102.
- Moyer, J. N., D. R. Cruikshank, C. R. Fazakas, and C. Grose. 1997. Stream temperatures for 19 lakes in the Experimental Lakes Area, northwestern Ontario, 1970-1995. Winnipeg.
- Malley, D. F., and P. C. Williams. 1997. Use of near-infrared reflectance spectroscopy in prediction of heavy metals in freshwater sediment by their association with organic matter. *Environmental Science and Technology* **31**:3461-3467.
- Magnuson, J. J., K. E. Webster, R. A. Assel, C. J. Bowser, P. J. Dillon, J. G. Eaton, H. E. Evans, E. J. Fee, R. I. Hall, L. R. Mortsch, D. W. Schindler, and F. H. Quinn. 1997. Potential effects of climate changes on aquatic systems: Laurentian Great Lakes and Precambrian Shield region. *Hydrologic Processes* **11**:825-871.
- Leavitt, P. R., R. D. Vinebrooke, D. B. Donald, J. P. Smol, and D. W. Schindler. 1997. Past ultraviolet radiation environments in lakes derived from fossil pigments. *Nature* **388**:457-459.
- Leavesley, G. H., K. Turner, D. D'Agnesse, and D. McKnight. 1997. Regional delineation of North America for the assessment of freshwater ecosystems and climate change. *Hydrologic Processes* **11**:819-824.
- Kling, H. J. 1997. Ecology, ontogeny, and morphometry of the freshwater centric diatom species complex, *Cyclotella bodanica/radiosa*. M. Sc. Thesis.
- Kelly, C. A., J. W. M. Rudd, R. A. Bodaly, N. P. Roulet, V. L. St. Louis, A. Heyes, T. R. Moore, S. Schiff, R. Aravena, K. J. Scott, B. Dyck, R. Harris, B. Warner, and G. Edwards. 1997. Increases in fluxes of greenhouse gases and methyl mercury following flooding of an experimental reservoir. *Environmental Science and Technology* **31**:1334-1344.
- Jeremiason, J. D. 1997. The effects of variable trophic conditions on air-water exchange, cycling, and burial of organic contaminants in lakes. Univ. Minnesota, Minneapolis, MN.



- Huebert, D. 1997. Aquatic macrophyte studies at the Experimental Lakes Area.
- High, K. A. 1997. Metal-Specific High Performance Liquid Chromatography Detection Approaches for the Characterization of Metallothionein-Like Proteins from Freshwater Mussels. Ph. D. thesis:1-139.
- Hassett, R. P., B. Cardinale, L. B. Stabler, and J. J. Elser. 1997. Ecological stoichiometry of N and P in pelagic ecosystems: Comparison of lakes and oceans with emphasis on the zooplankton-phytoplankton interaction. *Limnology and Oceanography* **42**:648-662.
- Hall, B. D., R. A. Bodaly, R. J. P. Fudge, J. W. M. Rudd, and D. M. Rosenberg. 1997. Food as the dominant pathway of methylmercury uptake by fish. *Water, Air, and Soil Pollution* **100**:13-24.
- France, R. 1997. Land-water linkages: influences of riparian deforestation on lake thermocline depth and possible consequences for cold stenotherms. *Canadian Journal of Fisheries and Aquatic Sciences* **54**:1299-1305.
- Devito, K. J., M. J. Waddington, and B. A. Branfireun. 1997. Flow reversals in peatlands influenced by local groundwater systems. *Hydrologic Processes* **11**:103-110.
- Davies, J. M. 1997. An investigation and evaluation of photosynthetic and respiratory measurements as determined from pCO₂ changes of incubated culture and lake water samples. Univ. Manitoba, Winnipeg, MB.
- Curtis, P. J., and D. W. Schindler. 1997. Hydrologic control of dissolved organic matter in low-order Precambrian Shield lakes. *Biogeochemistry* **36**:125-138.
- Currie, R. S., W. L. Fairchild, and D. C. G. Muir. 1997. Remobilization and export of cadmium from lake sediments by emerging insects. *Environmental Toxicology and Chemistry* **16**:2333-2338.
- Cruikshank, D. R., P. Campbell, E. U. Schindler, and S. E. M. Kasian. 1997. Lake variation and climate change study: ELA lakes, 1991-1993: Field Observations, light and temperature measurements., Winnipeg.
- Cooley, P. M. 1997. Mapping the nearshore substrates and hydrodynamics in lakes.
- Cobb, D. G., D. M. Rosenberg, and A. P. Wiens. 1997. Responses of caddisflies to experimental flooding of a small peatland lake in northwestern Ontario. *Proceedings of the 8th International Symposium on Trichoptera, Minneapolis and Lake Itasca, Minnesota 9-15 July, 1995*:77-82.
- Chrzanowski, T. H., M. Kyle, J. J. Elser, and R. W. Sterner. 1997. Element ratios and growth dynamics of bacteria in an oligotrophic Canadian Shield lake. *Aquatic Microbial Ecology* **11**:119-125.
- Chalanchuk, S. M. 1997. Recruitment, growth, and condition of a population of white sucker, *Catostomus commersoni*, in Lake 223, Experimental Lakes Area, northwestern Ontario, during the recovery phase of an acidification experiment. Winnipeg.
- Bodaly, R. A., V. L. St. Louis, M. J. Paterson, R. J. P. Fudge, B. D. Hall, D. M. Rosenberg, and J. W. M. Rudd. 1997. Bioaccumulation of mercury in the aquatic food chain in newly flooded



areas. Pages 259-287 in A. Sigel and H. Sigel, editors. Metal ions in biological systems. Mercury and its effects on environment and biology. Marcel Dekker, Inc, New York.

Bhardwaj, A. K. 1997. Seasonal variability of net carbon dioxide exchange in a headwater bog, Kenora, Ontario. McGill University Dept of Geography.

1996

- Sterner, R. W., J. J. Elser, T. H. Chrzanowski, J. H. Schampel, and N. B. George. 1996. Biogeochemistry and trophic ecology: a new food web diagram. Pages 72-80 in G. A. Polis and K. O. Winemiller, editors. Food Webs: Integration of Patterns and Dynamics. Chapman and Hall, New York.
- Stephenson, M., J. Klaverkamp, M. Motycka, C. Baron, and W. Schwartz. 1996. Coring artifacts and contaminant inventories in lake sediment. *Journal of Paleolimnology* **15**:99-106.
- Stephenson, M., L. Bendell-Young, G. A. Bird, G. J. Brunskill, P. J. Curtis, W. L. Fairchild, M. H. Holoka, R. V. Hunt, S. G. Lawrence, M. F. Motycka, W. J. Schwartz, M. A. Turner, and P. Wilkinson. 1996. Sedimentation of experimentally added cadmium and ¹⁰⁹Cd in Lake 382, Experimental Lakes Area, Canada. *Canadian Journal of Fisheries and Aquatic Sciences* **53**:1888-1902.
- St.Louis, V. L., J. W. M. Rudd, C. A. Kelly, K. G. Beaty, R. J. Flett, and N. T. Roulet. 1996. Production and loss of methylmercury and loss from boreal forest catchments containing different types of wetlands. *Environmental Science and Technology* **30**:2719-2729.
- Sellers, P., C. A. Kelly, J. W. M. Rudd, and A. R. MacHutchon. 1996. Photodegradation of methylmercury in lakes. *Nature* **380**:694-697.
- Schindler, D. W., P. J. Curtis, B. R. Parker, and M. P. Stainton. 1996. Consequences of climate warming and lake acidification for UV-B penetration in North American boreal lakes. *Nature* **379**:705-708.
- Schindler, D. W., S. E. Bayley, B. R. Parker, K. G. Beaty, D. R. Cruikshank, E. J. Fee, E. U. Schindler, and M. P. Stainton. 1996. The effects of climatic warming on the properties of boreal lakes and streams at the Experimental Lakes Area, northwestern Ontario. *Limnology and Oceanography* **41**:1004-1017.
- Renner, R. 1996. Canadian ecological research area faces major funding cuts. Page 283A *Environmental Science and Technology*.
- Paterson, M. J. 1996. Zooplankton in freshwaters.
- Nurnberg, G. K. 1996. Comment: Phosphorus budgets and stoichiometry during the open-water season in two unmanipulated lakes in the Experimental Lakes Area, northwestern Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* **53**:1469-1471.



- Muir, D. C. G., A. Omelchenko, N. P. Grift, D. A. Savoie, W. L. Lockhart, P. Wilkinson, and G. J. Brunskill. 1996. Spatial trends and historical deposition of polychlorinated biphenyls in Canadian mid-latitude and Arctic lake sediments. *Environmental Science and Technology* **30**:3609-3617.
- Moore, R. 1996. The analysis and prediction of wind speeds over water. Winnipeg, MB.
- Mewhinney, E. 1996. The importance of hydrology to carbon dynamics in a small boreal forest wetland. Univ. Waterloo, Waterloo, ON.
- Malley, D. F., P. C. Williams, and M. P. Stainton. 1996. Rapid measurement of suspended C,N, and P from precambrian shield lakes using near-infrared reflectance spectroscopy. *Water Research* **30**:1325-1332.
- Malley, D. F., A. R. Stewart, and B. D. Hall. 1996. Uptake of methyl mercury by the floater mussel, *Anodonta grandis grandis* (Bivalvia, Unionidae) caged in a flooded wetland. *Environmental Toxicology and Chemistry* **15**:928-936.
- Malley, D. F., S. G. Lawrence, M. H. Holoka, and P. C. Williams. 1996. Applying near-infrared reflectance spectroscopy to predict carbon, nitrogen, phosphorus, and organic-bound cadmium in lake picoplankton. *Journal of Aquatic Ecosystem Stress and Recovery* **5**:135-147.
- Malley, D. F., B. W. Hauser, P. C. Williams, and J. Hall. 1996. Prediction of organic carbon, nitrogen and phosphorus in freshwater sediments using near infrared reflectance spectroscopy. Pages 691-699 *in* M. C. Davies and P. Williams, editors. *Near Infrared Spectroscopy: The Future Waves*. NIR Publications, Chichester, U.K.
- Malley, D. F. 1996. Cadmium whole-lake experiment at the Experimental Lakes Area: an anachronism? *Canadian Journal of Fisheries and Aquatic Sciences* **53**:1862-1870.
- MacKay, N. A. 1996. Ecological stoichiometry of zooplankton-phytoplankton interactions. Arizona State Univ., Tempe, AZ.
- Lonergan, S. P., and J. B. Rasmussen. 1996. A multi-taxonomic indicator of acidification: isolating the effects of pH from other water-chemistry variables. *Canadian Journal of Fisheries and Aquatic Sciences* **53**:1778-1787.
- Lawrence, S. G., M. H. Holoka, R. V. Hunt, and R. H. Hesslein. 1996. Multi-year experimental additions of cadmium to a lake epilimnion and resulting water column cadmium concentrations. *Canadian Journal of Fisheries and Aquatic Sciences* **53**:1876-1887.
- Huebert, D. 1996. Aquatic macrophyte studies at the Experimental Lakes Area.
- Holoka, M. H., and R. V. Hunt. 1996. Automated addition of a toxicant to a whole lake. *Canadian Journal of Fisheries and Aquatic Sciences* **53**:1871-1875.
- Heyes, A. 1996. Methylmercury in natural and disturbed wetland. McGill Univ., Montreal, QC.
- Hall, B. D. 1996. Bioaccumulation of methylmercury by aquatic insects and fish at the Experimental Lakes Area. Univ. Manitoba, Winnipeg, MB.



- Friesen, K. J., M. M. Foga, and M. D. Loewen. 1996. Aquatic Photodegradation of Polychlorinated Dibenzofurans: Rates and Photoproduct Analysis. *Environmental Science and Technology* **30**:2504-2510.
- Findlay, D. L., S. E. M. Kasian, and E. U. Schindler. 1996. Long-term effects of low cadmium concentrations on a natural phytoplankton community. *Canadian Journal of Fisheries and Aquatic Sciences* **53**:1903-1912.
- Findlay, D. L., and S. E. M. Kasian. 1996. The effect of incremental pH recovery on the Lake 223 phytoplankton community. *Canadian Journal of Fisheries and Aquatic Sciences* **53**:856-864.
- Fee, E. J., R. E. Hecky, S. E. M. Kasian, and D. R. Cruikshank. 1996. Effects of lake size, water clarity, and climatic variability on mixing depths in Canadian Shield lakes. *Limnology and Oceanography* **41**:912-920.
- Elser, J. J., D. R. Dobberfuhl, N. A. Mackay, and J. H. Schampel. 1996. Organism size, life history and N:P stoichiometry: towards a unified view of cellular and ecosystem processes. *Bioscience* **46**:674-684.
- Branfireun, B. A., A. Heyes, and N. T. Roulet. 1996. The hydrology and methylmercury dynamics of a Precambrian Shield headwater peatland. *Water Resources Research* **32**:1785-1794.

1995

- Wright, R. F., and D. W. Schindler. 1995. Interaction of acid rain and global changes: Effects on terrestrial and aquatic ecosystems. *Water, Air, and Soil Pollution* **85**:89-99.
- Turner, M. A., D. W. Schindler, D. L. Findlay, M. B. Jackson, and G. G. C. Robinson. 1995. Disruption of littoral algal associations by Experimental Lake acidification. *Canadian Journal of Fisheries and Aquatic Sciences* **52**:2238-2250.
- Turner, M. A., G. C. C. Robinson, B. E. Townsend, B. J. Hann, and J. A. Amaral. 1995. Ecological effects of blooms of filamentous green algae in the littoral zone of an acid lake. *Canadian Journal of Fisheries and Aquatic Sciences* **52**:2264-2275.
- Turner, M. A., E. T. Howell, G. C. C. Robinson, J. F. Brewster, L. J. Sigurdson, and D. L. Findlay. 1995. Growth characteristics of bloom-forming filamentous algae in the littoral zone of an experimentally acidified lake. *Canadian Journal of Fisheries and Aquatic Sciences* **52**:2251-2263.
- Stordal, M. C., and G. A. Gill. 1995. Determination of mercury methylation rates using a 203-Hg radiotracer technique. *Water, Air, and Soil Pollution* **80**:725-734.
- Sterner, R. W., T. H. Chrzanowski, J. J. Elser, and N. B. George. 1995. Sources of nitrogen and phosphorus supporting the growth of bacterio- and phytoplankton in an oligotrophic Canadian shield lake. *Limnology and Oceanography* **40**:242-249.
- Stephenson, M., W. J. Schwartz, M. F. Motycka, D. J. Rowan, C. Kelly, and R. D. Roshon. 1995. Fate and distribution in sediments of carbon-14 added to Canadian Shield lakes of differing trophic state. *Limnology and Oceanography* **40**:779-790.



- St.Louis, V. L., J. W. M. Rudd, C. A. Kelly, and L. W. Barrie. 1995. Wet deposition of methyl mercury in northwestern Ontario compared to other geographic locations. *Water, Air, and Soil Pollution* **80**:405-414.
- Shaw, M. A., I. J. Davies, E. A. Hamilton, A. Kemp, R. Reid, P. M. Ryan, N. Watson, W. White, and K. M. Murphy. 1995. The DFO national LRTAP biomonitoring programme: baseline characterization, 1987-1989. Winnipeg.
- Sellers, T. J. 1995. The distribution of lake trout, *Salvelinus namaycush*, and opossum shrimp, *Mysis relicta*, in small Boreal lakes with respect to temperature, dissolved oxygen, and light. University of Alberta.
- Sellers, P., R. H. Hesslein, and C. A. Kelly. 1995. Continuous measurement of CO₂ for estimation of air-water fluxes in lakes using an in situ technique. *Limnology and Oceanography* **40**:575-581.
- Segstro, M. D., D. C. G. Muir, M. R. Servos, and G. R. B. Webster. 1995. Long-term fate and bioavailability of sediment-associated polychlorinated dibenzo-p-dioxins in aquatic mesocosms. *Environmental Toxicology and Chemistry* **14**:1799-1807.
- Salki, A. G. 1995. Lake variation and climate change study: Crustacean plankton of a lake size series in the Red Lake district, Northwest Ontario, 1991-1993 and Lakes Nipigon and Superior, 1991. *Canadian Data Report of Fisheries and Aquatic Sciences* **966**:34.
- Salki, A. 1995. Lake variation and climate change study: crustacean plankton of a lake flushing rate series in the Experimental Lakes Area, northwestern Ontario, 1991-1993, and lakes Nipigon and Superior, 1991. Winnipeg.
- Rudd, J. W. M. 1995. Sources of methyl mercury to freshwater ecosystems: a review. *Water, Air, and Soil Pollution* **80**:697-713.
- Rosenberg, D. M., A. P. Wiens, B. Bilyj, and L. Armstrong. 1995. Experimental acidification of a poor fen in northwestern Ontario: effects on emergence of Chironomidae (Diptera). *Canadian Journal of Fisheries and Aquatic Sciences* **52**:2229-2237.
- Rosenberg, D. M., R. E. Hecky, and P. Campbell. 1995. Introduction to contaminants research at the Experimental Lakes Area. *Canadian Journal of Fisheries and Aquatic Sciences* **52**:2211-2212.
- Rosenberg, D. M., R. A. Bodaly, and P. J. Usher. 1995. Environmental and social impacts of large scale hydro-electric development: who is listening? *Global Environmental Change* **5**:127-148.
- Rooney, N. M. 1995. Phytoplankton community change in an experimentally acidified lake. Univ. of Western Ontario, London, ON.
- Murphy, K.-A. 1995. Microbial Ecology of a freshwater fish kill. Univ. of Western Ontario, London, ON.
- Muir, D. C. G., N. P. Grift, W. L. Lockhart, P. Wilkinson, B. N. Billeck, and G. J. Brunskill. 1995. Spatial trends and historical profiles of organochlorine pesticides in Arctic lake sediments. *Science of the Total Environment* **160-161**:447-457.



