

Metals Toxicity in Aquatic Environments

Peer-Reviewed Publications

Porter, D.E., J.M. Morris, M.P. Trifari, M.J. Wooller, P.A.H. Westley, K.B. Gorman, and B.D. Barst. 2023. Acute toxicity of copper to three species of Pacific salmon fry in water with low hardness and low dissolved organic carbon. *Environmental Toxicology and Chemistry* 42(11): 2440-2452. Available: <https://setac.onlinelibrary.wiley.com/doi/abs/10.1002/etc.5724>.

Morris, J.M., S.F. Brinkman, M.W. Carney, and J. Lipton. 2019. Copper toxicity in Bristol Bay headwaters: Part 1 – Acute mortality and ambient water quality criteria in low-hardness water. *Environmental Toxicology and Chemistry* 38(1):190–197. Available: <https://setac.onlinelibrary.wiley.com/doi/abs/10.1002/etc.4252>.

Morris, J.M., S. Brinkman, R. Takeshita, A. McFadden, M. Carney, and J. Lipton. 2019. Copper toxicity in Bristol Bay headwaters: Part 2 – Olfactory inhibition in low-hardness water. *Environmental Toxicology and Chemistry* 38(1):198–209. Available: <https://setac.onlinelibrary.wiley.com/doi/abs/10.1002/etc.4295>.

Jin, S., P.H. Fallgren, J.M. Morris, and R.B. Gossard. 2008. Biological source treatment of acid mine drainage using microbial and substrate amendments: Microcosm studies. *Mine Water and the Environment* 27:20–30. Available: <https://link.springer.com/article/10.1007/s10230-007-0026-0>.

Jin, S., P.H. Fallgren, J.M. Morris, and J.S. Cooper. 2008. Source treatment of acid mine drainage at a backfilled coal mine using remote sensing and biochemistry. *Water, Air, and Soil Pollution* 188:205–212. Available: <https://link.springer.com/article/10.1007/s11270-007-9536-4>.

Welsh, P.G., J. Lipton, C.A. Mebane, and J.C.A. Marr. 2008. Influence of flow-through and renewal exposures on the toxicity of copper to rainbow trout. *Ecotoxicology and Environmental Safety* 69:199–208. Available: <https://www.sciencedirect.com/science/article/abs/pii/S0147651307000759>.

Meyer, J.S., C.J. Boese, and J.M. Morris. 2007. Use of the biotic ligand model to predict pulse-exposure toxicity of copper to fathead minnows (*Pimephales promelas*). *Aquatic Toxicology* 84:268–278. Available: <https://www.sciencedirect.com/science/article/abs/pii/S0166445X07002317>.

Morris, J.M. and J.S. Meyer. 2006. Extracellular and intracellular uptake of zinc in a photosynthetic biofilm matrix. *Bulletin of Environmental Contamination and Toxicology* 77:30–35.

Morris, J.M. and J.S. Meyer. 2006. Photosynthetically mediated Zn removal from the water column in biofilm in High Ore Creek, Montana. *Water, Air, and Soil Pollution* 179:391–395. Available: <https://link.springer.com/article/10.1007/s11270-006-9232-9>.

Morris, J.M., A.M. Farag, D.A. Nimick, and J.S. Meyer. 2006. Light-mediated Zn uptake in photosynthetic biofilm. *Hydrobiologia* 571:361–371. Available: <https://link.springer.com/article/10.1007/s10750-006-0261-6>.

Meyer, J.S., M.J. Suedkamp, J.M. Morris, and A.M. Farag. 2005. Leachability of protein and metals incorporated into aquatic invertebrates: Are species and metals-exposure history important? *Archives of Environmental Contamination and Toxicology* 50:79–87. Available: <https://link.springer.com/article/10.1007/s00244-005-7005-x>.

Morris, J.M., D.A. Nimick, A.M. Farag, and J.S. Meyer. 2005. Does biofilm contribute to diel cycling of Zn in High Ore Creek, Montana? *Biogeochemistry* 76:233–259. Available: <https://link.springer.com/article/10.1007/s10533-005-4774-2>.

