

All Publications of the Mid-Continent Ecology Division
Sorted by Year of Publication and Author
Updated October 29, 2008

2008

Angradi, T.R., D.W. Bolgrien, T.M. Jicha, M.S. Pearson, B.H. Hill, D.L. Taylor, E.W. Schweiger, L. Shepard, A.R. Batterman, M.F. Moffett, C.M. Elonen, and L.E. Anderson. 2008. A bioassessment approach for mid-continent great rivers: the Upper Mississippi, Missouri, and Ohio (USA). *Environ. Mon. Assess.* #4805. *Online at:*
<http://www.springerlink.com/content/xw510xp123562r87/fulltext.pdf>

Ankley, G.T., D.H. Miller, K.M. Jensen, D.L. Villeneuve, and D. Martinovic. 2008. Relationship of plasma sex steroid concentrations in female fathead minnows to reproductive success and population status. *Aquatic Toxicol.* 88:69-74. #4874

Barron, M.G., S. Raimondo, C.L. Russom, D.N. Vivian, and S.H. Yee. 2008. Accuracy of chronic aquatic toxicity estimates determined from acute toxicity data and two time-response models. *Environ. Toxicol. Chem.* 27:2196-2205. #4984

Barron, M.G., D.N. Vivian, S.H. Yee, S.A. Diamond, and T. Parkin. 2008. Temporal and spatial variation in solar radiation and photoenhanced toxicity risks of spilled oil in Prince William Sound, Alaska, USA. *Environ. Toxicol. Chem.* 27:727-736. #4915

Bennett, R.S., J.B. French, R. Rossmann, and R. Haebler. 2008. Dietary toxicity and tissue accumulation of methylmercury in American kestrels. *Arch. Environ. Contam. Tox.*, *Online* 4/17/08 at: <http://www.springerlink.com/content/tw02n71q1r648865/fulltext.pdf>. #4909

Bourgeau-Chavez, L., R. Lopez, A. Trebitz, T. Hollenhorst, G. Host, B. Huberty, R. Gauthier, and J. Hummer. Chapter 8. Landscape-based indicators. In: *Great Lakes Coastal Wetlands Monitoring Plan*, T.M. Burton, J.C. Brazner, J.J.H. Ciborowski, G.P. Grabas, J. Hummer, J. Schneider, and D.G. Uzarski, Eds., Great Lakes Coastal Wetland Consortium Report to US EPA's Great Lakes National Program Office, pp.143-171. #4975

Bradbury, S., P. Cook, M. De Vito, T. Henry, C. Nolt-Helms, P. Cirone, R. Pepin, S. Wharton, T. Kubiak, D. Tillitt, and L. Williams. 2008. Workshop report on the application of 2,3,7,8-TCDD toxicity equivalence factors to fish and wildlife. *On-line at:*
<http://www.epa.gov/osa/raf/teffframework/>, June 1, 2008, EPA/630/R-01/002. #5068

Bradbury, S.P., R.W. Carlson, T.R. Henry, S. Padilla, and J. Cowden. 2008. Chapter 9. Toxic responses of the fish nervous system. *The Toxicology of Fishes*, R.T. DiGiulio and D.E. Hinton, Eds., Taylor & Francis, Boca Raton, FL, pp. 417-455. #3414

Brazner, J.C., N.P. Danz, A.S. Trebitz, G.J. Niemi, R.R. Regal, T. Hollenhorst, G.E. Host, E.D. Reavie, T.N. Brown, J.M. Hanowski, C.A. Johnston, L.B. Johnson, R.W. Howe, and J.J.

Ciborowski. 2008. Responsiveness of Great Lakes wetland indicators to human disturbances at multiple spatial scales: A multi-assemblage assessment. *J. Great Lakes Res.* 33 (S13):42-66. #4926

Brooks, B.W., G.T. Ankley, J.F. Hobson, J.M. Lazorchak, R.D. Meyerhoff, and K.R. Solomon. 2008. Chapter 5. Assessing the aquatic hazards of veterinary medicines. *Veterinary Medicines in the Environment*, M. Crane, A. Boxall, and K. Barrett, Eds., CRC Press, Boca Raton, FL, pp. 97-128. #4908

Burgess, R.M., W.J. Berry, D.R. Mount, G.T. Ankley, D.S. Ireland, D.M. DiToro, D.J. Hansen, J.A. McGrath, L.D. DeRosa, H.E. Bell, F.J. Keating, M.C. Reiley, and C.S. Zarba. 2008. Procedures for the derivation of equilibrium partitioning sediment benchmarks (ESBs) for the protection of benthic organisms: Compendium of Tier 2 values for nonionic organics, EPA/600/R-02/016. #4980

Burkhard, L.P., P.M. Cook, and M.T. Lukasewycz. 2008. Organic carbon - water column concentration quotients (IIsocs and π pocs): Measuring apparent chemical disequilibria and exploring the impact of black carbon in Lake Michigan. *Environ. Sci. Technol.* 42:3615-3621. #4605

Burkhard, L.P. and M.T. Lukasewycz. 2008. Toxicity equivalency values for polychlorinated biphenyl mixtures. *Environ. Toxicol. Chem.* 27:529-534. #4811

Cormier, S.M., J.F. Paul, R.L. Spehar, P. Shaw-Allen, W.J. Berry, and G.W. Suter. 2008. Using field data and weight of evidence to develop water quality criteria. *Integ. Environ. Assess. Manage.* 4:490-504. #5090

Ekman, D.R., Q. Teng, D.L. Villeneuve, M.D. Kahl, K.M. Jensen, E.J. Durhan, G.T. Ankley, and T.W. Collette. 2008. Investigating compensation and recovery of fathead minnow (*Pimephales promelas*) exposed to 17 α -ethynylestradiol with metabolite profiling. *Environ. Sci. Technol.* 42:4188-4194. #4928

Erickson, R.J., J.W. Nichols, P.M. Cook, and G.T. Ankley. 2008. Chapter 2. Bioavailability of chemical contaminants in aquatic systems. In: *The Toxicology of Fishes*, R.T. DiGiulio and D.E. Hinton, Eds., Taylor & Francis, Boca Raton, FL, pp. 9-54. #3444

Etterson, M.A. and T.R. Stanley. 2008. Incorporating classification uncertainty in competing-risks nest-failure analysis. *The Auk* 125:687-699. #4638

Greenberg, M., S. Eells, and L. Burkhard. 2008. SAMS #1: Using fish tissue data to monitor remedy effectiveness. USEPA, OSRTI/ORD, EPA/600/X-07/014. #4801

Grigorovich, I.A., T.R. Angradi, and C.A. Stepien. 2008. Occurrence of the quagga mussel (*Dreissena bugensis*) and the zebra mussel (*Dreissena polymorpha*) in the upper Mississippi River System. *J. Fresh. Ecol.* 23:429-435. #4916

- Grigorovich, I.A., J.R. Kelly, J. Darling, and C.W. West. 2008. The quagga mussel invades the Lake Superior basin. *J. Great Lakes Res.* 32:342-350. #4885
- Henry, T., P. Cirone, P.M. Cook, M. DeVito, B. Duncan, R. Pepin, and S. Wharton. 2008. Framework for application of the toxicity equivalence methodology for polychlorinated dioxins, furans, and biphenyls in ecological risk assessment. *On-line at: <http://www.epa.gov/osa/raf/tefframework/>, June 1, 2008, EPA/100/R-08/004.* #5067
- Hoffman, J.C., D.A. Bronk, and J.E. Olney. 2008. Organic matter sources supporting lower food web production in the tidal freshwater portion of the York River estuary, Virginia. *Est. Coasts* 31:898-911. #4761
- Hoffman, J.C., D.A. Bronk, and J.E. Olney. 2008. Does terrestrial carbon subsidize production of estuarine fish larvae? In: *Aquatic ecosystem production in waters linking forests, rivers and coasts*, Y. Yamashita, Ed., Fisheries Science Series, Koseisha-koseikaku, Tokyo, Japan, Vol. 157, pp. 35-45. #4864
- Hoffman, J.C., K.E. Limburg, D.A. Bronk, and J.E. Olney. 2008. Overwintering habitats of migratory juvenile American shad in Chesapeake Bay. *Environ. Biol. Fishes* 81:329-345. #4931
- Hotchkiss, A.K., C. Rider, C.R. Blystone, V.S. Wilson, P. Hartig, G.T. Ankley, P. Foster, and L. Gray. 2008. Fifteen years after "Wingspread"-- Environmental endocrine disrupters and human and wildlife health: Where we are today and where we need to go. *Tox. Sci.* 105:235-259. #4912
- Kavlock, R.J., G.T. Ankley, J. Blancato, M.S. Breen, R.B. Conolly, D. Dix, K. Houck, E. Hubal, R. Judson, J. Rabinowitz, A.M. Richard, R.W. Setzer, I. Shah, D.L. Villeneuve, and E. Weber. 2008. Computational toxicology -- A state of the science mini review. *Tox. Sci.* 103:14-27. #4893
- Kelly, J.R. 2008. Nitrogen effects on coastal marine ecosystems. In: *Nitrogen in the Environment: Sources, Problems, and Management, Second Edition*, J.L. Hatfield and R.F. Follett, Eds., Elsevier, Amsterdam, the Netherlands, pp. 271-332. #4866
- Kleinow, K.M., J.W. Nichols, W.L. Hayton, J.M. McKim, and M.G. Barron. 2008. Chapter 3. Toxicokinetics in fishes. In: *The Toxicology of Fishes*, R.T. DiGiulio and D.E. Hinton, Eds., Taylor & Francis, Boca Raton, FL, pp. 55-152. #4970
- Martinovic, D., L.S. Blake, E.J. Durhan, K.J. Greene, M.D. Kahl, K.M. Jensen, E.A. Makynen, D.L. Villeneuve, and G.T. Ankley. 2008. Reproductive toxicity of vinclozolin in the fathead minnow: Confirming an anti-androgenic mode of action. *Environ. Toxicol. Chem.* 27:478-488. #4750
- Martinovic, D., J.S. Denny, P.K. Schmieder, G.T. Ankley, and P.W. Sorensen. 2008. Temporal variation in the estrogenicity of a sewage treatment plant effluent and its biological significance. *Environ. Sci. Technol.* 42:3421-3427. #4807

Mattson, V.R., J.R. Hockett, T.L. Highland, G.T. Ankley, and D.R. Mount. 2008. Effects of low dissolved oxygen on organisms used in freshwater sediment toxicity tests. *Chemosphere* 70:1840-1844. #4715

Morrice, J.A., N. Danz, R.R. Regal, J.R. Kelly, E.D. Reavie, T. Hollenhorst, R.P. Axler, A.S. Trebitz, A.M. Cotter, and G.S. Peterson. 2008. Human influences on water quality in Great Lakes coastal wetlands. *Environ. Manage.* 41:347-357. #4685

Mount, D.R. and T.R. Henry. 2008. Chapter 18. Ecological Risk Assessment. In: *The Toxicology of Fishes* R.T. DiGiulio and D.E. Hinton, Eds., Taylor & Francis, Boca Raton, FL, pp. 757-775. #3950

Nawrocki, T., M.A. Starry, M.F. Moffett, and D.W. Bolgrien. 2008. Landscape metrics arranged by hydrological proximity to sites on the Mississippi, Missouri, and Ohio Rivers. In: DR Maidment, Ed., GIS and Water Resources V, *AWRA Spring Specialty Conference, San Mateo, CA, March 17-19, 2008*. American Water Resources Association, Middleburg, VA, TPS-08-1, CD-ROM / TPS-08-1. ISBN 1-882132-76-9. #4934

Nichols, J.W., A.D. Hoffman, P.N. Fitzsimmons, and G.J. Lien. 2008. Quantification of phenol, phenyl glucuronide, and phenyl sulfate in blood of unanesthetized rainbow trout by online microdialysis sampling. *Toxicol. Mech. Methods* 18:405-412. #4745

Nichols, J.W., A.D. Hoffman, P.N. Fitzsimmons, G.J. Lien, and C.T. Jenson. 2008. Use of online microdialysis sampling to determine the in vivo rate of phenol glucuronidation in rainbow trout. *Drug Metab. Disp.* 36:1406-1413. #4858

Niemi, G.J., J.R. Kelly, and N.P. Danz. 2008. Environmental indicators for the coastal region of the North American Great Lakes: Introduction and prospectus. *J. Great Lakes Res.* 33 (SI3):1-12. #4907

Parkerton, T., J. Arnot, A. Weisbrod, C. Russom, R. Hoke, K. Woodburn, T. Traas, M. Bonnell, L. Burkhard, and M. Lampi. 2008. Guidance for evaluating in-vivo fish bioaccumulation data. *Integ. Environ. Assess. Manage.* 4:139-155. #4733

Pauer, J.J., A. Anstead, W. Melendez, R. Rossmann, K.W. Taunt, and R.G. Kreis. 2008. The Lake Michigan eutrophication model, LM3-Eutro: Model development and calibration. *Water Environ. Res.* 80:853-861. #4690

Paul, J.F., S.M. Cormier, W.J. Berry, P.R. Kaufmann, R.L. Spehar, D.J. Norton, R.E. Cantilli, R. Stevens, W.F. Swietlik, and B.K. Jessup. 2008. Developing water quality criteria for suspended and bedded sediments. *Water Practice* 2:1-17. #5051

Perkins, E.J., N. Garcia-Reyero, D.L. Villeneuve, D. Martinovic, S.M. Brasfield, L.S. Blake, J.D. Brodin, N.D. Denslow, and G.T. Ankley. 2008. Perturbation of gene expression and steroidogenesis with in vitro exposure of fathead minnow ovaries to ketoconazole. *Marine Environ. Res.* 66:113-115. #4810

- Peterson, G.S., M.E. Sierszen, P.M. Yurista, and J.R. Kelly. 2008. Stable nitrogen isotopes of plankton and benthos reflect a landscape-level influence on Great Lakes coastal ecosystems. *J. Great Lakes Res.* 33 (SI3):27-41. #4680
- Russom, C.L., L.P. Burkhard, and D.J. Hoff. 2008. Availability of biota-sediment accumulation factor data set and PCB residue effects database. *SETAC Globe* 9:5. #4987
- Rygwelski, K.R. 2008. Results of the Lake Michigan Mass Balance Project: Atrazine modeling report, EPA/600/R-08/111. i-140. #4989
- Stevenson, R.J., B.H. Hill, A.T. Herlihy, L.L. Yuan, and S.B. Norton. 2008. Algae-P relationships, thresholds, and frequency distributions guide nutrient criteria development. *J. NABS* 27:783-799. #4606
- Tillitt, D.E., P.M. Cook, J.P. Giesy, W. Heideman, and R.E. Peterson. 2008. Chapter 21. Reproductive impairment of Great Lakes lake trout by dioxin-like chemicals. In: *The Toxicology of Fishes*, R.T. DiGiulio and D.E. Hinton, Eds., Taylor & Francis, Boca Raton, FL, pp.819-875. #4877
- Trebitz, A.S., J.C. Brazner, A.M. Cotter, M.L. Knuth, J.A. Morrice, G.S. Peterson, M.E. Sierszen, J.A. Thompson, and J.R. Kelly. 2008. Water quality in Great Lakes coastal wetlands: Basin-wide patterns and responses to an anthropogenic disturbance gradient. *J. Great Lakes Res.* 33 (SI3):67-85. #4677
- Villeneuve, D.L., L.S. Blake, J.D. Brodin, J.E. Cavallin, E.J. Durhan, K.M. Jensen, M.D. Kahl, E.A. Makynen, D. Martinovic, N.D. Mueller, and G.T. Ankley. 2008. Effects of a 3 α -hydroxysteroid dehydrogenase inhibitor, trilostane, on the fathead minnow reproductive axis. *Tox. Sci.* 104:113-123. #4925
- Villeneuve, D.L., I. Knoebel, P. Larkin, A.L. Miracle, B.J. Carter, N.D. Denslow, and G.T. Ankley. 2008. Altered gene expression in the brain and liver of female fathead minnows *Pimephales promelas* Rafinesque exposed to fadrozole. *J. Fish Biol.* 72:2281-2340. 4872
- Wang, R.-L., A.D. Biales, D.C. Bencic, D.L. Lattier, M. Kostich, D.L. Villeneuve, G.T. Ankley, J.M. Lazorchak, and G.P. Toth. 2008. DNA microarray application in ecotoxicology: Experimental design, microarray scanning, and factors impacting transcriptional profiles in a small fish species. *Environ. Toxicol. Chem* 27:652-663. #4794
- Wang, R.-L., A.D. Biales, D.C. Bencic, D.L. Lattier, M. Kostich, D.L. Villeneuve, G.T. Ankley, J.M. Lazorchak, and G.P. Toth. 2008. DNA microarray-based ecotoxicological biomarker discovery in a small fish model species. *Environ. Toxicol. Chem.* 27:664-675. #4759
- Zhang, X., K.R. Rygwelski, R. Rossmann, J.J. Pauer, and R.G. Kreis, Jr. 2008. Model construct and calibration of an integrated water quality model (LM2-Toxic) for the Lake Michigan Mass Balance Project. *Ecol.Model.* at: <http://www.sciencedirect.com/science/journal/03043800> #4922

Zhang, X. and R.G. Kreis. 2008. Importance of temperature in modeling food web bioaccumulation in large aquatic systems. *Ecol. Model.* 218:315-322. #4265

2007

Albers, P.H., M.T. Koterba, R. Rossmann, W.A. Link, J.B. French, R.S. Bennett, and W.C. Bauer. 2007. Effects of methylmercury on reproduction in American kestrels. *Environ. Toxicol. Chem.* 26:1856-1866. #4739

Ankley, G.T., B. Brooks, D. Huggett, and J. Sumpter. 2007. Repeating history: Pharmaceuticals in the environment. *Environ. Sci. Technol.* 41:8211-8217. #4793

Ankley, G.T., K.M. Jensen, M.D. Kahl, E.A. Makynen, L.S. Blake, K.J. Greene, R.D. Johnson, and D.L. Villeneuve. 2007. Ketoconazole in the fathead minnow (*Pimephales promelas*): Reproductive toxicity and biological compensation. *Environ. Toxicol. Chem.* 26:1214-1223. #4672

Ankley, G.T., A.L. Miracle, and E.J. Perkins. 2007. Chapter 1. Toxicogenomics in ecological risk assessments: Regulatory context, technical background, and workshop overview. SETAC Pellston Workshop, Pellston, MI, September 18-22, 2005, SETAC Press, Pensacola, FL. #4876a

Ankley, G.T., A.L. Miracle, E.J. Perkins, and G.P. Daston (Eds.). 2007. Genomics in regulatory ecotoxicology: Applications and challenges. SETAC Pellston Workshop, Pellston, MI, September 18-22, 2005, SETAC Press, Pensacola, FL. #4876

Austin, J.E., J.R. Keough, and W.H. Pyle. 2007. Effects of habitat management treatments on plant community composition and biomass in a montane wetland. *Wetlands* 27:570-587. #4920

Bennett, R.S. and M.A. Etterson. 2007. Incorporating results of avian toxicity tests into a model of annual reproductive success. *Int. Environ. Assess. Manage.* (IEAM) 3:498-507. #4695

Blystone, C.R., C.S. Lambright, K.L. Howdeshell, J. Furr, R.M. Sternberg, B.C. Butterworth, E.J. Durhan, E.A. Makynen, G.T. Ankley, V.S. Wilson, G.A. LeBlanc, and J.L.E. Gray. 2007. Sensitivity of fetal rat testicular steroidogenesis to maternal prochloraz exposure and the underlying mechanism of inhibition. *Tox. Sci.* 97:512-519. #4714

Brazner, J.C., N. Danz, G.J. Niemi, R.R. Regal, A. Trebitz, R. Howe, J. Hanowski, L. Johnson, J. Ciborowski, C. Johnson, E. Reavie, V.J. Brady, and G. Sgro. 2007. Evaluation of geographic, geomorphic and human influences on Great Lakes wetland indicators: A multi-assembly approach. *Ecol. Indic.* 7:610-635. #4438

Breen, M.S., D.L. Villeneuve, M. Breen, G.T. Ankley, and R.B. Conolly. 2007. Mechanistic computational model of ovarian steroidogenesis to predict biochemical responses to endocrine active compounds. *Annals Biomed. Eng.* 35:970-981. #4698

Danz, N., G.J. Niemi, R.R. Regal, T. Hollenhorst, L. Johnson, J. Hanowski, R.P. Axler, J. Ciborowski, T. Hrabik, V.J. Brady, J.R. Kelly, J.A. Morrice, J.C. Brazner, R. Howe, C.A. Johnson, and G.E. Host. 2007. Integrated measures of anthropogenic stress in the U.S. *Great Lakes Basin. Environ. Manage.* 39:631-647. #4511

Daston, G.P., A.L. Miracle, E.J. Perkins, and G.T. Ankley. 2007. Chapter 7. Toxicogenomics in ecological risk assessments: A prospectus. *SETAC Pellston Workshop, Pellston, MI, September 18-22, 2005*, SETAC Press, Pensacola, FL. #4876c

Degitz, S.J., R.A. Hoke, S.P. Bradbury, R. Brennan, L. Ferguson, R. Klaper, L. Orban, D. Spurgeon, and S. Tilton. 2007. Chapter 4. Application of genomics to regulatory ecological risk assessments for pesticides. *SETAC Pellston Workshop, Pellston, MI, September 18-22, 2005*, SETAC Press, Pensacola, FL. #4876b

Detenbeck, N.E., M.F. Moffett, M.S. Pearson, T.P. Simon, and D. Albert. 2007. Hydrologic regime classification of Lake Michigan coastal riverine wetlands based on watershed characteristics. Chapter 4. In: *Coastal Wetlands of the Laurentian Great Lakes: Health, Habitat, and Indicators*, TP Simon and PM Stewart, Eds., AuthorHouse, Bloomington, IN, pp. 115-136. #4187

Ekman, D.R., Q. Teng, K.M. Jensen, D. Martinovic, D.L. Villeneuve, G.T. Ankley, and T.W. Collette. 2007. NMR analysis of male fathead minnow urinary metabolites: A potential approach for studying impacts of chemical exposures. *Aquat. Toxicol.* 85:104-112. #4791

Erickson, R.J. 2007. Quantification of toxic effects for water concentration-based aquatic life criteria -- Part A. USEPA, EPA 600/R-07/065. #4716

Etterson, M.A., J.R. Etterson, and F.J. Cuthbert. 2007. A robust new method for analyzing community change and an example using 83 years of avian response to forest succession. *Biol. Conserv.* 138:381-389. #4312

Etterson, M.A., L.R. Nagy, and T.R. Robinson. 2007. Partitioning risk among different causes of nest failure. *The Auk* 124:432-443. #4402

Etterson, M.A., B. Olsen, and R. Greenberg. 2007. The analysis of covariates in multi-fate Markov chain nest failure models. *Stud. Avian Biol.* 34:55-64. #4671

Fitzsimmons, P.N., G.J. Lien, and J.W. Nichols. 2007. A compilation of in vitro rate and affinity values for xenobiotic biotransformation in fish, measured under physiological conditions. *Comp. Biochem. Physiol. Part C* 145:485-506. #4679

Fort, D.J., S. Degitz, J. Tietge, and L.W. Touart. 2007. The hypothalamic-pituitary-thyroid (HPT) axis in frogs and its role in frog development and reproduction. *Crit. Rev. Toxicol.* 37:117-161

Helbing, C.C., C.M. Bailey, L. Ji, M. Gunderson, F. Zhang, N. Veldhoen, R.C. Skirrow, R. Mu, M. Lesperance, G.W. Holcombe, P.A. Kosian, J.E. Tietge, J.J. Korte, and S.J. Degitz. 2007. Identification of gene expression indicators for thyroid axis disruption in a *Xenopus laevis* metamorphosis screening assay. Part 1. Effects on the brain. *Aquat. Toxicol.* 82:227-241. #4687

Helbing, C.C., L. Ji, C.M. Bailey, N. Veldhoen, F. Zhang, G.W. Holcombe, P.A. Kosian, J.E. Tietge, J.J. Korte, and S.J. Degitz. 2007. Identification of gene expression indicators for thyroid axis disruption in a *Xenopus laevis* metamorphosis screening assay. Part 2. Effects on the tail and hindlimb. *Aquat. Toxicol.* 82:215-226. #4689

Hoffman, J.C., D.A. Bronk, and J.E. Olney. 2007. Contribution of allochthonous carbon to American shad production in the Mattaponi River, Virginia, using stable isotopes. *Est. Coasts* 30:1034-1048. #4686

Hoffman, J.C., D.A. Bronk, and J.E. Olney. 2007. Tracking nursery habitat use in the York River estuary, Virginia, by young American shad using stable isotopes. *Trans. Am. Fish. Soc.* 136:1285-1297. #4711

Hoffman, J.C., K.E. Limburg, D.A. Bronk, and J.E. Olney. 2007. Overwintering habitats of migratory juvenile American shad in Chesapeake Bay. *Environ. Biol. Fish.* 81:329-345

Hornung, M.W., P.M. Cook, P.N. Fitzsimmons, D.W. Kuehl, and J.W. Nichols. 2007. Tissue distribution and metabolism of benzo[a]pyrene in embryonic and larval medaka (*Oryzias latipes*). *Tox. Sci.* 100:393-405. #4688

Hotchkiss, A.K., J. Furr, E.A. Makynen, G.T. Ankley, and L.E. Gray, Jr. 2007. In utero exposure to the environmental androgen trenbolone masculinizes female Sprague-Dawley rats. *Toxicol. Lett.* 174:31-41. #4833

Larkin, P., D.L. Villeneuve, I. Knoebl, A.L. Miracle, B.J. Carter, L. Liu, N.D. Denslow, and G.T. Ankley. 2007. Development and validation of a 2,000 gene microarray in the fathead minnow (*Pimephales promelas*). *Environ. Toxicol. Chem.* 26:1497-1506. #4692

Miller, D.H., K.M. Jensen, D.L. Villeneuve, M.D. Kahl, E.A. Makynen, E.J. Durhan, and G.T. Ankley. 2007. Linkage of biochemical responses to population-level effects: A case study with vitellogenin in the fathead minnow. *Environ. Toxicol. Chem.* 26:521-527. #4611

Moffett, M.F., R.L. Dufour, and T.P. Simon. 2007. An inventory and classification of coastal wetlands of the Laurentian Great Lakes. Chapter 2. In: TP Simon and PM Stewart, Eds. *Coastal Wetlands of the Laurentian Great Lakes: Health, Habitat, and Indicators*. AuthorHouse, Bloomington, IN. pp. 17-99. #4393

Nichols, J.W., S. Erhardt, S.D. Dyer, M.O. James, M.M. Moore, K.P. Plotzke, H. Segner, I.R. Schultz, L. Vasiluk, and A. Weisbrod. 2007. Workshop Report: Use of in vitro absorption, distribution, metabolism and excretion (ADME) data in bioaccumulation assessments for fish. *Hum. Ecol. Risk Assess.* 13:1164-1191. #4736

- Nichols, J.W., P.N. Fitzsimmons, and L.P. Burkhard. 2007. In vitro-in vivo extrapolation of quantitative hepatic biotransformation data for fish. II. Modeled effects on chemical bioaccumulation. *Environ. Toxicol. Chem.* 26:1304-1319. #4502
- Pauer, J.J., K. Taunt, W. Melendez, R.G. Kreis, and A. Anstead. 2007. Resurrection of the Lake Michigan eutrophication model, MICH1. *J. Great Lakes Res.* 33:554-563. #4437
- Smith, P.N., G.P. Cobb, C. Godard-Codding, D. Hoff, S.T. McMurry, T.R. Rainwater, and K.D. Reynolds. 2007. Contaminant exposure in terrestrial vertebrates. *Environ. Poll.* 150:41-64. #4819
- Trebitz, A.S., J.C. Brazner, V.J. Brady, R.P. Axler, and D.K. Tanner. 2007. Turbidity tolerances of Great Lakes coastal wetland fishes. *N. Am. J. Fish. Manage.* 27:619-633. #4439
- Trebitz, A.S. and D.L. Taylor. 2007. Exotic and invasive aquatic plants in Great Lakes coastal wetlands: Distribution and relation to watershed land use and plant richness and cover. *J. Great Lakes Res.* 33:705-721. #4591
- USEPA 2007. MED In Review. *MED Newsletter, EPA/600/N07/004.* 4911
- Villeneuve, D.L., G.T. Ankley, E.A. Makynen, L.S. Blake, K.J. Greene, E.B. Higley, J.L. Newsted, J.P. Giesy, and M. Hecker. 2007. Comparison of fathead minnow ovary explant and H295R cell-based steroidogenesis assays for identifying endocrine-active chemicals. *Ecotox. Environ. Safety* 68:20-32. #4684
- Villeneuve, D.L., L.S. Blake, J.D. Brodin, K.J. Greene, I. Knoebl, A.L. Miracle, D. Martinovic, and G.T. Ankley. 2007. Transcription of key genes regulating gonadal steroidogenesis in control and ketoconazole- or vinclozolin-exposed fathead minnows. *Tox. Sci.* 98:395-407. #4798
- Villeneuve, D.L., P. Larkin, I. Knoebl, A.L. Miracle, M.D. Kahl, K.M. Jensen, E.A. Makynen, E.J. Durhan, B.J. Carter, N.D. Denslow, and G.T. Ankley. 2007. A graphical systems model to facilitate hypothesis-driven ecotoxicogenomics research on the teleost brain-pituitary-gonadal axis. *Environ. Science Tech.* 41:321-330. #4664
- Villeneuve, D.L., A.L. Miracle, K.M. Jensen, S.J. Degitz, M.D. Kahl, J.J. Korte, K.J. Greene, L.S. Blake, A.L. Linnum, and G.T. Ankley. 2007. Development of quantitative real-time PCR assays for fathead minnow (*Pimephales promelas*) gonadotropin beta subunit mRNAs to support endocrine disruptor research. *Comp. Biochem. Physiol. Part C* 145:171-183. #4565
- Watanabe, K.H., K.M. Jensen, E.F. Orlando, and G.T. Ankley. 2007. What is normal? A characterization of the values and variability in reproductive endpoints of the fathead minnow, *Pimephales promelas*. *Compar. Biochem. Physiol. Part C* 146:348-356. #4789
- Weisbrod, A., L.P. Burkhard, J. Arnot, D. Powell, O.G. Mekenyan, P. Howard, C.L. Russom, R. Boething, Y. Sakuratani, T. Traas, T. Bridges, C. Lutz, M. Bonnell, T. Parkerton, and K.

Woodburn. 2006. Workgroup report: Review of fish bioaccumulation databases used to identify persistent, bioaccumulative, toxic substances. *Environ. Health Perspec.* 115:255-261. #4620

2006

Angradi, T.R., E.W. Schweiger, B.H. Hill, D.W. Bolgrien, J.M. Lazorchak, E.B. Emery, T.M. Jicha, J.A. Thomas, D.J. Klemm, S. Peterson, D.M. Walters, B.R. Johnson, and M.A. Bagley. 2006. Environmental Monitoring and Assessment - Great River Ecosystems Program (EMAP-GRE) Field Operations Manual. USEPA, Duluth, MN, EPA/620/R-06/002. #4504

Angradi, T.R., E.W. Schweiger, and D.W. Bolgrien. 2006. Inter-habitat variation in the benthos of the Upper Missouri River (North Dakota, USA): Implications for Great River bioassessment. *River Res. Appl.* 22:755-773. #4429

Ankley, G.T., G. Daston, S.J. Degitz, N.D. Denslow, R.A. Hoke, S.W. Kennedy, A.L. Miracle, E. Perkins, J. Snape, D. Tillitt, C.R. Tyler, and D. Versteeg. 2006. Toxicogenomics in regulatory ecotoxicology. *Environ. Science & Tech.* 40:4055-4065. #894

Ankley, G.T. and D.L. Villeneuve. 2006. The fathead minnow in aquatic toxicology: Past, present, and future. *Aquat. Toxicol.* 78:91-102. #882

Anstead, A. 2006. Primary production for the LM2-Toxic. Part 4, Appendix 4.5.5, pp. 426-429 in Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345a

Bennett, R.S. and M.A. Etersson. 2006. Estimating pesticide effects on fecundity rates of wild birds using current laboratory reproduction tests. *Hum. Ecol. Risk Assess.* 12:762-781. #4311

Burkhard, L.P., P.M. Cook, and M.T. Lukasewycz. 2006. A hybrid empirical-mechanistic modeling approach for extrapolating BSAFs and BAFs across species, time, and/or ecosystems. *Environ. Toxicol. Chem.* 25:1946-1952. #893

Burman, B. and K. R. Rygwelski. 2006. Derivation of a hypothetical Lake Michigan lake trout fish consumption criteria for PCBs. Part 3, Appendix 3.4.1, pp. 212-215 in Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345b

Campbell, D.E., K.T. Ho, J.C. Kurtz, V.D. Engle, M. Pelletier, N.E. Detenbeck, B.H. Hill, R. Burgess, K.T. Perez, and V.M. Snarski. 2006. Conceptual models and methods to guide diagnostic research. USEPA, Research Triangle Park, NC, EPA/600/R-06/024. #4632

Chipps, S.R., D.E. Hubbard, K.B. Werlin, N.J. Haugerud, K.A. Powell, J.A. Thompson, and T. Johnson. 2006. Association between wetland disturbance and biological attributes in floodplain wetlands. *Wetlands* 26:497-408. #4676

Diamond, S.A., D.R. Mount, V.R. Mattson, L.J. Heinis, T.L. Highland, A. Adams, and M. Simcik. 2006. Photoactivated polycyclic aromatic hydrocarbon toxicity in medaka (*Oryzias latipes*) embryos: Relevance to environmental risk in contaminated sites. *Environ. Toxicol. Chem.* 25:3015-3023. #4557

Durhan, E.J., C.S. Lambright, E.A. Makynen, J. Lazorchak, P. Hartig, V. Wilson, L. Gray, and G.T. Ankley. 2006. Identification of metabolites of trenbolone acetate in androgenic runoff from a beef feedlot. *Environ. Health Perspec.* 114:65-68. #4308

Endicott, D.E., W.B. Richardson, and R. Rossmann. 2006. PCBs modeling overview. Part 1, Chapter 2, pp. 16-25 in Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345d

Endicott, D.D., T.J. Feist, G. Gerstner, and K.R. Rygwelski. 2006. Level 1 models. Part 3, pp. 183-211 in Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345c

Erickson, R.J., J.M. McKim, G.J. Lien, A.D. Hoffman, and S.L. Batterman. 2006. Uptake and elimination of ionizable organic chemicals at fish gills: Part I. Model formulation, parameterization, and behavior and Part II. Observed and predicted effects of pH, alkalinity, and chemical properties. *Environ. Toxicol. Chem.* 25:1522-1532. #887

Etterson, M.A. and R.S. Bennett. 2006. The effects of uncertainty about age at transition on bias in the Mayfield family of estimators. *Ecol. Modell.* #4401

Feist, T.J. and K.R. Rygwelski. 2006. Comparison of model results. Part 6, pp. 544-551 in Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345e

Gray, J.L., V. Wilson, T. Stoker, C. Lambright, J. Furr, N. Noriega, K. Howdeshell, G.T. Ankley, and L. Guilette. 2006. Adverse effects of environmental antiandrogens and androgens on reproductive development in mammals. *Int. J. Androl.* 29:96-104. #2006-4

Griesmer, D.A. 2006. Information management. Part 1, Chapter 3, pp. 26-54 In Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD,

NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345-f

Griesmer, D.A. 2006. Congener pattern matching of data collected for the Lake Michigan Mass Balance Project (LMMBP). Part 1, Chapter 6, pp. 93-109 in Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345-g

Hecker, M., M.B. Murphy, K.K. Coady, D.L. Villeneuve, P.D. Jones, J.A. Carr, K.R. Solomon, E.E. Smith, G. Van der Kraak, T. Gross, L. Du Preez, R.J. Kendall, and J.P. Giesy. 2006. Terminology of gonadal anomalies in fish and amphibians resulting from chemical exposures. *Rev. Environ. Contam. Toxicol.* 187:103-131. #891

Hill, B.H., C.M. Elonen, T.M. Jicha, A.M. Cotter, A.S. Trebitz, and N. Danz. 2006. Sediment microbial enzyme activity as an indicator of nutrient limitation in Great Lakes coastal wetlands. *Fresh. Biol.* 51:1670-1683. #897

Hoffman, J.C. and D. Bronk. 2006. Interannual variation in stable carbon and nitrogen isotope biogeochemistry of the Mattaponi River, Virginia. *Limnol. Oceanog.* 51:2319-2332. #4861

Hossack, B., S.A. Diamond, and P.S. Corn. 2006. Distribution of boreal toad populations in relation to estimated UV-B dose in Glacier National Park, Montana, USA. *Can. J. Zool.* 84:98-107. #2006-1

Hutchinson, T.H., G.T. Ankley, H. Segner, and C.R. Tyler. 2006. Screening and testing for endocrine disruption in fish – biomarkers as "signposts," not "traffic lights," in risk assessment. *Environ. Health Perspec.* 114:106-114. #881

Jensen, K.M. and G.T. Ankley. 2006. Evaluation of a commercial kit for measuring vitellogenin in the fathead minnow (*Pimephales promelas*). *Ecotoxicol. Environ. Safety* 64:101-105. #890

Jensen, K.M., E.A. Makynen, M.D. Kahl, and G.T. Ankley. 2006. Effects of the feedlot contaminant 17 α -trenbolone on reproductive endocrinology of the fathead minnow. *Environ. Sci. Tech.* 40:3112-3117. #884

Kurtz, J., N.E. Detenbeck, V. Engle, K. Ho, L.M. Smith, S.J. Jordan, and D. Campbell. 2006. Classifying coastal waters: Current necessity and historical perspective. *Estuaries and Coasts* 29:107-123. #886

McCarty, H. B., K. Miller, R. N. Brent, J. Schofield, R. Rossmann, and K. R. Rygwelski. 2006. Project overview. Part 1, Chapter 1, pp. 1-15 in Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345-h

Miracle, A.L., G.T. Ankley, and D. Lattier. 2006. Expression of two vitellogenin genes (vg1 and vg3) in fathead minnow (*Pimephales promelas*) liver in response to exposure to steroidal estrogens and androgens. *Ecotoxicol. Env. Safety* 63:337-342. #2006-3

Mount, D.R., T.L. Highland, V.R. Mattson, T.D. Dawson, K.G. Lott, and C.G. Ingersoll. 2006. Use of the oligochaete, *Lumbriculus variegatus*, as a prey organism for toxicant exposure of fish through the diet. *Environ. Toxicol. Chem.* 25:2760-2767. #900

Nichols, J.W., I.R. Schultz, and P.N. Fitzsimmons. 2006. In vitro-in vivo extrapolation of quantitative hepatic biotransformation data for fish. I. A review of methods, and strategies for incorporating intrinsic clearance estimates into chemical kinetic models. *Aquat. Toxicol.* 78:74-90. #889

Norberg-King, T.J., P.K. Sibley, G. Burton, C.G. Ingersoll, N. Kemble, S. Ireland, D.R. Mount, and C. Rowland. 2006. Interlaboratory evaluation of *Hyaella azteca* and *Chironomus tentans* short-term and long-term sediment toxicity tests. *Environ. Toxicol. Chem.* 25:2662-2674. #4318

Pan, Y., B.H. Hill, P. Husby, R.K. Hall, and P. Kaufmann. 2006. Relationships between environmental variables and benthic diatom assemblages in California Central Valley streams (USA). *Hydrobiologia* 561:119-130. #895

Pauer, J.J., K.W. Taunt, and W. Melendez. 2006. LM3-Eutro. Part 2, pp. 120-182 in Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345-j

Pearson, M.S. The Great Rivers Newsletter. USEPA, Duluth, MN, Vol. 2, No. 1, January 2006, EPA/620/N-06/001. #4554

Pearson, M.S. The Great Rivers Newsletter. USEPA, Duluth, MN, Vol. 2, No. 2, March 2006, EPA/620/N-06/002. #4601

Pearson, M.S. The Great Rivers Newsletter. USEPA, Duluth, MN, Vol. 2, No. 3, June 2006, EPA/620/N-06/003. #4660

Rossmann, R., K.R. Rygwelski, R.G. Kreis, Jr., B. Burman, Xiaomi Zhang, and G. Gerstner. 2006. Representativeness of LMMBP years relative to Lake Michigan's historic record. Part 1, Chapter 4, pp. 55-65 in Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345-m

Rossmann, R. 2006. Hindcasting and forecasting functions for PCBs in the Lake Michigan ecosystem. Part 1, Chapter 7, pp. 110-119 in Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345-l

Rossmann, R. 2006. PCBs in the Lake Michigan ecosystem. Part 1, Chapter 5, pp. 66-92 in Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345

Rossmann, R. (Ed.). 2006. Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345-k

Rygwelski, K.R. 2006. Lake Michigan Mass Balance Project (LMMBP) peer review report. Part 7 Appendix 7.1, pp. 552-572 in Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345-n

Sierszen, M.E., J.A. Thompson, J.A. Morrice, G.S. Peterson, A.M. Cotter, A.S. Trebitz, M.L. Knuth, and J.R. Kelly. 2006. Great Lakes coastal wetland food web responses to nutrient loading and ecosystem classification factors. USEPA, ORD, EPA/600/X-06/009. #4528

Sierszen, M.E., G.S. Peterson, and J.V. Scharold. 2006. Depth-specific patterns in benthic-planktonic food web relationships in Lake Superior. *Can. J. Fish. Aquat. Sci.* 63:1496-1503. #898

Trebitz, A.S. 2006. Characterizing seiche and tide-driven daily water level fluctuations affecting coastal ecosystems of the Great Lakes. *J. Great Lakes Res.* 32:102-116. #880

USEPA. 2006. Framework for developing suspended and bedded sediments (SABS) water quality criteria. USEPA, Washington, DC, EPA/822/R-06/001, 150 pp., May. #4665
Villeneuve, D.L., I. Knoebl, M.D. Kahl, K.M. Jensen, D.E. Hammermeister, K.J. Greene, L.S. Blake, and G.T. Ankley. 2006. Relationship between brain and ovary aromatase activity and isoform-specific aromatase mRNA expression in the fathead minnow (*Pimephales promelas*). *Aquat. Toxicol.* 76:353-368. #878

Villeneuve, D.L., M.B. Murphy, M.D. Kahl, K.M. Jensen, B.C. Butterworth, E.A. Makynen, E.J. Durhan, A.L. Linnum, R.L. Leino, L.R. Curtis, J. Giesy, and G.T. Ankley. 2006. Evaluation of the methoxytriazine herbicide prometon, using a short-term fathead minnow reproduction test and a suite of in vitro bioassays. *Environ. Toxicol. Chem.* 25:2143-2153. #896

Vyas, N.B., J.W. Spann, C.S. Hulse, S.L. Borges, R.S. Bennett, M. Torrez, B.I. Williams, and R. Leffel. 2006. Field evaluation of an avian risk assessment model. *Environ. Toxicol. Chem.* 25:1762-1771. #2006-6

Weinstein, J. and S.A. Diamond. 2006. Relating daily solar ultraviolet radiation dose in salt marsh-associated estuarine systems to laboratory assessments of photoactivated polycyclic aromatic hydrocarbon toxicity. *Environ. Toxicol. Chem.* 25:2860-2868. #4353

Weisbrod, A., L.P. Burkhard, J. Arnot, D. Powell, O.G. Mekenyan, P. Howard, C.L. Russom, R. Boething, Y. Sakuratani, T. Traas, T. Bridges, C. Lutz, M. Bonnell, T. Parkerton, and K. Woodburn. 2006. Workgroup report: Review of fish bioaccumulation databases used to identify persistent, bioaccumulative, toxic substances. *Environ. Health Perspec.* 115:255-261. #4620

Wescoat, J.L., P. Chow-Fraser, D.N.D. Hartford, J.R. Keough, L.A. Maguire, J.C. Makarewicz, D.C. McKinney, D.H. Moreau, S.P. Simonovic, P.A. Zielinski, L.E. Alexander, and E.A. DeGuzman. 2006. Review of the Lake Ontario-St. Lawrence River Studies. National Research Council of the National Academies, Washington, DC, National Academies Press, 500 Fifth Street NW, Washington, DC, pp.1-147. #892

Winn, R., M. Norris, D.B. Lothenbach, K.M. Flynn, D.E. Hammermeister, F.W. Whiteman, B.R. Sheedy, and R.D. Johnson. 2006. Sub-chronic exposure to 1,1-dichloropropene induces frameshift mutations in λ transgenic medaka. *Mutation Research: Fundamental and Molecular Mechanisms of Mutagenesis* 595:52-59. #2006-2

Xia, Xiangsheng. 2006. Sample data interpolation for the LMMBP. Part 4, Appendix 4.4.1, pp. 286-290 in Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345-o

Yurista, P.M., J.R. Kelly, and S.E. Miller. 2006. Comparisons of zooplankton community size structure in the Great Lakes. *J. of Geophys. Res., Oceans Special Issue* 111, C05S08, doi:10.1029/2005JC002971:1-12 . #883

Zhang, Xiaomi. 2006. LM2-Toxic. Part 4, pp. 216-452 in Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345-p

Zhang, Xin. 2006. LM Food Chain. Part 5, pp. 453-543 in Rossmann, R. (Ed.), Results of the Lake Michigan Mass Balance study: PCBs modeling report. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Large Lakes Research Station, Grosse Ile, MI. EPA/600/R-04/167. #4345-q

Zhang, F., S.J. Degitz, G.W. Holcombe, P.A. Kosian, J.E. Tietge, N. Veldhoen, and C.C. Helbing. 2006. Evaluation of gene expression endpoints in the context of a *Xenopus laevis* metamorphosis-based bioassay to detect thyroid hormone disruptors. *Aquat. Toxicol.* 76:24-36. #2006-5

2005

Adams, M.J., B.R. Hossack, R.A. Knapp, P.S. Corn, S.A. Diamond, P.C. Trenham, and D.B. Fagre. 2005. Distribution patterns of lentic-breeding amphibians in relation to ultraviolet radiation exposure in western North America. *Ecosystems* 8:488-500. #2005-5

Ankley, G.T., M. Black, J. Garric, T.H. Hutchinson, and T. Iguchi. 2005. A framework for assessing the hazard of pharmaceutical materials to aquatic species. *In: Human Pharmaceuticals: Assessing the Impacts on Aquatic Ecosystems*, Richard T. Williams, Ed., Society of Environ. Toxicol. Chem. Generated from a Pellston Workshop, Snowbird, UT, June 3-8, 2003:183-236. #2005-10

Ankley, G.T., Jensen, K.M., Durhan, E.J., Makynen, E.A., Butterworth, B.C., Kahl, M.D., Villeneuve, D.L., Linnum, A., Gray, L.E., Cardon, M., and Wilson, V.S. 2005. Effects of two fungicides with multiple modes of action on reproductive endocrine function in the fathead minnow (*Pimephales promelas*). *Tox. Sci.* 86(2):300-308. #861

Ankley, G.T., Kuehl, D.W., Kahl, M.D., Jensen, K.M., Linnum, A., Leino, R.L., and Villeneuve, D.A. 2005. Reproductive and developmental toxicity and bioconcentration of perfluorooctanesulfonate in a partial life-cycle test with the fathead minnow (*Pimephales promelas*). *Environ. Toxicol. Chem.* 24(9):2316-2324. #866

Bennett, R.S., I. Dewhurst, A. Fairbrother, A.D. Hart, M. Hooper, A. Leopold, P. Mineau, S. Mortensen, R.F. Shore, and T. Springer. 2005. A new interpretation of avian and mammalian reproduction toxicity test data in ecological risk assessment. *Ecotoxicology* 14:801-815. #876

Broderius, S.J., M.D. Kahl, G.E. Elonen, D.E. Hammermeister, and M. Hoglund. 2005. A comparison of the lethal and sublethal toxicity of organic chemical mixtures to the fathead minnow (*Pimephales promelas*). *Environ. Toxicol. Chem.* 24:3117-3127. #875

Bolgrien, D.W., Angradi, T.R., Schweiger, E.W., and Kelly, J.R. 2005. Contemplating the assessment of great river ecosystems. *Environ. Monit. Assess.* 103:5-20. #859

Brazner, J.C., Tanner, D.K., Detenbeck, N.E., Batterman, S.L., Stark, S.L., Jagger, L.A., and Snarski, V.M. 2005. Regional, watershed, and site-specific environmental influences on fish assemblage structure and function in western Lake Superior tributaries. *Can. J. Fish. Aquat. Sci.* 62:1254-1270. #863

Brooks, P.D., C.M. O'Reilly, S.A. Diamond, D.H. Campbell, R. Knapp, D. Bradford, P.S. Corn, B. Hossack, and K. Tonnessen. 2005. Spatial and temporal variability in the amount and source of dissolved organic carbon: Implications for ultraviolet exposure in amphibian habitats. *Ecosystems* 8:478-487. #2005-4

Brown, B.S., Detenbeck, N.E., and Eskin, R. 2005. How probability survey data can help integrate 305(b) and 303(d) monitoring and assessment of state waters. *Environ. Monit. Assess.* 103:41-57. #855

Crane, J.L., C. Richards, D. Breneman, S. Lozano, and J.A. Schuldt. 2005. Evaluating methods for assessing sediment quality in a Great Lake embayment. *Aquat. Ecosys. Health Manage.* 8(3):323-349. #2005-6

Danz, N.P., R.R. Regal, G.J. Niemi, V.J. Brady, T. Hollenhorst, L.B. Johnson, G.E. Host, J.M. Hanowski, C.A. Johnston, T. Brown, J. Kingston, and J.R. Kelly. 2005. Environmentally stratified sampling design for the development of Great Lakes environmental indicators. *Environ. Monit. Assess.* 102:41-65. #2005-3

Denny, J.S., M.A. Tapper, P.K. Schmieder, M.W. Hornung, K.M. Jensen, G.T. Ankley, and T.R. Henry. 2005. Comparison of relative binding affinities of endocrine active compounds to fathead minnow and rainbow trout estrogen receptors. *Environ. Toxicol. Chem.* 24:2948-2953. #4349

Detenbeck, N.E., Brady, V.J., Taylor, D.L., Snarski, V.M., and Batterman, S.L. 2005. Relationship of stream flow regime in the western Lake Superior basin to watershed type characteristics. *J. Hydrology* 309: 259-276. #860

Detenbeck, N.E., Cincotta, D., Denver, J.M., Greenlee, S.K., Olsen, A.R., and Pitchford, A.M. 2005. Watershed-based survey designs. *Environ. Monit. Assess.* 103: 59-81. #851

Diamond, S.A., Trenham, P.C., Adams, M.J., Hossack, B.R., Knapp, R.A., Stark, S.L., Bradford, D., Corn, P.S., Czarnowski, K., Brooks, P.D., Fagre, D., Breen, B., Detenbeck, N.E., and Tonnessen, K. 2005. Estimated ultraviolet radiation doses in wetlands in six national parks. *Ecosystems* 8:462-477. #869

Dorward-King, E.J., G.W. Suter II, L.A. Kapustka, D.R. Mount, D.K. Reed-Judkins, S.M. Cormier, S.D. Dyer, M.G. Luxon, R. Parrish, and G.A. Barton Jr. 2005. Chapter 1. Distinguishing among factors that influence ecosystems. In: *Ecological Variability: Separating Natural from Anthropogenic Causes of Ecosystem Impairment*, D.J. Baird and G.A. Burton, Jr., editors, SETAC Press, Pensacola, FL, #4553

Dwyer, F., D. Hardesty, C. Henke, C.G. Ingersoll, D. Whites, T. Augspurger, T. Canfield, D.R. Mount, and F.L. Mayer. 2005. Assessing contaminant sensitivity of endangered and threatened aquatic species: Part III. Effluent toxicity tests. *Arch. Environ. Contam. Toxicol.* 48:174-183. #2005-8

Dwyer, F., F.L. Mayer, L. Sappington, D. Buckler, C. Bridges, I. Greer, D. Hardesty, C. Henke, C.G. Ingersoll, J. Kunz, D. Whites, T. Augspurger, D.R. Mount, K. Hattala, and G. Neuderfer. 2005. Assessing contaminant sensitivity of endangered and threatened aquatic species: Part I. Acute toxicity of five chemicals. *Arch. Environ. Contam. Toxicol.* 48:143-154. # 2005-9 .

Endicott D.D. 2005. 2002 Lake Michigan Mass Balance Project: Modeling total polychlorinated biphenyls using the MICHTOX model. Part 2, pp. 84-140 in Rossmann, R. (Ed.), MICHTOX: A mass balance and bioaccumulation model for toxic chemicals in Lake

Michigan. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Grosse Ile, MI. EPA/600/R-05/158. #4430

Endicott D.D., W.L. Richardson, and D.J. Kandt. 2005. 1992 MICHTOX: A mass balance and bioaccumulation model for toxic chemicals in Lake Michigan. Part 1, pp. 1-83 in Rossmann, R. (Ed.), MICHTOX: A mass balance and bioaccumulation model for toxic chemicals in Lake Michigan. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Grosse Ile, MI. EPA/600/R-05/158.

Hill, B.H. and Blair, R. 2005. Monitoring the condition of our nation's streams and rivers: From the mountains to the coasts. *Environ. Monit. Assess.* 103:1-4. #862

Hoke, R.A. and Ankley, G.T. 2005. Application of frog embryo teratogenesis assay-*Xenopus* to ecological risk assessment. *Environ. Toxicol. Chem.* 24(10):2677-2690. #868

Jude, D.J., D. Albert, D.G. Uzarski, and J.C. Brazner. 2005. Lake Michigan's coastal wetlands: Distribution, biological components with emphasis on fish, and threats. *In: Ecovision World Monograph Series, State of Lake Michigan: Ecology, Health and Management*, T. Edsall & M. Munawar, eds., Backhuys Publishers, Leiden, the Netherlands, pp. 439-477. #4884

Kavlock, R., Ankley, G.T., Collette, T., Francis, E., Hammerstrom, K., Fowle, J., Tilson, H., Toth, G., Schmieder, P., Veith, G.D., Weber, E., Wolf, D.C., and Young, D. 2005. Computational toxicology: framework, partnerships, and program development, September 29-30, 2003, Research Triangle Park, North Carolina. *Reproduc. Toxicol.* 19:265-280. #849

Kelly, J.R., P.M. Yurista, and C.W. West. 2005. Continuous spatial mapping from vessels: Results and experience using various sensors for water and sediments in the Great Lakes. *Council of Great Lakes Research Managers December 2004 Workshop*, Ann Arbor, MI at: <http://www.canamglass.org/workshop/pdf/FOWOTr.pdf>. #4489

Leino, R.L., Jensen, K.M., and Ankley, G.T. 2005. Gonadal histology and characteristic histopathology associated with endocrine disruption in the adult fathead minnow (*Pimephales promelas*). *Environ. Toxicol. Pharm.* 19:85-98. #850

Lukasewycz, M.T. and Burkhard, L.P. 2005. Complete elimination of carbonates: a critical step in the accurate measurement of organic and black carbon in sediments. *Environ. Toxicol. Chem.* 24: 2218-2221. #865

Mason, D.M., T.B. Johnson, C. Harvey, J. Kitchell, S. Schram, C. Bronte, M. Hoff, S. Lozano, A.S. Trebitz, D. Schreiner, E. Lamon, and T. Hrabik. 2005. Hydroacoustic estimates of abundance and spatial distribution of pelagic prey fishes in Western Lake Superior. *J. Great Lakes Res.* 31:426-438. #2005-7

Mekenyan, O., T. Pavlov, V. Grancharov, M. Todorov, P. Schmieder, and G. Veith. 2005. 2D-3D migration of large chemical inventories with conformational multiplication. Application of the genetic algorithm. *J. Chem. Inf. Model.* 45:283-292. #2005-2

Miracle, A.L. and Ankley, G.T. 2005. Ecotoxicogenomics: linkages between exposure and effects in assessing risks of aquatic contaminants to fish. *Reproduc. Toxicol.* 19:321-326. #848

Mount, D.R., C.G. Ingersoll, and J.A. McGrath. 2005. Approaches to developing sediment quality guidelines for PAHs. In: *PAHs: An Ecotoxicological Perspective*, Douben, P.E.T., ed., pp. 331-355, Wiley, New York, NY. #2005-14

Nacci, D., Pelletier, M., Lake, J., Bennett, R., Nichols, J., Haebler, R., Grear, J., Kuhn, A., Copeland, J., Nicholson, M., Walters, S., and Munns, W. R., Jr. 2005. An approach to predict risks to wildlife populations from mercury and other stressors. *Ecotoxicology* 14:283-293. #856

Roelofs, W., D.R. Crocker, R.F. Shore, D.R.J. Moore, G.C. Smith, H.R. Akcakaya, R.S. Bennett, P.F. Chapman, M. Clook, M. Crane, I.C. Dewhurst, P.J. Edwards, A. Fairbrother, S. Ferson, D. Fischer, A.D.M. Hart, M. Holmes, M.J. Hooper, M. Lavine, A. Leopold, R. Luttik, P. Mineau, S.R. Mortenson, D.G. Noble, R.J. O'Connor, R.M. Sibley, M. Spendiff, T.A. Springer, H.M. Thompson, and C. Topping. 2005. Case Study 2: Probabilistic modelling of long-term effects of pesticides on individual breeding success in birds and mammals. *Ecotoxicology* 14:895-923. #2005-12

Rossmann, R. (ed.). 2005. MICHTOX: A mass balance and bioaccumulation model for toxic chemicals in Lake Michigan. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Large Lakes and Rivers Forecasting Research Branch, Grosse Ile, MI. EPA/600/R-05/158.

Shore, R.F., D.R. Crocker, H.R. Akcakaya, R.S. Bennett, P.F. Chapman, M. Clook, M. Crane, I. Dewhurst, P.J. Edwards, A. Fairbrother, S. Ferson, D. Fischer, A.D.M. Hart, M. Holmes, M.J. Hooper, M. Lavine, A. Leopold, R. Luttik, P. Mineau, D.R.J. Moore, S.R. Mortenson, D.G. Noble, R.J. O'Connor, W. Roelofs, R.M. Sibley, G. Smith, M. Spendiff, T.A. Springer, H.M. Thompson, and C. Topping. 2005. Case Study 1: How to calculate appropriate deterministic long-term toxicity to exposure ratios (TERs) for birds and mammals. *Ecotoxicology* 14:877-893. #2005-11

Simon, T.P., R.L. Dufour, P.M. Stewart, and M.F. Moffett. 2005. Distribution, classification, and selection rationale of coastal wetlands in Lake Michigan. In: *State of Lake Michigan: Ecology, Health and Management*. T. Edsall and M. Munawar, eds., Ecovision World Monograph Series, Backhuys Publishers, Leiden, the Netherlands, pp. 479-502. #2005-17

Schweiger, E.W., Bolgrien, D.W., Angradi, T.R., and Kelly, J.R. 2005. Environmental monitoring and assessment of a Great River ecosystem: the Upper Missouri River pilot. *Environ. Monit. Assess.* 103:21-40. #864

Tietge, J.E., Holcombe, G.W., Flynn, K.M., Kosian, P.A., Korte, J.J., Anderson, L.E., Wolf, D.C., and Degitz, S.J. 2005. Metamorphic inhibition of *Xenopus laevis* by sodium perchlorate: effects on development and thyroid histology. *Environ. Toxicol. Chem.* 24(4):926-933. #852

Trebitz, A.S., Morrice, J.A., Taylor, D.L., Anderson, R.L., West, C.W., and Kelly, J.R. 2005. Hydromorphic determinants of aquatic habitat variability in Lake Superior coastal wetlands. *Wetlands* 25(3):505-519. #871

Trenham, P.C. and Diamond, S.A. 2005. Coordinated studies of ultraviolet radiation and amphibians in lentic wetland habitats. *Ecosystems* 8:455-461. #870

Valett, H.M., M.A. Baker, J.A. Morrice, C.S. Crawford, M.C. Molles, Jr., C.N. Dahm, D.L. Moyer, J.R. Thibault, and L.M. Ellis. 2005. Biogeochemical and metabolic responses to the flood pulse in a semiarid floodplain. *Ecology* 86:220-234. #2005-1

Warren, G. and R.G. Kreis. 2005. Recent and long-term nutrient trends in Lake Michigan. *In: State of Lake Michigan: Ecology, Health and Management*, T. Edsall and M. Munawar, eds., Ecovision World Monograph Series, Backhuys Publishers, Leiden, the Netherlands, pp. 141-155. #2005-15

Wilson, V.S., M.C. Cardon, J. Thornton, J.J. Korte, G.T. Ankley, J. Welch, L.E. Gray, Jr., and P.C. Hartig. 2005. Cloning and in vitro expression and characterization of the androgen receptor and isolation of estrogen receptor from the fathead minnow (*Pimephales promelas*). *Environ. Sci. Technol.* 38:6314-6321. #2005-10

Yurista, P., Kelly, J.R., and Miller, S. 2005. Evaluation of optically acquired zooplankton size-spectrum data as a potential tool for assessment of condition in the Great Lakes. *Environ. Manage.* 35(1):34-44. #867

2004

Angradi, T.R., E.W. Schweiger, D.W. Bolgrien, P. Ismert, and T. Selle. 2004. Bank stabilization, shoreline land-use, and the distribution of large woody debris in a regulated reach of the upper Missouri River, North Dakota, USA. *Regul. Rivers Res. Manage.* 20: 829-846.