- Muir, D. C. G., and N. P. Grift. 1995. Fate of herbicides and organochlorine insecticides in lake waters. Pages 141-156 in N. N. Ragsdale, P. C. Kearney, and J. R. Plimmer, editors. Eighth International Congress of Pesticide Chemistry: Options 2000. American Chemical Society.
- Moore, T. R., J. L. Bubier, A. Heyes, and R. J. Flett. 1995. Methyl and total mercury in boreal wetland plants, Experimental Lakes Area, northwestern Ontario. *Journal of Environmental Quality* **24**:845-850.
- Misra, R. F., I. J. Davies, N. H. F. Watson, and Uthe.J.F. 1995. Investigation of temporal variations in relative abundance of macroinvertebrates in Lake 224 of the Experimental Lakes Area by a multivariate method. Winnipeg.
- Mills, K. H., S. M. Chalanchuk, D. J. Allan, and L. C. Mohr. 1995. Responses of lake whitefish (*Coregonus clupeaformis*) to exploitation at the Experimental Lakes Area, northwestern Ontario. [Paper presented at the Fifth International Symposium on the Biology and Management of Coregonid Fishes, Olsztyn, Poland, Aug 22-27, 1993]. *Archiv fur Hydrobiologia Special Issues in Advanced Limnology* **46**:361-368.
- Lockhart, W. L., P. Wilkinson, B. N. Billeck, R. V. Hunt, R. Wagemann, and G. J. Brunskill. 1995. Current and historical inputs of mercury to high-latitude lakes in Canada and to Hudson bay. *Water, Air, and Soil Pollution* **80**:603-610.
- Lepine, L., and A. Chamberland. 1995. Field sampling and analytical intercomparison for mercury and methylmercury determination in natural water. *Water, Air, and Soil Pollution* **80**:1247-1256.
- Lamontagne, S., S. L. Schiff, and R. W. Bachmann. 1995. Impact of experimentally elevated nitrogen deposition on a boreal forest catchment (Summary only). *Lake and Reservoir Management* **11**:158-159.
- Klemer, A. R., L. L. Hendzel, D. L. Findlay, R. A. Hendin, M. T. Mageau, and A. E. Konopka. 1995. Carbon availability and the pattern of cyanobacterial dominance in enriched low-carbon lakes. *Journal of Phycology* **31**:735-744.
- Kidd, K. A., R. H. Hesslein, R. J. P. Fudge, and K. A. Hallard. 1995. The Influence of trophic level as measured by ^{15}N on mercury concentrations in freshwater organisms. *Water, Air, and Soil Pollution* **80**:1011-1015.
- Kelly, C. A., J. W. M. Rudd, V. St.Louis, and A. Heyes. 1995. Is total mercury concentration a good predictor of methyl mercury concentration in aquatic systems? *Water, Air, and Soil Pollution* **80**:715-724.
- Kelly, C. A., J. A. Amaral, M. A. Turner, J. W. M. Rudd, D. W. Schindler, and M. P. Stainton. 1995. Disruption of sulfur cycling and acid neutralization in lakes at low pH. *Biogeochemistry* **28**:115-130.
- Jeffries, D. S., T. A. Clair, P. J. Dillon, M. Papineau, and M. P. Stainton. 1995. Trends in surface water acidification at ecological monitoring sites in southeastern Canada (1981-1993). *Water, Air, and Soil Pollution* **85**:577-582.



- Huebert, D. 1995. A general survey of the aquatic plant communities in ten lakes at the Experimental Lakes Area.
- Henzel, L. L., D. L. Findlay, E. U. Schindler, and P. Campbell. 1995. Lake variation and climate change study: ELA lakes, 1986-1990: VI. Phytoplankton photosynthesis, nutrient status and biomass enumeration data., Winnipeg.
- Hecky, R. E., and R. H. Hesslein. 1995. Contributions of benthic algae to lake food webs as revealed by stable isotope analysis. *Journal of the North American Benthological Society* **14**:631-653.
- Flannagan, J. F., and D. G. Cobb. 1995. Emergence of Ephemeroptera from some lakes and streams in the experimental lakes area (ELA), northwestern Ontario, Canada. *Current Directions in Research on Ephemeroptera*:185-194.
- Elser, J. J., D. K. Foster, and R. E. Hecky. 1995. Effects of zooplankton on sedimentation in pelagic ecosystems: theory and test in two lakes of the Canadian Shield. *Biogeochemistry* **30**:143-170.
- Elser, J. J., T. H. Chrzanowski, R. W. Sterner, J. H. Schampel, and D. K. Foster. 1995. Elemental ratios and the uptake and release of nutrients by phytoplankton and bacteria in three lakes of the Canadian Shield. *Microbial Ecology* **29**:145-162.
- Delorme, P. D. 1995. The effects of toxaphene, chlordane and 2,3,4,7,8-pentachlorodibenzofuran on lake trout and white sucker in an ecosystem and the distribution and effects of 2,3,4,7,8-pentachlorodibenzofuran on white suckers and broodstock rainbow trout in laboratory experiments. Univ. Manitoba, Winnipeg, MB.
- Crusius, J., and R. F. Anderson. 1995. Evaluating the mobility of ^{137}Cs , $^{239,240}\text{Pu}$ and ^{210}Pb from their distributions in laminated lake sediments. *Journal of Paleolimnology* **13**:119-141.
- Crusius, J., and R. F. Anderson. 1995. Sediment focusing in six small lakes inferred from radionuclide profiles. *Journal of Paleolimnology* **13**:143-155.
- Chrzanowski, T. H., R. W. Sterner, and J. J. Elser. 1995. Nutrient enrichment and nutrient regeneration stimulate bacterioplankton growth. *Microbial Ecology* **29**:145-162.
- Chang, P. S. S., and D. F. Malley. 1995. Effects of cadmium on zooplankton of soft, fresh waters: Testing predictions from laboratory and in situ mesocosms through whole-lake experimentation. Pages 1091-1094.
- Chamberland, G., D. Belanger, N. Lariviere, L. Vermette, J. F. Klaverkamp, and J. S. Blais. 1995. Abnormal porphyrin profile in mussels exposed to low concentrations of cadmium in an experimental Precambrian Shield lake. *Canadian Journal of Fisheries and Aquatic Sciences* **52**:1286-1293.
- Carpenter, S. R., S. W. Chisholm, C. J. Krebs, D. W. Schindler, and R. F. Wright. 1995. Ecosystem experiments. *Science* **269**:324-327.
- Bird, G. A., M. Stephenson, R. Roshon, W. J. Schwartz, and M. Motycka. 1995. Fate of ^{60}Co and ^{134}Cs added to the hypolimnion of a Canadian Shield lake. *Canadian Journal of Fisheries and Aquatic Sciences* **52**:2276-2289.



- Bird, G. A., W. J. Schwartz, and J. Rosentreter. 1995. Evolution of ^{131}I from freshwater and its partitioning in simple aquatic microcosms. *Science of the Total Environment* **164**:151-159.
- Bird, G. A., M. J. Rosentreter, and W. J. Schwartz. 1995. Deformities in the menta of chironomid larvae from the Experimental Lakes Area, Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* **52**:2290-2295.
- Bird, G. A., M. Motycka, J. Rosentreter, W. J. Schwartz, and P. Vilks. 1995. Behaviour of ^{125}I added to limnocorrals in two Canadian Shield lakes of differing trophic states. *Science of the Total Environment* **166**:161-177.
- Allan, C. J. 1995. Hydrochemical response of upland Precambrian Shield catchments to additions of H_2SO_4 and NH_4NO_3 during snowmelt. *Canadian Journal of Fisheries and Aquatic Sciences* **52**:2213-2228.

1994

- Zeeb, B. A., C. E. Christie, J. P. Smol, D. L. Findlay, H. J. Kling, and H. J. B. Birks. 1994. Responses of diatom and chrysophyte assemblages in Lake 227 sediments to experimental eutrophication. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2300-2311.
- Wolfe, B., H. J. Kling, G. J. Brunskill, and P. Wilkinson. 1994. Multiple dating of a freeze core from Lake 227, an experimentally fertilized lake with varved sediments. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2274-2285.
- Weider, R. K., and J. B. Yavitt. 1994. Peatlands and global climate change: insights from comparative studies of sites situated along a latitudinal gradient. *Wetlands* **14**:229-238.
- Wagemann, R., M. J. Capel, R. H. Hesslein, and M. Stephenson. 1994. Sediment-water distribution coefficients and speciation of cadmium in a Canadian Shield lake. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:1951-1958.
- Turner, M. A., E. T. Howell, G. G. C. Robinson, P. Campbell, R. E. Hecky, and E. U. Schindler. 1994. Roles of nutrients in controlling growth of epilithon in oligotrophic lakes of low alkalinity. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2784-2793.
- Sterner, R. W. 1994. Elemental stoichiometry of species in ecosystems. Pages 240-252 in C. G. Jones and J. H. Lawton, editors. *Linking species and ecosystems*. Chapman & Hall.
- Stephenson, M., W. J. Schwartz, T. W. Melnyk, and M. F. Motycka. 1994. Measurement of advective water velocity in lake sediment using natural helium gradients. *Journal of Hydrology* **154**:63-84.
- Stephenson, M., G. Mierle, R. A. Reid, and G. L. Mackie. 1994. Effects of experimental and cultural acidification on littoral benthic macroinvertebrate assemblages. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:1147-1161.
- St. Louis, V. L., J. W. M. Rudd, C. A. Kelly, K. G. Beaty, N. S. Bloom, and R. J. Flett. 1994. Importance of wetlands as sources of methyl mercury to boreal forest ecosystems. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:1065-1076.



- Schindler, E. U., E. R. DeBruyn, E. J. Fee, and J. A. Shearer. 1994. Sensitivity of estimates of seasonal phytoplankton photosynthesis to sampling frequency. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2734-2738.
- Schindler, D. W. 1994. Linking species and communities to ecosystem management: A perspective from the Experimental Lakes experience. Pages 313-325 in C. G. Jones and J. H. Lawton, editors. *Linking Species and Ecosystems*. Chapman and Hall, New York.
- Schindler, D. W. 1994. Changes caused by acidification to the biodiversity: Productivity and biogeochemical cycles of lakes. Pages 153-164 in C. E. W. Steinberg and R. F. Wright, editors. *Acidification of Freshwater Ecosystems: Implications for the Future*. John Wiley & Sons Ltd.
- Richards, S. R., J. W. M. Rudd, and C. A. Kelly. 1994. Organic volatile sulfur in lakes ranging in sulfate and dissolved salt concentration over five orders of magnitude. *Limnology and Oceanography* **39**:562-572.
- Patalas, K., J. Patalas, and A. Salki. 1994. Planktonic crustaceans in lakes of Canada (distribution of species, bibliography). Winnipeg.
- Omelchenko, A., W. L. Lockhart, and P. Wilkinson. 1994. Study of the depositional characteristics of the lake sediments across Canada with Pb-210 and Cs-137.
- Matos, L. 1994. The dynamics and chemistry of dissolved organic carbon in upland and wetland catchments, Experimental Lakes Area, Ontario. McGill university, Montreal.
- Matos, L. 1994. The Dynamics and Chemistry of Dissolved Organic Carbon in Upland and Wetland Catchments, Experimental Lakes Area, Ontario. M. Sc. Thesis:1-165.
- Malley, D. F., and P. S. S. Chang. 1994. Assessing the health of a zooplankton community in a small Precambrian Shield lake during recovery from experimental acidification. *Journal of Aquatic Ecosystem Health* **3**:273-286.
- Leavitt, P. R., B. J. Hann, J. P. Smol, B. A. Zeeb, C. E. Christie, B. Wolfe, and H. J. Kling. 1994. Paleolimnological analysis of whole-lake experiments: an overview of results from Experimental Lakes Area Lake 227. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2322-2332.
- Leavitt, P. R., and D. L. Findlay. 1994. Comparison of fossil pigments with 20 years of phytoplankton data from eutrophic Lake 227, Experimental Lakes Area. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2286-2299.
- Kyle, M. 1994. Stoichiometry of carbon, nitrogen and phosphorus in *Pseudomonas fluorescens*. Univ. Texas-Arlington, Arlington, TX.
- Kling, H. J., D. L. Findlay, and J. Komarek. 1994. *Aphanizomenon schindleri* sp. nov.: a new nostocacean cyanoprokaryote from the Experimental Lakes Area. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2267-2273.
- Kelly, C. A., J. W. M. Rudd, V. L. St. Louis, and T. Moore. 1994. Turning attention to reservoir surfaces, a neglected area in greenhouse studies. *EOS* **75**:332-333.



- Hendzel, L. L., R. E. Hecky, and D. L. Findlay. 1994. Recent changes of N₂ fixation in Lake 227 in response to reduction of the N:P loading ratio. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2247-2253.
- Hecky, R. E., D. M. Rosenberg, and P. Campbell. 1994. The 25th anniversary of the Experimental Lakes Area and the history of Lake 227. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2243-2246.
- Hecky, R. E., P. Campbell, and D. M. Rosenberg. 1994. Introduction to experimental lakes and natural processes: 25 years of observing natural ecosystems at the Experimental Lakes Area. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2721-2722.
- Headon, C. M. 1994. Assimilation and depuration of methylmercury by crayfish, *Orconectes virilis*. M. Sc. Thesis.
- Hann, B. J., P. R. Leavitt, and P. S. S. Chang. 1994. Cladocera community response to experimental eutrophication in Lake 227 as recorded in laminated sediments. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2312-2321.
- Hall, R. J. 1994. Responses of Benthic Communities to Episodic Acid Disturbances in a Lake Outflow Stream at the Experimental Lakes Area, Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:1877-1892.
- Guildford, S. J., L. L. Hendzel, H. J. Kling, E. J. Fee, G. G. C. Robinson, and R. E. Hecky. 1994. Effects of lake size on phytoplankton nutrient status. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2769-2783.
- Grantham, B. A., and B. J. Hann. 1994. Leeches (Annelida: Hirudinea) in the Experimental Lakes Area, northwestern Ontario, Canada: patterns of species composition in relation to environment. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:1600-1607.
- George, N. B. 1994. Nutrient stoichiometry of piscivore-planktivore interactions in two whole-lake experiments. University of Texas, Arlington TX.
- Fudge, R. J. P., R. A. Bodaly, and N. E. Strange. 1994. Lake variability and climate change study: fisheries investigations from the Northwestern Ontario Lake Size Series (NOLSS) lakes, 1987-1989. 921.
- Franzin, W. G., B. A. Barton, R. A. Remnant, D. B. Wain, and S. J. Pagel. 1994. Range extension, present and potential distribution, and possible effects of rainbow smelt in Hudson Bay drainage waters of northwestern Ontario, manitoba, and Minnesota. *North American Journal of Fisheries Management* **14**:65-76.
- Fowle, B. A. 1994. The hydrology of a Precambrian Shield peatland: controls on methylmercury formation and the flux. York University, Toronto, ON.
- Findlay, D. L., S. E. M. Kasian, L. L. Hendzel, G. W. Regehr, E. U. Schindler, and J. A. Shearer. 1994. Biomanipulation of Lake 221 in the Experimental Lakes Area (ELA): effects on phytoplankton and nutrients. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2794-2807.



- Findlay, D. L., R. E. Hecky, L. L. Hendzel, M. P. Stainton, and G. W. Regehr. 1994. Relationship between N₂-fixation and heterocyst abundance and its relevance to the nitrogen budget of Lake 227. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2254-2266.
- Fee, E. J., R. E. Hecky, G. W. Regehr, L. L. Hendzel, and P. Wilkinson. 1994. Effects of lake size on nutrient availability during summer stratification. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2756-2768.
- Elser, J. J., and R. P. Hassett. 1994. A stoichiometric analysis of the zooplankton-phytoplankton interaction in marine and freshwater ecosystems. *Nature* **370**:211-213.
- Curtis, P. J., and P. Walker. 1994. Release of metals from a Cd-contaminated streambed in response to experimental acidification and neutralization. *Water Resources Research* **30**:3449-3454.
- Cruikshank, D. R. 1994. Whole lake chemical additions in the Experimental Lakes Area, 1990-1993. Winnipeg.
- Cruikshank, D. R. 1994. Temperature profiles and secchi transparency for 23 lakes in the Experimental Lakes Area. 911.
- Chow-Fraser, P., D. O. Trew, D. Findlay, and M. Stainton. 1994. A test of hypotheses to explain the sigmoidal relationship between total phosphorus and chlorophyll a concentrations in Canadian lakes. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2052-2065.
- Campbell, P. 1994. Phosphorus budgets and stoichiometry during the open-water season in two unmanipulated lakes in the Experimental Lakes Area, northwestern Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2739-2755.
- Beaty, K. G. 1994. Sediment transport in a small stream following two successive forest fires. *Canadian Journal of Fisheries and Aquatic Sciences* **51**:2723-2733.
- Allan, C. J., and N. T. Roulet. 1994. Runoff generation in zero-order Precambrian Shield catchments: The stormflow response of a heterogeneous landscape. *Hydrologic Processes* **8**:369-388.
- Allan, C. J., and N. T. Roulet. 1994. Solid phase controls of dissolved aluminum within upland Precambrian Shield catchments. *Biogeochemistry* **26**:85-114.
- Turner, M. A. 1993. The ecological effects of experimental acidification upon littoral algal associations of lakes in the boreal forest. Ph. D. thesis.

1993

- Stewart, A. R. 1993. Structure of isoetid communities of the Precambrian Shield.
- Stephenson, M., and M. A. Turner. 1993. A field study of cadmium dynamics in periphyton and in *Hyallolella azteca* (Crustacea: Amphipoda). *Water, Air, and Soil Pollution* **68**:341-361.
- Stephenson, M., W. J. Schwartz, and M. Motycka. 1993. Regional survey for He anomalies in Canadian shield lakes: sources of variation and implications for nuclear fuel waste management. *Applied Geochemistry* **8**:373-382.



- St.Louis, V. L., J. C. Barlow, and J. F. Klaverkamp. 1993. Metal accumulation and metallothionein concentrations in tree swallow nestlings near acidified lakes. *Environmental Toxicology and Chemistry* **12**:1203-1207.
- St.Louis, V. L., and J. C. Barlow. 1993. The reproductive success of tree swallows nesting near experimentally acidified lakes in northwestern Ontario. *Canadian Journal of Zoology* **71**:1090-1097.
- St.Louis, V. L. 1993. Element concentrations in chironomids and their abundance in the littoral zone of acidified lakes in northwestern Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* **50**:953-963.
- Schindler, D. W., R. E. Hecky, and K. H. Mills. 1993. Two decades of whole lake eutrophication and acidification experiments. Pages 294-304 *in* L. Rasmussen, T. Brydges, and P. Mathy, editors. *Experimental Manipulations of Biota and Biogeochemical Cycling in Ecosystems*. Commission of the European Communities, Brussels.
- Salki, A. G. 1993. Lake variation and climate change study: VII. Crustacean plankton of a lake flushing rate series in the Experimental Lakes Area, northwestern Ontario, 1987-1990. 880.
- Rudd, J. W. M., R. Harris, C. A. Kelly, and R. E. Hecky. 1993. Are hydroelectric reservoirs significant sources of greenhouse gases? *Ambio* **22**:246-248.
- Ramlal, P. S., C. A. Kelly, J. W. M. Rudd, and A. Furutani. 1993. Sites of methyl mercury production in remote Canadian Shield lakes. *Canadian Journal of Fisheries and Aquatic Sciences* **50**:972-979.
- Palace, V. P., and J. F. Klaverkamp. 1993. Variation of hepatic enzymes in three species of freshwater fish from Precambrian Shield lakes and the effect of cadmium exposure. *Comparative Biochemistry and Physiology* **104C**:147-154.
- McCullough, G. K., and P. Campbell. 1993. Lake variation and climate change study: ELA Lakes 1986-1990. II Watershed geography and lake morphometry. 1898.
- Malley, D. F., P. C. Williams, M. P. Stainton, and B. W. Hauser. 1993. Application of near-infrared reflectance spectroscopy in the measurement of carbon, nitrogen, and phosphorus in seston from oligotrophic lakes. *Canadian Journal of Fisheries and Aquatic Sciences* **50**:1779-1785.
- Malley, D. F., J. F. Klaverkamp, S. B. Brown, and P. S. S. Chang. 1993. Increase in metallothionein in freshwater mussels *Anodonta grandis grandis* exposed to cadmium in the laboratory and the field. *Water Pollution Research Journal of Canada* **28**:253-273.
- Lockhart, W. L., P. Wilkinson, B. N. Billeck, G. J. Brunskill, R. V. Hunt, and R. Wagemann. 1993. Polycyclic aromatic hydrocarbons and mercury in sediments from two isolated lakes in central and northern Canada. *Water Science and Technology* **28**:43-52.
- Kelly, C. A., and J. W. M. Rudd. 1993. Fluxes of CH₄ and CO₂ to the atmosphere from hydroelectric reservoirs. *CO₂ Climate Report* **92**:2.