Hansen, J.A., J. Lipton, P.G. Welsh, D. Cacela, and B. MacConnell. 2004. Reduced growth of rainbow trout fed a live invertebrate diet pre-exposed to metal contaminated sediments. *Environmental Toxicology and Chemistry* 23:1902–1911. Available: <https://setac.onlinelibrary.wiley.com/doi/abs/10.1897/02-619>.

Morris, J.M., S.A. Collyard, and J.S. Meyer. 2003. Effects of chronic copper exposure on the nutritional composition of *Hyalella azteca*. *Aquatic Toxicology* 63:197–206. Available: <https://www.sciencedirect.com/science/article/abs/pii/S0166445X02001777>.

Hansen, J.A., J. Lipton, P.G. Welsh, J. Morris, D. Cacela, and M.J. Suedkamp. 2002. Relationship between exposure duration, tissue residues, growth, and mortality in rainbow trout (*Oncorhynchus mykiss*) juveniles sub-chronically exposed to copper. *Aquatic Toxicology* 58:175–188. Available: <https://www.sciencedirect.com/science/article/abs/pii/S0166445X0100234X>.

Hansen, J.A., P.G. Welsh, and J. Lipton. 2002. Relative sensitivity of bull trout (*Salvelinus confluentus*) and rainbow trout (*Oncorhynchus mykiss*) to acute copper toxicity. *Environmental Toxicology and Chemistry* 21:633–639. Available: <https://setac.onlinelibrary.wiley.com/doi/abs/10.1002/etc.5620210110>.

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Hansen, J.A., J. Lipton, P.G. Welsh, D. Cacela, and A.D. Dailey. 2002. Relative sensitivity of bull trout (*Salvelinus confluentus*) and rainbow trout (*Oncorhynchus mykiss*) to acute exposures of cadmium and zinc. *Environmental Toxicology and Chemistry* 21:67–75. Available: <https://setac.onlinelibrary.wiley.com/doi/abs/10.1002/etc.5620210324>.

Welsh, P.G., G. Chapman, J.A. Hansen, and J. Lipton. 2001. Importance of ionic composition of reconstituted laboratory test water in interpreting metal toxicity test results. *Environmental Toxicology and Risk Assessment: Science Policy, and Standardization – Implications for Environmental Decisions: Tenth Volume, ASTM STP 1403*. B.M. Greenberg, R.N. Hall, M.H. Roberts, Jr., and R.W. Gensemer, eds. American Society for Testing and Materials, West Conshohocken, PA. Available: <https://asmedigitalcollection.asme.org/astm-ebooks/book/2049/chapter-abstract/27876874/Importance-of-Ionic-Composition-of-Reconstituted?redirectedFrom=PDF>.

Welsh, P.G., J. Lipton, and G.A. Chapman. 2000. Evaluation of water-effect ratio methodology for establishing site-specific water quality criteria. *Environmental Toxicology and Chemistry* 19:1616–1623. Available: <https://setac.onlinelibrary.wiley.com/doi/abs/10.1002/etc.5620190619>.

Welsh, P.G., J. Lipton, G.A. Chapman, and T. Podrabsky. 2000. Relative importance of calcium and magnesium in hardness-based modification of copper toxicity. *Environmental Toxicology and Chemistry* 19:1624–1631. Available: <https://setac.onlinelibrary.wiley.com/doi/abs/10.1002/etc.5620190620>.

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Marr, J.C.A., J.A. Hansen, J.S. Meyer, D. Cacela, T. Podrabsky, J. Lipton, and H.L. Bergman. 1998. Toxicity of cobalt and copper to rainbow trout: Application of a mechanistic model for predicting survival. *Aquatic Toxicology* 43:225–238. Available: <https://www.sciencedirect.com/science/article/abs/pii/S0166445X98000617>.