Ankley, G.T., DeFoe, D.L., Kahl, M.D., Jensen, K.M., Makynen, E.A., Miracle, A., Hartig, P., Gray, L.E., Cardon, M., and Wilson, V. 2004. Evaluation of the model anti-androgen flutamide for assessing the mechanistic basis of responses to an androgen in the fathead minnow (*Pimephales promelas*). *Environ. Sci. Technol.* 38:6322-6327. #842

Ankley, G.T., Degitz, S.J., Diamond, S.A., and Tietge, J.E. 2004. Assessment of environmental stressors potentially responsible for malformations in North American anuran amphibians. *Ecotoxicol. Environ. Saf.* 58:7-16. #819

Ankley, G.T. and Johnson, R.D. 2004. Small fish models for identifying and assessing the effects of endocrine-disrupting chemicals. *Inst. Lab. Animal Res. Jrnl* 45(4):469483. #831

- Ankley, G.T., Kuehl, D.W., Kahl, M.D., Jensen, K.M., Butterworth, B.C., and Nichols, J.W. 2004. Partial life-cycle toxicity and bioconcentration modeling of perfluorooctanesulfonate in the northern leopard frog (*Rana pipiens*). *Environ. Toxicol. Chem.* 23(11):2745-2755. #833
- Bell, H.E., Liber, K., Call, D.J., and Ankley, G.T. 2004. Evaluation of bioaccumulation and photo-induced toxicity of fluoranthene in larval and adult life-stages of *Chironomus tentans*. *Arch. Environ. Contam. Toxicol.* 47:297-303. #838
- Brazner, J.C., Campana, S.E, and Tanner, D.K. 2004. Habitat fingerprints for Lake Superior coastal wetlands derived from elemental analysis of yellow perch otoliths. *Trans. Am. Fish. Soc.* 133: 692-704. #824
- Brazner, J.C., Campana, S.E, Tanner, D.K, and Schram, S.T. 2004. Reconstructing habitat use and wetland nursery origin of yellow perch from Lake Superior using otolith elemental analysis. *J. Great Lakes Res.* 30:492-507. # 847
- Brazner, J.C., Tanner, D.K, Detenbeck, N.E., Batterman, S.L., Stark, S.L., Jagger, L.A., and Snarski, V.M. 2004. Landscape character and fish assemblage structure and function in western Lake Superior streams: General relationships and identification of thresholds. *Environ. Manage.* 33: 855-875. #830
- Burgess, R., C. Chancy, D. Campbell, N.E. Detenbeck, V. Engle, B.H. Hill, K. Ho, M. Lewis, T.J. Norberg-King, P. Pelletier, K. Perez, L. Smith, and V.M. Snarski. 2004. Classification framework for coastal systems. EPA/600/R-04/061. 4366
- Burkhard, L.P., Cook, P.M., and Lukasewycz, M.T. 2004. Biota-sediment accumulation factors for polychlorinated biphenyls, dibenzo-*p*-dioxins, and dibenzofurans in southern Lake Michigan lake trout (*Salvelinus namaycush*). *Environ. Sci. Technol.* 38:5297-5305. #837
- Chowdhury, M.J., D.G. McDonald, and C.M. Wood. 2004. Gastrointestinal uptake and fate of cadmium in rainbow trout acclimated to sublethal dietary cadmium. *Aquat. Toxicol.* 69:149-163. #2004-8
- Cook, W.M., R.M. Anderson, and E.W. Schweiger. 2004. Is the matrix really inhospitable? Vole runway distribution in an experimentally fragmented landscape. *Oikos* 104:5-14. #2004-1
- Echols, K.R., D.E. Tillitt, J.W. Nichols, A.L. Secord, and J.P. McCarty. 2004. Accumulation of PCB congeners in nestling tree swallows (*Tachycineta bicolor*) on the Hudson River, New York. *Environ. Sci. Technol.* 38:6240-6246. #2004-9
- Fang, X., Stefan, H.G., Eaton, J.G., McCormick, J.H., and Alam, S.R. 2004. Simulation of thermal/dissolved oxygen habitat for fishes in lakes under different climate scenarios. Part I: Cool-water fish in the contiguous US. *Ecol. Modell.* 172:13-37. #813

- Fang, X., Stefan, H. G., Eaton, J. G., McCormick, J. H., and Alam, S. R. 2004. Simulation of thermal/dissolved oxygen habitat for fishes in lakes under different climate scenarios. Part II: Cold-water fish in the contiguous US. *Ecol. Modell.* 172:39-54. #814
- Fang, X., Stefan, H. G., Eaton, J. G., McCormick, J. H., and Alam, S. R. 2004. Simulation of thermal/dissolved oxygen habitat for fishes in lakes under different climate scenarios. Part III: Warm-water fish in the contiguous US. *Ecol. Modell.* 172:55-68. #815
- Gray, L.E., Jr., V. Wilson, T. Stoker, C. Lambright, J. Furr, N. Noriega, P. Hartig, M. Cardon, M. Rosen, G. Ankley, A. Hotchkiss, E.F. Orlando, L.J. Guillette, and W.R. Kelce. 2004. Environmental androgens and antiandrogens: An expanding chemical universe. In: *Endocrine Disruptors: Effects on Male and Female Reproductive Systems*, Naz, R.K., ed., pp. 313-343, CRC Press, Boca Raton, FL. #2004-11
- Heinis, L.J., Highland, T.L., and Mount, D.R. 2004. Method for testing the aquatic toxicity of sediment extracts for use in identifying organic toxicants in sediments. *Environ. Sci. Technol.* 38: 6256-6262. #841
- Henszey, R.J., Pfeiffer, K., and Keough, J.R. 2004. Linking surface- and ground-water levels to riparian grassland species along the Platte River in central Nebraska, USA. *Wetlands* 24(3):665-687. #834
- Hermens, J.L.M., G.T. Ankley, and J.P. Sumpter. 2004. Ecotoxicology -- a multidisciplinary, problem-driven science. Guest Comment, *Environ. Sci. Technol.* 38:4446A-447A. #2004-12
- Hornung, M.W., Cook, P.M., Flynn, K.M., Lothenbach, D.B., Johnson, R.D., and Nichols, J.W. 2004. Use of multi-photon laser-scanning microscopy to describe the distribution of xenobiotic chemicals in fish early life stages. *Aquat. Toxicol.* 67:1-11. #817
- Hornung, M.W., K.M. Flynn, R.D. Johnson, P.M. Cook, and J.W. Nichols. 2004. Use of multiphoton laser scanning microscopy to image benzo[a]pyrene and metabolites in fish eggs. In: *Multiphoton Microscopy in the Biomedical Sciences IV*, Periasamy, A. and So, P.T.C., eds., SPIE, Bellingham, WA, pp. 400-407. #2004-5
- Hornung, M.W., Jensen, K.M., Korte, J.J., Kahl, M.D., Durhan, E.J., Denny, J.S., Henry, T.R., and Ankley, G.T. 2004. Mechanistic basis for estrogenic effects in fathead minnow (*Pimephales promelas*) following exposure to the androgen 17 α -methyltestosterone: Conversion of 17 α -methyltestosterone to 17 α -methylestradiol. *Aquat. Toxicol.* 66:15-23. #816
- Jensen, K.M., Kahl, M.D., Makynen, E.A., Korte, J.J., Leino, R.L., Butterworth, B.C., and Ankley, G.T. 2004. Characterization of responses to the antiandrogen flutamide in a short-term reproduction assay with the fathead minnow. *Aquat. Toxicol.* 70:99-110. #835
- Korte, J.J., Mylchreest, E., and Ankley, G.T. 2004. Comparative evaluation of ELISAs for detecting vitellogenin in the fathead minnow (*Pimephales promelas*) -- a response to Tyler et al. *Comp. Biochem. Physiol. Part C* 138:533-536. #839

Marvin, C., S. Painter, and R. Rossmann. 2004. Spatial and temporal patterns in mercury contamination in sediments of the Laurentian Great Lakes. *Environ. Res.* 95:351-362. #2004-3

Marvin, C., S. Painter, D. Williams, V. Richardson, R. Rossmann, and P. Van Hoof. 2004. Spatial and temporal trends in surface water and sediment contamination in the Laurentian Great Lakes. *Environ. Pollution* 129:131-144. #2004-2

Mekenyan, O.G., S.D. Dimitrov, T.S. Pavlov, and G.D. Veith. 2004. A systematic approach to simulating metabolism in computational toxicology. I: The TIMES heuristic modelling framework. *Curr. Pharm. Design* 10:1273-1293. #2004-4

Mekenyan, O., S. Dimitrov, R. Serafimova, E. Thompson, S. Kotov, N. Dimitrova, and J.D. Walker. 2004. Identification of the structural requirements for mutagenicity by incorporating molecular flexibility and metabolic activation of chemicals I: TA100 model. *Chem. Res. Toxicol.* 17:753-766. #2004-6

Mekenyan, O., N. Nikolova, P. Schmieder, and G. Veith. 2004. COREPA-M: a multi-dimensional formulation of COREPA. *QSAR Comb. Sci.* 23(1):5-18. #2004-7

Miller, D.H. and Ankley, G.T. 2004. Modeling impacts on populations: Fathead minnow (*Pimephales promelas*) exposure to the endocrine disruptor 17 β -trenbolone as a case study. *Ecotoxicol. Environ. Saf.* 59:1-9. #829

Nichols, J.W., Echols, K.R., Tillitt, D.E., Secord, A.L., and McCarty, J.P. 2004. Bioenergetics-based modeling of individual PCB congeners in nestling tree swallows from two contaminated sites on the upper Hudson River, New York. *Environ. Sci. Technol.* 39:6234-6239. #840

Nichols, J.W., Fitzsimmons, P.N., and Whiteman, F.W. 2004. A physiologically based toxicokinetic model for dietary uptake of hydrophobic organic compounds by fish. II. Simulation of chronic exposure scenarios. *Tox. Sci.* 77:219-229. #812

Nichols, J.W., Fitzsimmons, P.N., Whiteman, F.W., Dawson, T.D., Babeu, L., and Juenemann, J.L. 2004. A physiologically based toxicokinetic model for dietary uptake of hydrophobic organic compounds by fish. I. Feeding studies with 2,2',5,5'-tetrachlorobiphenyl. *Tox. Sci.* 77:206-218. #811

Schmieder, P.K., Tapper, M.A., Denny, J.S., Kolanczyk, R.C., Sheedy, B.R., Henry, T.R., and Veith, G. D. 2004. Use of trout liver slices to enhance mechanistic interpretation of estrogen receptor binding for cost-effective prioritization of chemicals within large inventories. *Environ. Sci. Technol.* 38:6333-6342. #843

Schoff, P.K. and Ankley, G.T. 2004. Effects of methoprene, its metabolites, and breakdown products on retinoid-activated pathways in transfected cell lines. *Environ. Toxicol. Chem.* 23:1305-1310. #823

Sierszen, M.E., Morrice, J.A., Moffett, M.F., and West, C.W. 2004. Benthic versus planktonic foundations of three Lake Superior coastal wetland food webs. *J. Great Lakes Res.* 30:31-43. #822

Snyder, E.M., S.A. Snyder, K.L. Kelly, T.S. Gross, D.L. Villeneuve, S.D. Fitzgerald, S.A. Villalobos, and J.P. Giesy. 2004. Reproductive responses of common carp (*Cyprinus carpio*) exposed in cages to influent of the Las Vegas Wash in Lake Mead, Nevada, from late winter to early spring. *Environ. Sci. Tech.* 38:6385-6395. #4881

Tanner, D.K, Brazner, J.C., Brady, V.J., and Regal, R.R. 2004. Habitat associations of larval fish in a Lake Superior coastal wetland. *J. Great Lakes Res.* 30:349-359. #832

Yue, S. and Gan T.Y. 2004. Simple scaling properties of Canadian annual average streamflow. *Adv. Water Resources* 27:481-495. #825

Yue, S. and Pilon, P. 2004. A comparison of the power of the *t* test, Mann-Kendall and bootstrap tests for trend detection. *Hydrological Sciences -- Journal -- des Sciences Hydrologiques* 49(1):21-37. #821

Yue, S. and Wang, C. 2004. Determination of regional probability distributions of Canadian flood flows using L-moments. *J. Hydrology (NZ)* 43(1):59-73. #845

Yue, S. and Wang, C. 2004. The Mann-Kendall test modified by effective sample size to detect trend in serially correlated hydrological series. *Water Res. Manage.* 18:201-218. #844

Yue, S. and Wang, C. Y. 2004. A comparison of two bivariate extreme value distributions. *Stochastic Environ. Res.* 18:61-66. #846

Yurista, P.M., White, D.S., Kipphut, G.W., Johnston, K., Rice, G., and Hendricks, S.P. 2004. Nutrient patterns in a mainstem reservoir, Kentucky Lake, USA, over a 10-year period. *Lake Reservoir Manage.* 20:148-163. #836

2003

Ankley, G.T., L.P. Burkhard, P.M. Cook, S.A. Diamond, R.J. Erickson, and D.R. Mount. 2003. Assessing risks from photoactivated toxicity of PAHs to aquatic organisms. In: *PAHS: An Ecotoxicological Perspective*. Douben, P.E.T., ed. pp. 275-296. John Wiley & Sons, Ltd. New York, NY. #2003-2

Ankley, G.T., Jensen, K.M., Makynen, E.A., Kahl, M.D., Korte, J. J., Hornung, M.W., Henry, T.R., Denny, J.S., Leino, R.L., Wilson, V.S., Cardon, M.C., Hartig, P.C., and Gray, L.E. 2003. Effects of the androgenic growth promoter 17- β -trenbolone on fecundity and reproductive endocrinology of the fathead minnow. *Environ. Toxicol. Chem.* 22(6):1350-1360. #790

Bradbury, S.P., Russom, C.L., Ankley, G.T., Schultz, T. W., and Walker, J.D. 2003. Overview of data and conceptual approaches for derivation of quantitative structure-activity relationships for ecotoxicological effects of organic chemicals. *Environ. Toxicol. Chem.* 22:1789-1798. #796

Burkhard, L. P. 2003. Factors influencing the design of bioaccumulation factor and biota-sediment accumulation factor field studies. *Environ. Toxicol. Chem.* 22:351-360. #781

Burkhard, L.P., Cook, P.M., and Mount, D.R. 2003. The relationship of bioaccumulative chemicals in water and sediment to residues in fish: a visualization approach. *Environ. Toxicol. Chem.* 22:2822-2830. #803

Burkhard, L.P., Endicott, D.D., Cook, P.M., Sappington, K.G., and Winchester, E.L. 2003. Evaluation of two methods for prediction of bioaccumulation factors. *Environ. Sci. Technol.* 37:4626-4634. #806

Chowdhury, M.J., M. Grosell, D.G. McDonald, and C.M. Wood. 2003. Plasma clearance of cadmium and zinc in non-acclimated and metal-acclimated trout. *Aquat. Toxicol.* 64:259-275. #2003-13

Cook, P.M. and Henry, T.R. 2003. A conceptual model for evaluating relative potency data for use in ecological risk assessments. *Organohalogen Cmpnd.* 65:304-307. #801

Cook, P.M. and Peterson, R.E. 2003. Use of the TEQ model for assessing AHR mediated toxicity risks to populations of lake trout and other species in Lake Ontario. *Organohalogen Cmpnd.* 65:308-311. #802

Cook, P.M., Robbins, J.A., Endicott, D.D., Lodge, K.B., Guiney, P.D., Walker, M.K., Zabel, E.W., and Peterson, R.E. 2003. Effects of aryl hydrocarbon receptor-mediated early life stage toxicity on lake trout populations in Lake Ontario during the 20th century. *Environ. Sci. Technol.* 37(17): 3864-3877. #799

Dawson, T.D., Lott, K.G., Leonard, E.N., and Mount, D.R. 2003. Time course of metal loss in *Lumbriculus variegatus* following sediment exposure. *Environ. Toxicol. Chem.* 22(4): 886-889. #787

DeFoe, D.L. and Ankley, G.T. 2003. Evaluation of time-to-effects as a basis for quantifying the toxicity of contaminated sediments. *Chemosphere* 51(1):1-5. #782

Degitz, S.J., Durhan, E.J., Tietge, J.E., Kosian, P.A., Holcombe, G.W., and Ankley, G.T. 2003. Developmental toxicity of methoprene and several degradation products in *Xenopus laevis*. *Aquat. Toxicol.* 64:97-105. #795

Degitz, S.J., Holcombe, G.W., Kosian, P.A., Tietge, J.E., Durhan, E.J., and Ankley, G.T. 2003. Comparing the effects of stage and duration of retinoic acid exposure on amphibian limb development: Chronic exposure results in mortality, not limb malformations. *Tox. Sci.* 74:139-146. #793

Detenbeck, N.E., Elonen, C.M., Taylor, D.L., Anderson, L.E., Jicha, T.M., and Batterman, S.L. 2003. Effects of hydrogeomorphic region, catchment storage and mature forest on baseflow and snowmelt stream water quality in second-order Lake Superior Basin tributaries. *Freshwater Biol.* 48:912-927. #791

Diamond, S.A. 2003. Photoactivated toxicity in aquatic environments. In: *UV Effects in Aquatic Organisms and Ecosystems*, Helbling, E.W. and Zagarese, H., eds. pp. 219-250. The Royal Society of Chemistry, Cambridge, UK. #2003-1

Diamond, S.A., Milroy, N.J., Mattson, V.R., Heinis, L.J., and Mount, D.R. 2003. Photoactivated toxicity in amphipods collected from polycyclic aromatic hydrocarbon-contaminated sites. *Environ. Toxicol. Chem.* 22(11):2752-2760. #804

Edwardson, K.J., W.B. Bowden, C. Dahm, and J. Morrice. 2003. The hydraulic characteristics and geochemistry of hyporheic and parafluvial zones in Arctic tundra streams, north slope, Alaska. *Adv. Water Resour.* 26:907-923. #2003-12

Etterson, M.A. 2003. Conspecific attraction in loggerhead shrikes: Implications for habitat conservation and reintroduction. *Biol. Conserv.* 114:199-205. #2003-4

Gorski, P.R., L.B. Cleckner, J.P. Hurley, M.E. Sierszen, and D.E. Armstrong. 2003. Factors affecting enhanced mercury bioaccumulation in inland lakes of Isle Royale National Park, USA. *Sci. Total Environ.* 304(1-3):327-348. #2003-3

Griffith, M.B., P. Husby, R.K. Hall, P.R. Kaufmann and B.H. Hill. 2003. Analysis of macroinvertebrate assemblages in relation to environmental gradients among lotic habitats of California's Central Valley. *Environ. Mon. Assess.* 82:281-309 #4768

Henry, T., Cook, P., Cirone, P., DeVito, M., Duncan, B., Pepin, R., Schwenk, S., and Wharton, S. 2003. Framework for application of the toxicity equivalence methodology for polychlorinated dioxins, furans, and biphenyls in ecological risk assessment. *Organohalogen Cmpnd.* 65: 300-303. #800

Hill, B.H., Herlihy, A.T., Kaufmann, P.R., DeCelles, S.J., and Vander Borgh, M.A. 2003. Assessment of streams of the eastern United States using a periphyton index of biotic integrity. *Ecol. Indicators* 2(4):325-338. #4128

Hornung, M.W., Ankley, G.T., and Schmieder, P.K. 2003. Induction of an estrogen-responsive reporter gene in rainbow trout hepatoma cells (RTH 149) at 11 or 18°C. *Environ. Toxicol. Chem.* 22(4):866-871. #788

Ingersoll, C.G., Brunson, E.L., Wang, N., Dwyer, F.J., Ankley, G.T., Mount, D.R., Huckins, J., Petty, J., and Landrum, P.F. 2003. Uptake and depuration of nonionic organic contaminants from sediment by the oligochaete, *Lumbriculus variegatus*. *Environ. Toxicol. Chem.* 22(3):872-885. #786

- Kolanczyk, R.C., Fitzsimmons, P.N., McKim, J.M., Sr., Erickson, R.J., and Schmieder, P.K. 2003. Effects of anesthesia (tricaine methanesulfonate, MS222) on liver biotransformation in rainbow trout (*Oncorhynchus mykiss*). *Aquat. Toxicol.* 64:177-184. #792
- Kosian, P.A., Makynen, E.A., Ankley, G.T., and Degitz, S.J. 2003. Uptake and metabolism of all-*trans* retinoic acid by three native North American ranids. *Tox. Sci.* 74:47-156. #794
- Kuehl, D.W. and Rozynov, B. 2003. Chromatographic and mass spectral studies of perfluorooctanesulfonate and three perfluorooctanesulfonamides. *Rap. Comm. Mass Spec.* 17: 2364-2369. #805
- Mekenyan, O., Dimitrov, S., Schmieder, P., and Veith, G. 2003. *In silico* modelling of hazard endpoints: Current problems and perspectives. *SAR QSAR Environ. Res.* 14(5-6):361-371. #820
- Mekenyan, O., N. Nikolova, and P. Schmieder. 2003. Dynamic 3D QSAR techniques: applications in toxicology. *J. Molec. Struc. (Theochem)* 622:147-165. #2003-11
- Mohseni, O., H.G. Stefan, and J.G. Eaton. 2003. Global warming and potential changes in fish habitat in U.S. streams. *Climatic Change* 59:389-409. #2003-10
- Mount, D.R., G.T. Ankley, K.V. Brix, W.H. Clements, D.G. Dixon, A. Fairbrother, C.W. Hickey, R.P. Lanno, C.M. Lee, W.R. Munns, R.K. Ringer, J.P. Staveley, C.M. Wood, R.J. Erickson, and P.V. Hodson. 2003. Effects assessment. In: *Reevaluation of the State of the Science for Water-Quality Criteria*. Reilley, M.C., Stubblefield, W.A., Adams, W.J. et al., eds. SETAC, Pensacola, FL, pp.53-118. #2003-5
- Mylchreest, E., Snajdr, S., Korte, J.J., and Ankley, G.T. 2003. Comparison of ELISAs for detecting vitellogenin in the fathead minnow (*Pimephales promelas*). *Comp. Biochem. Physiol. Part C* 134:251-257. #785
- Russom, C.L., Breton, R.L., Walker, J.D., and Bradbury, S.P. 2003. An overview of the use of quantitative structure-activity relationships for ranking and prioritizing large chemical inventories for environmental risk assessments. *Environ. Toxicol. Chem.* 22(8):1810-1821. #797
- Rygwelski, K.R. and W.L. Richardson. 2003. Atrazine. *USEPA 2002 LaMP Revision, Chapter 5: Lake Michigan Stressor Sources and Loads, Subsection 5.3.3.11: Chemical Stressors - Emerging Pollutants (Rev. 3/22/02)*, pp. 56-59. #3960
- Schmieder, P., Mekenyan, O., Bradbury, S., and Veith, G. 2003. QSAR prioritization of chemical inventories for endocrine disruptor testing. *Pure Appl. Chem.* 75(11-12):2389-2396. #810
- Schmieder, P.K., Ankley, G.T., Mekenyan, O., Walker, J.D., and Bradbury, S. 2003. Quantitative structure-activity relationship models for prediction of estrogen receptor binding affinity of structurally diverse chemicals. *Environ. Toxicol. Chem.* 22(8):1844-1854. #798

Schmieder, P.K., Tapper, M.A., Kolanczyk, R.C., Hammermeister, D.E., Sheedy, B.R., and Denny, J.S. 2003. Discriminating redox cycling and arylation pathways of reactive chemical toxicity in trout hepatocytes. *Tox. Sci.* 72:66-76. #783

Sierszen, M.E., McDonald, M.E., and Jensen, D.A. 2003. Benthos as the basis for arctic lake food webs. *Aquat. Ecol.* 37:437-445. #809

Solem, L.E., Kolanczyk, R.C., and McKim, J.M., III. 2003. An in vivo microdialysis method for the qualitative analysis of hepatic phase I metabolites of phenol in rainbow trout (*Oncorhynchus mykiss*). *Aquat. Toxicol.* 62:337-347. #784

Trebitz, A.S., Hill, B.H., and McCormick, F.H. 2003. Sensitivity of indices of biotic integrity to simulated fish assemblage changes. *Environ. Manage.* 32(4):499-515. #807

Trenham, P.C., Koenig, W.D., Mossman, M.J., Stark, S.L., and Jagger, L.A. 2003. Regional dynamics of wetland-breeding frogs and toads: Turnover and synchrony. *Ecol. Appl.* 13(6):1522-1532. #808

Yue, S. and M. Hashino. 2003. Long term trends of annual and monthly precipitation in Japan. *J. Amer. Water Res. Assoc.* 39(3):587-596. #2003-9

Yue, S. and M. Hashino. 2003. Temperature trends in Japan: 1900-1996. *Theor. Appl. Climat.* 75(1/2):15-27. #2003-6

Yue, S. and P. Pilon. 2003. Interaction between deterministic trend and autoregressive process. *Water Resources Res.* 39(4):1-7. #2003-7

Yue, S., P. Pilon, and B. Phinney. 2003. Canadian streamflow trend detection: Impacts of serial and cross-correlation. *Hydrological Sciences-Journal-des Sciences Hydrologiques* 48(1):51-63. #2003-8

2002

Ankley, G.T. 2002. A short-term test method for assessing the reproductive toxicity of endocrine-disrupting chemicals using the fathead minnow (*Pimephales promelas*). EPA/600-R-01/067. USEPA, ORD, NHEERL, Mid-Continent Ecology Division, Duluth, MN. #2002-2

Ankley, G.T., Diamond, S.A., Tietge, J.E., Holcombe, G.W., Jensen, K.M., DeFoe, D.L., and Peterson, R. 2002. Assessment of the risk of solar ultraviolet radiation to amphibians. I. Dose-dependent induction of hindlimb malformations in the northern leopard frog (*Rana pipiens*). *Environ. Sci. Technol.* 36:2853-2858. #774

Ankley, G.T., Kahl, M.D., Jensen, K.M., Hornung, M.W., Korte, J.J., Makynen, E.A., and Leino, R.L. 2002. Evaluation of the aromatase inhibitor fadrozole in a short-term reproduction assay with the fathead minnow (*Pimephales promelas*). *Tox. Sci.* 67(1):121-130. #770

Ankley, G.T., Mekenyan, O.G., Kamenska, V.B., Schmieder, P.K., and Bradbury, S.P. 2002. Reactivity profiles of ligands of mammalian retinoic acid receptors: a preliminary COREPA analysis. *SAR QSAR Environ. Res.* 13(2):365-377. #768

Berry, W.J., Burgess, R.M., Hansen, D.J., Di Toro, D.M., DeRosa, L.D., Bell, H.E., Reilley, M.C., Stancil, F.E., Jr., Zarba, C.S., Mount, D.R., and Spehar, R.L. 2002. Procedures for the derivation of equilibrium partitioning sediment benchmarks (ESBs) for the protection of benthic organisms: Endrin. EPA/600/R-02/009. ORD, NHEERL, Atlantic Ecology Division/Mid-Continent Ecology Division, Narragansett, RI/Duluth, MN.

Berry, W.J., Burgess, R.M., Hansen, D.J., DiToro, D.M., DeRosa, L.D., Bell, H.E., Reiley, M.C., Stancil, F.E., Jr., Zarba, C.S., Mount, D.R., and Spehar, R.L. 2002. Procedures for the derivation of equilibrium partitioning sediment benchmarks (ESBs) for the protection of benthic organisms: Dieldrin. ORD, NHEERL, EPA/600/R-02/010. Atlantic Ecology Division/Mid-Continent Ecology Division, Narragansett, RI/Duluth, MN.

Burkhard, L.P. and Mount, D.R. 2002. Comments on Eganhouse and Pontolillo: assessing the reliability of physico-chemical property data (K_{ow} , S_w) for hydrophobic organic compounds: DDT and DDE as a case study. *SETAC Globe* (Nov.-Dec.):40-41. #779

Crane, J.L., Smorong, D.E., Pillard, D.A., and MacDonald, D.D. 2002. Sediment remediation scoping project in Minnesota Slip, Duluth Harbor. Final report. EPA 905/R-02/002. Great Lakes National Program Office, USEPA, Chicago, IL.

Detenbeck, N.E., Elonen, C.M., Taylor, D.L., Cotter, A.M., Puglisi, F.A., and Sanville, W.D. 2002. Effects of agricultural activities and best management practices on water quality of seasonal prairie pothole wetlands. *Wetlands Ecol. Manage.* 10:335-354. #778

Diamond, S.A., Peterson, G.S., Tietge, J.E., and Ankley, G.T. 2002. Assessment of the risk of solar ultraviolet radiation to amphibians. III. Prediction of impacts in selected northern midwestern wetlands. *Environ. Sci. Technol.* 36:2866-2874. #776

Durhan, E.J., C. Lambright, V. Wilson, B.C. Butterworth, D.W. Kuehl, E.F. Orlando, L.J. Guillette, Jr., L.E. Gray, and G.T. Ankley. 2002. Evaluation of androstenedione as an endrogenic component of river water downstream of a pulp and paper mill effluent. *Environ. Toxicol. Chem.* 21:1973-76. #777

Gensemer, R.W., R.B. Naddy, W.A. Stubblefield, J.R. Hockett, R. Santore, and P. Paquin. 2002. Evaluating the role of ion composition on the toxicity of copper to *Ceriodaphnia dubia* in very hard waters. *Comp. Biochem. Physiol. Part C* 133:87-97. #2002-9

Gray, L. E., Jr., Ostby, J., Wilson, V., Lambright, C, Bobseine, K., Hartig, P., Hotchkiss, A., Wolf, C., Furr, J., Price, M., Parks, L., Cooper, R. L., Stoker, T.E., Laws, S.C., Degitz, S.J., Jensen, K.M., Kahl, M.D., Korte, J.J., Makynen, E.A., Tietge, J.E., and Ankley, G.T. 2002. Xenoendocrine disruptors-tiered screening and testing filling key data gaps. *Toxicology* 181-182: 371-382. #780

- Griffith, M.B., B.H. Hill, A.T. Herlihy and P.R. Kaufmann. 2002. Multivariate analysis of periphyton assemblages in relation to environmental gradients in Colorado Rocky Mountain streams. *Journal of Phycology* 38:83-95. #4769
- Hill, B.H., A.T. Herlihy, and P.R. Kaufmann. 2002. Benthic microbial respiration in Appalachian Mountain, Piedmont, and Coastal Plains streams of the eastern U.S.A. *Fresh. Biol.* 47:185-194. #4330
- Kerfoot, W.C., S.L. Harting, R. Rossmann, and J.A. Robbins. 2002. Elemental mercury in copper, silver and gold ores: An unexpected contribution to Lake Superior sediments with global implications. *Geochemistry: Exploration, Environment, Analysis* 2:185-202. #2002-10
- Kolanczyk, R.C. and Schmieder, P.K. 2002. Rate and capacity of hepatic microsomal ring-hydroxylation of phenol to hydroquinone and catechol in rainbow trout (*Oncorhynchus mykiss*). *Toxicology* 176(1-2):77-90. #773
- McCormick, J.H. 2002. Who, when, where, what, and how long. *SETAC Globe*, Mar.-Apr., pp. 20-21. #2002-4
- Nichols, J.W. 2002. Modeling the uptake and disposition of hydrophobic organic chemicals in fish using a physiologically based approach. In: *The Practical Applicability of Toxicokinetic Models in the Risk Assessment of Chemicals*, Krüse, J., Verhaar, H.J.M. and de Raat, W.K., eds. Kluwer Academic Publishers, the Netherlands, pp. 109-133. #2002-8
- Peterson, G.S., R.P. Axler, K.B. Lodge, J.A. Schuldt, and J.L. Crane. 2002. Evaluation of a fluorometric screening method for predicting total PAH concentrations in contaminated sediments. *Environ. Monitor. Assess.* 78:111-129. #2002-6
- Peterson, G.S., Johnson, L.B., Axler, R.P., and Diamond, S.A. 2002. Assessment of the risk of solar ultraviolet radiation to amphibians. II. *In situ* characterization of exposure in amphibian habitats. *Environ. Sci. Technol.* 36:2859-2865. #775
- Rossmann, R. 2002. Lake Michigan 1994-1996 surficial sediment mercury. *J. Great Lakes Res.* 28(1):65-76. #2002-3
- Russom, C.L. 2002. Mining environmental toxicology information: Web resources. *Toxicology* 173: 75-88. 2002. #769
- Schmieder, P., Koleva, Y., and Mekenyan, O. 2002. A reactivity pattern for discrimination of ER agonism and antagonism based on 3-D molecular attributes. *SAR QSAR Environ. Res.* 13(2):353-364. #767
- Schoff, P.K. and Ankley, G.T. 2002. Inhibition of retinoid activity by components of a paper mill effluent. *Environ. Pollut.* 119(1):1-4. 2002. #771

Simon, R., J.E. Tietge, B. Michalke, and S. Degitz. 2002. Iodine species and the endocrine system: thyroid hormone levels in adult *Danio rerio* and developing *Xenopus laevis*. *Anal. Bioanal. Chem.* 372:481-485. #2002-X-2002

Stephan, C.E. 2002. Use of species sensitivity distributions in the derivation of water quality criteria for aquatic life by the USEPA. In: *Species Sensitivity Distributions in Ecotoxicology*. Posthuma, L., Suter, G.W., II and Traas, T.P., eds. Lewis Publishers, Boca Raton, FL, pp. 211-220. #2002-1

Tietge, J.E., Hockett, J.R., and Evans, J.M. Major ion toxicity of six produced waters to three freshwater species: Application of ion toxicity models and TIE procedures. 2002. *Environ. Toxicol. Chem.* 16(10):2002-2008. 97. #656

Trebitz, A.S., Morrice, J.A., and Cotter, A.M. 2002. Relative role of lake and tributary in hydrology of Lake Superior coastal wetlands. *J. Great Lakes Res.* 28(2):212-227. #772

Whitford, F., M. Mayes, D. Urban, J. Wolt, R. Bennett, R. Turco, M. Jones, B.K. Miller, and L. Bledsoe. 2002. Ecological risk assessments: Evaluating pesticide risks to nontarget species. In: *The Complete Book of Pesticide Management*. F. Whitford, Ed. John Wiley & Sons, New York, NY. pp. 140-195 #2002-7

2001

Angradi, T., R. Hood, and D. Tarter. 2001. Vertical, longitudinal and temporal variation in the macrobenthos of an Appalachian Headwater stream system. *Am. Midl. Nat.* 146:2:223-242. #2001-10

Angradi, T.R., S.M. Hagan, and K.W. Able. 2001. Vegetation type and the intertidal macroinvertebrate fauna of a brackish marsh: *Phragmites* vs. *Spartina*. *Wetlands* 21(1):75-92. #2001-2

Ankley, G.T., K.M. Jensen, M.W. Hornung, M.D. Kahl, J.J. Korte, and E.A. Makynen. 2001 A short-term test method for assessing the reproductive toxicity of endocrine-disrupting chemicals using the fathead minnow (*Pimephales promelas*). ORD, NHEERL, EPA/600/R-01/067. Mid-Continent Ecology Division, Duluth, MN.

Ankley, G.T., K.M. Jensen, M.D. Kahl, J.J. Korte, and E.A. Makynen. 2001. Description and evaluation of a short-term reproduction test with the fathead minnow (*Pimephales promelas*). *Environ. Toxicol. Chem.* 20:1276-90 #760

Brazner, J.C., D.K. Tanner, and J.A. Morrice. 2001. Fish-mediated nutrient and energy exchange between a Lake Superior coastal wetland and its adjacent bay. *J. Great Lakes Res.* 27:98-111 #756

Call, D.J., D.A. Cox, D.L. Geiger, K.I. Genisot, T.P. Markee, L.T. Brooke, C.N. Polkinghorne, F.A. VandeVenter, J.W. Gorsuch, K.A. Robillard, T.F. Parkerton, M.C. Reiley, G.T. Ankley, and D.R. Mount. 2001. An assessment of the toxicity of phthalate esters to freshwater benthos. 2. Sediment exposures. *Environ. Toxicol. Chem.* 20(8):1805-1815. #2001-7

Call, D.J., T.P. Markee, D.L. Geiger, L.T. Brooke, F.A. VandeVenter, D.A. Cox, K.I. Genisot, K.A. Robillard, J.W. Gorsuch, T.F. Parkerton, M.C. Reiley, G.T. Ankley, and D.R. Mount. 2001. An assessment of the toxicity of phthalate esters to freshwater benthos. 1. Aqueous exposures. *Environ. Toxicol. Chem.* 20(8):1798-1804. #2001-6

Fitzsimmons, P.N., J.D. Fernandez, A.D. Hoffman, B.C. Butterworth, and J.W. Nichols. 2001. Branchial elimination of superhydrophobic organic compounds by rainbow trout (*Oncorhynchus mykiss*). *Aquat. Toxicol.* 55:23-34 #764

Glass, G.E., J.A. Sorensen, and G.R. Rapp, Jr. 2001. Methylmercury bioaccumulation dependence on northern pike age and size in 20 Minnesota lakes. In: *Persistent, Bioaccumulative, and Toxic Chemicals I: Fate and exposure*. Lipnick, R.L., Hermens, J.L.M., Jones, K.C. and Muir, D.C.G., eds., pp. 150-163, American Chemical Society, Washington, DC. #2001-1

Henry, T.R., D.J. Nesbit, W. Heideman, and R.E. Peterson. 2001. Relative potencies of polychlorinated dibenzo-*p*-dioxin, dibenzofuran, and biphenyl congeners to induce cytochrome P4501A mRNA in a zebrafish liver cell line. *Environ. Toxicol. Chem.* 20:1053-58 #759

Hill, B.H. and J. Kurtenbach. 2001. Correlations of sedimentary diatoms with watershed land use and limnological conditions in northern New Jersey lakes. *J. Lake Reser. Manage.* 17:105-120. #4767

Hill, B.H., R.J. Stevenson, Y. Pan, A.T. Herlihy, P.R. Kaufmann, and C. Burch Johnson. 2001. Comparison of correlations between environmental characteristics and stream diatom assemblages characterized at genus and species levels. *J. N. Am. Benthol. Soc.* 20(2):299-310. #2001-14

Jensen, K.M., J.J. Korte, M.D. Kahl, M.S. Pasha, and G.T. Ankley. 2001. Aspects of basic reproductive biology and endocrinology in the fathead minnow (*Pimephales promelas*). *Comp. Biochem. Physiol. Part C.* 128:127-41 #753

Kahl, M.D., K.M. Jensen, J.J. Korte, and G.T. Ankley. 2001. Effects of handling on endocrinology and reproductive performance of the fathead minnow (*Pimephales promelas*). *J. Fish Biol.* 59:515-23 #765

Kelly, J.R. 2001. Nitrogen effects on coastal marine ecosystems. In: *Nitrogen in the Environment: Sources, Problems, and Management*. Follett, R.F. and Hatfield, J.L., eds. pp. 207-251. Elsevier Science, New York, NY. #2001-11

Lien, G.J., J.M. McKim, A.D. Hoffman, and C.T. Jenson. 2001. A physiologically based toxicokinetic model for lake trout (*Salvelinus namaycush*). *Aquat. Toxicol.* 51:335-50 #749

Lozano, S.J., J.V. Scharold, and T.F. Nalepa. 2001. Recent declines in benthic macroinvertebrate densities in Lake Ontario. *Can. J. Fish. Aquat. Sci.* 58:518-29 #757

Marsh, D.M. and P.C. Trenham. 2001. Metapopulation dynamics and amphibian conservation. *Conserv. Biol.* 15:40-49 #755

McKim, J.M. and G.J. Lien. 2001. Toxic responses of the skin. In: *Target Organ Toxicity in Marine and Freshwater Teleosts*. Schlenk, D. and Benson, W.H., eds. pp. 151-223 Taylor & Francis, New York, NY. #2001-13

McMaster, M.E., J.J. Jardine, G.T. Ankley, W.H. Benson, M.S. Jr. Greeley, T.S. Gross, L.J. Jr. Guillette, D.L. MacLachy, E.F. Orlando, G.J. Van der Kraak, and K.R. Munkittrick. 2001. An interlaboratory study on the use of steroid hormones in examining endocrine disruption. *Environ. Toxicol. Chem.* 20(9):2081-2087. #2001-9

Nichols, J.W. 2001. Use of indicators in ecological risk assessments for persistent, bioaccumulative toxicants. *Hum. Ecol. Risk Assess.* 7:1043-57 #763

Nichols, J.W., P.N. Fitzsimmons, F.W. Whiteman, D.W. Kuehl, B.C. Butterworth, and C.T. Jenson. 2001. Dietary uptake kinetics of 2,2',5,5'-tetrachlorobiphenyl in rainbow trout. *Drug Metab. Dispos.* 29:1013-22 #761

Parks, L.G., C.S. Lambright, E.F. Orlando, L.J. Guillette, Jr., G.T. Ankley, and L.E. Gray, Jr. 2001. Masculinization of female mosquitofish in kraft mill effluent-contaminated Fenholloway River water is associated with androgen receptor agonist activity. *Tox. Sci.* 62:257-267. #2001-8

Sibley, P.K., G.T. Ankley, and D.A. Benoit. 2001. Factors affecting reproduction and the importance of adult size on reproductive output of the midge *Chironomus tentans*. *Environ. Toxicol. Chem.* 20(6):1296-1303. #2001-3

Stefan, H.G., X. Fang, and J.G. Eaton. 2001. Simulated fish habitat changes in North American lakes in response to projected climate warming. *Trans. Am. Fish. Soc.* 130:459-477. #2001-15

Steffen, M., T.M. Sarkela, A.A. Gybina, T.W. Steele, N.J. Trasseth, D. Kuehl, and C. Giulivi. 2001. Metabolism of *S*-nitrosoglutathione in intact mitochondria. *Biochem. J.* 356:395-402. #2001-4

Tietge, J.E., S.A. Diamond, G.T. Ankley, D.L. DeFoe, G.W. Holcombe, K.M. Jensen, S.J. Degitz, G.E. Elonen, and E. Hammer. 2001. Ambient solar UV radiation causes mortality in larvae of three species of *Rana* under controlled exposure conditions. *Photochem. Photobiol.* 74:261-68 #762

Trenham, P.C., W.D. Koenig, and H.B. Shaffer. 2001. Spatially autocorrelated demography and interpond dispersal in the salamander *Ambystoma californiense*. *Ecology* 82(12):3519-3530. #2001-12

West, C.W., P.A. Kosian, D.R. Mount, E.A. Makynen, M.S. Pasha, P.K. Sibley, and G.T. Ankley. 2001. Amendment of sediments with a carbonaceous resin reduces bioavailability of polycyclic aromatic hydrocarbons. *Environ. Toxicol. Chem.* 20:1104-11 #758

Yurista, P.M. and W.J. O'Brien. 2001. Growth, survivorship and reproduction of *Daphnia middendorffiana* in several Arctic lakes and ponds. *J. Plankton Res.* 23(7):733-744. #2001-5

2000

Andresen, N.A., E.F. Stoermer, and R.G. Kreis, Jr. 2000. New nomenclatural combinations referring to diatom taxa which occur in the Laurentian Great Lakes of North America. *Diatom Res.* 15(2):413-418. #2000-10

Ankley, G.T., J.E. Tietge, G.W. Holcombe, D.L. DeFoe, S.A. Diamond, K.M. Jensen, and S.J. Degitz. 2000. Effects of laboratory ultraviolet radiation and natural sunlight on survival and development of *Rana pipiens*. *Can. J. Zool.* 78:1092-100 #742

Bradbury, S., V. Kamenska, P. Schmieder, G.T. Ankley, and O. Mekenyan. 2000. A computationally based identification algorithm for estrogen receptor ligands: Part. 1. Predicting hER α binding affinity. *Tox. Sci.* 58:253-69 #750

Brazner, J.C. and D.A. Jensen. 2000. Zebra mussel [*Dreissena polymorpha* (Pallas)] colonization of rusty crayfish [*Orconectes rusticus* (Girard)] in Green Bay, Lake Michigan. *Am. Midl. Nat.* 143:250-256 #727

Brazner, J.C., M.E. Sierszen, J.R. Keough, and D.K. Tanner. 2000. Assessing the ecological importance of coastal wetlands in a large lake context. *Verh. Internat. Verein. Limnol.* 27:1950-1961 #766

Breneman, D., C. Richards, and S. Lozano. 2000. Environmental influences on benthic community structure in a Great Lakes embayment. *J. Great Lakes Res.* 26(3):287-304. #2000-7

Burkhard, L.P. 2000. Estimating dissolved organic carbon partition coefficients for nonionic organic chemicals. *Environ. Sci. Technol.* 34:4663-68 #747

Burkhard, L.P. and M.T. Lukasewycz. 2000. Some bioaccumulation factors and biota-sediment accumulation factors for polycyclic aromatic hydrocarbons in lake trout. *Environ. Toxicol. Chem.* 19:1427-29 #734

Burkhard, L.P., J.W. Nichols, and P.M. Cook. 2000. Comments on biota-sediment accumulation and trophic transfer factors for extremely hydrophobic polychlorinated biphenyls. *Environ. Toxicol. Chem.* 19:2164-67 #743

Burkhart, J.G., G. Ankley, H. Bell, H. Carpenter, D. Fort, D. Gardiner, H. Gardner, R. Hale, J.C. Helgen, P. Jepson, D. Johnson, M. Lannoo, D. Lee, J. Lary, R. Levey, J. Magner, C. Meteyer, M.D. Shelby, and G. Lucier. 2000. Strategies for assessing the implications of malformed frogs for environmental health. *Environ. Health Perspec.* 108(1):83-90. #2000-3

Carlson, R.W. 2000. Aquatic animal respiration and cough response applied to innovative environmental biomonitoring: a bibliography. EPA 600/R-00/080. ORD, NHEERL, Duluth, MN.

Dawson, T.D., J.J. Jenson, and T.J. Norberg-King. 2000. Laboratory culture of *Chironomus tentans* for use in toxicity testing: optimum initial egg-stocking densities. *Hydrobiologia* 438:251-56 #754

Degitz, S.J., P.A. Kosian, E.A. Makynen, K.M. Jensen, and G.T. Ankley. 2000. Stage- and species-specific development toxicity of all-trans retinoic acid in four native North American ranids and *Xenopus laevis*. *Tox. Sci.* 57:264-74 #746

Detenbeck, N.E., S.L. Batterman, V.J. Brady, J.C. Brazner, V.M. Snarski, D.K. Taylor, J.A. Thompson, and J.W. Arthur. 2000. A test of watershed classification systems for ecological risk assessment. *Environ. Toxicol. Chem.* 19:1174-81 #731

Diamond, S.A., D.R. Mount, L.P. Burkhard, G.T. Ankley, E.A. Makynen, and E.N. Leonard. 2000. Effect of irradiance spectra on the photoinduced toxicity of three polycyclic aromatic hydrocarbons. *Environ. Toxicol. Chem.* 19:1389-96 #733

French, J.B., Jr., S.P. Bradbury, H. Krueger, E. McGee, and B.E. Sample. 2000. Group A discussions of endpoint selection, study design, and extrapolation. In: *Environmental Contaminants and Terrestrial Vertebrates: Effects on Populations, Communities, and Ecosystems*. Albers, P.H., Heinz, G.H., Ohlendorf, H.M., Eds. pp. 189-201. SETAC Press, Pensacola, FL. #2000-11

Goodfellow, W.L., L.W. Ausley, D.T. Burton, D.L. Denton, P.B. Dorn, D.R. Grothe, M.A. Heber, T.J. Norberg-King, and J.H. Rodgers, Jr. 2000. Major ion toxicity in effluents: a review with permitting recommendations. *Environ. Toxicol. Chem.* 19(1):175-182. #2000-15

Hammermeister, D. E., J. Serrano, P. Schmieder, and D.W. Kuehl. 2000. Characterization of dansylated glutathione, glutathione disulfide, cysteine and cystine by narrow bore liquid chromatography/electrospray ionization mass spectrometry. *Rap. Comm. Mass Spec.* 14:503-8 #732

- Holcombe, G.W., M.S. Pasha, K.M. Jensen, J.E. Tietge, and G.T. Ankley. 2000. Effects of photoperiod manipulation on brook trout reproductive development, fecundity, and circulating sex steroid concentrations. *N. Am. J. Aquacult.* 62:1-11 #728
- Jackson, L.J., A.S. Trebitz, and K.L. Cottingham. 2000. An introduction to the practice of ecological modeling. *Bioscience* 50(8):694-706. #2000-4
- Knuth, M.L., L.J. Heinis, and L.E. Anderson. 2000. Persistence and distribution of azinphos-methyl following application to littoral enclosure mesocosms. *Ecotoxicol. Environ. Saf.* 47:167-77. #745
- Korte, J.J., M.D. Kahl, K.M. Jensen, M.S. Pasha, L.G. Parks, G.A. LeBlanc, and G.T. Ankley. 2000. Fathead minnow vitellogenin: complementary DNA sequence and messenger RNA and protein expression after 17 β -estradiol treatment. *Environ. Toxicol. Chem.* 19:972-81 #730
- Kreis, R.G., Jr. 2000. Integrated ecosystem response models for Lake Erie. In: *Great Lakes Modeling Summit: Focus on Lake Erie*, Appendix B, pp. 6-11. #2000-2
- Makynen, E.A., M.D. Kahl, K.M. Jensen, J.E. Tietge, K.L. Wells, G. Van der Kraak, and G.T. Ankley. 2000. Effects of the mammalian antiandrogen vinclozolin on development and reproduction of the fathead minnow (*Pimephales promelas*). *Aquat. Toxicol.* 48:461-75 #735
- Mekenyan, O.G., V. Kamenska, P.K. Schmieder, G.T. Ankley, and S.P. Bradbury. 2000. A computationally based identification algorithm for estrogen receptor ligands: Part 2. Evaluation of a hER α binding affinity model. *Tox. Sci.* 58:270-281 #751
- Mohseni, O. and H.G. Stefan. 2000. Projections of fish survival in US streams after global warming. USEPA, ORD, Washington, DC and Environmental Research Laboratory, ORD, USEPA, Duluth, MN. #2000-16
- Morrice, J.A., C.N. Dahm, H.M. Valett, P.V. Unnikrishna, and H.M. Campana. 2000. Terminal electron accepting processes in the alluvial sediments of a headwater stream. *J. N. Am. Benthol. Soc.* 19(4):593-608. #2000-8
- Mount, D.R. and J.R. Hockett. 2000. Use of toxicity identification evaluation methods to characterize, identify, and confirm hexavalent chromium toxicity in an industrial effluent. *Water Res.* 34:1379-85 #729
- Nalepa, T.F., D.J. Hartson, J. Buchanan, J.F. Cavaletto, G.A. Lang, and S.J. Lozano. 2000. Spatial variation in density, mean size and physiological condition of the holarctic amphipod *Ciporeia* spp. in Lake Michigan. *Fresh. Biol.* 43:107-119. #2000-9
- Pillard, D.A., D.L. DuFresne, D.D. Caudle, J.E. Tietge, and J.M. Evans. 2000. Predicting the toxicity of major ions in seawater to mysid shrimp (*Mysidopsis bahia*), sheepshead minnow (*Cyprinodon variegatus*), and inland silverside minnow (*Menidia beryllina*). *Environ. Toxicol. Chem.* 25(1):183-191. #2000-1

Rossmann, R. and D.N. Edgington. 2000. Mercury in Green Bay, Lake Michigan surficial sediments collected between 1987 and 1990. *J. Great Lakes Res.* 26(3):323-339. #2000-14

Schmieder, P., M. Tapper, A. Linnum, J. Denny, R. Kolanczyk, and R. Johnson. 2000. Optimization of a precision-cut trout liver tissue slice assay as a screen for vitellogenin induction: Comparison of slice incubation techniques. *Aquat. Toxicol.* 49:251-68 #740

Schmieder, P.K., A.O. Aptula, E.J. Routledge, J.P. Sumpter, and O.G. Mekenyan. 2000. Estrogenicity of alkylphenolic compounds: a 3-D structure-activity evaluation of gene activation. *Environ. Toxicol. Chem.* 19:1727-40 #737

Schweiger, E.W., J.E. Diffendorfer, R.D. Holt, R. Pierotti, and M.S. Gaines. 2000. The interaction of habitat fragmentation, plant, and small mammal succession in an old field. *Ecol. Monographs* 70(3):383-400. #2000-5

Silva-Wilkinson, R.A., G.M. DeGraeve, L.P. Burkhard, D.W. Tholen, and B.R. Sheedy. 2000. Results of an interlaboratory evaluation of an analytical screening method for assessing persistent bioaccumulative toxic chemicals in sediment samples. *Environ. Toxicol. Chem.* 19:2218-23 #744

Stahl, R.G., Jr., J. Orme-Zavaleta, K. Austin, W. Berry, J.R. Clark, S. Cormier, W. Fisher, J. Garber, R. Hoke, L. Jackson, G. Kreamer, C. Muska, and M.E. Sierszen. 2000. Ecological indicators in risk assessment: workshop summary. *Hum. Ecol. Risk Assess.* 6(4):671-677. #2000-6

Tanner, D.K., J.C. Brazner, and V.J. Brady. 2000. Factors influencing carbon, nitrogen, and phosphorus content of fish from a Lake Superior coastal wetland. *Can. J. Fish. Aquat. Sci.* 57:1243-51 #739

Tapper, M.A., B.R. Sheedy, D.E. Hammermeister, and P.K. Schmieder. 2000. Depletion of cellular protein thiols as an indicator of arylation in isolated trout hepatocytes exposed to 1,4-benzoquinone. *Tox. Sci.* 55:327-34 #738

Tietge, J.E., G.T. Ankley, D.L. DeFoe, G.W. Holcombe, and K.M. Jensen. 2000. Effects of water quality on development of *Xenopus laevis*: a frog embryo teratogenesis assay -- *Xenopus* assessment of surface water associated with malformations in native anurans. *Environ. Toxicol. Chem.* 19:2114-21 #741

Trenham, P.C., H.B. Shaffer, W.D. Koenig, and M.R. Stromberg. 2000. Life history and demographic variation in the California tiger salamander (*Ambystoma californiense*). *Copeia* 365-77 #736

Wackernagel, M. and J.D. Yount. 2000. Footprints for sustainability: the next steps. *Environ. Develop. Sustain.* 2:21-42 #748

Yurista, P.M. 2000. Cyclomorphosis in *Daphnia lumholtzi* induced by temperature. *Freshwater Biol.* 43:207-213. #2000-13

Yurista, P.M., G.T. Rice, and D.S. White. 2000. Long-term establishment of *Daphnia lumholtzi* sars in Kentucky Lake, USA. *Verh. Internat. Verein. Limnol.*, 27:3102-3106. #2000-12

1999

Batterman, A.R., S.L. Batterman, K.M. Jensen, and F.W. Whiteman. 1999. Data quality objectives in environmental research planning. *Quality Assurance* 7:181-94 #752

Call, D.J., K. Liber, F.W. Whiteman, T.D. Dawson, and L.T. Brooke. 1999. Observations on the 10-day *Chironomus tentans* survival and growth bioassay in evaluating Great Lakes sediments. *J. Great Lakes Res.* 25(1):171-178. #1999-6

Caulfield, D.D. and J.C. Filkins. 1999. Acoustic techniques for the mapping of the distribution of contaminated sediments. *Northeastern Geol. Environ. Sci.* 21(1/2):130-135. #1999-13

Crane, J.L. 1999. Assessment of contaminated sediments in slip C Duluth Harbor, Minnesota. EPA/905/R-99/007. USEPA, Great Lakes National Program Office, Chicago, IL.

Detenbeck, N.E., S.M. Galatowitsch, J. Atkinson, and H. Ball. 1999. Evaluating perturbations and developing restoration strategies for inland wetlands in the Great Lakes Basin. *Wetlands* 19:789-820 #725

Eadie, B.J. and S. Lozano. 1999. Grain size distribution of the surface sediments collected during the Lake Michigan mass balance and environmental mapping and assessment programs. NOAA Technical Memorandum ERL GLERL-111. Environmental Research Laboratories, National Oceanic and Atmospheric Administration, U.S. Dept. of Commerce, Ann Arbor, MI. #1999-4

Erickson, R.J., G.T. Ankley, D.L. DeFoe, P.A. Kosian, and E.A. Makynen. 1999. Additive toxicity of binary mixtures of phototoxic polycyclic aromatic hydrocarbons to the oligochaete *Lumbriculus variegatus*. *Toxicol. Appl. Pharmacol.* 154:97-105 #694

Erickson, T.R., O. Mohseni, and H.G. Stefan. 1999. Required record length for a nonlinear weekly air/stream temperature regression model. Grazing Lands Research Laboratory, Agricultural Research Service, U.S. Department of Agriculture, El Reno, OK. #1999-22

Fairbrother, A., G.T. Ankley, L.S. Birnbaum, S.P. Bradbury, B. Francis, L.E. Gray, D. Hinton, L.L. Johnson, R.E. Peterson, and G. Van Der Kraak. 1999. Reproductive and developmental toxicology of contaminants in oviparous animals. In: *Reproductive and Developmental Effects of Contaminants in Oviparous Vertebrates*, Di Giulio, R.T. and Tillitt, D.E., eds., pp. 283-361. SETAC Press, Pensacola, FL. #1999-7

Fairbrother, A. and R.S. Bennett. 1999. Ecological risk assessment and the precautionary principle. *Hum. Ecol. Risk Assess.* 5(5):943-949. #1999-9

Fernandez, J.D., P.M. Cook, B.C. Butterworth, and S.P. Bradbury. 1999. Temporal changes in purity and specific activity of tritium-labeled 2,3,7,8-tetrachlorodibenzo-*p*-dioxin: Radiopurity model for toxicology. *Environ. Sci. Technol.* 33:3558-67 #722

Glass G.E. and J.A. Sorensen. 1999. Six-year trend (1990-1995) of wet mercury deposition in the Upper Midwest, U.S.A. *Environ. Sci. Technol.* 33:3303-12 #719

Glass, G.E., J.A. Sorensen, G.R. Rapp, Jr., M. Balcer, and L. Schwarzkopf. 1999. Mercury subsurface maxima in sediments: A diagnostic for anthropogenic origins. In: *Mercury contaminated sites: Characterization, risk assessment, and remediation*. Ebinghaus, R., et al., eds. pp 467-485. Springer-Verlag, Berlin, Heidelberg. #1999-1

Heinis, L.J., M.L. Knuth, K. Liber, B.R. Sheedy, R.L. Tunell, and G.T. Ankley. 1999. Persistence and distribution of 4-nonylphenol following repeated application to littoral enclosures. *Environ. Toxicol. Chem.* 18:363-75 #701

Henry, T.R. and S.P. Bradbury. 1999. Fish tissue residue-based toxicity reference values for chlordane, DDT, dieldrin, endrin, hexachlorobenzene, mercury and PCSs for piscivorous wildlife. American Chemical Society Pesticides and Wildlife Symposium, August 22-26, 1999, New Orleans, LA. #1999-18

Hoffman, A.D., J.J. Jenson, G.J. Lien, and J.M. McKim. 1999. Individual tissue weight to total body weight relationships and total, polar, and nonpolar lipids in tissues of hatchery lake trout. *Trans. Am. Fish. Soc.* 128:178-81 #718

Kahl, M.D., C.L. Russom, D.L. DeFoe, and D.E. Hammermeister. 1999. Saturation units for use in aquatic bioassays. *Chemosphere* 39:539-51 #712

Kelly, J.R. 1999. Excerpt from web page. *Missouri River Basin Conference*, week of March 22, 1999. #3476

Kelly, J.R. and P.H. Doering. 1999. Seasonal deepening of the pycnocline in a shallow shelf ecosystem and its influence on near-bottom dissolved oxygen. *Mar. Ecol. Prog. Ser.* 178:151-68 #707

Kemble, N.E., F.J. Dwyer, C.G. Ingersoll, T.D. Dawson, and T.J. Norberg-King. 1999. Tolerance of freshwater test organisms to formulated sediments for use as control materials in whole-sediment toxicity tests. *Environ. Toxicol. Chem.* 18(2):222-230. #1999-21

Kerfoot, W.C., S. Harting, R. Rossmann, and J.A. Robbins. 1999. Anthropogenic copper inventories and mercury profiles from Lake Superior: Evidence for mining impacts. *J. Great Lakes Res.* 24(4):663-682. #1999-14

King, R.S. and J.C. Brazner. 1999. Coastal wetland insect communities along a trophic gradient in Green Bay, Lake Michigan. *Wetlands* 19:426-37 #713

Kleinow, K., J. Baker, J. Nichols, F. Gobas, T. Parkerton, D. Muir, G. Monteverdi, and P. Mastrodone. 1999. Exposure, uptake, and disposition of chemicals in reproductive and developmental stages of selected oviparous vertebrates. In: *Reproductive and Developmental Effects of Contaminants in oviparous vertebrates*, Di Guillio, R.T. and Tillitt, D.E., eds., pp. 9-111. SETAC Press, Pensacola, FL. #1999-15

Kolanczyk, R., P. Schmieder, S. Bradbury, and T. Spizzo. 1999. Biotransformation of 4-methoxyphenol in rainbow trout (*Oncorhynchus mykiss*) hepatic microsomes. *Aquat. Toxicol.* 45:47-61 #705

Kosian, P.A., C.W. West, M.S. Pasha, J.S. Cox, D.R. Mount, R.J. Huggett, and G.T. Ankley. 1999. Use of nonpolar resin for reduction of fluoranthene bioavailability in sediment. *Environ. Toxicol. Chem.* 18:201-6 #697

Kreis, R.G., Jr. 1999. Trenton Channel/Detroit River sediment assessment and remediation. In: *Deciding when to intervene: Data interpretation tools for making sediment management decisions beyond source control*. Appendix 10, pp. 57-59. #1999-16

Kuehl, D.W. and J. Christensen. 1999. Determination of kow values for a series of aryl glucuronides. *Bull. Environ. Contam. Toxicol.* 63:109-16 #715

Leonard, E.N., D.R. Mount, and G.T. Ankley. 1999. Modification of metal partitioning by supplementing acid volatile sulfide in freshwater sediments. *Environ. Toxicol. Chem.* 18:858-64 #708

Liber, K., J.A. Gangl, T.D. Corry, L.J. Heinis, and F.S. Stay. 1999. Lethality and bioaccumulation of 4-nonylphenol in bluegill sunfish in littoral enclosures. *Environ. Toxicol. Chem.* 18:394-400 #704

Liber, K., M.L. Knuth, and F.S. Stay. 1999. An integrated evaluation of the persistence and effects of 4-nonylphenol in an experimental littoral ecosystem. *Environ. Toxicol. Chem.* 18:357-62 #703

Matthiessen, P., T. Reynoldson, Z. Billingham, D.W. Brassard, P. Cameron, G.T. Chandler, I.M. Davies, T. Horiguchi, D.R. Mount, J. Oehlmann, T.G. Pottinger, P.K. Sibley, H.M. Thompson, and A.D. Vethaak. 1999. Field assessment for endocrine disruption in invertebrates. In: *Endocrine Disruption in Invertebrates: Endocrinology, Testing, and Assessment*. deFur, P.L., et al, eds., pp. 199-270, Society of Environ. Toxicol. Chem. (SETAC) . #1999-8

McCormick, J.H. and R.L. Leino. 1999. Factors contributing to first-year recruitment failure of fishes in acidified waters with some implications for environmental research. *Trans. Am. Fish. Soc.* 128:265-77 #724

- McKim, J.M., R.C. Kolanczyk, G.J. Lien, and A.D. Hoffman. 1999. Dynamics of renal excretion of phenol and major metabolites in the rainbow trout (*Oncorhynchus mykiss*). *Aquat. Toxicol.* 45:265-77 #706
- McKim, J.M., G.J. Lien, A.D. Hoffman, and C.T. Jenson. 1999. Respiratory-cardiovascular physiology and xenobiotic gill flux in the lake trout (*Salvelinus namaycush*). *Comp. Biochem. Physiol. Part A.* 123:69-81 #716
- Mekenyan, O., N. Nikolova, S. Karabunarliev, S.P. Bradbury, G.T. Ankley, and B. Hansen. 1999. New developments in a hazard identification algorithm for hormone receptor ligands. *Quant. Struct.-Act. Relat.* 18:139-53 #717
- Monson, P.D., D.J. Call, D.A. Cox, K. Liber, and G.T. Ankley. 1999. Photoinduced toxicity of fluoranthene to northern leopard frogs (*Rana pipiens*). *Environ. Toxicol. Chem.* 18:308-12 #696
- Mount, D.R., T.D. Dawson, and L.P. Burkhard. 1999. Implications of gut purging for tissue residues determined in bioaccumulation testing of sediment with *Lumbriculus variegatus*. *Environ. Toxicol. Chem.* 18:1244-49 #710
- Nichols, J., S. Bradbury, and J. Swartout. 1999. Derivation of wildlife values for mercury. *J. Toxicol. Environ. Health, Part B.* 2:325-55 #720
- Nichols, J.W. 1999. Recent advances in the development and use of physiologically based toxicokinetic models for fish. In: *Xenobiotics in Fish*. Smith et al., eds. pp. 87-103. Kluwer Academic/Plenum Publishers, New York, NY. #1999-5
- O'Halloran, S.L., K. Liber, J.A. Gangl, and M.L. Knuth. 1999. Effects of repeated exposure to 4-nonylphenol on the zooplankton community in littoral enclosures. *Environ. Toxicol. Chem.* 18:376-85 #702
- Pillard, D.A., D.L. DuFresne, J.E. Tietge, and J.M. Evans. 1999. Response of mysid shrimp (*Mysidopsis bahia*), sheepshead minnow (*Cyprinodon variegatus*), and inland silverside minnow (*Menidia beryllina*) to changes in artificial seawater salinity. *Environ. Toxicol. Chem.* 18(3):430-435. #1999-3
- Richardson, W.L., D.D. Endicott, R.G. Kreis, Jr., and K.R. Rygwelski. 1999. The Lake Michigan mass balance project : Quality assurance plan for mathematical modeling. ORD, NHEERL, Mid-Continent Ecology Division, Duluth, MN. #1999-10
- Rossmann, R. 1999. Horizontal and vertical distribution of mercury in 1983 Lake Superior sediments with estimates of storage and mass flux. *J. Great Lakes Res.* 25(4):683-696. #1999-12
- Rygwelski, K.R., W.L. Richardson, and D.D. Endicott. 1999. A screening-level model evaluation of atrazine in the Lake Michigan Basin. *J. Great Lakes Res.* 25(1):94-106. #1999-2

- Scheller, R.M., V.M. Snarski, J.G. Eaton, and G.W. Oehlert. 1999. An analysis of the influence of annual thermal variables on the occurrence of fifteen warmwater fishes. *Trans. Am. Fish. Soc.* 128:257-64 #714
- Schmude, K.L., K. Liber, T.D. Corry, and F.S. Stay. 1999. Effects of 4-nonylphenol on benthic macroinvertebrates and insect emergence in littoral enclosures. *Environ. Toxicol. Chem.* 18:386-93 #700
- Schulz, K.L. and P.M. Yurista. 1999. Implications of an invertebrate predator's (*Bythotrephes cederstroemi*) atypical effects on a pelagic zooplankton community. *Hydrobiologia* 380:179-183. #1999-20
- Serrano, J., C.M. Palmeira, D.W. Kuehl, and K.B. Wallace. 1999. Cardiosensitive and cumulative oxidation of mitochondrial DNA following subchronic doxorubicin administration. *Biochim. Biophys. Acta.* 1411:201-5 #711
- Sibley, P.K., D.A. Benoit, M.D. Balcer, G.L. Phipps, C.W. West, R.A. Hoke, and G.T. Ankley. 1999. In situ bioassay chamber for assessment of sediment toxicity and bioaccumulation using benthic invertebrates. *Environ. Toxicol. Chem.* 18:2325-36 #723
- Silva-Wilkinson, R.A., L.P. Burkhard, B.R. Sheedy, G.M. DeGraeve, and R.A. Lordo. 1999. A simple comparison of mass spectral search results and implications for environmental screening analyses. *Arch. Environ. Contam. Toxicol.* 36:109-14 #695
- Spehar, R.L., S. Poucher, L.T. Brooke, D.J. Hansen, D. Champlin, and D.A. Cox. 1999. Comparative toxicity of fluoranthene to freshwater and saltwater species under fluorescent and ultraviolet light. *Arch. Environ. Contam. Toxicol.* 37:496-502 #721
- Stoermer, E.F., R.G. Kreis, Jr., and N.A. Andresen. 1999. Checklist of diatoms from the Laurentian Great Lakes. *J. Great Lakes Res.* 25(3):515-566. #1999-11
- Tanner, D.K., E.N. Leonard, and J.C. Brazner. 1999. Microwave digestion method for phosphorus determination of fish tissue. *Limnol. Oceanogr.* 44:708-9 #709
- Trenham, P.C., Diamond, S.A., Detenbeck, N.E., and Ankley, G.T. PRIMENet: Ultraviolet radiation/amphibian populations research planning workshop, February 1-3, 1999. EPA/600/R-99/066. ORD, NHEERL, Mid-Continent Ecology Division, Duluth, MN.
- West, D.E. and H.G. Stefan. 1999. Modeling of watershed input and potential climate change effects on water quality in agricultural reservoirs in the Little Washita River Watershed. Grazing Lands Research Laboratory, Agricultural Research Service, U.S. Department of Agriculture, El Reno, OK. #1999-23
- Yurista, P.M. 1999. A model for temperature correction of size-specific respiration in *Bythotrephes cederstroemi* and *Daphnia middendorffiana*. *J. Plankton Res.* 21(4):721-734. #1999-19

Yurista, P.M. 1999. Temperature-dependent energy budget of an Arctic Cladoceran, *Daphnia middendorffiana*. *Fresh. Biol.* 42:21-34. #1999-17

1998

Ankley, G.T. and J.P. Giesy. 1998. Endocrine disruptors in wildlife: a weight-of-evidence perspective. In: *Principles and processes for evaluating endocrine disruption in wildlife*. R. Kendall, R. Dickerson, J. Giesy and W. Suk, eds. Pp. 349-367. SETAC Press, Pensacola, FL . #1998-1

Ankley, G.T., E. Mihaich, R. Stahl, D. Tillitt, T. Colborn, S. McMaster, R. Miller, J. Bantle, P. Campbell, N. Denslow, R. Dickerson, L. Folmar, M. Fry, J. Giesy, L. E. Gray, P. Guiney, T. Hutchinson, S. Kennedy, V. Kramer, G. LeBlanc, M. Mayes, A. Nimrod, R. Patino, R. Peterson, R. Purdy, R. Ringer, P. Thomas, L. Touart, G. Van der Kraak, and T. Zacharewski. 1998. Overview of a workshop on screening methods for detecting potential (anti-) estrogenic/androgenic chemicals in wildlife. *Environ. Toxicol. Chem.* 17:68-87 #664

Ankley, G.T., J.E. Tietge, D.L. DeFoe, K.M. Jensen, G.W. Holcombe, E.J. Durhan, and S.A. Diamond. 1998. Effects of ultraviolet light and methoprene on survival and development of *Rana pipiens*. *Environ. Toxicol. Chem.* 17:2530-2542 #691

Basak, S.C., G.D. Grunwald, G.E. Host, G.J. Niemi, and S.P. Bradbury. 1998. A comparative study of molecular similarity, statistical, and neural methods for predicting toxic modes of action. *Environ. Toxicol. Chem.* 17(6):1056-1064. #1998-12

Bertelsen, S.L., A.D. Hoffman, C.A. Gallinat, C.M. Elonen, and J.W. Nichols. 1998. Evaluation of log *K_{ow}* and tissue lipid content as predictors of chemical partitioning to fish tissues. *Environ. Toxicol. Chem.* 17:1447-55 #684

Besser, J.M., C.G. Ingersoll, E.N. Leonard, and D.R. Mount. 1998. Effect of zeolite on toxicity of ammonia in freshwater sediments: Implications for toxicity identification evaluation procedures. *Environ. Toxicol. Chem.* 17:2310-2317 #726

Bierman, V.J., J.V. DePinto, T.C. Young, S.C. Martin, and W.L. Richardson. 1998. Development and validation of an integrated exposure model for toxic chemicals in Green Bay, Lake MI. 2678

Bierman, V.J., Jr., D.W. Dilks, T.J. Feist, J.V. DePinto, and R.G. Kreis, Jr. 1998. Coupled phytoplankton-zebra mussel model for Saginaw Bay, Lake Huron. In: *Proceedings of the Workshop on Aquatic Ecosystem Modeling and Assessment Techniques for Application within the U.S. Army Corps of Engineers*. Waide, J.B. and Gandy, L.M., Comps., pp. 43-67, U.S. Army Corps of Engineers, Washington, DC . #1998-8

Bradbury, S.P., O.G. Mekenyan, and G.T. Ankley. 1998. The role of ligand flexibility in predicting biological activity: Structure-activity relationships for aryl hydrocarbon, estrogen, and androgen receptor binding affinity. *Environ. Toxicol. Chem.* 17:15-25 #665

Brazner, J.C. and W.M. DeVita. 1998. PCBs, DDE, and Mercury in young-of-the-year littoral fishes from Green Bay, Lake Michigan. *J. Great Lakes Res.* 24:83-92 #673

Brazner, J.C., D.K. Tanner, D.A. Jensen, and A. Lemke. 1998. Relative abundance and distribution of Ruffe (*Gymnocephalus cernuus*) in a Lake Superior coastal wetland fish assemblage. *J. Great Lakes Res.* 24:293-303 #682

Burkhard, L.P. 1998. Comparison of two models for predicting bioaccumulation of hydrophobic organic chemicals in a Great Lakes food web. *Environ. Toxicol. Chem.* 17:383-93 #668

Carlson, R.W., S.P. Bradbury, R.A. Drummond, and D.E. Hammermeister. 1998. Neurological effects on startle response and escape from predation by medaka exposed to organic chemicals. *Aquat. Toxicol.* 43:51-68 #698

Cook, P.M. and L.P. Burkhard. 1998. Development of bioaccumulation factors for protection of fish and wildlife in the Great Lakes. In: EPA/823/R-98/002. Office of Water, USEPA, Washington, D.C. #1998-3

Dawson, T.D., J.J. Jenson, and T.J. Norberg-King. 1998. Laboratory culture of *Chironomus tentans* for use in toxicity testing: optimum initial egg stocking densities. Environmental Research Laboratory, USEPA, Duluth, MN. #1998-6

DeFoe, D.L. and G.T. Ankley. 1998. Influence of storage time on toxicity of freshwater sediments to benthic macroinvertebrates. *Environ. Pollut.* 99:123-31 #683

Elonen, C.M., R.L. Spehar, G.W. Holcombe, R.D. Johnson, J.D. Fernandez, R.J. Erickson, J.E. Tietge, and P.M. Cook. 1998. Comparative toxicity of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin to seven freshwater fish species during early life-stage development. *Environ. Toxicol. Chem.* 17:472-83 #669

Endicott, D., R.G. Kreis, Jr., L. Mackelburg, and D. Kandt. 1998. Modeling PCB bioaccumulation by the zebra mussel (*Dreissena polymorpha*) in Saginaw Bay, Lake Huron. *J. Great Lakes Res.* 24(2):411-426. #1998-5

Erickson, R.J., L.T. Brooke, M.D. Kahl, F. Vende Venter, S.L. Harting, T.P. Markee, and R.L. Spehar. 1998. Effects of laboratory test conditions on the toxicity of silver to aquatic organisms. *Environ. Toxicol. Chem.* 17:572-98 #672

Erickson, T.R., O. Mohseni, and H.G. Stefan. 1998. Estimation of an upper bound for weekly stream temperatures. Grazing Lands Research Laboratory, Agricultural Research Service, U.S. Department of Agriculture, El Reno, OK. #1998-17

Fairchild, J.F., D.S. Ruessler, and A.R. Carlson. 1998. Comparative sensitivity of five species of macrophytes and six species of algae to atrazine, metribuzin, alachlor, and metolachlor. *Environ. Toxicol. Chem.* 17:1830-1834 #688

Fernandez, J.D., J.S. Denny, and J.E. Tietge. 1998. A simple apparatus for administering 2,3,7,8-tetrachlorodibenzo-*p*-dioxin to commercially available pelletized fish food. *Environ. Toxicol. Chem.* 17:2058-62 #686

Froese, K.L., D.A. Verbrugge, G.T. Ankley, G.J. Niemi, C.P. Larsen, and J.P. Giesy. 1998. Bioaccumulation of polychlorinated biphenyls from sediments to aquatic insects and tree swallow eggs and nestlings in Saginaw Bay, Michigan USA. *Environ. Toxicol. Chem.* 17:484-92 #671

Gao, S. and H.G. Stefan. 1998. Observed and simulated ice characteristics of five freshwater lakes and extrapolation to a projected 2xCO₂ climate scenario. ORD, NHEERL, Washington, DC and Environmental Research Laboratory, Mid-Continent Ecology Division, USEPA, Duluth, MN. #1998-16

Ivanov, J., O. Mekenyan, S.P. Bradbury, and G. Schuurmann. 1998. A kinetic analysis of the conformational flexibility of steroid hormones. *Quant. Struct.-Act. Relat.* 17:437-449. #1998-9

Jarvinen, A.W., D.R. Mount, and G.T. Ankley. 1998. Development of tissue residue threshold values. In: EPA/823/R-98/002. Office of Water, USEPA, Washington, D.C. #1998-2

Johnson, R.D., J.E. Tietge, K.M. Jensen, J.D. Fernandez, A.L. Linnum, D.B. Lothenbach, G.W. Holcombe, P.M. Cook, S.A. Christ, D.L. Lattier, and D.A. Gordon. 1998. Toxicity of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin to early life stage brook trout (*Salvelinus fontinalis*) following parental dietary exposure. *Environ. Toxicol. Chem.* 17:2408-21 #692

Kelly, J.R. 1998. Nitrogen and phosphorus budgets for Boston Harbor, Massachusetts, USA: *Synopsis and Study of Global Change of the International Council of Scientific Unions*. Land-Ocean Interactions in the Coastal Zone Project, International Geosphere-Biosphere Programme. #3386

Kelly, J.R. 1998. Quantification and potential role of ocean nutrient loading to Boston Harbor, Massachusetts, USA. *Mar. Ecol. Prog. Ser.* 173:53-65 #693

Kelly, J.R., R. Kropp, A. Uhler, M. Zielinski, and S. Tawatchai. 1998. Environmental response and recovery at drilling platforms in the Gulf of Thailand. Published proceedings: *SPE International Conference on Health, Safety and Environment in Oil and Gas Exploration and Production*, Caracas, Venezuela, June 7-10, 1998. #3354

Keough, J.R., C.A. Hagley, E. Ruzycycki, and M.E. Sierszen. 1998. $\delta^{13}\text{C}$ composition of primary producers and role of detritus in a freshwater coastal ecosystem. *Limnol. Oceanogr.* 43:734-40 #685

- Kosian, P.A., E.A. Makynen, P.D. Monson, D.R. Mount, A. Spacie, O.G. Mekenyan, and G.T. Ankley. 1998. Application of toxicity-based fractionation techniques and structure-activity relationship models for the identification of phototoxic polycyclic aromatic hydrocarbons in sediment pore water. *Environ. Toxicol. Chem.* 17:1021-33 #677
- McTavish, K., H. Stech, and F.S. Stay. 1998. A modeling framework for exploring the population-level effects of endocrine disruptors. *Environ. Toxicol. Chem.* 17(1):58-67. #1998-7
- Mohseni, O., T.R. Erickson, and H.G. Stefan. 1998. Projection of climate change effects on stream temperatures in the U.S. Grazing Lands Research Laboratory, Agricultural Research Service, U.S. Department of Agriculture, El Reno. OK. #1998-15
- Nalepa, T.F., D.J. Hartson, D.L. Fanslow, G.A. Lang, and S.J. Lozano. 1998. Declines in benthic macroinvertebrate populations in southern Lake Michigan, 1980-1993. *Can. J. Fish. Aquat. Sci.* 55:2402-13 #699
- Nichols, J.W., K.M. Jensen, J.E. Tietge, and R.D. Johnson. 1998. Physiologically based toxicokinetic model for maternal transfer of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin in brook trout (*Salvelinus fontinalis*). *Environ. Toxicol. Chem.* 17:2422-34 #689
- Pirrone, N., I. Allegrini, G.J. Keeler, J.O. Nriagu, R. Rossmann, and J.A. Robbins. 1998. Historical atmospheric mercury emissions and depositions in North America compared to mercury accumulations in sedimentary records. *Atmos. Environ.* 32:929-940. #1998-4
- Reinfelder, J.R., N.S. Fisher, S.N. Luoma, J.W. Nichols, and W.-X. Wang. 1998. Trace element trophic transfer in aquatic organisms: a critique of the kinetic model approach. *Sci. Total Environ.* 219:117-35 #687
- Roberts, J., R. Jepsen, D. Gotthard, and W. Lick. 1998. Effects of particle size and bulk density on erosion of quartz particles. *J. Hydraulic Eng.* 124:1261-1267. #1998-14
- Sheedy, B.R., V.R. Mattson, J.S. Cox, P. A. Kosian, G.L. Phipps, and G.T. Ankley. 1998. Bioconcentration of polycyclic aromatic hydrocarbons by the freshwater oligochaete *Lumbriculus variegatus*. *Chemosphere* 36:3061-70 #679
- Sibley, P.K., D.A. Benoit, and G.T. Ankley. 1998. Life cycle and behavioural assessments of the influence of substrate particle size on *Chironomus tentans* (Diptera: Chironomidae) in laboratory assays. *Hydrobiologia* 361:1-9 #676
- Sierszen, M.E. and S.J. Lozano. 1998. Zooplankton population and community responses to the pesticide azinphos-methyl in freshwater littoral enclosures. *Environ. Toxicol. Chem.* 17:907-14 #674

- Tapper, M.A. and R.E. Hicks. 1998. Temperate viruses and lysogeny in Lake Superior bacterioplankton. *Limnol. Oceanogr.* 43:95-103 #681
- Tietge, J.E., R.D. Johnson, K.M. Jensen, P.M. Cook, G.E. Elonen, J.D. Fernandez, G.W. Holcombe, D.B. Lothenbach, and J.W. Nichols. 1998. Reproductive toxicity and disposition of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin in adult brook trout (*Salvelinus fontinalis*) following a dietary exposure. *Environ. Toxicol. Chem.* 17:2395-407 #690
- Trenham, P.C. and H.B. Shaffer. 1998. Biochemical identification and assessment of population subdivision in morphologically similar native and invading smelt species (*Hypomesus*) in the Sacramento-San Joaquin estuary, California. *Trans. Am. Fish. Soc.* 127:417-424. #1998-13
- Van den Berg, M., L. Birnbaum, A.T.C. Bosveld, B. Brunstrom, P. Cook, M. Feeley, J.P. Giesy, A. Hanberg, R. Hasegawa, S.W. Kennedy, T. Kubiak, J.C. Larsen, F.X.R. van Leeuwen, A.K.D. Liem, C. Nolt, R.E. Peterson, L. Poellinger, S. Safe, D. Schrenk, D. Tillit, M. Tysklind, M. Younes, F. Waern, and T. Zacharewski. 1998. Toxic equivalency factors (TEFs) for PCBs, PCDDs, PCDFs for humans and wildlife. *Environ. Health Perspect.* 106(12):775-792. #1998-10
- Veith, G.D. 1998. Contaminated sediments: state of the science and future research directions. In: EPA 823/R-98/002. Office of Water, USEPA, Washington, DC. #1998-11
- Wackernagel, M. and J.D. Yount. 1998. The ecological footprint: an indicator of progress toward regional sustainability. *Environ. Monit. Assess.* 51:511-29 #678
- West, C.W. and G.T. Ankley. 1998. A laboratory assay to assess avoidance of contaminated sediments by the freshwater oligochaete *Lumbriculus variegatus*. *Arch. Environ. Contam. Toxicol.* 35:20-24 #680
- West, D.E. and H.G. Stefan. 1998. Simulation of lake water quality using a one-dimensional model with watershed input: model description and application to Lake Riley and Lake Elmo. Grazing Land Research Laboratory, Agricultural Research Service, U.S. Department of Agriculture, El Reno, OK. #1998-18
- Yount, J.D. 1998. Human carrying capacity as an indicator of regional sustainability. *Environ. Monit. Assess.* 51:507-9 #675

1997

- Adams, C.E. and H.G. Stefan. 1997. Field data on lake ice covers: Dependence on lake characteristics and climate. Environmental Research Laboratory, USEPA, Duluth, MN. #1997-16
- Ankley, G.T. 1997. Session 5: Critical issues in ecological relevance: Laboratory vs. field measurement endpoints: A contaminated sediment perspective. In: *Ecological risk assessment of contaminated sediments*. C.G. Ingersoll, T. Dillon, G.R. Biddinger, Eds. Pp. 115-122. SETAC Press, Pensacola, FL. #1997-4

Ankley, G.T., S.P. Bradbury, J. Hermens, O.G. Mekenyan, and K.-E. Tollefsen. 1997. Current approaches to the use of structure activity relationships (SARs) in identifying the hazards of endocrine modulating chemicals to wildlife. In: *SETAC-Europe/OECD/EC Expert Workshop on Endocrine Modulators and Wildlife: Assessment and Testing*, April 10-13, 1997, Veldhoven, the Netherlands. L. Tattersfield, P. Matthiessen, P. Campbell, N. Grandy, and R. Länge, eds. Pp. 19-40. SETAC Press, Pensacola, FL. #1997-9

Ankley, G.T., R.J. Erickson, B.R. Sheedy, P.A. Kosian, V.R. Mattson, and J.S. Cox. 1997. Evaluation of models for predicting the phototoxic potency of polycyclic aromatic hydrocarbons. *Aquat. Toxicol.* 37:37-50 #639

Ankley, G.T., R.D. Johnson, N.E. Detenbeck, and S.P. Bradbury. 1997. Development of a research strategy for assessing the ecological risk of endocrine disruptors. *Rev. Toxicol.* 1:71-106. #666

Arthur, J.W., Roush, T., Thompson, J.A., Walbridge, C.T., and Puglisi, F.A. 1997. Evaluation of low order stream quality in central Iowa. EPA/600/R-9/009. Mid-Continent Ecology Division, National Health and Environmental Effects Research Laboratory, Office of Research and Development, USEPA, Duluth, MN. #3089

Benoit, D.A., P.K. Sibley, J.L. Juenemann, and G.T. Ankley. 1997. *Chironomus tentans* life-cycle test: Design and evaluation for use in assessing toxicity of contaminated sediments. *Environ. Toxicol. Chem.* 16:1165-76 #647

Brazner, J.C. 1997. Regional, habitat, and human development influences on coastal wetland and beach fish assemblages in Green Bay, Lake Michigan. *J. Great Lakes Res.* 23:36-51 #646

Brazner, J.C. and E.W. Beals. 1997. Patterns in fish assemblages from coastal wetland and beach habitats in Green Bay, Lake Michigan: A multivariate analysis of abiotic and biotic forcing factors. *Can. J. Fish. Aquat. Sci.* 54:1743-61 #661

Burkhard, L.P., B.R. Sheedy, D.J. McCauley, and G.M. DeGraeve. 1997. Bioaccumulation factors for chlorinated benzenes, chlorinated butadienes and hexachloroethane. *Environ. Toxicol. Chem.* 16:1677-86 #654

Cook, P.M., E.W. Zabel, and R.E. Peterson. 1997. The TCDD toxicity equivalence approach for characterizing risks for early life-stage mortality in trout. In: *Chemically induced alterations in functional development and reproduction of fishes*. R.M. Rolland, M. Gilbertson, and R.E. Peterson, eds. Pp. 9-27. SETAC Press, Pensacola, FL. #1997-8

Crane, J.L., Schubauer-Berigan, M., and Schmude, K. 1997. Sediment assessment of hotspot areas in the Duluth/Superior harbor. EPA/905/R97/020. Great Lakes National Program Office, USEPA, Chicago, IL.

de Vlaming, V. and Norberg-King, T.J. 1997. A review of single species toxicity tests: Are the tests reliable predictors of aquatic ecosystem community responses? EPA/600/R-97/114. Office of Research and Development, USEPA, Duluth, MN.