- Hecky, R. E., P. Campbell, and L. L. Hendzel. 1993. The stoichiometry of carbon, nitrogen, and phosphorus in particulate matter of lakes and oceans. *Limnology and Oceanography* **38**:709-724.
- Edwards, G. 1993. Continuous measurements of greenhouse gas fluxes using diode laser micrometeorological techniques. *CO2 Climate Report* **92**:2.
- Dutton, M. D., M. Stephenson, and J. F. Klaverkamp. 1993. A mercury saturation assay for measuring metallothionein in fish. *Environmental Toxicology and Chemistry* **12**:1193-1202.
- Delorme, P. D., D. C. G. Muir, W. L. Lockhart, K. H. Mills, and F. J. Ward. 1993. Depuration of toxaphene in lake trout and white suckers in a natural ecosystem following a single I.P. dose. *Chemosphere* **27**:1965-1973.
- Curtis, P. J. 1993. Effect of dissolved organic carbon on ⁵⁹Fe scavenging. *Limnology and Oceanography* **38**:1554-1561.
- Currie, R. S. 1993. Bioavailability of sediment-associated contaminants to aquatic invertebrates in littoral mesocosms. M. Sc. Thesis.
- Cruikshank, D. R., P. Campbell, S. E. M. Kasian, E. U. Schindler, and G. K. McCullough. 1993. Lake variation and climate change study, ELA lakes, 1986-1990: III. Field observations, hydrological, light and temperature measurements. Winnipeg.
- Chang, P. S. S., and D. F. Malley. 1993. Non-reversal of acidification-caused changes in the zooplankton community of a small Precambrian Shield lake upon pH recovery.
- Campbell, P. 1993. Lake variation and climate change study: ELA lakes, 1986-1990: I. Study rationale and lake selection criteria. Winnipeg.
- Campbell, P. 1993. Comparison of two methods commonly used at the Experimental Lakes Area for collecting chemistry samples from vertically stratified lakes. 1881.
- Bubier, J. L., T. R. Moore, and N. T. Roulet. 1993. Methane emissions from wetlands in the midboreal region of northern Ontario, Canada. *Ecology* **74**:2240-2254.
- Bodaly, R. A., J. W. M. Rudd, R. J. P. Fudge, and C. A. Kelly. 1993. Mercury concentrations in fish related to size of remote Canadian Shield lakes. *Canadian Journal of Fisheries and Aquatic Sciences* **50**:980-987.
- Bird, G. A., M. Stephenson, and R. J. Cornett. 1993. The surface water model for assessing Canada's nuclear fuel waste management concept. *Waste Management* **13**:153-170.
- Allan, C. J., N. T. Roulet, and A. R. Hill. 1993. The biogeochemistry of pristine, headwater Precambrian shield watersheds: an analysis of material transport within a heterogenous landscape. *Biogeochemistry* **22**:37-79.
- Allan, C. J. 1993. The hydrology and biogeochemistry of low order Precambrian Shield catchments. York University, North York.



1992

- Whiting, G. J., and J. P. Chanton. 1992. Plant-dependent CH₄ emission in a subarctic Canadian fen. *Global Biogeochemical Cycles* **6**:225-231.
- St.Louis, V. L. 1992. The effects of experimental lake acidification on the reproductive success of tree swallows. Univ. Toronto, Toronto, ON.
- Shaw, M. A., S. Geiling, S. Barbour, I. J. Davies, E. A. Hamilton, A. Kemp, R. Reid, P. M. Ryan, N. Watson, and W. White. 1992. The Department of Fisheries and Oceans National LRTAP Biomonitoring Programme: Site locations, physical and chemical characteristics. Sault Ste. Marie, ON.
- Servos, M. R., D. C. G. Muir, and G. R. B. Webster. 1992. Bioavailability of polychlorinated dibenzo-{lp}-dioxins in lake enclosures. *Canadian Journal of Fisheries and Aquatic Sciences* **49**:735-742.
- Servos, M. R., D. C. G. Muir, and G. R. B. Webster. 1992. Environmental fate of polychlorinated dibenzo-{lp}-dioxins in lake enclosures. *Canadian Journal of Fisheries and Aquatic Sciences* **49**:722-734.
- Schindler, D. W., S. E. Bayley, P. J. Curtis, B. R. Parker, M. P. Stainton, and C. A. Kelly. 1992. Natural and man-caused factors affecting the abundance and cycling of dissolved organic substances in Precambrian shield lakes. *Hydrobiologia* **229**:1-21.
- Schindler, D. W. 1992. A view of NAPAP from north of the border. *Ecological Applications* **2**:124-130.
- Salki, A. 1992. Lake Variation and Climate Change Study: Crustacean Plankton of a Lake Size Series in the Red Lake District, Northwest Ontario, 1987 - 1989 and Lake Nipigon, 1989. 862.
- Richards, S. R. 1992. Organic volatile sulfur compounds in inland aquatic systems. Univ. Manitoba, Winnipeg, MB.
- Palace, V. P. 1992. Superoxide dimutase, catalase and glutathione peroxidase antioxidant enzyme activities as indicators of lipid peroxidative stress in freshwater fish. Univ. Manitoba, Winnipeg, MB.
- Muir, D. C. G. 1992. Proceedings of a workshop on a proposed Experimental Lakes Area whole-lake organic contaminant experiment at the Canada Centre for Inland Waters.
- Miskimmin, B. M., J. W. M. Rudd, and C. A. Kelly. 1992. Influence of dissolved organic carbon, pH, and microbial respiration rates on mercury methylation and demethylation in lake water. *Canadian Journal of Fisheries and Aquatic Sciences* **49**:17-22.
- Mills, K. H., S. M. Chalanchuk, and D. J. Allan. 1992. Effects of acidification on lake whitefish (*Coregonus clupeaformis*). *Polski Archiwum Hydrobiologii* **39**:423-430.
- Malley, D. F., M. Shaw, M. Thibodeau, and D. B. Huebert. 1992. Relative importance of macrophyte species as cadmium sinks in a Shield lake receiving experimental additions of cadmium. Winnipeg.



- Malley, D. F., and K. H. Mills. 1992. Whole-lake experimentation as a tool to assess ecosystem health, response to stress and recovery: the Experimental Lakes Area experience. *Journal of Aquatic Ecosystem Stress and Recovery* **1**:159-174.
- Levine, S. N., and D. W. Schindler. 1992. Modification of the N:P ratio in lakes by in situ processes. *Limnology and Oceanography* **37**:917-935.
- Johannsson, O. E., M. A. Shaw, N. D. Yan, J.-M. Filion, and D. F. Malley. 1992. A comparison of freshwater zooplankton sampling gear: Nets, traps, and submersible pump. 1894.
- Groulx, G. R., and D. C. Lasenby. 1992. Temporal and spatial variation in the amount of cadmium in the phantom midge larvae (*Chaoborus* spp.). *Archives of Environmental Contamination and Toxicology* **23**:370-374.
- Grapentine, L. C., and D. M. Rosenberg. 1992. Responses of the freshwater amphipod *Hyalloa azteca* to environmental acidification. *Canadian Journal of Fisheries and Aquatic Sciences* **49**:52-64.
- Gorrie, P. 1992. Lakes as laboratories. Pages 69-78 *Canadian Geographic*. Can. Geographic Soc., Ottawa, ON.
- Findlay, D. L., and J. A. Shearer. 1992. Relationships between sedimentary diatom assemblages and lakewater pH values in the Experimental Lakes Area. *Journal of Paleolimnology* **7**:145-156.
- Fee, E. J., J. A. Shearer, E. R. DeBruyn, and E. U. Schindler. 1992. Effects of lake size on phytoplankton photosynthesis. *Canadian Journal of Fisheries and Aquatic Sciences* **49**:2445-2459.
- Fee, E. J., and R. E. Heckey. 1992. Introduction to the Northwest Ontario Lake Size Series (NOLSS). *Canadian Journal of Fisheries and Aquatic Sciences* **49**:2434-2444.
- Fairchild, W. L., D. C. G. Muir, R. S. Currie, and A. L. Yarechewski. 1992. Emerging insects as a biotic pathway for movement of 2,3,7,8-tetrachlorodibenzofuran from lake sediments. *Environmental Toxicology and Chemistry* **11**:867-872.
- de Mello, W. Z. 1992. Factors controlling fluxes of volatile sulfur compounds in Sphagnum peatlands. Ph.D. university of New Hampshire.
- Crusius, J. 1992. Evaluating the mobility of cesium-137, plutonium-239+240 and lead-210 from their distributions in laminated sediments. Ph.D. Columbia University.
- Campbell, P., and A. G. Salki. 1992. A durable all-season marker float and mooring buoy for limnological field studies. Winnipeg.
- Bayley, S. E., D. W. Schindler, B. R. Parker, M. P. Stainton, and K. G. Beaty. 1992. Effects of forest fire and drought on acidity of a base poor boreal forest stream: similarities between climatic warming and acidic precipitation. *Biogeochemistry* **17**:191-204.
- Bayley, S. E., D. W. Schindler, K. G. Beaty, B. R. Parker, and M. P. Stainton. 1992. Effects of multiple fires on nutrient yields in streams draining boreal forest and fen watersheds: nitrogen and phosphorus. *Canadian Journal of Fisheries and Aquatic Sciences* **49**:584-596.



1991

- Wright, R. F. 1991. Acidification: Whole-catchment manipulations. *in* H. A. Mooney, E. Medina, D. W. Schindler, E.-D. Schulze, and B. H. Walker, editors. *Ecosystem Experiments*. John Wiley & Sons, United Kingdom.
- Wanninkhof, R., J. Ledwell, and J. Crusius. 1991. Gas transfer velocities on lakes measured with sulfur hexafluoride. Pages 441-458 *in* S. C. Wilhelms and J. S. Gulliver, editors. *Air-Water Mass Transfer*. American Society of Civil Engineers, New York, NY.
- Walker, P., and M. Stephenson. 1991. The fate and impact of cadmium on a stream ecosystem. Pages 495-499 *in* J.-P. Vernet, editor. *Heavy Metals in the Environment*. Elsevier, New York, N.Y.
- Turner, M. A., E. T. Howell, M. Summerby, R. H. Hesslein, D. L. Findlay, and M. B. Jackson. 1991. Changes in epilithon and epiphyton associated with experimental acidification of a lake to pH 5. *Limnology and Oceanography* **36**:1390-1405.
- Sweerts, J.-P. R. A., C. A. Kelly, J. W. M. Rudd, R. H. Hesslein, and T. E. Cappenberg. 1991. Similarity of whole-sediment molecular diffusion coefficients in freshwater sediments of low and high porosity. *Limnology and Oceanography* **36**:335-342.
- St.Louis, V. L., and L. Breebaart. 1991. Calcium supplements in the diet of nestling tree swallows near acid sensitive lakes. *The Condor* **93**:286-294.
- Segstro, M. 1991. The bioavailability of polychlorinated dibenzo-p-dioxins to mussels and crayfish in aquatic ecosystems. M. Sc. Thesis.
- Schindler, D. W., T. M. Frost, K. H. Mills, P. S. S. Chang, I. J. Davies, D. L. Findlay, D. F. Malley, J. A. Shearer, M. A. Turner, P. J. Garrison, C. J. Watras, K. Webster, J. M. Gunn, P. L. Brezonik, and W. A. Swenson. 1991. Comparisons between experimentally- and atmospherically-acidified lakes during stress and recovery. *Proceedings of the Royal Society of Edinburgh* **97B**:193-226.
- Schindler, D. W. 1991. Whole lake experiments at the Experimental Lakes Area. Pages 121-139 *in* H. A. Mooney, E. Medina, D. W. Schindler, E.-D. Schulze, and B. H. Walker, editors. *Ecosystem Experiments*. John Wiley & Sons, United Kingdom.
- Richards, S. R., C. A. Kelly, and J. W. M. Rudd. 1991. Organic volatile sulfur in lakes of the Canadian Shield and its loss to the atmosphere. *Limnology and Oceanography* **36**:468-482.
- Mooney, H. A., E. Medina, D. W. Schindler, E.-D. Schulze, and B. H. Walker. 1991. *Ecosystem Experiments*. John Wiley and Sons, United Kingdom.
- Moffett, M. F. 1991. Responses of subepilimnetic primary producers to experimental lake acidification. Univ. Kansas, Lawrence, KS.
- Miskimmin, B. M. 1991. Effect of natural levels of dissolved organic carbon (DOC) on methyl mercury formation and sediment-water partitioning. *Bulletin of Environmental Contamination and Toxicology* **47**:743-750.



- McIntyre, S. H., H. C. Duthie, and B. C. Warner. 1991. Postglacial development of a marl and peat complex on the Precambrian Shield of northwestern Ontario. *Journal of Paleolimnology* **6**:141-155.
- Malley, D. F., and P. S. S. Chang. 1991. Early observations on the zooplankton community of a precambrian shield lake receiving experimental additions of cadmium. *Verhandlungen - Internationale Vereinigung fur theoretische und angewandte Limnologie* **24**:2248-2253.
- Malley, D. F., S. B. Brown, C. L. Baron, G. J. Brunskill, M. J. Capel, S. M. Chalanchuk, P. S. S. Chang, E. R. DeBruyn, R. E. Evans, D. L. Findlay, S. E. Harrison, R. H. Hesslein, M. H. Holoka, D. Huebert, R. V. Hunt, J. F. Klaverkamp, S. G. Lawrence, D. A. Majewski, H. S. Majewski, K. H. Mills, R. E. McNicol, V. Palace, C. J. Ranson, E. Scherer, M. Shaw, M. Stephenson, A. R. Stewart, and L. J. Wesson. 1991. Biological effects of cadmium on a small Precambrian Shield lake: Is the Canadian Water Quality Guideline safe? , Winnipeg.
- Lawrence, S. G., and M. H. Holoka. 1991. Response of crustacean zooplankton impounded in situ to cadmium at low environmental concentrations. *Verhandlungen - Internationale Vereinigung fur theoretische und angewandte Limnologie* **24**:2254-2259.
- Klemer, A. R. 1991. Effects of nutritional status on cyanobacterial buoyancy, blooms, and dominance, with special reference to inorganic carbon. *Canadian Journal of Botany* **69**:1133-1138.
- Hesslein, R. H., J. W. M. Rudd, C. Kelly, P. Ramlal, and K. A. Hallard. 1991. Carbon dioxide pressure in surface waters of Canadian lakes. Pages 413-431 *in* S. C. Wilhelms and J. S. Gulliver, editors. *Air-Water Mass Transfer*. American Society of Civil Engineers, New York, NY.
- Hamilton, A. L. 1991. The Stockholm Water Prize and the Experimental Lakes Area. *Canadian Journal of Fisheries and Aquatic Sciences* **48**:1132-1135.

1990

- Giberson, D. J. 1991. Sorting and identification of macroinvertebrates from lake 375, ELA, collected summer 1990.
- Findlay, D. L., and S. E. M. Kasian. 1991. Response of a phytoplankton community to controlled partial recovery from experimental acidification. *Canadian Journal of Fisheries and Aquatic Sciences* **48**:1022-1029.
- Fee, E. J., E. U. Schindler, J. A. Shearer, E. R. DeBruyn, and D. R. DeClercq. 1991. Light attenuation in the mixed-layer of lakes in the Experimental Lakes Area, 1969-1990 data., Winnipeg.
- Curtis, P. J. 1991. Biogeochemistry of iron in small Precambrian Shield lakes at the Experimental Lakes Area, northwestern Ontario. University of Manitoba, Winnipeg.



- Curtis, P. J. 1991. P and Fe release from anoxic Precambrian Shield lake sediments mediated by addition of Fe(II) insoluble and Fe(II)-soluble bases. *Verhandlungen - Internationale Vereinigung für theoretische und angewandte Limnologie* **24**:2976-2979.
- Crusius, J., and R. F. Anderson. 1991. Core compression and surficial sediment loss of lake sediments of high porosity caused by gravity coring. *Limnology and Oceanography* **36**:1021-1030.
- Cruikshank, D. R. 1991. Whole-lake additions in the Experimental Lakes Area, 1986-1989. 816.
- Cook, R. B., and C. A. Kelly. 1991. Sulfur cycling and fluxes in temperate dimictic lakes. *in* R. W. Howarth, J. W. B. Stewart, and M. V. Ivanov, editors. *Sulfur Cycling on the Continents*. John Wiley and Sons., New York.
- Chalanchuk, S. M., L. C. Mohr, and D. J. Allan. 1991. Length data for four cyprinid species in Lake 302, a double-basin acidified lake in the Experimental Lakes Area, northwestern Ontario. Winnipeg.
- Carpenter, S. R., T. M. Frost, J. F. Kitchell, T. K. Kratz, D. W. Schindler, J. Shearer, W. G. Sprules, M. J. Vanni, and A. P. Zimmerman. 1991. Patterns of primary production and herbivory in 25 North American lake ecosystems. Pages 67-96 *in* J. Cole, G. Lovett, and S. Findlay, editors. *Comparative Analyses of Ecosystems. Patterns, Mechanisms, Theories*. Springer-Verlag, New York, NY.
- Bayley, S. E., and D. W. Schindler. 1991. The role of fire in determining stream water chemistry in northern coniferous forests. Pages 141-165 *in* H. A. Mooney, E. Medina, D. W. Schindler, E.-D. Schulze, and B. H. Walker, editors. *Ecosystem Experiments*. John Wiley & Sons, United Kingdom.
- Amaral, J. A. 1991. Sulfate reduction and organic sulfur formation in lake sediments. University of Manitoba, Winnipeg.
- Winfrey, M. R., and J. W. M. Rudd. 1990. Environmental factors affecting the formation of methylmercury in low pH lakes. *Environmental Toxicology and Chemistry* **9**:853-869.
- Vanni, M. J., and D. L. Findlay. 1990. Trophic cascades and phytoplankton community structure. *Ecology* **71**:921-937.
- Sweerts, J.-P. R. A. 1990. Oxygen consumption, mineralization and nitrogen cycling at the sediment-water interface of north-temperate lakes. Rijksuniversiteit Groningen, Netherlands.
- St.Louis, V. L., L. Breebaart, and J. C. Barlow. 1990. Foraging behaviour of Tree Swallows over acidified and nonacidic lakes. *Canadian Journal of Zoology* **68**:2385-2392.
- Schindler, D. W., K. G. Beaty, E. J. Fee, D. R. Cruikshank, E. R. DeBruyn, D. L. Findlay, G. A. Linsey, J. A. Shearer, M. P. Stainton, and M. A. Turner. 1990. Effects of climatic warming on lakes of the central boreal forest. *Science* **250**:967-970.
- Schindler, D. W., and S. E. Bayley. 1990. Freshwaters in cycle. Pages 149-167 *in* C. Mungall and J. J. McLaren, editors. *Planet Under Stress: The Challenge of Global Change*. Oxford University Press, Toronto.