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Marr, J., H.L. Bergman, J. Lipton, and C. Hogstrand. 1995. Differences in relative sensitivity of naive and metals-acclimated brown and rainbow trout exposed to metals representative of the Clark Fork River, Montana. *Canadian Journal of Fisheries and Aquatic Sciences* 52:2016–2030. Available: <https://cdnsiencepub.com/doi/abs/10.1139/f95-793>.

Marr, J.C.A., H.L. Bergman, M. Parker, J. Lipton, D. Cacela, W. Erickson, and G.R. Phillips. 1995. Relative sensitivity of brown and rainbow trout to pulsed exposures of an acutely lethal mixture of metals typical of the Clark Fork River, Montana. *Canadian Journal of Fisheries and Aquatic Sciences* 52:2005–2015. Available: <https://cdnsiencepub.com/doi/abs/10.1139/f95-792>.

Phillips, G. and J. Lipton. 1995. Injury to aquatic resources caused by metals in Montana's Clark Fork River basin: Historic perspective and overview. *Canadian Journal of Fisheries and Aquatic Sciences* 52:1990–1993. Available: <https://cdnsiencepub.com/doi/abs/10.1139/f95-190?journalCode=cjfas>.

Presentations

Morris, J.M., F. Bonatesta, A. McFadden, M. Rissing, C. Lay, and J. Holmes. 2023. Field-based methyl mercury bioaccumulation model from sediments through the food web in a river/estuary system in the Northeastern United States. 44th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Louisville, KY. November 12–16. Abstract available: <https://www.setac.org/>.

Morris, J.M., M. Krasnec, F. Bonatesta, and G.F. Baker. 2023. Site specific mixed metal and polycyclic aromatic hydrocarbon toxicity models using field collected sediments and laboratory bioassays. 2023. 44th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Louisville, KY. November 12–16. Abstract available: <https://www.setac.org/>.

Morris, J.M., D.E. Porter, M. Trifari, M.J. Wooller, P.A.H. Westley, K.B. Gorman, T.A. Radenbaugh, and B.D. Barst. 2023. Acute toxicity of copper to sockeye, Chinook, and coho salmon under low hardness and organic carbon conditions similar to the Bristol Bay Watershed. Southwest Alaska Interagency Meeting (SWIM), Dillingham, AK. April 3-4. (Presenter, virtual)

Porter, D., J. Morris M., Wooller, and B. Barst. 2022. Evaluation of copper toxicity to salmonids exposed in low-hardness/low dissolved organic carbon water. 14th Southwest Alaska Interagency Meeting (SWIM). April 20.

Porter, D., J. Morris M., Wooller, and B. Barst. 2022. Evaluation of copper toxicity to salmonids exposed in low-hardness/low dissolved organic carbon water. 14th Western Alaska Interdisciplinary Science Conference and Forum. April 21-22.

Porter, D., M. Wooller, J. Morris, and B. Barst. 2021. Assessing copper toxicity to salmonid fry under water quality conditions analogous to the freshwaters within the Bristol Bay watershed. 42nd Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Virtual Meeting. November 14–18. Abstract available: <https://www.setac.org/>.

Morris, J.M., S. Brinkman, R. Takeshita, A. McFadden, M. Carney, J. Lipton 2021. Copper toxicity in Bristol Bay Headwaters: Olfactory inhibition in low-hardness water. 13th Western Alaska Interdisciplinary Science Conference and Forum. Virtual Meeting. May 13-14.

Barst, B. D. Porter, J. Morris, T. Radenbaugh, and M. Wooller. 2021. Copper toxicity to salmon fry under water quality conditions similar to the freshwaters of the Bristol Bay watershed. Virtual Meeting. Southwest Alaska Interagency Meeting (SWIM). May 12.

Porter, D., M. Wooller, J. Morris, T. Radenbaugh, and B. Barst. 2021. Assessing copper toxicity to salmonid fry under water quality conditions analogous to the freshwaters within the Bristol Bay watershed. 13th Western Alaska Interdisciplinary Science Conference and Forum. Virtual Meeting. May 13-14.