Erickson, R.J., C.F. Kleiner, J.T. Fiantt, and T.L. Highland. 1997. Effect of acclimation period on the relationship of acute copper toxicity to water hardness for fathead minnows. *Environ. Toxicol. Chem.* 16:813-15 #643

Fairchild, J.F., D.S. Ruessler, P.S. Haverland, and A.R. Carlson. 1997. Comparative sensitivity of *Selenastrum capricornutum* and *Lemna minor* to sixteen herbicides. *Arch. Environ. Contam. Toxicol.* 32:353-57 #651

Hanratty, M.P. 1997. Sensitivity analysis of the soil and water assessment tool (SWAT) for simulation of climate change effects. Grazing Lands Research Laboratory, Agricultural Research Service, U.S. Department of Agriculture, El Reno, OK. #1997-18

Henneman, H.E. and H.G. Stefan. 1997. Measurements and models of snow and ice albedo on a lake: reports from the 1996 to 1997 Ryan Lake winter field studies. Environmental Research Laboratory, USEPA, Duluth, MN. #1997-17

Hoke, R.A., G.T. Ankley, P.A. Kosian, A.M. Cotter, F.M. Vandermeiden, M. Balcer, G.L. Phipps, C.W. West, and J.S. Cox. 1997. Equilibrium partitioning as the basis for an integrated laboratory and field assessment of the impacts of DDT, DDE and DDD in sediments. *Ecotoxicology* 6:101-25 #641

Ingersoll, C.G., G.T. Ankley, R. Baudo, G.A. Burton, W. Lick, S.N. Luoma, D.D. MacDonald, T.B. Reynoldson, K.R. Solomon, R.C. Swartz, and W.J. Warren-Hicks. 1997. Session 6: Critical issues in methodological uncertainty: Workgroup summary report on uncertainty evaluation of measurement endpoints used in sediment ecological risk assessment. In: *Ecological risk assessment of contaminated sediments*. C.G. Ingersoll, T. Dillon, G.R. Biddinger, eds. Pp. 297-352. SETAC Press, Pensacola, FL. #1997-2

Johnson, L.B., C. Richards, G.E. Host, and J.W. Arthur. 1997. Landscape influences on water chemistry in midwestern stream ecosystems. *Freshwater Biol.* 37:193-208 #635

Kahl, M.D., E.A. Makynen, P.A. Kosian, and G.T. Ankley. 1997. Toxicity of 4-nonylphenol in a life-cycle test with the midge *Chironomus tentans*. *Ecotoxicol. Environ. Saf.* 38:155-60 #663

Kelly, J.R. 1997. Nutrients and human-induced change in the Gulf of Maine -- "one, if by land, and two, if by sea." In: *Proceedings of the Gulf of Maine ecosystem dynamics scientific symposium and workshop*. Wallace, G.T. and Brasch, E.F., eds. pp. 169-181. RARGOM report, 97-1. Hanover, NH. #1997-12

Leino, R.L. and J.H. McCormick. 1997. Reproductive characteristics of the ruffe, *Gymnocephalus cernuus*, in the St. Louis River estuary on western Lake Superior: A histological examination of the ovaries over one annual cycle. *Can. J. Fish. Aquat. Sci.* 54:256-63 #649

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. *Hydro. Processes* 11:825-871. #1997-10

Mekenyan, O., J. Ivanov, S. Karabunarliev, S.P. Bradbury, G.T. Ankley, and W. Karcher. 1997. A computationally-based hazard identification algorithm that incorporates ligand flexibility. 1. Identification of potential androgen receptor ligands. *Environ. Sci. Technol.* 31:3702-11. #662

Mekenyan, O., J. Ivanov, S. Karabunarliev, B. Hansen, G. Ankley, and S. Bradbury. 1997. A new approach for estimating 3-dimensional similarity that incorporates molecular flexibility. In: *QSAR in Environ. Sci. - VII*, Ch. 4, SETAC Press, pp. 39-57. #1997-13

Mekenyan, O.G., G.T. Ankley, G.D. Veith, and D.J. Call. 1997. Photo-induced toxicity of PAHs: QSAR models and environmental significance. In: *Geosciences and water resources: Environmental data modeling*. C. Bardinnet and J.-J. Royer, eds. Pp. 263-271. Springer-Verlag, Germany. #1997-5

Mohseni, O., T.R. Erickson, and H.G. Stefan. 1997. A non-linear regression model for weekly stream temperatures at 585 gaging stations in the U.S. Environmental Research Laboratory, USEPA, Duluth, MN. #1997-15

Morrice, J.A., H.M. Valett, C.N. Dahm, and M.E. Campana. 1997. Alluvial characteristics, groundwater-surface water exchange and hydrological retention in headwater streams. *Hydro. Processes* 11:253-267. #1997-14

Morrison, T.W., W.E. Lynch, Jr., and K. Dabrowski. 1997. Predation on zebra mussels by freshwater drum and yellow perch in western Lake Erie. *J. Great Lakes Res.* 23(2):177-189. #1997-7

Mount, D.R., D.D. Gulley, J.R. Hockett, T.D. Garrison, and J.M. Evans. 1997. Statistical models to predict the toxicity of major ions to *Ceriodaphnia dubia*, *Daphnia magna* and *Pimephales promelas* (fathead minnows). *Environ. Toxicol. Chem.* 16:2009-19 #658

Nichols, J.W., et al. 1997. Mercury study report to Congress. Volume VI: an ecological assessment for anthropogenic mercury emissions in the United States. EPA/452/R-97/008. Office of Air Quality Planning & Standards/Office of Research and Development, USEPA, Washington, D.C. #1997-11

Palmeira, C.M., J. Serrano, D.W. Kuehl, and K.B. Wallace. 1997. Preferential oxidation of cardiac mitochondrial DNA following acute intoxication with doxorubicin. *Biochim. Biophys. Acta.* 1321:101-6 #660

Rice, P.J., C.D. Drewes, T.M. Klubertanz, S.P. Bradbury, and J.R. Coats. 1997. Acute toxicity and behavioral effects of chlorpyrifos, permethrin, phenol, strychnine, and 2,4-dinitrophenol to 30-day-old Japanese medaka (*Oryzias latipes*). *Environ. Toxicol. Chem.* 16:696-704 #670

Russom, C.L., S.P. Bradbury, S.J. Broderius, D.E. Hammermeister, and R.A. Drummond. 1997. Predicting modes of toxic action from chemical structure: Acute toxicity in the fathead minnow (*Pimephales promelas*). *Environ. Toxicol. Chem.* 16:948-67 #645

Russom, C.L., S.P. Bradbury, W.A. Holacek, and D.J. Grunwald. 1997. ECOTOX: An ecological effects database. In: *Computing in Environmental Resource Management, proceedings*, December 2-4, 1996, Research Triangle Park, NC. Pp. 387-397. Air & Waste Management Association, Pittsburgh, PA. #1997-6

Sibley, P.K., D.A. Benoit, and G.T. Ankley. 1997. The significance of growth in *Chironomus tentans* sediment toxicity tests: Relationship to reproduction and demographic endpoints. *Environ. Toxicol. Chem.* 16:336-45 #636

Sibley, P.K., J. Legler, D.G. Dixon, and D.R. Barton. 1997. Environmental health assessment of the benthic habitat adjacent to a pulp mill discharge. I. Acute and chronic toxicity of sediments to benthic macroinvertebrates. *Arch. Environ. Contam. Toxicol.* 32:274-84 #642

Sibley, P.K., P.D. Monson, and G.T. Ankley. 1997. The effect of gut contents on dry weight estimates of *Chironomus tentans* larvae: Implications for interpreting toxicity in freshwater sediment toxicity tests. *Environ. Toxicol. Chem.* 16:1721-26 #653

Solomon, K.R., G.T. Ankley, R. Baudo, G.A. Burton, C.G. Ingersoll, W. Lick, S.N. Luoma, D.D. MacDonald, T.B. Reynoldson, R.C. Swartz, and W.J. Warren-Hicks. 1997. Session 6: Critical issues in methodological uncertainty: Workgroup summary report on methodological uncertainty. In: *Ecological risk assessment of contaminated sediments*. C.G. Ingersoll, T. Dillon, G.R. Biddinger, eds. Pp. 271-296. SETAC Press, Pensacola, FL. #1997-3

Spehar, R.L., P.M. Cook, G.E. Elonen, G.W. Holcombe, R.D. Johnson, J.D. Fernandez, and J.E. Tietge. 1997. Comparison of early-life-stage sensitivity of freshwater fish exposed as eggs to 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD). *Organohalogen Cmpnd.* 33:313-17 #818

Stefanovic, D.L. and H.G. Stefan. 1997. Two-dimensional water quality model for unsteady advection-diffusion of nonconservative substances. USEPA, ORD Washington, DC and Environmental Research Laboratory, Mid-Continent Ecology Division, Duluth, MN. #1997-19

Swartz, R.C., S.P. Ferraro, J.O. Lamberson, F.A. Cole, R.J. Ozretich, B.L. Boese, D.W. Schults, M. Behrenfeld, and G.T. Ankley. 1997. Photoactivation and toxicity of mixtures of polycyclic aromatic hydrocarbon compounds in marine sediment. *Environ. Toxicol. Chem.* 16:2151-57 #659

Thompson, J.A. 1997. Cellular fluorescence capacity as an endpoint in algal toxicity testing. *Chemosphere* 35:2027-37 #667

Tietge, J.E., J.R. Hockett, and J.M. Evans. 1997. Major ion toxicity of six produced waters to three freshwater species: Application of ion toxicity models and TIE procedures. *Environ. Toxicol. Chem.* 16:2002-8 #656

Trebitz, A.S., S. Carpenter, P. Cunningham, B. Johnson, R. Lillie, D. Marshall, T. Martin, R. Narf, T. Pellett, S. Stewart, C. Storlie, and J. Unmuth. 1997. A model of bluegill-largemouth bass interactions in relation to aquatic vegetation and its management. *Ecol. Modell.* 94:139-56 #644

West, C.W., G.T. Ankley, J.W. Nichols, G.E. Elonen, and D.E. Nessa. 1997. Toxicity and bioaccumulation of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin in long-term tests with the freshwater benthic invertebrates *Chironomus tentans* and *Lumbriculus variegatus*. *Environ. Toxicol. Chem.* 16:1287-94 #648

Wood, C.M., W.J. Adams, G.T. Ankley, D.R. DiBona, S.N. Luoma, R.C. Playle, W.A. Stubblefield, H.L. Bergman, R.J. Erickson, J.S. Mattice, and C.E. Schlekot. 1997. Environmental toxicology of metals. In: *Reassessment of metals criteria for aquatic life protection: Priorities for research and implementation*. H.L. Bergman and E.J. Dorward-King, eds. Pp. 31-56. SETAC Press, Pensacola, FL. #1997-1

Wrubleski, D.A., H.R. Murkin, A.G. van der Valk, and C.B. Davis. 1997. Decomposition of litter of three mudflat annual species in a northern prairie marsh during drawdown. *Plant Ecol.* 129:141-48 #650

1996

Adams, J.V., M.C. Fabrizio, and G.L. Curtis. 1996. Comparison of prey fish density estimates from acoustic and bottom trawl surveys in northeastern Lake Michigan. National Biological Service, Great Lakes Science Center, Ann Arbor, MI for Environmental Research Laboratory, USEPA, Duluth, MN. #1996-18

Ankley, G.T. 1996. Evaluation of metal/acid-volatile sulfide relationships in the prediction of metal bioaccumulation by benthic macroinvertebrates. *Environ. Toxicol. Chem.* 15:2138-46 #595

Ankley, G.T. 1996. Research for assessing the ecological risk of endocrine disruptors. *SETAC News* 16(4):11-12. #1996-14

Ankley, G.T., W.J. Berry, D.M. Di Toro, D.J. Hansen, R.A. Hoke, D.R. Mount, M.C. Reiley, R.C. Swartz, and C.S. Zarba. 1996. Letter to the editor: Use of equilibrium partitioning to establish sediment quality criteria for nonionic chemicals: A reply to Iannuzzi et al. *Environ. Toxicol. Chem.* 15:1019-24 #596

Ankley, G.T., D.M. Di Toro, D.J. Hansen, and W.J. Berry. 1996. Assessing the ecological risk of metals in sediments. *Environ. Toxicol. Chem.* 15:2053-55 #597

Ankley, G.T., D.M. Di Toro, D.J. Hansen, and W.J. Berry. 1996. Technical basis and proposal for deriving sediment quality criteria for metals. *Environ. Toxicol. Chem.* 15:2056-66 #598

Ankley, G.T., K. Liber, D.J. Call, T.P. Markee, T.J. Canfield, and C.G. Ingersoll. 1996. A field investigation of the relationship between zinc and acid volatile sulfide concentrations in freshwater sediments. *J. Aquat. Ecosys. Health.* 5:255-64 #599

Ankley, G.T., O.G. Mekenyan, P.A. Kosian, E.A. Makynen, D.R. Mount, P.D. Monson, and D.J. Call. 1996. Identification of phototoxic polycyclic aromatic hydrocarbons in sediments through sample fractionation and QSAR analysis. *SAR QSAR Environ. Res.* 5:177-83 #600

Ankley, G.T. and D.R. Mount. 1996. Retrospective analysis of the ecological risk of contaminant mixtures in aquatic sediments. *Hum. Ecol. Risk Assess.* 2:434-40 #601

Ankley, G.T., M.K. Schubauer-Berigan, and J.R. Dierkes. 1996. Application of toxicity identification evaluation techniques to pore water from Buffalo River sediments. *J. Great Lakes Res.* 22:534-44 #602

Arthur, J.W., T. Roush, J.A. Thompson, F.A. Puglisi, C. Richards, G.E. Host, and L.B. Johnson. 1996. Evaluation of watershed quality in the Saginaw River basin. EPA/600/R-95-153. Mid-Continent Ecology Division, NHEERL, Duluth, MN. #1996-6

Berg, D.J., S.W. Fisher, and P.F. Landrum. 1996. Clearance and processing of algal particles by zebra mussels (*Dreissena polymorpha*). *J. Great Lakes Res.* 22(3):779-788. #1996-25

Bradbury, S.P. 1996. 2,3,7,8-tetrachlorodibenzo-*p*-dioxin. In: *Noninfectious diseases of wildlife*. A. Fairbrother, L.N. Locke, and G.L. Hoff, eds. Pp. 87-98. Iowa State University Press, Ames, IA. #1996-3

Bradbury, S.P., O.G. Mekenyan, and G.T. Ankley. 1996. Quantitative structure-activity relationships for polychlorinated hydroxybiphenyl estrogen receptor binding affinity: An assessment of conformer flexibility. *Environ. Toxicol. Chem.* 15:1945-54 #603

Brooke, L.T., G.T. Ankley, D.J. Call, and P.M. Cook. 1996. Gut content weight and clearance rate for three species of freshwater invertebrates. *Environ. Toxicol. Chem.* 15:223-28 #604

Burton, G.A., Jr., T.J. Norberg-King, C.G. Ingersoll, D.A. Benoit, G.T. Ankley, P.V. Winger, J. Kubitz, J.M. Lazorchak, M.E. Smith, E. Greer, F.J. Dwyer, D.J. Call, K.E. Day, P. Kennedy, and M. Stinson. 1996. Interlaboratory study of precision: *Hyalella azteca* and *Chironomus tentans* freshwater sediment toxicity assays. *Environ. Toxicol. Chem.* 15:1335-43 #605

Cardenas, M. and W. Lick. 1996. Modeling the transport of sediments and hydrophobic contaminants in the lower Saginaw River. *J. Great Lakes Res.* 22(3):669-682. #1996-24

Caulfield, D.D., J. Filkins, and R. McGee. 1996. Calibration and multiple sound sources in marine geotechnical pollution surveys in rivers. In: Oceans 96 MTS/IEEE Conference Proceedings: The Coastal Ocean - Prospects for the 21st Century, September 23-26, 1996, Fort Lauderdale FL. Institute of Electrical and Electronics Engineers, Inc., Piscataway, NJ. Pp. 176-187. #1996-12

Champlin, J.G. and H.G. Stefan. 1996. Field study of the ice cover of a lake: Implications for winter water quality modeling. Environmental Research Laboratory, USEPA, Duluth, MN. #1996-31

Chapman, G.A. (chair), B.S. Anderson, A.J. Bailer, R.B. Baird, R. Berger, D.T. Burton, D.L. Denton, W.L. Goodfellow, Jr., M.A. Heber, L.L. McDonald, T.J. Norberg-King, and P.J. Ruffier. 1996. Methods and appropriate endpoints: Discussion synopsis. In: *Whole effluent toxicity testing: An evaluation of methods and prediction of receiving system impacts*. D.R. Grothe, K.L. Dickson, and D.K. Reed-Judkins, eds. Pp. 51-78. SETAC Press, Pensacola, FL. #1996-5

Clement, J., Sigford, A., Drummond, R., and Novy, N. 1996. World of fresh water: A resource for studying issues of freshwater research. EPA/600/K-96/001. NHEERL, Mid-Continent Ecology Division, Duluth, MN.

Collins, H.L., W. Brown, and A. Edwards. 1996. The early life history of ruffe (*Gymnocephalus cernuus*) in the St. Louis River estuary, 1992-1994. Final report to the Environmental Research Laboratory, USEPA, Duluth, MN. #1996-9

Collins, H.L., W. Brown, and A. Edwards. 1996. Spatial changes in the distribution and abundance of ruffe (*Gymnocephalus cernuus*) and native fishes in the St. Louis River estuary, 1989-1994. Final report to the Environmental Research Laboratory, USEPA, Duluth, MN. #1996-10

Cotter, A.M., P.A. Kosian, R.A. Hoke, and G.T. Ankley. 1996. Extraction and analysis of low concentrations of DDT, DDE and DDD in small volumes of sediment pore water. *Chemosphere* 33:1341-54 #606

Denton, D.L. and T.J. Norberg-King. 1996. Whole effluent toxicity statistics: A regulatory perspective. In: *Whole effluent toxicity testing: An evaluation of methods and prediction of receiving system impacts*. D.R. Grothe, K.L. Dickson, and D.K. Reed-Judkins, eds. Pp. 83-102. SETAC Press, Pensacola, FL. #1996-4

Detenbeck, N.E., R. Hermanutz, K. Allen, and M.C. Swift. 1996. Fate and effects of the herbicide atrazine in flow-through wetland mesocosms. *Environ. Toxicol. Chem.* 15:937-46 #607

- Detenbeck, N.E., D.K. Taylor, A.R. Lima, and C.A. Hagley. 1996. Temporal and spatial variability in water quality of wetlands in the Minneapolis/St. Paul, MN metropolitan area: Implications for monitoring strategies and designs. *Environ. Monit. Assess.* 40:11-40 #608
- Devlin, E.W., J.D. Brammer, R.L. Puyear, and J.M. McKim. 1996. Prehatching development of the fathead minnow *Pimephales promelas* Rafinesque. EPA/600/R-96/079. National Health and Environmental Effects Research Laboratory, USEPA, Duluth, MN. #1996-7
- Dickson, K.L., W.T. Waller, J.H. Kennedy, L.P. Ammann, R. Guinn, and T.J. Norberg-King. 1996. Relationships between effluent toxicity, ambient toxicity, and receiving system impacts: Trinity River dechlorination case study. In: *Whole effluent toxicity testing: An evaluation of methods and prediction of receiving system impacts*. D.R. Grothe, K.L. Dickson, and D.K. Reed-Judkins, eds. Pp. 287-308. SETAC Press, Pensacola, FL. #1996-11
- Eaton, J.G. and R.M. Scheller. 1996. Effects of climate warming on fish thermal habitat in streams of the United States. *Limnol. Oceanogr.* 41:1109-15 #609
- Erickson, R.J., D.A. Benoit, V.R. Mattson, H.P. Nelson, Jr., and E.N. Leonard. 1996. The effects of water chemistry on the toxicity of copper to fathead minnows. *Environ. Toxicol. Chem.* 15:181-93 #610
- Erickson, T.R. and H.G. Stefan. 1996. Correlations of Oklahoma stream temperatures with air temperatures. Environmental Research Laboratory, USEPA, Duluth, MN. #1996-33
- Fairchild, D.J. and J.H. McCormick. 1996. Effects of temperature on hatching and development of ruffe (*Gymnocephalus cernuus*). *J. Great Lakes Res.* 22:89-94 #611
- Fang, X. and H.G. Stefan. 1996. Development and validation of the water quality model MINLAKE96 with winter data. Environmental Research Laboratory, USEPA, Duluth, MN. #1996-32
- Gailani, J., W. Lick, C.K. Ziegler, and D. Endicott. 1996. Development and calibration of a fine-grained sediment transport model for the Buffalo River. *J. Great Lakes Res.* 22:765-778. #1996-8
- Guiney, P.D., P.M. Cook, J.M. Casselman, J.D. Fitzsimmons, H.A. Simonin, E.W. Zabel, and R.E. Peterson. 1996. Assessment of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin induced sac fry mortality in lake trout (*Salvelinus namaycush*) from different regions of the Great Lakes. *Can. J. Fish. Aquat. Sci.* 53:2080-2092 #637
- Gurka, D.F., R. Titus, K. Robins, A. Wong, C.J. Wurrey, J.R. Durig, Z. Shen, and L.P. Burkhard. 1996. Environmental analysis by *ab initio* quantum mechanical computation and gas chromatography/Fourier transform infrared spectrometry. *Anal. Chem.* 68:4221-27 #638
- Hansen, D.J., W.J. Berry, J.D. Mahony, W.S. Boothman, D.M. Di Toro, D.L. Robson, G.T. Ankley, D. Ma, Q. Yan, and C.E. Pesch. 1996. Predicting the toxicity of metal-contaminated

field sediments using interstitial concentration of metals and acid-volatile sulfide normalizations. *Environ. Toxicol. Chem.* 15:2080-2094 #612

Hassan, S.M., A.W. Garrison, H.E. Allen, D.M. Di Toro, and G.T. Ankley. 1996. Estimation of partition coefficients for five trace metals in sandy sediments and application to sediment quality criteria. *Environ. Toxicol. Chem.* 15:2198-208 #613

Hockett, R.J. and D.R. Mount. 1996. Use of metal chelating agents to differentiate among sources of acute aquatic toxicity. *Environ. Toxicol. Chem.* 15:1687-93 #614

Jepsen, R. and W. Lick. 1996. Parameters affecting the adsorption of PCBs to suspended sediments from the Detroit River. *J. Great Lakes Res.* 22:341-353. #1996-28

Jude, D.J. and S.F. DeBoe. 1996. Possible impact of gobies and other introduced species on habitat restoration efforts. *Can. J. Fish. Aquat. Sci.* 53 (Suppl. 1):136-141. #1996-1

Karabunarliev, S., O.G. Mekenyan, W. Karcher, C.L. Russom, and S.P. Bradbury. 1996. Quantum-chemical descriptors for estimating the acute toxicity of electrophiles to the fathead minnow (*Pimephales promelas*): An analysis based on molecular mechanisms. *Quant. Struct.-Act. Relat.* 15:302-10 #615

Karabunarliev, S., O.G. Mekenyan, W. Karcher, C.L. Russom, and S.P. Bradbury. 1996. Quantum-chemical descriptors for estimating the acute toxicity of substituted benzenes to the guppy (*Poecilia reticulata*) and fathead minnow (*Pimephales promelas*). *Quant. Struct.-Act. Relat.* 15:311-20 #616

Katopodes, N.D. and M. Piasecke. 1996. Site and size optimization of contaminant sources in surface water systems. *J. Environ. Eng.* 122(10):917-923. #1996-23

Kavlock, R.J. and G.T. Ankley. 1996. A perspective on the risk assessment process for endocrine-disruptive effects on wildlife and human health. *Risk Anal.* 16:731-39 #617

Keough, J.R., M.E. Sierszen, and C.A. Hagley. 1996. Analysis of a Lake Superior coastal food web with stable isotope techniques. *Limnol. Oceanogr.* 41:136-146 #618

Leonard, E.N., G.T. Ankley, and R.A. Hoke. 1996. Evaluation of metals in marine and freshwater surficial sediments from the environmental monitoring and assessment program relative to proposed sediment quality criteria for metals. *Environ. Toxicol. Chem.* 15:2221-32 #619

Leonard, E.N., A.M. Cotter, and G.T. Ankley. 1996. Modified diffusion method for analysis of acid volatile sulfides and simultaneously extracted metals in freshwater sediment. *Environ. Toxicol. Chem.* 15:1479-81 #620

Liber, K., D.J. Call, T.D. Dawson, F.W. Whiteman, and T.M. Dillon. 1996. Effects of *Chironomus tentans* larval growth retardation on adult emergence and ovipositing success: Implications for interpreting freshwater sediment bioassays. *Hydrobiologia* 323:155-67 #621

- Liber, K., D.J. Call, T.P. Markee, K.L. Schmude, M.D. Balcer, F.W. Whiteman, and G.T. Ankley. 1996. Effects of acid-volatile sulfide on zinc bioavailability and toxicity to benthic macroinvertebrates: A spiked-sediment field experiment. *Environ. Toxicol. Chem.* 15:2113-25 #622
- Lick, W. and V. Rapaka. 1996. A quantitative analysis of the dynamics of the sorption of hydrophobic organic chemicals to suspended sediments. *Environ. Toxicol. Chem.* 15(7):1038-1048. #1996-21
- McKim, J.M., J.W. Nichols, G.J. Lien, A.D. Hoffman, C.A. Gallinat, and G.N. Stokes. 1996. Dermal absorption of three waterborne chloroethanes in rainbow trout (*Oncorhynchus mykiss*) and channel catfish (*Ictalurus punctatus*). *Fundam. Appl. Toxicol.* 31:218-28 #623
- McNeil, J., C. Taylor, and W. Lick. 1996. Measurements of erosion of undisturbed bottom sediments with depth. *J. Hydraulic Eng.* 122:316-324. #1996-22
- Mekenyan, O.G., S.P. Bradbury, and V.B. Kamenska. 1996. Estimating one-electron reduction potentials of quinones. *SAR QSAR Environ. Res.* 5:255-68 #640
- Mekenyan, O.G., T.W. Schultz, G.D. Veith, and V. Kamenska. 1996. "Dynamic" QSAR for semicarbazide-induced mortality in frog embryos. *J. Appl. Toxicol.* 16:355-63 #652
- Mekenyan, O.G., G.D. Veith, D.J. Call, and G.T. Ankley. 1996. A QSAR evaluation of Ah receptor binding of halogenated aromatic xenobiotics. *Environ. Health Perspect.* 104:1302-10 #624
- Nichols, J.W., J.M. McKim, G.J. Lien, A.D. Hoffman, S.L. Bertelsen, and C.M. Elonen. 1996. A physiologically based toxicokinetic model for dermal absorption of organic chemicals by fish. *Fundam. Appl. Toxicol.* 31:229-42 #625
- O'Halloran, S.L., K. Liber, K.L. Schmude, and T.D. Corry. 1996. Effects of diflubenzuron on benthic macroinvertebrates in littoral enclosures. *Arch. Environ. Contam. Toxicol.* 30:444-451. #1996-13
- Peterson, G.S., G.T. Ankley, and E.N. Leonard. 1996. Effect of bioturbation on metal-sulfide oxidation in surficial freshwater sediments. *Environ. Toxicol. Chem.* 15:2147-55 #626
- Rasmussen, A.H. and H.G. Stefan. 1996. Climate change effects on water temperature and dissolved oxygen in five North Carolina lakes. Environmental Research Laboratory, USEPA, Duluth, MN. #1996-30
- Rathbun, J.E., L.L. Huellmantel, M. Tracy, V.E. Smith, and K. Ahlgren. 1996. Rapid sediment assessment: indicator analysis and screening analysis approaches. *J. Great Lakes Res.* 22:523-533. #1996-27

Russom, C. and S. Bradbury. 1996. ECOTOX released: an integration of three USEPA ecotoxicity databases. *SETAC News* 16(4):19, 24. #1996-15

Serrano, J., C.M. Palmeira, K.B. Wallace, and D.W. Kuehl. 1996. Determination of 8-hydroxydeoxyguanosine in biological tissue by liquid chromatography/electrospray ionization-mass spectrometry/mass spectrometry. *Rap. Comm. Mass Spec.* 10:1789-91 #627

Sibley, P.K., G.T. Ankley, A.M. Cotter, and E.N. Leonard. 1996. Predicting chronic toxicity of sediments spiked with zinc: An evaluation of the acid-volatile sulfide model using a life-cycle test with the midge *Chironomus tentans*. *Environ. Toxicol. Chem.* 15:2102-12 #628

Sierszen, M.E., J.R. Keough, and C.A. Hagley. 1996. Trophic analysis of ruffe (*Gymnocephalus cernuus*) and white perch (*Morone americana*) in a Lake Superior coastal food web, using stable isotope techniques. *J. Great Lakes Res.* 22:436-443 #629

Skoglund, R.S., K. Stange, and D.L. Swackhamer. 1996. A kinetics model for predicting the accumulation of PCBs in phytoplankton. *Environ. Sci. Technol.* 30(7):2113-2120. #1996-29

Smith, V.E., J.E. Rathbun, S.G. Rood, and L.L. Huellmantel. 1996. Technical consideration in sediment quality surveys. *J. Great Lakes Res.* 22(3):512-522. #1996-26

Stefan, H.G., M. Hondzo, X. Fang, J.G. Eaton, and J.H. McCormick. 1996. Simulated long-term temperature and dissolved oxygen characteristics of lakes in the north-central United States and associated fish habitat limits. *Limnol. Oceanogr.* 41:1124-35 #630

Tanner, D.K. and M.L. Knuth. 1996. Effects of esfenvalerate on the reproductive success of the bluegill sunfish, *Lepomis macrochirus* in littoral enclosures. *Arch. Environ. Contam. Toxicol.* 31:244-51 #631

Trebitz, A.S. and N. Nibbelink. 1996. Effect of pattern of vegetation removal on growth of bluegill: A simple model. *Can. J. Fish. Aquat. Sci.* 53:1844-51 #632

Tye, R., R. Jepsen, and W. Lick. 1996. Effects of colloids, flocculation, particle size, and organic matter on the adsorption of hexachlorobenzene to sediments. *Environ. Toxicol. Chem.* 15(5):643-651. #1996-20

Velleux, M., J. Gailani, and D. Endicott. 1996. Screening-level approach for estimating contaminant export from tributaries. *J. Environ. Eng.* 122(6):503-514. #1996-2

Walker, M.K., P.M. Cook, B.C. Butterworth, E.W. Zabel, and R.E. Peterson. 1996. Potency of a complex mixture of polychlorinated dibenzo-*p*-dioxin, dibenzofuran, and biphenyl congeners compared to 2,3,7,8-tetrachlorodibenzo-*p*-dioxin in causing fish early life stage mortality. *Fundam. Appl. Toxicol.* 30:178-86 #633

Whiteman, F.W., G.T. Ankley, M.D. Kahl, D.M. Rau, and M.D. Balcer. 1996. Evaluation of interstitial water as a route of exposure for ammonia in sediment tests with benthic macroinvertebrates. *Environ. Toxicol. Chem.* 15:794-801 #634

Yurista, P.M. and K.L. Schulz. 1996. Comments on "A model for growth, development, and diet selection by the invertebrate predator *Bythotrephes cederstroemi*" by J.T. Lehman and D.K. Branstrator (in *J. Great Lakes Res.* 21:610-619). *J. Great Lakes Res.* 22(4):925-929. #1996-19

1995

Ankley, G.T. and S.A. Collyard. 1995. Influence of piperonyl butoxide on the toxicity of organophosphate insecticides to three species of freshwater benthic invertebrates. *Comp. Biochem. Physiol.* 110C:149-55 #552

Ankley, G.T., R.J. Erickson, G.L. Phipps, V.R. Mattson, P.A. Kosian, B.R. Sheedy, and J.S. Cox. 1995. Effects of light intensity on the phototoxicity of fluoranthene to a benthic macroinvertebrate. *Environ. Sci. Technol.* 29:2828-33 #553

Ankley, G.T. and M.K. Schubauer-Berigan. 1995. Background and overview of current sediment toxicity identification evaluation procedures. *J. Aquat. Ecosys. Health.* 4:133-49 #554

Ankley, G.T., M.K. Schubauer-Berigan, and P.D. Monson. 1995. Influence of pH and hardness on toxicity of ammonia to the amphipod *Hyalella azteca*. *Can. J. Fish. Aquat. Sci.* 52:2078-83 #555

Arthur, J.W., Roush, T., Thompson, J.A., Puglisi, F.A., Richards, C., Host, G.E., and Johnson, L.B. 1995. Evaluation of watershed quality in the Saginaw River basin. EPA/600/R-95-153. ORD, NHEERL, Duluth, MN.

Bradbury, S.P. 1995. Ecological risk assessment for chemical stressors: Challenges in predictive ecotoxicology research. *Aust. J. Ecotox.* 1:3-9 #556

Bradbury, S.P. 1995. Quantitative structure-activity relationships and ecological risk assessment: An overview of predictive aquatic toxicology research. *Toxicol. Lett.* 79:229-37 #557

Bradbury, S.P., O.G. Mekenyan, G.D. Veith, and N. Zaharieva. 1995. SAR models for futile metabolism: One-electron reduction of quinones, phenols and nitrobenzenes. *SAR QSAR Environ. Res.* 4:109-24 #558

Broderius, S.J., M.D. Kahl, and M.D. Hoglund. 1995. Use of joint toxic response to define the primary mode of toxic action for diverse industrial organic chemicals. *Environ. Toxicol. Chem.* 14:1591-605 #559

Burkhard, L.P. and P. Cook. 1995. Methods for incorporation of biomagnification and bioavailability into Great Lakes Water Quality Initiative bioaccumulation factors. In: *Abstract*

Book, *Second SETAC World Congress (16th Annual Meeting)*, Vancouver, British Columbia, Canada, Society of Environ. Toxicol. Chem., Pensacola, FL. #1995-27

Burkhard, L.P. and B.R. Sheedy. 1995. Evaluation of screening procedures for bioconcentratable organic chemicals in effluents and sediments. *Environ. Toxicol. Chem.* 14:697-711 #560

Burle, L. 1995. Time of exposure based toxicity of zinc to the freshwater crustaceans *Ceriodaphnia dubia* and *Hyalella azteca*. Vol. 1: Report and Vol. 2: Graphs and appendices. Final report. Ecole Nationale du Génie de l'Eau et de l'Environnement de Strasbourg, France. #1995-16

Cardenas, M., J. Gailani, C.K. Ziegler, and W. Lick. 1995. Sediment transport in the lower Saginaw River. *Mar. Freshwater Res.* 46:337-347. #1995-21

Danielsen, K.M., Y.-P. Chin, J.S. Buterbaugh, T.L. Gustafson, and S.J. Traina. 1995. Solubility enhancement and fluorescence quenching of pyrene by humic substances: The effect of dissolved oxygen on quenching processes. *Environ. Sci. Technol.* 29:2162-2165. #1995-20

Eaton, J.G., J.H. McCormick, B.E. Goodno, D.G. O'Brien, H.G. Stefan, M. Hondzo, and R.M. Scheller. 1995. A field information-based system for estimating fish temperature tolerances. *Fisheries* 20:10-18 #561

Eaton, J.G., J.H. McCormick, H.G. Stefan, and M. Hondzo. 1995. Extreme value analysis of a fish/temperature field database. *Ecol. Eng.* 4:289-305 #562

Herman, L.J. 1995. Water-conditioning tank to control supersaturation and temperature. *Prog. Fish Cult.* 57:164-65 #563

Hoke, R.A., G.T. Ankley, and J.R. Peters. 1995. Use of a freshwater sediment quality database in an evaluation of sediment quality criteria based on equilibrium partitioning and screening-level concentrations. *Environ. Toxicol. Chem.* 14:451-59 #564

Hoke, R.A., P.A. Kosian, G.T. Ankley, A.M. Cotter, F.M. VanderMeiden, G.L. Phipps, and E.J. Durhan. 1995. Check studies with *Hyalella azteca* and *Chironomus tentans* in support of the development of a sediment quality criterion for dieldrin. *Environ. Toxicol. Chem.* 14:435-43 #565

Holcombe, G.W., D.A. Benoit, D.E. Hammermeister, E.N. Leonard, and R.D. Johnson. 1995. Acute and long-term effects of nine chemicals on the Japanese medaka (*Oryzias latipes*). *Arch. Environ. Contam. Toxicol.* 28:287-97 #566

Ingersoll, C.G., G.T. Ankley, D.A. Benoit, E.L. Brunson, G.A. Burton, F.J. Dwyer, R.A. Hoke, P.F. Landrum, T.J. Norberg-King, and P.V. Winger. 1995. Toxicity and bioaccumulation of sediment-associated contaminants using freshwater invertebrates: A review of methods and applications. *Environ. Toxicol. Chem.* 14:1885-94 #567

Jepsen, R., S. Borglin, W. Lick, and D.L. Swackhamer. 1995. Parameters affecting the adsorption of hexachlorobenzene to natural sediments. *Environ. Toxicol. Chem.* 14(9):1487-1497. #1995-19

Jude, D.J., J. Janssen, and G. Crawford. 1995. Ecology, distribution, and impact of the newly introduced round tubenose gobies on the biota of the St. Clair & Detroit Rivers. In: *The Lake Huron ecosystem: Ecology, fisheries and management*. Munawar, M., T. Edsall, and J. Leach, eds. Pp. 447-460. Academic Publishing, Amsterdam, the Netherlands. #1995-6

Kletti, L.L. and H.G. Stefan. 1995. Empirical relationships between runoff and climate parameters: an analysis for Minnesota. Environmental Research Laboratory, USEPA, Duluth, MN. #1995-25

Knuth, M.L. and L.J. Heinis. 1995. Distribution and persistence of diflubenzuron within littoral enclosure mesocosms. *J. Ag. Food Chem.* 43:1087-97 #568

Kosian, P.A., R.A. Hoke, G.T. Ankley, and F.M. VanderMeiden. 1995. Determination of dieldrin binding to dissolved organic material in sediment pore water using a reverse-phase separation technique. *Environ. Toxicol. Chem.* 14:445-50 #569

Kreis, R.G., Jr. 1995. Data and summary report for zebra mussel analyses from the Smithland Lock and Dam, Ohio River, and the Black Rock Lock, Niagara River. Report to Waterway Experiment Station, U.S. Army Engineers, Vicksburg, MI. #1995-15

Kuehl, D.W. and R. Haebler. 1995. Organochlorine, organobromine, metal, and selenium residues in bottlenose dolphins (*Tursiops truncatus*) collected during an unusual mortality event in the Gulf of Mexico, 1990. *Arch. Environ. Contam. Toxicol.* 28:494-99 #570

Lahvis, G.P., R.S. Wells, D.W. Kuehl, J.L. Stewart, H.L. Rhinehart, and C.S. Via. 1995. Decreased lymphocyte response in free-ranging bottlenose dolphins (*Tursiops truncatus*) are associated with increased concentrations of PCBs and DDT in peripheral blood. *Environ. Health Perspect.* 103:67-72 #571

Leonard, E.N., V.R. Mattson, and G.T. Ankley. 1995. Horizon-specific oxidation of acid volatile sulfide in relation to the toxicity of cadmium spiked into a freshwater sediment. *Arch. Environ. Contam. Toxicol.* 28:78-84 #572

Lick, W., Y.-J. Xu, and J. McNeil. 1995. Resuspension properties of sediments from the Fox, Saginaw, and Buffalo Rivers. *J. Great Lakes Res.* 21(2):257-274. #1995-22

Limno-Tech, Inc. 1995. A preliminary ecosystem modeling study of zebra mussels (*Dreissena polymorpha*) in Saginaw Bay, Lake Huron. Cooperative Agreement #CR-818560. Prepared for Great Lakes Program, State University of New York at Buffalo, Buffalo, NY by Environmental Research Laboratory-Duluth and Large Lakes and Rivers Research Branch, Grosse Ile, MI, USEPA. #1995-2

Martin, S.C., S.C. Hinz, P.W. Rodgers, V.J. Bierman, Jr., J.V. DePinto, and T.C. Young. 1995. Calibration of a hydraulic transport model for Green Bay, Lake Michigan. *J. Great Lakes Res.* 21(4):599-609. #1995-23

McKim, J.M. 1995. Early life stage toxicity tests. In: *Fundamentals of aquatic toxicology: Effects, environmental fate, and risk assessment, 2nd ed.* G.M. Rand, ed. Pp. 974-1011. #1995-12

Mekenyan, O.G., G.T. Ankley, G.D. Veith, and D.J. Call. 1995. QSARs for photoinduced toxicity of aromatic compounds. *SAR QSAR Environ. Res.* 4:139-45. #573

Mekenyan, O.G. and G.D. Veith. 1995. Synergism between QSAR modeling and physico-chemical principles. *SAR QSAR Environ. Res.* 4:155-65. #574

Mekenyan, O.G., G.D. Veith, S.P. Bradbury, and N. Zaharieva. 1995. SAR models for metabolic activation: Stability of organic cation intermediates. *Quant. Struct.-Act. Relat.* 14:264-69. #575

Moffett, M.F., L.E. Anderson, T. Corry, M.P. Hanratty, L.J. Heinis, M.L. Knuth, K. Liber, S.L. O'Halloran, K.L. Schmude, F.S. Stay, and D.K. Tanner. 1995. Effects, persistence and distribution of diflubenzuron in littoral enclosures. Final report. Mid-Continent Ecology Division, USEPA, Duluth, MN. #1995-1

Moll, R.A., D. Jude, R. Rossmann, G.V. Kantak, J. Barres, S. DeBoe, J. Giesy, and M. Tuchman. 1995. Movement and loadings of inorganic contaminants through the lower Saginaw River. *J. Great Lakes Res.* 21(1):17-34. #1995-11

Monson, P.D., G.T. Ankley, and P.A. Kosian. 1995. Phototoxic response of *Lumbriculus variegatus* to sediments contaminated by polycyclic aromatic hydrocarbons. *Environ. Toxicol. Chem.* 14:891-94 #576

Newsted, J.L., J.P. Giesy, G.T. Ankley, D.E. Tillitt, R.A. Crawford, J.W. Gooch, P.D. Jones, and M.S. Denison. 1995. Development of toxic equivalency factors for PCB congeners and the assessment of TCDD and PCB mixtures in rainbow trout. *Environ. Toxicol. Chem.* 14:861-71 #577

Nichols, J.W., C.P. Larsen, M.E. McDonald, G.J. Niemi, and G.T. Ankley. 1995. Bioenergetics-based model for accumulation of polychlorinated biphenyls by nestling tree swallows, *Tachycineta bicolor*. *Environ. Sci. Technol.* 29:604-12 #578

Phipps, G.L., V.R. Mattson, and G.T. Ankley. 1995. Relative sensitivity of three freshwater benthic macroinvertebrates to ten contaminants. *Arch. Environ. Contam. Toxicol.* 28:281-86 #579

Poff, N.L. and J.D. Allan. 1995. Functional organization of stream fish assemblages in relation to hydrological variability. *Ecology* 76(2):606-627. #1995-4

Richard, A.M., P. Wagner, R. Purdy, and G.D. Veith. 1995. Testing and screening technologies for review of chemicals in commerce: SAR/modeling. Environmental Research Laboratory, USEPA, Duluth, MN. #1995-13

Rossmann, R. 1995. Trace element concentrations in 1988 Saginaw Bay sediments: Comparison with historical data. In: The Lake Huron ecosystem: Ecology, fisheries and management. Munawar, M., T. Edsall, and J. Leach, Eds. Pp. 343-364. Academic Publishing, Amsterdam. #1995-8

Rozynov, B.V., D.W. Kuehl, and R.M. Carlson. 1995. Ion-molecule reactions of charged thiols with neutral epoxides in the collision cell of a tandem quadrupole mass spectrometer. A model for *in vivo* biomolecule reactions. *Eur. Mass Spectrom.* 1:519-24 #580

Russom, C.L., S.P. Bradbury, and A.R. Carlson. 1995. Use of knowledge bases and QSARs to estimate the relative ecological risk of agrichemicals: A problem formulation exercise. *SAR QSAR Environ. Res.* 4:83-95 #581

Schmieder, P.K., D.B. Lothenbach, J.E. Tietge, R.J. Erickson, and R.D. Johnson. 1995. [³H]-2,3,7,8-TCDD uptake and elimination kinetics of medaka (*Oryzias latipes*). *Environ. Toxicol. Chem.* 14:1735-43 #582

Schubauer-Berigan, M.K., P.D. Monson, C.W. West, and G.T. Ankley. 1995. Influence of pH on the toxicity of ammonia to *Chironomus tentans* and *Lumbriculus variegatus*. *Environ. Toxicol. Chem.* 14:713-17 #583

Schulz, K.L. and P.M. Yurista. 1995. Diet composition from allozyme analysis in the predatory cladoceran *Bythotrephes cederstroemi*. *Limnol. Oceanogr.* 40(4):821-826. #1995-17

Selgeby, J.H. 1995. Abundance, distribution, biology, and community impacts of invading Eurasian ruffe. Final report. Environmental Research Laboratory, USEPA, Duluth, MN. #1995-14

Sigford, A. 1995. Giving Lake Superior a check-up. *Lake Superior Magazine* 1995 (February-March):21-22. #1995-3

Sinokrot, B.A., H.G. Stefan, J.H. McCormick, and J.G. Eaton. 1995. Modeling of climate change effects on stream temperatures and fish habitats below dams and near groundwater inputs. *Clim. Change.* 30:181-200 #584

Stay, F.S. and A.W. Jarvinen. 1995. Use of microcosm and fish toxicity data to select mesocosm treatment concentrations. *Arch. Environ. Contam. Toxicol.* 28:451-58 #585

Stefan, H.G. and X. Fang. 1995. A methodology to estimate year-round effects of climate change on water temperature, ice and dissolved oxygen characteristics of temperate zone lakes

with application to Minnesota. Environmental Research Laboratory, USEPA, Duluth, MN. #1995-26

Stefan, H.G., X. Fang, D. Wright, J.G. Eaton, and J.H. McCormick. 1995. Simulation of dissolved oxygen profiles in a transparent, dimictic lake. *Limnol. Oceanogr.* 40:105-18 #586

Stefan, H.G., M. Hondzo, J. . Eaton, and J.H. McCormick. 1995. Validation of a fish habitat model for lakes. *Ecol. Modell.* 82:211-24 #587

Stefan, H.G., M. Hondzo, X. Fang, J.G. Eaton, and H.J. McCormick. 1995. Simulated long-term temperature and dissolved oxygen characteristics of Minnesota lakes and resulting habitat limits for fishes. #828

Stefan, H.G., M. Hondzo, J.G. Eaton, and J.H. McCormick. 1995. Predicted effects of global climate change on fishes in Minnesota lakes. In: *Climate change and northern fish populations*. R.J. Beamish, ed. Pp. 57-72. Canadian Special Publications of Fisheries and Aquatic Sciences 121. National Research Council of Canada. #1995-9

Stephan, C.E. 1995. Derivation of conversion factors for the calculation of dissolved freshwater aquatic life criteria for metals. #1995-30

Stoermer, E.F. and N.A. Andresen. 1995. Diatom studies under EMAP Great Lakes. Large Lakes Research Station, Environmental Research Laboratory-Duluth, Office of Research and Development, USEPA, Grosse Ile, MI. #1995-7

Tanner, D.K. and M.L. Knuth. 1995. Effects of azinphos-methyl on the reproductive success of the bluegill sunfish, *Lepomis macrochirus*, in littoral enclosures. *Ecotoxicol. Environ. Saf.* 32:184-93 #588

Tanner, D.K. and M.F. Moffett. 1995. Effects of diflubenzuron on the reproductive success of the bluegill sunfish, *Lepomis macrochirus*. *Environ. Toxicol. Chem.* 14:1345-55 #589

Vaishnav, D.D. and R.L. Anderson. 1995. Uptake and loss of *Bacillus thuringiensis* var. *israelensis* by *Daphnia magna* in laboratory exposure. *Environ. Toxicol. Chem.* 14:763-66 #590

Veith, G.D., O.G. Mekenyan, G.T. Ankley, and D.J. Call. 1995. A QSAR analysis of substituent effects on the photoinduced toxicity of PAHs. *Chemosphere* 30:2129-42 #591

Veith, G.D., O.G. Mekenyan, G.T. Ankley, and D.J. Call. 1995. QSAR evaluation of a-terthienyl phototoxicity. *Environ. Sci. & Technol.* 29:1267-72 #592

Velleux, M., D. Endicott, J. Steuer, S. Jaeger, and D. Patterson. 1995. Long-term simulation of PCB export from the Fox River to Green Bay. *J. Great Lakes Res.* 21(3):359-372. #1995-5

Verbrugge, D.A., J.P. Giesy, M.A. Mora, L.L. Williams, R. Rossmann, R.A. Moll, and M.

Tuchman. 1995. Concentrations of dissolved and particulate polychlorinated biphenyls in water from the Saginaw River, Michigan. *J. Great Lakes Res.* 21(2):219-233. #1995-10

Yurista, P.M. and K.L. Schulz. 1995. Bioenergetic analysis of prey consumption by *Bythotrephes cederstroemi* in Lake Michigan. *Can. J. Fish. Aquat. Sci.* 52:141-150. #1995-18

Zabel, E.W., R.E. Peterson, and P.M. Cook. 1995. Potency of 3,3',4,4',5-Pentachlorobiphenyl (PCB 126) and 2,3,7,8 Tetrachlorodibenzo-*p*-dioxin (TCDD), to produce lake trout early life stage mortality. In: *Abstract Book, Second SETAC World Congress (16th Annual Meeting)*, Vancouver, British Columbia, Canada, Society of Environ. Toxicol. Chem., Pensacola, FL. #1995-28

Zabel, E.W., P.M. Cook, and G.S. Peterson. 1995. Potency of 3,3',4,4',5-pentachlorobiphenyl (PCB 126), alone and in combination with 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD), to produce lake trout early life-stage mortality. *Environ. Toxicol. Chem.* 14:2175-79 #593

Zabel, E.W., P.M. Cook, and R.E. Peterson. 1995. Toxic equivalency factors of polychlorinated dibenzo-*p*-dioxin, dibenzofuran and biphenyl congeners based on early life stage mortality in rainbow trout (*Oncorhynchus mykiss*). *Aquat. Toxicol.* 31:315-28 #594

1994

Ankley, G.T., D.A. Benoit, J.C. Balogh, T.B. Reynoldson, K.E. Day, and R.A. Hoke. 1994. Evaluation of potential confounding factors in sediment toxicity tests with three freshwater benthic invertebrates. *Environ. Toxicol. Chem.* 13:627-35 #521

Ankley, G.T., D.J. Call, J.S. Cox, M.D. Kahl, R.A. Hoke, and P.A. Kosian. 1994. Organic carbon partitioning as a basis for predicting the toxicity of chlorpyrifos in sediments. *Environ. Toxicol. Chem.* 13:621-26 #522

Ankley, G.T., S.A. Collyard, P.D. Monson, and P.A. Kosian. 1994. Influence of ultraviolet light on the toxicity of sediments contaminated with polycyclic aromatic hydrocarbons. *Environ. Toxicol. Chem.* 13:1791-96 #523

Ankley, G.T., E.N. Leonard, and V.R. Mattson. 1994. Prediction of bioaccumulation of metals from contaminated sediments by the oligochaete, *Lumbriculus variegatus*. *Water Res.* 28:1071-76 #524

Ankley, G.T. and M.K. Schubauer-Berigan. 1994. Comparison of techniques for the isolation of sediment pore water for toxicity testing. *Arch. Environ. Contam. Toxicol.* 27:507-12 #525

Ankley, G.T., N.A. Thomas, D.M. Di Toro, D.J. Hansen, J.D. Mahony, W.J. Berry, R.C. Swartz, R.A. Hoke, A.W. Garrison, H.E. Allen, and C.S. Zarba. 1994. Assessing potential bioavailability of metals in sediments: A proposed approach. *Environ. Manage.* 18:331-37 #526

Arthur, J.W. and Zischke, J.A. 1994. Evaluation of watershed quality in the Minnesota River basin. EPA 600/R-94-143. Environmental Research Laboratory, Office of Research and Development, USEPA, Duluth, MN.

Bahnick, D., C.P. Sauer, B.C. Butterworth, and D.W. Kuehl. 1994. A national study of mercury contamination in fish IV: Analytical methods and results. *Chemosphere* 29:537-46 #527

Basak, S.C., S. Bertelsen, and G.D. Grunwald. 1994. Application of graph theoretical parameters in quantifying molecular similarity and structure-activity relationships. *J. Chem. Info. Comp. Sci.* 34:270-276. #1994-3

Bradbury, S.P. 1994. Predicting modes of toxic action from chemical structure: An overview. *SAR QSAR Environ. Res.* 2:89-104 #528

Brazner, J.C. and J.J. Magnuson. 1994. Patterns of fish species richness and abundance in coastal marshes and other nearshore habitats in Green Bay, Lake Michigan. *Verh. Internat. Verein. Limnol.* 25:2098-104 #529

Brooke, L.T. and R.L. Spehar. 1994. Nonylphenol analysis. USEPA, Environmental Research Laboratory, Duluth, MN 55804. #1994-19

Bruner, K.A., S.W. Fisher, and P.F. Landrum. 1994. The role of the zebra mussel, *Dreissena polymorpha*, in contaminant cycling: I. The effect of body size and lipid content on the bioconcentration of PCBs and PAHs. *J. Great Lakes Res.* 20(4):725-734. #1994-27

Bruner, K.A., S.W. Fisher, and P.F. Landrum. 1994. The role of the zebra mussel, *Dreissena polymorpha*, in contaminant cycling: II. Zebra mussel contaminant accumulation from algae and suspended particles, and transfer to the benthic invertebrate, *Gammarus fasciatus*. *J. Great Lakes Res.* 20(4):735-750. #1994-26

Burkhard, L.P., B.R. Sheedy, and D.J. McCauley. 1994. Prediction of chemical residues in aquatic organisms for a field discharge situation. *Chemosphere* 29:141-53 #530

Call, D.J., L.T. Brooke, G.T. Ankley, D.A. Benoit, and R.A. Hoke. 1994. Appendix G: Biological effects testing procedures. In: *Great Lakes dredged material testing and evaluation manual*. Great Lakes National Program Office, USEPA; and North Central Division, U.S. Army Corps of Engineers. #1994-10

Chin, Y.-P., G. Aiken, and E. O'Loughlin. 1994. Molecular weight, polydispersity, and spectroscopic properties of aquatic humic substances. *Environ. Sci. Technol.* 28(10):1853-1858. #1994-25

Collyard, S.A., G.T. Ankley, R.A. Hoke, and T.A. Goldenstein. 1994. Influence of age on the relative sensitivity of *Hyalella azteca* to diazinon, alkylphenol ethoxylates, copper, cadmium, and zinc. *Arch. Environ. Contam. Toxicol.* 26:110-113 #531

DePinto, J.V., T.L. Theis, T.C. Young, and S.T. Leach. 1994. Predicting metals partitioning during resuspension events. In: *Transport and transformation of contaminants near the sediment-water interface*. DePinto, Joseph V., Wilbert Lick, and John F. Paul, eds. Lewis Publishers, Boca Raton, FL. Pp. 177-203. #1994-4

Detenbeck, N. 1994. Ecological risk assessment case study: Effects of physical disturbance on water quality status and water quality improvement function of urban wetlands. In: *A review of ecological assessment case studies for a risk assessment perspective, vol. II*. Pp. 4.1-4.58. EPA 630/R-94/003. USEPA, ORD, Washington, D.C. #1994-17

Endicott, D.D. and P.M. Cook. 1994. Modeling the partitioning and bioaccumulation of TCDD and other hydrophobic organic chemicals in Lake Ontario. *Chemosphere* 28:75-87 #532

Erickson, R.J., T.D. Bills, J.R. Clark, D.J. Hansen, J. Knezoich, F.L. Mayer, Jr., and A.E. McElroy. 1994. Synopsis of discussion session on physiological factors affecting toxicity. In: *Bioavailability: Physical, chemical, and biological interactions*. J.L. Hamelink, P.F. Landrum, H.L. Bergman, and W.H. Benson, eds. Pp. 31-38. Lewis Publishers, Boca Raton, FL. #1994-8

Fairchild, J., S. Ruessler, M. Nelson, and P. Haverland. 1994. Bioavailability and toxicity of agricultural chemicals in runoff from MSEA sites: Potential impacts on non-target aquatic organisms: An aquatic hazard assessment of four herbicides using six species of algae and five species of aquatic macrophytes. Final report for IAG DW14935600-01-2. Environmental Research Laboratory, USEPA, Duluth, MN. #1994-15

Fang, X. and H.G. Stefan. 1994. Modeling of dissolved oxygen stratification dynamics in Minnesota lakes under different climate scenarios. Project Report No. 339, St. Anthony Falls Hydraulic Laboratory, University of Minnesota, Minneapolis, MN. Prepared for Environmental Research Laboratory, USEPA, Duluth, MN. #1994-12

Fang, X. and H.G. Stefan. 1994. Temperature and dissolved oxygen simulations for a lake with ice cover. Environmental Research Laboratory, USEPA, Duluth, MN. #1994-29

Filkins, J.C., V.E. Smith, and S.G. Rood. 1994. Sediment sampling surveys. In: *Assessment and Remediation of Contaminated Sediments (ARCS) Program -- Assessment Guidance Document*, pp. 33-56. Great Lakes National Program Office, USEPA, Chicago, IL. EPA/905/B-94/002. #1994-23

Freeman, J.A., J.V. Johnson, R.A. Yost, and D.W. Kuehl. 1994. Gas-phase ion-molecule reactions: A model for the determination of biologically reactive electrophilic contaminants in the environment. *Anal. Chem.* 66:1902-10 #533

Hanratty, M.P. and F.S. Stay. 1994. Field evaluation of the Littoral Ecosystem Risk Assessment Model's prediction of the effects of chlorpyrifos. *J. Appl. Ecol.* 31:439-53 #534

Hoke, R.A., G.T. Ankley, A.M. Cotter, T.A. Goldenstein, P.A. Kosian, G.L. Phipps, and F.M. VanderMeiden. 1994. Evaluation of equilibrium partitioning theory for predicting acute toxicity

of field-collected sediments contaminated with DDT, DDE and DDD to the amphipod *Hyalella azteca*. *Environ. Toxicol. Chem.* 13:157-66 #535

Ingersoll, C.G., Ankley, G.T., Burton, G.A., Dwyer, F.J., Hoke, R.A., Norberg-King, T.J., and Winger, P.V. 1994. Methods for measuring the toxicity and bioaccumulation of sediment-associated contaminants with freshwater invertebrates. EPA/600/R-94/024. Office of Research and Development, USEPA, Duluth, MN.