- Schindler, D. W. 1990. Experimental perturbations of whole lakes as tests of hypotheses concerning ecosystem structure and function. *Oikos* **57**:25-41.
- Rudd, J. W. M., C. A. Kelly, D. W. Schindler, and M. A. Turner. 1990. A comparison of the acidification efficiencies of nitric and sulfuric acids by two whole-lake addition experiments. *Limnology and Oceanography* **35**:663-679.
- Rocheffort, L., D. H. Vitt, and S. E. Bayley. 1990. Growth, Production, and Decomposition Dynamics of Sphagnum under Natural and Experimentally Acidified Conditions. *Ecology* **71**:1986-2000.
- Patalas, K. 1990. Diversity of the zooplankton communities in Canadian lakes as a function of climate. *Verhandlungen - Internationale Vereinigung für theoretische und angewandte Limnologie* **24**:360-368.
- Muir, D. C. G., C. A. Ford, N. P. Grift, D. A. Metner, and W. L. Lockhart. 1990. Geographic variation of chlorinated hydrocarbons in burbot (*Lota lota*) from remote lakes and rivers in Canada. *Archives of Environmental Contamination and Toxicology* **19**:530-542.
- Mohr, L. C., K. H. Mills, and J. F. Klaverkamp. 1990. Survival and Development of Lake Trout (*Salvelinus namaycush*) embryos in an Acidified Lake in Northwestern Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* **47**:236-243.
- Minns, C. K., J. E. Moore, D. W. Schindler, and M. L. Jones. 1990. Assessing the potential extent of danger to inland lakes in eastern Canada due to acidic deposition. III. Predicted impacts on species richness in seven groups of aquatic biota. *Canadian Journal of Fisheries and Aquatic Sciences* **47**:821-830.
- Kelly, C. A., J. W. M. Rudd, and D. W. Schindler. 1990. Acidification by nitric acid - future considerations. *Water, Air, and Soil Pollution* **50**:49-61.
- Huebner, J. D., D. F. Malley, and K. Donkersloot. 1990. Population ecology of the freshwater mussel *Anodonta grandis grandis* in a Precambrian Shield lake. *Canadian Journal of Zoology* **68**:1931-1941.
- Howell, E. T., M. A. Turner, R. L. France, M. B. Jackson, and P. M. Stokes. 1990. Comparison of zygnetacean (Chlorophyta) algae in the metaphyton of two acidic lakes. *Canadian Journal of Fisheries and Aquatic Sciences* **47**:1085-1092.
- Harrison, S. E., J. F. Klaverkamp, and R. H. Hesslein. 1990. Fates of metal radiotracers added to a whole lake: accumulation in fathead minnow (*Pimephales promelas*) and lake trout (*Salvelinus namaycush*). *Water, Air, and Soil Pollution* **52**:277-293.
- Findlay, D. L., and S. E. M. Kasian. 1990. Phytoplankton communities of lakes experimentally acidified with sulfuric and nitric acids. *Canadian Journal of Fisheries and Aquatic Sciences* **47**:1378-1386.



1989

- Fee, E. J. 1990. Computer programs for calculating in situ phytoplankton photosynthesis. 1740.
- Welch, H. E., J. A. Legault, and H. J. Kling. 1989. Phytoplankton, Nutrients, and Primary Production in Fertilized and Natural Lakes at Saqvaqujac, N.W.T. *Canadian Journal of Fisheries and Aquatic Sciences* **46**:90-107.
- Urban, N. R., S. E. Bayley, and S. J. Eisenreich. 1989. Export of dissolved organic carbon and acidity from peatlands. *Water Resources Research* **25**:1619-1628.
- Sweerts, J.-P. R. A., V. St.Louis, and T. E. Cappenberg. 1989. Oxygen concentration profiles and exchange in sediment cores with circulated overlying water. *Freshwater Biology* **21**:401-409.
- St.Louis, V. L., J. C. Barlow, and J.-P. Sweerts. 1989. Toenail clipping: A simple technique for marking individual nidicolous chicks. *Journal of Field Ornithology* **60**:211-215.
- Servos, M. R., D. C. G. Muir, D. M. Whittle, D. B. Sergeant, and G. R. B. Webster. 1989. Bioavailability of octachlorodibenzo-*p*-dioxin in aquatic ecosystems. *Chemosphere* **19**:969-972.
- Servos, M. R., D. C. G. Muir, and G. R. B. Webster. 1989. The effect of dissolved organic matter on the bioavailability of polychlorinated dibenzo-*p*-dioxins. *Aquatic Toxicology* **14**:169-184.
- Servos, M. R., and D. C. G. Muir. 1989. Effect of suspended sediment concentration on the sediments to water partition coefficient for 1,3,6,8-Tetrachlorodibenzo-*p*-dioxin. *Environmental Science & Technology* **23**:1302-1306.
- Servos, M. R., and D. C. G. Muir. 1989. Effect of dissolved organic matter from Canadian shield lakes on the bioavailability of 1,3,6,8-tetrachlorodibenzo-*p*-dioxin to the amphipod *Crangonyx laurentianus*. *Environmental Toxicology and Chemistry* **8**:141-150.
- Schindler, D. W., S. E. M. Kasian, and R. H. Hesslein. 1989. Losses of biota from American aquatic communities due to acid rain. *Environmental Monitoring and Assessment* **12**:269-285.
- Schindler, D. W., S. E. M. Kasian, and R. H. Hesslein. 1989. Biological impoverishment in lakes of the midwestern and northeastern United States from acid rain. *Environmental Science and Technology* **23**:573-580.
- Schindler, D. W. 1989. Letter to the editor. *Scientific American* **26**:7.
- Riley, J. L., and L. Michaud. 1989. Peat and peatland resources of northwestern Ontario.
- Rasmussen, J. B., L. Godbout, and M. Schallenberg. 1989. The humic content of lake water and its relationship to watershed and lake morphometry. *Limnology and Oceanography* **34**:1336-1442.
- Noël, D., J.-J. Hechler, and H. Roberge. 1989. Performance of sulfation and nitration plates used to monitor atmospheric pollutant deposition in a real environment. *Atmospheric Environment* **23**:603-609.



- Miskimmin, B. M. 1989. The influence of dissolved organic carbon on methyl mercury production and sediment-water partitioning in Precambrian Shield lakes. Univ. Manitoba, Winnipeg, MB.
- Malley, D. F., S. G. Lawrence, M. A. MacIver, and W. J. Findlay. 1989. Range of variation in estimates of dry weight for planktonic Crustacea and Rotifera from temperate North American lakes. 1666.
- Malley, D. F., P. S. S. Chang, and R. H. Hesslein. 1989. Whole lake addition of cadmium-109: radiotracer accumulation in the mussel population in the first season. *Science of the Total Environment* **87-88**:397-417.
- Levine, S. N., and D. W. Schindler. 1989. Phosphorus, nitrogen, and carbon dynamics of Experimental Lake 303 during recovery from eutrophication. *Canadian Journal of Fisheries and Aquatic Sciences* **46**:2-10.
- Lawrence, S. G., M. H. Holoka, and R. D. Hamilton. 1989. Effects of cadmium on a microbial food chain, *Chlamydomonas reinhardtii* and *Tetrahymena vorax*. *Science of the Total Environment* **87-88**:381-395.
- Kelly, C. A. 1989. Reply to comment by Urban and Baker. *Limnology and Oceanography* **34**:1146-1148.
- Havas, M. 1989. Recovery of acidified and metal-contaminated lakes in Canada. Pages 187-205 in S. A. Norton, S. E. Lindberg, and A. L. Page, editors. *Acidic Precipitation: Soils, Aquatic Processes, and Lake Acidification*. Springer-Verlag, New York.
- Fee, E. J., R. E. Hecky, M. P. Stainton, P. Sandberg, A. Salki, G. McCullough, H. J. Kling, L. L. Hendzel, and S. Guildford. 1989. Lake variability and climate research in northwest Ontario: study design and 1985-1986 data from the Red Lake District. Winnipeg.
- Davies, I. J., and D. J. Ramsey. 1989. A diver-operated suction gun and collection bucket for sampling crayfish and other aquatic macroinvertebrates. *Canadian Journal of Fisheries and Aquatic Sciences* **46**:923-927.
- Davies, I. J. 1989. Population collapse of the crayfish *Orconectes virilis* in response to experimental whole-lake acidification. *Canadian Journal of Fisheries and Aquatic Sciences* **46**:910-922.
- Curtis, P. J. 1989. Effects of hydrogen ion and sulphate on the phosphorus cycle of a Precambrian Shield lake. *Nature* **337**:156-158.
- Chang, P. S. S., and D. F. Malley. 1989. Partial recovery of the zooplankton community in a small Precambrian Shield lake as experimental acidification is reduced. Pages 203-208 in J. Salanki and S. Herodek, editors. *Conservation and Management of Lakes*. Akademiai Kiado, Budapest.
- Chalanchuk, S. M., L. C. Mohr, and D. J. Allan. 1989. Ten years of data for four cyprinid species in Lake 114, an experimentally acidified lake in the Experimental Lakes Area, northwestern Ontario, Winnipeg.



- Bilyj, B., and I. J. Davies. 1989. Descriptions and ecological notes on seven new species of *Cladotanytarsus* (Chironomidae: Diptera) collected from an experimentally acidified lake. *Canadian Journal of Zoology* **67**:948-962.
- Beaty, K. G., and M. E. Lyng. 1989. Hydrometeorological data for the Experimental Lakes Area, northwestern Ontario, 1982-1987. Winnipeg.
- Amaral, J. A., R. H. Hesslein, J. W. M. Rudd, and D. E. Fox. 1989. Loss of total sulfur and changes in sulfur isotope ratios due to drying of lacustrine sediments. *Limnology and Oceanography* **34**:1351-1358.

1988

- Vanni, M. J. 1988. Freshwater zooplankton community structure: introduction of large invertebrate predators and large herbivores to a small-species community. *Canadian Journal of Fisheries and Aquatic Sciences* **45**:1758-1770.
- Urban, N. R., S. J. Eisenreich, and S. E. Bayley. 1988. The relative importance of denitrification and nitrate assimilation in mid-continental bogs. *Limnology and Oceanography* **33**:1611-1617.
- Shaffer, P. W., R. P. Hooper, K. N. Eshleman, and M. R. Church. 1988. Watershed and in-lake alkalinity generation: A comparison of rates using input-output studies. *Water, Air, and Soil Pollution* **39**:263-273.
- Servos, M. R. 1988. Fate and bioavailability of polychlorinated dibenzo-p-dioxins in aquatic environments. Univ. Manitoba, Winnipeg, MB.
- Schindler, D. W. 1988. Different interpretations of the importance of internal alkalinity generation in the alkalinity budgets of lakes and watersheds: A response to Schaffer, P.W., Hooper, R.P., Eshleman, K.N., and Church, M.R. *Water, Air, and Soil Pollution* **47**:175-177.
- Schindler, D. W. 1988. Experimental studies of chemical stressors on whole lake ecosystems. *Verhandlungen - Internationale Vereinigung für theoretische und angewandte Limnologie* **23**:11-41.
- Schindler, D. W. 1988. Effects of acid rain on freshwater ecosystems. *Science* **239**:149-157.
- Schindler, D. W. 1988. Confusion over the origin of alkalinity in lakes. *Limnology and Oceanography* **33**:1637-1640.
- Santschi, P. H. 1988. Factors controlling the biogeochemical cycles of trace elements in fresh and coastal marine waters as revealed by artificial radioisotopes. *Limnology and Oceanography* **33**:848-866.
- Rudd, J. W. M., C. A. Kelly, D. W. Schindler, and M. A. Turner. 1988. Disruption of the nitrogen cycle in acidified lakes. *Science* **240**:1515-1517.



- Rudd, J. W. M., C. A. Kelly, and D. W. Schindler. 1988. Comment on 'Dynamic model of in-lake alkalinity generation' by L.A. Baker and P.L. Brezonik. *Water Resources Research* **24**:1825-1827.
- Rosenberg, D. M., A. P. Wiens, and B. Bilyj. 1988. Chironomidae (Diptera) of peatlands in northwestern Ontario, Canada. *Holarctic Ecology* **11**:19-31.
- Mills, K. H., and S. M. Chalanchuk. 1988. Population dynamics of unexploited lake whitefish (*Coregonus clupeaformis*) in one experimentally fertilized lake and three exploited lakes. *Finnish Fisheries Research* **9**:145-153.
- Malley, D. F., J. D. Huebner, and K. Donkersloot. 1988. Effects on ionic composition of blood and tissues of *Anodonta grandis grandis* (Bivalvia) of an addition of aluminum and acid to a lake. *Archives of Environmental Contamination and Toxicology* **17**:479-491.
- Malley, D. F., P. S. S. Chang, and D. W. Schindler. 1988. Decline of zooplankton populations following eutrophication of Lake 227, Experimental Lakes Area, Ontario: 1969-1974. 1619.
- Malley, D. F., P. S. S. Chang, D. L. Findlay, and G. A. Linsey. 1988. Extreme perturbation of the zooplankton community of a small Precambrian Shield lake by the addition of nutrients. *Verhandlungen - Internationale Vereinigung für theoretische und angewandte Limnologie* **23**:2237-2247.
- Kling, H. J., and H. Haakansson. 1988. A light and electron microscope study of *Cyclotella* species (Bacillariophyceae) from central and northern Canadian lakes. *Diatom Research* **3**:55-82.
- Kilham, P., and R. E. Hecky. 1988. Comparative ecology of marine and freshwater phytoplankton. *Limnology and Oceanography* **33**:776-795.
- Kelly, C. A., J. W. M. Rudd, and D. W. Schindler. 1988. Carbon and electron flow via methanogenesis, SO₄²⁻, NO₃⁻, Fe³⁺, and Mn⁴⁺ reduction in the anoxic hypolimnion of three lakes. *Arch. Hydrobiol. Bieh* **31**:333-344.
- Kelly, C. A. 1988. Toward improving comparisons of alkalinity generation in lake basins. *Limnology and Oceanography* **33**:1635-1636.
- Howell, E. T. 1988. Ecology of periphyton associations with isoetid plants in low alkalinity lakes. Univ. Toronto, Toronto, ON.
- Hesslein, R. H., M. J. Capel, and D. E. Fox. 1988. Sulfur Isotopes in Sulfate in the Inputs and Outputs of a Canadian Shield Watershed. *Biogeochemistry* **5**:263-273.
- Hecky, R. E., and P. Kilham. 1988. Nutrient limitation of phytoplankton in freshwater and marine environments: A review of recent evidence on the effects of enrichment. *Limnology and Oceanography* **33**:796-822.
- Dickman, M., H. G. Thode, S. Rao, and R. Anderson. 1988. Downcore sulphur isotope ratios and diatom inferred pH in an artificially acidified Canadian shield lake. *Environmental Pollution* **49**:265-288.



- Davidson, G. A. 1988. A modified tape-peel technique for preparing permanent qualitative microfossil slides. *Journal of Paleolimnology* **1**:229-234.
- Cruikshank, D. R., K. Matthisen, and R. Hunt. 1988. Trace metal data in water from lakes and streams of the Experimental Lakes Area, northwestern Ontario, 1976-1986. Winnipeg.
- Cruikshank, D. R. 1988. Effects of nutrient and acid additions on Secchi depth at the Experimental Lakes Area, 1969-1986. Winnipeg.

1987

- Cruikshank, D. R. 1988. Temperature profiles for 20 lakes in the Experimental Lakes Area, northwestern Ontario, 1987. 696.
- Xun, L., N. E. R. Campbell, and J. W. M. Rudd. 1987. Measurements of specific rates of net methyl mercury production in the water column and surface sediments of acidified and circumneutral lakes. *Canadian Journal of Fisheries and Aquatic Sciences* **44**:750-757.
- Wehr, J. D., L. M. Brown, and K. A. O'Grady. 1987. Highly specialized nitrogen metabolism in a freshwater phytoplankter, *Chrysochromulina breviturrita*. *Canadian Journal of Fisheries and Aquatic Sciences* **44**:736-742.
- Urban, N. R. 1987. The nature and origins of acidity in bogs. Univ. Minnesota, Minneapolis, MN.
- Turner, M. A., M. B. Jackson, D. L. Findlay, R. W. Graham, E. R. DeBruyn, and E. M. Vandermeer. 1987. Early responses of periphyton to experimental lake acidification. *Canadian Journal of Fisheries and Aquatic Sciences* **44(S1)**:s135-s149.
- Shearer, J. A., E. J. Fee, E. R. DeBruyn, and D. R. DeClercq. 1987. Phytoplankton primary production and light attenuation responses to the experimental acidification of a small Canadian shield lake. *Canadian Journal of Fisheries and Aquatic Sciences* **44(S1)**:s83-s90.
- Shearer, J. A., E. J. Fee, E. R. DeBruyn, and D. R. DeClercq. 1987. Phytoplankton productivity changes in a small, double-basin lake in response to termination of experimental fertilization. *Canadian Journal of Fisheries and Aquatic Sciences* **44 (Suppl. 1)**:47-54.
- Shearer, J. A., and E. R. DeBruyn. 1987. Light attenuation in the Experimental Lakes Area - 1983, 1984, 1985 data. Winnipeg.
- Schindler, D. W., R. H. Hesslein, and M. A. Turner. 1987. Exchange of nutrients between sediments and water after 15 years of experimental eutrophication. *Canadian Journal of Fisheries and Aquatic Sciences* **44(S1)**:s26-s33.
- Schindler, D. W. 1987. Detecting ecosystem responses to anthropogenic stress. *Canadian Journal of Fisheries and Aquatic Sciences* **44 (Suppl. 1)**:6-25.
- Schiff, S. L., and R. F. Anderson. 1987. Limnocorral Studies of Chemical and Biological Acid Neutralization in Two Freshwater Lakes. *Canadian Journal of Fisheries and Aquatic Sciences* **44(S1)**:s173-s187.
- Playle, R. C. 1987. Chemical effects of spring and summer alum additions to a small, Northwestern Ontario Lake. *Water, Air, and Soil Pollution* **34**:207-225.



- Playle, R. C. 1987. Methods and Feasibility of Using Aluminum-26 as a Biological Tracer in low pH Waters. *Canadian Journal of Fisheries and Aquatic Sciences* **44(S1)**:s260-s263.
- Mills, K. H., and D. W. Schindler. 1987. Preface. *Canadian Journal of Fisheries and Aquatic Sciences* **44**:3-5.
- Mills, K. H., S. M. Chalanchuk, L. C. Mohr, and I. J. Davies. 1987. Responses of Fish Populations in Lake 223 to 8 Years of Experimental Acidification. *Canadian Journal of Fisheries and Aquatic Sciences* **44(S1)**:s114-s125.
- Mills, K. H., and S. M. Chalanchuk. 1987. Population Dynamics of Lake Whitefish (*Coregonus clupeaformis*) During and After the Fertilization of Lake 226, the Experimental Lakes Area. *Canadian Journal of Fisheries and Aquatic Sciences* **44 (Suppl 1)**:s55-s63.
- Marshall, T. R., and P. A. Ryan. 1987. Abundance patterns and community attributes of fishes relative to environmental gradients. *Canadian Journal of Fisheries and Aquatic Sciences* **44 (Suppl. 2)**:198-215.
- Linsey, G. A., D. W. Schindler, and M. P. Stainton. 1987. Atmospheric Deposition of Nutrients and Major Ions at the Experimental Lakes Area in Northwestern Ontario, 1970 to 1982. *Canadian Journal of Fisheries and Aquatic Sciences* **44(S1)**:s206-s214.
- Leino, R. L., P. Wilkinson, and J. G. Anderson. 1987. Histopathological Changes in the Gills of Pearl Dace, *Semotilus margarita*, and Fathead Minnows, *Pimephales promelas*, from Experimentally Acidified Canadian Lakes. *Canadian Journal of Fisheries and Aquatic Sciences* **44(S1)**:s126-s134.
- Lawrence, S. G., D. F. Malley, W. J. Findlay, M. A. MacIver, and I. L. Delbaere. 1987. Method for estimating dry weight of freshwater planktonic crustaceans from measures of length and shape. *Canadian Journal of Fisheries and Aquatic Sciences* **44 (Suppl. 1)**:264-274.
- Lawrence, S. G., and M. H. Holoka. 1987. Effects of low concentrations of cadmium on the crustacean zooplankton community of an artificially acidified lake. *Canadian Journal of Fisheries and Aquatic Sciences* **44(s1)**:s163-s172.
- Klaverkamp, J. F., and D. A. Duncan. 1987. Acclimation to Cd Toxicity by white suckers: Cd-binding capacity and metal distribution in gill and liver cytosol. *Environmental Toxicology and Chemistry* **6**:275-289.
- Kettle, W. D., M. F. Moffett, and F. deNoyelles. 1987. Vertical distribution of zooplankton in an experimentally acidified lake containing a metalimnetic phytoplankton peak. *Canadian Journal of Fisheries and Aquatic Sciences* **44 (Suppl. 1)**:91-95.
- Kelly, C. A., J. W. M. Rudd, R. H. Hesslein, D. W. Schindler, P. J. Dillon, C. T. Driscoll, S. A. Gherini, and R. E. Hecky. 1987. Prediction of biological acid neutralization in acid-sensitive lakes. *Biogeochemistry* **3**:129-140.
- Johnson, M. G. 1987. Trace element loadings to sediments of fourteen Ontario lakes and correlations with concentrations in fish. *Canadian Journal of Fisheries and Aquatic Sciences* **44**:3-13.