Porter, D., M. Wooller, J. Morris, T. Radenbaugh, and B. Barst. 2021. Assessing copper toxicity to salmonid fry under water quality conditions analogous to the freshwaters within the Bristol Bay watershed. One Health, One Future Conference. Virtual Meeting. April 6-11

Porter, D., M. Wooller, J. Morris, T. Radenbaugh, and B. Barst. 2021. Assessing copper toxicity to salmonid fry under water quality conditions analogous to the freshwaters within the Bristol Bay watershed. Alaska Marine Science Symposium. Virtual Meeting. January 26-28.

Collyard, S. and J.M. Morris. 2018. Use of benthic community structure and metal concentrations in biota to assess the effectiveness of mine reclamation activities. 39th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Sacramento, CA. November 4-8. Abstract available: <https://www.setac.org/>.

Morris, J.M., J. Lipton, and S. Brinkman. 2014. Acute and Olfactory Copper Toxicity to Fish Using Laboratory and Site-Collected Water from Alaska. 35th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Vancouver, BC, Canada. November 9–13. Abstract available: <https://www.setac.org/>.

Morris, J.M., J. Lipton, and S. Brinkman. 2014. Acute and Olfactory Copper Toxicity to Fish Using Laboratory and Site-Collected Water from Alaska. 27th Annual Meeting of the Rocky Mountain Chapter of the Society of Environmental Toxicology and Chemistry (RMSETAC), Denver, CO. April 17–18.

Brinkman, S., J. Anderson, and J.M. Morris. 2013. Interaction of Temperature and Toxicity of Zinc and Copper to Cutthroat and Brook Trout. Southwest Alaska Salmon Science Workshop, Anchorage, AK. December 4–5.

Morris, J.M., J. Lipton, and S. Brinkman. 2013. Copper Toxicity to Rainbow Trout and Fathead Minnows in Low-Hardness Waters: Comparisons of BLM Predictions of Toxicity to Bioassay Results Using Laboratory Water and Site-Collected Water from Upper Talarik Creek in Bristol Bay. Southwest Alaska Salmon Science Workshop, Anchorage, AK. December 4–5.
http://www.southwestsalmon.org/wp-content/uploads/2014/01/Morris_Stratus_CuTox_RBT_FHM_LowHardnessH2O.pdf

Morris, J.M., A. Maest, A. Craven, and J. Lipton. 2012. Site-Specific Issues with Applying the BLM to Evaluate Cu Toxicity: Overestimation of Cu-DOC Complexation and Model Anomalies in Low Hardness Waters. 33rd Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Long Beach, CA. November 11–15. Abstract available: <https://www.setac.org/>.

Morris, J.M., A. Maest, A. Craven, and J. Lipton. 2012. The Biotic Ligand Model: Unresolved Scientific Issues and Site- and Species-Specific Effects on Predicted Cu Toxicity. U.S. Environmental Protection Agency, Hard Rock Mining Conference: Advancing Solutions for a New Legacy, Denver, CO. April 3–5.

Morris, J.M., P.H. Fallgren, and M.L. Sait. 2009. Source Treatment of Acid Rock Drainage at a Backfilled Coal Mine and a Historic Gold Mine. 19th Annual Meeting and West Coast

Conference on Soils, Sediments, and Water for the Association for Environmental Health and Sciences (AEHS), San Diego, CA. March 9–12.

Morris, J.M., P.H. Fallgren, M.L. Sait, and J. Mason. 2009. Acid Mine Drainage Prevention Using Biological Source Treatment: Coal and Hard Rock Experiments. American Society of Mining and Reclamation (ASMR), Billings, MT. May 30–June 5.

Morris, J.M. 2008. Biological Source Treatment of Acid Mine Drainage: Coal and Hard Rock Mine Waste. Wyoming Geological Association, Casper, WY. October 31.