Keough, J.R. 1994. Understanding Great Lakes food webs using stable isotope signatures. *Great Lakes Wetlands* 5(4):1-2, 9-10. #1994-9

Keough, J.R. and J. Griffin. 1994. Technical workshop on EMAP indicators for Great Lakes Coastal Wetlands. #1994-20

Kuehl, D.W., B.C. Butterworth, and P.J. Marquis. 1994. A national study of chemical residues in fish III: Study results. *Chemosphere* 29:523-35 #536

Kuehl, D.W., R. Haebler, and C. Potter. 1994. Coplanar PCB and metal residues in dolphins from the U.S. Atlantic coast including Atlantic bottlenose obtained during the 1987/88 mass mortality. *Chemosphere* 28:1245-53 #537

Kuehl, D.W., J. Serrano, and S. Naumann. 1994. Identification of potentially mutagenic contaminants in the aquatic environment by liquid chromatographic-thermospray mass spectrometric characterization of in vitro DNA adducts. *J. Chromatography A* 684:113-19 #538

Lick, W., J. Lick, and C.K. Ziegler. 1994. The resuspension and transport of fine-grained sediments in Lake Erie. *J. Great Lakes Res.* 20(4):599-612. #1994-28

Lien, G.J., J.W. Nichols, J.M. McKim, and C.A. Gallinat. 1994. Modeling the accumulation of three waterborne chlorinated ethanes in fathead minnows (*Pimephales promelas*): A physiologically based approach. *Environ. Toxicol. Chem.* 13:1195-205 #539

Mackenthun, A.A. and H.G. Stefan. 1994. Experimental study of sedimentary oxygen demand in lakes: Dependence on near-bottom flow velocities and sediment properties. Project Report No. 358, St. Anthony Falls Hydraulic Laboratory, University of Minnesota, Minneapolis, MN. Prepared for Environmental Research Laboratory, USEPA, Duluth, MN. #1994-11

Marquis, P.J., M. Hackett, L.G. Holland, M.L. Larsen, B.C. Butterworth, and D.W. Kuehl. 1994. Analytical methods for a national study of chemical residues in fish I: Polychlorinated dibenzo-*p*-dioxins/dibenzofurans. *Chemosphere* 29:495-508 #540

Marquis, P.J., R.L. Hanson, M.L. Larsen, W.M. DeVita, B.C. Butterworth, and D.W. Kuehl. 1994. Analytical methods for a national study of chemical residues in fish II: Pesticides and polychlorinated biphenyls. *Chemosphere* 29:509-21 #541

McKim, J.M. 1994. Physiological and biochemical mechanisms that regulate the accumulation and toxicity of environmental chemicals in fish. In: *Bioavailability: Physical, chemical, and biological interactions*. J.L. Hamelink, P.F. Landrum, H.L. Bergman, and W.H. Benson, eds. Pp. 179-201. Lewis Publishers, Boca Raton, FL. #1994-7

McKim, J.M. and J.W. Nichols. 1994. Use of physiologically based toxicokinetic models in a mechanistic approach to aquatic toxicology. In: *Aquatic toxicology: Molecular, biochemical, and cellular perspectives*. D.C. Malins and G.K. Ostrander, eds. Pp. 469-519. Lewis Publishers, Boca Raton, FL. #1994-6

McKim, J.M., J.W. Nichols, G.J. Lien, and S.L. Bertelsen. 1994. Respiratory-cardiovascular physiology and chloroethane gill flux in the channel catfish, *Ictalurus punctatus*. *J. Fish Biol.* 44:527-47 #542

Mekenyan, O.G., G.T. Ankley, G.D. Veith, and D.J. Call. 1994. QSAR estimates of excited states and photoinduced acute toxicity of polycyclic aromatic hydrocarbons. *SAR QSAR Environ. Res.* 2:237-47 #543

Mekenyan, O.G., G.T. Ankley, G.D. Veith, and D.J. Call. 1994. QSARs for photoinduced toxicity: I. Acute lethality of polycyclic aromatic hydrocarbons to *Daphnia magna*. *Chemosphere* 27:567-82 #544

Mekenyan, O.G., J.M. Ivanov, G.D. Veith, and S.P. Bradbury. 1994. Dynamic QSAR: A new search for active conformations and significant stereoelectronic indices. *Quant. Struct.-Act. Relat.* 13:302-7 #545

Mekenyan, O.G. and G.D. Veith. 1994. The electronic factor in QSAR: MO-parameters, competing interactions, reactivity and toxicity. *SAR QSAR Environ. Res.* 2:129-43 #546

Mohseni, O. and H.G. Stefan. 1994. Climate change effect on water resources. Part 1: Evaporation. External Memorandum No. M-238, St. Anthony Falls Hydraulic Laboratory, University of Minnesota, Minneapolis, MN. Prepared for Environmental Research Laboratory, USEPA, Duluth, MN. #1994-13

Nestrud, L.B. and R.L. Anderson. 1994. Aquatic safety of *Lagenidium giganteum*: Effects on freshwater fish and invertebrates. *J. Invertebr. Pathol.* 64:228-33 #547

Nichols, J.W., P. Rheingans, D.B. Lothenbach, R. McGeachie, L. Skow, and J.M. McKim. 1994. Three-dimensional visualization of physiologically based kinetic model outputs. *Environ. Health Perspect.* 102:952-56 #548

Rasmussen, A.H., M. Honzo, and H.G. Stefan. 1994. A test of several evaporation equations for water temperature simulations in lakes. External Memorandum No. M-237, St. Anthony Falls Hydraulic Laboratory, University of Minnesota, Minneapolis, MN. Prepared for Environmental Research Laboratory, USEPA, Duluth, MN. #1994-14

- Rathbun, J.E., L.L. Huellmantel, M. Tracy, and K. Ahlgren. 1994. Screening-level analyses. In: *Assessment and Remediation of Contaminated Sediments (ARCS) Program -- Assessment Guidance Document*, pp. 57-68. Great Lakes National Program Office, USEPA, Chicago, IL. EPA 905/B-94/002. #1994-21
- Rood, S.G., V.E. Smith, J.C. Filkins, M.L. Wildhaber, and C.J. Schmitt. 1994. Data presentation and interpretation. In: *Assessment and Remediation of Contaminated Sediments (ARCS) Program -- Assessment Guidance Document*, pp. 189-215. Great Lakes National Program Office, USEPA, Chicago, IL. EPA 905/B-94/002. #1994-24
- Rozynov, B.V., R.J. Liukkonen, R.M. Carlson, D.W. Kuehl, L.P. Smoliakova, R. Caple, C.J. Kuehl, and W.A. Smit. 1994. Mass spectral characterization of 3,4,6-tri-*O*-benzyl- β -D-glucopyranosides containing XC₆H₄S substituents of C(2). *Organic Mass Spec.* 29:309-14 #549
- Schumacher, B., R. Fox, J.C. Filkins, and B. Barrick. 1994. Quality assurance and quality control. In: *Assessment and Remediation of Contaminated Sediments (ARCS) Program -- Assessment Guidance Document*, pp. 10-32. Great Lakes National Program Office, USEPA, Chicago, IL. EPA 905/B-94/002. #1994-22
- Sorensen, J.A., Glass G.E., and K.W. Schmidt. 1994. Regional patterns of wet mercury deposition. *Environ. Sci. Technol.* 28:2025-32 #520
- Stefan, H.G. and X. Fang. 1994. Model simulations of dissolved oxygen characteristics of Minnesota lakes: Past and future. *Environ. Manage.* 18(1):73-92. #1994-1
- Stefan, H.G., M. Hondzo, X. Fang, A.H. Rasmussen, J.G. Eaton, and J.H. McCormick. 1994. Year-round water temperature and dissolved oxygen simulation model for lakes with winter ice cover. #827
- Swift, M.C., G.J. Niemi, and J.A. Perry. 1994. Predictive modeling and experimental design of lotic mesocosms. Final report to the Environmental Research Laboratory, USEPA, Duluth, MN. #1994-16
- Thomas, N.A. 1994. EPA/ORD role and perspective in sediment research. In: *Transport and transformation of contaminants near the sediment-water interface*. J.V. DePinto, W. Lick, and J.F. Paul, eds. Pp. 7-15. Lewis Publishers, Boca Raton, FL. #1994-5
- USEPA. 1994. Methods for measuring the toxicity and bioaccumulation of sediment-associated contaminants with freshwater invertebrates. EPA/600/R-99/064. ORD, Mid-Continent Ecology Division, Duluth, MN and Office of Science and Technology, Office of Water, Washington, DC.
- USEPA Environmental Research Laboratory Duluth. 1994. Environmental monitoring and assessment program (EMAP) for the Great Lakes: Quality Assurance FY94 Annual Report and FY95 Workplan. Environmental Monitoring and Assessment Program (EMAP) for the Great Lakes. #1994-18

USEPA Office of Water. Interim guidance on determination and use of water-effect ratios for metals. 1994. EPA/823/R-94/001. Office of Science and Technology, Washington, D.C. and Environmental Research Laboratories, ORD, Duluth, MN/Narragansett, RI.

Velleux, M. and D. Endicott. 1994. Development of a mass balance model for estimating PCB export from the lower Fox River to Green Bay. *J. Great Lakes Res.* 20(2):416-434. #1994-2

Walker, M.K., P.M. Cook, A.R. Batterman, B.C. Butterworth, C. Berini, J.J. Libal, L.C. Hufnagle, and R.E. Peterson. 1994. Translocation of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin from adult female trout (*Salvelinus namaycush*) to oocytes: Effects on early life stage development and sac fry survival. *Can. J. Fish. Aquat. Sci.* 51:1410-1419 #550

West, C.W., G.L. Phipps, R.A. Hoke, T.A. Goldenstein, F.M. VanderMeiden, P.A. Kosian, and G.T. Ankley. 1994. Sediment core versus grab samples: Evaluation of contamination and toxicity at a DDT-contaminated site. *Ecotoxicol. Environ. Saf.* 28:208-20 #551

1993

Ankley, G.T., D.A. Benoit, R.A. Hoke, E.N. Leonard, C.W. West, G.L. Phipps, V.R. Mattson, and L.A. Anderson. 1993. Development and evaluation of test methods for benthic invertebrates and sediments: Effects of flow rate and feeding on water quality and exposure conditions. *Arch. Environ. Contam. Toxicol.* 25:12-19 #490

Ankley, G.T., V.R. Mattson, E.N. Leonard, C.W. West, and J.L. Bennett. 1993. Predicting the acute toxicity of copper in freshwater sediments: Evaluation of the role of acid-volatile sulfide. *Environ. Toxicol. Chem.* 12:315-20 #491

Ankley, G.T., G.J. Niemi, K.B. Lodge, H.J. Harris, D.L. Beaver, D.E. Tillitt, T.R. Schwartz, J.P. Giesy, P.D. Jones, and C.A. Hagley. 1993. Uptake of planar polychlorinated biphenyls and 2,3,7,8-substituted polychlorinated dibenzofurans and dibenzo-*p*-dioxins by birds nesting in the lower Fox River and Green Bay, Wisconsin, USA. *Arch. Environ. Contam. Toxicol.* 24:332-44 #492

Arthur, J.W., T. Roush, A.R. Carlson, and C.T. Walbridge. 1993. Application of integrative procedures to evaluate Iowa watershed quality. In: *Agricultural research to protect water quality*. Proceedings, February 21-24, 1993, Minneapolis, MN. Pp. 137-139. Soil and Water Conservation Society, Ankeny, IA. #1993-16

Askegaard, T. and M. Balcer. 1993. Diet analysis of young-of-the-year rainbow smelt from Saginaw Bay. Environmental Research Laboratory, USEPA, Duluth, MN. #1993-19

Benoit, D.A., G.L. Phipps, and G.T. Ankley. 1993. A sediment testing intermittent renewal system for the automated renewal of overlying water in toxicity tests with contaminated sediments. *Water Res.* 27:1403-12 #493

Bradbury, S.P., J.M. Dady, P.N. Fitzsimmons, M.M. Voit, D.E. Hammermeister, and R.J. Erickson. 1993. Toxicokinetics and metabolism of aniline and 4-chloroaniline in medaka (*Oryzias latipes*). *Toxicol. Appl. Pharmacol.* 118:205-14 #494

Brezonik, P.L., J.G. Eaton, T.M. Frost, P.J. Garrison, T.K. Kratz, C.E. Mach, J.H. McCormick, J.A. Perry, W.A. Rose, C.J. Sampson, B.C.L. Shelley, W.A. Swenson, and K.E. Webster. 1993. Experimental acidification of Little Rock Lake, Wisconsin: Chemical and biological changes over the pH range 6.1 to 4.7. *Can. J. Fish. Aquat. Sci.* 50:1101-21 #495

Brooke, L.T. and R.L. Spehar. 1993. Acute and chronic toxicity of nonylphenol to ten species of aquatic organisms. USEPA, Environmental Research Laboratory, Duluth, MN. #1993-23

Brooke, L.T. and R.L. Spehar. 1993. Nonylphenol toxicity. USEPA, Environmental Research Laboratory, Duluth, MN. #1993-24

Burkhard, L.P. and J.J. Jenson. 1993. Identification of ammonia, chlorine, and diazinon as toxicants in a municipal effluent. *Arch. Environ. Contam. Toxicol.* 25:506-15 #496

Burkhard, L.P., Sheedy, B.R., and Thomas, N.A. 1993. Field evaluation of residue prediction procedures used in EPA's guidance: "assessment and control of bioconcentratable contaminants": the Louisiana study. EPA/833/R-93/002. Office of Research and Development, USEPA, Duluth, MN and Office of Water, USEPA, Washington, DC.

Call, D.J. 1993. Validation study of a protocol for testing the acute toxicity of pesticides to invertebrates using the apple snail (*Pomacea paludosa*). Report to USEPA from Lake Superior Research Institute, University of Wisconsin-Superior, Superior, WI. #1993-29

Cook, P.M., R.J. Erickson, R.L. Spehar, S.P. Bradbury and G.T. Ankley. 1993. Interim report on data and methods for assessment of 2,3,7,8-tetrachlorodibenzo-p-dioxin risks to aquatic life and associated wildlife. EPA/600/R-93/055. Environmental Research Laboratory, Office of Research and Development, USEPA, Duluth, MN.

DeLaune, R.D., W.H. Patrick, Jr., C.W. Lindau, J.H. Pardue, and P.H. Masscheleyn. 1993. Capacity of lower Mississippi valley wetlands to transform and assimilate anthropogenic substances. Final report for Cooperative Agreement CR816805-1, to USEPA, Environmental Research Laboratory, Duluth, MN. #1993-18

Detenbeck, N.E., C.A. Johnston, and G.J. Niemi. 1993. Wetland effects on lake water quality in the Minneapolis/St. Paul metropolitan area. *Landscape Ecol.* 8:39-61 #497

Dilks, D.W., J.S. Helfand, V.J. Bierman, Jr., and L.P. Burkhard. 1993. Field application of a steady-state mass balance model for hydrophobic organic chemicals in an estuarine system. *Wat. Sci. Tech.* 28:263-71 #655

Durhan, E.J., M.T. Lukasewycz, and S.E. Baker. 1993. Alternatives to methanol-water elution of solid-phase extraction columns for the fractionation of high log K_{ow} organic compounds in aqueous environmental samples. *J. Chromatogr.* 629:67-74 #498

ERL-Duluth. 1993. Guidelines for deriving site-specific sediment quality criteria for the protection of benthic organisms. Health and Ecological Criteria Division, Office of Science and Technology, USEPA, Washington, DC. #1993-30

Fairchild, J., M. Ort, S. Ruessler, A. Carlson, W. Donald, and J. Hatfield. 1993. Bioavailability and toxicity of agricultural chemicals in runoff from MSEA sites: Ecological impacts on non-target aquatic organisms. In: *Agricultural research to protect water quality*. Proceedings, February 21-24, 1993, Minneapolis, MN. Pp. 133-136. Soil and Water Conservation Society, Ankeny, IA. #1993-17

Fang, X., H.G. Stefan, and M.B. Davis. 1993. Status of climate change effect simulations for Mirror Lake, New Hampshire. Environmental Research Laboratory, USEPA, Duluth, MN. #1993-31

Featherstone, D., C.D. Drewes, J.R. Coats, and S.P. Bradbury. 1993. A non-invasive neurotoxicity assay using larval medaka. In: *Environmental toxicology and risk assessment, 2nd vol.* J.W. Gorsuch, F.J. Dwyer, C.G. Ingersoll, and T.W. La Point, eds. Pp. 275-288. ASTM STP 1216. American Society for Testing and Materials, Philadelphia, PA. #1993-12

Harris, H.J., T.C. Erdman, G.T. Ankley, and K.B. Lodge. 1993. Measures of reproductive success and polychlorinated biphenyl residues in eggs and chicks of Forster's terns on Green Bay, Lake Michigan, Wisconsin--1988. *Arch. Environ. Contam. Toxicol.* 25:304-14 #499

Hermanutz, R.O. and K. Allen. 1993. Effects and fate of atrazine in MERS wetland streams during spring--summer of 1992. USEPA Research Laboratory, Duluth, MN. #1993-3

Hoke, R.A., J.P. Giesy, M. Zabik, and M. Unger. 1993. Toxicity of sediments and sediment pore waters from the Grand Calumet River-Indiana Harbor, Indiana area of concern. *Ecotoxicol. Environ. Saf.* 26:86-112 #500

Hondzo, M., C.R. Ellis, and H.G. Stefan. 1993. Vertical diffusion in small stratified lake: Data and error analysis. EPA/600/A-93/003. 2728

Hondzo, M. and H.G. Stefan. 1993. Lake water temperature simulation model. *Journal of Hydraulic Engineering* 119(11):1251-1273. #1993-2

Hondzo, M. and H.G. Stefan. 1993. Regional water temperature characteristics of lakes subjected to climate change. *Climatic Change* 24:187-211. #1993-8

Johnson, R.D., J.E. Tietge, and G.N. Stokes. 1993. Validation of the medaka assay for chemical carcinogens. In: *Compendium of the FY 1988 and FY 1989 Research Reviews for the Research Methods Branch*. Pp. 45-60. U.S. Army Biomedical Research and Development Laboratory, Fort Detrick, Frederick, MD. #1993-13

Johnson, R.D., J.E. Tietge, G.N. Stokes, and D.B. Lothenbach. 1993. The medaka carcinogenesis model. In: *Compendium of the FY 1988 and FY 1989 Research Reviews for the Research Methods Branch*. Pp. 147-172. U.S. Army Biomedical Research and Development Laboratory, Fort Detrick, Frederick, MD. #1993-14

Jones, P.D., G.T. Ankley, D.A. Best, R.A. Crawford, N. DeGalan, J.P. Giesy, T.J. Kubiak, J.P. Ludwig, J.L. Newsted, D.E. Tillitt, and D.A. Verbrugge. 1993. Biomagnification of bioassay derived 2,3,7,8-tetrachlorodibenzo-*p*-dioxin equivalents. *Chemosphere* 26:1203-12 #501

Jones, P.D., J.P. Giesy, J.L. Newsted, D.A. Verbrugge, D.L. Beaver, G.T. Ankley, D.E. Tillitt, K.B. Lodge, and G.J. Niemi. 1993. 2,3,7,8-tetrachlorodibenzo-*p*-dioxin equivalents in tissues of birds at Green Bay, Wisconsin, USA. *Arch. Environ. Contam. Toxicol.* 24:345-54 #502

Leino, R.L. and J.H. McCormick. 1993. Histopathological effects of experimental acidification on largemouth bass, rock bass, and yellow perch from Little Rock Lake, Wisconsin. In: *Proceedings of the Nineteenth Annual Aquatic Toxicity Workshop*, October 4-7, 1992, Edmonton, Alberta. E.G. Baddaloo, S. Ramamoorthy, and J.W. Moore, Eds. Pp. 201-223. Canadian Technical Report of Fisheries and Aquatic Sciences 1942. Department of Fisheries and Oceans, Canada. #1993-15

Leino, R.L. and J.H. McCormick. 1993. Responses of juvenile largemouth bass to different pH and aluminum levels at overwintering temperatures: Effects on gill morphology, electrolyte balance, scale calcium, liver glycogen, and depot fat. *Can. J. Zool.* 71:531-43 #503

Leonard, E.N., V.R. Mattson, D.A. Benoit, R.A. Hoke, and G.T. Ankley. 1993. Seasonal variation of acid volatile sulfide concentration in sediment cores from three northeastern Minnesota lakes. *Hydrobiologia* 271:87-95 #504

Lien, G.J. and J.M. McKim. 1993. Predicting branchial and cutaneous uptake of 2,2',5,5'-tetrachlorobiphenyl in fathead minnows (*Pimephales promelas*) and Japanese medaka (*Oryzias latipes*): Rate limiting factors. *Aquat. Toxicol.* 27:15-32 #505

McKim, J.M., Jr., J.M. McKim, S. Naumann, D.E. Hammermeister, A.D. Hoffman, and C.D. Klaassen. 1993. *In vivo* microdialysis sampling of phenol and phenyl glucuronide in the blood of unanesthetized rainbow trout: Implications for toxicokinetic studies. *Fundam. Appl. Toxicol.* 20:190-198 #506

Mekenyan, O.G. and G.D. Veith. 1993. Relationships between descriptors for hydrophobicity and soft electrophilicity in predicting toxicity. *SAR QSAR Environ. Res.* 1:335-44 #507

- Mekenyan, O.G., G.D. Veith, S.P. Bradbury, and C.L. Russom. 1993. Structure-toxicity relationships for a, b- unsaturated alcohols in fish. *Quant. Struct.-Act. Relat.* 12:132-36 #508
- Nalepa, T.F., D.J. Hartson, D.L. Fanslow, G.A. Lang, and S.J. Lozano. 1998. Declines in benthic macroinvertebrate populations in southern Lake Michigan, 1980-1993. *Can. J. Fish. Aquat. Sci.* 55:2402-13 #699
- Nichols, J.W., J.M. McKim, G.J. Lien, A.D. Hoffman, S.L. Bertelsen, and C.A. Gallinat. 1993. Physiologically-based toxicokinetic modeling of three waterborne chloroethanes in channel catfish, *Ictalurus punctatus*. *Aquat. Toxicol.* 27:83-112 #509
- Niemi, G.J., N.E. Detenbeck, and J.A. Perry. 1993. Comparative analysis of variables to measure recovery rates in streams. *Environ. Toxicol. Chem.* 12:1541-1547. #1993-28
- Norberg-King, T.J. 1993. A linear interpolation method for sublethal toxicity: The inhibition concentration (ICp) approach. Version 2.0. National Effluent Toxicity Assessment Center Technical Report 03-93. Environmental Research Laboratory, USEPA, Duluth, MN. #1993-21
- Norberg-King, T.J. and S. Schmidt. 1993. Comparison of effluent toxicity results using *Ceriodaphnia dubia* cultured on several diets. *Environ. Toxicol. Chem.* 12:1945-55 #510
- Oris, J.T. and J.A. Bailer. 1993. Statistical analysis of the *Ceriodaphnia* toxicity test: Sample size determination for reproductive effects. *Environ. Toxicol. Chem.* 12:85-90. #1993-4
- Phipps, G.L., G.T. Ankley, D.A. Benoit, and V.R. Mattson. 1993. Use of the aquatic oligochaete *Lumbriculus variegatus* for assessing the toxicity and bioaccumulation of sediment-associated contaminants. *Environ. Toxicol. Chem.* 12:269-79 #511
- Richards, C., G.E. Host, and J.W. Arthur. 1993. Identification of predominant environmental factors structuring stream macroinvertebrate communities within a large agricultural catchment. *Freshwater Biol.* 29:285-94 #512
- Richards, C., L. Johnson, and G. Host. 1993. Landscape influences on habitat, water chemistry, and macroinvertebrate assemblages in midwestern stream ecosystems. Final report to Environmental Research Laboratory, USEPA, Duluth, MN. #1993-20
- Schubauer-Berigan, M. Survey of sediment quality in the Duluth/Superior Harbor: 1993 sampling results. EPA/905/R-97/005. Great Lakes National Program Office, USEPA, Chicago, IL
- Schubauer-Berigan, M. K., J. R. Amato, G. T. Ankley, S. E. Baker, L. P. Burkhard, J. R. Dierkes, J. J. Jenson, M. T. Lukasewycz, and T. J. Norberg-King. 1993. The behavior and identification of toxic metals in complex mixtures: Examples from effluent and sediment pore water toxicity identification evaluations. *Arch. Environ. Contam. Toxicol.* 24:298-306 #513

Schubauer-Berigan, M. K., J. R. Dierkes, P. D. Monson, and G. T. Ankley. 1993. pH-dependent toxicity of Cd, Cu, Ni, Pb, and Zn to *Ceriodaphnia dubia*, *Pimephales promelas*, *Hyalella azteca* and *Lumbriculus variegatus*. *Environ. Toxicol. Chem.* 12:1261-66 #514

Serrano, J., D.W. Kuehl, and S. Naumann. 1993. Analytical procedures and quality assurance criteria for the determination of major and minor deoxynucleosides in fish tissue DNA by liquid chromatography-ultraviolet spectroscopy and liquid chromatography-thermospray mass spectrometry. *J. Chromatogr. Biomed. Appl.* 615:203-13 #515

Sierszen, M.E. and T.M. Frost. 1993. Response of predatory zooplankton populations to the experimental acidification of Little Rock Lake, Wisconsin. *J. Plankton Res.* 15:553-62 #516

Sinokrot, B.A. and H.G. Stefan. 1993. Stream temperature dynamics: Measurements and modeling. *Water Resources Res.* 29(7):2299-2312. #1993-9

Stefan, H.G., M. Hondzo, J.G. Eaton, and J.H. McCormick. 1993. Comparison of actual fish observations with simulated suitable fish habitat in Minnesota lakes. #826

Stefan, H.G., M. Hondzo, and X. Fang. 1993. Lake water quality modeling for projected future climate scenarios. *J. Environ. Quality* 22(3):417-431. #1993-10

Stefan, H.G. and E.B. Preud'homme. 1993. Stream temperature estimation from air temperature. *Water Resources Bull.* 29(1):1-19. #1993-11

Stefan, H.G. and B.A. Sinokrot. 1993. Projected global climate change impact on water temperatures in five north central U.S. streams. *Climatic Change* 24:353-381. #1993-1

Stephan, C.E. 1993. Derivation of proposed human health and wildlife bioaccumulation factors for the Great Lakes Initiative - Environmental Research Laboratory, Office of Research and Development, USEPA, Duluth, MN. #1993-22

Stoermer, E.F. 1993. Diatom studies under EMAP Great Lakes quality assurance project plan. Large Lakes Research Station, Environmental Research Laboratory-Duluth, Office of Research and Development, USEPA, Grosse Ile, MI. #1993-26

Swift, M.C., N.H. Troelstrup, Jr., N.E. Detenbeck, and J.L. Foley. 1993. Large artificial streams in toxicological and ecological research. *J. N. Am. Benth. Soc.* 12:359-366. #1993-27

Thomas, N.A. 1993. Use of biomonitoring to control toxics in the United States. In: EPA/600/R-93/157. Environmental Research Laboratory, Office of Research and Development, USEPA, Athens, GA. #1993-25

Thurston, R.V. and P.C. Gehrke. 1993. Respiratory oxygen requirements of fishes: Description of OXYREF, a data file based on test results reported in the published literature. In: *Fish Physiology, Toxicology, and Water Quality Management, Proceedings of an International Symposium*, Sacramento, CA, Sept. 18-20, 1990. Pp. 95-108. #1993-7

Tillitt, D.E., T.J. Kubiak, G.T. Ankley, and J.P. Giesy. 1993. Dioxin-like potency in Forster's tern eggs from Green Bay, Lake Michigan, North America. *Chemosphere* 26:2079-84 #517

Veith, G.D. and O.G. Mekenyan. 1993. A QSAR approach for estimating the aquatic toxicity of soft electrophiles [QSAR for soft electrophiles]. *Quant. Struct.-Act. Relat.* 12:349-56 #518

Velleux, M.L., J.E. Rathbun, R.G. Kreis, Jr., J.L. Martin, M.J. Mac, and M.L. Tuchman. 1993. Investigation of contaminant transport from the Saginaw confined disposal facility. *J. Great Lakes Res.* 19(1):158-174. #1993-5

Webster, K.E., J.M. Eilers, J.G. Wiener, G.E. Glass, P.J. Garrison, and M.D. Johnson. 1993. Chemical and biotic characteristics of two low-alkalinity lakes in northern Wisconsin: Relation to atmospheric deposition. Department of Natural Resources, Madison, WI. #1993-6

West, C.W., V.R. Mattson, E.N. Leonard, G.L. Phipps, and G.T. Ankley. 1993. Comparison of the relative sensitivity of three benthic invertebrates to copper-contaminated sediments from the Keweenaw Waterway. *Hydrobiologia* 262:57-63 #519

1992

Amato, J.R., D.I. Mount, E.J. Durhan, M.T. Lukasewycz, G.T. Ankley, and E.D. Robert. 1992. An example of the identification of diazinon as a primary toxicant in an effluent. *Environ. Toxicol. Chem.* 11:209-16 #464

Ankley, G.T. and L.P. Burkhard. 1992. Identification of surfactants as toxicants in a primary effluent. *Environ. Toxicol. Chem.* 11:1235-48 #465

Ankley, G.T., P.M. Cook, A.R. Carlson, D.J. Call, J.A. Sorensen, H.F. Corcoran, and R.A. Hoke. 1992. Bioaccumulation of PCBs from sediments by oligochaetes and fishes: Comparison of laboratory and field studies. *Can. J. Fish. Aquat. Sci.* 49:2080-2085 #466

Ankley, G.T., K.B. Lodge, D.J. Call, M.D. Balcer, L.T. Brooke, P.M. Cook, R.G. Kreis, A.R. Carlson, R.D. Johnson, G.J. Niemi, R.A. Hoke, C.W. West, J.P. Giesy, P.D. Jones, and Z.C. Fuying. 1992. Integrated assessment of contaminated sediments in the Lower Fox River and Green Bay, Wisconsin. *Ecotoxicol. Environ. Saf.* 23:46-63 #467

Ankley, G.T., M.K. Schubauer-Berigan, and R.A. Hoke. 1992. Use of toxicity identification evaluation techniques to identify dredged material disposal options: A proposed approach. *Environ. Manage.* 16:1-6 #468

Ankley, G.T. and N.A. Thomas. 1992. Interstitial water toxicity identification evaluation approach. In: *Sediment classification methods compendium*. Pp. 5.1-5.14. EPA/823/R-92/006. USEPA, Washington, D.C. #1992-20

Bartel, S. 1992. Resistance and resilience of aquatic ecosystems to toxicant stress. 2726
Bierman, V.J., Jr., J.V. DePinto, T.C. Young, P.W. Rodgers, and S.C. Martin. 1992.

Development and validation of an integrated exposure model for toxic chemicals in Green Bay, Lake Michigan. Report to Large Lakes Research Station, USEPA, Grosse Ile, MI. #1992-28

Bradbury, S., C. Russom, and G. Veith. 1992. Report on prototype expert system to predict toxic mechanism from chemical structure. Environmental Research Laboratory, Office of Environmental Processes and Effects Research, Office of Research and Development, USEPA, Duluth, MN. #1992-31

Broderius, S.J. 1992. Modeling the joint toxicity of xenobiotics to aquatic organisms: Basic concepts and approaches. In: *Aquatic toxicology and risk assessment, 14th vol.* M.A. Mayes and M.G. Barron, eds. Pp. 107-127. ASTM STP 1124. American Society for Testing and Materials, Philadelphia, PA. #1992-14

Coffin, D.L., P.M. Cook, and J.P. Creason. 1992. Relative mesothelioma induction in rats by mineral fibers: Comparison with residual pulmonary mineral fiber number and epidemiology. *Inhal. Toxicol.* 4:273-300 #469

Cook, P.M., A.R. Carlson, and H. Lee II. 1992. Tissue residue approach. In: *Sediment classification methods compendium.* Pp. 7.1-7.10. EPA/823/R-92/006. USEPA, Washington, D.C. #1992-18

Cook, P.M., R.D. Johnson, G.T. Ankley, S.P. Bradbury, R.J. Erickson, and R.L. Spehar. 1992. Research to characterize risks associated with 2,3,7,8-tetrachlorodibenzo-*p*-dioxin and related chemicals in aquatic ecosystems. In: *Proceedings of the 12th International Symposium on Dioxins and Related Compounds*, University of Tampere, Finland. Pp. 305-310. Finnish Institute of Occupational Health, Helsinki, Finland. #1992-19

Dady, J.M., M.M. Voit, and S.P. Bradbury. 1992. Formation of hydroquinone from the *o*-dealkylation of *p*-methoxyphenol by rainbow trout microsomes (abstract only). *The Toxicologist* 12(1):327. #1992-6

Detenbeck, N.E., P.W. DeVore, and G.J. Niemi. 1992. Recovery of temperate-stream fish communities from disturbance: A review of case studies and synthesis of theory. *Environ. Manage.* 16(1):33-53. #1992-8

Detenbeck, N.E., G.J. Niemi, D.L. Taylor, and A. Lima. 1992. Assessing recovery of freshwater wetland water-quality from disturbance. Final report to Environmental Research Laboratory, USEPA, Duluth, MN. #1992-2

Dickson, K.L., W.T. Waller, J.H. Kennedy, and L.P. Ammann. 1992. Assessing the relationship between ambient toxicity and instream biological response. *Environ. Toxicol. Chem.* 11:1307-1322. #1992-11

Di Toro, D.M., J.D. Mahony, D.J. Hansen, K.J. Scott, A.R. Carlson, and G.T. Ankley. 1992. Acid volatile sulfide predicts the acute toxicity of cadmium and nickel in sediments. *Environ. Sci. Technol.* 26:96-101 #470

Doerger, J.U., J.R. Meier, R.A. Dobbs, R.D. Johnson, and G.T. Ankley. 1992. Toxicity reduction evaluation at a municipal wastewater treatment plant using mutagenicity as an endpoint. *Arch. Environ. Contam. Toxicol.* 22:384-88 #471

Durhan, E.J., Norberg-King, T.J., Burkhard, L.P., Ankley, G.T., Lukasewycz, M.T., Schubauer-Berigan, M.K., and Thompson, J.A. Methods for aquatic toxicity identification evaluations: Phase II toxicity identification procedures for samples exhibiting acute and chronic toxicity. EPA/600/R-92/080. Environmental Research Laboratory, Office of Research and Development, USEPA, Duluth, MN.

Eaton, J.G., W.A. Swenson, J.H. McCormick, T.D. Simonson, and K.M. Jensen. 1992. A field and laboratory investigation of acid effects on largemouth bass, rock bass, black crappie and yellow perch. *Trans. Am. Fish. Soc.* 121:644-58 #472

Endicott, D. and J.P. Connolly. 1992. Process parameterization uncertainty in models of toxics in the Great Lakes. Part 1: Process parameterization in chemical mass balance models. Prepared for the Workshop on Reducing Uncertainty in Mass Balance Models of Toxics in the Great Lakes, February 3-5, 1992, Buffalo, NY. #1992-26

Endicott, D., M. Velleux, and K. Freeman. 1992. Development and calibration of a mass balance model for estimating the export of in-place pollutants from the lower Fox River to Green Bay. ORD, USEPA Large Lakes Research Station, Grosse Ile, MI. #1992-27

Endicott, D.D., W.L. Richardson, and D.J. Kandt. 1992. MICHTOX: A mass balance and bioaccumulation model for toxic chemicals in Lake Michigan. Environmental Research Laboratory, ORD, Duluth, MN. #1992-29

Frumin, G.T., G.M. Chuiko, D.F. Pavlov, and O.V. Menzykova. 1992. New rapid method to evaluate the median effect concentrations of xenobiotics in hydrobionts. *Bull. Environ. Contam. Toxicol.* 49:361-367. #1992-24

Glass, G.E., J.A. Sorensen, and G.R. Rapp, Jr. 1992. Mercury sources and distribution in Minnesota's aquatic resources: Precipitation, surface water, sediments, plants, plankton, and fish. Executive summary. In: *Mercury in the St. Louis River, Mississippi River, Crane Lake, and Sand Point Lake: Cycling, distribution, and sources*. Pp. 1-6. Report to the Legislative Commission on Minnesota Resources. Water Quality Division, Minnesota Pollution Control Agency, St. Paul, MN. #1992-15

Glass, G.E., J.A. Sorensen, K.W. Schmidt, J.K. Huber, and G.R. Rapp, Jr. 1992. Mercury sources and distribution in Minnesota's aquatic resources: Surface water, sediments, plants, plankton and fish. In: *Mercury in the St. Louis River, Mississippi River, Crane Lake, and Sand Point Lake: Cycling, distribution, and sources*. Pp. 3.1-3.48. Report to the Legislative Commission on Minnesota Resources. Water Quality Division, Minnesota Pollution Control Agency, St. Paul, MN. #1992-16

- Glass, G.E., J.A. Sorensen, K.W. Schmidt, G.R. Rapp, Jr., D. Yap, and D. Fraser. 1992. Mercury sources and distribution in Minnesota's aquatic resources: Deposition. In: *Mercury in the St. Louis River, Mississippi River, Crane Lake, and Sand Point Lake: Cycling, distribution, and sources*. Pp. 4.1-4.23+. Report to the Legislative Commission on Minnesota Resources. Water Quality Division, Minnesota Pollution Control Agency, St. Paul, MN. #1992-17
- Heinis, L.J. and M.L. Knuth. 1992. The mixing, distribution and persistence of esfenvalerate within littoral enclosures. *Environ. Toxicol. Chem.* 11:11-25 #473
- Herman, L.J. 1992. Inexpensive environmental control chamber for holding fish. *Prog. Fish-Cult.* 54:132 #474
- Hermanutz, R.O. 1992. Malformation of the fathead minnow (*Pimephales promelas*) in an ecosystem with elevated selenium concentrations. *Bull. Environ. Contam. Toxicol.* 49:290-294 #475
- Hermanutz, R.O., K.N. Allen, T.H. Roush, and S.F. Hedtke. 1992. Effects of elevated selenium concentrations on bluegills (*Lepomis macrochirus*) in outdoor experimental streams. *Environ. Toxicol. Chem.* 11:217-24 #476
- Hoffman, A.D., S.L. Bertelsen, and M.L. Gargas. 1992. An *in vitro* gas equilibration method for determination of chemical partition coefficients in fish. *Comp. Biochem. Physiol.* 101A:47-51 #477
- Hoke, R.A., W.R. Gala, J.B. Drake, J.P. Giesy, and S. Flegler. 1992. Bicarbonate as a potential confounding factor in cladoceran toxicity assessments of pore water from contaminated sediments. *Can. J. Fish. Aquat. Sci.* 49:1633-40 #478
- Hoke, R.A., J.P. Giesy, and R.G. Kreis, Jr. 1992. Sediment pore water toxicity identification in the Lower Fox River and Green Bay, Wisconsin, using the Microtox assay. *Ecotoxicol. Environ. Saf.* 23:343-54 #479
- Hondzo, M. and H.G. Stefan. 1992. Water temperature characteristics of lakes subjected to climate change. Project Report No. 329, St. Anthony Falls Hydraulic Laboratory, University of Minnesota, Minneapolis, MN. Prepared for Environmental Research Laboratory, USEPA, Duluth, MN. #1992-4
- Hughes, R.M., T.R. Whittier, S.A. Thiele, J.E. Pollard, D.V. Peck, S.G. Paulsen, D. McMullen, J. Lazorchak, D.P. Larsen, W.L. Kinney, P.R. Kaufmann, S. Hedtke, S.S. Dixit, G.B. Collins, and J.R. Baker. 1992. Lake and stream indicators for the United States Environmental Protection Agency's environmental monitoring and assessment program. In: *Ecological Indicators, Volume 1*. McKenzie, D.H., Hyatt, D.E. and McDonald, V.J., eds. pp. 305-335. Elsevier Applied Science, New York, NY. #1992-33

Johnston, C.A. 1992. Land-use activities and western Lake Superior water quality. In: *Making a Great Lake Superior*. J. Vander Wal and P.D. Watts, eds. Pp. 146-162. Occasional Paper #9. Lakehead University Centre for Northern Studies, Thunder Bay, Ontario. #1992-23

Kingston, J.C., B.F. Cumming, A.J. Uutala, J.P. Smol, K.E. Camburn, D.F. Charles, S.S. Dixit, and R.G. Kreis, Jr. 1992. Biological quality control and quality assurance: a case study in paleolimnological biomonitoring. In: *Ecological Indicators, Volume 2*. McKenzie, D.H., Hyatt, D.E. and McDonald, V.J., eds. pp. 1542-1544. Elsevier Applied Sciences, New York, NY. #1992-32

Knuth, M.L., ed. 1992. Effects, persistence and distribution of azinphos-methyl in littoral enclosures. Environmental Research Laboratory, USEPA, Duluth, MN and Lake Superior Research Institute, University of Wisconsin-Superior, Superior, WI. #1992-3

Knuth, M.L. and L.J. Heinis. 1992. Dissipation and persistence of chlorpyrifos within littoral enclosures. *J. Ag. Food Chem.* 40:1257-63 #480

Kolanczyk, R.C., H.R. Gutmann, and I.R. Rutks. 1992. Effect of bovine serum albumin on the extent of ortho rearrangement of N-(Sulfooxy)-2-fluorenylacetamide and of enzymatically activated N-Hydroxy-2-fluorenylacetamide and on the binding of reactive esters to nucleic acids. *Chem. Res. Toxicol.* 5:274-279. #1992-30

Leino, R.L., J.H. McCormick, and K.M. Jensen. 1992. Long-term effects of an acute acid pulse on juvenile black crappie, *Pomoxis nigromaculatus*. In: *Proceedings of the Eighteenth Annual Aquatic Toxicity Workshop*, Sept. 30-Oct. 3, 1991, Ottawa, Ontario. Pp. 369-371. (Presented at the Sixteenth Annual Aquatic Toxicity Workshop, Nov. 6-8, 1989, Winnipeg, Manitoba.). #1992-13

Lozano, S.J., S.L. O'Halloran, K.W. Sargent, and J.C. Brazner. 1992. Effects of esfenvalerate on aquatic organisms in littoral enclosures. *Environ. Toxicol. Chem.* 11:35-47 #481

Lukasewycz, M.T. and E.J. Durhan. 1992. Strategies for the identification of non-polar toxicants in aqueous environmental samples using toxicity-based fractionation and gas chromatography-mass spectrometry. *J. Chromatogr. Biomed. Appl.* 580:215-28 #482

Marchini, S., M.L. Tosato, T.J. Norberg-King, D.E. Hammermeister, and M.D. Hoglund. 1992. Lethal and sublethal toxicity of benzene derivatives to the fathead minnow, using a short-term test. *Environ. Toxicol. Chem.* 11:187-95 #483

Masscheleyn, P.H., J.H. Pardue, R.D. DeLaune, and W.H. Patrick, Jr. 1992. Chromium redox chemistry in a Lower Mississippi Valley bottomland hardwood wetland. *Environ. Sci. Technol.* 26(6):1217-1226. #1992-10

May, B. and J.E. Marsden. 1992. Genetic identification and implications of another invasive species of dreissenid mussel in the Great Lakes. *Can. J. Fish. Aquat. Sci.* 49:1501-1506. #1992-9

McCormick, J.H. and K.M. Jensen. 1992. Osmoregulatory failure and death of first-year largemouth bass (*Micropterus salmoides*) exposed to low pH and elevated aluminum, at low temperature in soft water. *Can. J. Fish. Aquat. Sci.* 49:1189-97 #484

Mount, D.I., Norberg-King, T.J., Ankley, G.T., Burkhard, L.P., Durhan, E.J., Schubauer-Berigan, M.K., and Lukasewycz, M.T. 1992. Methods for aquatic toxicity identification evaluations: Phase III toxicity confirmation procedures for samples exhibiting acute and chronic toxicity. EPA/600/R-92/081. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Niemi, G.J., S.C. Basak, G.D. Veith, and G. Grunwald. 1992. Prediction of octanol/water partition coefficient (K_{ow}) with algorithmically derived variables. *Environ. Toxicol. Chem.* 11:893-900 #485

Preud'homme, E.B. and H.G. Stefan. 1992. Errors related to random stream temperature data collection in upper Mississippi River watershed. *Water Resources Bull.* 28(6):1077-1082. #1992-12

Preud'homme, E.B. and H.G. Stefan. 1992. Relationship between water temperatures and air temperatures for central U.S. streams. Project Report No. 333, St. Anthony Falls Hydraulic Laboratory, University of Minnesota, Minneapolis, MN. Prepared for Environmental Research Laboratory, USEPA, Duluth, MN. #1992-25

Schmieder, P.K. and L.J. Weber. 1992. Blood and water flow limitations on gill uptake of organic chemicals in the rainbow trout (*Oncorhynchus mykiss*). *Aquat. Toxicol.* 24:103-22 #486

Shannon, L. and R.L. Anderson. 1992. Use of the mixed flask culture (MFC) microcosm protocol to estimate the survival and effects of microorganisms added to freshwater ecosystems. In: *Microbial ecology: Principles, methods, and applications*. M.A. Levin, R.J. Seidler, and M. Rogul, eds. Pp. 625-641. McGraw-Hill, Inc., New York, NY. #1992-22

Sierszen, M.E. and T.M. Frost. 1992. Selectivity in suspension feeders: Food quality and the cost of being selective. *Arch. Hydrobiol.* 123:257-73 #487

Sinokrot, B.A. and H.G. Stefan. 1992. Deterministic modeling of stream water temperatures: development and applications to climate change effects on fish habitat. Environmental Research Laboratory, USEPA, Duluth, MN. #1992-34

Smith, V.E., J.E. Rathbun, and J.C. Filkins. 1992. Sampling, characterizing, and mapping contaminated sediment in river harbors. *Haz. Mat. Control* 1992 (September/October):22-28. #1992-5

Stefan, H.G., M. Hondzo, B. Sinokrot, X. Fang, J.G. Eaton, B.E. Goodno, K.E.F. Hokanson, J.H. McCormick, D.G. O'Brien, and J.A. Wisniewski. 1992. A methodology to estimate global climate change impacts on lake and stream environmental conditions and fishery resources with application to Minnesota. Office of Program Planning and Evaluation, USEPA, Washington, DC. #1992-35

Thomas, N.A., J.O. Lamberson, and R.C. Swartz. 1992. Bulk sediment toxicity test approach. In: *Sediment classification methods compendium*. Pp. 3.1-3.10. EPA/823/R-92/006. USEPA, Washington, D.C. #1992-21

Tillitt, D.E., G.T. Ankley, J.P. Giesy, J.P. Ludwig, H. Kurita-Matsuba, D.V. Weseloh, P.S. Ross, C.A. Bishop, L. Sileo, K.L. Stromborg, J. Larson, and T.J. Kubiak. 1992. Polychlorinated biphenyl residues and egg mortality in double-crested cormorants from the Great Lakes. *Environ. Toxicol. Chem.* 11:1281-88 #488

USEPA. 1992. Environmental Monitoring and Assessment Program (EMAP): Great Lakes monitoring and research strategy. EPA/620/R-92/001. Environmental Research Laboratory, ORD, Duluth, MN.

Webster, K.E., T.M. Frost, C.J. Watras, W.A. Swenson, M. Gonzalez, and P.J. Garrison. 1992. Complex biological responses to the experimental acidification of Little Rock Lake, Wisconsin, USA. *Environ. Poll.* 78:73-78. #1992-7

Williams, L.L., J.P. Giesy, N. DeGalan, D.A. Verbrugge, D.E. Tillitt, G.T. Ankley, and R.L. Welch. 1992. Prediction of concentrations of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin equivalents from total concentrations of polychlorinated biphenyls in fish fillets. *Environ. Sci. Technol.* 26:1151-59 #489

1991

Allen, K.N. 1991. Seasonal variation of selenium in outdoor experimental stream-wetland systems. *J. Environ. Qual.* 20:865-68 #438

Anderson, S.L. and T.J. Norberg-King. 1991. Letter to the editor: Precision of short-term chronic toxicity tests in the real world. *Environ. Toxicol. Chem.* 10:143-45 #439

Ankley, G.T., J.R. Dierkes, D.A. Jensen, and G.S. Peterson. 1991. Piperonyl butoxide as a tool in aquatic toxicological research with organophosphate insecticides. *Ecotoxicol. Environ. Saf.* 21:266-74 #440

Ankley, G.T., G.L. Phipps, E.N. Leonard, D.A. Benoit, V.R. Mattson, P.A. Kosian, A.M. Cotter, J.R. Dierkes, D.J. Hansen, and J.D. Mahony. 1991. Acid-volatile sulfide as a factor mediating cadmium and nickel bioavailability in contaminated sediments. *Environ. Toxicol. Chem.* 10:1299-307 #441

Ankley, G.T., M.K. Schubauer-Berigan, and J.R. Dierkes. 1991. Predicting the toxicity of bulk sediments to aquatic organisms with aqueous test fractions: Pore water vs. elutriate. *Environ. Toxicol. Chem.* 10:1359-66 #442

Ankley, G.T., D.E. Tillitt, J.P. Giesy, P.D. Jones, and D.A. Verbrugge. 1991. Bioassay-derived 2,3,7,8- tetrachlorodibenzo-*p*-dioxin equivalents in PCB-containing extracts from the flesh and eggs of Lake Michigan chinook salmon (*Oncorhynchus tshawytscha*) and possible implications for reproduction. *Can. J. Fish. Aquat. Sci.* 48:1685-90 #443

Ankley, G.T., Schubauer-Berigan, M.K., Dierkes, J.R., and Lukasewycz, M.T. Sediment toxicity identification evaluation: phase I (characterization), phase II (identification) and phase III (confirmation) modifications of effluent procedures. EPA/600/6-91/007. National Effluent Toxicity Assessment Center.

Benoit, D.A., Holcombe, G.W., and Spehar, R.L. 1991. Guidelines for conducting early life stage toxicity tests with Japanese medaka (*Oryzias latipes*). EPA/600/3-91/063. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Bradbury, S.P., R.W. Carlson, G.J. Niemi, and T.R. Henry. 1991. Use of respiratory-cardiovascular responses of rainbow trout (*Oncorhynchus mykiss*) in identifying acute toxicity syndromes in fish: Part 4. Central nervous system seizure agents. *Environ. Toxicol. Chem.* 10:115-31 #444

Bradbury, S.P. and G.M. Christensen. 1991. Inhibition of alcohol dehydrogenase activity by acetylenic and allylic alcohols: Concordance with in vivo electrophile reactivity in fish. *Environ. Toxicol. Chem.* 10:1155-60 #445

Burkhard, L.P., J.R. Cannell, K.W. Dowell, W.J. Morrow, B. Riedel Sheedy and R. Brandes. 1991. Guidance on assessment and control of bioconcentratable contaminants in surface waters. National Effluent Toxicity Assessment Center, Environmental Research Laboratory-Duluth, Office of Water Enforcement and Permits, Office of Water Regulations and Standards, Office of Health and Environmental Assessment-Cincinnati, Office of Water, USEPA, Washington, DC.

Burkhard, L.P., E.J. Durhan, and M.T. Lukasewycz. 1991. Identification of nonpolar toxicants in effluents using toxicity based fractionation with gas chromatography/mass spectrometry. *Anal. Chem.* 63:277-83 #446

Call, D.J., M.D. Balcer, L.T. Brooke, S.J. Lozano, and D.D. Vaishnav. 1991. Sediment quality evaluation in the lower Fox River and southern Green Bay of Lake Michigan. Final report for Cooperative Agreement CR-815232. USEPA, Environmental Research Laboratory, Duluth, MN. #1991-26

Carlson, A.R., G.L. Phipps, and V.R. Mattson. 1991. The role of acid-volatile sulfide in determining cadmium bioavailability and toxicity in freshwater sediments. *Environ. Toxicol. Chem.* 10:1309-19 #447

Cook, P.M., D.W. Kuehl, M.K. Walker, and R.E. Peterson. 1991. Bioaccumulation and toxicity of TCDD and related compounds in aquatic ecosystems. In: *Biological basis for risk assessment of dioxins and related compounds*. M.A. Gallo et al., eds. Pp. 143-167. Banbury Report 35. Cold Spring Harbor Laboratory Press, Plainview, NY. #1991-20

Dady, J.M., S.P. Bradbury, A.D. Hoffman, M.M. Voit, and D.L. Olson. 1991. Hepatic microsomal N-hydroxylation of aniline and 4-chloroaniline by rainbow trout (*Oncorhynchus mykiss*). *Xenobiotica* 21:1605-20 #448

Denny, J.S., Spehar, R.L., Mead, K.E., and Yousuff, S.C. 1991. Guidelines for culturing the Japanese medaka (*Oryzias latipes*). EPA/600/3-91/064. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Detenbeck, N.E. and P.L. Brezonik. 1991. Phosphorus sorption by sediments from a soft-water seepage lake. 1. An evaluation of kinetic and equilibrium models. *Environ. Sci. Technol.* 25:395-403. #1991-31

Detenbeck, N.E. and P.L. Brezonik. 1991. Phosphorus sorption by sediments from a soft-water seepage lake. 2. Effects of pH and sediment composition. *Environ. Sci. Technol.* 25:403-409. #1991-15

Di Toro, D.M., C.S. Zarba, D.J. Hansen, W.J. Berry, R.C. Swartz, C.E. Cowan, S.P. Pavlou, H.E. Allen, and P.R. Paquin. 1991. Technical basis for establishing sediment quality criteria for nonionic organic chemicals using equilibrium partitioning. *Environ. Toxicol. Chem.* 10:1541-83 #449

Erickson, R., C. Kleiner, J. Fiandt, and T. Highland. 1991. Use of toxicity models to reduce uncertainty in aquatic hazard assessments: Effects of exposure conditions on pentachloroethane toxicity to fathead minnows. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1991-30

Eskuri, J., T.J. Norberg-King, and L. Anderson. 1991. Toxicity evaluation of artificial wetland discharge samples. NETAC Technical Report 19-91. National Effluent Toxicity Assessment Center, Mid-Continent Ecology Division, NHEERL, USEPA, Duluth, MN. #1991-27

Featherstone, D., C.D. Drewes, and J.R. Coats. 1991. Noninvasive detection of electrical events during the startle response in larval medaka. *J. Exp. Biol.* 158:583-589. #1991-12

Glass, G.E., J.A. Sorensen, K.W. Schmidt, G.R. Rapp, Jr., D. Yap, and D. Fraser. 1991. Mercury deposition and sources from the upper Great Lakes region. *Water Air Soil Pollut.* 56:235-49 #450

Hagley, C.A. and D.L. Taylor. 1991. An approach for evaluating numeric water quality criteria for wetlands protection. Submitted to USEPA Research Laboratory, Duluth, MN by ASCI Corporation, Duluth, MN. #1991-1

Hondzo, M. and H.G. Stefan. 1991. Three case studies of lake temperature and stratification response to warmer climate. *Water Resources Res.* 27(8):1837-1846. #1991-9

Klemm, D.J., Morrison, G.E., Norberg-King, T.J., Peltier, W.H., and Heber, M.A. 1991. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to marine and estuarine organisms (Second edition). EPA/600/4-91/003. Environmental Monitoring Systems Laboratory, USEPA, ORD, Cincinnati, OH.

Klump, J.V., J.L. Kaster, and M.E. Sierszen. 1991. *Mysis relicta* assimilation of hexachlorobiphenyl from sediments. *Can J. Fish. Aquat. Sci.* 48:284-89 #451

Kolanczyk, R.C., I.R. Rutks, and H.R. Gutmann. 1991. The catalytic effect of bovine serum albumin on the ortho rearrangement of the potential ultimate carcinogen, N-(Sulfooxy)-2-(acetylamino)fluorene, generated enzymatically from N-Hydroxy-2-(acetylamino)fluorene and evidence for substrate specificity of the enzymatic sulfonation of arylhydroxamic acids. *Chem. Res. Toxicol.* 4:187-194. #1991-32

Kosian, P.A. and G.T. Ankley. 1991. A summary of proposed methods for assessing contaminated sediments and deriving sediment quality criteria. Background document for the OECD Workshop on Contaminated Sediments, May 13-15, 1991, Copenhagen, Denmark. #1991-2

Kuehl, D.W., B.C. Butterworth, J.J. Libal, and P.J. Marquis. 1991. An isotope dilution high resolution gas chromatographic-high resolution mass spectrometric method for the determination of coplanar polychlorinated biphenyls: Application to fish and marine mammals. *Chemosphere* 22:849-58 #452

Kuehl, D.W., L. Eisenschenk, S. Naumann, R.D. Johnson, R.R. Regal, P. Barnidge, and J.M. McKim. 1991. Comparison of nucleoside concentration in blood of fish with and without tumors. *Bull. Environ. Contam. Toxicol.* 46:713-19 #453

Kuehl, D.W., R. Haebler, and C. Potter. 1991. Chemical residues in dolphins from the U.S. Atlantic coast including Atlantic bottlenose obtained during the 1987/88 mass mortality. *Chemosphere* 22:1071-84 #454

Leino, R.L. 1991. Histomorphological changes and ionoregulatory physiology in largemouth bass exposed to overwintering conditions and elevated aluminum in acid water. Final report, Contract no. CR-81-4582-01-3, Environmental Research Laboratory, USEPA, Duluth, MN. #1991-7

Leino, R.L. 1991. Histopathological effects of acidification on largemouth bass, rock bass, and yellow perch from Little Rock Lake. Final report to the USEPA for EPA/CR-81-4582-01-2. Environmental Research Laboratory, USEPA, Duluth, MN. #1991-6

Lindau, C.W., R.D. DeLaune, S. Jiraporncharoen, and D. Manajuti. 1991. Nitrous oxide and dinitrogen emissions from *Panicum hemitomon* S. freshwater marsh soils following addition of N-15 labelled ammonium and nitrate. *J. Freshwater Ecol.* 6(2):191-198. #1991-11

Martin, J.L., W.L. Richardson, and S.C. McCutcheon. 1991. Modeling studies for planning: The Green Bay Project. *Water Resour. Bull.* 27(3):429-436. #1991-28

Martinez, N.D. 1991. Artifacts or attributes? Effects of resolution on the Little Rock Lake food web. *Ecol. Monographs* 61(4):367-392. #1991-13

Masscheleyn, P.H., R.D. Delaune, and W.H. Patrick, Jr. 1991. Arsenic and selenium chemistry as affected by sediment redox potential and pH. *J. Environ. Qual.* 20(3): 522-527. #1991-3

Masscheleyn, P.H., R.D. Delaune, and W.H. Patrick, Jr. 1991. Effect of redox potential and pH on arsenic speciation and solubility in a contaminated soil. *Environ. Sci. Technol.* 25(8):1414-1419. #1991-4

Masscheleyn, P.H., R.D. DeLaune, and W.H. Patrick, Jr. 1991. A hydride generation atomic absorption technique for arsenic speciation. *J. Environ. Qual.* 20:96-100. #1991-10

McCormick, J.H., K.M. Jensen, W.A. Swenson, T.D. Simonson, and R.L. Leino. 1991. Overwintering, key to first year largemouth bass recruitment in acidified northern waters (abstract only). In: *Proceedings of the Seventeenth Annual Aquatic Toxicity Workshop*, November 5-7, 1990, Vancouver, B.C. P. Chapman, F. Bishay, E. Power, K. Hall, L. Harding, D. McLeay, M. Nassichuk and W. Knapp, eds. Page 240. Fisheries and Oceans, Canada. #1991-25

Maccubbin, A.E. and N. Ersing. 1991. Tumors in fish from the Detroit River. *Hydrobiologia* 219:301-306. #1991-18

Maccubbin, A.E., N. Ersing, and M.E. Frank. 1991. Mutagenicity of sediments from the Detroit River. *J. Great Lakes Res.* 17(3):314-321. #1991-19

McKim, J.M. 1991. Pollution's effects. In: *Trout of North America*. J. Stolz and J. Schnell, eds. Pp. 118-125. Stackpole Press, Harrisburg, PA. #1991-23

McKim, J.M. and R.J. Erickson. 1991. Environmental impacts on the physiological mechanisms controlling xenobiotic transfer across fish gills. *Physiol. Zool.* 64:39-67 #455

McKim, J.M. and P.K. Schmieder. 1991. Bioaccumulation: Does it reflect toxicity? In: *Bioaccumulation in aquatic systems*. R. Nagel and R. Loskill, eds. Pp. 162-188. VCH Verlagsgesellschaft, New York, NY. #1991-22

National Effluent Toxicity Assessment Center. 1991. Guidance on assessment and control of bioconcentratable contaminants in surface waters. Environmental Research Laboratory, USEPA, Duluth, MN and Office of Water Enforcement and Permits, Office of Water Regulations and Standards, Office of Health and Environmental Assessment, USEPA, Cincinnati, OH. #1991-33

- Nendza, M. and C. L. Russom. 1991. QSAR modelling of the ERL-D fathead minnow acute toxicity database. *Xenobiotica* 21:147-70 #456
- Newsome, L.D., D.E. Johnson, R.L. Lipnick, S.J. Broderius, and C.L. Russom. 1991. A QSAR study of the toxicity of amines to the fathead minnow. *Sci. Total Environ.* 109/110:537-51 #657
- Nichols, J.W., J.M. McKim, G.J. Lien, A.D. Hoffman, and S.L. Bertelsen. 1991. Physiologically based toxicokinetic modeling of three waterborne chloroethanes in rainbow trout (*Oncorhynchus mykiss*). *Toxicol. Appl. Pharmacol.* 110:374-89 #457
- Niemi, G.J., S.P. Bradbury, and J.M. McKim. 1991. The use of fish physiology literature for predicting fish acute toxicity syndromes. In: *Aquatic toxicology and risk assessment, 14th vol.* M.A. Mayes and M.G. Barron, eds. Pp. 245-260. ASTM STP 1124. American Society for Testing and Materials, Philadelphia, PA. #1991-21
- Norberg-King, T.J., E.J. Durhan, G.T. Ankley, and E.D. Robert. 1991. Application of toxicity identification evaluation procedures to the ambient waters of the Colusa Basin Drain, California. *Environ. Toxicol. Chem.* 10:891-900 #458
- Norberg-King, T.J., Mount, D.I., Amato, J.R., Jensen, D.A., and Thompson, J.A. 1991. Toxicity identification evaluation: characterization of chronically toxic effluents, phase I. EPA/600/6-91/005F. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.
- Norberg-King, T.J., Mount, D.I., Durhan, E.J., Ankley, G.T., Burkhard, L.P., Amato, J.R., Lukasewycz, M.T., Schubauer-Berigan, M.K., and Anderson-Carnahan, L., eds. 1991. Methods for aquatic toxicity identification evaluations: Phase I toxicity characterization procedures (Second edition). EPA/600/6-91/003. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.
- Oris, J.T., R.W. Winner, and M.V. Moore. 1991. A four-day survival and reproduction toxicity test for *Ceriodaphnia dubia*. *Environ. Toxicol. Chem.* 10:217-224. #1991-14
- Parkhurst, B.R. and D.I. Mount. 1991. Water quality-based approach to toxics control: Narrowing the gap between science and regulation. *Water Environ. Tech.* December 1991:45-47. #1991-5
- Russom, C.L., E.B. Anderson, B.E. Greenwood, and A. Pilli. 1991. ASTER: An integration of the AQUIRE data base and the QSAR system for use in ecological risk assessments. *Sci. Total Environ.* 109/110:667-70 #459
- Russom, C.L. and S.J. Broderius. 1991. A chronic aquatic toxicity database for development of predictive toxicology models for industrial organic chemicals. EPA/600/X-91/031. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1991-29

Sanville, W. 1991. Criteria to protect wetland ecological integrity. In: *Water quality standards for the 21st century: Proceedings of a conference*. Pp. 85-88. Office of Water, USEPA, Washington, D.C. #1991-24

Schmieder, P.K. and L.J. Weber. 1991. Blood flow and water flow limitations of gill uptake of butanol and decanol in the rainbow trout (abstract only). *The Toxicologist* 11(1):201. #1991-17

Schubauer-Berigan, M.K. and G.T. Ankley. 1991. The contribution of ammonia, metals, and nonpolar organic compounds to the toxicity of sediment interstitial water from an Illinois river tributary. *Environ. Toxicol. Chem.* 10:925-39 #460

Sheedy, B.R., J.M. Lazorchak, D.J. Grunwald, Q.H. Pickering, A. Pilli, D. Hall, and R. Webb. 1991. Effects of pollution on freshwater organisms. *J. Water Pollut. Control Fed.* 63:619-96 #461

Sierszen, M.E., H.L. Boston, and M.J. Horn. 1991. Zooplankton population dynamics in experimentally toxified pond ecosystems. *Verh. Internat. Verein. Limnol.* 24:1517-21 #462

Snyder, T.P., K.M. Switzer, and R.E. Keen. 1991. Allozymic variability in toxicity-testing strains of *Ceriodaphnia dubia* and in natural populations of *Ceriodaphnia*. *Environ. Toxicol. Chem.* 10:1045-1049. #1991-8

Tillitt, D.E., J.P. Giesy, and G.T. Ankley. 1991. Characterization of the H4IIE rat hepatoma cell bioassay as a tool for assessing toxic potency of planar halogenated hydrocarbons in environmental samples. *Environ. Sci. Technol.* 25:87-92. #463

Wallace, K.B. and J.R. Kemp. 1991. Species specificity in the chemical mechanisms of organophosphorus anticholinesterase activity. *Chem. Res. Toxic.* 4:41-49. #1991-16

1990

Amato, J.R., S.E. Baker, E. Makynen, and L. Eisenschenk. 1990. Toxicity identification evaluation for Turkey Creek Wastewater Treatment Plant, Joplin, MO. NETAC Technical Report 22-90. National Effluent Toxicity Assessment Center, Mid-Continent Ecology Division, USEPA, NHEERL, Duluth, MN. #1990-23

Anderson, R.L. 1990. Laboratory methods for appraising safety of a microbial pest control agent in freshwater systems. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1990-29

Ankley, G.T., A. Katko, and J.W. Arthur. 1990. Identification of ammonia as an important sediment-associated toxicant in the lower Fox River and Green Bay, Wisconsin. *Environ. Toxicol. Chem.* 9:313-22 #404

- Ankley, G.T., E. Leonard, G. Glass, D. Call, P. Kosian, A. Cotter, and J. Dierkes. 1990. Chemical and biological assessment of sediments from Oswego Harbor, 1990. Final report to U.S. Army Corps of Engineers, Buffalo District. USEPA, Duluth, MN; University of Wisconsin-Superior, Superior, WI; and AScI Corporation, Duluth, MN. #1990-19
- Ankley, G.T., G.S. Peterson, J.R. Amato, and J.J. Jenson. 1990. Evaluation of sucrose as an alternative to sodium chloride in the Microtox® assay: Comparison to fish and cladoceran tests with freshwater effluents. *Environ. Toxicol. Chem.* 9:1305-10 #405
- Ankley, G.T., G.S. Peterson, M.T. Lukasewycz, and D.A. Jensen. 1990. Characteristics of surfactants in toxicity identification evaluations. *Chemosphere* 21:3-12 #406
- Auer, M.T. and N.A. Auer. 1990. Chemical suitability of substrates for walleye egg development in the lower Fox River, Wisconsin. *Trans. Am. Fish. Soc.* 119:871-876. #1990-8
- Barnidge, D., D. Brooke, G. Elonen, M. Hoglund, M. Kahl, G. Mielke, and J. Thompson. 1990. Toxicity of eight terpenes to fathead minnow (*Pimephales promelas*), daphnids (*Daphnia magna*), and algae (*Selenastrum capricornutum*). Environmental Research Laboratory, USEPA, Duluth, MN. #1990-1
- Basak, S.C., G.J. Niemi, and G.D. Veith. 1990. Optimal characterization of structure for prediction of properties. *J. Math. Chem.* 4:185-205 #407
- Bradbury, S.P. and R.W. Carlson. 1990. Predictive toxicology in risk assessment: Approaches in predicting mechanisms of toxic action from chemical structure. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1990-28
- Bradbury, S.P., T.R. Henry, and R.W. Carlson. 1990. Fish acute toxicity syndromes in the development of mechanism-specific QSARS. In: *Practical applications of quantitative structure-activity relationships (QSAR) in environmental chemistry and toxicology*. W. Karcher and J. Devillers, eds. Pp. 295-315. Kluwer Academic, Boston, MA. #1990-11
- Bradbury, S.P. and R.L. Lipnick. 1990. Introduction: Structural properties for determining mechanisms of toxic action. *Environ. Health Perspect.* 87:181-82 #408
- Brazner, J.C. and E.R. Kline. 1990. Effects of chlorpyrifos on the diet and growth of larval fathead minnows (*Pimephales promelas*) in littoral enclosures. *Can. J. Fish. Aquat. Sci.* 47:1157-65 #409
- Burkhard, L.P. and J.J. Jenson. 1990. Toxicity identification evaluation for Pocatello, Idaho treatment facility. NETAC Technical Report 19-90. National Effluent Toxicity Assessment Center, Mid-Continent Ecology Division, NHEERL, USEPA, Duluth, MN. #1990-24
- Butterworth, B.C. and D.W. Kuehl, et al. 1990. Analytical procedures and quality assurance plan for the determination of PCDD/PCDF in fish. 1990. USEPA National Dioxin Study - Phase II. EPA/600/3-90/022. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Butterworth, B.C. and D.W. Kuehl, et al. 1990. Analytical procedures and quality assurance plan for the determination of xenobiotic chemical contaminants in fish. 1990. USEPA National Dioxin Study - Phase II. EPA/600/3-90/023. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Cairns, J., Jr. and D.I. Mount. 1990. Aquatic toxicology: Part 2 of a four-part series. *Environ. Sci. Technol.* 24:154-61 #410

Carey, A.E., N.S. Shifrin, A.P. Briefer, and P.M. Cook. 1990. Derivation of a Lake Ontario bioaccumulation factor for 2,3,7,8-TCDD. In: Lake Ontario TCDD bioaccumulation study, final report. Chapter 9. USEPA, New York State Department of Environmental Conservation, New York State Department of Health, and Occidental Chemical Corporation. #1990-18

Carlson, R.M. 1990. Assessment of the propensity for covalent binding of electrophiles to biological substrates. *Environ. Health Perspec.* 87:227-232. #1990-17

Carlson, R.W. 1990. Ventilatory patterns of bluegill (*Lepomis macrochirus*) exposed to organic chemicals with different mechanisms of toxic action. *Comp. Biochem. Physiol.* 89C:181-96 #411

Cook, P.M. 1990. Bioaccumulation of PCBs, PCDDs, and PCDFs. In: *Making a Great Lake Superior*. J. Vander Wal and P.D. Watts, eds. Pp. 244-248. Occasional Paper #9. Lakehead University Centre for Northern Studies, Thunder Bay, Ontario. #1990-13

Cook, P.M., A.R. Batterman, and B.C. Butterworth. 1990. Laboratory study of TCDD bioaccumulation by lake trout from Lake Ontario sediments, food chain and water. In: Lake Ontario TCDD bioaccumulation study, final report. Chapter 6. USEPA, NY State Department of Environmental Conservation, NY State Department of Health, and Occidental Chemical Corporation. #1990-18

Dawson, D.A., T.W. Schultz, L.L. Baker, and T.S. Wilke. 1990. Comparative developmental toxicity of acetylenic alcohols on embryos and larvae of *Xenopus laevis*. In: *Aquatic toxicology and risk assessment, 13th vol.* W.G. Landis and W.H. van der Schalie, eds. ASTM STP 1096. American Society for Testing and Materials, Philadelphia, PA. #1990-2

DeFoe, D.L., G.W. Holcombe, D.E. Hammermeister, and K.E. Biesinger. 1990. Solubility and toxicity of eight phthalate esters to four aquatic organisms. *Environ. Toxicol. Chem.* 9:623-36 #412

Detenbeck, N.E., C.A. Johnston, and G.J. Niemi. 1990. Use of a geographic information system to assess the effect of wetlands on lake water quality in the Minneapolis/St. Paul metropolitan area. In: *Proceedings of the Minnesota Lake Management Conference*, October 7-9, 1990, Brainerd, MN. Pp. 81-85. #1990-5

Dierkes, J.R., G.T. Ankley, and M.K. Berigan. 1990. Results of pore water, sediment and elutriate toxicity assessment in Oswego Bay, Toronto Harbor. USEPA, Duluth, MN. #1990-20

Drummond, R.A. and C.L. Russom. 1990. Behavioral toxicity syndromes: A promising tool for assessing toxicity mechanisms in juvenile fathead minnows. *Environ. Toxicol. Chem.* 9:37-46 #413

Durhan, E.J., M.T. Lukasewycz, and J.R. Amato. 1990. Extraction and concentration of nonpolar organic toxicants from effluents using solid phase extraction. *Environ. Toxicol. Chem.* 9:463-66 #414

Endicott, D.D., W.L. Richardson, and D.M. DiToro. 1990. Lake Ontario TCDD modeling report. In: Lake Ontario TCDD bioaccumulation study, final report. Chapter 8. USEPA, NY State Department of Environmental Conservation, NY State Department of Health, and Occidental Chemical Corporation. #1990-18

Endicott, D.D., W.L. Richardson, T.F. Parkerton, and D.M. DiToro. 1990. A steady state mass balance and bioaccumulation model for toxic chemicals in Lake Ontario: Report to the Lake Ontario Fate of Toxics Committee. EPA/X-90/290. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1990-26

Erickson, R.J. and J.M. McKim. 1990. A model for exchange of organic chemicals at fish gills: Flow and diffusion limitations. *Aquat. Toxicol.* 18:175-97 #415

Erickson, R.J. and J.M. McKim. 1990. A simple flow-limited model for exchange of organic chemicals at fish gills. *Environ. Toxicol. Chem.* 9:159-65 #416

Freeman, J.A., J.V. Johnson, M.E. Hail, R.A. Yost, and D.W. Kuehl. 1990. Estimation of mutagenic/carcinogenic potential of environmental contaminants by ion-molecule reactions and tandem mass spectrometry. *Am. Soc. Mass Spectrom.* 1:110-115 #417

Giesy, J.P., C.J. Rosiu, and R.L. Graney. 1990. Benthic invertebrate bioassays with toxic sediment and pore water. *Environ. Toxicol. Chem.* 9:233-248. #1990-6

Glass, G.E. 1990. Assessing municipal impacts on a Lake Superior estuary. In: *Making a Great Lake Superior*. J. Vander Wal and P.D. Watts, eds. Pp. 201-217. Occasional Paper #9. Lakehead University Centre for Northern Studies, Thunder Bay, Ontario. #1990-14