- Holoka, M. H., and S. G. Lawrence. 1987. Perturbations in zooplankton communities in a continuously flowing impoundment system incubated in situ. *Canadian Journal of Fisheries and Aquatic Sciences* **44(S1)**:s154-s162.
- Hesslein, R. H. 1987. Whole-lake metal radiotracer movement in fertilized lake basins. *Canadian Journal of Fisheries and Aquatic Sciences* **44 (Suppl. 1)**:74-82.
- Groulx, G. R. 1987. Factors influencing the amount of cadmium in the phantom midge fly larva, *Chaoborus* spp. Trent University, Peterborough, ON.
- Grapentine, L. C. 1987. Consequences of environmental acidification to the freshwater amphipod *Hyalella azteca*. Univ. Manitoba, Winnipeg, MB.
- Graham, R. W., and M. A. Turner. 1987. Photoinhibition of respiration in epilithic periphyton. *Canadian Journal of Fisheries and Aquatic Sciences* **44(S1)**:s150-s153.
- France, R. L., and P. M. Stokes. 1987. Life stage and population variation in resistance and tolerance of *Hyalella azteca* (Amphipoda) to low pH. *Canadian Journal of Fisheries and Aquatic Sciences* **44**:1102-1111.
- France, R. L. 1987. Calcium and Trace Metal Composition of Crayfish (*Orconectes virilis*) in Relation to Experimental Lake Acidification. *Canadian Journal of Fisheries and Aquatic Sciences* **44(S1)**:s107-s113.
- France, R. L. 1987. Reproductive Impairment of the Crayfish *Orconectes virilis* in Response to Acidification of Lake 223. *Canadian Journal of Fisheries and Aquatic Sciences* **44(S1)**:s97-s106.
- Findlay, D. L., and S. E. M. Kasian. 1987. Phytoplankton community responses to nutrient addition in Lake 226, Experimental Lakes Area, northwestern Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* **44 (Suppl. 1)**:35-46.
- Fee, E. J., R. E. Hecky, and H. E. Welch. 1987. Phytoplankton photosynthetic parameters in central Canadian lakes. *Journal of Plankton Research* **9**:305-316.
- Dickman, M. D., H. G. Thode, S. S. Rao, and R. F. Anderson. 1987. Sulphate reduction and microbial mediated alkalinity production in an artificially acidified lake.
- Davies, I. J. 1987. Biological effects monitoring for the non-fish biota of lakes.

1986

- Cruikshank, D. R. 1987. Temperature profiles for 21 lakes in the Experimental Lakes Area northwestern Ontario, 1986. Winnipeg.
- Chang, P. S. S., D. F. Malley, J. F. Klaverkamp, and S. G. Lawrence. 1987. Inhibition by low pH of cadmium accumulation in the crayfish, *Orconectes virilis*, in experimental field enclosures. Winnipeg.
- Chang, P. S. S., and D. F. Malley. 1987. Zooplankton in Lake 223, Experimental lakes Area, northwestern Ontario, 1974-1983. 665.



- Carpenter, S. R., and J. F. Kitchell. 1987. The temporal scale of variance in limnetic primary production. *American Naturalist* **129**:417-433.
- Brunskill, G. J., and P. Wilkinson. 1987. Annual Supply of ^{238}U , ^{234}U , ^{230}Th , ^{226}Ra , ^{210}Pb , ^{210}Po , and ^{232}Th to Lake 239 (Experimental Lakes Area, Ontario) from Terrestrial and Atmospheric Sources. *Canadian Journal of Fisheries and Aquatic Sciences* **44(S1)**:s215-s230.
- Bower, P. M., C. A. Kelly, E. J. Fee, J. A. Shearer, D. R. DeClercq, and D. W. Schindler. 1987. Simultaneous measurement of primary production by whole-lake and bottle radiocarbon additions. *Limnology and Oceanography* **32**:299-312.
- Beaty, K. G. 1987. An irrigation system and hydrological network for a wetland acidification project. Winnipeg.
- Bayley, S. E., D. H. Vitt, R. W. Newbury, K. G. Beaty, R. Behr, and C. Miller. 1987. Experimental Acidification of a *Sphagnum*-Dominated Peatland: First Year Results. *Canadian Journal of Fisheries and Aquatic Sciences* **44(S1)**:s194.
- Bayley, S. E., and D. W. Schindler. 1987. Sources of alkalinity in Precambrian Shield watershed streams under natural conditions and after fire or acidification. Pages 531-548 in T. C. Hutchinson and M. Havas, editors. *Effects of atmospheric pollutants on forests, wetlands and agricultural ecosystems*. Springer-Verlag, New York.
- Arnason, A. N., and K. H. Mills. 1987. Detection of Handling Mortality and its Effects on Jolly-Seber Estimates for Mark-Recapture Experiments. *Canadian Journal of Fisheries and Aquatic Sciences* **44 (S1)**:s64-s73.
- Anderson, R. F., S. L. Schiff, and R. H. Hesslein. 1987. Determining sediment accumulation and mixing rates using ^{210}Pb , ^{137}Cs and other tracers: problems due to postdepositional mobility or coring artifacts. *Canadian Journal of Fisheries and Aquatic Sciences* **44 (Suppl. 1)**:231-250.
- Anderson, R. F., and S. L. Schiff. 1987. Alkalinity generation and the fate of sulfur in lake sediments. *Canadian Journal of Fisheries and Aquatic Sciences* **44 (Suppl. 1)**:188-193.
- Anderson, R. F., P. H. Santschi, U. P. Nyffeler, and S. L. Schiff. 1987. Validating the use of radiotracers as analogs of stable metal behaviour in enclosed aquatic ecosystem experiments. *Canadian Journal of Fisheries and Aquatic Sciences* **44 (Suppl. 1)**:251-259.
- Urban, N. R., and S. E. Bayley. 1986. The acid-base balance of peatlands: a short-term perspective. *Water, Air, and Soil Pollution* **30**:791-800.
- Sweerts, J. P., J. W. M. Rudd, and C. A. Kelly. 1986. Metabolic activities in flocculent surface sediments and underlying sandy littoral sediments. *Limnology and Oceanography* **31**:330-338.
- Shearer, J. A., and E. R. DeBruyn. 1986. Phytoplankton productivity responses to direct addition of sulfuric and nitric acids to the waters of a double-basin lake. *Water, Air, and Soil Pollution* **30**:695-702.



- Schindler, D. W., M. A. Turner, M. P. Stainton, and G. A. Linsey. 1986. Natural Sources of Acid Neutralizing Capacity in Low Alkalinity Lakes of the Precambrian Shield. *Science* **232**:844-847.
- Schindler, D. W. 1986. The significance of in-lake production of alkalinity. *Water, Air, and Soil Pollution* **30**:931-944.
- Schiff, S. L. 1986. Acid neutralization in sediments of freshwater lakes. Columbia Univ., New York, NY.
- Santschi, P. H., U. P. Nyfeller, R. F. Anderson, S. L. Schiff, P. O'Hara, and R. H. Hesslein. 1986. Response of radioactive trace metals to acid-base titrations in controlled experimental ecosystems: evaluation of transport parameters for application to whole-lake radiotracer experiments. *Canadian Journal of Fisheries and Aquatic Sciences* **43**:60-77.
- Rudd, J. W. M., C. A. Kelly, V. St.Louis, R. H. Hesslein, A. Furutani, and M. H. Holoka. 1986. Microbial consumption of nitric and sulfuric acids in acidified north temperate lakes. *Limnology and Oceanography* **31**:1267-1280.
- Rudd, J. W. M., C. A. Kelly, and A. Furutani. 1986. The role of sulfate reduction in long term accumulation of organic and inorganic sulfur in lake sediments. *Limnology and Oceanography* **31**:1281-1291.
- Ramlal, P. S., J. W. M. Rudd, and R. E. Hecky. 1986. Methods for measuring specific rates of mercury methylation and degradation and their use in determining factors controlling net rates of mercury methylation. *Applied and Environmental Microbiology* **51**:110-114.
- Mills, K. H., and D. W. Schindler. 1986. Biological indicators of lake acidification. *Water, Air, and Soil Pollution* **30**:779-789.
- Malley, D. F., P. S. S. Chang, C. M. Moore, and S. G. Lawrence. 1986. Changes in the aluminum content of tissues of crayfish, *Orconectes virilis*, held in the laboratory and in experimental field enclosures. Winnipeg.
- Malley, D. F., and P. S. S. Chang. 1986. Increase in the abundance of Cladocera at pH 5.1 in experimentally-acidified Lake 223, Experimental Lakes Area. *Water, Air, and Soil Pollution* **30**:629-638.
- Levine, S. N., M. P. Stainton, and D. W. Schindler. 1986. A radiotracer study of phosphorus cycling in a eutrophic Canadian Shield lake, Lake 227, northwestern Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* **43**:366-378.
- Findlay, D. L., and S. E. M. Kasian. 1986. Phytoplankton community responses to acidification of Lake 223, Experimental Lakes Area. *Water, Air, and Soil Pollution* **30**:719-726.



1985

- Cruikshank, D. R. 1986. Whole lake chemical additions in the Experimental Lakes Area, 1984-1985. Winnipeg.
- Cruikshank, D. R. 1986. Temperature profiles for 23 lakes in the Experimental Lakes Area, northwestern Ontario, 1985. Winnipeg.
- Cook, R. B., C. A. Kelly, D. W. Schindler, and M. A. Turner. 1986. Mechanisms of hydrogen ion neutralization in an experimentally acidified lake. *Limnology and Oceanography* **31**:134-148.
- Chalanchuk, S. M. 1986. Condition and growth of white suckers, *Catostomus commersoni* in Lake 302, a double-basin acidified lake in the Experimental Lakes Area. Winnipeg.
- Brown, L. M., and J. D. Wehr. 1986. Development of selenium analysis methodology at ng/l levels for soft waters subject to acidic precipitation. Pages 97-110. Ontario Ministry of Natural Resources.
- Behr, R. S. 1986. Sulfur dynamics in an acidified mire in northwestern Ontario. Univ. Manitoba, Winnipeg, MB.
- Bayley, S. E., R. S. Behr, and C. A. Kelly. 1986. Retention and release of sulfur from a freshwater wetland. *Water, Air, and Soil Pollution* **31**:101-114.
- Barrie, L. A., and A. Sirois. 1986. Wet and dry deposition of sulphates and nitrates in eastern Canada. *Water, Air, and Soil Pollution* **30**:303-310.
- Wilkinson, P. 1985. The determination of environmental levels of uranium and thorium series isotopes and ¹³⁷Cs in aquatic and terrestrial samples. Canadian Special Publication of Fisheries and Aquatic Sciences **78**:1-51.
- Wanninkhof, R., J. R. Ledwell, and W. S. Broecker. 1985. Gas exchange-wind speed relation measured with sulfur hexafluoride on a lake. *Science* **227**:1224-1226.
- Tam, T.-Y. 1985. Effect of acid precipitation on heterotrophic nitrification in Canadian Precambrian Shield lakes. Univ. Manitoba, Winnipeg, MB.
- Shearer, J. A., E. R. DeBruyn, D. R. DeClercq, D. W. Schindler, and E. J. Fee. 1985. Manual of phytoplankton primary production methodology. Winnipeg.
- Schindler, D. W., M. A. Turner, and R. H. Hesslein. 1985. Acidification and alkalization of lakes by experimental addition of nitrogen compounds. *Biogeochemistry* **1**:117-133.
- Schindler, D. W., K. H. Mills, D. F. Malley, D. L. Findlay, J. A. Shearer, I. J. Davies, M. A. Turner, G. A. Linsey, and D. R. Cruikshank. 1985. Long-term ecosystem stress: the effects of years of experimental acidification on a small lake. *Science* **228**:1395-1401.
- Schindler, D. W. 1985. The coupling of elemental cycles by organisms: evidence from whole lake chemical perturbations. Pages 225-250 in W. Stumm, editor. *Chemical Processes in Lakes*. John Wiley and Sons, New York, NY.



- Salki, A., M. Turner, K. Patalas, J. Rudd, and D. Findlay. 1985. The influence of fish-zooplankton-phytoplankton interactions on the results of selenium toxicity experiments within large enclosures. *Canadian Journal of Fisheries and Aquatic Sciences* **42**:1132-1143.
- Reinke, D. C., and F. deNoyelles. 1985. The species-specific effects of sublethal concentrations of cadmium on freshwater phytoplankton communities in a Canadian Shield lake. *Canadian Journal of Botany* **63**:1997-2003.
- Ramsey, D. J. 1985. The responses of planktonic crustacean communities in large enclosures to experimental acidification. Univ. Manitoba, Winnipeg, MB.
- Ramlal, P. S., J. W. M. Rudd, A. Furutani, and L. Xun. 1985. The effect of pH on methyl mercury production and decomposition in lake sediments. *Canadian Journal of Fisheries and Aquatic Sciences* **42**:685-692.
- Playle, R. C. 1985. The effects of aluminum on aquatic organisms: 1) alum additions to a small lake, and 2) aluminum-26 tracer experiments with minnows. Univ. Manitoba, Winnipeg, MB.
- Mohr, L. C., and S. M. Chalanchuk. 1985. The effect of pH on sperm motility of white suckers, *Catostomus commersoni*, in the Experimental Lakes Area. *Environmental Biology of Fishes* **14**:309-314.
- Mohr, L. C. 1985. Depth distribution of the slimy sculpin (*Cottus cognatus*) from Lake 302 in the Experimental Lakes Area. Winnipeg.
- Mills, K. H. 1985. Responses of lake whitefish (*Coregonus clupeaformis*) to fertilization of Lake 226, the Experimental Lakes Area. *Canadian Journal of Fisheries and Aquatic Sciences* **42**:129-138.
- Malley, D. F., and P. S. S. Chang. 1985. Effects of aluminum and acid on calcium uptake by the crayfish, *Orconectes virilis*. *Archives of Environmental Contamination and Toxicology* **14**:739-747.
- Malley, D. F. 1985. Acid rain and its relationship to fish biology and bald eagles. Pages 114-138 in J. M. Gerrard and T. N. Ingram, editors. *The Bald Eagle in Canada*. White Horse Plains Publishers, Headingley, MB.
- Lyng, M. E., and D. R. Cruikshank. 1985. Temperature profiles for 19 lakes in the Experimental Lakes Area, northwestern Ontario. Winnipeg.
- Linsey, G. A., J. Braund, M. P. Stainton, and J. Prokopowich. 1985. Water chemistry data for north and south basins of Lake 302, Experimental Lakes Area, northwestern Ontario, 1968-1983. Winnipeg.
- Herczeg, A. L., W. S. Broecker, R. F. Anderson, S. L. Schiff, and D. W. Schindler. 1985. A new method for monitoring temporal trends in the acidity of freshwaters. *Nature* **315**:133-135.
- Herczeg, A. L. 1985. Carbon dioxide equilibria and $\delta^{13}\text{C}$ studies in some softwater lakes. Ph.D. Columbia.



- France, R. L., and L. Graham. 1985. Increased microsporidian parasitism of the crayfish *Orconectes virilis* in an experimentally acidified lake. *Water, Air, and Soil Pollution* **26**:129-136.
- France, R. L. 1985. Preliminary investigation of effects of sublethal acid exposure on maternal behavior in the crayfish *Orconectes virilis*. *Bulletin of Environmental Contamination and Toxicology* **35**:641-645.
- France, R. L. 1985. Low pH avoidance by crayfish (*Orconectes virilis*): evidence for sensory conditioning. *Canadian Journal of Zoology* **63**:258-262.
- France, R. L. 1985. Relationship of crayfish (*Orconectes virilis*) growth to population abundance and system productivity in small oligotrophic lakes in the Experimental Lakes Area, northwestern Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* **42**:1096-1102.
- Chalanchuk, S. M. 1985. Recruitment, growth and condition of a population of the white sucker, *Catostomus commersoni*, in Lake 223, an experimentally acidified lake. Winnipeg.
- Brunskill, G. J., and P. Wilkinson. 1985. Mass balance of uranium-series nuclides in streams and Lake 239 of the Experimental Lakes Area, Ontario, Canada. *Verhandlungen - Internationale Vereinigung für theoretische und angewandte Limnologie* **22**:2469.
- Bjorck, S. 1985. Deglaciation chronology and revegetation. *Canadian Journal of Earth Sciences* **22**:850-871.

1984

- Xun, L. 1984. The effect of acid stress on methylation and demethylation of mercury in the whole-lake ecosystem. Univ. Manitoba, Winnipeg, MB.
- Vitt, D. H., and S. E. Bayley. 1984. The vegetation and water chemistry of four oligotrophic basin mires of northwestern Ontario. *Canadian Journal of Botany* **62**:1485-1500.
- Tallman, R. F., K. H. Mills, and R. G. Rotter. 1984. The comparative ecology of pearl dace (*Semotilus margarita*) and fathead minnow (*Pimephales promelas*) in Lake 114, the Experimental Lakes Area, northwestern Ontario, with an appended key to the cyprinids of the Experimental Lakes Area. 1756.
- Planas, D., and R. E. Hecky. 1984. Comparison of phosphorus turnover times in northern Manitoba reservoirs with lakes of the Experimental Lakes Area. *Canadian Journal of Fisheries and Aquatic Sciences* **41**:605-612.
- Musgrave, D. L. 1984. Penetrative convection in sediments. Univ. of Alaska, Fairbanks, AK.
- Mohr, L. C. 1984. The general ecology of the slimy sculpin (*Cottus cognatus*) in Lake 302 of the Experimental Lakes Area, northwestern Ontario. Winnipeg.
- Mills, K. H. 1984. Fish population responses to artificial acidification of a small Ontario lake. Pages 117-131 in G. R. Hendrey, editor. *Early biotic responses to advancing lake acidification*. Butterworth Publishers, Boston.