Morris, J.M., S. Jin, and P.H. Fallgren. 2008. Source Treatment of Waste Rock and Tailings from a Gold Mine in Arizona: Microcosm Experiments. EPA/National Ground Water Association (NGWA) Remediation of Abandoned Mine Lands Conference, Denver, CO. October 2–3.

Meyer, J.S., C.J. Boese and J.M. Morris. 2006. Adapting the Biotic Ligand Model to Predict Toxicity of Time-Variable Cu Exposures to Fathead Minnows. 27th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Montreal, Québec, Canada. November 5–9. Abstract available: <https://www.setac.org/>.

Morris, J.M., S. Jin, and J. Cooper. 2006. Biological Treatment of Acid Mine Drainage. U.S. Environmental Protection Agency, Hard Rock Mining Conference: Sustainable Modern Mining Applications, Tucson, AZ. November 14–16.

Morris, J.M., A.M. Farag, and J.S. Meyer. 2005. pH and Zn Profiles in Photosynthetic Biofilm Using Ion-Selective Electrodes: An Explanation for Diel Metal Cycling? 26th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Baltimore, MD. November 13–17. Abstract available: <https://www.setac.org/>.

Morris, J.M., B. Morris, A.M. Farag, D.A. Nimick, and J.S. Meyer. 2004. Photosynthetically Mediated Zn Uptake in Biofilm in High Ore Creek, Montana. 25th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Portland, OR. November 14–18. Abstract available: <https://www.setac.org/>.

Morris, J.M., B. Mueller, A.M. Farag, and J.S. Meyer. 2003. Profiling Photosynthetic Biofilm Using Miniaturized Ion-Selective Electrodes. 16th Annual Meeting of the Rocky Mountain Chapter of the Society of Environmental Toxicology and Chemistry (RMSETAC), Denver, CO, April 16.

Morris, J.M., D.A. Nimick, A.M. Farag, and J.S. Meyer. 2003. Biotic Influences on the Diel Cycling of Zn in High Ore Creek, Montana. 24th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Austin, TX. November 9–13. Abstract available: <https://www.setac.org/>.

Morris, J.M., A.M. Farag, D.A. Nimick, and J.S. Meyer. 2002. Biofilm and the Diel Cycling of Aqueous Metals in Mountain Streams. 15th Annual Meeting of the Rocky Mountain Chapter of the Society of Environmental Toxicology and Chemistry (RMSETAC), Fort Collins, CO. April 19.

Morris, J.M., A.M. Farag, D.A. Nimick, and J.S. Meyer. 2002. Biofilm and the Diel Cycling of Aqueous Metals in Mountain Streams. 23rd Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Salt Lake City, UT. November 16–20. Abstract available: <https://www.setac.org/>.

Morris, J.M., S.A. Collyard, and J.S. Meyer. 2001. Does Exposure to Copper Alter Nutritional Content of *Hyalella azteca*? 22nd Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Baltimore, MD. November 11–15. Abstract available: <https://www.setac.org/>.

Lipton, J., K. Ritter, A. Maest, and C. Mebane. 2006. Evaluating Acute Cu Toxicity to Rainbow Trout: Cu-DOC Complexation and the BLM. Presented at SETAC Europe 16th Annual Meeting, The Hague, The Netherlands. May 7–11.

LeJeune, K., D. Atkins, and J. Lipton. 2005. Communicating Water Quality Risks Associated with Mining to a Skeptical Public. Platform presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry-Europe, Lille, France. May 23–26.

Lipton, J., K. LeJeune, and A. Maest. 2005. Evaluating Baseline Water Quality at the Yanacocha Mine, Cajamarca, Peru. Poster presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry-Europe, Lille, France. May 23–26.

Hansen, J.A., J. Lipton, and D. Cacela. 2003. Exposure of Rainbow Trout to Live Diets Contaminated with Metals: I. Growth Effects. Platform presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Austin, TX. November. Abstract available: <https://www.setac.org/>.