Glass, G.E., J.A. Sorensen, K.W. Schmidt, and G.R. Rapp, Jr. 1990. New source identification of mercury contamination in the Great Lakes. *Environ. Sci. Technol.* 24:1059-69 #418

Gore, J.A., J.R. Kelly, and J.D. Yount. 1990. Application of ecological theory to determining recovery potential of disturbed lotic ecosystems: Research needs and priorities. *Environ. Manage.* 14:755-62 #419

Hermanutz, R.O., K.N. Allen, and S.F. Hedtke. 1990. Toxicity and fate of total residual chlorine in outdoor experimental streams. In: *Water chlorination chemistry, environmental impact and health effects, vol. 6*. R.L. Jolley, L.W. Condie, D.J. Johnson, S. Katz, R.A. Minear, J.S. Mattice, and V.A. Jacobs, Eds. Pp. 463-477. Lewis Publishers, Chelsea, MI. #1990-10

Hermens, J.L., S.P. Bradbury, and S.J. Broderius. 1990. Influence of cytochrome P450 mixed-function oxidase induction on the acute toxicity to rainbow trout (*Salmo gairdneri*) of primary aromatic amines. *Ecotoxicol. Environ. Saf.* 20:156-66 #420

Hoke, R.A., J.P. Giesy, G.T. Ankley, J.L. Newsted, and J.R. Adams. 1990. Toxicity of sediments from western Lake Erie and the Maumee River at Toledo, Ohio, 1987: Implications for current dredged material disposal practices. *J. Great Lakes Res.* 16:457-70 #421

Host, G.E., R.R. Regal, and C.E. Stephan. 1990. Analyses of acute and chronic data for aquatic life. Office of Environmental Processes and Effects Research, USEPA, ORD, Washington, D.C. #1990-22

Hunt, E.P. and Glass, G.E., eds. 1990. The Environmental Research Laboratory -- Duluth bibliography of research products in the fields of freshwater ecology and toxicology 1967-1990. EPA/600/3-90/071. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Hunter, R.S., G.J. Niemi, A. Pilli, and G.D. Veith. 1990. Aquatic information and retrieval (AQUIRE) database system. In: *Envirotech Vienna 1990: Computer applications for environmental impact analysis*. W. Pillman, Ed. Pp. 42-48. International Society for Environmental Protection, Vienna, Austria. #1990-12

Jarvinen, A.W., R.L. Spehar, and C.E. Stephan. 1990. Chesapeake Bay Pesticide Index and Registry project: Report to Region III. EPA/600/x-90/117. Environmental Research Laboratory, USEPA, Duluth, MN. #1990-3

Johnson, R.D., M.J. Mac, G.N. Stokes, J.E. Tietge, and F. Zhang. 1990. Absence of liver tumors in bullheads (*Ictalurus* spp.) collected from the lower Fox River and Green Bay Wisconsin. EPA/600/X-90/140. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1990-25

Johnston, C.A., N.E. Detenbeck, and G.J. Niemi. 1990. The cumulative effect of wetlands on stream water quality and quantity: A landscape approach. *Biogeochemistry* 10:105-141. #1990-4

Johnston, C.A., T. Johnson, M. Kuehl, D. Taylor, and J. Westman. 1990. The effects of freshwater wetlands on water quality: a compilation of literature values. Natural Resources Research Institute, University of Minnesota, Duluth, MN and ASci Corporation, Duluth, MN. #1990-34

Kemp, J.R. and K.B. Wallace. 1990. Molecular determinants of the species-selective inhibition of brain acetylcholinesterase. *Toxicol. Appl. Pharmacol.* 104:246-258. #1990-9

- Kuehl, D.W., G.T. Ankley, L.P. Burkhard, and D.A. Jensen. 1990. Bioassay directed characterization of the acute aquatic toxicity of a creosote leachate. *Hazard. Waste Hazard. Mater.* 7:283-91 #422
- Leino, R.L., J.H. McCormick, and K.M. Jensen. 1990. Multiple effects of acid and aluminum on brood stock and progeny of fathead minnow, with emphasis on histopathology. *Can. J. Zool.* 68:234-44 #423
- Leino, R.L. and J.H. McCormick. 1990. Histopathological effects of experimental acidification on largemouth bass, rock bass, and yellow perch from Little Rock Lake, Wisconsin. #1990-4
- Lind, A.E. and G.E. Glass. 1990. Asbestos contamination of Lake Superior: ten years of litigation -- U.S.A. vs Reserve Mining Company. In: Contaminants and Sediments – Vol.1, pp. 219-270. #1990-7
- Lodge, K.B. 1990. Measurement of K_p , K_{oc} and related quantities with particular reference to Lake Ontario and the Hyde Park case. In: Lake Ontario TCDD bioaccumulation study, final report. Chapter 5. USEPA, NY State Department of Environmental Conservation, NY State Department of Health, and Occidental Chemical Corporation. #1990-18
- Nichols, J.W., J.M. McKim, M.E. Andersen, M.L. Gargas, H.J. Clewell III, and R.J. Erickson. 1990. A physiologically based toxicokinetic model for the uptake and disposition of waterborne organic chemicals in fish. *Toxicol. Appl. Pharmacol.* 106:433-47 #424
- Nichols, J.W. and L.J. Weber. 1990. Lack of myoglobin function in the isolated perfused buffalo sculpin (*Enophrys bison*) heart. *Can. J. Zool.* 68:825-29 #425
- Niemi, G.J., P.W. DeVore, N.E. Detenbeck, D.K. Taylor, A.R. Lima, J. Pastor, J.D. Yount, and R.J. Naiman. 1990. Overview of case studies on recovery of aquatic systems from disturbance. *Environ. Manage.* 14:571-87 #426
- Norberg-King, T.J. 1990. Letter to the editor: Seven-day tests and chronic tests. *Environ. Toxicol. Chem.* 9:1435-36 #427
- Pratt, J.R. and N.J. Bowers. 1990. Effect of selenium on microbial communities in laboratory microcosms and outdoor streams. *Tox. Assess.: An International Journal* 5:293-307. #1990-33
- Rothstein, A.B., C. Hagley, and G.J. Niemi. 1990. Fox River/Green Bay red-winged blackbird study. Environmental Research Laboratory, USEPA, Duluth, MN. #1990-32
- Schubauer-Berigan, M.K., J.R. Dierkes, and G.T. Ankley. 1990. Toxicity identification evaluations of contaminated sediments in the Buffalo River, NY and the Saginaw River, MI. National Effluent Toxicity Assessment Center Technical Report 20-90. Final Report to ARCS Risk Assessment and Modeling Workgroup. USEPA, Environmental Research Laboratory, Duluth, MN. #1990-21

Schultz, R. and R.O. Hermanutz. 1990. Transfer of toxic concentrations of selenium from parent to progeny in the fathead minnow (*Pimephales promelas*). *Bull. Environ. Contam. Toxicol.* 45:568-73 #428

Sierszen, M.E. 1990. Variable selectivity and the role of nutritional quality in food selection by a planktonic rotifer. *Oikos* 59:241-47 #429

Sierszen, M.E. and T.M. Frost. 1990. Effects of an experimental lake acidification on zooplankton feeding rates and selectivity. *Can. J. Fish. Aquat. Sci.* 47(4):772-779. #1990-30

Snarski, V.M. 1990. Interactions between *Bacillus thuringiensis* subsp. *israelensis* and fathead minnows, *Pimephales promelas* Rafinesque, under laboratory conditions. *Appl. Environ. Microbiol.* 56:2618-22 #430

Sorensen, J.A., G.E. Glass, K.W. Schmidt, J.K. Huber, and G.R. Rapp, Jr. 1990. Airborne mercury deposition and watershed characteristics in relation to mercury concentrations in water, sediments, plankton and fish of eighty northern Minnesota lakes. *Environ. Sci. Technol.* 24:1716-27 #431

Spoor, W.A. 1990. Distribution of fingerling brook trout, *Salvelinus fontinalis* (Mitchill), in dissolved oxygen concentration gradients. *J. Fish Biol.* 36:363-73 #432

Taraldsen, J.E. and T.J. Norberg-King. 1990. New method for determining effluent toxicity using duckweed (*Lemna minor*). *Environ. Toxicol. Chem.* 9:761-67 #433

Tillitt, D.E., J.P. Giesy, and G.T. Ankley. 1990. Characterization of the H4IIE rat hepatoma cell bioassay as a tool for assessing toxic potency of planar halogenated hydrocarbons in environmental samples. *Environ. Sci. Technol.* 25:87-92 #434

USEPA, et al. 1990. Lake Ontario TCDD bioaccumulation study, final report and appendices (2 volumes). USEPA, NY State Department of Environmental Conservation, NY State Department of Health, and Occidental Chemical Corporation. #1990-18

Vaishnav, D.D. and E.T. Korthals. 1990. Comparative toxicities of selected industrial chemicals to microorganisms and other aquatic organisms. *Arch. Environ. Contam. Toxicol.* 19:624-628. #1990-16

Veith, G.D. 1990. Report on methods to compute reactivity parameters for electrophilic chemicals. Environmental Research Laboratory, Office of Research and Development, USEPA, Duluth, MN. #1990-27

Veith, G.D. and S.J. Broderius. 1990. Rules for distinguishing toxicants that cause type I and type II narcosis syndromes. *Environ. Health Perspect.* 87:207-11 #435

Wiener, J.G., R.E. Martini, T.B. Sheffy, and G.E. Glass. 1990. Factors influencing mercury concentrations in walleyes in northern Wisconsin lakes. *Trans. Am. Fish. Soc.* 119:862-70 #436

Xue, W., A.K. Samanta, and R.M. Carlson. 1990. The identification and quantitation of alkylated nucleobases by high-performance liquid chromatography with UV photodiode array detection. *J. Chromat. Sci.* 28:477-481. #1990-7

Yount, J.D. 1990. The eco-invaders. *EPA Journal* 16(6):51-53. #1990-15

Yount, J.D. and G.J. Niemi. 1990. Recovery of lotic communities and ecosystems from disturbance--a narrative review of case studies. *Environ. Manage.* 14:547-69 #437

1989

Anderson, R.L. 1989. Toxicity of synthetic pyrethroids to freshwater invertebrates. *Environ. Toxicol. Chem.* 8:401-10 #374

Anderson, R.L., L. Shannon, and E. Mead. 1989. Distribution, persistence and toxicity of a biological control agent in a freshwater microcosm and natural system. Environmental Research Laboratory, USEPA, Duluth, MN. #1989-52

Anderson, E.B., R. Hedin, R.L. Huss, A. Jarvinen, J.A. Johnson, E.A. Lundmark, and A. Pilli. 1989. Ranking of pesticide inert ingredients using the AQUIRE data base and structure activity relationships. Environmental Research Laboratory, USEPA, Duluth, MN. #1989-45

Arthur, J.W., A. Katko, H.W. Read, and C.T. Walbridge. 1989. Ambient toxicity assessments in the upper Illinois River basin. EPA/600/x-89/089. USEPA, Duluth, MN. #1989-27

Ankley, G.T., V.S. Blazer, S.M. Plakas, and R.E. Reinert. 1989. Dietary lipid as a factor modulating xenobiotic metabolism in channel catfish (*Ictalurus punctatus*). *Can. J. Fish. Aquat. Sci.* 46:1141-46 #375

Ankley, G.T., R.A. Hoke, J.P. Giesy, and P.V. Winger. 1989. Evaluation of the toxicity of marine sediments and dredge spoils with the Microtox® bioassay. *Chemosphere* 18:2069-75 #376

Ankley, G.T., D.E. Tillitt, and J.P. Giesy. 1989. Maternal transfer of bioactive polychlorinated aromatic hydrocarbons in spawning chinook salmon (*Oncorhynchus tshawytscha*). *Mar. Environ. Res.* 28:231-34 #377

Ankley, G.T., D.E. Tillitt, J.W. Gooch, and J.P. Giesy. 1989. Hepatic enzyme systems as biochemical indicators of the effects of contaminants on reproduction of chinook salmon (*Oncorhynchus tshawytscha*). *Comp. Biochem. Physiol.* 94C:235-42 #378

Balducci, R., A. Roda, and R.S. Pearlman. 1989. A theoretical model for the critical micelle concentration of bile salts. *J. Solu. Chem.* 18(4):355-367. #1989-55

- Batterman, A.R., P.M. Cook, K.B. Lodge, D.B. Lothenbach, and B.C. Butterworth. 1989. Methodology used for a laboratory determination of relative contributions of water, sediment and food chain routes of uptake for 2,3,7,8-TCDD bioaccumulation by lake trout in Lake Ontario. *Chemosphere* 19:451-58 #379
- Beaver, D.L. and P.E. Lederle. 1989. Green Bay tree swallow study. Final report submitted to USEPA, Duluth, MN. #1989-3
- Blazer, V.S., G.T. Ankley, and D. Finco-Kent. 1989. Dietary influences on disease resistance factors in channel catfish. *Dev. Comp. Immunol.* 13:43-48 #380
- Bradbury, S.P. and J.R. Coats. 1989. Comparative toxicology of the pyrethroid insecticides. *Rev. Environ. Contam. Toxicol.* 108:133-77 #381
- Bradbury, S.P. and J.R. Coats. 1989. Toxicokinetics and toxicodynamics of pyrethroid insecticides in fish. *Environ. Toxicol. Chem.* 8:373-80 #382
- Bradbury, S.P., R.W. Carlson, and T.R. Henry. 1989. Polar narcosis in aquatic organisms. In: *Aquatic toxicology and hazard assessment, 12th vol.* U.M. Cowgill and L.R. Williams, eds. Pp. 59-73. ASTM STP 1027. American Society for Testing and Materials, Philadelphia, PA. #1989-34
- Bradbury, S.P., T.R. Henry, G.J. Niemi, R.W. Carlson, and V.M. Snarski. 1989. Use of respiratory-cardiovascular responses of rainbow trout (*Salmo gairdneri*) in identifying acute toxicity syndromes in fish: Part 3. Polar narcotics. *Environ. Toxicol. Chem.* 8:247-61 #383
- Brazner, J.C., L.J. Heinis, and D.A. Jensen. 1989. A littoral enclosure for replicated field experiments. *Environ. Toxicol. Chem.* 8:1209-16 #384
- Broderius, S.J., C.L. Russom, and M. Nendza. 1989. Mode of action-specific QSAR models for predicting acute and chronic toxicity of industrial organic chemicals to aquatic organisms. Environmental Research Laboratory- Duluth, USEPA, ORD, Duluth, MN. #1989-1
- Burkhard, L.P. and G.T. Ankley. 1989. Identifying toxicants: NETAC's toxicity-based approach. *Environ. Sci. Technol.* 23:1438-43 #385
- Busse, S.C. and E.H. Abbott. 1989. Cobalt-59 nuclear magnetic resonance studies of chloro-, bromo-, and iodo-substituted tris(acetylacetonato) cobalt (III) complexes. *Inorg. Chem.* 28:488-491. #1989-21
- Call, D.J. and J. Hyland. 1989. Ambient water quality criteria for methyl parathion - 1988. #2184
- Carlson, R.W., G.J. Lien, and B.A. Holmen. 1989. An automated monitoring system for fish physiology and toxicology. EPA Project Summary, EPA/600/S3-89/011. USEPA, Cincinnati, OH. #1989-37

- Carpenter, S.R., T.M. Frost, D. Heisey, and T.K. Kratz. 1989. Randomized intervention analysis and the interpretation of whole-ecosystem experiments. *Ecology* 70(4):1142-1152. #1989-14
- Coffin, D.L., L.D. Palekar, P.M. Cook, and J.P. Creason. 1989. Comparison of mesothelioma induction in rats by asbestos and nonasbestos mineral fibers: possible correlation with human exposure data. In: *Biological Interaction of Inhaled Mineral Fibers and Cigarette Smoke*, Battelle Press, Columbus, OH, 1989, pp. 347-354. #1989-58
- DeGraeve, G.M., W.H. Clement, and M.F. Arthur. 1989. A method for conducting laboratory toxicity degradation evaluations of complex effluents. Report to USEPA, Environmental Research Laboratory, Duluth, MN by Battelle, Columbus Division, Columbus, OH. #1989-20
- Dyer, S.D., J.R. Coats, S.P. Bradbury, G.J. Atchison, and J.M. Clark. 1989. Effects of water hardness and salinity on the acute toxicity and uptake of fenvalerate by bluegill (*Lepomis macrochirus*). *Bull. Environ. Contam. Toxicol.* 42:359-366. #1989-40
- Eilers, J.M., G.E. Glass, A.K. Pollack, and J.A. Sorensen. 1989. Changes in conductivity, alkalinity, calcium, and pH during a 50-year period in selected northern Wisconsin lakes. *Can. J. Fish. Aquat. Sci.* 46:1929-44 #386
- El-Shaarawi, A.H. and D.M. Dolan. 1989. Maximum likelihood estimation of water quality concentrations from censored data. *Can. J. Fish. Aquat. Sci.* 46:1033-1039. #1989-12
- Erickson, R.J., C. Kleiner, J. Fiandt, and T. Highland. 1989. Report on the feasibility of predicting the effects of fluctuating concentrations on aquatic organisms and possible application to water quality criteria. Environmental Research Laboratory, USEPA, Duluth, MN. #1989-2
- Erickson, R.J. 1989. Report on aquatic effects models for fluctuating transient exposures. Environmental Research Laboratory, USEPA, Duluth, MN. #1989-43
- Fairbrother, A. and J. Fowles. 1989. Selenium immunotoxicity in mallards. Environmental Research Laboratory, USEPA, Corvallis, OR. #1989-60
- Giesy, J.P., R.L. Graney, J.L. Newsted, and C.J. Rosiu. 1989. Toxicity of sediments in the Detroit River, Michigan: 1986. Environmental Research Laboratory, USEPA, Duluth, MN. #1989-49
- Giesy, J.P. and R.A. Hoke. 1989. Freshwater sediment toxicity bioassessment: Rationale for species selection and test design. *J. Great Lakes Res.* 15(4):539-569. #1989-9
- Greenberg, E. and C.J. Watras. 1989. Field evaluation of a micro-extraction technique for measuring chlorophyll in lakewater without filtration. *Hydrobiologia* 173:193-197. #1989-28
- Hall, L.H. and L.B. Kier. 1989. Estimation of environmental and toxicological properties: Approach and methodology. *Environ. Toxicol. Chem.* 8:19-24. #1989-25

- Hall, L.H., E.L. Maynard, and L.B. Kier. 1989. QSAR investigation of benzene toxicity to fathead minnow using molecular connectivity. *Environ. Toxicol. Chem.* 8:783-788. #1989-23
- Hall, L.H., E.L. Maynard, and L.B. Kier. 1989. Structure-activity relationship studies on the toxicities of benzene derivatives: III. Predictions and extension to new substituents. *Environ. Toxicol. Chem.* 8:431-436. #1989-24
- Hansch, C., D. Kim, A.J. Leo, E. Novellino, C. Silipo, and A. Vittoria. 1989. Toward a quantitative comparative toxicology of organic compounds. *CRC Crit. Rev. Toxicol.* 19(3):185-225. #1989-17
- Hansen, D.J., W.J. Berry, and C.E. Stephan. 1989. Internal report on the relative acute sensitivities of benthic and water-column species. EPA/600/x-89/132. Environmental Research Laboratory, USEPA, Duluth, MN. #1989-48
- Herman, L.J. 1989. Inexpensive method for repair of YSI model 403 thermistor probes. *Prog. Fish Cult.* 51:170-171 #387
- Holcombe, G.W., G.L. Phipps, and G.D. Veith. 1989. Use of aquatic lethality tests to estimate safe toxicant concentrations for initial ecological risk assessments. In: *Aquatic toxicology and environmental fate, 11th vol.* G.W. Suter, II and M.A. Lewis, eds. Pp. 442-458. ASTM STP 1007. American Society for Testing and Materials, Philadelphia, PA. #1989-32
- Johnston, C.A. 1989. Ecological research applications of Geographic Information Systems. EPA/600/D-89/179. Presented at GIS/LIS '89, American Society for Photogrammetry and Remote Sensing, November 26-30, 1989, Orlando, FL. #1989-1
- Johnston, C.A. 1989. Human impacts to Minnesota wetlands. *J. Minn. Acad. Science* 55(1):120-124. #1989-57
- Jude, D., M. Flexner, R. Moll, P. Mansfield, D.S. White, and S. Hendricks. 1989. Water quality changes along the Detroit River and effects on entrained zooplankton and larval fish. Cooperative agreement project report. Large Lakes Research Station, USEPA, Grosse Ile, MI. #1989-44
- Kline, E.R., A.W. Jarvinen, and M.L. Knuth. 1989. Acute toxicity of triphenyltin hydroxide to three cladoceran species. *Environ. Pollut.* 56:11-17 #388
- Knuth, M.L. 1989. Determination of the insect growth regulator methoprene in natural waters by capillary gas-liquid chromatography. *Chemosphere* 18:2275-81 #389
- Kreis, R.G., Jr., J.E. Rathbun, A.E. Maccubbin, R.A. Hites, V.E. Smith, M.J. Mac, J.C. Filkins, S.A. Rudolph, M.D. Mullin, K.A. Vargo, and K.P. McGunagle. 1989. An investigation of neoplasia in Detroit River fish and its relationship to sediment contamination. Large Lakes Research Station, USEPA, Grosse Ile, MI. #1989-46

- Krezoski, J.R. 1989. Sediment reworking and transport in eastern Lake Superior: *In situ* rare earth element tracer studies. *J. Great Lakes Res.* 15(1):26-33. #1989-22
- Kuehl, D.W., G.T. Ankley, L.P. Burkhard, D.A. Jensen, and J.J. Jenson. 1989. Toxicity profiles for aquatic impacts as waste leachate characteristics: Toxicity characteristics of creosote and latex paint leachates. Environmental Research Laboratory, USEPA, Duluth, MN. #1989-51
- Kuehl, D.W., B.C. Butterworth, A. McBride, S. Kroner, and D. Bahnick. 1989. Contamination of fish by 2,3,7,8-tetrachlorodibenzo-*p*-dioxin: A survey of fish from major watersheds in the United States. *Chemosphere* 18:1997-2014 #390
- Leo, A.J. 1989. Increasing the accuracy of computer calculated log P(oct/water) values. In: *QSAR: Quantitative structure-activity relationships in drug design*. Alan R. Liss, Inc. Pp. 53-58. #1989-4
- Lodge, K.B. 1989. Solubility studies using a generator column for 2,3,7,8-tetrachlorodibenzo-*p*-dioxin. *Chemosphere* 18(1-6):933-940. #1989-19
- Lodge, K.B. and P.M. Cook. 1989. Partitioning studies of dioxin between sediment & water: The measurement of K_{oc} for Lake Ontario sediment. *Chemosphere* 19:439-44 #391
- Loucks, O.L., G.E. Glass, J.A. Sorensen, and G. Rapp, Jr. 1989. Acidification of long-renewal-time lakes in Wisconsin and Michigan. Environmental Research Laboratory, USEPA, Duluth, MN. #1989-50
- Lozano, S.J., J.C. Brazner, M.L. Knuth, L.J. Heinis, K.W. Sargent, D.K. Tanner, L.E. Anderson, S.L. O'Halloran, S.L. Bertelsen, D.A. Jensen, E.R. Kline, M.D. Balcer, F.S. Stay, and R.E. Siefert. 1989. Effects, persistence and distribution of esfenvalerate in littoral enclosures. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1989-56
- Lukasewycz, M.T., C.M. Bleringer, R.J. Liukkonen, M.E. Fitzsimmons, H.F. Corcoran, S. Lin, and R.M. Carlson. 1989. Analysis of inorganic and organic chloramines: Derivatization with 2-mercaptobenzothiazole. *Environ. Sci. Technol.* 23:196-199. #1989-15
- McCormick, J.H., K.M. Jensen, and L.E. Anderson. 1989. Chronic effects of low pH and elevated aluminum on survival, maturation, spawning and embryo-larval development of the fathead minnow in soft water. *Water Air Soil Pollut.* 43:293-307 #392
- McCormick, J.H., K.M. Jensen, and R.L. Leino. 1989. Survival, blood osmolality, and gill morphology of juvenile yellow perch, rock bass, black crappie, and largemouth bass exposed to acidified soft water. *Trans. Am. Fish. Soc.* 118:386-99 #393
- McCormick, J.H., G.N. Stokes, and R.O. Hermanutz. 1989. Oocyte atresia and reproductive success in fathead minnows (*Pimephales promelas*) exposed to acidified hardwater environments. *Arch. Environ. Contam. Toxicol.* 18:207-14 #394

McKee, J.D., T.P. Wilson, D.T. Long, and R.M. Owen. 1989. Geochemical partitioning of Pb, Zn, Cu, Fe, and Mn across the sediment-water interface in large lakes. *J. Great Lakes Res.* 15(1):46-58. #1989-18

McNaught, D.C. 1989. Functional bioassays utilizing zooplankton: A comparison. *Hydrobiologia* 188/189:117-121. #1989-13

Mount, D.I., E. Durhan, and G. Peterson. 1989. The Buckman Street POTW. NETAC Technical Report 01-89. National Effluent Toxicity Assessment Center, Mid-Continent Ecology Division, National Health and Environmental Effects Research Laboratory, USEPA, Duluth, MN. #1989-53

Newman, R.M. and J.A. Perry. 1989. The combined effects of chlorine and ammonia on litter breakdown in outdoor experimental streams. *Hydrobiologia* 184:69-78. #1989-7

Nichols, J.W. and L.J. Weber. 1989. Comparative oxygen affinity of fish and mammalian myoglobins. *J. Comp. Physiol.* 159B:205-9 #395

Nichols, J.W. and L.J. Weber. 1989. Oxidation of cardiac myoglobin in vivo by sodium nitrite or hydroxylamine. *Arch. Toxicol.* 63:484-88 #396

Niemi, G.J., S.C. Basak, and G.D. Veith. 1989. A theoretical and computational approach to chemical evaluation based on structure-activity relationships. In: *Envirotech Vienna 1989*. Session 1: Evaluation of hazardous substances and products. K.L Zirm and J. Mayer, eds. Pp. 57-68. Umweltbundesamt, Federal Environmental Agency, Vienna, Austria. #1989-39

Niemi, G.J. and G.D. Veith. 1989. An approach for development of structure-biodegradation relationships of organic chemicals. In: *Aquatic toxicology and environmental fate, 11th vol.* G.W. Suter, II and M.A. Lewis, eds. Pp. 459-467. ASTM STP 1007. American Society for Testing and Materials, Philadelphia, PA. #1989-31

Norberg-King, T.J. 1989. An evaluation of the fathead minnow seven-day subchronic test for estimating chronic toxicity. *Environ. Toxicol. Chem.* 8:1075-89 #397

Norberg-King, T.J., M. Lukasewycz, and J. Jenson. 1989. Results of diazinon levels in POTW effluents in the United States. NETAC Technical Report 14-89. National Effluent Toxicity Assessment Center, Mid-Continent Ecology Division, National Health and Environmental Effects Research Laboratory, USEPA, Duluth, MN. #1989-54

Pickering, Q.H., D.O. Carle, A. Pilli, T. Willingham, and J.M. Lazorchak. 1989. Effects of pollution on freshwater organisms. *J. Water Pollut. Control Fed.* 61:998-1042 #398

- Rosiu, C.J., J.P. Giesy, and R.G. Kreis, Jr. 1989. Toxicity of vertical sediments in the Trenton Channel, Detroit River, Michigan, to *Chironomus tentans* (Insecta: Chironomidae). *J. Great Lakes Res.* 15(4):570-580. #1989-10
- Safe, S., T. Zacharewski, L. Safe, M. Harris, C. Yao, and M. Holcomb. 1989. Validation of the AHH induction bioassay for the determination of 2,3,7,8-TCDD toxic equivalents. *Chemosphere* 18(1-6):941-946. #1989-30
- Shannon, L.J., T.E. Flum, R.L. Anderson, and J.D. Yount. 1989. Adaptation of mixed flask culture microcosms for testing the survival and effects of introduced microorganisms. In: *Aquatic toxicology and hazard assessment, 12th vol.* U.M. Cowgill and L.R. Williams, eds. Pp. 224-239. ASTM STP 1027. American Society for Testing and Materials, Philadelphia, PA. #1989-35
- Shiraishi, H., D.S. Carter, and R.A. Hites. 1989. Identification and determination of *tert*-alkylphenols in carp from the Trenton Channel of the Detroit River, Michigan, USA. *Biomed. Environ. Mass Spectrom.* 18:478-483. #1989-11
- Siefert, R.E., S.J. Lozano, J.C. Brazner, and M.L. Knuth. 1989. Littoral enclosures for aquatic field testing of pesticides: Effects of chlorpyrifos on a natural system. In: *Using mesocosms to assess the aquatic ecological risk of pesticides: Theory and practice.* Pp. 57-73. Miscellaneous Publications No. 75. Entomological Society of America, Lanham, Maryland. #1989-38
- Spehar, R. 1989. Memo with lab results attached. Memo to colleague at UW-Superior. Office of Research and Development, USEPA, Duluth, MN . #1989-59
- Stay, F.S., T.E. Flum, L.J. Shannon, and J.D. Yount. 1989. An assessment of the precision and accuracy of SAM and MFC microcosms exposed to toxicants. In: *Aquatic toxicology and hazard assessment, 12th vol.* U.M. Cowgill and L.R. Williams, eds. Pp. 189-203. ASTM STP 1027. American Society for Testing and Materials, Philadelphia, PA. #1989-36
- Stay, F.S., A. Katko, C.M. Rohm, M.A. Fix, and D.P. Larsen. 1989. The effects of atrazine on microcosms developed from four natural plankton communities. *Arch. Environ. Contam. Toxicol.* 18:866-75 #400
- Stephan, C.E. 1989. Topics on expressing and predicting results of life-cycle tests. In: *Aquatic toxicology and environmental fate, 11th vol.* G.W. Suter, II and M.A. Lewis, eds. Pp. 263-272. ASTM STP 1007. American Society for Testing and Materials, Philadelphia, PA. #1989-33
- Swenson, W.A., J.H. McCormick, T.D. Simonson, K.M. Jensen, and J.G. Eaton. 1989. Experimental acidification of Little Rock Lake (Wisconsin): Fish research approach and early responses. *Arch. Environ. Contam. Toxicol.* 18:167-74 #401
- Symonik, D.M., J.R. Coats, S.P. Bradbury, G.J. Atchison, and J.M. Clark. 1989. Effect of fenvalerate on metabolic ion dynamics in the fathead minnow (*Pimephales promelas*) and bluegill (*Lepomis macrochirus*). *Bull. Environ. Contam. Toxicol.* 42:821-828. #1989-41

Tillitt, D.E., G.T. Ankley, and J.P. Giesy. 1989. Planar chlorinated hydrocarbons (PCHs) in colonial fish-eating waterbird eggs from the Great Lakes. *Mar. Environ. Res.* 28:505-8 #402

Ullman, W.J. and R.C. Aller. 1989. Nutrient release rates from the sediments of Saginaw Bay, Lake Huron. *Hydrobiologia* 171(2):127-140. #1989-8

Vaishnav, D.D., L. Babeu, and E.T. Korthals. 1989. Effect of microbial concentration on biodegradation rates of phenols. *J. Indust. Microbiol.* 4:307-314. #1989-6

Veith, G.D. 1989. Unified QSAR strategy for predictive ecotoxicology and initial environmental risk assessment. Environmental Research Laboratory, USEPA, Duluth, MN. #1989-42

Veith, G.D., R.L. Lipnick, and C.L. Russom. 1989. The toxicity of acetylenic alcohols to the fathead minnow, *Pimephales promelas*: Narcosis and proelectrophile activation. *Xenobiotica* 19:555-65 #403

Wallace, K.B. 1989. Glutathione-dependent metabolism in fish and rodents. *Environ. Toxicol. Chem.* 8:1049-1055. #1989-26

Watras, C.J. and T.M. Frost. 1989. Little Rock Lake (Wisconsin): Perspectives on an experimental ecosystem approach to seepage lake acidification. *Arch. Environ. Contam. Toxicol.* 18:157-165. #1989-29

Winner, R.W. 1989. Multigeneration life-span tests of the nutritional adequacy of several diets and culture waters for *Ceriodaphnia dubia*. *Environ. Toxicol. Chem.* 8:513-520. #1989-16

Yount, J.D. 1989. Analysis of frequency of criteria exceedences as related to aquatic community impact. Environmental Research Laboratory, USEPA, Duluth, MN. #1989-47

Zacharewski, T., L. Safe, and S. Safe. 1989. Comparative analysis of polychlorinated dibenzo-*p*-dioxin and dibenzofuran congeners in Great Lakes fish extracts by gas chromatography-mass spectrometry and in vitro enzyme induction activities. *Environ. Sci. Tech.* 23:730-735. #1989-5
1988

Ankley, G.T. and V.S. Blazer. 1988. Effects of diet on PCB-induced changes in xenobiotic metabolism in the liver of channel catfish (*Ictalurus punctatus*). *Can. J. Fish Aquat. Sci.* 45(1):132-137. #1988-2

Arthur, J.W. 1988. Application of laboratory-derived criteria to an outdoor stream ecosystem. *Int. J. Environ. Stud.* 32:97-110 #360

Bartell, S.M. 1988. Community and ecosystem models for ecological risk assessment. White paper. EPA/600/x-88/109. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-47

Bauer, C.F. and A.W. Andren. 1988. Variability of particulate trace element emissions from the Columbia coal-fired power plant, Portage, Wisconsin. *Sci. Total Environ.* 68:251-266. #1988-29

Beder-Miller, S.E. and R.L. Spehar. 1988. Manual for the Aquatic Toxicity Test Analysis System (ATTAS). Environmental Research Laboratory, USEPA, Duluth, MN. #1988-42

Bedford, K.W., G. Koltun, O. Wai, C.M. Libicki, and R.V. Evra. 1988. A stochastic/deterministic methodology for estimating resuspension potential and risk and its application to the Trenton Channel of the Detroit River (Appendix H). In: *Final report to the Upper Great Lakes Connecting Channels Study Activities Workgroups for Tasks in Activities C, G, and H*. Integrated study of exposure and biological effects of in-place sediment pollutants in the upper connecting channels: Interim results. R.G. Kreis, Jr., Ed. USEPA, Environmental Research Laboratory, Duluth, MN and Large Lakes Research Station, Grosse Ile, MI. App. H. #1988-4

Black, J.J., A.E. Maccubbin, and C.J. Johnston. 1988. Carcinogenicity of benzo[*a*]pyrene in rainbow trout resulting from embryo microinjection. *Aquatic Tox.* 13:297-308. #1988-16

Black, J.J., A.E. Maccubbin, H.K. Myers, and R.F. Zeigel. 1988. Aflatoxin B1 induced hepatic neoplasia in Great Lakes coho salmon. *Bull. Environ. Contam. Toxicol.* 41:742-745. #1988-24

Brazner, J.C., S. Lozano, M.L. Knuth, S.L. Bertelsen, L.J. Heinis, D.A. Jensen, E.R. Kline, S.L. O'Halloran, K.W. Sargent, D.K. Tanner, and R.E. Siefert. 1988. The effects of chlorpyrifos on a natural aquatic system: A research design for littoral enclosure studies and final research report. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-1

Bridgham, S.D. 1988. Chronic effects of 2,2'-dichlorobiphenyl on reproduction, mortality, growth, and respiration of *Daphnia pulex*. *Arch. Environ. Contam. Toxicol.* 17:731-740. #1988-20

Bridgham, S.D., D.C. McNaught, and C. Meadows. 1988. Effects of complex effluents on photosynthesis in Lake Erie and Lake Huron. In: *Functional testing of aquatic biota for estimating hazards of chemicals*. Cairns, J., Jr. and J.R. Pratt, Eds. ASTM STP 988. American Society for Testing and Materials, Philadelphia, PA. Pp. 74-85. #1988-21

Degraeve, G.M., W.H. Clement, M.F. Arthur, R.B. Gillespie, and G.K. O'Brien. 1988. Environmental persistence/degradation of toxicity in complex effluents: Laboratory simulations of field conditions. In: *Aquatic toxicology and hazard assessment, 10th vol.* W.J. Adams, G.A. Chapman, and W.G. Landis, Eds. ASTM STP 971. American Society for Testing and Materials, Philadelphia, PA. Pp. 177-189. #1988-13

Denny, J.S. 1988. Guidelines for the culture of fathead minnows, *Pimephales promelas* for use in toxicity tests. EPA/600/3-87/001. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-38

DePinto, J.V., T.L. Theis, T.C. Young, D. Vanetti, M. Waltman, and S. Leach. 1988. Exposure and biological effects of in-place pollutants: Sediment exposure potential and particle-contaminant interactions (Appendix A). In: *Final report to the Upper Great Lakes Connecting Channels Study Activities Workgroups for Tasks in Activities C, G, and H*. Integrated study of exposure and biological effects of in-place sediment pollutants in the upper connecting channels: Interim results. Russell G. Kreis, Jr., Ed. USEPA, Environmental Research Laboratory, Duluth, MN and Large Lakes Research Station, Grosse Ile, MI. Appendix A. #1988-4

Ellis, B.K. and J.A. Stanford. 1988. Nutrient subsidy in montane lakes: Fluvial sediments versus volcanic ash. *Very. Infernal. Verdin. Limno.* 23:327-340. #1988-31

Ellis, B.K. and J.A. Stanford. 1988. Phosphorus bioavailability of fluvial sediments determined by algal assays. *Hydrobiologia* 160:9-18. #1988-5

Erickson, R. 1988. Recommendations concerning revision of the: Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-56

Evans, M.S. and D.C. McNaught. 1988. The effects of toxic substances on zooplankton populations: A Great Lakes perspective. In: *Toxic contaminants and ecosystem health: A Great Lakes focus*. Evans, M.S., Ed. John Wiley and Sons, Inc., New York, NY. Pp. 53-76. #1988-22

Flexner, M.C. 1988. A diel study of the impact of water quality on larval yellow perch *Perca flavescens* (Mitchell) and other biota in the Trenton Channel of the Detroit River, 1986 (appendix O). In: *Final report to the Upper Great Lakes Connecting Channels Study Activities Workgroups for Tasks in Activities C, G, and H*. Integrated study of exposure and biological effects of in-place sediment pollutants in the upper connecting channels: Interim results. Russell G. Kreis, Jr., ed. USEPA, Environmental Research Laboratory, Duluth, MN and Large Lakes Research Station, Grosse Ile, MI. Appendix O. #1988-4

Frost, T.M. and P.K. Montz. 1988. Early zooplankton response to experimental acidification in Little Rock Lake, Wisconsin, USA. *Very. Infernal. Verdin. Limno.* 23:2279-2285. #1988-58

Furlong, E.T., D.S. Carter, and R.A. Hites. 1988. Organic contaminant measurements in Detroit River sediments (Appendix E). In: *Final report to the Upper Great Lakes Connecting Channels Study Activities Workgroups for Tasks in Activities C, G, and H*. Integrated study of exposure and biological effects of in-place sediment pollutants in the upper connecting channels: Interim results. Russell G. Kreis, Jr., ed. USEPA, Environmental Research Laboratory, Duluth, MN and Large Lakes Research Station, Grosse Ile, MI. Appendix E. #1988-4

Furlong, E.T., D.S. Carter, and R.A. Hites. 1988. Organic contaminants in sediments from the Trenton Channel of the Detroit River, Michigan. *J. Great Lakes Res.* 14(4):489-501. #1988-9

Giesy, J.P., R.L. Graney, J.L. Newsted, C.J. Rosiu, A. Benda, R.G. Kreis, and F.J. Horvath. 1988. Comparison of three sediment bioassay methods using Detroit River sediments. *Environ. Toxicol. Chem.* 7:483-98 #361

Giesy, J.P., C.J. Rosiu, R.L. Graney, J.L. Newsted, A. Benda, R.G. Kreis, and F.J. Horvath. 1988. Toxicity of Detroit River sediment interstitial water to the bacterium *Photobacterium phosphoreum*. *J. Great Lakes Res.* 14:502-13 #362

Giesy, J.P., R.L. Graney, J.L. Newsted, C.J. Rosiu, and A. Benda. 1988. A comparison of three sediment bioassay methods for Detroit River sediments (Appendix J). In: *Final report to the Upper Great Lakes Connecting Channels Study Activities Workgroups for Tasks in Activities C, G, and H*. Integrated study of exposure and biological effects of in-place sediment pollutants in the upper connecting channels: Interim results. R.G. Kreis, Jr., ed. USEPA, Environmental Research Laboratory, Duluth, MN and Large Lakes Research Station, Grosse Ile, MI. Appendix J. #1988-4

Giesy, J.P., R.L. Graney, J.L. Newsted, C.J. Rosiu, A. Benda, R.G. Kreis, Jr., and F.J. Horvath. 1988. Comparison of three sediment bioassay methods using Detroit River sediments. *Environ. Toxicol. Chem.* 7:483-498. #1988-25

Giesy, J.P., C.J. Rosiu, R.L. Graney, J.L. Newsted, and A. Benda. 1988. Detroit River sediment toxicity (Appendix I). In: *Final report to the Upper Great Lakes Connecting Channels Study Activities Workgroups for Tasks in Activities C, G, and H*. Integrated study of exposure and biological effects of in-place sediment pollutants in the upper connecting channels: Interim results. R.G. Kreis, Jr., ed. USEPA, Environmental Research Laboratory, Duluth, MN and Large Lakes Research Station, Grosse Ile, MI. Appendix I #1988-4

Giesy, J.P., C.J. Rosiu, R.L. Graney, J.L. Newsted, A. Benda, R.G. Kreis, Jr., and F.J. Horvath. 1988. Toxicity of Detroit River sediment interstitial water to the bacterium *Photobacterium phosphoreum*. *J. Great Lakes Res.* 14(4):502-513. #1988-26

Helgen, J.C., N.J. Larson, and R.L. Anderson. 1988. Responses of zooplankton and *Chaoborus* to temephos in a natural pond and in the laboratory. *Arch. Environ. Contam. Toxicol.* 17:459-71 #363

Herzberg, A.M. 1988. Toxicity and accumulation of permethrin in the tilapia *Oreochromis aureus*. *The Isr. J. Aquacult.-Bamidgeh* 40(1):35-39. #1988-30

Hunter, R.S., F.D. Culver, J.R. Hill, III, and A. Fitzgerald. 1988. QSAR System user manual: A structure-activity based chemical modeling and information system. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-52

Hunter, R.S., F.D. Culver, and G.D. Veith. 1988. Version 1.0 of the QSAR System: Computer system for estimation of physicochemical properties and ecotoxicological effects from chemical structure. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-65

Jarvinen, A.W., D.K. Tanner, and E.R. Kline. 1988. Toxicity of chlorpyrifos, endrin, or fenvalerate to fathead minnows following episodic or continuous exposure. *Ecotoxicol. Environ. Saf.* 15:78-95 #364

Jarvinen, A.W., D.K. Tanner, E.R. Kline, and M.L. Knuth. 1988. Acute and chronic toxicity of triphenyltin hydroxide to fathead minnows (*Pimephales promelas*) following brief or continuous exposure. *Environ. Pollut.* 52:289-301 #365

Jensen, D.A. and J.C. Brazner. 1988. Effects of chlorpyrifos on macroinvertebrates in littoral enclosures. In: *Proceedings of the Fourteenth Annual Aquatic Toxicity Workshop*, November 2-4, 1987, Toronto, Ontario. A.J. Niimi and K.R. Solomon, Eds. Pp. 101-107. Canadian Technical Report of Fisheries and Aquatic Sciences No. 1607. Department of Fisheries and Oceans, Burlington, Ontario. #1988-37

Kreis, R.G., Jr., ed. 1988. Final report to the Upper Great Lakes Connecting Channels Study Activities Workgroups for Tasks in Activities C, G, and H. Integrated study of exposure and biological effects of in-place sediment pollutants in the upper connecting channels: Interim results. USEPA, Environmental Research Laboratory, Duluth, MN and Large Lakes Research Station, Grosse Ile, MI. #1988-4

Landrum, P.F. and R. Poore. 1988. Toxicokinetics of selected xenobiotics in *Hexagenia limbata*. *J. Great Lakes Res.* 14(4):427-437. #1988-17

Large Lakes Research Station. 1988. Report on project planning for the Green Bay Physical-Chemical Mass Balance and Food Chain Models. Large Lakes Research Station, USEPA, Grosse Ile, MI and Environmental Research Laboratory, USEPA, Duluth, MN. #1988-48

Leino, R.L., J.H. McCormick, and K.M. Jensen. 1988. Effects of acid and aluminum on swim bladder development and yolk absorption in the fathead minnow, *Pimephales promelas*. In: *Proceedings of the Fourteenth Annual Aquatic Toxicity Workshop*, November 2-4, 1987, Toronto, Ontario. A.J. Niimi and K.R. Solomon, eds. Pp. 37-41. Canadian Technical Report of Fisheries and Aquatic Sciences No. 1607. Department of Fisheries and Oceans, Burlington, Ontario. #1988-39

Lick, W. and J. Lick. 1988. Aggregation and disaggregation of fine-grained lake sediments. *J. Great Lakes Res.* 14(4):514-523. #1988-8

Lick, W., K. Ziegler, and C.H. Tsai. 1988. Resuspension, deposition and transport of fine-grained sediments in rivers and near-shore areas (Appendix G). In: *Final report to the Upper Great Lakes Connecting Channels Study Activities Workgroups for Tasks in Activities C, G, and H*. Integrated study of exposure and biological effects of in-place sediment pollutants in the upper connecting channels: Interim results. Russell G. Kreis, Jr., ed. USEPA, Environmental Research Laboratory, Duluth, MN and Large Lakes Research Station, Grosse Ile, MI. Appendix G. #1988-4

Lozano, S.J. 1988. Use of mesocosms in evaluating the health of aquatic ecosystems. In: *Protection of River Basins, Lakes, and Estuaries: fifteen years of cooperation toward solving environmental problems in the USSR and USA*. Ryans, R.C., Ed. pp. 107-115, American Fisheries Society, Bethesda, MD. #1988-61

Maccubbin, A.E. 1988. Biological effects on in-place pollutants: Neoplasia in fish and related causal factors in the Detroit River system (Appendix Q). In: *Final report to the Upper Great Lakes Connecting Channels Study Activities Workgroups for Tasks in Activities C, G, and H*. Integrated study of exposure and biological effects of in-place sediment pollutants in the upper connecting channels: Interim results. Russell G. Kreis, Jr., ed. USEPA, Environmental Research Laboratory, Duluth, MN and Large Lakes Research Station, Grosse Ile, MI. Appendix Q. #1988-4

Maccubbin, A.E., J. Black, and J.C. Harshbarger. 1988. A case report of hepatocellular neoplasia in bowfin, *Amia calva* L. (Appendix R). In: *Final report to the Upper Great Lakes Connecting Channels Study Activities Workgroups for Tasks in Activities C, G, and H*. Integrated study of exposure and biological effects of in-place sediment pollutants in the upper connecting channels: Interim results. Russell G. Kreis, Jr., Ed. USEPA, Environmental Research Laboratory, Duluth, MN and Large Lakes Research Station, Grosse Ile, MI. App. R. (Also published in *Journal of Fish Diseases* 10(4):329-331.). #1988-4

McNaught, D.C., S.D. Bridgham, and C. Meadows. 1988. Effects of complex effluents from the River Raisin on zooplankton grazing in Lake Erie. In: *Functional testing of aquatic biota for estimating hazards of chemicals*. Cairns, J., Jr. and J.R. Pratt, Eds. ASTM STP 988. American Society for Testing and Materials, Philadelphia, PA. Pp. 128-137. #1988-23

Mount, D.I. 1988. Ambient toxicity to assess biological impact. In: *Toxic contaminants and ecosystem health: A Great Lakes focus*. M.S. Evans, Ed. Pp. 237-245. John Wiley & Sons, Inc., New York, NY. #1988-40

Mount, D. I. Methods for aquatic toxicity identification evaluations. Phase III: toxicity confirmation procedures. EPA/600/3-88/036. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (National Effluent Toxicity Assessment Center technical report 04-88).

Mount, D.I. and Anderson-Carnahan, L. Methods for aquatic toxicity identification evaluations. Phase I: Toxicity characterization procedures. EPA/600/3-88/034. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (National Effluent Toxicity Assessment Center technical report 02-88).

Mount, D.I. and Anderson-Carnahan, L. Methods for aquatic toxicity identification evaluations. Phase II: toxicity identification procedures. EPA/600/3-88/035. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (National Effluent Toxicity Assessment Center technical report 02-88).

- Naiman, R.J., H. Décamps, J. Pastor, and C.A. Johnston. 1988. The potential importance of boundaries to fluvial ecosystems. *J. N. Am. Benthol. Soc.* 7(4):289-306. #1988-59
- Naiman, R.J., C.A. Johnston, and J.C. Kelley. 1988. Alteration of North American streams by beaver. *Bioscience* 38(11):753-762. #1988-50
- National Effluent Toxicity Assessment Center. 1988. Permit writers' guide to identification and control of bioconcentratable pollutants in complex effluents. EPA/600/x-88/275. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-49
- Niemi, G.J. and J.M. McKim. 1988. Simplifying complex QSARs in toxicity studies with multivariate statistics. In: *Proceedings of the Third International Workshop on Quantitative Structure-Activity Relationships in Environmental Toxicology*, May 22-26, 1988, Knoxville, TN. CONF-880520. Pp. 11-19. #1988-3
- Niemi, G.J., R.J. Naiman, and J. Pastor. 1988. Factors controlling the recovery of aquatic systems from disturbance. Natural Resources Research Institute--University of Minnesota, Duluth and Environmental Research Laboratory, USEPA, Duluth, MN. #1988-64
- Norberg-King, T.J., D.I. Mount, J.R. Amato, and J.E. Taraldsen. 1988. Application of the water quality based approach on a regional scale: Toxicity testing and identification of toxicants in effluents from the San Francisco Bay region. EPA/600/x-88/237. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-46
- Parrish, P.R., K.L. Dickson, J.L. Hamelink, R.A. Kimerle, K.J. Macek, F.L. Mayer, Jr., and D.I. Mount. 1988. Aquatic toxicology: Ten years in review and a look at the future. In: *Aquatic toxicology and hazard assessment, 10th vol.* W.J. Adams, G.A. Chapman, and W.G. Landis, Eds. Pp. 7-25. ASTM STP 971. American Society for Testing and Materials, Philadelphia, PA. #1988-36
- Patterson, R.L. and Z.Q. Ma. 1988. Sensitivity analyses of parameters of a M(t)/G/oo stochastic service system. *Appl. Math. Comput.* 26:169-177. #1988-11
- Perry, J.A. and N.H. Troelstrup, Jr. 1988. Whole ecosystem manipulation: A productive avenue for test system research? *Environ. Toxicol. Chem.* 7(11):941-951. #1988-41
- Phipps, G.L. and G.W. Holcombe. 1988. Report on species/species extrapolations from freshwater organism comparative toxicology data base. EPA/600/x-88/265. National Water Quality Laboratory, USEPA, Duluth, MN. #1988-44
- Pilli, A., D.O. Carle, E.R. Kline, Q.H. Pickering, and J.M. Lazorchak. 1988. Effects of pollution on freshwater organisms. *J. Water Pollut. Control Fed.* 60:994-1065 #366

- Que, L., Jr., D.D. Cox, and R.C. Kolanczyk. 1988. Functional models for catechol 1,2-dioxygenase. In: *Studies in Organic Chemistry*, vol. 33, pp. 399-405. #1988-60
- Rathbun, J.E., M.L. Gessner, V.E. Smith, D.L. McGunagle, D.J. Brokaw, and M.A. Hoeft. 1988. Bioaccumulation of total PCBs and selected MFO-inducing PCB congeners by caged mussels, fathead minnows, and channel catfish in the Monroe Harbor, River Raisin, Michigan. Large Lakes Research Station, USEPA, Grosse Ile, MI. #1988-43
- Rathbun, J.E., R.G. Kreis, Jr., E.L. Lancaster, M.J. Mac, and M.J. Zabik. 1988. Pilot confined disposal facility biomonitoring study: Channel/Shelter Island diked facility, Saginaw Bay, Bay City, Michigan, 1987. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-53
- Russo, R.C., D.J. Randall, and R.V. Thurston. 1988. Ammonia toxicity and metabolism in fishes. In: *Protection of River Basins, Lakes, and Estuaries: Fifteen years of cooperation toward solving environmental problems in the USSR and USA*. Ryans, R.C., Ed., pp. 159-173, American Fisheries Society, Bethesda, MD. #1988-63
- Russom, C.L., D.L. Brooke, and S.E. Beder-Miller. 1988. Report on fathead minnow chronic toxicity data base for QSAR models of ecotoxicity. EPA/600/x-88/241. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-45
- Russom, C.L., R.A. Drummond, and A.D. Hoffman. 1988. Acute toxicity and behavioral effects of acrylates and methacrylates to juvenile fathead minnows. *Bull. Environ. Contam. Toxicol.* 41:589-96 #367
- Sanville, W. 1988. Responses of an Alaskan wetland to nutrient enrichment. *Aquat. Bot.* 30:231-43 #368
- Schelske, C.L. 1988. Historic trends in Lake Michigan silica concentrations. *Int. revue ges. Hydrobiol.* 73(5):559-591. #1988-19
- Schmieder, P. K. and T. R. Henry. 1988. Plasma binding of 1-butanol, phenol, nitrobenzene and pentachlorophenol in the rainbow trout and rat: A comparative study. *Comp. Biochem. Physiol.* 91C:413-18 #369
- Schoettger, R.A. and R.C. Russo. 1988. Section 3. Effects of pollutants on aquatic organisms and ecosystems: development of water quality criteria. In: *Protection of River Basins, Lakes, and Estuaries: Fifteen years of cooperation toward solving environmental problems in the USSR and USA*. Ryans, R.C., Ed., pp. 117-119, American Fisheries Society, Bethesda, MD. #1988-62
- Schultz, T.W., T.S. Ranney, G.W. Riggan, and M. Cajina-Quezada. 1988. Structure-activity relationships for osteolathyrism. I. Effects of altering the semicarbazide structure. *Trans. Am. Microsc. Soc.* 107(2):113-126. #1988-18

Snarski, V.M. 1988. Ecological interactions between MPCAs and fish: Factors influencing the accumulation of *Bacillus thuringiensis* var. israelensis in freshwater fish during aqueous exposures. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-55

Stay, F.S., A. Katko, C.M. Rohm, M.A. Fix, and D.P. Larsen. 1988. Effects of fluorene on microcosms developed from four natural communities. *Environ. Toxicol. Chem.* 7:635-44 #370

Swackhamer, D.L. and D.E. Armstrong. 1988. Horizontal and vertical distribution of PCBs in southern Lake Michigan sediments and the effect of Waukegan Harbor as a point source. *J. Great Lakes Res.* 14(3):277-290. #1988-6

Swackhamer, D.L. and R.A. Hites. 1988. Occurrence and bioaccumulation of organochlorine compounds in fishes from Siskiwit Lake, Isle Royale, Lake Superior. *Environ. Sci. Technol.* 22(5):543-548. #1988-33

Swenson, W.A., W.P. Gobin, and T.D. Simonson. 1988. Calibrated mask-bar for underwater measurement of fish. *N.A. J. Fish. Manage.* 8:382-385. #1988-15

Theis, T.L., T.C. Young, and J.V. DePinto. 1988. Factors affecting metal partitioning during resuspension of sediments from the Detroit River. *J. Great Lakes Res.* 14(2):216-226. #1988-10

Thomas, N.A. 1988. Use of biomonitoring to control toxics in the United States. *Water Sci. Technol.* 20:101-8 #371

Tietge, J.E., R.D. Johnson, and H.L. Bergman. 1988. Morphometric changes in gill secondary lamellae of brook trout (*Salvelinus fontinalis*) after long-term exposure to acid and aluminum. *Can. J. Fish. Aquat. Sci.* 45:1643-48 #372

USEPA/Hazardous Waste Research Branch. 1988. Report on methods for leachate toxicity characterization. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-54

Vaishnav, D.D., L.T. Brooke, S.H. Poirier, D.J. McCauley, and E.T. Korthals. 1988. Development and validation of single species test protocols for pesticidal and non-pesticidal microbes. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-57a

Vaishnav, D.D., L.T. Brooke, S.H. Poirier, D.J. McCauley, and E.T. Korthals. 1988. Protocol for a chronic test with the cladoceran, *Ceriodaphnia dubia*, exposed to bacteria used as pest control agents. In: *Development and validation of single species test protocols for pesticidal and non-pesticidal microbes*. D.D. Vaishnav, L.T. Brooke, S.H. Poirier, D.J. McCauley, and E.T. Korthals. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-57b

Vaishnav, D.D., L.T. Brooke, S.H. Poirier, D.J. McCauley, and E.T. Korthals. 1988. Protocol for an acute toxicity test with cyclopoid copepods exposed to bacteria used as pest control agents. In: *Development and validation of single species test protocols for pesticidal and non-pesticidal microbes*. D.D. Vaishnav, L.T. Brooke, S.H. Poirier, D.J. McCauley, and E.T. Korthals. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-57c

Vaishnav, D.D., L.T. Brooke, S.H. Poirier, D.J. McCauley, and E.T. Korthals. 1988. Protocol for an acute toxicity test with the cladocerans (*Daphnia magna* and *Daphnia pulex*) exposed to bacteria used as pest control agents. In: *Development and validation of single species test protocols for pesticidal and non-pesticidal microbes*. D.D. Vaishnav, L.T. Brooke, S.H. Poirier, D.J. McCauley, E.T. Korthals. Eds. Environmental Research Laboratory, USEPA, Duluth, MN. #1988-57e

Vaishnav, D.D. and E.T. Korthals. 1988. Comparison of chemical biodegradation rates in BOD dilution and natural waters. *Bull. Environ. Contam. Toxicol.* 41:291-298. #1988-7

Veith, G.D., B.E. Greenwood, R.S. Hunter, G.J. Niemi, and R.R. Regal. 1988. On the intrinsic dimensionality of chemical structure space. *Chemosphere* 17:1617-30 #373

Velleux, M.L., D.D. Endicott, and W.L. Richardson. 1988. Confined disposal facility far-field modeling project report: An application to Saginaw Bay. Large Lakes Research Station, USEPA, Grosse Ile, MI. #1988-51

Wallace, K.B. and U. Herzberg. 1988. Reactivation and aging of phosphorylated brain acetylcholinesterase from fish and rodents. *Toxicol. App. Pharmacol.* 92:307-314. #1988-27

Wallace, K.B. and G.J. Niemi. 1988. Structure-activity relationships of species-selectivity in acute chemical toxicity between fish and rodents. *Environ. Toxicol. Chem.* 7:201-212. #1988-14

Wallace, K.B. and G.J. Niemi. 1988. Structure-activity relationships of species-selectivity in acute chemical toxicity between fish and rodents. *Environ. Toxicol. Chem.* 7:201-212. #1988-32

Watras, C.J. and A.L. Baker. 1988. Detection of planktonic cyanobacteria by tandem *in vivo* fluorometry. *Hydrobiologia* 169:77-84. #1988-34

White, D.S., J. Bowers, D. Jude, R. Moll, S. Hendricks, P. Mansfield, and M. Flexner. 1988. The condition of organisms passing through the Detroit River from Lake St. Clair to Lake Erie (Appendix N). In: *Final report to the Upper Great Lakes Connecting Channels Study Activities Workgroups for Tasks in Activities C, G, and H*. Integrated study of exposure and biological effects of in-place sediment pollutants in the upper connecting channels: Interim results. R.G. Kreis, Jr., Ed. USEPA, Environmental Research Laboratory, Duluth, MN and Large Lakes Research Station, Grosse Ile, MI. Appendix N. #1988-4a

White, D.S., J. Bowers, D. Jude, R. Moll, S. Hendricks, P. Mansfield, and M. Flexner. 1988. Exposure and biological effects of in-place pollutants (Appendix K). In: *Final report to the Upper Great Lakes Connecting Channels Study Activities Workgroups for Tasks in Activities C, G, and H*. Integrated study of exposure and biological effects of in-place sediment pollutants in the upper connecting channels: Interim results. R.G. Kreis, Jr., Ed. USEPA, Environmental Research Laboratory, Duluth, MN and Large Lakes Research Station, Grosse Ile, MI. Appendix K. #1988-4b

White, D.S. and T.J. Keilty. 1988. Burrowing avoidance assays of contaminated Detroit River sediments using the freshwater oligochaete *Stylodrilus heringianus* (Lumbriculidae) (Appendix M). In: *Final report to the Upper Great Lakes Connecting Channels Study Activities Workgroups for Tasks in Activities C, G, and H*. Integrated study of exposure and biological effects of in-place sediment pollutants in the upper connecting channels: Interim results. Russell G. Kreis, Jr., ed. USEPA, Environmental Research Laboratory, Duluth, MN and Large Lakes Research Station, Grosse Ile, MI. Appendix M. #1988-4c

Xue, W. and R.M. Carlson. 1988. Separation characteristics of alkylated guanines in high-performance liquid chromatography. *J. Chromat.* 447:81-90. #1988-28

Young, T.C. and J.V. DePinto. 1988. Factors affecting the efficiency of some estimators of fluvial total phosphorus load. *Water Resources Res.* 24(9):1535-1540. #1988-12

Yount, J.D. and L.J. Shannon. 1988. State changes in laboratory microecosystems in response to chemicals from three structural groups. In: *Functional testing of aquatic biota for estimating hazards of chemicals*. J. Cairns, Jr. and G. Pratt, Eds. Pp. 86-96. ASTM STP 988. American Society for Testing and Materials, Philadelphia, PA. #1988-35

1987

Anderson, E.B., G.D. Veith, and D. Weininger. 1987. SMILES: A line notation and computerized interpreter for chemical structures. Environmental Research Brief, EPA/600/M-87/021. USEPA, Cincinnati, OH. #1987-38

Arthur, J.W., C.W. West, K.N. Allen, and S.F. Hedtke. 1987. Seasonal toxicity of ammonia to five fish and nine invertebrate species. *Bull. Environ. Contam. Toxicol.* 38:324-31 #335

Auer, N.A. and M.T. Auer. 1987. Field evaluation of barriers to walleye egg and larva survival in the lower Fox River, Wisconsin. *Am. Fish. Soc. Symp.* 2:93-101. #1987-21

Babeu, L. and D.D. Vaishnav. 1987. Prediction of biodegradability for selected organic chemicals. *J. Indust. Microbiol.* 2:107-115. #1987-12

Bedford, K.W. and M. Abdelrhman. 1987. Analytical and experimental studies of the benthic boundary layer and their applicability to near-bottom transport in Lake Erie. *J. Great Lakes Res.* 13(4):628-648. #1987-11

Bengtsson, B.E., T.J. Norberg-King, and D.I. Mount, eds. 1987. Effluent and ambient toxicity testing in the Gota Alv and Viskan Rivers, Sweden: A U.S.-Swedish OECD Cooperative Project. Naturvardsverket Rapport 3275. Naturvardsverket, Solna, Sweden. #1987-35

Bradbury, S.P., J.M. McKim, and J.R. Coats. 1987. Physiological response of rainbow trout (*Salmo gairdneri*) to acute fenvalerate intoxication. *Pestic. Biochem. Physiol.* 27:275-88 #336

Bradbury, S.P., D.M. Symonik, J.R. Coats, and G.J. Atchison. 1987. Toxicity of fenvalerate and its constituent isomers to the fathead minnow, *Pimephales promelas*, and bluegill, *Lepomis macrochirus*. *Bull. Environ. Contam. Toxicol.* 38:727-35 #337

Burkhard, L.P. and D. Weininger. 1987. Determination of polychlorinated biphenyls using multiple regression with outlier detection and elimination. *Anal. Chem.* 59:1187-1190. #1987-24

Call, D.J., L.T. Brooke, R.J. Kent, M.L. Knuth, S.H. Poirier, J.M. Huot, and A.R. Lima. 1987. Bromacil and diuron herbicides: Toxicity, uptake, and elimination in freshwater fish. *Arch. Environ. Contam. Toxicol.* 16:607-13 #338

Call, D.J., S.H. Poirier, M.L. Knuth, S.L. Harting, and C.A. Lindberg. 1987. Toxicity of 3,4-dichloroaniline to fathead minnows, *Pimephales promelas*, in acute and early life stage exposures. *Bull. Environ. Contam. Toxicol.* 38:352-58 #339

Canale, R.P. and M.T. Auer. 1987. Personal computers and environmental engineering, Part II - Applications. *Environ. Sci. Technol.* 21(10):936-942. #1987-17

Carlson, A.R. 1987. Effects of lowered dissolved oxygen concentration on the toxicity of 1,2,4-trichlorobenzene to fathead minnows. *Bull. Environ. Contam. Toxicol.* 38:667-73 #340

Carlson, A.R. and P.A. Kosian. 1987. Toxicity of chlorinated benzenes to fathead minnows (*Pimephales promelas*). *Arch. Environ. Contam. Toxicol.* 16:129-35 #341

Chapra, S.C. and R.P. Canale. 1987. Personal computers and environmental engineering, Part I: Trends and perspectives. *Environ. Sci. Technol.* 21(9):832-837. #1987-16

Cook, R.B., C.A. Kelley, J.C. Kingston, and R.G. Kreis, Jr. 1987. Chemical limnology of soft water lakes in the Upper Midwest. *Biogeochemistry* 4:97-117. #1987-45

Davis, W.S., L.A. Fay, and C.E. Herdendorf. 1987. Overview of USEPA/CLEAR Lake Erie sediment oxygen demand investigations during 1979. *J. Great Lakes Res.* 13(4):731-737. #1987-14

Denny, J.S. 1987. Guidelines for the culture of fathead minnows *Pimephales promelas* for use in toxicity tests. EPA/600/3-87/001. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Di Toro, D. M., N. A. Thomas, C. E. Herdendorf, R. P. Winfield, and J. P. Connolly. 1987. A post audit of a Lake Erie eutrophication model. *J. Great Lakes Res.* 13:801-25 #342

Dunn, B.P., J.J. Black, and A. Maccubbin. 1987. ³²P-postlabeling analysis of aromatic DNA adducts in fish from polluted areas. *Cancer Research* 47:6543-6548. #1987-15

Effler, S.W. and M.T. Auer. 1987. Optical heterogeneity in Green Bay. *Water Resources Bull.* 2(5):937-941. #1987-44

Erickson, R.J., D.A. Benoit, and V.R. Mattson. 1987. Effects of physical and chemical parameters of test water on acute toxicity of copper to larval fathead minnows. Presented before the Division of Environmental Chemistry, American Chemical Society, New Orleans, LA, August 30-September 4, 1987. #1987-1

Erickson, R.J., D.A. Benoit, and V.R. Mattson. 1987. A prototype toxicity factors model for site-specific copper water quality criteria (September 5, 1996 revision). Environmental Research Laboratory, USEPA, Duluth, MN. #1987-2

Fay, L.A., M. Gessner, P.C. Strombert, and J. Hageman. 1987. Effects of toxic substances on growth, mortality, and pathology of larval fishes in the River Raisin, Michigan. CLEAR Technical Report No. 303. Center for Lake Erie Area Research, Ohio State University, Columbus, OH. #1987-3

Flum, T.F. and L.J. Shannon. 1987. The effects of three related amides on microecosystem stability. *Ecotoxicol. Env. Safety* 13:239-252. #1987-29

Hall, R.J., C.T. Driscoll, and G.E. Likens. 1987. Importance of hydrogen ions and aluminum in regulating the structure and function of stream ecosystems: An experimental test. *Fresh. Biol.* 18:17-43. #1987-28

Hansch, C., J.P. Bjorkroth, and A. Leo. 1987. Hydrophobicity and central nervous system agents: On the principle of minimal hydrophobicity in drug design. *J. Pharma. Sci.* 76(9):663-687. #1987-13

Hermanutz, R.O., S.F. Hedtke, J.W. Arthur, R.W. Andrew, and K.N. Allen. 1987. Ammonia effects on microinvertebrates and fish in outdoor experimental streams. *Environ. Pollut.* 47:249-83 #343

Holcombe, G.W., G.L. Phipps, A.H. Sulaiman, and A.D. Hoffman. 1987. Simultaneous multiple species testing: Acute toxicity of 13 chemicals to 12 diverse freshwater amphibian, fish, and invertebrate families. *Arch. Environ. Contam. Toxicol.* 16:697-710 #344

Hunter, R.S., F.D. Culver, and A. Fitzgerald. 1987. SMILES user manual: A simplified molecular input line entry system; includes extended SMILES for defining fragments. Environmental Research Laboratory, USEPA, Duluth, MN. #1987-5

Kline, E.R., V.R. Mattson, Q.H. Pickering, D.L. Spehar, and C.E. Stephan. 1987. Effects of pollution on freshwater organisms. *J. Water Pollut. Control Fed.* 59:539-72 #345

Kratz, T.K., R.B. Cook, C.J. Bowser, and P.L. Brezonik. 1987. Winter and spring pH depressions in northern Wisconsin lakes caused by increases in $p\text{CO}_2$. *Can. J. Fish. Aquat. Sci.* 44(5):1082-1088. #1987-40

- Kratz, T.K., T.M. Frost, and J.J. Magnuson. 1987. Inferences from spatial and temporal variability in ecosystems: Long-term zooplankton data from lakes. *Am. Naturalist* 129(6):830-846. #1987-41
- Kuehl, D.W., B.C. Butterworth, W.M. DeVita, and C.P. Sauer. 1987. Environmental contamination by polychlorinated dibenzo-*p*-dioxins and dibenzofurans associated with pulp and paper mill discharge. *Biomed. Environ. Mass Spectrom.* 14:443-47 #346
- Kuehl, D.W., P.M. Cook, A.R. Batterman, and B.C. Butterworth. 1987. Isomer-dependent bioavailability of polychlorinated dibenzo-*p*-dioxins and dibenzofurans from municipal incinerator fly ash to carp. *Chemosphere* 16:657-66 #347
- Kuehl, D.W., P.M. Cook, A.R. Batterman, D.B. Lothenbach, and B.C. Butterworth. 1987. Bioavailability of polychlorinated dibenzo-*p*-dioxins and dibenzofurans from contaminated Wisconsin river sediment to carp. *Chemosphere* 16:667-79 #348
- Large Lakes Research Station. 1987. Presentations and publications (revised 11/30/87). Large Lakes Research Station, USEPA, Grosse Ile, MI. #1987-4
- Leino, R.L., J.H. McCormick, and K.M. Jensen. 1987. Changes in gill histology of fathead minnows and yellow perch transferred to soft water or acidified soft water with particular reference to chloride cells. *Cell Tissue Res.* 250:389-99 #349
- 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. *Can. J. Fish. Aquat. Sci.* 44 (Suppl.1):126-134. #1987-42
- Lick, W. and S.W. Kang. 1987. Entrainment of sediments and dredged materials in shallow lake waters. *J. Great Lakes Res.* 13(4):619-627. #1987-9
- Lin, J.C., J.L. Schnoor, and G.E. Glass. 1987. Ion budgets in a seepage lake. In: *Sources and fates of aquatic pollutants*. Advances in Chemistry Series No. 216. R.A. Hites, and S.J. Eisenreich, eds. Pp. 210-227. American Chemical Society, Chicago, IL. #1987-37
- McCormick, J.H., K.M. Jensen, R.L. Leino, and G.N. Stokes. 1987. Fish blood osmolality, gill histology, and oocyte atresia as early warning acid stress indicators. *Ann. Soc. R. Zool. Bel.* 117 (Suppl.1):309-19 #350
- McKim, J.M., S.P. Bradbury, and G.J. Niemi. 1987. Fish acute toxicity syndromes and their use in the QSAR approach to hazard assessment. *Environ. Health Perspect.* 71:171-86 #351
- McKim, J.M., P.K. Schmieder, R.W. Carlson, E.P. Hunt, and G.J. Niemi. 1987. Use of respiratory-cardiovascular responses of rainbow trout (*Salmo gairdneri*) in identifying acute toxicity syndromes in fish: Part 1. Pentachlorophenol, 2,4-dinitrophenol, tricaine methanesulfonate, and 1-octanol. *Environ. Toxicol. Chem.* 6:295-312 #352