- Loewen, N. R. 1984. Evaluation of the acetylene inhibition technique for estimating denitrification in freshwater epilimnetic sediments using nitrogen-15. Univ. Manitoba, Winnipeg, MB.
- Linsey, G. A., and J. Braund. 1984. Water chemistry data from Lake 223 of the Experimental Lakes Area, northwestern Ontario, 1974 to 1982. Winnipeg.
- Lawrence, S. G., M. MacIver, and I. L. Delbaere. 1984. Species composition and seasonal abundance of zooplankton in Lake 114, Experimental Lakes Area, northwestern Ontario: before and during acidification 1970-71, 1978-83. 472.
- Kelly, C. A., J. W. M. Rudd, A. Furutani, and D. W. Schindler. 1984. Effects of lake acidification on rates of organic matter decomposition in sediments. *Limnology and Oceanography* **29**:687-694.
- Kelly, C. A., and J. W. M. Rudd. 1984. Epilimnetic sulfate reduction and its relationship to lake acidification. *Biogeochemistry* **1**:63-77.
- Hesslein, R. H., and E. Slavicek. 1984. Geochemical Pathways and Biological Uptake of Radium in Small Canadian Shield Lakes. *Canadian Journal of Fisheries and Aquatic Sciences* **41**:459-463.
- Herczeg, A. L., and R. H. Hesslein. 1984. Determination of hydrogen ion concentration in softwater lakes using carbon dioxide equilibria. *Geochimica et Cosmochimica Acta* **48**:837-845.
- Gorham, E., S. E. Bayley, and D. W. Schindler. 1984. Ecological effects of acid deposition upon peatlands: a neglected field in "acid rain" research. *Canadian Journal of Fisheries and Aquatic Sciences* **41**:1256-1268.
- Furutani, A., J. W. M. Rudd, and C. A. Kelly. 1984. A method for measuring the response of sediment microbial communities to environmental perturbations. *Canadian Journal of Microbiology* **30**:1408-1414.
- France, R. L. 1984. Comparative tolerance to low pH of three life stages of the crayfish *Orconectes virilis*. *Canadian Journal of Zoology* **62**:2360-2363.
- Findlay, D. L. 1984. Effects on phytoplankton biomass, succession and composition in Lake 223 as a result of lowering pH levels from 5.6 to 5.2: Data from 1980 to 1982., Winnipeg.
- Fee, E. J. 1984. Freshwater Institute primary production model user's guide. Winnipeg.
- DeBruyn, E. R., J. A. Shearer, and D. L. Findlay. 1984. Phytoplankton primary production, chlorophyll, biomass and suspended carbon in the Experimental Lakes Area - 1982 data. Winnipeg.
- Davies, I. J. 1984. Sampling aquatic insect emergence. Pages 161-227 in J. A. Downing and F. H. Rigler, editors. *A Manual on Methods for the Assessment of Secondary Productivity in Fresh Waters*. Blackwell Scientific Publishers, Oxford.
- Davidson, G. A. 1984. Paleolimnological reconstruction of the acidification history of Lake 223 (ELA). Univ. Manitoba, Winnipeg, MB.



Cruikshank, D. R. 1984. The relationship of summer thermocline depth to several physical characteristics of lakes. Winnipeg.

1983

Cruikshank, D. R. 1984. Whole lake chemical additions in the Experimental Lakes Area, 1969-1983. Winnipeg.

Cruikshank, D. R. 1984. Temperature profiles for 29 lakes in the Experimental Lakes Area, northwestern Ontario, 1968-1983. Winnipeg.

Cook, R. B. 1984. Man and the biogeochemical cycles - interacting with the elements. *Environment* **26**:10-15.

Cook, R. B. 1984. Distributions of ferrous iron and sulfide in an anoxic hypolimnion. *Canadian Journal of Fisheries and Aquatic Sciences* **41**:286-293.

Chang, P. S. S., D. F. Malley, W. J. Findlay, and R. T. Barnes. 1984. Zooplankton in Lake 226, Experimental Lakes Area, northwestern Ontario, 1971-1978 data. 484.

Chalanchuk, S. M. 1984. Aging a population of white suckers (*Catostomus commersoni*) by the fin-ray method. Winnipeg.

Broecker, W. S., and T.-H. Peng. 1984. Gas exchange measurements in natural systems. CONF 830671--2 DE84 003166.

Bottenheim, J. W., K. A. Brice, and K. G. Anlauf. 1984. Discussion of a lagrangian trajectory model describing long-range transport of oxides of nitrogen, the incorporation of pan in the chemical mechanism, and supporting measurements of pan and nitrate species at rural sites in Ontario, Canada. *Atmospheric Environment* **18**:2609-2619.

Beaty, K. G. 1984. Hydrometeorological data for the Experimental Lakes Area, northwestern Ontario, 1979-1981. Winnipeg.

Turner, M. A., and A. L. Swick. 1983. The English-Wabigoon River system: IV. Interaction between mercury and selenium accumulated from waterborne and dietary sources by Northern Pike (*Esox lucius*). *Canadian Journal of Fisheries and Aquatic Sciences* **40**:2241-2250.

Turner, M. A., and J. W. M. Rudd. 1983. The English-Wabigoon River system: III. Selenium in lake enclosures: its geochemistry, bioaccumulation, and ability to reduce mercury bioaccumulation. *Canadian Journal of Fisheries and Aquatic Sciences* **40**:2228-2240.

Shearer, J. A., and E. R. DeBruyn. 1983. Light attenuation in the Experimental Lakes Area - 1982 data. Winnipeg.

Schindler, D. W., and T. Ruzsyczynski. 1983. A test of limnological data from the Experimental Lakes Area, northwestern Ontario, for evidence of acidification. Winnipeg.

Rudd, J. W. M., M. A. Turner, A. Furutani, A. L. Swick, and B. E. Townsend. 1983. The English-Wabigoon River system: I. A synthesis of recent research with a view towards mercury amelioration. *Canadian Journal of Fisheries and Aquatic Sciences* **40**:2206-2217.



- Rudd, J. W. M., and M. A. Turner. 1983. The English-Wabigoon River system: V. Mercury and selenium bioaccumulation as a function of aquatic primary productivity. *Canadian Journal of Fisheries and Aquatic Sciences* **40**:2251-2259.
- Rudd, J. W. M., and M. A. Turner. 1983. The English-Wabigoon River system: II. Suppression of mercury and selenium bioaccumulation by suspended and bottom sediments. *Canadian Journal of Fisheries and Aquatic Sciences* **40**:2218-2227.
- Ramlal, P. S. 1983. Measurement of biological mercury methylation in the littoral sediments of an acidified and unacidified lake. Univ. Manitoba, Winnipeg, MB.
- Prychitko, S. B., and R. W. Nero. 1983. Occurrence of the Acanthocephalan *Echinorhynchus leidyi* (Van Cleave, 1924) in *Mysis relicta*. *Canadian Journal of Zoology* **61**:460-462.
- Planas, D., and A. Lamarche. 1983. Lack of effect of arsenic on phytoplankton communities in different nutrient conditions. *Canadian Journal of Fisheries and Aquatic Sciences* **40**:156-161.
- Nero, R. W., and D. W. Schindler. 1983. Decline of *Mysis relicta* during the acidification of Lake 223. *Canadian Journal of Fisheries and Aquatic Sciences* **40**:1905-1911.
- Levine, S. N. 1983. Natural mechanisms that ameliorate nitrogen shortages in lakes. Univ. Manitoba, Winnipeg, MB.
- Kling, H. J., and J. Kristiansen. 1983. Scale-bearing Chrysophyceae (Mallomonadaceae) from central and northern Canada. *Nordic Journal of Botany* **3**:269-290.
- Klaverkamp, J. F., M. A. Turner, S. E. Harrison, and R. H. Hesslein. 1983. Fates of metal radiotracers added to a whole lake: accumulation in slimy sculpin (*Cottus cognatus*) and white sucker (*Catostomus commersoni*). *Science of the Total Environment* **28**:119-128.
- Klaverkamp, J. F., W. A. Macdonald, W. R. Lillie, and A. Lutz. 1983. Joint toxicity of selenium and mercury in salmonid eggs. *Archives of Environmental Contamination and Toxicology* **12**:415-419.
- Klaverkamp, J. F., D. A. Hodgins, and A. Lutz. 1983. Selenite toxicity and mercury - selenium interactions in juvenile fish. *Archives of Environmental Contamination and Toxicology* **12**:405-413.
- Healey, F. P. 1983. Effect of temperature and light intensity on the growth rate of *Synura sphagnicola*. *Journal of Plankton Research* **5**:767-774.
- France, R. L. 1983. Life history response of the crayfish *Orconectes virilis* (Hagen) to acidification in the Experimental Lakes Area, northwestern Ontario: a laboratory and field study. Univ. Manitoba, Winnipeg, MB.
- Findlay, D. L. 1983. Seasonal successions of phytoplankton in five lake basins in the Experimental Lakes Area, northwestern Ontario, following artificial eutrophication: Data from 1980 to 1982., Winnipeg.
- Duncan, D. A., and J. F. Klaverkamp. 1983. Tolerance and resistance to cadmium in white suckers (*Catostomus commersoni*) previously exposed to cadmium, mercury, zinc, or selenium. *Canadian Journal of Fisheries and Aquatic Sciences* **40**:128-138.



- Cruikshank, D. R., J. Penny, and S. N. Levine. 1983. Construction of large enclosures for experimental studies in lakes. Winnipeg.
- Cook, R. B., and D. W. Schindler. 1983. The Biogeochemistry of Sulfur in an Experimentally Acidified Lake. *Ecological Bulletins*:115-127.
- Chang, P. S. S., D. F. Malley, N. E. Strange, and J. F. Klaverkamp. 1983. The effects of low pH, selenium and calcium on the bioaccumulation of ^{203}Hg by seven tissues of the crayfish, *Orconectes virilis*. Winnipeg.
- Chang, P. S. S., D. F. Malley, W. J. Findlay, and G. Mueller. 1983. Species composition and seasonal abundance of zooplankton in Lake 224, Experimental Lakes Area, northwestern Ontario, 1974-78. 1720.

1982

- Wang, M.-P., and D. R. F. Harleman. 1982. Hydrothermal-biological coupling of lake eutrophication models. Cambridge, MA.
- Walichnowski, A. Z., and S. G. Lawrence. 1982. Studies into the effects of cadmium and low pH upon methane production. *Hydrobiologia* **91-92**:559-569.
- Walichnowski, A. Z. 1982. Studies into the effects of cadmium and low pH upon methane production. Univ. Manitoba, Winnipeg, MB.
- Torgersen, T., G. Mathieu, R. H. Hesslein, and W. S. Broecker. 1982. Gas exchange dependency on diffusion coefficient: Direct ^{222}Rn and ^3He comparisons in a small lake. *Journal of Geophysical Research* **87**:546-556.
- Solinske, A. 1982. Analysis and prediction of overwater windspeed on three small lakes in the Precambrian Shield. University of Winnipeg.
- Shearer, J. A., and E. R. DeBruyn. 1982. Light attenuation in the Experimental Lakes Area - 1981 data. Winnipeg.
- Schindler, D. W., and M. A. Turner. 1982. Biological, chemical and physical responses of lakes to experimental acidification. *Water, Air, and Soil Pollution* **18**:259-271.
- Scherer, E., and B. van der Veen. 1982. An ultrasonic beam actograph for laboratory and field use. 1137, Winnipeg.
- Nero, R. W., and I. J. Davies. 1982. Comparison of two sampling methods for estimating the abundance and distribution of *Mysis relicta*. *Canadian Journal of Fisheries and Aquatic Sciences* **39**:349-355.
- Nero, R. W. 1982. A description of three nets suitable for estimating the abundance of *Mysis relicta*. Winnipeg.
- Mohr, L. C. 1982. External sex determination of lake trout (*Salvelinus namaycush*), white sucker (*Catostomus commersoni*) and lake whitefish (*Coregonus clupeaformis*) in the Experimental Lakes Area, northwestern Ontario. 1114.



- McAndrews, J. H. 1982. Holocene environment of a fossil bison from Kenora, Ontario. *Ontario Archaeology* **37**:41-51.
- Malley, D. F., D. L. Findlay, and P. S. S. Chang. 1982. Ecological effects of acid precipitation on zooplankton. Pages 297-327 *in* F. D'Itri, editor. *Acid Precipitation: Effects on Ecological Systems*. Ann Arbor Science, Ann Arbor, MI.
- Kelly, C. A., J. W. M. Rudd, R. B. Cook, and D. W. Schindler. 1982. The potential importance of bacterial processes in regulating rate of lake acidification. *Limnology and Oceanography* **27**:868-882.
- France, R. L. 1982. Comment on *Daphnia* respiration in low pH water. *Hydrobiologia* **94**:195-198.
- Fee, E. J., D. Hayward, and J. A. Shearer. 1982. Annual primary production in lakes of the Experimental Lakes Area, northwestern Ontario; 1976-1980 results. Winnipeg.
- Duncan, D. A. 1982. Development of acclimation-induced tolerance and resistance to acute cadmium toxicity in white sucker (*Catostomus commersoni*). Univ. Manitoba, Winnipeg, MB.
- DeBruyn, E. R., J. A. Shearer, and D. L. Findlay. 1982. Phytoplankton primary production, chlorophyll, biomass and suspended carbon in the Experimental Lakes Area - 1981 data. Winnipeg.

1981

- Arnason, A. N., C. R. Krasey, and K. H. Mills. 1982. A computer program for predicting precision and tag-loss bias in Jolly-Seber mark-recapture estimates. Winnipeg.
- Welch, H. E., and K. H. Mills. 1981. Marking fish by scarring soft fin rays. *Canadian Journal of Fisheries and Aquatic Sciences* **38**:1168-1170.
- Turner, M. A. 1981. Haptobenthic photosynthesis. University of Manitoba.
- Shearer, J. A., and E. R. DeBruyn. 1981. Light attenuation in the Experimental Lakes Area - 1980 data. Winnipeg.
- Schindler, D. W. 1981. Studies of eutrophication in lakes and their relevance to the estuarine environment. Pages 71-82 *in* B. J. Nielson and L. E. Cronin, editors. *Estuaries and Nutrients*. Humana Press, Clifton, NJ.
- Schindler, D. W. 1981. Review of phosphorus management strategies for lakes. *in* R. C. Loehr, editor. [Unknown]. Ann Arbor Science, Ann Arbor, MI.
- Schindler, D. W. 1981. Interrelationships between the cycles of elements in freshwater ecosystems. Pages 113-124 *in* G. E. Likens, editor. *Some Perspectives of the Major Biogeochemical Cycles*. John Wiley and Sons, New York.
- Schindler, D. W. 1981. Experimental manipulation of whole lakes. Pages 269-283 *Acidification in the Canadian Aquatic Environment*. NRCC, Ottawa.



- Schindler, D. W. 1981. Atmosphere-biosphere Interactions: Toward a Better Understanding of the Ecological Consequences of Fossil Fuel Combustion. National Academy Press (National Academy of Sciences), Washington, DC.
- Schindler, D. W. 1981. Sulfur dioxide emissions. *Science* **214**:1074.
- Salki, A. G. 1981. The crustacean zooplankton communities of three prairie lakes subject to varying degrees of anoxia.
- Nero, R. W. 1981. The decline of *Mysis relicta* in response to experimental acidification of a whole lake. University of Manitoba.
- Mills, K. H. 1981. The responses of a lake whitefish (*Coregonus clupeaformis*) to a whole lake fertilization. Univ. Manitoba, Winnipeg, MB.
- Marshall, J. S., J. I. Parker, D. L. Mellinger, and S. G. Lawrence. 1981. An in situ study of cadmium and mercury stress in the plankton community of Lake 382, Experimental Lakes Area, northwestern Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* **38**:1209-1214.
- Marshall, J. S., D. M. Nelson, D. L. Mellinger, C. Lei, S. G. Lawrence, and D. F. Malley. 1981. Lake water chemistry and zinc toxicity to plankton communities - a preliminary report.
- Kling, H. J. 1981. *Chrysochromulina laurentiana*: an electron microscopic study of a new species of Prymnesiophyceae from Canadian Shield lakes. *Nordic Journal of Botany* **1**:551-555.
- Kelly, C. A., and D. P. Chynoweth. 1981. The contributions of temperature and of the input of organic matter in controlling rates of sediment methanogenesis. *Limnology and Oceanography* **26**:891-897.
- Findlay, D. L. 1981. Seasonal successions of phytoplankton in seven lake basins in the Experimental Lakes Area, northwestern Ontario, following artificial eutrophication: data from 1977-1979. Winnipeg.
- Elliott, S. E. M., C. Burns-Flett, R. H. Hesslein, G. J. Brunskill, and A. Lutz. 1981. Cesium-137, radium-226, potassium-40 and selected stable elements in fish populations from Great Slave Lake (N.W.T.), Louis Lake (Saskatchewan), Lake Winnipeg (Manitoba), and Experimental Lakes Area (northwestern Ontario). Winnipeg.
- DeBruyn, E. R., and J. A. Shearer. 1981. Phytoplankton, chlorophyll, biomass and suspended carbon in the Experimental Lakes Area - 1980 data. Winnipeg.
- Cook, R. B. 1981. The biogeochemistry of sulfur in two small lakes. Columbia University, New York.
- Chang, P. S. S., D. F. Malley, I. L. Delbaere, and G. Mueller. 1981. Species composition and seasonal abundance of zooplankton in Lake 223, Experimental Lakes Area, northwestern Ontario: before and during acidification, 1974-79. 290.
- Bower, P. M. 1981. Addition of radiocarbon to the mixed layers of two small lakes: primary production, gas exchange, sedimentation and carbon budget. Columbia University.
- Beaty, K. G. 1981. Hydrometeorological data for the Experimental Lakes Area, northwestern Ontario, 1969 through 1978. Part III. Winnipeg.



Beaty, K. G. 1981. Hydrometeorological data for the Experimental Lakes Area, northwestern Ontario, 1969 through 1978. 285, Winnipeg.

Arnason, A. N., and K. H. Mills. 1981. Bias and loss of precision due to tag loss in Jolly-Seber estimates for mark-recapture experiments. *Canadian Journal of Fisheries and Aquatic Sciences* **38**:1077-1095.

1980

Stainton, M. P. 1980. Errors in Molybdenum blue methods for determining orthophosphate in freshwater. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:472-478.

Shearer, J. A., and D. R. DeClercq. 1980. Light extinction in the Experimental Lakes Area - 1979 data. Winnipeg.

Schindler, D. W., R. Wagemann, R. B. Cook, T. Rusczyński, and J. Prokopowich. 1980. Experimental acidification of Lake 223, Experimental Lakes Area: background data and the first three years of acidification. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:342-354.

Schindler, D. W., T. Rusczyński, and E. J. Fee. 1980. Hypolimnion injection of nutrient effluents as a method for reducing eutrophication. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:320-327.

Schindler, D. W., R. W. Newbury, K. G. Beaty, J. Prokopowich, T. Rusczyński, and J. A. Dalton. 1980. Effects of a windstorm and forest fire on chemical losses from forested watersheds and on the quality of receiving streams. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:328-334.

Schindler, D. W., R. H. Hesslein, R. Wagemann, and W. S. Broecker. 1980. Effects of acidification on mobilization of heavy metals and radionuclides from the sediments of a freshwater lake. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:373-377.

Schindler, D. W. 1980. Implications of regional-scale lake acidification. Pages 533-538 *in* D. S. Shriner, C. R. Richmond, and S. Lindberg, editors. *Atmospheric sulfur deposition: environmental impact and health effects*. Ann Arbor Science Publ., Ann Arbor, MI.

Schindler, D. W. 1980. Ecological effects of experimental whole-lake acidification. Pages 453-462 *in* D. S. Shriner, C. R. Richmond, and S. Lindberg, editors. *Atmospheric sulfur deposition: environmental impact and health effects*. Ann Arbor Science Publ., Ann Arbor, MI.

Schindler, D. W. 1980. Chemical budgets and watershed acidification. Pages 13-14 *in* G. R. Hendrey, editor. *Limnological aspects of acid precipitation*. Brookhaven National Laboratory, Upton, NY.

Schindler, D. W. 1980. Evolution of the Experimental Lakes project. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:313-319.



- Schindler, D. W. 1980. The effect of fertilization with phosphorus and nitrogen versus phosphorus alone on eutrophication of experimental lakes. *Limnology and Oceanography* **25**:1149-1152.
- Rudd, J. W. M., M. A. Turner, B. E. Townsend, A. Swick, and A. Furutani. 1980. Dynamics of selenium in mercury-contaminated experimental freshwater ecosystems. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:848-857.
- Rudd, J. W. M., and C. D. Taylor. 1980. Methane cycling in aquatic environments. *Advances in Aquatic Microbiology* **2**:77-150.
- Rudd, J. W. M., A. Furutani, and M. A. Turner. 1980. Mercury methylation by fish intestinal contents. *Applied and Environmental Microbiology* **40**:777-782.
- Reinke, D. C. 1980. The effects of cadmium on freshwater phytoplankton communities: a comparative algal assay study. University of Kansas, Lawrence, Kansas.
- Quay, P. D., W. S. Broecker, R. H. Hesslein, and D. W. Schindler. 1980. Vertical diffusion rates determined by tritium tracer experiments in the thermocline and hypolimnion of two lakes. *Limnology and Oceanography* **25**:201-218.
- Patalas, K. 1980. Comment on "A relation between lake morphometry and primary productivity and its use in interpreting whole-lake eutrophication experiments (E.J. Fee)". *Limnology and Oceanography* **25**:1147-1149.
- Newbury, R. W., and K. G. Beaty. 1980. Water renewal efficiency of watershed and lake combinations in the ELA region of the Precambrian Shield. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:335-341.
- Muller, P. 1980. Effects of artificial acidification on the growth of periphyton. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:355-363.
- Mills, K. H., and R. J. Beamish. 1980. Comparisons of fin-ray and scale age determinations for lake whitefish (*Coregonus clupeaformis*) and their implications for estimates of growth and annual survival. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:534-544.
- Mathias, J. A., and J. Barica. 1980. Factors controlling oxygen depletion in ice-covered lakes. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:185-194.
- Marshall, J. S., and D. L. Mellinger. 1980. Dynamics of cadmium-stressed plankton communities. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:403-414.
- Malley, D. F., and P. S. S. Chang. 1980. Responses of zooplankton in Precambrian Shield lakes to whole-lake chemical modifications causing pH change. Pages 108-114 *Restoration of Lakes and Inland Waters*. EPA 440/5-81-010, Portland, ME.
- Malley, D. F. 1980. Decreased survival and calcium uptake by the crayfish *Orconectes virilis* at low pH. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:364-372.
- Levine, S. N., and D. W. Schindler. 1980. Radiochemical analysis of orthophosphate concentrations and seasonal changes in the flux of orthophosphate to seston in two Canadian Shield lakes. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:479-487.



- Lawrence, S. G. 1980. The effects of acid and cadmium on impounded zooplankton in a Canadian Shield Lake., Winnipeg.
- Knoechel, R., and F. deNoyelles. 1980. Analysis of the response of hypolimnetic phytoplankton in continuous culture to increased light or phosphorus using track radiography. Canadian Journal of Fisheries and Aquatic Sciences **37**:434-441.
- Kennedy, L. A. 1980. The effects of lake acidification on embryonic development of the lake trout *Salvelinus namaycush*. Winnipeg.
- Kennedy, L. A. 1980. Teratogenesis in lake trout (*Salvelinus namaycush*), in an experimentally acidified lake. Canadian Journal of Fisheries and Aquatic Sciences **37**:2355-2358.
- Jackson, T. A., G. Kipphut, R. H. Hesslein, and D. W. Schindler. 1980. Experimental study of trace metal chemistry in soft-water lakes at different pH levels. Canadian Journal of Fisheries and Aquatic Sciences **37**:387-402.
- Hesslein, R. H., W. S. Broecker, and D. W. Schindler. 1980. Fates of metal radiotracers added to a whole lake: sediment-water interactions. Canadian Journal of Fisheries and Aquatic Sciences **37**:378-386.
- Hesslein, R. H., W. S. Broecker, P. D. Quay, and D. W. Schindler. 1980. Whole-lake radiocarbon experiment in an oligotrophic lake at the Experimental Lakes Area, northwestern Ontario. Canadian Journal of Fisheries and Aquatic Sciences **37**:454-463.
- Hesslein, R. H. 1980. Whole-lake model for the distribution of sediment derived chemical species. Canadian Journal of Fisheries and Aquatic Sciences **37**:552-558.
- Hesslein, R. H. 1980. In situ measurements of pore water diffusion coefficients using tritiated water. Canadian Journal of Fisheries and Aquatic Sciences **37**:545-551.
- Healey, F. P., and L. L. Hendzel. 1980. Physiological indicators of nutrient deficiency in lake phytoplankton. Canadian Journal of Fisheries and Aquatic Sciences **37**:442-453.
- Graham, B. W., R. D. Hamilton, and N. E. R. Campbell. 1980. Comparison of the nitrogen-15 uptake and acetylene reduction methods for estimating the rates of nitrogen fixation by blue-green algae. Canadian Journal of Fisheries and Aquatic Sciences **37**:488-493.
- Furutani, A., and J. W. M. Rudd. 1980. Measurement of mercury methylation in lake water and sediment samples. Applied and Environmental Microbiology **40**:770-776.
- Flett, R. J., D. W. Schindler, R. D. Hamilton, and E. R. Campbell. 1980. Nitrogen fixation in Canadian Precambrian Shield lakes. Canadian Journal of Fisheries and Aquatic Sciences **37**:494-505.
- Findlay, D. L., and G. Saesura. 1980. Effects on phytoplankton biomass, succession and composition in Lake 223 as the result of lowering pH levels from 7.0 to 5.6: Data from 1974 to 1979., Winnipeg.
- Fee, E. J. 1980. Reply to comments by Patalas and Schindler. Limnology and Oceanography **25**:1152-1153.



- Fee, E. J. 1980. Important factors for estimating annual phytoplankton production in the Experimental Lakes Area. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:513-522.
- Duncan, D. A., and J. F. Klaverkamp. 1980. Induced tolerance to cadmium in white suckers (*Catostomus commersoni*) by exposure to sublethal concentrations of heavy metals. Winnipeg.
- Dillon, P. J., D. S. Jeffries, W. A. Scheider, and N. D. Yan. 1980. Some aspects of acidification in southern Ontario. Pages 212-213. SNSF Project.
- deNoyelles, F., R. Knoechel, D. Reinke, D. Treanor, and C. Altenhofen. 1980. Continuous culturing of natural phytoplankton communities in the Experimental Lakes Area: effects of enclosure, in situ incubation, light, phosphorus, and cadmium. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:424-433.
- DeClercq, D. R., and J. A. Shearer. 1980. Phytoplankton primary production, chlorophyll and suspended carbon in the Experimental Lakes Area - 1979 data. Winnipeg.
- Davies, I. J. 1980. Relationships between dipteran emergence and phytoplankton production in the Experimental Lakes Area, northwestern Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:523-533.
- Chang, P. S. S., D. F. Malley, W. J. Findlay, G. Mueller, and R. T. Barnes. 1980. Species composition and seasonal abundance of zooplankton in Lake 227, Experimental Lakes Area, northwestern Ontario, 1969-1978. 182.
- Chan, Y. K., and N. E. R. Campbell. 1980. Denitrification in Lake 227 during summer stratification. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:506-512.
- Campbell, P., and T. Torgerson. 1980. Maintenance of iron meromixis by iron redeposition in a rapidly flushed monimolimnion. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:1303-1313.
- Brunskill, G. J., B. W. Graham, and J. W. M. Rudd. 1980. Experimental studies on the effects of arsenic on microbial degradation of organic matter and algal growth. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:415-423.
- Broecker, W. S., T.-H. Peng, G. Mathieu, R. Hesslein, and T. Torgersen. 1980. Gas exchange rate measurements in natural systems. *Radiocarbon* **22**:676-683.
- Bower, P., and D. McCorkle. 1980. Gas exchange, photosynthetic uptake, and carbon budget for a radiocarbon addition to a small enclosure in a stratified lake. *Canadian Journal of Fisheries and Aquatic Sciences* **37**:464-471.



1979

- Shearer, J. A., and D. R. DeClercq. 1979. Light extinction measurements in the Experimental Lakes Area - 1978 data. Winnipeg.
- Schindler, D. W., R. Wagemann, and R. H. Hesslein. 1979. Interim report on the acidification of Lake 223, Experimental lakes Area: Background data, the first year of acidification (1976), and pilot experiments.
- Quay, P. D., W. S. Broecker, R. H. Hesslein, E. J. Fee, and D. W. Schindler. 1979. Whole lake tritium spikes to measure horizontal and vertical mixing rates. International Atomic Energy Commission.
- Prokopowich, J. 1979. Chemical characterization of epilimnion waters in the Experimental Lakes Area, northwestern Ontario. Winnipeg.
- Malley, D. F., and L. J. Tinker. 1979. Calcium uptake: a sublethal test for crayfish.
- Malley, D. F., and J. B. Reynolds. 1979. Sampling strategies and life history of non-insectan freshwater invertebrates. *Journal of the Fisheries Research Board of Canada* **36**:311-318.
- Malley, D. F., W. Dentry, and S. L. Leonhard. 1979. Calcium uptake by postmoult *Daphnia magna*: a potential sublethal toxicity test. Winnipeg.
- Hesslein, R. H., D. W. Schindler, W. S. Broecker, and G. Kipphut. 1979. Fates of metal radiotracer additions in experimental enclosures in lakes and in a whole lake. Pages 261-271 *Isotopes in Lake Studies*. International Atomic Energy Agency, Vienna.
- Hesslein, R. H., P. D. Quay, M. Thomas, and W. S. Broecker. 1979. A whole lake gas exchange experiment using added carbon-14 and radon-222 as tracers. Pages 251-254 *Isotopes in Lake Studies*. International Atomic Energy Agency, Vienna.
- Healey, F. P., and L. L. Hendzel. 1979. Fluorometric measurement of alkaline phosphatase activity in algae. *Freshwater Biology* **9**:429-439.
- Findlay, D. L., and H. J. Kling. 1979. A species list and pictorial reference to the phytoplankton species of central and northern Canada: Parts I and II., Winnipeg.
- Fee, E. J. 1979. A relation between lake morphometry and primary productivity and its use in interpreting whole-lake eutrophication experiments. *Limnology and Oceanography* **24**:401-416.
- DeClercq, D. R., and J. A. Shearer. 1979. Phytoplankton primary production, chlorophyll and suspended carbon in the Experimental Lakes Area - 1978 data. Winnipeg.

1978

- Wright, D. R. 1978. Investigations concerning the biological methylation of mercury with special reference to the mercury polluted English-Wabigoon River system of northwestern Ontario. University of Manitoba.
- Wagemann, R. 1978. Some theoretical aspects of stability and solubility of inorganic arsenic in the freshwater environment. *Water Research* **12**:139-145.



- Torgersen, T., and W. B. Clarke. 1978. Excess helium-4 in Teggau Lake: possibilities for a uranium ore body. *Science* **199**:769-771.
- Shearer, J. A., and D. R. DeClercq. 1978. Light extinction measurements in the Experimental Lakes Area - 1977 data. Winnipeg.
- Shearer, J. A. 1978. Two devices for obtaining water samples integrated over depth. Winnipeg.
- Schindler, D. W., E. J. Fee, and Ruszczynski, T. 1978. Phosphorus input and its consequences for phytoplankton standing crop and production in the Experimental Lakes Area and in similar lakes. *Journal of the Fisheries Research Board of Canada* **35**:190-196.
- Schindler, D. W. 1978. Predictive eutrophication models. *Limnology and Oceanography* **23**:1080-1081.
- Schindler, D. W. 1978. Factors regulating phytoplankton production and standing crop in the world's freshwaters. *Limnology and Oceanography* **23**:478-486.
- Rudd, J. W. M., and R. D. Hamilton. 1978. Methane cycling in a eutrophic shield lake and its effects on whole lake metabolism. *Limnology and Oceanography* **23**:337-348.
- Quay, P. D., R. H. Hesslein, W. S. Broecker, and D. W. Schindler. 1978. Vertical and horizontal distribution of injections of tritiated water in experimental lakes and limnocorrals. Winnipeg.
- Marshall, J. S. 1978. Population dynamics of *Daphnia galeata mendotae* as modified by chronic cadmium stress. *Journal of the Fisheries Research Board of Canada* **35**:461-469.
- Kipphut, G. W. 1978. An investigation of sedimentary processes on lakes. Columbia Univ., New York, NY.
- Kalff, J., and R. Knoechel. 1978. Phytoplankton and their dynamics in oligotrophic and eutrophic Lakes. *Annual Review of Ecology and Systematics* **9**:475-495.
- Findlay, D. L. 1978. Seasonal successions of phytoplankton in seven lake basins in the Experimental Lakes Area, northwestern Ontario, following artificial eutrophication: data from 1974 to 1976. Winnipeg.
- Fee, E. J., J. A. Shearer, and D. R. DeClercq. 1978. *In vivo* chlorophyll profiles from lakes in the Experimental Lakes Area, northwestern Ontario - 1976 data. Winnipeg.
- Fee, E. J. 1978. Studies of hypolimnion chlorophyll peaks in the Experimental Lakes Area, northwestern Ontario. Winnipeg.
- Fee, E. J. 1978. A procedure for improving estimates of in situ primary production at low irradiances with an incubator technique. *Verhandlungen - Internationale Vereinigung für theoretische und angewandte Limnologie* **20**:59-67.
- Eloranta, R. D. 1978. The effect of acidification upon the bacterial flora of experimental enclosures in a soft water lake. Univ. Manitoba, Winnipeg, MB.
- DeClercq, D. R., and J. A. Shearer. 1978. Phytoplankton primary production, chlorophyll and suspended carbon in the Experimental Lakes Area - 1977 data. Winnipeg.



1977

- Torgersen, T. 1977. Limnologic studies using the tritium-helium-3 tracer pair: a survey evaluation of the method. Columbia Univ., New York, NY.
- Stainton, M. P., M. J. Capel, and F. A. J. Armstrong. 1977. The chemical analysis of fresh water. 25.
- Sprules, W. G. 1977. Crustacean zooplankton communities as indicators of limnological conditions: an approach using principal components analysis. *Journal of the Fisheries Research Board of Canada* **34**:962-975.
- Shearer, J. A., and D. R. DeClercq. 1977. Light extinction measurements in the Experimental Lakes Area - 1976 data. Winnipeg.
- Schindler, D. W., R. Wagemann, and R. H. Hesslein. 1977. The acidification of Lake 223, Experimental Lakes Area. I. Background data, the first year of acidification, 1976, and pilot experiments. Project AF 2.3.1.
- Schindler, D. W., R. Hesslein, and G. Kipphut. 1977. Interactions between sediments and overlying waters in an experimentally eutrophied Precambrian Shield lake. Pages 235-243. Junk, The Hague, Amsterdam.
- Schindler, D. W. 1977. Evolution of phosphorus limitation in lakes. *Science* **195**:260-262.
- Quay, P. D. 1977. An experimental study of turbulent diffusion in lakes. Columbia Univ., New York, NY.
- Newbury, R. W., and K. G. Beaty. 1977. Water budgets in small precambrian lake basins in north-western Ontario, Canada. Pages 132-139. American Meteorological Society, Toronto.
- Mitteilung, K. 1977. Experimental Lakes Area and Canadian limnology. *Arch. Hydrobiol. Bieh* **79**:274-280.
- Healey, F. P. 1977. Ammonium and urea uptake by some freshwater algae. *Canadian Journal of Botany* **55**:61-69.
- Flett, R. J. 1977. Nitrogen fixation in Canadian Precambrian Shield lakes. Univ. Manitoba, Winnipeg, MB.
- Fee, E. J., J. A. Shearer, and D. R. DeClercq. 1977. In vivo chlorophyll profiles from lakes in the Experimental Lakes Area, northwestern Ontario. 703, Winnipeg.
- Fee, E. J. 1977. A computer program for estimating annual primary production in vertically stratified waterbodies with an incubator technique. Winnipeg.
- Fargher, R. C. 1977. Salinity tolerance and aspects of sodium regulation in Lake Trout (*Salvelinus namaycush*). University of Manitoba.
- Dwilow, A. G. 1977. Uptake of ammonium and nitrate by phytoplankton in lakes of the Experimental Lakes Area, northwestern Ontario. Univ. Manitoba, Winnipeg, MB.



- DeClercq, D. R., J. A. Shearer, S. L. Schiff, and E. J. Fee. 1977. Primary production, respiration, chlorophyll and suspended carbon in the Experimental Lakes Area - 1976 data. 32, Winnipeg.
- Coey, J. M. D., and D. W. Schindler. 1977. Magnetic order in freshwater ferromanganese nodules. *Physica* **86-88B**:823-824.
- Allis, R. G., and G. D. Garland. 1977. Geothermal measurements in five small lakes of northwest Ontario: reply. *Canadian Journal of Earth Sciences* **14**:334-335.

1976

- Vascotto, G. L. 1976. Zoobenthic assemblages of four central Canadian lakes and their potential use as environmental indicators. Univ. Manitoba, Winnipeg, MB.
- Shearer, J. A., and D. R. DeClercq. 1976. Light extinction measurements in the Experimental Lakes Area - 1975 data. 646, Winnipeg.
- Shearer, J. A. 1976. Phytoplankton primary production in the Experimental Lakes Area using an incubator technique - 1974 data. 616, Winnipeg.
- Shearer, J. A. 1976. Light extinction measurements in the Experimental Lakes Area - 1974 data., Winnipeg.
- Shearer, J. A. 1976. Construction and operation of a portable incubator for phytoplankton primary production studies. Winnipeg.
- Schindler, D. W., R. W. Newbury, K. G. Beaty, and P. Campbell. 1976. Natural water and chemical budgets for a small Precambrian lake basin in central Canada. *Journal of the Fisheries Research Board of Canada* **33**:2526-2543.
- Schindler, D. W. 1976. Biogeochemical evolution of phosphorus limitation in nutrient-enriched lakes of the Precambrian shield. Pages 647-664 in J. O. Nriagu, editor. *Environmental Biogeochemistry*. Ann Arbor Science Publishers, Ann Arbor, Michigan.
- Schindler, D. W. 1976. The impact statement boondoggle. *Science* **192**:509.
- Rudd, J. W. M., A. Furutani, R. J. Flett, and R. D. Hamilton. 1976. Factors controlling methane oxidation in shield lakes: the role of nitrogen fixation and oxygen concentration. *Limnology and Oceanography* **21**:357-364.
- Rudd, J. W. M. 1976. Methane cycling in Lake 227 and its effects on whole lake metabolism. Univ. Manitoba, Winnipeg, MB.
- Nalewajko, C., and D. W. Schindler. 1976. Primary production, extracellular release, and heterotrophy in two lakes in the ELA, northwestern Ontario. *Journal of the Fisheries Research Board of Canada* **33**:219-226.
- Libosvarsky, J. 1976. Deriving the age structure of fish from gill-net catches. *Zoologicke Listy* **25**:251-263.
- Hesslein, R. H. 1976. The fluxes of CH₄, total CO₂ and NH₃-N from the sediments and their consequent distribution in small lakes. Columbia Univ., New York, NY.