- McKim, J.M., P.K. Schmieder, G.J. Niemi, R.W. Carlson, and T.R. Henry. 1987. Use of respiratory-cardiovascular responses of rainbow trout (*Salmo gairdneri*) in identifying acute toxicity syndromes in fish: Part 2. Malathion, carbaryl, acrolein, and benzaldehyde. *Environ. Toxicol. Chem.* 6:313-28 #353
- Modeling Task Force. 1987. Large lake models -- uses, abuses, and future. *J. Great Lakes Res.* 13(3):387-396. #1987-27
- Murphy, T.J., M.D. Mullin, and J.A. Meyer. 1987. Equilibration of polychlorinated biphenyls and toxaphene with air and water. *Environ. Sci. Technol.* 21:155-62 #354
- Neuhold, J.M. 1987. The relationship of life history attributes to toxicant tolerance in fishes. *Environ. Toxicol. Chem.* 6:709-716. #1987-30
- Newman, R.M., J.A. Perry, E. Tam, and R.L. Crawford. 1987. Effects of chronic chlorine exposure on litter processing in outdoor experimental streams. *Fresh. Biol.* 18:415-428. #1987-25
- Niemi, G.J., G.D. Veith, R.R. Regal, and D.D. Vaishnav. 1987. Structural features associated with degradable and persistent chemicals. *Environ. Toxicol. Chem.* 6:515-27 #355
- Patterson, R.L. 1987. Revised estimates of power plant entrainment of ichthyoplankton in western Lake Erie in 1975-77. *J. Great Lakes Res.* 13(1):78-83. #1987-23
- Perry, J.A., N.H. Troelstrup, Jr., M. Newsom, and B. Shelley. 1987. Whole ecosystem manipulation experiments: the search for generality. *Wat. Sci. Tech.* 19(11):55-71. #1987-48
- Que, L., Jr., R.C. Kolanczyk, and L.S. White. 1987. Functional models for catechol 1,2-dioxygenase. Structure, reactivity and mechanism. *J. Am. Chem. Soc.* 109:5373-5380. #1987-46
- Rapp, G.R., Jr., B.W. Liukkonen, J.D. Allert, J.A. Sorensen, G.E. Glass, and O.L. Loucks. 1987. Geologic and atmospheric input factors affecting watershed chemistry in Upper Michigan. *Environ. Geol. Water Sci.* 9:155-71 #356
- Safe, S. 1987. Determination of 2, 3, 7, 8-TCDD toxic equivalent factors (TEFs): Support for the use of the in vitro AHH induction assay. *Chemosphere* 16(4):791-802. #1987-20
- Safe, S.H., L. Safe, and M.D. Mullin. 1987. Polychlorinated biphenyls: Environmental occurrence and analysis. In: *Environmental toxin series, vol. 1*. S. Safe and R.L. Detrick, Eds. Pp. 1-13. Springer-Verlag, Berlin. #1987-39
- Schultz, T.W., G.L. Phipps, and G.D. Veith. 1987. Report on low cost amphibian test for specific cytotoxic effects. Part I: The toxic and teratogenic effects of hydrazines. Environmental Research Laboratory, USEPA, Duluth, MN. #1987-7
- Shannon, L.J., M.C. Harrass, J.D. Yount, and C.T. Walbridge. 1987. A comparison of mixed flask culture and standardized laboratory model ecosystems for toxicity testing. In: *Community*

toxicity testing. J. Cairns, Jr., Ed. Pp. 135-157. ASTM STP 920. American Society for Testing and Materials, Philadelphia, PA. #1987-34

Siefert, R.E., L.J. Heinis, M.L. Knuth, R.L. Anderson, J.C. Brazner, N. Larson, and D.A. Jensen. 1987. Effects of Dursban (chlorpyrifos) on aquatic organisms in enclosures in a natural pond. Final report. Environmental Research Laboratory, USEPA, Duluth, MN. #1987-6

Sierszen, M.E. and C.J. Watras. 1987. Rapid-freeze preservation minimizes radioisotope leakage from zooplankton in feeding experiments. *J. Plankton Res.* 9(5):945-953. #1987-32

Simsiman, G.V., G. Chesters, and A.W. Andren. 1987. Effect of ash disposal ponds on groundwater quality at a coal-fired power plant. *Water Res.* 21(4):417-426. #1987-26

Sorensen, J.A. and G.E. Glass. 1987. Ion and temperature dependence of electrical conductance for natural waters. *Anal. Chem.* 59:1594-97 #357

Steiert, J.G., J.J. Pignatello, and R.L. Crawford. 1987. Degradation of chlorinated phenols by a pentachlorophenol-degrading bacterium. *App. Environ. Microbiol.* 53(5):907-910. #1987-31

Stephan, C.E. 1987. Manual of instructions for preparing aquatic life water quality criteria documents. Environmental Research Laboratory, USEPA, Duluth, MN. #1987-47

Swackhamer, D.L. and D.E. Armstrong. 1987. Distribution and characterization of PCBs in Lake Michigan water. *J. Great Lakes Res.* 13(1):24-36. #1987-22

Thomann, R.V., J.P. Connolly, and N.A. Thomas. 1987. The Great Lakes ecosystem- modeling of the fate of PCBs. EPA/600/D-87-325. USEPA, ORD, Environmental Research Laboratory, Duluth, MN. Also published as book chapter: PCBs in the Environment, 1986, J.S. Waid, Ed., CRC Press. PB 88-124102. #1987-33

Thurston, R.V. and E.L. Meyn. 1987. Acute toxicity of ammonia to fishes of nine species from the Yellowstone River drainage, Montana. Technical Report No. 87-1. Fisheries Bioassay Laboratory, Montana State University, Bozeman, MT. #1987-43

Tsai, C.H., S. Iacobellis, and W. Lick. 1987. Flocculation of fine-grained lake sediments due to a uniform shear stress. *J. Great Lakes Res.* 13(2):135-146. #1987-19

Vaishnav, D.D. and L. Babeu. 1987. Comparison of occurrence and rates of chemical biodegradation in natural waters. *Bull. Environ. Contam. Toxicol.* 39:237-244. #1987-8

Vaishnav, D.D., R.S. Boethling, and L. Babeu. 1987. Quantitative structure-biodegradability relationships for alcohols, ketones and alicyclic compounds. *Chemosphere* 16(4):695-703. #1987-10

Veith, G.D. and S.J. Broderius. 1987. Structure-toxicity relationships for industrial chemicals causing type (II) narcosis syndrome. In: *QSAR in environmental toxicology - II*. K.L.E. Kaiser, Ed. Pp. 385-391. D. Reidel Publishing Co., Dordrecht, Netherlands. #1987-36

Young, T.C., J.V. DePinto, and T.W. Kipp. 1987. Adsorption and desorption of Zn, Cu, and Cr by sediments from the Raisin River (Michigan). *J. Great Lakes Res.* 13(3):353-366. #1987-18

Yount, J.D. and L.J. Shannon. 1987. Effects of aniline and three derivatives on laboratory microecosystems. *Environ. Toxicol. Chem.* 6:463-68 #358

Zischke, J.A. and J.W. Arthur. 1987. Effects of elevated ammonia levels on the fingernail clam, *Musculium transversum*, in outdoor experimental streams. *Arch. Environ. Contam. Toxicol.* 16:225-31 #359

1986

Auer, M.T., M.S. Kieser, and R.P. Canale. 1986. Identification of critical nutrient levels through field verification of models for phosphorus and phytoplankton growth. *Can. J. Fish. Aquat. Sci.* 43:379-388. #1986-16

Baker, J.E., P.D. Capel, and S.J. Eisenreich. 1986. Influence of colloids on sediment-water partition coefficients of polychlorobiphenyl congeners in natural waters. *Environ. Sci. Technol.* 20(11):1136-1143. #1986-14

Balcer, M.D., D.J. McCauley, G.J. Niemi, and L.T. Brooke. 1986. Ecological assessment of factors affecting walleye ova survival in the lower Fox River. Final report, Cooperative Agreement #CR-811723-02-0, submitted to USEPA, Duluth, MN by Center for Lake Superior Environmental Studies, University of Wisconsin-Superior, Superior, WI. #1986-2

Bierman, V.J., Jr. and D.M. Dolan. 1986. Modeling of phytoplankton in Saginaw Bay: I. Calibration phase. *J. Environ. Eng.* 112(2):400-429. #1986-9

Bierman, V.J., Jr. and McIlroy, L.M. 1986. User manual for two-dimensional multi-class phytoplankton model with internal nutrient pool kinetics. EPA/600/3-86/061. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Biesinger, K.E. 1986. Summary Report of research conducted on the Lower Fox River by staff of the Environmental Research Laboratory-Duluth, and by personnel on cooperative agreements. Environmental Research Laboratory, USEPA, Duluth, MN. #1986-35

Biesinger, K.E., G.M. Christensen, and J.T. Fiandt. 1986. Effects of metal salt mixtures on *Daphnia magna* reproduction. *Ecotoxicol. Environ. Saf.* 11:9-14 #309

Biesinger, K.E. and G.N. Stokes. 1986. Effects of synthetic polyelectrolytes on selected aquatic organisms. *J. Water Pollut. Control Fed.* 58:207-13 #310

Bradbury, S.P., J.R. Coats, and J.M. McKim. 1986. Toxicokinetics of fenvalerate in rainbow trout (*Salmo gairdneri*). *Environ. Toxicol. Chem.* 5:567-76 #311

Brazner, J.C. and R.L. Anderson. 1986. Ingestion and adsorption of *Bacillus thuringiensis* subsp. *israelensis* by *Gammarus lacustris* in the laboratory. *Appl. Environ. Microbiol.* 52:1386-90 #312

Brezonik, P.L., L.A. Baker, J.G. Eaton, T.M. Frost, P.J. Garrison, T.K. Kratz, J.J. Magnuson, W.J. Rose, B.K. Shephard, W.A. Swenson, C.J. Watras, and K.E. Webster. 1986. Experimental acidification of Little Rock Lake, Wisconsin. *Water Air Soil Pollut.* 31:115-21 #313

Brooke, L.T., D.J. Call, C.A. Lindberg, T.P. Markee, S.H. Poirier, and D.J. McCauley. 1986. Acute toxicity of silver to selected freshwater invertebrates. Report to Battelle Memorial Research Institute, Columbus, Ohio. Center for Lake Superior Environmental Studies, UW-Superior, Superior, WI. #1986-1

Brooke, L.T., D.J. Call, S.H. Poirier, and S.L. Harting. 1986. Toxicity of toluene to several freshwater species. Center for Lake Superior Environmental Studies, UW-Superior, Superior, WI. #1986-36

Brooke, L.T., D.J. Call, S.H. Poirier, T.P. Markee, C.A. Lindberg, D.J. McCauley, and P.G. Simonson. 1986. Acute toxicity and chronic effects of bis(tri-N-butyltin) oxide to several species of freshwater organisms. Report to Battelle Memorial Research Institute. #1986-39

Brown, E.J., J.J. Pignatello, M.M. Martinson, and R.L. Crawford. 1986. Pentachlorophenol degradation: A pure bacterial culture and an epilithic microbial consortium. *App. Environ. Microbiol.* 52(1):92-97. #1986-27

Burkhard, L.P. and D.W. Kuehl. 1986. N-octanol/water partition coefficients by reverse phase liquid chromatography/mass spectrometry for eight tetrachlorinated planar molecules. *Chemosphere* 15:163-67 #314

Call, D.J., L.T. Brooke, N. Ahmad, and J.E. Richter. 1986. Toxicity and metabolism studies with EPA priority pollutants and related chemicals in freshwater organisms. Submitted to Environmental Research Laboratory, USEPA, Duluth, MN, by Center for Lake Superior Environmental Studies, University of Wisconsin-Superior, Superior, WI. #1986-4

Carlson, A.R., H. Nelson, and D.E. Hammermeister. 1986. Development and validation of site-specific water quality criteria for copper. *Environ. Toxicol. Chem.* 5:997-1012 #315

Carlson, A. R., Nelson, H., and Hammermeister, D. Evaluation of site-specific criteria for copper and zinc: An integration of metal addition toxicity, effluent and receiving water toxicity, and

ecological survey data. EPA/600/3-86/026. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB86-183928).

Chittim, B.G., J.A. Madge, and S.H. Safe. 1986. Pentachlorodibenzofurans: Synthesis, capillary gas chromatography and gas chromatographic/mass spectrometric characteristics. *Chemosphere* 15(9-12):1931-1934. #1986-18

DePinto, J.V., T.C. Young, J.S. Bonner, and P.W. Rodgers. 1986. Microbial recycling of phytoplankton phosphorus. *Can. J. Fish. Aquat. Sci.* 43:336-342. #1986-25

DePinto, J.V., T.C. Young, and L.M. McIlroy. 1986. Great Lakes water quality improvement. *Environ. Sci. Technol.* 20(8):752-759. #1986-11

Drummond, R.A., C.L. Russom, D.L. Geiger, and D.L. DeFoe. 1986. Behavioral and morphological changes in fathead minnow (*Pimephales promelas*) as diagnostic endpoints for screening chemicals according to mode of action. In: *Aquatic toxicology and environmental fate, 9th vol.* T.M. Poston and R. Purdy, eds. Pp. 415-435. ASTM STP 921. American Society for Testing and Materials, Philadelphia, PA. #1986-29

Glass, G.E. 1986. Acid rain clouds over the Midwest: Impacts on waters. Presented at the Conference on Acid Rain: Clouds Over the Midwest -- Science and Solutions, Chicago, IL, March 7, 1986. #1986-3

Glass, G.E., E.N. Leonard, W.H. Chan, and D.B. Orr. 1986. Airborne mercury in precipitation in the Lake Superior region. *J. Great Lakes Res.* 12:37-51 #316

Glass, G.E. and O.L. Loucks. 1986. Implications of a gradient in acid and ion deposition across the northern Great Lakes states. *Environ. Sci. Technol.* 20:35-43 #317

Glass, G.E., J.A. Sorensen, B.W. Liukkonen, G.R. Rapp, Jr., and O.L. Loucks. 1986. Ionic composition of acid lakes in relation to airborne inputs and watershed characteristics. *Water Air Soil Pollut.* 31:1-15 #318

Hall, L.H. and L.B. Kier. 1986. A molecular connectivity study of phenols and their toxicity to fish. In: *QSAR of phenolic toxicities.* Pp. 53-59. #1986-21

Hall, L.H. and L.B. Kier. 1986. Structure-activity relationship studies on the toxicities of benzene derivatives: II. An analysis of benzene substituent effects on toxicity. *Environ. Toxicol. Chem.* 5:333-337. #1986-23

Hedtke, S.F., C.W. West, K.N. Allen, T.J. Norberg-King, and D.I. Mount. 1986. Toxicity of pentachlorophenol to aquatic organisms under naturally varying and controlled environmental conditions. *Environ. Toxicol. Chem.* 5:531-42 #319

Heidtke, T.M., M.T. Auer, and R.P. Canale. 1986. Microcomputers and water quality models: Access for decision makers. *J. WPCF* 58(10):960-966. #1986-26

Hokanson, K.E.F. and W.M. Koenst. 1986. Revised estimates of growth requirements and lethal temperature limits of juvenile walleyes. *Prog. Fish-Cult.* 48:90-94 #320

Hokanson, K.E.F. and G.J. Lien. 1986. Effects of diet on growth and survival of larval walleyes. *Prog. Fish-Cult.* 48:250-258 #321

Kamlet, M.J., R.M. Doherty, G.D. Veith, R.W. Taft, and M.H. Abraham. 1986. Solubility properties in polymers and biological media. 7. An analysis of toxicant properties that influence inhibition of bioluminescence in *Photobacterium phosphoreum* (the Microtox test). *Environ. Sci. Technol.* 20:690-695 #322

Kennel, S.J., G. Mason, and S. Safe. 1986. Monoclonal antibodies to chlorinated dibenzo-*p*-dioxins. *Chemosphere* 15(9-12):2007-2010. #1986-15

Kuehl, D.W., B.C. Butterworth, and K.L. Johnson. 1986. Supplemental quality assurance criteria for high-resolution gas chromatography/high resolution mass spectrometric determination of 2,3,7,8- tetrachlorodibenzo-*p*-dioxin in biological tissue. *Anal. Chem.* 58:1598-99 #323

Kuehl, D.W., P.M. Cook, and A.R. Batterman. 1986. Uptake and depuration studies of PCDDs and PCDFs in freshwater fish. *Chemosphere* 15:2023-26 #324

Larsen, D.P., F. DeNoyelles, Jr., F. Stay, and T. Shiroyama. 1986. Comparisons of single-species, microcosm and experimental pond responses to atrazine exposure. *Environ. Toxicol. Chem.* 5:179-90 #325

Lick, W. 1986. Modeling the transport of fine-grained sediments in aquatic systems. *Sci. Total Environ.* 55:219-228. #1986-19

Lien, G.J., Biesinger, K.E., Anderson, L.E., Leonard, E.N., and Gibbons, M.A. 1986. A toxicity evaluation of lower Fox River water and sediments. EPA 600/3-86-008. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Loucks, O.L., G.E. Glass, J.A. Sorensen, B.W. Liukkonen, J.D. Allert, and G.R. Rapp, Jr. 1986. Role of precipitation chemistry versus other watershed properties in Wisconsin lake acidification. *Water Air Soil Pollut.* 31:67-77 #326

McIlroy, L.M., J.V. DePinto, T.C. Young, and S.C. Martin. 1986. Partitioning of heavy metals to suspended solids of the Flint River, Michigan. *Environ. Toxicol. Chem.* 5:609-623. #1986-10

McKim, J.M., P.K. Schmieder, and R.J. Erickson. 1986. Toxicokinetic modeling of [¹⁴C]pentachlorophenol in the rainbow trout (*Salmo gairdneri*). *Aquat. Toxicol.* 9:59-80 #327

McNaught, D.C. and D.I. Mount. 1986. Appropriate durations and measures for *Ceriodaphnia* toxicity tests. In: *Aquatic toxicology and hazard assessment: Eighth symposium*. R.C. Bahner

and D.J. Hansen, eds. Pp. 375-381. ASTM STP 891. American Society for Testing and Materials, Philadelphia, PA. #1986-33

Nelson, H., Benoit, D., Erickson, R., Mattson, V., and Lindberg, J. 1986. The effects of variable hardness, pH, alkalinity, suspended clay, and humics on the chemical speciation and aquatic toxicity of copper. EPA/600/3-86/023. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Neuhold, J.M. 1986. Selected life history attributes of some North American endemic and introduced species of fishes. EPA/600/3-86/020. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB86-175726): CR 811646. #1986-24

Niemi, G.J., T.E. Davis, G.D. Veith, and B. Vieux. 1986. Organochlorine chemical residues in herring gulls, ring-billed gulls, and common terns of western Lake Superior. *Arch. Environ. Contam. Toxicol.* 15:313-20 #328

Pearlman, R.S. 1986. Molecular surface area and volume: Their calculations and use in predicting solubilities and free energies of desolvation. In: *Partition coefficient determination and estimation*. Dunn, William J., III, John H. Block, and Robert S. Pearlman, eds. Pergamon Press, New York, NY. Pp. 3-20. #1986-28

Poldoski, J.E. 1986. Control of cadmium carbonate precipitation interferences during the dialysis of cadmium in high bicarbonate alkalinity aquatic-life bioassay waters. EPA Project Summary, EPA/600/3-86/001. USEPA, Cincinnati, OH. #1986-31

Rice, C.P., P.J. Samson, and G.E. Noguchi. 1986. Atmospheric transport of toxaphene to Lake Michigan. *Environ. Sci. Technol.* 20:1109-1116. #1986-8

Rogalla, J.A., P.L. Brezonik, and G.E. Glass. 1986. Empirical models for lake acidification in the Upper Great Lakes region. *Water Air Soil Pollut.* 31:95-100 #329

Russo, R.C., A. Pilli, and J. Crane. 1986. Complex effluents toxicity information system. In: EPA/600/9-86/024. Environmental Research Laboratory, USEPA, ORD, Athens, GA. #1986-38

Safe, S., G. Mason, B. Keys, K. Farrell, B. Zmudzka, Sawyer T., J. Piskorska-Pliszczyńska, L.

Safe, M. Romkes, and S. Bandiera. 1986. Polychlorinated dibenzo-p-dioxins and dibenzofurans: Correlation between in vitro and in vivo structure-activity relationships (SARs). *Chemosphere* 15(9-12):1725-1731. #1986-12

Schelske, C.L., E.F. Stoermer, G.L. Fahnenstiel, and M. Haibach. 1986. Phosphorus enrichment, silica utilization, and biogeochemical silica depletion in the Great Lakes. *Can. J. Fish. Aquat. Sci.* 43(2):407-415. #1986-7

Schnoor, J.L., N.P. Nikolaidis, and G.E. Glass. 1986. Lake resources at risk to acidic deposition in the Upper Midwest. *J. Water Pollut. Control Fed.* 58:139-48 #330

- Schnoor, J.L., S. Lee, N.P. Nikolaidis, and D.R. Nair. 1986. Lake resources at risk to acidic deposition in the eastern United States. *Water, Air, Soil Poll.* 31:1091-1101. #1986-20
- Schultz, T.W., G.W. Holcombe, and G.L. Phipps. 1986. Relationships of quantitative structure-activity to comparative toxicity of selected phenols in the *Pimephales promelas* and *Tetrahymena pyriformis* test systems. *Ecotoxicol. Environ. Saf.* 12:146-53 #331
- Siefert, R.E., C.F. Kleiner, D.K. Tanner, B. Nordling, R.L. Anderson, J.A. Zischke, N.J. Larson, and J. Helgen. 1986. Effects of Abate® (Temephos) on non-target aquatic organisms in a natural pond undergoing mosquito control treatment. Environmental Research Laboratory, USEPA, Duluth, MN. #1986-34
- Spehar, R.L. 1986. Criteria document data, Sept. 16, 1986. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1986-40
- Spehar, R.L. and J.T. Fiandt. 1986. Acute and chronic effects of water quality criteria-based metal mixtures on three aquatic species. *Environ. Toxicol. Chem.* 5:917-31 #332
- Stephan, C.E. 1986. Proposed goal of applied aquatic toxicology. In: *Aquatic toxicology and environmental fate, 9th vol.* T.M. Poston and R. Purdy, Eds. Pp. 3-10. ASTM STP 921. American Society for Testing and Materials, Philadelphia, PA. #1986-30
- Stephan, C.E., D.L. Spehar, T.H. Roush, G.L. Phipps, and Q.H. Pickering. 1986. Effects of pollution on freshwater organisms. *J. Water Pollut. Control Fed.* 58:645-71 #333
- Sundstrom, G., T. Sawyer, O. Hutzinger, and Safe S. 1986. In vitro bioassays for toxic polychlorinated azobenzenes. *Chemosphere* 15(9-12):2105-2107. #1986-17
- Swain, W.R., M.D. Mullin, and J.C. Filkins. 1986. Long range transport of toxic organic contaminants to the North American Great Lakes. In: EPA/600/9-86/024. Environmental Research Laboratory, Office of Research and Development, USEPA, Athens, GA. #1986-37
- Thomann, R.V., J.P. Connolly, and N.A. Thomas. 1987. The Great Lakes ecosystem- modeling of the fate of PCBs. EPA/600/D-87/325. USEPA, ORD, Environmental Research Laboratory, Duluth, MN. Also published as book chapter in: *PCBs in the Environment*, 1986, J.S. Waid, Ed., CRC Press. PB 88-124102. #1987-33
- Tsai, C.H. and W. Lick. 1986. A portable device for measuring sediment resuspension. *J. Great Lakes Res.* 12(4):314-321. #1986-13
- Vaishnav, D.D. 1986. Chemical structure-biodegradation inhibition and fish acute toxicity relationships for narcotic industrial chemicals. *Tox. Assess. An International Quarterly* 1(2):227-240. #1986-5

Vaishnav, D.D. and L. Babeu. 1986. Occurrence and rates of chemical biodegradation in Superior Harbor water. *J. Great Lakes Res.* 12(3):184-191. #1986-6

Winnell, M.H. and D.S. White. 1986. The distribution of *Heterotrissocladius oliveri* Saether (Diptera: Chironomidae) in Lake Michigan. *Hydrobiologia* 131:205-214. #1986-22

Yount, J.D. and J.E. Richter. 1986. Effects of pentachlorophenol on periphyton communities in outdoor experimental streams. *Arch. Environ. Contam. Toxicol.* 15:51-60 #334

1985

Black, J.J., A.E. Maccubbin, and M. Schiffert. 1985. A reliable, efficient, microinjection apparatus and methodology for the in vivo exposure of rainbow trout and salmon embryos to chemical carcinogens. *J. Natl. Cancer Inst.* 75(6):1123-1128. #1985-11

Bradbury, S.P., J.R. Coats, and J.M. McKim. 1985. Differential toxicity and uptake of two fenvalerate formulations in fathead minnows (*Pimephales promelas*). *Environ. Toxicol. Chem.* 4:533-41 #291

Broderius, S.J., R.A. Drummond, J.T. Fiandt, and C.L. Russom. 1985. Toxicity of ammonia to early life stages of the smallmouth bass at four pH values. *Environ. Toxicol. Chem.* 4:87-96 #292

Broderius, S.J. and M.D. Kahl. 1985. Acute toxicity of organic chemical mixtures to the fathead minnow. *Aquat. Toxicol.* 6:307-22 #293

Brooke, L.T., D.J. Call, S.L. Harting, C.A. Lindberg, T.P. Markee, D.J. McCauley, and S.H. Poirier. 1985. Acute toxicity of selenium (IV) and selenium (VI) to freshwater organisms. Report to: Battelle Memorial Research Institute, Columbus, OH. #1985-29

Burkhard, L.P., D.W. Kuehl, and G.D. Veith. 1985. Evaluation of reverse phase liquid chromatography/mass spectrometry for estimation of n-octanol/water partition coefficients for organic chemicals. *Chemosphere* 14:1551-60 #294

Eaton, J.G., J.W. Arthur, R.O. Hermanutz, R. Kiefer, L.H. Mueller, R.L. Anderson, R.J. Erickson, B.R. Nordling, J.W. Rogers, and H. Pritchard. 1985. Biological effects of continuous and intermittent dosing of outdoor experimental streams with chlorpyrifos. In: *Aquatic toxicology and hazard assessment: Eighth symposium*. R.C. Bahner and D.J. Hansen, Eds. Pp. 85-118. ASTM STP 891. American Society for Testing and Materials, Philadelphia, PA. #1985-23

Erickson, R.J. 1985. An evaluation of mathematical models for the effects of pH and temperature on ammonia toxicity to aquatic organisms. *Water Res.* 19:1047-58 #295

Erickson, R.J. 1985. Analysis of major ionic content of selected U.S. waters and application to experimental design for the evaluation of the effect of water chemistry on the toxicity of copper. USEPA, Environmental Research Laboratory, Duluth, MN. #1985-26

Erickson, R.J. 1985. Evaluation of a model for the prediction of the effect of fluctuating concentrations on the lethality of copper to fathead minnows. Environmental Research Laboratory, USEPA, Duluth, MN. #1985-7

Hedtke, S.F. and J.W. Arthur. 1985. Evaluation of a site-specific water quality criterion for pentachlorophenol using outdoor experimental streams. In: *Aquatic toxicology and hazard assessment: Seventh symposium*. R.D. Cardwell, R. Purdy, and R.C. Bahner, Eds. Pp. 551-564. ASTM STP 854. American Society for Testing and Materials, Philadelphia, PA. #1985-21

Heinis, L.J. and J.A. Rogalla. 1985. Documentation of the ERLD-UMD Acid Rain Data Base III: Methodology and quality assurance summary for the laboratory analysis of conductivity, pH, alkalinity, color, turbidity and acidity of surface and ground waters of northern Minnesota, Wisconsin, Michigan and southwestern Ontario. Environmental Research Laboratory, USEPA, Duluth, MN. #1985-6

Hermanutz, R.O., J.G. Eaton, and L.H. Mueller. 1985. Toxicity of endrin and malathion mixtures to flagfish (*Jordanella floridae*). *Arch. Environ. Contam. Toxicol.* 14:307-14 #296

Jacobson, J.L., S.W. Jacobson, and G.G. Fein. 1985. Intrauterine exposure to environmental toxins: The significance of subtle behavioral effects. In: *Beyond the individual environmental stressors*. The Haworth Press, Inc. Pp. 125-137. #1985-10

Jacobson, S.W., G.G. Fein, J.L. Jacobson, P.M. Schwartz, and J.K. Dowler. 1985. The effect of intrauterine PCB exposure on visual recognition memory. *Child Devel.* 56:853-860. #1985-12

Jaffe, R., E.A. Stemmler, B.D. Eitzer, and R.A. Hites. 1985. Anthropogenic, polyhalogenated, organic compounds in sedentary fish from Lake Huron and Lake Superior tributaries and embayments. *J. Great Lakes Res.* 11(2):156-162. #1985-14

Jaworski, N.A. and D.I. Mount. 1985. Use of statistical information to improve compatibility between the various components of the water quality based approach. In: *Aquatic toxicology and hazard assessment: Seventh symposium*. R.D. Cardwell, R. Purdy, R.C. Bahner, Eds. Pp. 565-573. ASTM STP 854. American Society for Testing and Materials, Philadelphia, PA. #1985-20

Kuehl, D.W., P.M. Cook, and A.R. Batterman. 1985. Studies on the bioavailability of 2,3,7,8-TCDD from municipal incinerator flyash to freshwater fish. *Chemosphere* 14:871-72 #297

Kuehl, D.W., P.M. Cook, A.R. Batterman, and D.B. Lothenbach. 1985. Bioavailability of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin from municipal incinerator fly ash to freshwater fish. *Chemosphere* 14:427-37 #298

Lauritsen, D.D., S.C. Mozley, and D.S. White. 1985. Distribution of oligochaetes in Lake Michigan and comments on their use as indices of pollution. *J. Great Lakes Res.* 11(1):67-76. #1985-15

McKim, J.M., P.K. Schmieder, and G.D. Veith. 1985. Absorption dynamics of organic chemical transport across trout gills as related to octanol-water partition coefficient. *Toxicol. Appl. Pharmacol.* 77:1-10 #299

McKim, J.M. 1985. Early life stage toxicity tests. In: *Principles of aquatic toxicology*. G. Rand and S. Petrocelli, Eds. Pp. 58-95. Hemisphere, New York, NY. #1985-25

Morton, P., D. Marklund, S. Kohlbry, D. Longrie-Kline, C. Harper, J. Tan, and G.J. Niemi. 1985. Properties of fine particles which govern their biological activity. Volumes 1 & 2. Cooperative Agreement #CR807482. Submitted to Environmental Research Laboratory, USEPA, Duluth, MN by University of Minnesota-Duluth, Duluth, MN. #1985-1

National Dioxin Study: Analytical procedures and quality assurance plan for the analysis of 2,3,7,8-TCDD in Tier 3-7 samples of the USEPA National Dioxin Study. 1985. EPA/600/3-85/019. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Nelson, H., D. Benoit, R. Erickson, V. Mattson, and J. Lindberg. 1985. The effects of variable hardness, pH, alkalinity, suspended clay, and humics on the chemical speciation and aquatic toxicity of copper. EPA/600/3-86/023. Environmental Research Laboratory, USEPA, Duluth, MN. #1985-28

Niemi, G.J., R.R. Regal, D.D. Vaishnav, and G.D. Veith. 1985. A preliminary model to predict biodegradability from chemical structure. In: *Proceedings of the workshop on Biodegradation Kinetics*, October 18-20, 1983, Navarre Beach, FL. EPA/600/9-85/018. Environmental Research Laboratory, USEPA, Gulf Breeze, FL. Pp. 121-126. #1985-9

Niemi, G.J., R.R. Regal, and G.D. Veith. 1985. Applications of molecular connectivity indexes and multivariate analysis in environmental chemistry. In: *Environmental applications of chemometrics*. ACS Symposium Series 292. J.J. Breen and P.E. Robinson, Eds. Pp. 148-159. American Chemical Society, Washington, D.C. #1985-24

Norberg, T.J. and D.I. Mount. 1985. Diets for *Ceriodaphnia reticulata* life-cycle tests. In: *Aquatic toxicology and hazard assessment: Seventh symposium*. R.D. Cardwell, R. Purdy, R.C. Bahner, Eds. Pp. 42-52. ASTM STP 854. American Society for Testing and Materials, Philadelphia, PA. #1985-19

Norberg, T.J. and D.I. Mount. 1985. A new fathead minnow (*Pimephales promelas*) subchronic toxicity test. *Environ. Toxicol. Chem.* 4:711-18 #300

Phipps, G.L. and G.W. Holcombe. 1985. A method for aquatic multiple species toxicant testing: Acute toxicity of 10 chemicals to 5 vertebrates and 2 invertebrates. *Environ. Pollut. Ser. A.* 38:141-57 #301

Pickering, Q.H., G.M. Shaul, and K.A. Dostal. 1985. Acute and chronic toxicity to the fathead minnow, *Pimephales promelas*, of effluents from a treatment plant receiving dye and pigment processing wastewater. In: *Aquatic Toxicology and Hazard Assessment: Eighth Symposium*. R.C. Bahner and D.J. Hansen, Eds. Pp. 395-406. ASTM STP 891. American Society for Testing and Materials, Philadelphia, PA. #1985-5

Pignatello, J.J., L.K. Johnson, M.M. Martinson, R.E. Carlson, and R.L. Crawford. 1985. Response of the microflora in outdoor experimental streams to pentachlorophenol: Compartmental contributions. *App. Environ. Microbiol.* 50(1):127-132/1985-17

Rapp, G.R., Jr., J.D. Allert, B.W. Liukkonen, J.A. Ilse, O.L. Loucks, and G.E. Glass. 1985. Acid deposition and watershed characteristics in relation to lake chemistry in northeastern Minnesota. *Environ. Int.* 11:425-40 #302

Roush, T.H., G.L. Phipps, D.L. Spehar, C.E. Stephan, and Q.H. Pickering. 1985. Effects of pollution on freshwater organisms. *J. Water Pollut. Control Fed.* 57:667-99 #303

Saber, D.L. and R.L. Crawford. 1985. Isolation and characterization of *Flavobacterium* strains that degrade pentachlorophenol. *App. Environ. Microbiol.* 50(6):1512-1518. #1985-16

Safe, S. 1985. Polychlorinated biphenyls: Progress and problems. In: *Hazardous contaminants in Ontario: Human and environmental effects*. Hutchinson, T.C. and S.M. Evans, Eds. Institute for Environmental Studies, University of Toronto, Ontario, Canada. Pp. 60-68. #1985-13

Safe, S., L. Safe, and M.D. Mullin. 1985. Polychlorinated biphenyls: Congener-specific analysis of a commercial mixture and a human milk extract. *J. Agric. Food Chem.* 33:24-29. #1985-4

Schelske, C.L. 1985. Silica depletion in Lake Michigan: Verification using Lake Superior as an environmental reference standard. *J. Great Lakes Res.* 11(4):492-500. #1985-3

Sorensen, J.A., L.C. Thompson, and G.E. Glass. 1985. Quantitative analysis of aqueous species using raman spectrometry and equilibrium model calculations. *Anal. Chem.* 57:1087-91 #304

Spehar, R.L. and Fiandt, J.T. Acute and chronic effects of water quality criteria based metal mixtures on three aquatic species. EPA/600/3-85/074. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB86-122579).

Spehar, R.L., H.P. Nelson, M.J. Swanson, and J.W. Renoos. 1985. Pentachlorophenol toxicity to amphipods and fathead minnows at different test pH values. *Environ. Toxicol. Chem.* 4:389-97 #305

Stephan, C.E. 1985. Are the "Guidelines for deriving numerical national water quality criteria for the protection of aquatic life and its uses" based on sound judgements? In: *Aquatic toxicology and hazard assessment: Seventh symposium*. R.D. Cardwell, R. Purdy, R.C. Bahner, Eds. Pp. 515-526. ASTM STP 854. American Society for Testing and Materials, Philadelphia, PA. #1985-18

Stephan, C.E., D.I. Mount, D.J. Hansen, J.H. Gentile, G.A. Chapman, and W.A. Brungs. 1985. Guidelines for deriving numerical national water quality criteria for the protection of aquatic organisms and their uses. Environmental Research Laboratory, USEPA, ORD, Duluth, MN//Narragansett, RI//Corvallis, OR. #1985-31

Stephan, C.E. and J.W. Rogers. 1985. Advantages of using regression analysis to calculate results of chronic toxicity tests. In: *Aquatic toxicology and hazard assessment: Eighth symposium*. R.C. Bahner and D.J. Hansen, Eds. Pp. 328-338. ASTM STP 891. American Society for Testing and Materials, Philadelphia, PA. #1985-22

Thurston, R.V., T.A. Gilfoil, E.L. Meyn, R.K. Zajdel, T.I. Aoki, and G.D. Veith. 1985. Comparative toxicity of ten organic chemicals to ten common aquatic species. *Water Res.* 19:1145-55. #306

Vaishnav, D.D. and D.M. Lopas. 1985. Relationship between lipophilicity and biodegradation inhibition of selected industrial chemicals. *Devel. Indust. Microbiol.* 26:557-565. #1985-2

Veith, G.D., D.L. DeFoe, and M.L. Knuth. 1985. Structure-activity relationships for screening organic chemicals for potential ecotoxicity effects. *Drug Metab. Rev.* 15:1295-303 #307

Webster, K.E., Forbes, A.M., and Magnuson, J.J. An evaluation of environmental stress imposed by a coal ash effluent: Wisconsin Power Plant Impact Study. EPA/600/3-85/045. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB85-213429): Grant # R803971.

West, C.W., K.N. Allen, S.F. Hedtke, and J.W. Arthur. 1985. Environmental influence on the acute toxicity of ammonia to 14 freshwater species. Monticello Ecological Research Station, USEPA, Monticello, MN. #1985-8

Young, T.C., J.V. DePinto, S.C. Martin, and J.S. Bonner. 1985. Algal-available particulate phosphorous in the Great Lakes basin. *J. Great Lakes Res.* 11(4):434-446. #1985-27

Zischke, J.A., J.W. Arthur, R.O. Hermanutz, S.F. Hedtke, and J.C. Helgen. 1985. Effects of pentachlorophenol on invertebrates and fish in outdoor experimental channels. *Aquat. Toxicol.* 7:37-58 #308

1984

Ahmad, N., Benoit, D., Brooke, L., Call, D., Carlson, A., DeFoe, D., Huot, J., Moriarity, A., Richter, J., Shubat, P., Veith, G., and Walbridge, C. 1984. Aquatic toxicity tests to characterize the hazard of volatile organic chemicals in water: A toxicity data summary -- parts I and II.

EPA/600/3-84/009. Environmental Research Laboratory, ORD, USEPA, Duluth, MN, (NTIS no. PB84-141506). #1984-14

Anderson, R.L. and P. Shubat. 1984. Toxicity of flucythrinate to *Gammarus lacustris* (Amphipoda), *Pteronarcys dorsata* (Plecoptera) and *Brachycentrus americanus* (Trichoptera): Importance of exposure duration. *Environ. Pollut. Ser. A.* 35:353-3654 #273

Bedford, B. and O.L. Loucks. 1984. Response of *Carex*-dominated wetlands to altered temperature and flooding patterns. EPA/600/S3-83/081. Environmental Research Laboratory, USEPA, Duluth, MN. #1984-17

Bedford, B. and O.L. Loucks. 1984. Response of *Carex*-dominated wetlands to altered temperature and flooding patterns: Project Summary. EPA/600/S3-83/081. Environmental Research Laboratory, USEPA, Duluth, MN. #1984-17

Call, D.J., L.T. Brooke, R.J. Kent, S.H. Poirier, M.L. Knuth, P.J. Shubat, and E.J. Slick. 1984. Toxicity, uptake, and elimination of the herbicides alachlor and dinoseb in freshwater fish. *J. Environ. Qual.* 13(3):493-498. #1984-19

Call, D.J., L.T. Brooke, C.A. Lindberg, T.P. Markee, D.J. McCauley, and S.H. Poirier. 1984. Toxicity of aluminum to freshwater organisms in water of pH 6.5 - 8.5. Center for Lake Superior Environmental Studies, University of Wisconsin, Superior, WI. #1984-23

Call, D.J., L.T. Brooke, C. Northcott, and D.E. Hammermeister. 1984. Site-specific acute and chronic aquatic toxicity testing -- Western Lake Superior Sanitary District treatment plant effluent studies. In: *Chemical and biological studies related to the water quality of St. Louis Bay of Lake Superior*. A.R. Carlson and N.A. Thomas, Eds. Pp. 96-111. EPA/600/3-84/064. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1984-15

Caple, R. 1984. Characterization of the organic nature of the Western Lake Superior Sanitary District effluent -- summary. In: *Chemical and biological studies related to the water quality of St. Louis Bay of Lake Superior*. A.R. Carlson and N.A. Thomas, Eds. Pp. 112-114. EPA/600/3-84/064. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1984-15

Carlson, A.R., Brungs, W.A., Chapman, G. A., and Hansen, D. J. Guidelines for deriving numerical aquatic site-specific water quality criteria by modifying national criteria. EPA/600/3-84/099. Environmental Research Laboratory, Office of Research and Development, USEPA, Duluth, MN, (PB85-121101).

Carlson, A.R. and Thomas, N.A. 1984. Chemical and biological studies related to the water quality of St. Louis Bay of Lake Superior. EPA/600/3-84/064. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB84-195379). #1984-15

Carlson, R.W. 1984. The influence of pH, dissolved oxygen, suspended solids or dissolved solids upon ventilatory and cough frequencies in the bluegill *Lepomis macrochirus* and brook trout *Salvelinus fontinalis*. *Environ. Pollut. Ser. A.* 34:149-69 #274

Cook, R.B. and J.J. Ameal. 1984. Water chemistry in St. Louis Bay. In: *Chemical and biological studies related to the water quality of St. Louis Bay of Lake Superior*. A.R. Carlson and N.A. Thomas, Eds. Pp. 1-56. EPA/600/3-84/064. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1984-15

Crane, J.L., Pilli, A., and Russo, R.C. 1984. CETIS: Complex Effluents Toxicity Information System: Data encoding guidelines and procedures. EPA/600/8-84/029. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, CR 807240. Notes: Contract no. 6639105

Drummond, R.A. 1984. Ventilatory response of bluegill sunfish exposed to final treated WLSSD effluent -- summary. In: *Chemical and biological studies related to the water quality of St. Louis Bay of Lake Superior*. A.R. Carlson and N.A. Thomas, eds. Pp. 93-95. EPA 600/3-84/064. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1984-15

Eilers, J.M., G.J. Lien, and R.G. Berg. 1984. Aquatic organisms in acidic environments: A literature review. Technical Bulletin No. 150. Department of Natural Resources, Madison, WI. #1984-13

Gueldner, D.R., Pilli, A., Crane, J.L., and Sivertson, D.J. 1984 CETIS: Complex Effluents Toxicity Information System: CETIS retrieval system user's manual. EPA/600/8-84/030. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, CR 807240.

Gulliver, J.S. and H.G. Stefan. 1984. Stream productivity analysis with DORM-I : development of computational model. *Water Res.*18(12):1569-1576. #1984-20

Gulliver, J.S. and H.G. Stefan. 1984. Stream productivity analysis with DORM-II : parameter estimation and sensitivity. *Water Res.* 18(12):1577-1588. #1984-21

Gulliver, J.S. and H.G. Stefan. 1984. Stream productivity analysis with DORM-III : productivity of experimental streams. *Water Res.* 18(12):1589-1595. #1984-22

Hall, L.H. and L.B. Kier. 1984. Molecular connectivity of phenols and their toxicity to fish. *Bull. Environ. Contam. Toxicol.* 32:354-362. #1984-9

Hall, L.H., L.B. Kier, and G.L. Phipps. 1984. Structure-activity relationship studies on the toxicities of benzene derivatives: I. An additivity model. *Environ. Toxicol. Chem.* 3:355-65 #275

Hargis, J.R. 1984. Seasonal primary production and plankton dynamics in the St. Louis River and harbor. In: *Chemical and biological studies related to the water quality of St. Louis Bay of Lake Superior*. A.R. Carlson and N.A. Thomas, Eds. Pp. 73-92. EPA/600/3-84/064. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1984-15

Hedtke, S.F. 1984. Structure and function of copper-stressed aquatic microcosms. *Aquat. Toxicol.* 5:227-44 #276

Highland, T. and Curtis, C., compilers. Freshwater findings: 1979-1982. Research publications of the Environmental Research Laboratory, Duluth, Minnesota. EPA/600/x-84/003. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Holcombe, G.W., G.L. Phipps, M.L. Knuth, and T. Felhaber. 1984. The acute toxicity of selected substituted phenols, benzenes and benzoic acid ester to fathead minnows *Pimephales promelas*. *Environ. Pollut. Ser. A*. 35:367-81 #277

Holcombe, G.W., G.L. Phipps, and J.W. Marier. 1984. Methods for conducting snail (*Aplexa hypnorum*) embryo through adult exposures: Effects of cadmium and reduced pH levels. *Arch. Environ. Contam. Toxicol.* 13:627-34 #278

Kleiner, C.F., R.L. Anderson, and D.K. Tanner. 1984. Toxicity of fenitrothion to fathead minnows (*Pimephales promelas*) and alternative exposure duration studies with fenitrothion and endosulfan. *Arch. Environ. Contam. Toxicol.* 13:573-78 #279

Kuehl, D.W., E.J. Durhan, B.C. Butterworth, and D. Linn. 1984. Identification of polychlorinated planar chemicals in fishes from major watersheds near the Great Lakes. *Environ. Int.* 10:45-49 #280

Kuehl, D.W., E.J. Durhan, B.C. Butterworth, and D. Linn. 1984. Tetrachloro-9H-carbazole, a previously unrecognized contaminant in sediments of the Buffalo River. *J. Great Lakes Res.* 10:210-214 #281

Leino, R.L. and J.H. McCormick. 1984. Morphological and morphometrical changes in chloride cells of the gills of *Pimephales promelas* after chronic exposure to acid water. *Cell Tissue Res.* 236:121-28 #282

Lemke, A.E. Interlaboratory comparison of continuous flow, early life stage testing with fathead minnows. EPA/600/3-84/005. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB84-129493).

Lemke, A.E. and Anderson, R.L. Insect interlaboratory toxicity test comparison study for the Chironomid (*Paratanytarsus* sp.) procedure. EPA/600/3-84/054. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB84-180025).

Lima, A.R., C Curtis, D.E. Hammermeister, T.P. Markee, C.E. Northcott, and L.T. Brooke. 1984. Acute and chronic toxicities of arsenic(III) to fathead minnows, flagfish, daphnids, and an amphipod. *Arch. Environ. Contam. Toxicol.* 13:595-601 #283

Liss, W.J., B.L. McClurken-Lilley, and D.S. Lee. 1984. Structure and organization of persistent aquatic laboratory communities exposed to the insecticide dieldrin. EPA600/S3-84/013. Environmental Research Laboratory, USEPA, Duluth, MN. #1984-16

- Loucks, O.L. 1984. Use of forest site index for evaluating terrestrial resources at risk from acidic deposition. In: *Direct and indirect effects of acidic deposition on vegetation*. Linthurst, R.A., ed. Butterworth Publishers, Boston, MA. Pp. 97-109. #1984-8
- Loucks, O.L. and G.E. Glass. 1984. U.S./Canada aquatic impacts assessment: Integration of experimental studies, monitoring and modeling of acidic deposition effects. In: *Modeling of total acid precipitation impacts*. J.L. Schnoor, ed. Butterworth Publishers, Stoneham, MA. #1984-12
- McCormick, J.H., S.J. Broderius, and J.T. Fiandt. 1984. Toxicity of ammonia to early life stages of the green sunfish *Lepomis cyanellus*. *Environ. Pollut. Ser. A*. 36:147-63 #284
- McCormick, J.H. and H.A. Podoliak. 1984. Gallbladder color and relative fullness as a field technique for estimating time since last feeding in brook trout. *N. Am. J. Fish. Manage.* 4:566-68 #285
- Meyn, E.L., R.K. Zajdel, and R.V. Thurston. 1984. Acute toxicity of ferrocyanide and ferricyanide to rainbow trout (*Salmo gairdneri*). Technical Report No. 84-1. Fisheries Bioassay Laboratory, Montana State University, Bozeman, MT. #1984-11
- Mosquito Control Technology (R.D. Sjogren). 1984. Assessment of the effects of chlorpyrifos larvicide on non-target, aquatic organisms in mosquito control areas. Final report submitted to Environmental Research Laboratory, USEPA, Duluth, MN by Mosquito Control Technology, North Oaks, MN. #1984-1
- Mount, D.I. and T.J. Norberg. 1984. A seven-day life-cycle cladoceran toxicity test. *Environ. Toxicol. Chem.* 3:425-34 #286
- Mullin, M.D., C.M. Pochini, S. McCrindle, M. Romkes, S.H. Safe, and L.M. Safe. 1984. High-resolution PCB analysis: Synthesis and chromatographic properties of all 209 PCB congeners. *Environ. Sci. Technol.* 18:468-476. #1984-5
- Phipps, G.L., M.J. Harden, E.N. Leonard, T.H. Roush, D.L. Spehar, C.E. Stephan, Q.H. Pickering, and A.L. Buikema, Jr. 1984. Effects of pollution on freshwater organisms. *J. Water Pollut. Control Fed.* 56:725-58 #287
- Rice, C.P., P.J. Samson, and G. Noguchi. 1984. Atmospheric transport of toxaphene to Lake Michigan: Project summary. EPA/600/S3-84/101. Environmental Research Laboratory, USEPA, Duluth, MN. #1984-6
- Russo, R.C. and Pilli, A. 1984. AQUIRE: Aquatic Information Retrieval toxicity data base: Project description, guidelines, and procedures. EPA/600/8-84/021. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, CR 807240.
- Roush, T. 1984. St. Louis Bay benthic macroinvertebrate survey. In: *Chemical and biological studies related to the water quality of St. Louis Bay of Lake Superior*. A.R. Carlson and N.A.

Thomas, Eds. Pp. 57-72. EPA/600/3-84/064. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1984-15

Schelske, C.L., B.J. Eadie, and G.L. Krausse. 1984. Measured and predicted fluxes of biogenic silica in Lake Michigan. *Limno. Oceanogr.* 29(1):99-110. #1984-4

Siefert, R.E., C.F. Kleiner, B.R. Nordling, L.H. Mueller, D.K. Tanner, A.W. Jarvinen, J.A. Zischke, N. Larson, and R.L. Anderson. 1984. Effects of Dursban on non-target aquatic organisms in a natural pond undergoing mosquito control treatment. Environmental Research Laboratory, USEPA, Duluth, MN. #1984-2

Smith, W.E., T.H. Roush, and J.T. Fiandt. 1984. Toxicity of ammonia to early life stages of bluegill (*Lepomis macrochirus*). EPA/600/x-84/175. Environmental Research Laboratory, USEPA, Duluth, MN. #1984-3

Spehar, R.L. and A.R. Carlson. 1984. Derivation of site-specific water quality criteria for cadmium and the St. Louis River Basin, Duluth, Minnesota. *Environ. Toxicol. Chem.* 3:651-65 #288

Spehar, R.L. and Carlson, A.R. Derivation of site-specific water quality criteria for cadmium and the St. Louis River basin, Duluth, Minnesota. EPA/600/3-84/029. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB84-153196).

Spoor, W.A. 1984. Oxygen requirements of larvae of the smallmouth bass, *Micropterus dolomieu* Lacepede. *J. Fish Biol.* 25:587-92 #289

Thomann, R.V. and Connolly, J.P. An age dependent model of PCB in a Lake Michigan food chain. EPA/600/3-84/026. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB84-155993): CR 805916.

Thomann, R.V. and J.P. Connolly. 1984. An age-dependent model of PCB in a Lake Michigan food chain: Project Summary. EPA/600/S3-84/026. #1984-18

Thomann, R.V. and J.P. Connolly. 1984. Model of PCB in the Lake Michigan lake trout food chain. *Environ. Sci. Technol.* 18(2):65-71. #1984-10

Thurston, R.V., R.C. Russo, R.J. Luedtke, C.E. Smith, E.L. Meyn, C. Chakoumakos, K.C. Wang, and C.J.D. Brown. 1984. Chronic toxicity of ammonia to rainbow trout. *Trans. Am. Fish. Soc.* 113:56-73 #290

Wiener, J.G., P.J. Rago, and J.M. Eilers. 1984. Species composition of fish communities in northern Wisconsin lakes: Relation to pH. In: *Early biotic responses to advancing lake acidification*. Hendrey, G.R., ed. Butterworth Publishers, Boston, MA. Pp. 133-146. #1984-7

1983

Anderson, R.L. and P. Shubat. 1983. Insecticide effects on normal development and hatch of embryos of *Paratanytarsus parthenogeneticus* (Diptera: Chironomidae). *Great Lakes Entomol.* 16:177-81 #255

Arthur, J.W., J.A. Zischke, K.N. Allen, and R.O. Hermanutz. 1983. Effects of diazinon on macroinvertebrates and insect emergence in outdoor experimental channels. *Aquat. Toxicol.* 4:283-301 #256

Auer, M.T., J.M. Graham, L.E. Graham, and J.A. Kranzfelder. 1983. Factors regulating the spatial and temporal distribution of *Cladophora* and *Ulothrix* in the Laurentian Great Lakes. In: *Periphyton of freshwater ecosystems*. Wetzel, R.G., Ed. Dr W. Junk Publishers, The Hague. Pp. 135-144. #1983-8

Bathelt, R.W. and C.L. Schelske. 1983. Degradation of the peritrophic membrane of freshwater zooplankton fecal pellets. *Trans. Am. Microsc. Soc.* 102(3):288-299. #1983-6

Call, D.J., Brooke, L.T., Ahmad, N., and Richter, J.E. Toxicity and metabolism studies with EPA priority pollutants and related chemicals in freshwater organisms. EPA/600/3-83/095. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB83-263665): Grant # R880020 CR 806864.

Call, D.J., Brooke, L.T., and Kent, R.J. Toxicity, bioconcentration, and metabolism of five herbicides in freshwater fish. EPA/600/3-83/096. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB83-263681): Grant # R806196.

Cook, P.M. 1983. Review of published studies on gut penetration by ingested asbestos fibers. *Environ. Health Perspect.* 53:121-30 #257

DeVore, P.W. and J.G. Eaton. 1983. An investigation of spinal deformity of trout (*Salmo* sp.) in the Brule River, Wisconsin. *J. Great Lakes Res.* 9:69-73 #258

Eaton, J.G., V.R. Mattson, L.H. Mueller, and D.K. Tanner. 1983. Effects of suspended clay on bioconcentration of Kelthane® in fathead minnows. *Arch. Environ. Contam. Toxicol.* 12:439-45 #259

Eilers, J.M., G.E. Glass, K.E. Webster, and J.A. Rogalla. 1983. Hydrological control of lake susceptibility to acidification. *Can. J. Fish. Aquat. Sci.* 40:1896-904 #260

Fisher, J.B., R.L. Petty, and W. Lick. 1983. Release of polychlorinated biphenyls from contaminated lake sediments: Flux and apparent diffusivities of four individual PCBs. *Environ. Poll. (Series B)* 5:121-132. #1983-4

Goran, D. and Kosian, P. 1983. Influence of diet and body lipids on the bioconcentration of endrin from water in the fathead minnow (*Pimephales promelas*). EPA/600/3-83/077.

Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB83-254300): Grant # CR 806860.

Highland, T. and C. Curtis, compilers. 1983. Freshwater findings, 1979-1982: Research publications of the Environmental Research Laboratory, Duluth, MN. Environmental Research Laboratory, USEPA, Duluth, MN. #1983-5

Holcombe, G.W., G.L. Phipps, and J.T. Fiandt. 1983. Toxicity of selected priority pollutants to various aquatic organisms. *Ecotoxicol. Environ. Saf.* 7:400-409 #261

Jarvinen, A.W., B.R. Nordling, and M.E. Henry. 1983. Chronic toxicity of Dursban (chlorpyrifos) to the fathead minnow (*Pimephales promelas*) and the resultant acetylcholinesterase inhibition. *Ecotoxicol. Environ. Saf.* 7:423-34 #262

Kenaga, D.E., Creal, W.S., and Basch, R.E. 1983. Limnology of Michigan's nearshore waters of Lake Michigan. EPA/905/3-83/003. Great Lakes National Program Office, USEPA Region 5, Chicago, IL/ORD/USEPA, Duluth, MN, Project no. R005146-01.

Krausse, G.L., Schelske C.L., and C.O. Davis. 1983. Comparison of three wet-alkaline methods of digestion of biogenic silica in water. *Fresh. Biol.* 13:73-81. #1983-1

Kuehl, D.W., E.N. Leonard, B.C. Butterworth, and K.L. Johnson. 1983. Polychlorinated chemical residues in fish from major watersheds near the Great Lakes, 1979. *Environ. Int.* 9:293-99 #263

Leino, R.L., J.G. Anderson, and J.H. McCormick. 1983. Development of apical pits in chloride cells of the gills of *Pimephales promelas* after chronic exposure to acid water. In: *Proceedings of the 41st Annual Meeting of the Electron Microscopy Society of America*. G.W. Bailey, Ed. Pp. 462-463. San Francisco Press, San Francisco, CA. #1983-12

Lemke, A.E. 1983. Agrochemical hazards in aquatic systems and evaluation of such hazards with emphasis on developing countries. In: *Proceedings of the International Conference on Environmental Hazards of Agrochemicals in Developing Countries, Vol. 1*, November 8-12, 1983, Alexandria, Egypt. Pp. 417-433. Alexandria University, Egypt. #1983-13

Lemke, A.E., Durhan, E., and Felhaber, T. 1983. Evaluation of a fathead minnow *Pimephales promelas* embryo-larval test guideline using acenaphthene and isophorone. EPA/600/3-83/062. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB83-2434360)

McKim, J.M. and E.M. Heath. 1983. Dose determinations for waterborne 2,5,2',5'-[¹⁴C]tetrachlorobiphenyl and related pharmacokinetics in two species of trout (*Salmo gairdneri* and *Salvelinus fontinalis*): A mass-balance approach. *Toxicol. Appl. Pharmacol.* 68:177-87 #264

McNaught, D.C., Griesmer, D., Buzzard, M., and Kennedy, M. PCBs in Saginaw Bay: Development of functional indices to estimate inhibition of ecosystem fluxes. EPA/600/3-

- 84/008. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB84-133008): Grant # 804573.
- Mullin, M.D., C.M. Pochini, S. Safe, and L.M. Safe. 1983. Analysis of PCBs using specific isomer high resolution capillary gas chromatography. In: *PCBs: Human and environmental hazards*. F.M. D'Itri and M.A. Kamrin, Eds. Butterworth Publishers, Boston, MA. Pp. 165-176. #1983-7
- Murphy, T.J. and A.W. Schinsky. 1983. Net atmospheric inputs of PCBs to the ice cover on Lake Huron. *J. Great Lakes Res.* 9(1):92-96. #1983-15
- Neiheisel, T.W., Horning, W.B., Petrasek, A.C., Jr., Asberry, V.R., Jones, D.A., Marcum, R.L., and Hall, C.T. 1983. Effects on toxicity of volatile priority pollutants added to a conventional wastewater treatment system. EPA/600/3-83/083. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB83-259721).
- Palekar, L.D., P.M. Cook, and D.L. Coffin. 1983. *In vitro* effects of mineral fibers. *Environ. Health Perspect.* 51:11-16 #265
- Pickering, Q.H., E.P. Hunt, G.L. Phipps, T.H. Roush, W.E. Smith, D.L. Spehar, C.E. Stephan, and D.K. Tanner. 1983. Effects of pollution on freshwater fish and amphibians. *J. Water Pollut. Control Fed.* 55:840-863 #266
- Pignatello, J.J., M.M. Martinson, J.G. Steiert, R.E. Carlson, and R.L. Crawford. 1983. Biodegradation and photolysis of pentachlorophenol in artificial freshwater streams. *App. Environ. Microbiol.* 46(5):1024-1031. #1983-10
- Richter, J.E., S.F. Peterson, and C.F. Kleiner. 1983. Acute and chronic toxicity of some chlorinated benzenes, chlorinated ethanes, and tetrachloroethylene to *Daphnia magna*. *Arch. Environ. Contam. Toxicol.* 12:679-84 #267
- Robertson, L.W., B. Chittim, S.H. Safe, M.D. Mullin, and C.M. Pochini. 1983. Photodecomposition of a commercial polybrominated biphenyl fire retardant: High-resolution gas chromatographic analysis. *J. Agric. Food Chem.* 31(2):454-457. #1983-3
- Rodgers, P.W. and J.V. DePinto. 1983. Estimation of phytoplankton decomposition rates using two-stage continuous flow studies. *Water Res.* 17(7):761-769. #1983-9
- Schelske, C.L., E.F. Stoermer, D.J. Conley, J.A. Robbins, and R.M. Glover. 1983. Early eutrophication in the lower Great Lakes: New evidence from biogenic silica in sediments. *Science* 222:320-322. #1983-2
- Shephard, B. 1983. The effect of reduced pH and elevated aluminum concentrations on three species of zooplankton: *Ceriodaphnia reticulata*, *Daphnia magna* and *Daphnia pulex*. Report submitted to Environmental Research Laboratory, USEPA, Duluth, MN. #1983-16

Spehar, R.L., D.K. Tanner, and B.R. Nordling. 1983. Toxicity of the synthetic pyrethroids, permethrin and AC 222, 705 and their accumulation in early life stages of fathead minnows and snails. *Aquat. Toxicol.* 3:171-82 #269

Veith, G.D., D.J. Call, and L.T. Brooke. 1983. Estimating the acute toxicity of narcotic industrial chemicals to fathead minnows. In: *Aquatic toxicology and hazard assessment: Sixth symposium*. W.E. Bishop, R.D. Cardwell, and B.B. Heidolph, Eds. Pp. 90-97. ASTM STP 802. American Society for Testing and Materials, Philadelphia, PA. #1983-11

Veith, G.D., D.J. Call, and L.T. Brooke. 1983. Structure-toxicity relationships for the fathead minnow, *Pimephales promelas*: Narcotic industrial chemicals. *Can. J. Fish. Aquat. Sci.* 40:743-48 #270

Veith, G.D. and P.A. Kosian. 1983. Estimating bioconcentration potential from octanol/water partition coefficients. In: *Physical behavior of PCBs in the Great Lakes*. D. MacKay, S. Paterson, S.J. Eisenreich, and M.S. Simmons, Eds. Pp. 269-282. Ann Arbor Science, Ann Arbor, MI. #1983-14

Walbridge, C.T., J.T. Fiandt, G.L. Phipps, and G.W. Holcombe. 1983. Acute toxicity of ten chlorinated aliphatic hydrocarbons to the fathead minnow (*Pimephales promelas*). *Arch. Environ. Contam. Toxicol.* 12:661-66 #271

Williamson, K.J. and Nelson, P.O. Bacterial bioassay for Level I toxicity assessment. EPA/600/3-83/017. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB83-182287): Grant # R806297.

Zischke, J.A., J.W. Arthur, K.J. Nordlie, R.O. Hermanutz, D.A. Standen, and T.P. Henry. 1983. Acidification effects on macroinvertebrates and fathead minnows (*Pimephales promelas*) in outdoor experimental channels. *Water Res.* 17:47-63 #272

1982

Anderson, R.L. . 1982. Toxicity of fenvalerate and permethrin to several nontarget aquatic invertebrates. *Environ. Entomol.* 11:1251-57 #232

Arthur, J.W., J.A. Zischke, and G.L. Ericksen. 1982. Effect of elevated water temperature on macroinvertebrate communities in outdoor experimental channels. *Water Res.* 16:1465-77 #233

Bandiera S., S. Safe, and A.B. Okey. 1982. Binding of polychlorinated biphenyls classified as either phenobarbitone-, 3-methylcholanthrene- or mixed-type inducers to cytosolic *Ah* receptor. *Chem.-Biol. Interactions* 39:259-277. #1982-10

Bartone, C.R. and C.L. Schelske. 1982. Lake-wide seasonal changes in limnological conditions in Lake Michigan in 1976. *J. Great Lakes Res.* 8(3):413-427. #1982-9

- Benoit, D.A., V.R. Mattson, and D.L. Olson. 1982. A continuous-flow mini-diluter system for toxicity testing. *Water Res.* 16:457-64 #234
- Benoit, D.A., F.A. Puglisi, and D.L. Olson. 1982. A fathead minnow *Pimephales promelas* early life stage toxicity test method evaluation and exposure to four organic chemicals. *Environ. Pollut. Ser. A.* 28:189-97 #235
- Biesinger, K.E., L.E. Anderson, and J.G. Eaton. 1982. Chronic effects of inorganic and organic mercury on *Daphnia magna*: Toxicity, accumulation, and loss. *Arch. Environ. Contam. Toxicol.* 11:769-74 #236
- Call, D.J., L.T. Brooke, and R.J. Kent. 1982. Toxicity, bioconcentration, and metabolism of five herbicides in freshwater fish. USEPA Grant No. R-806196-01. Submitted to Environmental Research Laboratory, USEPA, Duluth, MN, by Center for Lake Superior Environmental Studies, University of Wisconsin-Superior, Superior, WI. #1982-11
- Call, D.J., L.T. Brooke, R.J. Kent, N. Ahmad, and J.E. Richter. 1982. Toxicological studies with herbicides, selected EPA priority pollutants and related chemicals in aquatic organisms. Project summary. USEPA Grants #R-806196-01 & #R-880020010 and Cooperative Agreements #CR-806864-02 & #CR-880020010. Submitted to ERL, USEPA, Duluth, MN, by Center for Lake Superior Environmental Studies, UW-Superior, Superior, WI. #1982-2
- Carlson, A.R., Tucker, J.A., Mattson, V.R., Phipps, G.L., Cook, P.M., Olson, G.F., and Puglisi, F.A. 1982. Cadmium and endrin toxicity to fish in waters containing mineral fibers. EPA/600/3-82/053. Environmental Research Laboratory, Office of Research and Development, USEPA, Duluth, MN, (PB82-225038).
- Carlson, R.W. 1982. Some characteristics of ventilation and coughing in the bluegill *Lepomis macrochirus* Rafinesque. *Environ. Pollut. Ser. A.* 29:35-56 #237
- Christensen, G.M., D.L. Olson, and B.L. Riedel. 1982. Chemical effects on the activity of eight enzymes: A review and a discussion relevant to environmental monitoring. *Environ. Res.* 29:247-55 #238
- Chopra, K.S., D. Beaman, and P.M. Cook. 1982. Interlaboratory measurements of the chrysotile asbestos fiber and mass concentrations in water samples. In: *Asbestos standards: Materials and analytical methods*. NBS Special Publication No. 619. Pp. 121-131. National Bureau of Standards, Gaithersburg, MD. #1982-20
- Coffin, D.L., L.D. Palekar, and P.M. Cook. 1982. Tumorigenesis by a ferroactinolite mineral. *Toxicol. Lett.* 13:143-50 #239
- Connolly, J.P. and R.V. Thomann. 1982. Calculated contribution of surface microlayer PCB to contamination of Lake Michigan lake trout. *J. Great Lakes Res.* 8(2):367-375. #1982-15

Cook, P.M. and D.R. Marklund. 1982. Sample preparation for quantitative electron microscope analysis of asbestos fiber concentrations in air. In: *Asbestos standards: Materials and analytical methods*. Pp. 53-67. NBS Special Publication No. 619, National Bureau of Standards, Gaithersburg, MD. #1982-17

Cook, P.M., L.D. Palekar, and D.L. Coffin. 1982. Interpretation of the carcinogenicity of amosite asbestos and ferroactinolite on the basis of retained fiber dose and characteristics in vivo. *Toxicol. Lett.* 13:151-58 #240

Dolan, D.M. and V.J. Bierman, Jr. 1982. Mass balance modeling of heavy metals in Saginaw Bay, Lake Huron. *J. Great Lakes Res.* 8(4):676-694. #1982-7

Glass, G.E. and T.G. Brydges. 1982. Problem complexity in predicting impacts from altered precipitation chemistry. In: *Acid Rain/Fisheries*, Johnson, R.E., ed. pp. 265-286, American Fisheries Society, Bethesda, MD . #1982-24

Hall, R.J. and G.E. Likens. 1982. Experimental acidification of a stream tributary to Hubbard Brook. Project summary, Cooperative Agreement #CR-807104. Submitted to USEPA Research Laboratory, Duluth, MN by Cornell University, Ithaca, NY. #1982-1

Hedtke, S.F. and F.A. Puglisi. 1982. Short-term toxicity of five oils to four freshwater species. *Arch. Environ. Contam. Toxicol.* 11:425-30 #241

Heuschele, A.S. 1982. Vertical distribution of profundal benthos in Lake Superior sediments. *J. Great Lakes Res.* 8(4):603-613. #1982-8

Holcombe, G.W., G.L. Phipps, and J.T. Fiandt. 1982. Effects of phenol, 2,4-dimethylphenol, 2,4-dichlorophenol, and pentachlorophenol on embryo, larval, and early-juvenile fathead minnows (*Pimephales promelas*). *Arch. Environ. Contam. Toxicol.* 11:73-78 #242

Holcombe, G.W., G.L. Phipps, and D.K. Tanner. 1982. The acute toxicity of kelthane, dursban, disulfoton, pydrin, and permethrin to fathead minnows *Pimephales promelas* and rainbow trout *Salmo gairdneri*. *Environ. Pollut. Ser. A.* 29:167-78 #243

Jarvinen, A.W. and D.K. Tanner. 1982. Toxicity of selected controlled release and corresponding unformulated technical grade pesticides to the fathead minnow *Pimephales promelas*. *Environ. Pollut. Ser. A.* 27:179-95 #244

Jensen, A.L. 1982. Impact of a once-through cooling system on the yellow perch stock in the western basin of Lake Erie. *Ecol. Modell.* 15:127-144. #1982-4

Jensen, A.L. and T.A. Hamilton. 1982. Application of a conventional fishery model for assessment of entrainment and impingement impact. *Env. Biol. Fish.* 7(2):181-185. #1982-3

Koenst, W.M. and Smith, L.L. 1982. Factors influencing growth and survival of white sucker, *Catostomus commersoni*. EPA/600/3-82/051. Environmental Research Laboratory, Office of Research and Development, USEPA, Duluth, MN, (PB82-221474): Grant # R804501.