- Hesslein, R. H. 1976. An in situ sampler for close interval pore water studies. *Limnology and Oceanography* **21**:912-914.
- Flett, R. J., R. D. Hamilton, and N. E. R. Campbell. 1976. Aquatic acetylene-reduction techniques: solutions to several problems. *Canadian Journal of Microbiology* **22**:43-51.
- Fee, E. J. 1976. The vertical and seasonal distribution of chlorophyll in lakes of the Experimental Lakes Area, northwestern Ontario: implications for primary production estimates. *Limnology and Oceanography* **21**:767-783.
- DeClercq, D. R., and J. A. Shearer. 1976. Phytoplankton primary production in the Experimental Lakes Area using an incubator technique - 1975 data. 647, Winnipeg.
- Campbell, P. 1976. Descriptive limnology of Lake 120, a meromictic lake on the Precambrian Shield in northwestern Ontario. University of Manitoba.
- Beamish, R. J., L. M. Blouw, and G. A. McFarlane. 1976. A fish and chemical study of 109 lakes in the Experimental Lakes Area, northwestern Ontario, with appended reports on lake whitefish ageing errors and the northwestern Ontario baitfish industry. Winnipeg.
- Allis, R. G., and G. D. Garland. 1976. Geothermal measurements in five small lakes of northwest Ontario. *Canadian Journal of Earth Sciences* **13**:987-992.

1975

- Sprules, W. G. 1975. Midsummer crustacean zooplankton communities in acid-stressed lakes. *Journal of the Fisheries Research Board of Canada* **32**:389-395.
- Schindler, D. W., D. R. S. Lean, and E. J. Fee. 1975. Nutrient cycling in freshwater ecosystems. *Proceedings, IBP Symposium on Productivity of World Ecosystems, Seattle, Washington*:96-105.
- Schindler, D. W., and E. J. Fee. 1975. The roles of nutrient cycling and radiant energy in aquatic communities. Pages 323-343 *Photosynthesis and productivity in different environments*. Cambridge University Press, Cambridge, Great Britain.
- Schindler, D. W. 1975. Factors affecting gas exchange in natural waters. *Limnology and Oceanography* **20**:1053-1055.
- Schindler, D. W. 1975. Modelling the eutrophication process. *Canadian Journal of Fisheries and Aquatic Sciences* **32**:1673-1674.
- Schindler, D. W. 1975. Whole-lake eutrophication experiments with phosphorus, nitrogen and carbon. *Verhandlungen - Internationale Vereinigung für theoretische und angewandte Limnologie* **19**:3221-3231.
- Rudd, J. W. M., and R. D. Hamilton. 1975. Two samplers for monitoring dissolved gases on lake water and sediments. *Limnology and Oceanography* **20**:902-906.
- Rudd, J. W. M., and R. D. Hamilton. 1975. Methane oxidation in a eutrophic Canadian Shield lake. *Verhandlungen - Internationale Vereinigung für theoretische und angewandte Limnologie* **19**:2669-2673.



- Rudd, J. W. M., and R. D. Hamilton. 1975. Factors controlling rates of methane oxidation and the distribution of the methane oxidizers in a small stratified lake. *Archiv fur Hydrobiologia* **75**:522-538.
- Reid, R. A., D. W. Schindler, and R. V. Schmidt. 1975. Phytoplankton production in the Experimental Lakes Area, 1969-72. Winnipeg.
- Reid, R. A., D. W. Schindler, and R. V. Schmidt. 1975. Light measurements in the Experimental Lakes Area, 1969-1973. 559, Winnipeg.
- Morrison, G. J. 1975. Microenvironmental variation and tree growth as a function of macroclimate, in the Experimental Lakes Area, northwestern Ontario. Trent University, Peterborough, Ontario, Canada.
- Levine, S. N. 1975. A preliminary investigation of orthophosphate concentration and the uptake of orthophosphate by seston in two Canadian Shield lakes. Univ. Manitoba, Winnipeg, MB.
- Levine, S. N. 1975. Orthophosphate concentration and flux within the epilimnia of two Canadian Shield Lakes. *Verhandlungen - Internationale Vereinigung fur theoretische und angewandte Limnologie* **19**:624-629.
- Jackson, T. A., and D. W. Schindler. 1975. The biogeochemistry of phosphorus in an experimental lake environment: evidence for the formation of humic-metal-phosphate complexes. *Verhandlungen - Internationale Vereinigung fur theoretische und angewandte Limnologie* **19**:211-221.
- Flett, R. J., J. W. M. Rudd, and R. D. Hamilton. 1975. Acetylene reduction assays for nitrogen fixation in freshwaters: A note of caution. *Applied Microbiology* **29**:580-583.
- Flett, R. J., R. D. Hamilton, and N. E. R. Campbell. 1975. Nitrogen fixation in aquatic environments - a critical study of the acetylene reduction assay. *Verhandlungen - Internationale Vereinigung fur theoretische und angewandte Limnologie* **19**:2664-2668.
- Findlay, D. L., and H. J. Kling. 1975. Seasonal successions of phytoplankton in seven lake basins in the Experimental Lakes Area, northwestern Ontario, following artificial eutrophication. Winnipeg.
- Fee, E. J. 1975. The importance of diurnal variation of photosynthesis vs. light curves to estimates of integral primary production. *Verhandlungen - Internationale Vereinigung fur theoretische und angewandte Limnologie* **19**:39-46.
- Emerson, S. 1975. Chemically enhanced CO₂ gas exchange in a eutrophic lake: a general model. *Limnology and Oceanography* **20**:743-753.
- Emerson, S. 1975. Gas exchange rates in small Canadian Shield lakes. *Limnology and Oceanography* **20**:754-761.
- Chan, Y. K., and N. E. R. Campbell. 1975. Temperature effects on denitrification products by two aquatic *Pseudomonas* species. *Verhandlungen - Internationale Vereinigung fur theoretische und angewandte Limnologie* **19**:2674-2681.



1974

- Vallentyne, J. R. 1974. Algal Bowl: Lakes and Man. Govt. of Canada.
- Thompson, B. M., and R. D. Hamilton. 1974. Some problems with heterotrophic uptake methodology. Pages 566-576 *in* R. R. Colwell and R. Y. Morita, editors. Effect of the Ocean Environment on Microbial Activities. Univ. Park Press, Baltimore, London, Tokyo.
- Stockner, J. G., and D. Evans. 1974. Field and laboratory studies on the effects of nitrogen, phosphorus and N.T.A. additions on attached algal communities. 416.
- Stainton, M. P. 1974. An automated method for the determination of chloride and sulfate in freshwater using cation exchange and measurement of electrical conductance. *Limnology and Oceanography* **19**:707-711.
- Shearer, J. A., and E. J. Fee. 1974. Phytoplankton primary production in the Experimental Lakes Area using an incubator technique - 1973 data. Winnipeg.
- Schindler, D. W., R. W. Newbury, J. A. Cherry, and P. C. Campbell. 1974. Nutrient regimes and geochemical weathering processes in the Rawson Lake (Lake 239) watershed, Experimental Lakes Area. A preliminary report.
- Schindler, D. W., J. Moore, and R. A. Vollenweider. 1974. Liquid scintillation techniques. Pages 76-80 *in* R. A. Vollenweider, editor. A Manual on Methods for Measuring Primary Production in Aquatic Environments. Blackwell Scientific Publications, Oxford.
- Schindler, D. W., and D. R. S. Lean. 1974. Biological and chemical mechanisms in eutrophication of freshwater lakes. *Annals of the New York Academy of Sciences* **250**:129-135.
- Schindler, D. W., J. Kalff, H. E. Welch, G. J. Brunskill, H. Kling, and N. Kritsch. 1974. Eutrophication in the high Arctic - Meretta Lake, Cornwallis Island (75°N Lat.). *Journal of the Fisheries Research Board of Canada* **31**:647-662.
- Schindler, D. W., and E. J. Fee. 1974. Experimental Lakes Area: Whole-lake experiments in eutrophication. *Journal of the Fisheries Research Board of Canada* **31**:937-953.
- Schindler, D. W., and E. J. Fee. 1974. Primary production in freshwater. Pages 155-158.
- Schindler, D. W. 1974. Eutrophication. Pages 255-267 *in* A. C. f. W. Studies, editor. Allocative Conflicts in Water-Resource Management. University of Manitoba.
- Schindler, D. W. 1974. Eutrophication and recovery in experimental lakes: implications for lake management. *Science* **184**:897-899.
- Rudd, J. W. M., R. D. Hamilton, and N. E. R. Campbell. 1974. Measurement of microbial oxidation of methane in lake water. *Limnology and Oceanography* **19**:519-524.
- Kennedy, K. G. 1974. The hydrology and hydrochemistry of a small Precambrian Shield watershed. Univ. Waterloo, Waterloo, ON.
- Emerson, S. 1974. Radium-226 and radon-222 as limnologic tracers: The carbon dioxide gas exchange rate. Columbia Univ., New York, NY.
- Coey, J. M. D., D. W. Schindler, and F. Weber. 1974. Iron compounds in lake sediments. *Canadian Journal of Earth Sciences* **11**:1489-1493.



Chan, Y. K., and N. E. R. Campbell. 1974. A rapid gas extraction technique for the quantitative study of denitrification in aquatic systems by N-isotope ratio analysis. *Canadian Journal of Microbiology* **20**:275-281.

Bottomley, D. J. 1974. Sources of streamflow and dissolved constituents in a small Precambrian Shield watershed. Univ. Waterloo, Waterloo, ON.

1973

Thompson, B. M., and R. D. Hamilton. 1973. Heterotrophic utilization of sucrose in an artificially enriched lake. *Journal of the Fisheries Research Board of Canada* **30**:1547-1552.

Stainton, M. P. 1973. A syringe gas-stripping procedure for gas-chromatographic determination of dissolved inorganic and organic carbon in fresh water and carbonates in sediments. *Journal of the Fisheries Research Board of Canada* **30**:1441-1445.

Schindler, D. W., H. Kling, R. V. Schmidt, J. Prokopowich, V. E. Frost, R. A. Reid, and M. Capel. 1973. Eutrophication of lake 227 by addition of phosphate and nitrate: the second, third, and fourth years of enrichment 1970, 1971, and 1972. *Journal of the Fisheries Research Board of Canada* **30**:1415-1440.

Schindler, D. W., V. E. Frost, and R. V. Schmidt. 1973. Production of epilithiphyton in two lakes of the Experimental Lakes Area, northwestern Ontario. *Journal of the Fisheries Research Board of Canada* **30**:1511-1524.

Schindler, D. W., and E. J. Fee. 1973. Diurnal variation of dissolved inorganic carbon and its use in estimating primary production and CO₂ invasion in lake 227. *Journal of the Fisheries Research Board of Canada* **30**:1501-1510.

Schindler, D. W. 1973. Experimental environments: Nutrients in a lake. Pages 175-182 *in* N. Calder, editor. *Nature in the Round: A guide to Environmental Science*. Weidenfeld and Nicholson Ltd., London.

Schindler, D. W. 1973. Experimental approaches to limnology - an overview. *Journal of the Fisheries Research Board of Canada* **30**:1409-1413.

Rudd, J. W. M., and R. D. Hamilton. 1973. Measurement of adenosine triphosphate (ATP) in two Precambrian Shield Lakes of northwestern Ontario. *Journal of the Fisheries Research Board of Canada* **30**:1537-1546.

Lean, D. R. S. 1973. Movements of phosphorus between its biologically important forms in lake water. *Journal of the Fisheries Research Board of Canada* **30**:1525-1536.

Hesslein, R., and P. Quay. 1973. Vertical eddy diffusion studies in the thermocline of a small stratified lake. *Journal of the Fisheries Research Board of Canada* **30**:1491-1500.

Fee, E. J. 1973. A digital computer program for calculating integral primary production in vertically stratified waterbodies. Winnipeg.



- Fee, E. J. 1973. Modelling primary production in water bodies: a numerical approach that allows for vertical inhomogeneities. *Journal of the Fisheries Research Board of Canada* **30**:1469-1473.
- Fee, E. J. 1973. A numerical model for determining integral primary production and its application to Lake Michigan. *Journal of the Fisheries Research Board of Canada* **30**:1447-1468.
- Emerson, S., and R. Hesslein. 1973. Distribution and uptake of artificially introduced radium-226 in a small lake. *Journal of the Fisheries Research Board of Canada* **30**:1485-1490.
- Emerson, S., W. S. Broecker, and D. W. Schindler. 1973. Gas-exchange rates in a small lake as determined by the radon method. *Journal of the Fisheries Research Board of Canada* **30**:1475-1484.

1972

- Wiens, A. P. 1972. Bionomics of the pitcher plant midge *Metriocnemus knabi* (Coquillett)(Diptera: Chironomidae). Univ. Manitoba, Winnipeg, MB.
- Thompson, B. M. 1972. Heterotrophic utilization of sucrose in an artificially enriched lake. University of Manitoba, Winnipeg, Mb.
- Schindler, D. W., R. V. Schmidt, and R. A. Reid. 1972. Acidification and bubbling as an alternative to filtration in determining phytoplankton production by the ¹⁴C method. *Journal of the Fisheries Research Board of Canada* **29**:1627-1631.
- Schindler, D. W., and G. W. Comita. 1972. The dependence of primary production upon physical and chemical factors in a small, senescing lake, including the effects of complete winter oxygen depletion. *Archiv fur Hydrobiologia* **69**:413-451.
- Schindler, D. W., G. J. Brunskill, S. Emerson, W. S. Broecker, and T.-H. Peng. 1972. Atmospheric carbon dioxide: its role in maintaining phytoplankton standing crops. *Science* **177**:1192-1194.
- Schindler, D. W. 1972. Production of phytoplankton and zooplankton in Canadian Shield lakes. Pages 311-331 in Z. Kajak and A. Hillbricht-Ilkowska, editors. *Productivity problems of freshwaters*. IBP-UNESCO.
- Kling, H. J., and S. K. Holmgren. 1972. Species composition and seasonal distribution of phytoplankton in the Experimental Lakes Area, northwestern Ontario. Winnipeg.
- Hamid, A. A. A. 1972. Measurement of nitrogen fixation ratio by acetylene reduction and estimation of seasonal inputs of biologically fixed nitrogen to several artificially fertilized lakes in the experimental lakes area of northwestern Ontario. University of Manitoba.
- Flett, R. J. 1972. Measurement of nitrogen fixation rates by acetylene reduction and estimation of seasonal inputs of biologically fixed nitrogen to several artificially fertilized lakes in the Experimental Lakes Area of northwestern Ontario. Univ. Manitoba, Winnipeg, MB.



1971

- Stockner, J. G., and F. A. J. Armstrong. 1971. Periphyton of the Experimental Lakes Area, northwestern Ontario. *Journal of the Fisheries Research Board of Canada* **28**:215-229.
- Stockner, J. G. 1971. Preliminary characterization of lakes in the Experimental Lakes Area, northwestern Ontario, using diatom occurrences in sediments. *Journal of the Fisheries Research Board of Canada* **28**:265-275.
- Schindler, D. W., and B. Noven. 1971. Vertical distribution and seasonal abundance of zooplankton in two shallow lakes of the Experimental Lakes Area, northwestern Ontario. *Journal of the Fisheries Research Board of Canada* **28**:245-256.
- Schindler, D. W., and S. K. Holmgren. 1971. Primary production and phytoplankton in the Experimental Lakes Area, Northwestern Ontario, and other low-carbonate waters, and a liquid scintillation method for determining ¹⁴C activity in photosynthesis. *Journal of the Fisheries Research Board of Canada* **28**:189-201.
- Schindler, D. W., A. S. Clark, and J. R. Gray. 1971. Seasonal calorific values of freshwater zooplankton as determined with a Phillipson bomb calorimeter modified for small samples. *Journal of the Fisheries Research Board of Canada* **28**:559-564.
- Schindler, D. W., F. A. J. Armstrong, S. K. Holmgren, and G. J. Brunskill. 1971. Eutrophication of Lake 227, Experimental Lakes Area, northwestern Ontario, by addition of phosphate and nitrate. *Journal of the Fisheries Research Board of Canada* **28**:1763-1782.
- Schindler, D. W. 1971. A hypothesis to explain differences and similarities among lakes in the Experimental Lakes Area, northwestern Ontario. *Journal of the Fisheries Research Board of Canada* **28**:295-301.
- Schindler, D. W. 1971. Carbon, nitrogen, and phosphorus and the eutrophication of freshwater lakes. *Journal of Phycology* **7**:321-329.
- Schindler, D. W. 1971. Light, temperature, and oxygen regimes of selected lakes in the Experimental Lakes Area, northwestern Ontario. *Journal of the Fisheries Research Board of Canada* **28**:157-169.
- Sakamoto, M. 1971. Chemical factors involved in the control of phytoplankton production in the Experimental Lakes Area, northwestern Ontario. *Journal of the Fisheries Research Board of Canada* **28**:203-213.
- Patalas, K. 1971. Crustacean plankton communities in forty-five lakes in the Experimental Lakes Area, northwestern Ontario. *Journal of the Fisheries Research Board of Canada* **28**:231-244.
- Lerman, A., and G. J. Brunskill. 1971. Migration of major constituents from lake sediments into lake water and its bearing on lake water composition. *Limnology and Oceanography* **16**:880-890.
- Johnson, W. E., and J. R. Vallentyne. 1971. Rationale, background, and development of experimental lakes studies in northwestern Ontario. *Journal of the Fisheries Research Board of Canada* **28**:123-128.



- Hamilton, A. L. 1971. Zoobenthos of fifteen lakes in the Experimental Lakes Area, northwestern Ontario. *Journal of the Fisheries Research Board of Canada* **28**:257-263.
- Cleugh, T. R., and B. W. Hauser. 1971. Results of the initial survey of the Experimental Lakes Area, northwestern Ontario. *Journal of the Fisheries Research Board of Canada* **28**:129-137.
- Brunskill, G. J., and D. W. Schindler. 1971. Geography and bathymetry of selected lake basins, Experimental lakes Area, northwestern Ontario. *Journal of the Fisheries Research Board of Canada* **28**:139-155.
- Brunskill, G. J., D. Povoledo, B. W. Graham, and M. P. Stainton. 1971. Chemistry of surface sediments of sixteen lakes in the Experimental Lakes Area, northwestern Ontario. *Journal of the Fisheries Research Board of Canada* **28**:277-294.
- Barica, J., and F. A. J. Armstrong. 1971. Contribution by snow to the nutrient budget of some small northwest Ontario lakes. *Limnology and Oceanography* **16**:891-899.
- Armstrong, F. A. J., and D. W. Schindler. 1971. Preliminary chemical characterization of waters in the Experimental Lakes Area, northwestern Ontario. *Journal of the Fisheries Research Board of Canada* **28**:171-187.

1969

- Schindler, D. W. 1969. Two useful devices for vertical plankton and water sampling. *Journal of the Fisheries Research Board of Canada* **26**:1948-1955.