Lick, W. 1982. Entrainment, deposition, and transport of fine-grained sediments in lakes. *Hydrobiologia* 91:31-40. #1982-6

Liss, W.J., Woltering, D.M., Finger, S.E., Kulbicki, M.L., and McClurken, B. 1982. Organization and adaptation of aquatic laboratory ecosystems exposed to the pesticide dieldrin. EPA/600/3-82/050. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB82-219122): Grant # R804622.

Lorenz, R.C. and C.E. Herdendorf. 1982. Growth dynamics of *Cladophora glomerata* in western Lake Erie in relation to some environmental factors. *J. Great Lakes Res.* 8(1):42-53. #1982-16

Loucks, O.L. 1982. The concern for acidic deposition in the Great Lakes region. In: *Acid precipitation: Effects on ecological systems*. D'Itri, F.M., ed. Ann Arbor Science, Ann Arbor, MI. Pp. 21-41. #1982-13

McCormick, J.H. and G.N. Stokes. 1982. Intraovarian invasion of smallmouth bass oocytes by *Proteocephalus ambloplitis* (Cestoda). *J. Parasitol.* 68:973-75 #245

McKim, J.M. and H. M. Goeden. 1982. A direct measure of the uptake efficiency of a xenobiotic chemical across the gills of brook trout (*Salvelinus fontinalis*) under normoxic and hypoxic conditions. *Comp. Biochem. Physiol.* 72C:65-74 #246

McKim, J.M. and R.F. Syrett. 1982. Mobile surgical table with automatic solenoid system for fishery applications. *Prog. Fish-Cult.* 44:75-78 #247

Murphy, T.J., G. Paolucci, A. Schinsky, M.L. Combs, and J. Pokojowczyk. 1982. Inputs of PCBs from the atmosphere to Lakes Huron and Michigan. Large Lakes Research Station, Environmental Research Laboratory-Duluth, Grosse Isle, MI. #1982-23

Olson, D.L. and G.M. Christensen. 1982. Effect of selected environmental pollutants and other chemicals on the activity of urease (*in vitro*). *Bull. Environ. Contam. Toxicol.* 28:439-45 #248

Phipps, G.L., G.W. Holcombe, and J.T. Fiandt. 1982. Saturator system for generating toxic water solutions for aquatic bioassays. *Prog. Fish-Cult.* 44:115-16 #249

Pickering, Q.H. and W.T. Gilliam. 1982. Toxicity of aldicarb and fonofos to the early-life-stage of the fathead minnow. *Arch. Environ. Contam. Toxicol.* 11:699-702 #250

Ross, M.J. and C.F. Kleiner. 1982. Shielded-needle technique for surgically implanting radio-frequency transmitters in fish. *Prog. Fish-Cult.* 44:41-43 #251

Safe, S. 1982. Halogenated hydrocarbons and aryl hydrocarbons identified in human tissues. *Toxicol. Environ. Chem.* 5:153-165. #1982-5

Schnoor, J.L., G.R. Carmichael, and F.A. Van Schepen. 1982. An integrated approach to acid rainfall assessments. In: *Energy and environmental chemistry: Acid rain*. Vol. 2. Keith, L.H., ed. Ann Arbor Science, Ann Arbor, MI. Pp. 225-243. #1982-14

Shubat, P.J., S.H. Poirier, M.L. Knuth, and L.T. Brooke. 1982. Acute toxicity of tetrachloroethylene and tetrachloroethylene with dimethylformamide to rainbow trout (*Salmo gairdneri*). *Bull. Environ. Contam. Toxicol.* 28:7-10. #1982-22

Snarski, V. 1982. The response of rainbow trout *Salmo gairdneri* to *Aeromonas hydrophila* after sublethal exposures to PCB and copper. *Environ. Pollut. Ser. A.* 28:219-32 #252

Snarski, V.M. and G.F. Olson. 1982. Chronic toxicity and bioaccumulation of mercuric chloride in the fathead minnow (*Pimephales promelas*). *Aquat. Toxicol.* 2:143-56 #253

Spehar, R.L., G.M. Christensen, C. Curtis, A.E. Lemke, T.J. Norberg, and Q.H. Pickering. 1982. Effects of pollution on freshwater fish. *J. Water Pollut. Control Fed.* 54:877-922 #254

Spehar, R.L., D.K. Tanner, and J.H. Gibson. 1982. Effects of kelthane and pydrin on early life stages of fathead minnows (*Pimephales promelas*) and amphipods (*Hyalella azteca*). In: *Aquatic toxicology and hazard assessment: Fifth conference*. J.G. Pearson, R.B. Foster, and W.E. Bishop, Eds. Pp. 234-244. ASTM STP 766. American Society for Testing and Materials, Philadelphia, PA. #1982-18

Stephan, C.E. 1982. Increasing the usefulness of acute toxicity tests. In: *Aquatic toxicology and hazard assessment: Fifth conference*. J.G. Pearson, R.B. Foster, and W.E. Bishop, Eds. Pp. 69-81. ASTM STP 766/American Society for Testing & Materials, Philadelphia, PA. #1982-19

Ragland, K.W. and K.E. Wilkening. 1982. Relationship between mesoscale acid precipitation and meteorological factors. In: *Acid precipitation: Effects on ecological systems*. D'Itri, F.M., ed. Ann Arbor Science, Ann Arbor, MI. Pp. 123-139. #1982-12

Thompson, K.W., M.L. Deaton, R.V. Foutz, J. Cairns, Jr., and A.C. Hendricks. 1982. Application of time-series intervention analysis to fish ventilatory response data. *Can. J. Fish. Aquat. Sci.* 39:518-521. #1982-21

1981

Bahnick, D.A., Swenson, W.A., Markee, T.P., Call, D.J., Anderson, C.A., and Morris, R.T. 1981. Development of bioassay procedures for defining pollution of harbor sediments. Part I. (Final report). EPA/600/3-81/025. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB81-178261).

Batterman, A.R. and P.M. Cook. 1981. Determination of mineral fiber concentrations in fish tissues. *Can. J. Fish. Aquat. Sci.* 38:952-59 #214

Benoit, D.A. 1981. User's guide for conducting life-cycle chronic toxicity tests with fathead minnows (*Pimephales promelas*). EPA/600/8-81/011. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Bierman, V.J., Jr. and D.M. Dolan. 1981. Modeling of phytoplankton-nutrient dynamics in Saginaw Bay, Lake Huron. *J. Great Lakes Res.* 7:409-39 #215

Benoit, D.A., R.F. Syrett, and F.B. Freeman. 1981. Manual for construction of a continuous-flow mini-diluter system for toxicity testing. National Water Quality Laboratory, USEPA, ORD, Duluth, MN. #1981-1

Broderius, S.J. 1981. Determination of hydrocyanic acid and free cyanide in aqueous solution. *Anal. Chem.* 53:1472-77 #216

Cairns, J., Jr., Thompson, K.W., and Hendricks, A.C. 1981. Effects of fluctuating, sublethal applications of heavy metal solutions upon the gill ventilation response of bluegills (*Lepomis macrochirus*). EPA/600/3-81/003. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB81-150997): R805274.

Call, D.J., L.T. Brooke, N. Ahmad, and D.D. Vaishnav. 1981. Aquatic pollutant hazard assessments and development of a hazard prediction technology by quantitative structure-activity relationships. Report for the USEPA by the Center for Lake Superior Environmental Studies, University of Wisconsin-Superior, Superior, WI. #1981-22a

Call, D.J., L.T. Brooke, N. Ahmad, and D.D. Vaishnav. 1981. Aquatic pollutant hazard assessments and development of a hazard prediction technology by quantitative structure-activity relationships. Report for the USEPA by the Center for Lake Superior Environmental Studies, University of Wisconsin-Superior, Superior, WI. #1981-22b

Christensen, G.M. and D.L. Olson. 1981. Effect of water pollutants and other chemicals upon ribonuclease activity *in vitro*. *Environ. Res.* 26:274-80 #217

Christensen, G.M. and B.L. Riedel. 1981. Effect of water pollutants and other chemicals upon the activity of lipase *in vitro*. *Arch. Environ. Contam. Toxicol.* 10:357-63 #218

Cooper, C.L., W.C. Bartholomew, C.E. Herdendorf, J.M. Reutter, and F.L. Snyder. 1981. Limnetic larval fish of the Maumee and Sandusky River estuaries. *J. Great Lakes Res.* 7(1):51-54. #1981-11

Dave, G. 1981. Influence of diet and starvation on toxicity of endrin to fathead minnows (*Pimephales promelas*). EPA/600/3-81/048. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB81-244436): Grant no. CR 806860.

- Dolan, D.M., A.K. Yui, and R.D. Geist. 1981. Evaluation of river load estimation methods for total phosphorus. *J. Great Lakes Res.* 7:207-14 #219
- Dougherty, R.C., M.J. Whitaker, S.Y. Tang, R. Bottcher, M. Keller, and D.W. Kuehl. 1981. Sperm density and toxic substances: A potential key to environmental health hazards. In: *Environmental health chemistry - the chemistry of environmental agents as potential human hazards*. J.D. McKinney, Ed. Pp. 263-278. Ann Arbor Science, Ann Arbor, MI. #1981-16
- Gerhart, E.H., R.J. Liukkonen, R.M. Carlson, G.N. Stokes, M.T. Lukasewycz, and A.R. Oyler. 1981. Histological effects and bioaccumulation potential of coal particulate-bound phenanthrene in the fathead minnow *Pimephales promelas*. *Environ. Pollut. Ser. A.* 25:165-80 #220
- Hall, R.J. and G.E. Likens. 1981. Chemical flux in an acid-stressed stream. *Nature* 292:329-331. #1981-10
- Heinrich, J., W. Lick, and J. Paul. 1981. Temperatures and currents in a stratified lake: A two-dimensional analysis. *J. Great Lakes Res.* 7(3):264-275. #1981-14
- Hudec, T., J. Thean, D.W. Kuehl, and R.C. Dougherty. 1981. Tris(dichloropropyl)phosphate, a mutagenic flame retardant: Frequent occurrence in human seminal plasma. *Science* 211:951-52 #221
- Jaworski, N.A. 1981. Sources of nutrients and the scale of eutrophication problems in estuaries. In: *Estuaries and nutrients*. B.J. Neilsen and L.E. Cronin, Eds. Pp. 83-110. Humana Press, Clifton, NJ. #1981-18
- Jaworski, N.A. and O. Villa, Jr. 1981. A suggested approach for developing estuarine water quality criteria for management of eutrophication. In: *Estuaries and nutrients*. B.J. Neilsen and L.E. Cronin, Eds. Pp. 499-516. Humana Press, Clifton, NJ. #1981-19
- Kosian, P., Lemke, A., Studders, K., and Veith, G. 1981. The precision of the ASTM bioconcentration test. EPA/600/3-81/022. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB81-168932).
- Krezoski, J.R. and J.A. Robbins. 1981. Radiotracer studies of interactions between sediments and freshwater macrobenthos (abstract only). *Very. Infernal. Verdin. Limnol.* 21:382. #1981-6
- Kuehl, D.W. 1981. Unusual polyhalogenated chemical residues identified in fish tissue from the environment. *Chemosphere* 10:231-42 #222
- Kuehl, D.W., R.C. Dougherty, Y. Tondeur, D.L. Stalling, L.M. Smith, and C. Rappe. 1981. Negative chemical ionization studies of polychlorinated dibenzo-*p*-dioxins, dibenzofurans, and naphthalenes in environmental samples. In: *Environmental health chemistry - The chemistry of environmental agents as potential human hazards*. J. D. McKinney, ed. Pp. 245-261. Ann Arbor Science, Ann Arbor, MI. #1981-15

- Kuehl, D.W., K.L. Johnson, B.C. Butterworth, E.N. Leonard, and G.D. Veith. 1981. Quantification of octachlorostyrene and related compounds in Great Lakes fish by gas chromatography-mass spectrometry. *J. Great Lakes Res.* 7:330-335 #223
- Lee, D.Y., W. Lick, and S.W. Kang. 1981. The entrainment and deposition of fine-grained sediments in Lake Erie. *J. Great Lakes Res.* 7(3):224-233. #1981-5
- Lemke, A.E. Interlaboratory comparison acute testing set. EPA/600/3-81/005. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB81-160772).
- McCormick, J.H., M.J. Ross, and D.B. Siniff. 1981. Where do yellow perch (*Perca flavescens*) go in winter when given the option between normal ice covered water or a heated discharge. In: *Proceedings of the Seventh Annual Aquatic Toxicity Workshop*, November 5-7, 1980, Ottawa, Ontario. N. Bermingham, C. Blaise, P. Couture, B. Hummel, G. Joubert, and M. Speyer, Eds. Pp. 33-45. Canadian Technical Report of Fisheries and Aquatic Sciences No. 990, Department of Fisheries and Oceans, Montreal, Quebec. #1981-17
- McCormick, J. H. and J. A. Wegner. 1981. Responses of largemouth bass from different latitudes to elevated water temperatures. *Trans. Am. Fish. Soc.* 110:417-29 #224
- Mizera, J.J., C.L. Cooper, and C.E. Herdendorf. 1981. Limnetic larval fish in the nearshore zone of the western basin of Lake Erie. *J. Great Lakes Res.* 7(1):62-64. #1981-12
- Mount, D.I. 1981. Margins of safety for aquatic communities. In: *Aquatic toxicology and hazard assessment: Fourth conference*. D.R. Branson and K.L. Dickson, Eds. Pp. 5-9. ASTM STP 737. American Society for Testing and Materials, Philadelphia, PA. #1981-20
- Murphy, T.J., A. Schinsky, G. Paolucci, and C.P. Rzeszutko. 1981. Inputs of polychlorinated biphenyls from the atmosphere to Lakes Huron and Michigan. In: *Atmospheric Pollutants in Natural Waters*, Eisenreich, S.J., Ed. pp. 445-458. Ann Arbor Science Publishers, Ann Arbor, MI. #1981-21
- Nordlie, K.J. and J.W. Arthur. 1981. Effect of elevated water temperature on insect emergence in outdoor experimental channels. *Environ. Pollut. Ser. A.* 25:53-65 #225
- Parkhurst, M.A., G. Whelan, Y. Onishi, and A.R. Olsen. 1981. Simulation of the migration, fate, and effects of diazinon in two Monticello stream channels. Prepared for the U.S. Army Medical Bioengineering Laboratory, Fort Detrick, Frederick, MD by Battelle, Pacific Northwest Laboratories, Richland, WA. #1981-2
- Parkinson, A., L.W. Robertson, L. Safe, and Safe S. 1981. Polychlorinated biphenyls as inducers of hepatic microsomal enzymes: Effects of di-ortho *i* substitution. *Chem.-Biol. Interactions* 35:1-12. #1981-4
- Phipps, G.L., G.W. Holcombe, and J.T. Fiandt. 1981. Acute toxicity of phenol and substituted phenols to the fathead minnow. *Bull. Environ. Contam. Toxicol.* 26:585-93 #226

Robertson, L.W., A. Parkinson, S. Bandiera, and S. Safe. 1981. Potent induction of rat liver microsomal, drug-metabolizing enzymes by 2,3,3',4,4',5-hexabromobiphenyl, a component of fireMaster. *Chem.-Biol. Interactions* 35:13-24. #1981-7

Rodgers, P.W. and J.V. DePinto. 1981. Algae-bacteria interaction in a light-dark cycle. *Journal of Freshwater Ecology* 1(1):71-80. #1981-8

Ross, M.J. and J.H. McCormick. 1981. Effects of external radio transmitters on fish. *Prog. Fish-Cult.* 43:67-72 #227

Safe, S.H. and R.K. Boyd. 1981. Mass spectrometry. In: *Pesticide Analysis*. K.G. Das, Ed. Pp. 329-364. Marcel Dekker, Inc., New York, NY. #1981-3

Spehar, R.L., A.E. Lemke, Q.H. Pickering, T.H. Roush, R.C. Russo, and J.D. Yount. 1981. Effects of pollution on freshwater fish. *J. Water Pollut. Control Fed.* 53:1028-76 #228

Thomann, R.V. 1981. Equilibrium model of fate of microcontaminants in diverse aquatic food chains. *Can. J. Fish. Aquat. Sci.* 38(3):280-296. #1981-13

Thurston, R.V. and R.C. Russo. 1981. Acute toxicity of ammonia to golden trout (*Salmo aguabonita*) and mottled sculpin (*Cottus bairdi*). Technical Report No. 81-1. Fisheries Bioassay Laboratory, Montana State University, Bozeman, MT. #1981-9

Veith, G.D. 1981. State-of-the-art report on structure-activity methods development. EPA/600/3-81/029. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB81-187239).

Veith, G.D. and D.W. Kuehl. 1981. Automated gel-permeation system for removal of lipids in gas chromatography/mass spectrometric analysis of fatty tissues for xenobiotic chemicals. *Anal. Chem.* 53:1132-33 #229

Veith, G.D., D.W. Kuehl, E.N. Leonard, K.J. Welch, and G. Pratt. 1981. Fish, wildlife, and estuaries: Polychlorinated biphenyls and other organic chemical residues in fish from major United States watersheds near the Great Lakes, 1978. *Pestic. Monit. J.* 15:1-8 #230

Weber, T.W. II. Response of phytoplankton to acidification in experimental streams. EPA/600/3-81/042. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB81-216822).

Welch, K.J., D.W. Kuehl, E.N. Leonard, G.D. Veith, and N.D. Schoenthal. 1981. Background hydrocarbon residues in fishes from the Great Lakes and eastern Montana. *Bull. Environ. Contam. Toxicol.* 26:724-28 #231

1980

Anderson, R.L. 1980. Chironomidae toxicity tests - biological background and procedures. In: *Aquatic invertebrate bioassays*. A.L. Buikema, Jr. and J. Cairns, Jr., Eds. Pp. 70-80. ASTM STP 715. American Society for Testing and Materials, Philadelphia, PA. #1980-13

Anderson, R.L. and D.L. DeFoe. 1980. Toxicity and bioaccumulation of endrin and methoxychlor in aquatic invertebrates and fish. *Environ. Pollut. Ser. A*. 22:111-21 #197

Anderson, R.L., C.T. Walbridge, and J.T. Fiandt. 1980. Survival and growth of *Tanytarsus dissimilis* (Chironomidae) exposed to copper, cadmium, zinc, and lead. *Arch. Environ. Contam. Toxicol.* 9:329-35 #198

Andren, A., Anderson, M., Loux, N., and Talbot, R. 1980. Element flow in aquatic systems surrounding coal-fired power plants: Wisconsin Power Plant Impact Study. EPA/600/3-80/076. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803971.

Aulerich, R.J. and Ringer, R.K. 1980. Toxicity of the polychlorinated biphenyl Aroclor 1016 to mink. EPA/600/3-80/033. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract # 68-03-1187.

Arthur, J.W. 1980. Review of freshwater bioassay procedures for selected amphipods. In: *Aquatic invertebrate bioassays*. A.L. Buikema, Jr. and J. Cairns, Jr., Eds. Pp. 98-108. ASTM STP 715. American Society for Testing and Materials, Philadelphia, PA. #1980-14

Basch, R.E., Pecor, C.H., Waybrant, R.C., and Kenaga, D.E. 1980. Limnology of Michigan's nearshore waters of Lakes Superior and Huron. EPA/600/3-80/059. Environmental Research Laboratory, USEPA, ORD, Duluth, MN and Great Lakes National Program Office, Region V, USEPA, Chicago, IL, R005146-01.

Bierman, V.J., Jr., D.M. Dolan, E.F. Stoermer, J.E. Gannon, and V.E. Smith. 1980. The development and calibration of a spatially simplified multi-class phytoplankton model for Saginaw Bay, Lake Huron. Great Lakes Environmental Planning Study (GLEPS) Contribution No. 33. #1980-1

Bott, T., Patrick, R., Larson, R., and Rhyne, C. 1980. The effect of nitrilotriacetic acid (NTA) on the structure and functioning of aquatic communities in streams. EPA/600/3-80/050. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R801951.

Broderius, S.J. and Smith, L.L., Jr. 1980. Direct photolysis of hexacyanoferrate complexes: Proposed applications to the aquatic environment. EPA/600/3-80/003. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R805291.

Call, D.J., L.T. Brooke, and N. Ahmad. 1980. Estimates of "no effect" concentrations of selected pesticides in freshwater organisms. Third Quarterly Progress Report to EPA submitted to USEPA Research Laboratory, Duluth, MN by University of Wisconsin-Superior, Superior, WI. #1980-2

Canale, R.P., DePalma, L.M., and Powers, W.F. 1980. Sampling strategies for water quality in the Great Lakes. EPA/600/3-80/055. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803754-02-1.

Carlson, A.R., J. Blocher, and L.J. Herman. 1980. Growth and survival of channel catfish and yellow perch exposed to lowered constant and diurnally fluctuating dissolved oxygen concentrations. *Prog. Fish-Cult.* 42:73-78 #199

Christensen, G.M. and B.L. Riedel. 1980. An enzyme-immobilization procedure for the analysis of enzyme-inhibiting chemicals in water. *Int. J. Environ. Anal. Chem.* 8:277-82 #200

Cook, P.M. and D.L. Longrie. 1980. Determination of asbestos and other inorganic particle concentrations in urine. In: *Electron microscopy and x-ray applications to environmental and occupational health analysis, vol. 2.* P.A. Russell, Ed. Pp. 219-231. Ann Arbor Science, Ann Arbor, MI. #1980-17

Coward, N.A., Horton, J.W., Koch, R.G., and Morden, R.D. 1980. Static coal storage -- biological and chemical effects on the aquatic environment. EPA/600/3-80/083a. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant no. NERC-R-803937-02-0.

Dill, D.C., McCarty, W.M., Alexander, H.C., and Bartlett, E.A. 1980. Toxicity of 1,1-dichloroethylene (vinylidene chloride) to aquatic organisms. 1980. EPA/600/3-80/057. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

DiToro, D.M. and Connolly, J.P. 1980. Mathematical models of water quality in large lakes. Part 2: Lake Erie. EPA/600/3-80/065. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803030.

DiToro, D.M. and Matystik, W.F., Jr. 1980. Mathematical models of water quality in large lakes. Part 1: Lake Huron and Saginaw Bay. EPA/600/3-80/056. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803030.

Dougherty, R.C., M.J. Whitaker, L.M. Smith, D.L. Stalling, and D.W. Kuehl. 1980. Negative chemical ionization studies of human and food chain contamination with xenobiotic chemicals. *Environ. Health Perspect.* 36:103-18 #201

Drummond, R.A. 1980. Rapid assessment methods (fish cough response, etc.). In: *Proceedings of the Seminar on Biological Monitoring and its Use in the NPDES Permit Program*, October 2, 1979, Chicago, IL. EPA/600/9-80/026. Center for Environmental Research Information, USEPA, ORD, Cincinnati, OH. Pp. 95-96. #1980-7

- Eisenreich, S.J., Emmling, P.J., and Beeton, A.M. 1980. Determination of atmospheric phosphorus addition to Lake Michigan. EPA/600/3-80/063. Environmental Research Laboratory, USEPA, Duluth, MN, Grant # R803238.
- Elser, A.A. and Schreiber, J.C. 1980. Environmental effects of western coal combustion. Part I - The fishes of Rosebud Creek, Montana. EPA/600/3-78/098. Environmental Research Laboratory, USEPA, Duluth, MN, Grant # R803950.
- Endicott, D.D., W.L. Richardson, and D.M. Di Toro. 1980. Lake Ontario TCDD modeling report. USEPA Research Laboratory, Duluth, MN. #1980-6
- Environmental Research Laboratory Duluth, M. 1980. ERL-D Ecosystem Research Program. Internal report submitted to Environmental Research Laboratory, USEPA, Duluth, MN. #1980-12
- Erickson, R.J. and Stephan, C.E. 1980. Calculation of the final acute value for water quality criteria for aquatic organisms. EPA/600/3-88/018. Environmental Research Laboratory, USEPA, Duluth, MN, (PB88-214994).
- Gerhart, D.Z., Richter, J.E., Curran, S.J., and Robertson, T.E. 1980. Algal bioassays with leachates and distillates from western coal. EPA/600/3-80/051. Environmental Research Laboratory, USEPA, Duluth, MN, Grant # R803932.
- Glass, N.R., G.E. Glass, and P.J. Rennie. 1980. Effects of acid precipitation in North America. *Environ. Int.* 4:443-52 #202
- Glass, G.E. and Loucks, O.L., eds. 1980. Impacts of airborne pollutants on wilderness areas along the Minnesota-Ontario border. EPA/600/3-80/044. Environmental Research Laboratory, Office of Research and Development, USEPA, Duluth, MN.
- Goettl, J.P., Jr. and Edde, J.W. 1980. Fish distribution in Trout Creek, Colorado, 1975-1976. EPA/600/3-80/070. Environmental Research Laboratory, USEPA, Duluth, MN, (Environmental effects of western coal surface mining. Part VIII): Grant # R803950.
- Great Lakes Laboratory, State University College. 1980. Lake Erie nutrient control: effectiveness regarding assessment in eastern basin. EPA/600/3-80/067. Environmental Research Laboratory, USEPA, Duluth, MN, Grant # R802706.
- Hall, R.J. and G.E. Likens. 1980. Ecological effects of experimental acidification on a stream ecosystem. In: *Ecological impact of acid precipitation*. D. Drablos and A. Tollan, Eds. SNSF Project, Oslo. Pp. 375-376. #1980-11
- Hall, R.J., G.E. Likens, S.B. Fiancé, and G.R. Hendrey. 1980. Experimental acidification of a stream in the Hubbard Brook Experimental Forest, New Hampshire. *Ecology* 61(4):976-989. #1980-10

Hedtke, S.F. and F.A. Puglisi. 1980. Effects of waste oil on the survival and reproduction of the American flagfish, *Jordanella floridae*. *Can. J. Fish. Aquat. Sci.* 37:757-64 #203

Herdendorf, C.E., ed. 1980. Lake Erie nutrient control program: an assessment of its effectiveness in controlling lake eutrophication. EPA/600/3-80/062. Environmental Research Laboratory, Office of Research and Development, USEPA, Duluth, MN, Grant # R802543.

Hokanson, K.E.F. 1980. A national compendium of freshwater fish and water temperature data. Volume II: Temperature requirement data for thirty fishes. Environmental Research Laboratory, USEPA, Duluth, MN. #1980-7

Hokanson, K.E.F. and G.J. Lien. 1980. Effects of organic contaminants in ova upon growth and survival of larval walleye from the lower Fox River and Sturgeon Bay areas of Green Bay, Wisconsin. Environmental Research Laboratory, USEPA, Duluth, MN. #1980-3

Holcombe, G.W., J.T. Fiandt, and G.L. Phipps. 1980. Effects of pH increases and sodium chloride additions on the acute toxicity of 2,4-dichlorophenol to the fathead minnow. *Water Res.* 14:1073-77 #204

Holland, R.E. 1980. Seasonal fluctuations of major diatom species at five stations across Lake Michigan, May 1970 - October 1972. EPA/600/3-80/066. Environmental Research Laboratory, USEPA, Duluth, MN, Grant # R805133-01-1.

Isensee, A.R. and Yockim, R.S. 1980. Freshwater micro-ecosystem development and testing of substitute chemicals. EPA/600/3-80/008. Environmental Research Laboratory, USEPA, Duluth, MN, Contract no. EPA-IA6-05-5811.

Jaeger, M.J. 1980. Predicting effects of an electric generating station on wetland passerine birds: Wisconsin power plant impact study. EPA/600/3-80/020. Environmental Research Laboratory, Office of Research and Development, USEPA, Duluth, MN, Grant # R803971.

Johnson, W.W. and Julin, A.M. 1980. Acute toxicity of toxaphene to fathead minnows, channel catfish, and bluegills. EPA/600/3-80/005. Environmental Research Laboratory, USEPA, Duluth, MN, Contract no. EPA IAG 141 (D).

Keen, R.E. and D.I. Mount. 1980. Culturing aquatic crustaceans in dilute bottled mineral water (Hannibal's medium): A new twist for Perrier. Environmental Research Laboratory, USEPA, Duluth, MN. #1980-9

Kimble, P.F. and Temple, K.L. 1980. Microbial effect on the quality of leach water from eastern Montana coal mine spoils. EPA/600/3-80/046. Environmental Research Laboratory, USEPA, Duluth, MN, (Environmental effects of western coal surface mining. Part VII): Grant # R803950.

- Kreis, R.G., Jr., D. Woodring, and A.G. Kizlauskas. 1980. Conceptual framework for ranking hazardous sediments in the Laurentian Great Lakes. Large Lakes Research Station, USEPA, Grosse Ile, MI. #1980-2
- Kuehl, D.W. and R.C. Dougherty. 1980. Pentachlorophenol in the environment. Evidence for its origin from commercial pentachlorophenol by negative chemical ionization mass spectrometry. *Environ. Sci. Technol.* 14:447-49 #205
- Kuehl, D.W. and R.C. Dougherty. 1980. Screening of human and food chain samples for contamination with toxic substances using negative chemical ionization mass spectrometry. In: *Advances in mass spectrometry, vol. 8B*. A. Quayle, Ed. Pp. 1451-1459. Heydon and Son, Ltd., London. #1980-15
- Kuehl, D.W., E.N. Leonard, K.J. Welch, and G.D. Veith. 1980. Identification of hazardous organic chemicals in fish from the Ashtabula River, Ohio, and Wabash River, Indiana. *J. Assoc. Off. Anal. Chem.* 63:1238-44 #206
- Kuehl, D.W., M.J. Whitaker, and R.C. Dougherty. 1980. Micromethods for toxic residue screening by negative chemical ionization mass spectrometry. *Anal. Chem.* 52:935-40 #207
- Lech, J. and Melancon, M. 1980. Uptake, metabolism and disposition of xenobiotic chemicals in fish: Wisconsin Power Plant Impact Study. EPA/600/3-80/082. Environmental Research Laboratory, USEPA, Duluth, MN, Grant no. R803971.
- Lee, G.F. 1980. An evaluation of hazardous chemicals in Lake Ontario during IFYGL. EPA/600/3-80/060. Environmental Research Laboratory, USEPA, Duluth, MN, Grant # R-803187.
- Mackie, G.L., White, D.S., and Zdeba, T.W. 1980. A guide to freshwater mollusks of the Laurentian Great Lakes with special emphasis on the genus *Pisidium*. EPA/600/3-80/068. Environmental Research Laboratory, USEPA, Duluth, MN, Grant # 805333.
- Magnuson, J.J., Forbes, A.M., Harrell, D.M., and Schwarzmeier, J.D. 1980. Responses of stream invertebrates to an ashpit effluent: Wisconsin power plant impact study. EPA/600/3-80/081. Environmental Research Laboratory, USEPA, Duluth, MN, Grant no. R803971.
- Magnuson, J.J., Rahel, F.J., Talbot, M.J. Forbes A.M., and Medvick, P.A. 1980. Ecological studies of fish near a coal-fired generating station and related laboratory studies: Wisconsin Power Plant Impact Study. EPA/600/3-80/078. Environmental Research Laboratory, USEPA, Duluth, MN, Grant # R803971.
- Marcus, M.D., Bergman, H.L., Stoller, D.A., Brown, S.K., and Molholt, P.A., compilers. 1980. Bibliography of aquatic ecosystem effects, analytical methods and treatment technologies for organic compounds in advanced fossil-fuel processing effluents. EPA/600/3-80/026. Environmental Research Laboratory, USEPA, Duluth, MN, IAG ET-77-S-03-1761, IAG ET-78-C-03-1761, IAG DE-AS20-79-LC-01761.

McCormick, J.H., G.N. Stokes, and G.J. Portele. 1980. Environmental acidification impact detection by examination of mature fish ovaries. In: *Proceedings of the Sixth Annual Aquatic Toxicity Workshop*, November 6-7, 1979, Winnipeg, Manitoba. J.F. Klaverkamp, S.L. Leonhard, and K.E. Marshall, eds. Pp. 41-48. Canadian Technical Report of Fisheries and Aquatic Sciences No. 975, Department of Fisheries and Oceans, Winnipeg, Manitoba. #1980-16

McNaught, D.C., Buzzard, M., Griesmer, D., and Kennedy, M. 1980. Zooplankton grazing and population dynamics relative to water quality in southern Lake Huron. EPA/600/3-80/069. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803178.

Morden, R.D. 1980. Static coal storage -- Biological effects on the aquatic environment. EPA/600/3-80/083c. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB80-221583): Grant # R803937-02-0.

Mount, D.I. 1980. Tentative guidelines for flow-through early life stage toxicity tests with fathead minnows for use in the USEPA, OTS-ORD round robin test. In: *Proceedings of the Seminar on Biological Monitoring and its Use in the NPDES Permit Program*, October 2, 1979, Chicago, IL. EPA/600/9-80/026. Center for Environmental Research Information, USEPA, ORD, Cincinnati, OH. Pp. 62-68. #1980-8

Munson, B.H., J.H. McCormick, and H.L. Collins. 1980. Influence of thermal challenge on conditioned feeding forays of juvenile rainbow trout. *Trans. Am. Fish. Soc.* 109:116-21 #208

Natusch, D.F.S. and Taylor, D.R. 1980. Environmental effects of western coal combustion. Part IV - Chemical and physical characteristics of coal fly ash. EPA/600/3-80/094. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803950.

Olson, D.L. and G.M. Christensen. 1980. Effects of water pollutants and other chemicals on fish acetylcholinesterase (*in vitro*). *Environ. Res.* 21:327-35 #209

Parkinson, A., L.W. Robertson, and S. Safe. 1980. Reconstituted human breast milk PCBs as potent inducers of aryl hydrocarbon hydroxylase. *Biochemical and Biophysical Research Communications*: 96(2):882-889. #1980-5

Penkal, R.F. and Gregory, R.W. 1980. Smallmouth bass and largemouth bass in the Tongue River Reservoir, Montana, 1975-76. EPA/600/3-80/045. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (*Environmental effects of western coal surface mining, Part VI*): Grant # R803950.

Pickering, Q.H. 1980. Chronic toxicity of hexavalent chromium to the fathead minnow (*Pimephales promelas*). *Arch. Environ. Contam. Toxicol.* 9:405-13 #210

Poldoski, J.E. 1980. Determination of lead and cadmium in fish and clam tissue by atomic absorption spectrometry with a molybdenum and lanthanum treated pyrolytic graphite atomizer. *Anal. Chem.* 52:1147-51 #211

Quiqley, E., Randall, J., Murray, B.H., and D'Alessio, A.B. 1980. Citizen concern with power plant siting: Wisconsin power plant impact study. EPA/600/3-80/004. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803971.

Ragland, K.W., Goodell, B.D., and Coughlin, T.L. 1980. Air pollution studies near a coal-fired power plant: Wisconsin Power Plant Impact Study. EPA/600/3-80/048. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803971.

Riggs, V.L. and Gregory, R.W. 1980. Age and growth of walleye and saucers in the Tongue River Reservoir, Montana, 1975-77. EPA/600/3-80/038. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (*Environmental effects of western coal surface mining, Part V*): Grant # R803950.

Robbins, J.A. 1980. Sediments of southern Lake Huron: Elemental composition and accumulation rates. EPA/600/3-80/080. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803086.

Ross, M.J. and Siniff, D.B. 1980. Spatial distribution and temperature selection of fish near the thermal outfall of a power plant during fall, winter and spring. EPA/600/3-80-009. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R804997010 Contract no. 68-03-2145.

Russom, C.L., compiler. 1980. Freshwater findings, 1976-1978. Research publications of the Environmental Research Laboratory, Duluth, MN. EPA/600/9-80/007. Environmental Research Laboratory, USEPA, Duluth, MN. #1980-20

Sanders, H.O. 1980. Sublethal effects of toxaphene on daphnids, scuds, and midges. EPA/600/3-80/006. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract no. EPA-IAG-141(D).

Schelske, C.L. 1980. Dynamics of nutrient enrichment in large lakes: The Lake Michigan case. In: *Restoration of lakes and inland waters*. EPA/440/5-81/010. Office of Water Regulations and Standards, USEPA, Washington, D.C. #1980-4

Schelske, C.L., Moll, R.A., and Simmons, M.S. 1980. Limnological conditions of southern Lake Huron, 1974 and 1975. EPA/600/3-80/074. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant no. R803086.

Shaver, M.P. and Page, P. 1980. Local land-use and landownership patterns near a power plant: Wisconsin power plant impact study. EPA/600/3-80/021. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803971.

Sheng, Y.P. and Lick, W. 1980. A two-mode free-surface numerical model for the three-dimensional time-dependent currents in large lakes. EPA/600/3-80/047. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803704.

Sonzogni, W.C. and W.R. Swain. 1980. Perspectives on U.S. Great Lakes chemical toxic substances research. *J. Great Lakes Res.* 6(4):265-274. #1980-12

Spehar, R.L., R.W. Carlson, A.E. Lemke, D.I. Mount, Q.H. Pickering, and V.M. Snarski. 1980. Effects of pollution on freshwater fish. *J. Water Pollut. Control Fed.* 52:1703-68 #212

Spehar, R.L., J.T. Fiandt, R.L. Anderson, and D.L. DeFoe. 1980. Comparative toxicity of arsenic compounds and their accumulation in invertebrates and fish. *Arch. Environ. Contam. Toxicol.* 9:53-63 #213

Stay, F.S. 1980. Review of aquatic microcosm techniques used for hazard assessment of potentially toxic compounds. Corvallis Environmental Research Laboratory, USEPA, Corvallis, OR. #1980-3

Stefan, H.G., J. Gulliver, M.G. Hahn, and A.Y. Fu. 1980. Water temperature dynamics in experimental field channels: Analysis and modeling. Project Report No. 193, St. Anthony Falls Hydraulic Laboratory, University of Minnesota, Minneapolis, MN. Prepared for Environmental Research Laboratory, USEPA, Duluth, MN. #1980-6

Stoermer, E.F. 1980. Characteristics of benthic algal communities in the upper Great Lakes. EPA/600/3-80/073. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803037.

Stoermer, E.F. and Kreis, R.G., Jr. 1980. Phytoplankton composition and abundance in southern Lake Huron. EPA 600/3-80/061. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803086.

Swain, W.R. and Shannon, V.R. 1980. Proceedings of the Third USA-USSR Symposium on the Effects of Pollutants Upon Aquatic Ecosystems: Theoretical Aspects of Aquatic Toxicology, July 2-6, 1979, Borok, Jaroslavl Oblast, USSR. EPA/600/9-80/034. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Swain, W.R. and Shannon, V.R. 1980. Proceedings of the Second American-Soviet Symposium on the Use of Mathematical Models to Optimize Water Quality Management: Bloomfield Hills, Michigan, USA, August 27-30, 1979. EPA/600/9-80/033. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Sydor, M. and Stortz, K. 1980. Sources and transports of coal in the Duluth-Superior harbor. EPA/ 600/3-80/007. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803952.

Tanis, F.J. 1980. A remote sensing technique to monitor *Cladophora* in the Great Lakes. EPA/ 600/3-80/075. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803611.

Taraldsen, J. 1980 Toxicity testing/TREs of oil treater discharges in the Powder River basin, Wyoming. Environmental Research Laboratory, USEPA, Duluth, MN. #1980-5

Tetrick, N. and Joeres, E. 1980. Water constraints in power-plant siting and operation: Wisconsin power plant impact study. EPA/600/3-80/077. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803971.

Thompson, K.W., A.C. Hendricks, and J. Cairns, Jr. 1980. Acute toxicity of zinc and copper singly and in combination to the bluegill (*Lepomis macrochirus*). *Bull. Environm. Contam. Toxicol.* 25:122-129. #1980-19

Veith, G.D. 1980. Bioconcentration tests for effluents. In: *Proceedings of the Seminar on Biological Monitoring and its Use in the NPDES Permit Program*, October 2, 1979, Chicago, IL. EPA/600/9-80/026. Center for Environmental Research Information, USEPA, ORD, Cincinnati, OH. Pp. 40-46. #1980-9

Veith, G.D., K.J. Macek, S.R. Petrocelli, and J. Carroll. 1980. An evaluation of using partition coefficients and water solubility to estimate bioconcentration factors for organic chemicals in fish. In: *Aquatic toxicology*. J.G. Eaton, P.R. Parrish, and A.C. Hendricks, eds. Pp. 116-129. ASTM STP 707. American Society for Testing and Materials, Philadelphia, PA. #1980-18

Young, R.C., G.A. Anderson, and E.L. Morgan. 1980 Response of smallmouth bass to pH dependent water quality perturbations. Submitted by Tennessee Valley Authority to USEPA. #1980-8

1979

Biesinger, K.E., Brown, R.P., Bernick, C.R., Flittner, G.A., and Hokanson, K.E.F. 1979. A national compendium of freshwater fish and water temperature data. Volume I - Data management techniques, output examples and limitations. EPA/600/3-79/056. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, 1979 Grant # R803950.

Broderius, S.J. 1979. Aqueous chemistry, analytical measurement, and toxicity of cyanide in aquatic ecosystems. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1979-4

Brungs, W.A. 1979. Effects of cyanide and reduced dissolved oxygen concentrations on warmwater fish. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1979-5

Canton, S.P. and Ward, J.V. 1979. Environmental effects of western coal surface mining. Part I - Limnology and biota of mine spoils ponds in northwest Colorado. EPA/600/3-79/124. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803950.

Carlson, R.M., Oyler, A.R., Gerhart, E.H., Caple, R., Welch, K.J., Kopperman, H.L., Bodenner, D., and Swanson, D. 1979. Implications to the aquatic environment of polynuclear aromatic hydrocarbons liberated from northern Great Plains coal. EPA/600/3-79/093. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803952.

Cook, P.M. 1979. Preparation of extrapulmonary tissues and body fluids for quantitative transmission electron microscope analysis of asbestos and other mineral particle concentrations. *Ann. N.Y. Acad. Sci.* 330:717-24 #185

Cook, P.M. and G.F. Olson. 1979. Ingested mineral fibers: Elimination in human urine. *Science* 204:195-98 #186

Gingerich, W.H. and Weber, L.J. 1979. Assessment of clinical procedures to evaluate liver intoxication in fish. EPA/600/3-79/088. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803090.

Glass, N.R., G.E. Glass, and P.J. Rennie. 1979. Effects of acid precipitation. *Environ. Sci. Technol.* 13(11):1350-1355. #1979-6

Hokanson, K.E.F. 1979. A national compendium of freshwater fish and water temperature data. Volume II: temperature requirement data for thirty fishes. EPA/600/3-79/056 Part II. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Holcombe, G.W., D.A. Benoit, and E.N. Leonard. 1979. Long-term effects of zinc exposures on brook trout (*Salvelinus fontinalis*). *Trans. Am. Fish. Soc.* 108:76-97 #187

Horning, W.B. II and T.W. Neiheisel. 1979. Chronic effect of copper on the bluntnose minnow, *Pimephales notatus* (Rafinesque). *Arch. Environ. Contam. Toxicol.* 8:545-22 #188
Lemke, A.E. 1979. Round-robin fish acutes test group. #1979-1

Lemke, A. E. and W.F. Dawson. 1979. Temperature-monitoring and safety-control device. *Prog. Fish-Cult.* 41:165-66 #189

Lin, C.K. and Schelske, C.L. 1979. Effects of nutrient enrichment, light intensity, and temperature on growth of phytoplankton from Lake Huron. EPA/600/3-79/049. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R800965.

Magnuson, V.R., D.K. Harriss, M.S. Sun, D.K. Taylor, and G.E. Glass. 1979. Relationships of activities of metal-ligand species to aquatic toxicity. In: *Chemical modeling in aqueous systems*. ACS Symposium Series No. 93. E.A. Jenne, ed. Pp. 635-655. American Chemical Society. #1979-3

Norberg-King, T.J. 1979. Rapid methods research highlights. Environmental Research Laboratory, USEPA, Duluth, MN. #1979-2

Patterson, R.L. and School of Natural Resources. Production, mortality, and power plant entrainment of larval yellow perch in western Lake Erie. EPA/600/3-79/087. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

- Paul, J.F., Richardson, W.L., Gorstko, A.B., and Matveyev, A.A. 1979. Results of a joint U.S.A./U.S.S.R. hydrodynamic and transport modeling project. EPA/600/3-79/015. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.
- Poldoski, J.E. 1979. Cadmium bioaccumulation assays. Their relationship to various ionic equilibria in Lake Superior water. *Environ. Sci. Technol.* 13:701-6 #190
- Riedel, B.L. and G.M. Christensen. 1979. Effect of selected water toxicants and other chemicals upon adenosine triphosphatase activity *in vitro*. *Bull. Environ. Contam. Toxicol.* 23:365-68 #191
- Skogerboe, R.K., Lavalley, C.S., Miller, M.M., and Dick, D.L. 1979. Environmental effects of oil shale mining and processing. Part III : The water quality of Piceance Creek, Colorado, prior to oil shale processing. EPA/600/3-79/055. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803950.
- Skogerboe, R.K., Lavalley, C.S., Miller, M.M., and Dick, D.L. 1979. Environmental effects of western coal surface mining. Part III - The water quality of Trout Creek, Colorado. EPA/600/3-79/008. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803950.
- Smith, L.L., Jr., Broderius, S.J., Oseid, D.M., Kimball, G.L., Koenst, W.M., and Lind, D.T. Acute and chronic toxicity of HCN to fish and invertebrates. EPA/600/3-79/009. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R802914.
- Spehar, R.L., G.W. Holcombe, R.W. Carlson, R.A. Drummond, J.D. Yount, and Q.H. Pickering. 1979. Effects of pollution on freshwater fish. *J. Water Pollut. Control Fed.* 51:1616-94 #192
- Spehar, R.L., G.D. Veith, D.L. DeFoe, and B.V. Bergstedt. 1979. Toxicity and bioaccumulation of hexachlorocyclopentadiene, hexachloronorborene, and heptachloronorborene in larval and early juvenile fathead minnows, *Pimephales promelas*. *Bull. Environ. Contam. Toxicol.* 21:576-83 #193
- Stemberger, R.S., Gannon, J.E., and Bricker, F.J. 1979. Spatial and seasonal structure of rotifer communities in Lake Huron. EPA/600/3-79/085. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803086 and # 803037.
- Thomann, R.V., Winfield, R.P., and Segna, J.J. 1979. Verification analysis of Lake Ontario and Rochester embayment three dimensional eutrophication models. EPA/600/3-79-094. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803680.
- Thurston, R.V., Russo, R.C., and Emerson, K. 1979. Aqueous ammonia equilibrium - tabulation of percent un-ionized ammonia. EPA/600/3-79/091. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant no. R800861.

Turbak, S.C., Olson, G.J., and McFeters, G.A. 1979. Environmental effects of western coal surface mining. Part IV - Chemical and microbiological investigations of a surface coal mine settling pond. EPA/600/3-79/125. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803950.

Veith, G.D., N.M. Austin, and R.T. Morris. 1979. A rapid method for estimating log *P* for organic chemicals. *Water Res.* 13:43-47 #194

Veith, G.D., D.L. DeFoe, and B.V. Bergstedt. 1979. Measuring and estimating the bioconcentration factor of chemicals in fish. *J. Fish. Res. Board Can.* 36:1040-1048 #195

Veith, G.D., D.W. Kuehl, E.N. Leonard, F.A. Puglisi, and A.E. Lemke. 1979. Fish, wildlife, and estuaries: Polychlorinated biphenyls and other organic chemical residues in fish from major watershed in the United States, 1976. *Pestic. Monit. J.* 13:1-11 #196

Waybrant, R.C. and Shauver, J.M. 1979. Survey of larval fish in the Michigan waters of Lake Erie, 1975 and 1976. EPA/ 600/3-79/095. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract # R804522.

Wrenn, W.B., Armitage, B.J., Rodgers, E.B., Forsythe, T.D., and Grannemann, K.L. Browns. 1979. Ferry Biothermal Research Series. II. Effects of temperature on bluegill and walleye, and periphyton, macroinvertebrate, and zooplankton communities in experimental ecosystems. EPA/ 600/3-79/092. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, TV-35013A.

1978

Armitage, B.J., Forsythe, T.D., Rodgers, E.B., and Wrenn, W.B. 1978. Browns Ferry Biothermal Research Series. I. Colonization by periphyton, zooplankton, and macroinvertebrates. EPA 600/3-78/020. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, TV-35013A.

Baril, S.F. Luedtke, R.J., and Roemhild, G.R. 1978. Environmental effects of western coal combustion. Part II - The aquatic macroinvertebrates of Rosebud Creek, Montana. EPA 600/3-78/099. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803950.

Benoit, D.A. and G.W. Holcombe. 1978. Toxic effects of zinc on fathead minnows *Pimephales promelas* in soft water. *J. Fish Biol.* 13:701-8 #165

Brooke, L.T. and D.J. Call. 1978. Bioconcentration, metabolism and elimination of eight aromatic compounds in the fathead minnow (*Pimephales promelas*). Center for Lake Superior Environmental Studies, University of Wisconsin-Superior, Superior, WI. #1978-1

Brungs, W.A., R.W. Carlson, W.B. Horning II, J.H. McCormick, R.L. Spehar, and J.D. Yount. 1978. Effects of pollution on freshwater fish. *J. Water Pollut. Control Fed.* 50:1582-637 #166

Brungs, W.A. and D.I. Mount. 1978. Introduction to the discussion of the use of aquatic toxicity tests for evaluation of the effects of toxic substances. In: *Estimating the hazard of chemical substances to aquatic life*. J. Cairns, Jr., K.L. Dickson, and A.W. Maki, Eds. Pp. 15-26. ASTM STP 657. American Society for Testing and Materials, Philadelphia, PA. #1978-9

Canton, S.P. and Ward, J.V. 1978. Environmental effects of western coal surface mining. Part II - The aquatic macroinvertebrates of Trout Creek, Colorado. EPA/600/3-78/095. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803950.

Cardwell, R.D., D.G. Foreman, T.R. Payne, and D.J. Wilbur. 1978. Acute and chronic toxicity of four organic chemicals to fish. Environmental Research Laboratory, USEPA, Duluth, MN. #1978-15

Carlson, A.R. and L.J. Herman. 1978. Effect of long-term reduction and diel fluctuation in dissolved oxygen on spawning of black crappie *Pomoxis nigromaculatus*. *Trans. Am. Fish. Soc.* 107:742-46 #167

Carlson, R.W. and R.A. Drummond. 1978. Fish cough response -- a method for evaluating quality of treated complex effluents. *Water Res.* 12:1-6 #168

Christensen, G.M., J.T. Fiandt, and B.A. Poeschl. 1978. Cells, proteins, and certain physical-chemical properties in brook trout (*Salvelinus fontinalis*) blood. *J. Fish Biol.* 12:51-60 #169

Cole, R.A. 1978. Entrainment at a once-through cooling system on western Lake Erie. Volume I. 1978. EPA/600/3-78/070. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, R801188.

Cole, R.A. 1978. Larval fish distributions in southwestern Lake Erie near the Monroe Power Plant. 1978. EPA/600/3-78/069. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, R804517010.

Cook, P.M., G.E. Glass, D.R. Marklund, and J.H. Tucker. 1978. Evaluation of cartridge filters for removal of small fibers from drinking water. *Am. Water Works Assoc. J.* 70:459-64 #170

Cook, P.M., P.L. Smith, and D.G. Wilson. 1978. Amphibole fiber concentration determination for a series of community air samples: Use of x-ray diffraction to supplement electron microscope analysis. In: *Electron microscopy and x-ray applications to environmental and occupational health analysis*. P.A. Russell and A.E. Hutchings, eds. Pp. 107-119. Ann Arbor Science, Ann Arbor, MI. #1978-10

DeFoe, D.L., G.D. Veith, and R.W. Carlson. 1978. Effects of Aroclor 1248 and 1260 on the fathead minnow (*Pimephales promelas*). *J. Fish. Res. Board Can.* 35:997-1002 #171

- Drummond, R.A. and R.W. Carlson. 1978. Fish cough response -- a method for evaluating quality of treated complex effluents. *Water Res.* 12:1-6. #1978-13
- Eaton, J. and B. Coffin. 1978. Impacts of acidification on aquatic ecosystems. USEPA, Environmental Research Laboratory, Duluth, MN. #1978-5
- Eaton, J.G., J.M. McKim, and G.W. Holcombe. 1978. Metal toxicity to embryos and larvae of seven freshwater fish species - I. Cadmium. *Bull. Environ. Contam. Toxicol.* 19:95-103 #172
- Glass, G.E. 1978. Ecological effects of coal-fired steam-electric generating stations. In: EPA 600/9-78/022. Decision series. Energy Environment III. USEPA, ORD, Washington, DC. pp. 121-149. #1978-16
- Goettl, J.P., Jr. and Edde, J.W. 1978. Environmental effects of oil shale mining and processing. Part I - Fishes of Piceance Creek, Colorado, prior to oil shale processing. EPA/600/3-78/096. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803950.
- Gray, L.J. and Ward, J.V. 1978. Environmental effects of oil shale mining and processing. Part II - The aquatic macroinvertebrates of the Piceance basin, Colorado, prior to oil shale processing. EPA/600/3-78/097. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803950.
- Hahn, M.G., J.S. Gulliver, and H.G. Stefan. 1978. Physical characteristics of the experimental field channels at the USEPA Ecological Research Station in Monticello, MN. Submitted to USEPA Research Laboratory, Duluth, MN by St. Anthony Falls Hydraulic Laboratory, University of Minnesota. #1978-2
- Halligan, B.J. and J.G. Eaton. 1978. Survival and reproduction of *Gammarus lacustris* and *G. pseudolimnaeus* under two experimental conditions. *Prog. Fish-Cult.* 40:59-62 #173
- Helmy, M.M., A.E. Lemke, P.G. Jacob, and B.L. Oostdam. 1978. Effects of some trace elements on the blood of Kuwait mullets, *Liza macrolepis* (Smith). *J. Exp. Mar. Biol. Ecol.* 34:151-61 #174
- Hermanutz, R.O. 1978. Endrin and malathion toxicity to flagfish (*Jordanella floridae*). *Arch. Environ. Contam. Toxicol.* 7:159-68 #175
- Holcombe, G.W. and R.W. Andrew. 1978. The acute toxicity of zinc to rainbow and brook trout: Comparisons in hard and soft water. EPA/600/3-78-094. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1978-11
- Jarvinen, A.W. and R.M. Tyo. 1978. Partial chronic food and water endrin toxicity to fathead minnows. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1978-14

- Jarvinen, A.W. and R.M. Tyo. 1978. Toxicity to fathead minnows of endrin in food and water. *Arch. Environ. Contam. Toxicol.* 7:409-21 #176
- Kimball, G. 1978. The effects of lesser known metals and one organic to fathead minnow (*Pimephales promelas*) and *Daphnia magna*. #1978-3
- Kuehl, D.W., G.D. Veith, and E.N. Leonard. 1978. Brominated compounds found in waste-treatment effluents and their capacity to bioaccumulate. In: *Water chlorination environmental impact and health effects, vol. 2.* R.L. Jolley, H. Gorchev, and D.H. Hamilton, Jr., Eds. Pp. 175-192. Ann Arbor Science, Ann Arbor, MI. #1978-8
- Larson, G.L., Warren, C.E., Hutchins, F.E., Lamperti, L.P., Schlesinger, D.A., and Seim, W.K. 1978. Toxicity of residual chlorine compounds to aquatic organisms. EPA/600/3-78/023. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R802286.
- Lemke, A.E., Brungs, W.A., and Halligan, B.J. 1978. Manual for construction and operation of toxicity-testing proportional diluters. EPA/600/3-78/072. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.
- Maier, W.J. and W.R. Swain. 1978. Lake Superior organic carbon budget. *Water Research* 12(6):403-412. #1978-6
- McCormick, J.H. 1978. Effects of temperature on hatching success and survival of larvae in the white bass. *Prog. Fish-Cult.* 40:133-37 #177
- McKim, J.M., J.G. Eaton, and G.W. Holcombe. 1978. Metal toxicity to embryos and larvae of eight species of freshwater fish - II: Copper. *Bull. Environ. Contam. Toxicol.* 19:608-16 #178
- Mulholland, R.J. 1978. New sampling theory for measuring ecosystem structure. EPA 600/3-78/104. Environmental Research Laboratory, USEPA, ORD, Athens, GA and Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R805564.
- Murphy, T.J. and Rzeszutko, C.P. 1978. Polychlorinated biphenyls in precipitation in the Lake Michigan basin. EPA/600/3-78/071. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # 803915.
- Phillips, G.R. and R.C. Russo. 1978. Metal bioaccumulation in fishes and aquatic invertebrates: A literature review. EPA/600/3-78-103. USEPA, Environmental Research Laboratory, Duluth, MN. #1978-7
- Poldoski, J.E. and G.E. Glass. 1978. Anodic stripping voltammetry at a mercury film electrode: Baseline concentrations of cadmium, lead, and copper in selected natural waters. *Anal. Chim. Acta.* 101:79-88 #179
- Poldoski, J.E., E.N. Leonard, J.T. Fiandt, L.E. Anderson, G.F. Olson, and G.E. Glass. 1978. Factors in the determination of selected trace elements in near-shore U.S. waters of Lakes Superior and Huron. *J. Great Lakes Res.* 4:206-15 #180

Salmela, J.A. and R.L. Anderson. 1978. Thermal shock effects of larvae of caddis fly *Brachycentrus americanus*. *J. Minn. Acad. Sci.* 44:25-28 #181

Spehar, R.L., R.L. Anderson, and J.T. Fiandt. 1978. Toxicity and bioaccumulation of cadmium and lead in aquatic invertebrates. *Environ. Pollut.* 15:195-208 #182

Spehar, R.L., E.N. Leonard, and D.L. DeFoe. 1978. Chronic effects of cadmium and zinc mixtures on flagfish (*Jordanella floridae*). *Trans. Am. Fish. Soc.* 107:354-60 #183

Strachan, W.M.J. and G.E. Glass. 1978. Organochlorine substances in Lake Superior. *J. Great Lakes Res.* 4:389-97 #184

Swenson, W.A. 1978. Influence of turbidity on fish abundance in western Lake Superior. EPA/600/3-78/067. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R802455.

Thomann, R.V. 1978. Size dependent model of hazardous substances in aquatic food chain. EPA/600/3-78/036. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB 281009): Contract # R803680.

Tucker, J.H., Cook, P.M., Phipps, G.L., Stokes, G.N., and Lima, P.H. 1978. Asbestos: a bibliography. EPA/600/3-78/066. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

USEPA. 1978. In-depth studies on health and environmental impacts of selected water pollutants. Performed by E G & G, Bionomics, Wareham, MA for the Criteria Branch, USEPA, Washington, D.C. #1978-4

USEPA (USA) and Soviet Academy of Sciences (USSR). 1978. Proceedings of the First and Second USA-USSR Symposia on the Effects of Pollutants Upon Aquatic Ecosystems. Volume I. Duluth, Minnesota, USA Symposium, October 21-23, 1975. Volume II. Borok, Jaroslavl Oblast, USSR Symposium, June 22-26, 1976. EPA/600/3-78/076. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Veith, G.D., D.W. Kuehl, E.N. Leonard, K.J. Welch, and G. Pratt. 1978. Fish, wildlife, and estuaries: Polychlorinated biphenyls and other organic chemical residues in fish from major United States watersheds near the Great Lakes, 1978. *Pestic. Monit. J.* 15:1-8 #230

Veith, G.D. and Morris, R.T. 1978. A rapid method for estimating Log P for organic chemicals. EPA/600/3-78/049. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

1977

- Allison, D.T. 1977. Use of exposure units for estimating aquatic toxicity of organophosphate pesticides. EPA/600/3-77/077. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.
- Allison, D.T. and Hermanutz, R.O. 1977. Toxicity of diazinon to brook trout and fathead minnows. EPA/600/3-77/060. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.
- Andrew, R.W., D.A. Benoit, J.G. Eaton, J.M. McKim, and C.E. Stephan. 1977. Evaluation of an application factor hypothesis. Environmental Research Laboratory, USEPA, Duluth, MN. #1977-14
- Andrew, R.W., K.E. Biesinger, and G.E. Glass. 1977. Effects of inorganic complexing on the toxicity of copper to *Daphnia magna*. *Water Res.* 11:309-15 #140
- Benoit, D.A. and R.W. Carlson. 1977. Spawning success of fathead minnows on selected artificial substrates. *Prog. Fish-Cult.* 39:67-69 #141
- Broderius, S.J. and L.L. Smith, Jr. 1977. Direct determination and calculation of aqueous hydrogen sulfide. *Analyt. Chem.* 49:424-428. #1977-17
- Broderius, S.J. and L.L. Smith, Jr. 1977. Relationship between pH and acute toxicity of free cyanide and dissolved sulfide forms to the fathead minnow. In: *Recent Advances in Fish Toxicology--A Symposium*, Tubb. R.A., ed., pp. 88-117. #1977-16
- Broderius, S.J., L.L. Smith, Jr., and D.T. Lind. 1977. Relative toxicity of free cyanide and dissolved sulfide forms to the fathead minnow (*Pimephales promelas*). *J. Fish. Res. Board Can.* 34(12):2323-2332. #1977-3
- Brungs, W.A. 1977. Comments on the criteria for free cyanide, phenols, and mixing zones proposed by the Pennsylvania Department of Environmental Resources for the Monongahela River. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1977-18
- Brungs, W.A. 1977. Effects of reduced dissolved oxygen concentrations on warmwater fish. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1977-19
- Brungs, W.A. and Jones, B.R. 1977. Temperature criteria for freshwater fish: protocol and procedures. 1977. EPA/600/3-77-061. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.
- Brungs, W.A., J.H. McCormick, T.W. Neiheisel, R.L. Spehar, C.E. Stephan, and G.N. Stokes. 1977. Effects of pollution on freshwater fish. *J. Water Pollut. Control Fed.* 49:1425-93 #142
- Buikema, A.L., Jr., J. Cairns, Jr., P.C. Edmunds, and T.H. Krakauer. 1977. Culturing and ecology studies of the rotifer, *Polyarthra vulgaris*. EPA 600/3-77/051. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R800815.

Cardwell, R.D., Foreman, D.G., Payne, T.R., and Wilbur, D.J. 1977. Acute and chronic toxicity of chlordane to fish and invertebrates. EPA/600/3-77/019. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract No. 68-01-0187.

Carlson, R.M. and Caple, R. 1977. Chemical/biological implications of using chlorine and ozone for disinfection. 1977. EPA/600/3-77/066. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R800675.

Christensen, G.M., J.T. Fiandt, and D.A. Benoit. 1977. Estimation of live fish weight by photography. *Prog. Fish-Cult.* 39:41-42 #143

Christensen, G.M., E.P. Hunt, and J.T. Fiandt. 1977. The effect of methylmercuric chloride, cadmium chloride, and lead nitrate on six biochemical factors of the brook trout (*Salvelinus fontinalis*). *Toxicol. Appl. Pharmacol.* 42:523-30 #144

Collette, B.B., M.A. Ali, K.E.F. Hokanson, M. Nagiec, S.A. Smirnov, J.E. Thorpe, A.H. Weatherley, and J. Willemsen. 1977. Biology of percids. *J. Fish. Res. Board Can.* 34:1890-1899 #145

Cowen, W.F., Sirisinha, K., and Lee, G.F. 1977. Algal nutrient availability and limitation in Lake Ontario during IFYGL. Part II. Nitrogen available in Lake Ontario tributary water samples and urban runoff from Madison, Wisconsin. EPA/600/3-77/045. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract # R-800537-02.

DeFoe, D.L. 1977. Temperature safety device for aquatic laboratory systems. *Prog. Fish-Cult.* 39:131 #146

Delumyea, R.G. and Petel, R.L. 1977. Atmospheric inputs of phosphorus to southern Lake Huron, April-October 1975. EPA/600/3-77/038. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803086.

DePinto, J.V. and F.H. Verhoff. 1977. Nutrient regeneration from aerobic decomposition of green algae. *Environmental Science and Technology* 11(4):371-377. #1977-5

Drummond, R.A. 1977. Disposable electrode chamber for measuring opercular movements of fathead minnows. *Prog. Fish-Cult.* 39:94 #147

Drummond, R.A. and Carlson, R.W. 1977. Procedures for measuring cough (gill purge) rates of fish. EPA 600/3-77/133. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Fromm, P.O. 1977. Toxic effects of water soluble pollutants on freshwater fish. EPA/600/3-77/057. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # 801034.

Glass, G.E. 1977. Identification and distribution of inorganic components in water: What to measure? *Ann. N.Y. Acad. Sci.* 298:31-46 #148

Glass, G.E. 1977. Organic contaminants. In: *The waters of Lake Huron and Lake Superior, vol. II (part B): Lake Huron, Georgian Bay, and the North Channel*. G.E. Glass, W.M.I. Strachan, W.A. Willford, F.A.I. Armstrong, K.L.E. Kaiser, and A. Lutz, Eds. Pp. 577-590; 667-670. International Joint Commission, Windsor, Ontario. #1977-9

Glass, G.E., W.M.I. Strachan, W.A. Willford, F.A.I. Armstrong, K.L.E. Kaiser, and A. Lutz. 1977. Organic contaminants. In: *The waters of Lake Huron and Lake Superior, vol. III (part B): Lake Superior*. M.P. Bratzel, Jr., M.E. Thompson, and R.J. Bowden, Eds. Pp. 417-429; 499-502. International Joint Commission, Windsor, Ontario. #1977-8

Hamilton, M.A., R.C. Russo, and R.V. Thurston. 1977. Trimmed Spearman-Kärber method for estimating median lethal concentrations in toxicity bioassays. *Environ. Sci. Technol.* 11(7):714-719. #1977-2

Hokanson, K.E.F. 1977. Temperature requirements of some percids and adaptations to the seasonal temperature cycle. *J. Fish. Res. Board Can.* 34:1524-50 #149

Hokanson, K.E.F., C.F. Kleiner, and T.W. Thorslund. 1977. Effects of constant temperatures and diel temperature fluctuations on specific growth and mortality rates and yield of juvenile rainbow trout, *Salmo gairdneri*. *J. Fish. Res. Board Can.* 34:639-48 #150

Jahoda, J.R. 1977. Instrumentation to monitor location of fish continuously in experimental channels. EPA/600/3-77/035. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract # 68-01-0752.

Jarvinen, A.W., M.J. Hoffman, and T.W. Thorslund. 1977. Long-term effects of DDT food and water exposure on fathead minnows (*Pimephales promelas*). *J. Fish. Res. Board Can.* 34:2089-103 #151

Jones, B.R., K.E.F. Hokanson, and J.H. McCormick. 1977. Winter temperature requirements for maturation and spawning of yellow perch *Perca flavescens* (Mitchell). In: *Proceedings of the World Conference - Towards a Plan of Actions for Mankind, vol. 3: Biological balance and thermal modifications*. M. Marois, Ed. Pp. 189-192. Pergamon Press, New York, NY #1977-11

Koonce, J.F., T.B. Bagenal, R.F. Carline, K.E.F. Hokanson, and M. Nagiec. 1977. Factors influencing year-class strength of percids: A summary and model of temperature effects. *J. Fish. Res. Board Can.* 34:1900-1909 #152

Kuehl, D.W. 1977. Identification of trace contaminants in environmental samples by selected ion summation analysis of gas chromatographic-mass spectral data. *Anal. Chem.* 49:521-22 #153

Kuehl, D.W. and E.N. Leonard. 1977. Isolation of xenobiotic chemicals from tissue samples by gel permeation chromatography. *Anal. Chem.* 50:182-85 #154

Lemke, A.E. 1977. Optimum temperature for growth of juvenile bluegills. *Prog. Fish-Cult.* 39:55-57 #155

- Longstaff, B.C. 1977. The dynamics of collembolan populations: a matrix model of single species population growth. *Can. J. Zool.* 55:314-324. #1977-21
- Mancy, K.H. and Allen, H.E. 1977. A controlled bioassay system for measuring toxicity of heavy metals. EPA/600/3-77/037. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract # 14-12-591.
- Mayer, F.L., Jr.; Mehrle, P.M., Jr., and Dwyer, W.P. 1977. Toxaphene: chronic toxicity to fathead minnows and channel catfish. EPA/600/3-77/069. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract # EPA-IAG-141(D).
- McCauley, R.W. 1977. Seasonal effects on temperature preference in yellow perch, *Perca flavescens*. EPA/600/3-77/088. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R802467.
- McCormick, J.H., B.R. Jones, and K.E.F. Hokanson. 1977. White sucker (*Catostomus commersoni*) embryo development, and early growth and survival at different temperatures. *J. Fish. Res. Board Can.* 34:1019-25 #156
- McKim, J.M. 1977. Evaluation of tests with early life stages of fish for predicting long-term toxicity. *J. Fish. Res. Board Can.* 34:1148-54 #157
- Mount, D.I. 1977. An assessment of application factors in aquatic toxicology. In: *Recent advances in fish toxicology: A symposium*. R.A. Tubb, ed. Pp. 183-190. EPA 600/3-77-085. USEPA, Corvallis, OR. #1977-12
- Mount, D.I. 1977. Present approaches to toxicity testing -- a perspective. In: *Aquatic toxicology and hazard evaluation*. F.L. Mayer and J.L. Hamelink, eds. Pp. 5-14. ASTM STP 634. American Society for Testing and Materials, Philadelphia, PA. #1977-7
- Nebeker, A.V., Puglisi, F.A., and DeFoe, D.L. 1977. Toxicity of polychlorinated biphenyls (PCBs) to fish and other aquatic life: final report. EPA/600/3-77/034. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.
- Pickering, Q.H., W.A. Brungs, and M.H. Gast. 1977. Effect of exposure time and copper concentration on reproduction of the fathead minnow (*Pimephales promelas*). *Water Res.* 11:1079-83 #158
- Poldoski, J.E. 1977. Computer-assisted furnace atomic absorption spectrometric analysis. *Anal. Chem.* 49:891-93 #159
- Poldoski, J.E. 1977. Molecular spectral interference in the determination of arsenic by furnace atomic absorption. *Atomic Absorp. Newsl.* 16:70-73 #160

- Poldoski, J.E. and G.E. Glass. 1977. Considerations of trace element chemistry for streams in the Minnesota-Ontario border area. In: *International Conference on Heavy Metals in the Environment*, October 27-31, 1975, Toronto, Ontario. Pp. 901-922. #1977-10
- Russo, R.C. and R.V. Thurston. 1977. The acute toxicity of nitrite to fishes. Paper presented at the symposium "Recent advances in fish toxicology," January 13-14, 1977, Oregon State University, Corvallis, OR. #1977-15
- Siefert, R.E. and L.J. Herman. 1977. Spawning success of the black crappie, *Pomoxis nigromaculatus*, at reduced dissolved oxygen concentrations. *Trans. Am. Fish. Soc.* 106:376-79 #161
- Smith, V.E., Lee, K.W., Filkins, J.C., Hartwell, K.W., Rygwelski, K.R., and Townsend, J. 1977. Survey of chemical factors in Saginaw Bay (Lake Huron). EPA/600/3-77/125. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R802685.
- Spehar, R.L., Veith, G.D., DeFoe, D.L., and Bergstedt, B.A. 1977. A rapid assessment of the toxicity of three chlorinated cyclodiene insecticide intermediates to fathead minnows. EPA/600/3-77/099. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.
- Spoor, W.A. 1977. Oxygen requirements of embryos and larvae of the largemouth bass, *Micropterus salmoides* (Lacepede). *J. Fish Biol.* 11:77-86 #162
- Sridharan, N. and G.F. Lee. 1977. Algal nutrient availability and limitation in Lake Ontario during IFYGL. Part III: Algal nutrient limitation in Lake Ontario during IFYGL. EPA 600/3-77/046a. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract # R-800537-02.
- Sridharan, N. and G.F. Lee. 1977. Algal nutrient availability and limitation in Lake Ontario during IFYGL. Part III: algal nutrient limitation in Lake Ontario during IFYGL. Appendices. EPA/600/3-77/046b. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB 265 004): Contract # R-8005370-2.
- Stephan, C.E. 1977. Methods for calculating an LC₅₀. In: *Aquatic toxicology and hazard evaluation*. F.L. Mayer and J.L. Hamelink, eds. Pp. 65-84. ASTM STP 634. American Society for Testing and Materials, Philadelphia, PA. #1977-6
- USEPA. 1977. Rapid methods research highlights. Environmental Research Laboratory, USEPA, Duluth, MN. #1977-1
- Veith, G.D. and L.M. Kiwus. 1977. Exhaustive steam-distillation and solvent-extraction unit for pesticides and industrial chemicals. *Bull. Environ. Contam. Toxicol.* 17:631-36 #163
- Veith, G.D., D.W. Kuehl, F.A. Puglisi, G.E. Glass, and J.G. Eaton. 1977. Residues of PCBs and DDT in the western Lake Superior ecosystem. *Arch. Environ. Contam. Toxicol.* 5:487-99 #164

Vick, N., compiler. 1977. Freshwater findings, 1967-1976: Research publications of the Environmental Research Laboratory, Duluth, Minnesota. EPA/600/9-77-005. Environmental Research Laboratory, USEPA, Duluth. #1977-4

Walbridge, C.T. 1977. A flow-through testing procedure with duckweed (*Lemna minor L.*). EPA 600/3-77/108. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Warren, C.E. and W.J. Liss. 1977. Design and evaluation of laboratory ecological system studies. EPA/600/3-77/022. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB 280 051): Grant # R802286.

Wezernak, C.T. and D.R. Lyzenga. 1977. Satellite remote sensing study of the trans-boundary movement of pollutants. EPA/600/3-77/056. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R803671.

Winner, R.W., T. Keeling, R. Yeager, and M.P. Farrell. 1977. Effect of food type on the acute and chronic toxicity of copper to *Daphnia magna*. *Fresh. Biol.* 7:343-349. #1977-13

1976

Adelman, I.R. and Smith, L.L., Jr. 1976. Standard test fish development. Part I. Fathead minnows (*Pimephales promelas*) and goldfish (*Carassius auratus*) as standard fish in bioassays and their reaction to potential reference toxicants. EPA/600/3-76/061a. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R800940.

Adelman, I.R. and Smith, L.L., Jr. 1976. Standard test fish development. Part II. Chronic toxicity of Guthion to the fathead minnow (*Pimephales promelas Rafinesque*). EPA/600/3-76/061b. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R800940.

Anderson, R.L. and R.L. Spehar. 1976. Freshwater invertebrate bibliography: pollution, biology, methods. Report: Environmental Research Laboratory, USEPA, Duluth, MN. #1976-15

Andrew, R.W. 1976. Toxicity relationships to copper forms in natural waters. In: *Toxicity to Biota of Metal Forms in Natural Water*, Andrew, R.W., Hodson, P.V. and Konasewich, D.E., eds., pp. 127-144. #1976-18

Basch, R.E. and Truchan, J.G. 1976. Toxicity of chlorinated power plant condenser cooling waters to fish. EPA/600/3-76/009. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R-800700.

Beeton, A.M., Kovacic, P.K., and Brooks, A.S. 1976. Effects of chlorine and sulfite reduction on Lake Michigan invertebrates. EPA/600/3-76/036. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R-801035-01.

Benoit, D.A. 1976. Toxic effects of hexavalent chromium on brook trout (*Salvelinus fontinalis*) and rainbow trout (*Salmo gairdneri*). *Water Res.* 10:497-500 #127

Benoit, D.A., E.N. Leonard, G.M. Christensen, and J.T. Fiandt. 1976. Toxic effects of cadmium on three generations of brook trout (*Salvelinus fontinalis*). *Trans. Am. Fish. Soc.* 105:550-560 #128

Biesinger, K.E., A.E. Lemke, W.E. Smith, and R.M. Tyo. 1976. Comparative toxicity of polyelectrolytes to selected aquatic animals. *J. Water Pollut. Control Fed.* 48:183-87 #129

Bouck, G.R., Nebeker, A.V., and Stevens, D.G. 1976. Mortality, saltwater adaptation and reproduction of fish during gas supersaturation. EPA/600/3-76/050. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Broderius, S.J., L.L. Smith. 1976. Effect of hydrogen sulfide on fish and invertebrates. Part II - Hydrogen sulfide determination and relationship between pH and sulfide toxicity. EPA/600/3-76/062b. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R800992.

Brungs, W.A. 1976. Effects of wastewater and cooling water chlorination on aquatic life. EPA/600/3-76/098. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB 257700).

Brungs, W.A. 1976. Short-cut or screening toxicity tests. National Water Quality Laboratory, USEPA, Duluth, MN. #1976-1

Brungs, W.A., J.R. Geckler, and M.H. Gast. 1976. Acute and chronic toxicity of copper to the fathead minnow in a surface water of variable quality. *Water Res.* 10:37-43 #130

Cardwell, R.D., D.G. Foreman, T.R. Payne, D.J. Wilbur. 1976. Acute toxicity of selected toxicants to six species of fish. EPA/600/3-76/008. Environmental Research Laboratory, Office of Research and Development, USEPA, Duluth, MN, Contract # 68-01-0748.

Cary, G.A., G.F. Doebbler, A. Spacie, and A.G. Vilkas. 1976. Acute and chronic toxicity of di-2-ethylhexyl phthalate and di-n-butyl phthalate to fish and invertebrates. Office of Research and Monitoring, USEPA, Washington, D.C. #1976-19

Christensen, G.M. and J.H. Tucker. 1976. Effects of selected water toxicants on the in vitro activity of fish carbonic anhydrase. *Chem.-Biol. Interact.* 13:181-92 #131

Cook, P.M., I.B. Rubin, C.J. Maggiore, and W.J. Nicholson. 1976. X-ray diffraction and electron beam analysis of asbestiform minerals in Lake Superior waters. *Annals Inst. Electrical Electronics Engineers* No. 75CH1004-I 34-1, 9 pp. #1976-4

Cowen, W.F. and Lee, G.F. 1976. Algal nutrient availability and limitation in Lake Ontario during IFYGL. EPA/600/3-76/094a. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract # R80053702.

Cowen, W.F. and Lee, G.F. 1976. Algal nutrient availability and limitation in Lake Ontario during IFYGL. Appendices to Part I: available phosphorus in urban runoff and Lake Ontario tributary waters. EPA/600/3-76/094b. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, (PB 265040): Contract # R-800537-02.

Dawley, E., Monk, B., Schiewe, M., Ossiander, F., and Ebel, W. 1976. Salmonid bioassay of supersaturated dissolved air in water. EPA/600/3-76/056. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, EPA-IAG-0155(D).

DePinto, J.V., V.J. Bierman, Jr., and F.H. Verhoff. 1976. Seasonal phytoplankton succession as a function of species competition for phosphorus and nitrogen. In: *Modeling biochemical processes in aquatic ecosystems*. R.P. Canale, ed. Pp. 141-169. Ann Arbor Science, Ann Arbor, MI. #1976-8

Drummond, R.A. and D.A. Benoit. 1976. Importance of test procedures on the toxicity of cadmium to brook trout (*Salvelinus fontinalis*). National Water Quality Laboratory, USEPA, Duluth, MN. #1976-12

Doudoroff, P. 1976. Toxicity to fish of cyanides and related compounds: A review. EPA/600/3-76/038. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R-802459.

Fryer, J.L., Pilcher, K.S., Sanders, J.E., Rohovec, J.S., Zinn, J.L., Groberg, W.J., and McCoy, R.H. 1976. Temperature, infectious diseases, and the immune response in salmonid fish. EPA/600/3-76/021. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R-800171.

Gerloff, G.C. and Fitzgerald, G.P. 1976. The nutrition of Great Lakes Cladophora. EPA/600/3-76/044. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant No. R-802464.

Geckler, J.R., W.B. Horning, T.M. Neiheisel, Q.H. Pickering, E.L. Robinson, and C.E. Stephan. 1976. Validity of laboratory tests for predicting copper toxicity in streams. EPA/600/3-76/116. Environmental Research Laboratory, USEPA, Duluth, MN. #1976-9

Great Lakes Laboratory. 1976. An investigation of the nearshore region of Lake Ontario IFYGL. EPA/600/3-76/115. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R800701.

Holcombe, G.W., D.A. Benoit, E.N. Leonard, and J.M. McKim. 1976. Long-term effects of lead exposure on three generations of brook trout (*Salvelinus fontinalis*). *J. Fish. Res. Board Can.* 33:1731-41 #132

Jarvinen, A.W., Hoffman, M.J., and Thorslund, T.W. 1976. Toxicity of DDT food and water exposure to fathead minnows. EPA/600/3-76/114. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Kopperman, H.L., D.W. Kuehl, and G.E. Glass. 1976. Chlorinated compounds found in waste-treatment effluents and their capacity to bioaccumulate. In: *Proceedings of the Conference on the*

Environmental Impact of Water Chlorination, October 22-24, 1975, Oak Ridge, TN. R.L. Jolley, ed. Pp. 327-345. #1976-5

Kuehl, D.W., H.L. Kopperman, G.D. Veith, and G.E. Glass. 1976. Isolation and identification of polychlorinated styrenes in Great Lakes fish. *Bull. Environ. Contam. Toxicol.* 16:127-32 #133

Lick, W. 1976. Numerical models of lake currents. EPA/600/3-76/020. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R-802359.

Macek, K.J., Buxton, K.S., Derr, S.K., Dean, J.W., and Sauter, S. 1976. Chronic toxicity of lindane to selected aquatic invertebrates and fishes. EPA/600/3-76/046. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract # 68-01-0154, Contract # 68-01-1841.

Macek, K.J., Buxton, K.S., Sauter, S., Gnilka, S., and Dean, J.W. 1976. Chronic toxicity of atrazine to selected aquatic invertebrates and fishes. EPA/600/3-76/047. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract # 68-01-0092, Contract # 68-01-1844.

Macek, K.J., Lindberg, M.A., Sauter, S., Buxton, K.S., and Costa, P.A. 1976. Toxicity of four pesticides to water fleas and fathead minnows. EPA/600/3-76/099. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract # 68-01-0738.

Mattson, V.R., Arthur, J.W., and Walbridge, C.T. 1976. Acute toxicity of selected organic compounds to fathead minnows. EPA/600/3-76/097. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

McCormick, J.H. 1976. Effects of temperature on hatching success and survival of larvae in the white bass. EPA/600/3-77/075. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

McCormick, J.H. 1976. Temperature effects on young yellow perch, *Perca flavescens* (Mitchill). EPA/600/3-76/057. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

McCormick, J.H. and C.F. Kleiner. 1976. Growth and survival of young-of-the-year emerald shiners (*Notropis atherinoides*) at different temperatures. *J. Fish. Res. Board Can.* 33:839-42 #134

McKim, J.M., R.L. Anderson, D.A. Benoit, R.L. Spehar, and G.N. Stokes. 1976. Effects of pollution on freshwater fish. *J. Water. Pollut. Control Fed.* 48:1544-620 #135

McKim, J.M., G.F. Olson, G.W. Holcombe, and E.P. Hunt. 1976. Long-term effects of methylmercuric chloride on three generations of brook trout (*Salvelinus fontinalis*): Toxicity, accumulation, distribution, and elimination. *J. Fish. Res. Board Can.* 33:2726-39 #136

Mount, D.I. 1976. Biological assessment of effluents. Environmental Research Laboratory, USEPA, Duluth, MN. #1976-2

Mount, D.I. 1976. Biotic monitoring. In: *Biological monitoring of water and effluent quality*. J. Cairns, Jr., K.L Dickson, and G.F. Westlake, eds. Pp. 20-23. ASTM STP 607. American Society for Testing and Materials, Philadelphia, PA. #1976-7

Nebeker, A.V. 1976. Summary of recent information regarding effects of PCBs on freshwater organisms. PCB Conference, Chicago, IL, Nov. 1975. #1976-13

Nebeker, A.V. 1976. Survival of *Daphnia*, crayfish, and stoneflies in air-supersaturated water. *J. Fish. Res. Board Can.* 33:1208-12 #137

Peterka, J.J. and Kent, J.S. 1976. Dissolved oxygen, temperature, survival of young at fish spawning sites. EPA/600/3-76/113. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R801976.

Poldoski, J.E. and G.E. Glass. 1976. Methodological considerations in western Lake Superior water-sediment exchange studies of some trace elements. In: *Accuracy in Trace Analysis: Sampling, Sample Handling, and Analysis, Proceedings of the 7th IMR Symposium*, October 7-11, 1974, Gaithersburg, MD. Pp. 1073-1088. NBS Special Publication No. 422, National Bureau of Standards, Washington, D.C. #1976-6

Samuelson, D.F. 1976. Water quality: Western Fish Toxicology Station and western Oregon rivers. EPA/600/3-76/077. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Sauter, S., Buxton, K.S., Macek, K.J., and Petrocelli, S.R. 1976. Effects of exposure to heavy metals on selected freshwater fish. Toxicity of copper, cadmium, chromium and lead to eggs and fry of seven fish species. EPA/600/3-76/105. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract # 68-01-0740.

Schelske, C.L., Stoermer, E.F., Gannon, J.E., and Simmons, M.S. 1976. Biological, chemical and physical relationships in the Straits of Mackinac. EPA/600/3-76/095. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R802721.

Smith, L.L., Jr., Oseid, D.M., Adelman, I.R., and Broderius, S.J. 1976. Effect of hydrogen sulfide on fish and invertebrates. Part I -- Acute and chronic toxicity studies. EPA/600/3-76/062a. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R800992.

Smith, W.E. 1976. Larval feeding and rapid maturation of bluegills in the laboratory. *Prog. Fish-Cult.* 38:95-97 #138

Snarski, V.M. and Puglisi, F.A. 1976. Effects of Aroclor 1254 on brook trout, *Salvelinus fontinalis*. EPA/600/3-6/112. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Spehar, R.L. 1976. Cadmium and zinc toxicity to flagfish, *Jordanella floridae*. *J. Fish. Res. Board Can.* 33:1939-45 #139

Spehar, R.L. 1976. Cadmium and zinc toxicity to *Jordanella floridae*. EPA/600/3-76/096. Environmental Research Laboratory, USEPA, ORD, Duluth, MN. #1976-10

Stalling, D.L. and Huckings, J.N. 1976. Analysis and GC-MS characterization of toxaphene in fish and water. EPA/600/3-76/076. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract # EPA-IAG-0153 (D).

Thomann, R.V., Winfield, R.P., Di Toro, D.M., and O'Connor, D.J. 1976. Mathematical modeling of phytoplankton in Lake Ontario. Part 2: Simulations using Lake 1 model. EPA/ 600/3-76/065. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R800610.

USEPA. 1976. Freshwater invertebrate bibliography: pollution, biology, methods. Environmental Research Laboratory, Duluth, MN. #1976-11

USEPA, Large Lakes Research Station. 1976. A plan for the study of hazardous substances in the Great Lakes -- Specifically related to Saginaw Bay. Grosse Ile, MI. #1976-3

University of Wisconsin-Superior, Center for Lake Superior Environmental Studies. 1976. Environmental inventory of lower St. Louis River covering proposed improvements to Duluth-Superior Harbor, Minnesota, and Wisconsin. #1976-16

Veith, G.D. and N.M. Austin. 1976. Detection and isolation of bioaccumulable chemicals in complex effluents. In: *Identification and Analysis of Organic Pollutants in Water*. Keith, L.A., ed., pp. 297-304. Ann Arbor Science, Ann Arbor, MI. #1976-17

Veith, G.D., D.W. Kuehl, E.N. Leonard, F.A. Puglisi, and A.E. Lemke. 1976. Fish, wildlife, and estuaries: Polychlorinated biphenyls and other organic chemical residues in fish from major watershed in the United States, 1976. *Pestic. Monit. J.* 13:1-11 #196

Winner, R.W. 1976. Toxicity of copper to daphnids in reconstituted and natural waters. EPA/ 600/3-76/051. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # R802210.

1975

Andrew, R.W. 1975. Inexpensive solid-state modification of the Heathkit polarograph. *Chem. Instrum.* 6:163-72 #114

Arthur, J.W., Andrew, R.W., Mattson, V.R., Olson, D.T., Glass, G.E., Halligan, B.J., and Walbridge, C.T. 1975. Comparative toxicity of sewage-effluent disinfection to freshwater aquatic life. EPA/600/3-75/012. Environmental Research Laboratory, USEPA, ORD, Duluth, MN.

Benoit, D.A. 1975. Chronic effects of copper on survival, growth, and reproduction of the bluegill (*Lepomis macrochirus*). *Trans. Am. Fish. Soc.* 104:353-58 #115

Brungs, W.A. 1975. Effects of disinfectants on aquatic life. In: Disinfection of wastewater. Pp. 13-20. Office of Research and Development, USEPA. #1975-1

Brungs, W.A. 1975. Testimony in the case of Commonwealth of Pennsylvania against West Penn Power Company for a heated waste discharge to Spring Creek. National Water Quality Laboratory, USEPA, Duluth, MN. #1975-2

Christensen, G.M. 1975. Biochemical effects of methylmercuric chloride, cadmium chloride, and lead nitrate on embryos and alevins of the brook trout, *Salvelinus fontinalis*. *Toxicol. Appl. Pharmacol.* 32:191-97 #116

Committee on Methods for Toxicity Tests with Aquatic Organisms. 1975. Methods for acute toxicity tests with fish, macroinvertebrates, and amphibians. EPA/660/3-75/009. National Environmental Research Center, USEPA, ORD, Corvallis, OR, and Duluth, MN.

Cook, P.M. 1975. Semi-quantitative determination of asbestiform amphibole mineral concentrations in western Lake Superior water samples. In: *Advances in x-ray analysis*. Vol. 18. W.L. Pickles, C.S. Barrett, J.B. Newkirk, and C.O. Ruud, eds. Pp. 557-567. Plenum Publishing, New York, NY. #1975-8

DeFoe, D.L. 1975. Multichannel toxicant injection system for flow-through bioassays. *J. Fish. Res. Board Can.* 32:544-46 #117

Glass, G.E. and J.E. Poldoski. 1975. Interstitial water components and exchange across the water sediment interface of western Lake Superior. *Int. Ver. Theor. Angew.-Limno. Very.* 19:405-20 #118

Mayer, F.L., Jr.; Mehrle, P.M., Jr.; and Dwyer, W.P. 1975. Toxaphene effects on reproduction, growth, and mortality of brook trout. EPA/600/3-75/013. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Contract # EPA-IAG-0153 (D).

McKim, J.M., J.W. Arthur, and T.W. Thorslund. 1975. Toxicity of a linear alkylate sulfonate detergent to larvae of four species of freshwater fish. *Bull. Environ. Contam. Toxicol.* 14:1-7 #119

McKim, J.M., D.A. Benoit, K.E. Biesinger, W.A. Brungs, and R.E. Siefert. 1975. Effects of pollution on freshwater fish. *J. Water Pollut. Control Fed.* 47:1711-68 #120

Mount, D.I. 1975. Coal/oil shale reference library: Fisheries Bioassay Laboratory. National Water Quality Laboratory, USEPA, Duluth, MN. #1975-3

Mount, D.I. 1975. The effects of heavy metals on fish and aquatic organisms (M. Katz). Discussion. In: *Heavy metals in the aquatic environment*. P.A. Krenkel, ed. Pergamon Press, Oxford. Pp. 31-32. #1975-7

Mount, D.I. 1975. Research to develop heavy metal standards for fresh water. In: *International Conference on Heavy Metals in the Environment*, October 27-31, 1975, Toronto, Ontario. Pp. 151-161. #1975-12

Murphy, T.J. and Doskey, P.V. 1975. Inputs of phosphorus from precipitation to Lake Michigan. EPA/600/3-75/005. Environmental Research Laboratory, USEPA, ORD, Duluth, MN, Grant # 802647.

Olson, G.F., D.I. Mount, V.M. Snarski, and T.W. Thorslund. 1975. Mercury residues in fathead minnows, *Pimephales promelas* Rafinesque, chronically exposed to methylmercury in water. *Bull. Environ. Contam. Toxicol.* 14:129-34 #121

Richardson, W.L. 1975. An evaluation of the transport characteristics of Saginaw Bay using a mathematical model of chloride. Presented at Symposium of Mathematical Modeling of Biochemical Processes in Aquatic Ecosystems, American Chemical Society, April 6-11, 1975, Philadelphia, PA. #1975-5

Russo, R.C. and R.V. Thurston. 1975. Acute toxicity of nitrite to cutthroat trout (*Salmo clarki*). Technical Report No. 75-3. Fisheries Bioassay Laboratory, Montana State University, Bozeman, MT. #1975-6

Siefert, R.E. 1975. Bibliography for larval fish identification. National Water Quality Laboratory, USEPA, Duluth, MN. #1975-4

Smith, W.E. 1975. Breeding and culture of two sunfish, *Lepomis cyanellus* and *L. megalotis*, in the laboratory. *Prog. Fish-Cult.* 37:227-29 #122

Stroud, R.K., G.R. Bouck, and A.V.. Nebeker. 1975. Pathology of acute and chronic exposure of salmonid fishes to supersaturated water. In: *Chemistry and physics of aqueous gas solutions*. W.A. Adams, et al., eds. Pp. 435-449. The Electrochemical Society, Princeton, NJ. #1975-9

Swain, W.R., R.M. Wilson, R.P. Neri, and G.S. Porter. 1975. Persistent organic and heavy metal residues in the near-shore fishery of western Lake Superior. Report to the Environmental Protection Agency and the International Joint Commission. #1975-14

Syrett, R.F. and W.F. Dawson. 1975. An inexpensive solid-state temperature controller. *Prog. Fish-Cult.* 37:171-72 #123

Veith, G.D. and V.M. Comstock. 1975. Apparatus for continuously saturating water with hydrophobic organic chemicals. *J. Fish. Res. Board Can.* 32:1849-51 #125

Veith, G.D., D.W. Kuehl, and J. Rosenthal. 1975. Preparative method for gas chromatographic/mass spectral analysis of trace quantities of pesticides in fish tissue. *J. Assoc. Off. Anal. Chem.* 58:1-5 #126

Veith, G.D., D.W. Kuehl, and J. Rosenthal. 1975. GC/MS analysis of pesticides in biological tissue at concentrations less than 0.1 $\mu\text{g}/\text{gm}$. #1975-13

Yount, J.D. 1975. The effect of nonremoval clear-cutting and pine reforestation on the cation composition of a hardwood forest soil. In: *Mineral cycling in southeastern ecosystems*. ERDA Symposium Series (CONF-740513). F.G. Howell, J.B. Gentry, and F.G. Howell, eds. Pp. 744-753. Technical Information Center, Oak Ridge, TN. #1975-11

Yount, J.D. 1975. Forest-floor nutrient dynamics of southern Appalachian hardwood and white pine plantation ecosystems. In: *Mineral cycling in southeastern ecosystems*. ERDA Symposium Series (CONF-740513). F.G. Howell, J.B. Gentry, and F.G. Howell, eds. Pp. 598-608. Technical Information Center, Oak Ridge, TN. #1975-10

1974

Andrew, R.W. 1974. Correlations of copper (II) toxicity with ionic activities in natural waters. Research seminar. National Water Quality Laboratory, USEPA, Duluth, MN. #1974-12

Andrew, R.W. and G.E. Glass. 1974. Amperometric titration methods for total residual chlorine, ozone, and sulfite. National Water Quality Laboratory, USEPA, ORD, Duluth, MN. #1974-1

Arthur, J.W., A.E. Lemke, V.R. Mattson, and B.J. Halligan. 1974. Toxicity of sodium nitrilotriacetate (NTA) to the fathead minnow and an amphipod in soft water. *Water Res.* 8:187-93 #98

Benoit, D.A. 1974. Artificial laboratory spawning substrate for brook trout (*Salvelinus fontinalis* Mitchell). *Trans. Am. Fish. Soc.* 103:144-45 #99

Biesinger, K.E., R.W. Andrew, and J.W. Arthur. 1974. Chronic toxicity of NTA (nitrilotriacetate) and metal-NTA complexes to *Daphnia magna*. *J. Fish. Res. Board Can.* 31:486-90 #100

Brungs, W.A. 1974. Recommended zinc and copper criteria for aquatic life in Ohio. National Water Quality Laboratory, USEPA, Duluth, MN. #1974-11

Carlson, A.R. and R.E. Siefert. 1974. Effects of reduced oxygen on the embryos and larvae of lake trout (*Salvelinus namaycush*) and largemouth bass (*Micropterus salmoides*). *J. Fish. Res. Board Can.* 31:1393-96 #101

Carlson, A.R., R.E. Siefert, and L.J. Herman. 1974. Effects of lowered dissolved oxygen concentrations on channel catfish (*Ictalurus punctatus*) embryos and larvae. *Trans. Am. Fish. Soc.* 103:623-26 #102

Cook, P.M., G.E. Glass, and J.H. Tucker. 1974. Asbestiform amphibole minerals: Detection and measurement of high concentrations in municipal water supplies. *Science* 185:853-55 #103

Drummond, R.A. and W.F. Dawson. 1974. An inexpensive solid-state amplifier for detecting movements and electrical potentials of fish. *Trans. Am. Fish. Soc.* 103:391-92 #104

Drummond, R.A., G.F. Olson, and A.R. Batterman. 1974. Cough response and uptake of mercury by brook trout, *Salvelinus fontinalis*, exposed to mercuric compounds at different hydrogen-ion concentrations. *Trans. Am. Fish. Soc.* 103:244-49 #105

Eaton, J.G. 1974. Chronic cadmium toxicity to the bluegill (*Lepomis macrochirus Rafinesque*). *Trans. Am. Fish. Soc.* 103:729-35 #106

Glass, G.E. and J.E. Poldoski. 1974. Interstitial water components and exchange across the water sediment interface of western Lake Superior. Presented at XIX Congress, International Association of Limnology, Winnipeg, Canada, August 22-29, 1974. #1974-2

Green, J.C., C.D. Grant, and B.A. Neubert. 1974. Bibliography of water, land and socioeconomic information. Lake Superior Basin Studies Center, University of Minnesota-Duluth, Duluth, MN. #1974-4

Hokanson, K.E.F. and C.F. Kleiner. 1974. Effects of constant and rising temperatures on survival and developmental rates of embryonic and larval yellow perch, *Perca flavescens* (Mitchill). In: *Early life history of fish*. J.H.S. Blaxter, ed. Pp. 437-448. Springer-Verlag, New York, NY. #1974-14

Jones, B.R. and R.F. Syrett. 1974. Effects of constant winter temperatures on maturation and spawning of largemouth bass (*Micropterus salmoides*). National Environmental Research Center, USEPA, Corvallis, OR. #1974-6

Kuehl, D.W., G.E. Glass, and F.A. Puglisi. 1974. Automatic high temperature vent system for a gas chromatograph/mass spectrometer interface. *Anal. Chem.* 46:804-5 #107

McKim, J.M. 1974. Statement of James M. McKim (mercury toxicity in fish). #1974-5

McKim, J.M. and D.A. Benoit. 1974. Duration of toxicity tests for establishing "no effect" concentrations for copper with brook trout (*Salvelinus fontinalis*). *J. Fish. Res. Board Can.* 31:449-52 #108

McKim, J.M., G.M. Christensen, J.H. Tucker, D.A. Benoit, and M.J. Lewis. 1974. Effects of pollution on freshwater fish. *J. Water Pollut. Control Fed.* 46:1540-1591 #109

Mount, D.I. 1974. Testimony on mixing zones in Lake Michigan. National Water Quality Laboratory, USEPA, Duluth, MN. #1974-7

Nebeker, A.V. and F.A. Puglisi. 1974. Effect of polychlorinated biphenyls (PCBs) on survival and reproduction of *Daphnia*, *Gammarus*, and *Tanytarsus*. *Trans. Am. Fish. Soc.* 103:722-28 #110

Nebeker, A.V., F.A. Puglisi, and D.L. DeFoe. 1974. Effect of polychlorinated biphenyl compounds on survival and reproduction of the fathead minnow and flagfish. *Trans. Am. Fish. Soc.* 103:562-68 #111

Olson, D. 1974. Fathead minnow egg production as a function of the number of females per spawning chamber. Interim report of the fathead minnow methods study, part I. USEPA, Duluth, MN. #1974-15

Pickering, Q.H. 1974. Chronic toxicity of nickel to the fathead minnow. *J. Water Pollut. Control Fed.* 46:760-765 #112

Poldoski, J.E. and G.E. Glass. 1974. Methodological considerations in western Lake Superior water-sediment exchange studies of some trace elements. Presented at the Seventh Materials Research Symposium, Accuracy in Trace Analysis, National Bureau of Standards, Gaithersburg, MD, October 7-11, 1974. #1974-9

Siefert, R.E., A.R. Carlson, and L.J. Herman. 1974. Effects of reduced oxygen concentrations on the early life stages of mountain whitefish, smallmouth bass, and white bass. *Prog. Fish-Cult.* 36:186-90 #113

Shapiro, J. and G.E. Glass. 1974. Synergistic effects of phosphate and manganese on growth of Lake Superior algae. Presented at the Winnipeg Congress of the International Association for Theoretical and Applied Limnology, August 1974. #1974-3

Siefert, R.E. and W.A. Spoor. 1974. Effects of reduced oxygen on embryos and larvae of the white sucker, coho salmon, brook trout, and walleye. In: *Early life history of fish*. J.H.S. Blaxter, ed. Pp. 487-495. Springer-Verlag, New York, NY. #1974-13

Thurston, R.V., R.C. Russo, and K. Emerson. 1974. Aqueous ammonia equilibrium calculations. Technical Report No. 74-1. Fisheries Bioassay Laboratory, Montana State University, Bozeman, MT. #1974-10

USEPA. 1974. Recommended zinc and copper criteria for aquatic life in Ohio. National Water Quality Laboratory, USEPA, Duluth, MN. #1974-8

1973

Andrew, R.W. 1973. Mineralogical and suspended solids measurements of water, sediment and substrate samples for 1972 Lake Superior study: I. Analytical methods. National Water Quality Laboratory, USEPA, ORD, Duluth, MN. #1973-5

Andrew, R.W. 1973. Mineralogical and suspended solids measurements of water, sediment and substrate samples for 1972 Lake Superior study: II. Stream sediments. National Water Quality Laboratory, USEPA, ORD, Duluth, MN. #1973-6

Benoit, D.A. and F.A. Puglisi. 1973. A simplified flow-splitting chamber and siphon for proportional diluters. *Water Res.* 7:1915-16 #79

Brungs, W.A. 1973. Comments on the proposed dissolved oxygen standards for the State of New York. National Water Quality Laboratory, USEPA, Duluth, MN. #1973-1

Brungs, W.A. 1973. Continuous-flow bioassays with aquatic organisms: Procedures and applications. In: *Biological methods for the assessment of water quality*. J. Cairns, Jr. and K.L. Dickson, Eds. Pp. 117-126. ASTM STP 528. American Society for Testing and Materials, Philadelphia, PA. #1973-19

Brungs, W.A. 1973. Effects of residual chlorine on aquatic life. *J. Water Pollut. Control Fed.* 45:2180-2193 #80

Brungs, W.A. 1973. Statement on Illinois water quality standards for the March 28, 1973 hearing at Chicago, Illinois by William A. Brungs. National Water Quality Laboratory, USEPA, Duluth, MN. #1973-2

Brungs, W.A. 1973. Statement on Ohio water quality standards for the March 27, 1973 hearing at Columbus, Ohio by William A. Brungs. National Water Quality Laboratory, USEPA, Duluth, MN. #1973-3

Brungs, W.A. 1973. Statement on proposed Wisconsin water quality standards for the April 30, 1973 hearing at Madison, Wisconsin by William A. Brungs. National Water Quality Laboratory, USEPA, Duluth, MN. #1973-4

Brungs, W.A., E.N. Leonard, and J.M. McKim. 1973. Acute and long-term accumulation of copper by the brown bullhead, *Ictalurus nebulosus*. *J. Fish. Res. Board Can.* 30:583-86 #81

Carlson, A.R. 1973. Induced spawning of largemouth bass [*Micropterus salmoides* (Lacepede)]. *Trans. Am. Fish. Soc.* 102:442-44 #82

Carlson, A.R. and J.G. Hale. 1973. Early maturation of brook trout in the laboratory. *Prog. Fish-Cult.* 35:150-153 #83

Drummond, R.A., W.A. Spoor, and G.F. Olson. 1973. Some short-term indicators of sublethal effects of copper on brook trout, *Salvelinus fontinalis*. *J. Fish. Res. Board Can.* 30:698-701 #84

Eaton, J.G. 1973. Chronic toxicity of a copper, cadmium, and zinc mixture to the fathead minnow (*Pimephales promelas* Rafinesque). *Water Res.* 7:1723-36 #85

Eaton, J.G. 1973. Organophosphate and carbamate pesticides and their relation to freshwater fish and aquatic invertebrates. In: *Proceedings of the 53rd Annual Conference of Western Association of State Game and Fish Commissioners*, July 11-13, 1973, Salt Lake City, UT. Pp. 472-479. #1973-21

Eaton, J.G. 1973. Recent developments in the use of laboratory bioassays to determine "safe" levels of toxicants for fish. In: *Bioassays techniques and environmental chemistry*. G.E. Glass, Ed. Pp. 107-115. Ann Arbor Science, Ann Arbor, MI. #1973-18

Gast, M.H. and W.A. Brungs. 1973. A procedure for separating eggs of the fathead minnows. *Prog. Fish-Cult.* 35:54 #86

Glass, G.E. 1973. Analysis and laboratory experiments with taconite tailings report. Data report. National Water Quality Laboratory, USEPA, Duluth, MN. #1973-9

Glass, G.E. 1973. Residue analysis of Lake Superior sculpins. National Water Quality Laboratory, USEPA, Duluth, MN. #1973-8

Glass, G.E. 1973. A study of western Lake Superior: Surface sediments, interstitial water and exchange of dissolved components across the water-sediment interface. National Water Quality Laboratory, USEPA, Duluth, MN. #1973-7

Hermanutz, R.O., L.H. Mueller, and K.D. Kempfert. 1973. Captan toxicity to fathead minnows (*Pimephales promelas*), bluegills (*Lepomis macrochirus*), and brook trout (*Salvelinus fontinalis*). *J. Fish. Res. Board Can.* 30:1811-17 #87

Hokanson, K.E.F., J.H. McCormick, and B.R. Jones. 1973. Temperature requirements for embryos and larvae of the northern pike, *Esox lucius* (Linnaeus). *Trans. Am. Fish. Soc.* 102:89-100. #88

Hokanson, K.E.F., J.H. McCormick, B.R. Jones, and J.H. Tucker. 1973. Thermal requirements for maturation, spawning, and embryo survival of the brook trout, *Salvelinus fontinalis*. *J. Fish. Res. Board Can.* 30:975-84 #89

Horning, W.B. II and R.E. Pearson. 1973. Growth temperature requirements and lower lethal temperatures for juvenile smallmouth bass (*Micropterus dolomieu*). *J. Fish. Res. Board Can.* 30:1226-30 #90

Imlay, M.J. 1973. Effects of potassium on survival and distribution of freshwater mussels. *Malacologia* 12:97-113 #91

Institute of Paper Chemistry. 1973. Effects of pulp and paper mill effluents on fresh water fish: An annotated bibliography. Prepared by The Institute of Paper Chemistry, Appleton, WI for USEPA, Duluth, MN. #1973-16

McKim, J.M., G.M. Christensen, J.H. Tucker, D.A. Benoit, and M.J. Lewis. 1973. Effects of pollution on freshwater fish. *J. Water Pollut. Control Fed.* 45:1370-1407 #92

Morris, D.D. 1973. Toxicity of cyanide, chromium, cadmium, copper, lead, nickel, and zinc. Summary report. #1973-10

Mount, D.I. 1973. Chronic effect of low pH on fathead minnow survival, growth and reproduction. *Water Res.* 7:987-93 #93

Mount, D.I. 1973. Significance of synthetic organics to aquatic animals. Prepared for Fifteenth Water Quality Conference, University of Illinois, Urbana, IL. #1973-11

Mount, D.I. 1973. A summary of the studies regarding the effect of The Reserve Mining Company discharge on Lake Superior. National Water Quality Laboratory, USEPA, Duluth, MN. #1973-13

Nebeker, A.V. 1973. Temperature requirements and life cycle of the midge *Tanytarsus dissimilis* (Diptera: Chironomidae). *J. Kans. Entomol. Soc.* 46:160-165 #94

Siefert, R.E., W.A. Spoor, and R.F. Syrett. 1973. Effects of reduced oxygen concentrations on northern pike (*Esox lucius*) embryos and larvae. *J. Fish. Res. Board Can.* 30:849-52 #95

Smith, W.E. 1973. A cyprinodontid fish, *Jordanella floridae*, as reference animal for rapid chronic bioassays. *J. Fish. Res. Board Can.* 30:329-30 #96

Smith, L.L., S.I. Auerbach, J. Cairns, Jr., D.I. Mount, G.A. Rohlich, J.B. Sprague, and W.L. Klein. 1973. ORSANCO 24-hour bioassay. #1973-23

Smith, W.E. 1973. Thermal tolerance of two species of *Gammarus*. *Trans. Am. Fish. Soc.* 102:431-33 #97

Stephan, C.E. and D.I. Mount. 1973. Use of toxicity tests with fish in water pollution control. In: *Biological methods for the assessment of water quality*. J. Cairns, Jr. and K.L. Dickson, eds. Pp. 164-177. ASTM STP 528. American Society for Testing and Materials, Philadelphia, PA. #1973-20

USEPA. 1973. Extramural research -- interagency agreements, contracts, and grants, June 30, 1973. National Water Quality Laboratory, USEPA, Duluth, MN. #1973-14

USEPA. PCB newsletter. 1973. National Water Quality Laboratory, USEPA, Duluth, MN. #1973-22

Veith, G.D. 1973. Chlorinated hydrocarbons in fish from Lake Michigan. Water Quality Office, USEPA. #1973-15

1972

Biesinger, K.E. and G.M. Christensen. 1972. Effects of various metals on survival, growth, reproduction, and metabolism of *Daphnia magna*. *J. Fish. Res. Board Can.* 29:1691-700 #62

Bouck, G.R. 1972. Effects of diurnal hypoxia on electrophoretic protein fractions and other health parameters of rock bass (*Ambloplites rupestris*). *Trans. Am. Fish. Soc.* 101:488-93 #63

Brungs, W.A. 1972. Applications and procedures for continuous-flow bioassays with aquatic organisms. Presented at the 1972 Annual Meeting of the American Society for Testing and Materials, June 25-29, 1972, Los Angeles, California. #1972-1

- Brungs, W.A. 1972. Effects of pesticides and industrial wastes on surface water use. In: *River ecology and man*. Pp. 353-365. Academic Press, Inc., New York, NY. #1972-7
- Brungs, W.A. Feb. 15, 1972. Literature review of the effects of residual chlorine on aquatic life. First National Water Quality Laboratory, USEPA, Duluth, MN. #1972-12
- Carlson, A.R. 1972. Effects of long-term exposure to carbaryl (Sevin) on survival, growth, and reproduction of the fathead minnow (*Pimephales promelas*). *J. Fish. Res. Board Can.* 29:583-87 #64
- Carlson, A.R. and J.G. Hale. 1972. Successful spawning of largemouth bass, *Micropterus salmoides* (Lacepede) under laboratory conditions. *Trans. Am. Fish. Soc.* 101:539-42 #65
- Christensen, G.M., J.M. McKim, W.A. Brungs, and E.P. Hunt. 1972. Changes in the blood of the brown bullhead (*Ictalurus nebulosus* (Lesueur)) following short- and long-term exposure to copper(II). *Toxicol. Appl. Pharmacol.* 23:417-27 #66
- Hale, J.G. and A.R. Carlson. 1972. Culture of the yellow perch in the laboratory. *Prog. Fish-Cult.* 34:195-98 #67
- Hutchinson, T.C. and H. Czyrska. 1972. Cadmium and zinc toxicity and synergism to floating aquatic plants. Institute of Environmental Sciences and Engineering, Publ. No. EI-3. In: *Water pollution research in Canada 1972*. Pp. 59-65. #1972-10
- Imlay, M.J. 1972. Greater adaptability of fresh-water mussels to natural than artificial displacement. *Bull. Am. Malacol. Union Inc.* February 1972:43-44 #68
- Imlay, M.J. 1972. Reproduction of *Amblema costata* (Rafinesque) in Moose River, Minnesota. *Nautilus* 85:146 #69
- Imlay, M.J. and M.L. Paige. 1972. Laboratory growth of freshwater sponges, unionid mussels, and sphaeriid clams. *Prog. Fish-Cult.* 34:210-216 #70
- Lewis, M.J. 1972. A core collection in water supply and pollution control. *Special Libraries Association Newsletter* No. 3:8-11. #1972-9
- McCormick, J.H., K.E.F. Hokanson, and B.R. Jones. 1972. Effects of temperature on the growth and survival of young brook trout, *Salvelinus fontinalis*. *J. Fish. Res. Board Can.* 29:1107-12 #71
- Nebeker, A.V. 1972. Effect of low oxygen concentration on survival and emergence of aquatic insects. *Trans. Am. Fish. Soc.* 101:675-79 #72

- Nebeker, A.V., F.A. Puglisi, and D.L. DeFoe. 1972. Toxicity of polychlorinated biphenyls (PCBs) to fish and other aquatic life. National Water Quality Laboratory, USEPA, Duluth, MN. #1972-4
- Pickering, Q. H. and M. H. Gast. 1972. Acute and chronic toxicity of cadmium to the fathead minnow (*Pimephales promelas*). *J. Fish. Res. Board Can.* 29:1099-106 #73
- Siefert, R.E. 1972. First food of larval yellow perch, white sucker, bluegill, emerald shiner, and rainbow smelt. *Trans. Am. Fish. Soc.* 101:219-25 #74
- Smith, W.E. 1972. Culture, reproduction, and temperature tolerance of *Pontoporeia affinis* in the laboratory. *Trans. Am. Fish. Soc.* 101:253-56 #75
- Spoor, W.A. and R.A. Drummond. 1972. An electrode for detecting movement in gradient tanks. *Trans. Am. Fish. Soc.* 101:714-15 #76
- Syrett, R.F. and W.F. Dawson. 1972. An inexpensive electronic relay for precise water-temperature control. *Prog. Fish-Cult.* 34:241-42 #77
- Tarzwel, C.M. 1972. An argument for the open ocean siting of coastal thermal electric plants. *J Environ Qual.* 1(1):89-91. #1972-13
- Thomas, N.A. and W.J. Christie, eds. 1972. Status of the biota of Lake Ontario during IFYGL. International Field Year for the Great Lakes. #1972-6
- USEPA. 1972. Recommended bioassay procedure for bluegill *Lepomis macrochirus* (Rafinesque) partial chronic tests. National Water Quality Laboratory, USEPA, Duluth, MN. #1972-8
- USEPA. 1972. Recommended bioassay procedure for brook trout *Salvelinus fontinalis* (Mitchill) partial chronic tests. National Water Quality Laboratory, USEPA, Duluth, MN. #1972-2
- USEPA. 1972. Recommended bioassay procedure for fathead minnow *Pimephales promelas* Rafinesque chronic tests. National Water Quality Laboratory, USEPA, Duluth, MN. #1972-3
- USEPA. 1972. A summary of the U.S. chemical and biological program for the International Field Year for the Great Lakes. Working Report # 5. USEPA, ORD, Grosse Ile, MI. #1972-11
- Veith, G.D. 1972. PCBs in the Black and Cuyahoga Rivers. National Water Quality Laboratory, USEPA, Duluth, MN. #1972-5
- Veith, G.D. 1972. Recent fluctuations of chlorobiphenyls (PCBs) in the Green Bay, Wisconsin, region. *Environ. Health Perspect.* 1:51-54 #78

1971

Anderson, R.L. and J.A. Mutchmor. 1971. Temperature acclimation in *Tribolium* and *Musca* at locomotory, metabolic, and enzyme levels. *J. Insect Physiol.* 17:2205-19 #48

Arthur, J.W. and J.G. Eaton. 1971. Chloramine toxicity to the amphipod *Gammarus pseudolimnaeus* and the fathead minnow (*Pimephales promelas*). *J. Fish. Res. Board Can.* 28:1841-45 #49

Bell, H.L. 1971. Effect of low pH on the survival and emergence of aquatic insects. *Water Res.* 5:313-19 #50

Benoit, D.A. 1971. An evaluation of current procedures used in aquatic toxicology. Presented before the American Association for the Advancement of Science, American Fisheries Society Symposium on Heavy Metals as an Environmental Hazard to Fish, Birds, and Man, December, 1971, Philadelphia, PA. #1971-1

Biesinger, K.E. 1971. Suggestions on water quality standards for the state of Washington. National Water Quality Laboratory, USEPA, ORD, Duluth, MN. #1971-2

Brungs, W.A. 1971. Chronic effects of constant elevated temperature on the fathead minnow (*Pimephales promelas* Rafinesque). *Trans. Am. Fish. Soc.* 100:659-64 #51

Brungs, W.A. 1971. Chronic effects of low dissolved oxygen concentrations on the fathead minnow (*Pimephales promelas*). *J. Fish. Res. Board Can.* 28:1119-23 #52

Christensen, G.M. 1971. Effects of metal cations and other chemicals upon the *in vitro* activity of two enzymes in the blood plasma of the white sucker, *Catostomus commersoni* (Lacepede). *Chem.-Biol. Interact.* 4:351-61 #53

Hokanson, K.E.F. and L.L. Smith, Jr. 1971. Some factors influencing toxicity of linear alkylate sulfonate (LAS) to the bluegill. *Trans. Am. Fish. Soc.* 100:1-12 #54

Lee, G.F. and G.D. Veith. 1971. Effects of thermal discharges on the chemical parameters of water quality and eutrophication. Proceedings of the International Symposium for Identification and Measurements of Pollution in the Environment, Ottawa, Canada, June 1971. #1971-3

Leonard, E.N. 1971. The determination of copper in fish tissues by atomic absorption spectrophotometry. *Atomic Absorp. Newsl.* 10:84-85 #55

McCormick, J.H., B.R. Jones, and R.F. Syrett. 1971. Temperature requirements for growth and survival of larval ciscos (*Coregonus artedii*). *J. Fish. Res. Board Can.* 28:924-27 #56

McKim, J.M. and D.A. Benoit. 1971. Effects of long-term exposures to copper on the survival, growth, and reproduction of brook trout (*Salvelinus fontinalis*). *J. Fish. Res. Board Can.* 28:655-62 #57

Mount, D.I. 1971. An evaluation of DDT and dieldrin in Lake Michigan drainage basin. Report of the Lake Michigan Enforcement Conference Pesticide Committee. #1971-4

Mount, D.I. 1971. Organism response -- The reference point for all environmental chemistry (Bioassay techniques in environmental chemistry). Presented before the American Chemical Society, Washington, D.C. #1971-5

Mount, D.I. 1971. Progress report of Lake Michigan Interstate Pesticide Committee. #1971-6

Mount, D.I. 1971. Thermal requirements for Lake Michigan. National Water Quality Laboratory, USEPA, Duluth, MN. #1971-7

Nebeker, A.V. 1971. Effect of high winter water temperatures on adult emergence of aquatic insects. *Water Res.* 5:777-83 #58

Nebeker, A.V. 1971. Effect of temperature at different altitudes on the emergence of aquatic insects from a single stream. *J. Kans. Entomol. Soc.* 44:26-35 #59

Nebeker, A.V. 1971. Effect of water temperature on nymphal feeding rate, emergence, and adult longevity of the stonefly *Pteronarcys dorsata*. *J. Kans. Entomol. Soc.* 44:21-26 #60

Olson, G. 1971. Procedure for ultra trace analysis of mercury (including organic) in natural water. #1971-10

Spoor, W.A., T.W. Neiheisel, and R.A. Drummond. 1971. An electrode chamber for recording respiratory and other movements of free-swimming animals. *Trans. Am. Fish. Soc.* 100:22-28 #61

USEPA. 1971. Tentative plans for the design and operation of a fathead minnow stock culture unit. National Water Quality Laboratory, USEPA, Duluth, MN. #1971-9

Veith, G.D. 1971. Baseline concentrations of polychlorinated biphenyls and DDT in Lake Michigan fish, 1971. *Pestic. Monit. J.* 9:21-29 #124

Veith, G.D. and G.F. Lee. 1971. Chlorobiphenyls (PCBs) in the Milwaukee River. *Water Res.* 5:1107-1115. #1971-11

Veith, G.D. and G.F. Lee. 1971. Water chemistry of toxaphene -- role of lake sediments. *Environ. Science Tech.* 5:230-234. #1971-12

1970

Andrew, R.W. 1970. Distribution of taconite tailings in the sediments of the western basin of Lake Superior. Presented at the Lake Superior Enforcement Conference, September 25, 1970. #1970-1

Andrew, R.W. and G.E. Glass. 1970. Effect of taconite tailings on algal growth. National Water Quality Laboratory, Office of Research and Development, USEPA, Duluth, MN. #1970-2

Andrew, R.W. and G.E. Glass. 1970. Physical characteristics of green water along the Minnesota shore of Lake Superior. #1970-11 alkylate sulfonate detergent on *Gammarus pseudolimnaeus*, *Campeloma decisum* and *Physa integra*. *Water Res.* 4:251-57 #36

Arthur, J.W. 1970. Chronic effects of linear alkylate sulfonate detergent on *Gammarus pseudolimnaeus*, *Campeloma decisum*, and *Physa integra*. *Water Res.* 4: 251-257. 70. # 36

Arthur, J.W. and E.N. Leonard. 1970. Effects of copper on *Gammarus pseudolimnaeus*, *Physa integra*, and *Campeloma decisum* in soft water. *J. Fish. Res. Board Can.* 27:1277-83 #37

Bahnick, D.A., W.A. Swenson, T.P. Markee, D.J. Call, C.A. Anderson, and R.T. Morris. 1970 Development of bioassay procedures for defining pollution of harbor sediments, part I. Final report, Project #R804918-01. Center for Lake Superior Environmental Studies, University of Wisconsin, Superior, WI. #1970-6

Bartsch, A.F. and D.I. Mount. 1970 Thermal effects on ecological systems. National Water Quality Laboratory, Federal Water Pollution Control Administration, Duluth, MN. #1970-7

Bell, H.L. 1970. Effects of pH on the life cycle of the midge *Tanytarsus dissimilis*. *Can. Entomol.* 102:636-39 #38

Biesinger, K.E. and W.L. Hartman. 1970 The limnetic zooplankton of lakes producing sockeye salmon (*Oncorhynchus nerka*) in southwestern Alaska. #1970-5

Brungs, W.A. 1970. Testimony regarding fish kill in Cordele, Georgia. National Water Quality Laboratory, USEPA, Duluth, MN. #1970-26

Brungs, W.A. and D.I. Mount. 1970. A water delivery system for small fish-holding tanks. *Trans. Am. Fish. Soc.* 99:799-802 #39

Drummond, R.A. 1970. Fish coughs -- a promising endpoint for evaluating the quality of treated effluents. National Water Quality Laboratory, USEPA, Duluth, MN. #1970-10

Drummond, R.A. and W.F. Dawson. 1970. An inexpensive method for simulating diel patterns of lighting in the laboratory. *Trans. Am. Fish. Soc.* 99:434-35 #40

Eaton, J.G. 1970. Chronic malathion toxicity to the bluegill (*Lepomis macrochirus* Rafinesque). *Water Res.* 4:673-84 #41

Eaton, J.G. 1970. Recommendations of the National Water Quality Laboratory on oxygen and temperature standards for the State of Virginia. National Water Quality Laboratory, Duluth, MN. #1970-21

Eaton, J.G. 1970 Stomach analyses of fourhorn, *Myoxocephalus quadricornis* (Linnaeus), and slimy, *Cottus cognatus* Richardson, sculpins from four areas along the north shore of Lake Superior. National Water Quality Laboratory, USEPA, Duluth, MN. #1970-22

Glass, G.E. 1970. The dissolution of taconite tailings in Lake Superior. National Water Quality Laboratory, Federal Water Quality Administration, Duluth, MN. #1970-3

Hale, J.G. 1970. Culture of lake herring in the laboratory. *Prog. Fish-Cult.* 32:217-21 #42

Hale, J.G. 1970. White sucker spawning and culture of the young in the laboratory. *Prog. Fish-Cult.* 32:169 #43

Hale, J.G. and D.A. Hilden. 1970. The influence of flow on the spawning of brook trout in the laboratory. *Trans. Am. Fish. Soc.* 99:595-97 #44

Hughes, R.A., G.D. Veith, and G.F. Lee. 1970. Gas chromatographic analysis of toxaphene in natural waters, fish and lake sediments. *Water Research* 4:547-558. #1970-14

McCormick, J.H. and R.F. Syrett. 1970. A modular controlled-temperature apparatus for fish egg incubation and fry rearing. National Water Quality Laboratory, Federal Water Quality Administration, U.S. Department of the Interior, Duluth, MN. #1970-4

McKim, J.M., G.M. Christensen, and E.P. Hunt. 1970. Changes in the blood of brook trout (*Salvelinus fontinalis*) after short-term and long-term exposure to copper. *J. Fish. Res. Board Can.* 27:1883-89 #45

Mount, D.I. 1970. Biotic monitoring. Environmental Research Laboratory, USEPA, Duluth, MN. #1970-12

Mount, D.I. 1970. Ecological considerations in the establishment of standards for thermal discharges. For presentation at ASME Special Symposium on Environmental Effects of Thermal Discharges -- the Elements in Work formulating a Rational Public Policy, December 1, 1970, New York, NY. #1970-5

Mount, D.I. 1970. Environmental effects of thermal discharges -- ecological elements. National Water Quality Laboratory, Duluth, MN. #1970-13

Mount, D.I. 1970. Heavy metal contamination in north central United States. A report of Ad Hoc Committee on Heavy Metal Contamination in Surface Waters to the North Central Division of the American Fisheries Society. #1970-6

Mount, D.I. 1970. Research to develop heavy metal standards for fresh water. National Water Quality Laboratory, USEPA, Duluth, MN. #1970-14

Mount, D.I. 1970. The role of bioassay as in environmental research. National Water Quality Laboratory, USEPA, Duluth, MN. #1970-15

- Mount, D.I. 1970. Summary of effects of tailings on Lake Superior. National Water Quality Laboratory, USEPA, Duluth, MN. #1970-7
- Mount, D.I. 1970. Technical statement to be given at Michigan State Water Quality Hearings, March 19, 1970. National Water Quality Laboratory, Federal Pollution Control Administration, U.S. Department of the Interior, Duluth, MN. #1970-12
- Mount, D.I. 1970. Thermal effects of power plants on ecology. Presented at a Student Conference on Nuclear Power and the Environment, April 3-4, 1970, University of Wisconsin, Madison, WI. #1970-8
- Mount, D.I. 1970. Thermal standards in the United States. Presented at the Symposium on Environmental Aspects of Nuclear Power Stations, August 10-14, 1970, New York, NY. #1970-13
- Mount, D.I. 1970. The toxicity of heavy metals to aquatic life. *The Naturalist*: pp. 16-19. #1970-16
- Mount, D.I. 1970. Water quality criteria for a cleaner environment. Presented at Ohio State University, November 17, 1979. #1970-9
- Mount, D.I. 1970. Water-related research needs in northeast Minnesota. National Water Quality Laboratory, USEPA, Duluth, MN. #1970-17
- Nebeker, A.V. 1970. Statement of Alan V. Nebeker (PCB studies with citations list). National Water Quality Laboratory, USEPA, Duluth, MN. #1970-3
- Olson, G. 1970. Statement of Gayle Olson (mercury bioassay). #1970-18
- Patterson, R.L. 1970. Production, mortality, and power plant cooling water entrainment of larval yellow perch in Michigan-Ohio waters of the western basin of Lake Erie in 1975 and 1976: Impacts upon standing crop and the fishery. Large Lakes Research Station, USEPA, Grosse Ile, MI. #1970-25
- Pickering, Q.H. and T.O. Thatcher. 1970. The chronic toxicity of linear alkylate sulfonate (LAS) to *Pimephales promelas*, Rafinesque. *J. Water Pollut. Control Fed.* 42:243-54 #46
- Smith, W.E. 1970. Tolerance of *Mysis relicta* to thermal shock and light. *Trans. Am. Fish. Soc.* 99:418-22 #47
- Sauter, S., G.A. LeBlanc, S.J. Ells, and K. Buxton. 1970. Acute and chronic toxicity of propachlor, methomyl, Baygon, and Baytex to the water flea (*Daphnia magna*) and the fathead minnow (*Pimephales promelas*). Submitted to Environmental Research Laboratory, USEPA, Duluth, MN by E G & G Bionomics, Wareham, MA. #1970-4

Stephan, C.E. 1970. Statement of Charles E. Stephan (cadmium toxicity). National Water Quality Laboratory, USEPA, Duluth, MN. #1970-20

Swenson, W.A. 1970. Influence of advanced wastewater treatment on the fishery resource of Shagawa Lake, Ely, Minnesota. Report, Grant Number R-803673. Environmental Research Laboratory, USEPA, Duluth, MN. #1970-24

USEPA. 1970. Recommended bioassay procedure for *Jordanella floridae* (Goode and Bean) chronic tests. National Water Quality Laboratory, USEPA, Duluth, MN. #1970-2

USEPA -- National Water Quality Laboratory. 1970. Effects of taconite on Lake Superior. National Water Quality Laboratory, USEPA, Duluth, MN. #1970-10

Veith, G.D., D.W. Kuehl, and G.E. Glass. 1970. Hazardous synthetic organic compounds in Lake Michigan fish. National Water Quality Laboratory, USEPA, Duluth, MN. #1970-19

Veith, G.D. and G.F. Lee. 1970. A review of chlorinated biphenyl contamination in natural waters. *Water Research*, 4:265-269. #1970-15

1969

Arthur, J.W. and W.B. Horning II. 1969. The use of artificial substrates in pollution surveys. *Am. Midl. Nat.* 82:83-89 #22

Bell, H.L. and A.V. Nebeker. 1969. Preliminary studies on the tolerance of aquatic insects to low pH. *J. Kans. Entomol. Soc.* 42:230-236 #24

Benoit, D.A., R.F. Syrett, and J.G. Hale. 1969. Automatic live brine shrimp feeder. *Trans. Am. Fish. Soc.* 98:532-33 #25

Brungs, W.A. 1969. Chronic toxicity of zinc to the fathead minnow, *Pimephales promelas* Rafinesque. *Trans. Am. Fish. Soc.* 98:272-79 #26

Hale, J.G. and D.A. Hilden. 1969. Spawning and some aspects of early life history of brook trout, *Salvelinus fontinalis* (Mitchill), in the laboratory. *Trans. Am. Fish. Soc.* 98:473-77 #27

Hokanson, K.E.F. 1969. Aquatic life temperature requirements. Presented at Sixty-ninth Meeting, FWPCA, Orsanco Engineering Committee, May 13-14, 1969, Cincinnati, OH. #1969-1

Hokanson, K. 1969. Biological effects of heated waters. Presented at the Technical Seminar on Thermal Pollution, Jan. 6-7, 1969, Ada, OK; Jan. 9-10, 1969, Athens, GA; and Feb. 10-11, 1969, Charlottesville, VA. #1969-2

Imlay, M.J. 1969. A dual behavioral interpretation of a single environmental stimulus with freshwater mussels. *Am. Malacol. Union Inc. Ann. Rep.* 21-22 #28

Imlay, M.J. 1969. Some research needs and methods for protecting naiads from extinction. *Am. Malacol. Union Inc. Ann. Rep.* 49-51 #29

Lemke, A.E. 1969. A water hardener for experimental use. *J. Am. Water Works Assoc.* 61:415-16 #30

Lemke, A.E. and V.R. Mattson. 1969. An emergence trap for aquatic insects. *Mich. Entomol.* 2:19-21 #31

Mount, D.I. 1969. Derivation of aquatic life requirements for the temperature characteristic. Presented at the 17th Meeting, FWPCA Presentations, Orsanco Engineering Committee, September 10, 1969, Cincinnati, OH. #1969-3

Mount, D.I. 1969. Research on temperature effects on fishes. For presentation at Sanitary and Water Resources Engineering Conference, June 5-6, 1969, Nashville, TN. #1969-4

Mount, D.I. 1969. The status of current research at the Federal level on water quality. Presented at the Water Pollution Control Federation Conference, October 8, 1969, Dallas, TX. #1969-5

Mount, D.I. and H.W. Boyle. 1969. Parathion--use of blood concentration to diagnose mortality of fish. *Environ. Sci. Technol.* 3:1183-85 #32

Mount, D.I. and C.E. Stephan. 1969. Chronic toxicity of copper to the fathead minnow (*Pimephales promelas*) in soft water. *J. Fish. Res. Board Can.* 26:2449-57 #33

Siefert, R.E. 1969. Characteristics for separation of white and black crappie larvae. *Trans. Am. Fish. Soc.* 98:326-28 #34

USEPA. 1969. Presentation prepared by the staff of the National Water Quality Laboratory for the Joint Commission on Atomic Energy, November 5, 1969. National Water Quality Laboratory, Duluth, MN. #1969-6

Warnick, S.L. and H.L. Bell. 1969. The acute toxicity of some heavy metals to different species of aquatic insects. *J. Water Pollut. Control Fed.* 41:280-284 #35

1968

Benoit, D.A. 1968. Nutrition study for maintaining yellow perch fingerlings in the laboratory. *Prog. Fish Cult.* 30:234 #15

Brungs, W.A. 1968. Research plans for the natural stream study at the Newtown Field Laboratory. Cincinnati, OH. #1968-6

Cowles, E.J., G.M. Christensen, and A.C. Hilding. 1968. Detection of indoleamines and catecholamines on chromatograms by heating with paraformaldehyde. *J. Chromatogr.* 35:389-95 #16

Hale, J.G. 1968. Observations on brook trout, *Salvelinus fontinalis* spawning in 10-gallon aquaria. *Trans. Am. Fish. Soc.* 97:299-300 #17

Hoadley, A.W. 1968. On the significance of *Pseudomonas aeruginosa* in surface waters. *J. New Engl. Water Works Assoc.* 99-111 #18

Mount, D.I. 1968. Chronic toxicity of copper to fathead minnows (*Pimephales promelas* Rafinesque). *Water Res.* 2:215-23 #19

Mount, D.I. 1968. Developing thermal requirements for freshwater fishes. Presented at Thermal Pollution Symposium, June 4, 1968, Portland, OR. #1968-1

Mount, D.I. 1968. Implication for aquatic life of heated discharges. Statement before the Senate Subcommittee on February 13, 1968. #1968-2

Nebeker, A.V. and A.E. Lemke. 1968. Preliminary studies on the tolerance of aquatic insects to heated waters. *J. Kans. Entomol. Soc.* 41:413-18 #20

Nelson, W.R., R.E. Siefert, and D.V. Swedberg. 1968. Studies of the early life history of reservoir fishes. In: *Reservoir Fishery Resources Symposium*, April 5-7, 1967, Athens, GA. American Fisheries Society, Washington, D.C. Pp. 374-385. #1968-4

Pickering, Q.H. 1968. Some effects of dissolved oxygen concentrations upon the toxicity of zinc to the bluegill, *Lepomis macrochirus*, Raf. *Water Res.* 2:187-94 #21

Siefert, R.E. 1968. Reproductive behavior, incubation and mortality of eggs, and postlarval food selection in the white crappie. *Trans. Am. Fish. Soc.* 97(3):252-259. #1968-3

1967

Andrew, R.W. 1967. Physiological chemistry and toxicity of cadmium to fish. Research seminar. #1967-2

Brungs, W.A. 1967. Distribution of cobalt 60, zinc 65, strontium 85, and cesium 137 in a freshwater pond. Public Health Service Publication No. 999-RH-24. 52 pp. U.S. Department of Health, Education, and Welfare, Rockville, MD. #1967-4

Brungs, W.A. and G.W. Bailey. 1967. Influence of suspended solids on the acute toxicity of endrin to fathead minnows. *Proc. 21st Ind. Waste Conf. Purdue Univ.* 50(2):4-12 #8

Brungs, W.A. and D.I. Mount. 1967. A device for continuous treatment of fish in holding chambers. *Trans. Am. Fish. Soc.* 96:55-57 #9

Brungs, W.A. and D.I. Mount. 1967. Lethal endrin concentration in the blood of gizzard shad. *J. Fish. Res. Board Can.* 24:429-32 #10

Ettinger, M.B. and D.I. Mount. 1967. A wild fish should be safe to eat. *Environ. Science Tech.* 1:203-205. #1967-5

Jackson, H.W. and W.A. Brungs, Jr. 1967. Biomonitoring of industrial effluents. Proc. 21st Ind. Waste Conf. Purdue Univ., May 3-5, 1966. Part 1, 50(2):117-124. #1967-1

Mount, D.I. 1967. Considerations for acceptable concentrations of pesticides for fish production. In: *A Symposium on Water Quality Criteria to Protect Aquatic Life*. American Fisheries Society Special Publication No. 4. Pp. 3-6. #1967-3

Mount, D.I. and W.A. Brungs. 1967. A simplified dosing apparatus for fish toxicology studies. *Water Res.* 1:21-29 #11

Mount, D.I. and C.E. Stephan. 1967. A method for detecting cadmium poisoning in fish. *J. Wildl. Manage.* 31:168-72 #12

Mount, D.I. and C.E. Stephan. 1967. A method for establishing acceptable toxicant limits for fish--malathion and the butoxyethanol ester of 2,4-D. *Trans. Am. Fish. Soc.* 96:185-93 #13

Thatcher, T.O. and J.F. Santner. 1967. Acute toxicity of LAS to various fish species. *Proc. 21st Ind. Waste Conf. Purdue Univ.* 50:996-1002 #14

1966

Mount, D. I. 1966. The effect of total hardness and pH on acute toxicity of zinc to fish. *Air Water Pollut. Int. J.* 10: 49-56. #4

Mount, D.I. and G.J. Putnicki. 1966. Summary report of 1963 Mississippi fish kill. *Trans. N. Am. Wildl. Nat. Resour. Conf.* 31:177-184. #1966-3

Mount, D.I. and G.J. Putnicki. 1966. Summary report of the 1963 Mississippi River fish kill investigation. presented March 14, 1966 at the 31st N. Amer. Wildlife and Nat. Res. Conf., Pittsburgh, PA. #1966-2

Mount, D.I., Vigor, L.W., and Schafer, M.L. 1966. Endrin: Use of concentration in blood to diagnose acute toxicity to fish. *Science* 152:1388-1390. #5

Pickering, Q.H. and Henderson, C. 1966. Acute toxicity of some important petrochemicals to fish. *J. Water Pollut. Control Fed.* 38: 1419-1429. #6

Pickering, Q.H. and Henderson, C. 1966. The acute toxicity of some heavy metals to different species of warmwater fishes. *Air Water Pollut. Int. J.* 10: 453-463. #7

1965

Brungs, W.A. 1965. Experimental uptake of strontium-85 by freshwater organisms. *Health Physics* 1:41-46. #1965-3

Mount, D.I. and R.E. Warner. 1965. A serial-dilution apparatus for continuous delivery of various concentrations of materials in water. Public Health Service Publication No. 999-WP-23. 16 pp. U.S. Department of Health, Education and Welfare Division of Water Supply and Pollution Control, Cincinnati, OH. #1965-2

Pickering, Q.H. and W.N. Vigor. 1965. The acute toxicity of zinc to eggs and fry of the fathead minnow. *Prog. Fish-Cult.* 27:153-57. #3

1964

Lemke, A.E. 1964. A new design for constant-flow test chambers. *Prog. Fish-Cult.* 26:136-138. #1964-2

Mount, D.I. 1964. Additional information on a system for controlling the dissolved oxygen content of water. *Trans. Am. Fish. Soc.* 93:100-103 #1

Mount, D.I. 1964. An autopsy technique for zinc-caused fish mortality. *Trans. Am. Fish. Soc.* 93:174-82 #2

Nebeker, A.V. and A.R. Gaufin. 1964. Bioassays to determine pesticide toxicity to the amphipod crustacean, *Gammarus lacustris*. *Utah Academy Proceedings*, vol. 41, part 1, pp. 64-67. #1964-1

1963

Lemke, A.E. and D.I. Mount. 1963. Some effects of alkyl benzene sulfonate on the bluegill, *Lepomis macrochirus*. *Trans. Amer. Fish. Soc.* 92(4):372-378. #1963-1