Lipton, J. and J.A. Hansen. 2003. Exposure of Rainbow Trout to Live Diets Contaminated with Metals: II. Metal Residues and Histology. Poster presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Austin, TX. November. Abstract available: <https://www.setac.org/>.

Hansen, J.A., J. Lipton, P.G. Welsh, and D. Cacela. 2002. Exposure of Rainbow Trout to Live Invertebrate Diets Pre-Exposed to Metal-Contaminated Sediments. Poster presented at the 23rd Annual Meeting of the Society of Environmental Toxicology and Chemistry, Salt Lake City, UT. November 16–20. Abstract available: <https://www.setac.org/>.

Lipton, J., J.A. Hansen, and D. Cacela. 2002. Assessing Risks of Metal Contaminated Sediments to Trout: Diet Toxicity Studies. Platform presented at the 12th Annual Meeting of SETAC-Europe, Vienna, Austria. May 12–16.

Hansen, J.A., P.G. Welsh, K. Neptun, and J. Lipton. 2001. Approaches to Evaluating Effects of Metal-Contaminated Sediments on Rainbow Trout. Platform presented at 11th Annual Meeting of SETAC-Europe, Madrid, Spain. May 6–10.

Lipton, J., J.A. Hansen, T. Podrabsky, and K. LeJeune. 2001. Evaluation of Toxic Effects of Metals to Fish in the Coeur d'Alene River Basin, ID. Poster presented at the 22nd Annual Meeting of the Society of Environmental Toxicology and Chemistry, Baltimore, MD. November 11–15. Abstract available: <https://www.setac.org/>.

Lipton, J., J.A. Hansen, P.G. Welsh, and D. Cacela. 2001. Relationship between Whole-Body Copper Residues and Growth Effects in Two Salmonids. Platform presented at the 22nd Annual Meeting of the Society of Environmental Toxicology and Chemistry, Baltimore, MD. November 11–15. Abstract available: <https://www.setac.org/>.

Lipton, J., J.A. Hansen, and P.G. Welsh. 2000. Are Water Quality Criteria for Metals Protective of Pacific Northwest Salmonids? Platform presentation at the 21st Annual Meeting of the

Society of Environmental Toxicology and Chemistry, Nashville, TN. November 12–16. Abstract available: <https://www.setac.org/>.

Hansen, J.A., J. Lipton, and P.G. Welsh. 2000. Acute Responses of Bull Trout (*Salvelinus confluentus*) to Cadmium, Copper, and Zinc. Poster presented at the Third SETAC World Congress 10th Annual Meeting of SETAC-Europe, Brighton, UK. May 21–25.

Hansen, J.A., J. Lipton, and P.G. Welsh. 2000. Effects of Cadmium and Copper on Bull Trout (*Salvelinus confluentus*) in Subchronic Exposures. Poster presented at the Third SETAC World Congress 10th Annual Meeting of SETAC-Europe, Brighton, UK. May 21–25.

Hansen, J.A., J. Lipton, and P.G. Welsh. 2000. Subchronic Toxicity of Cadmium to Bull Trout. Platform presentation at the 21st Annual Meeting of the Society of Environmental Toxicology and Chemistry, Nashville, TN. November 12–16. Abstract available: <https://www.setac.org/>.

Hansen, J.A., P.G. Welsh, and J. Lipton. 2000. Relationship between Copper Exposure, Growth, and Tissue Accumulation in Rainbow Trout and Bull Trout during Subchronic Exposures. Platform presentation at the 21st Annual Meeting of the Society of Environmental Toxicology and Chemistry, Nashville, TN. November 12–16. Abstract available: <https://www.setac.org/>.

Lipton, J., J.A. Hansen, P.G. Welsh, and D. Cacela. 2000. Critical Body Residues for Metals: Evaluation of Relationship between Copper Accumulation and Effects in Rainbow and Bull Trout. Poster presented at the 21st Annual Meeting of the Society of Environmental Toxicology and Chemistry, Nashville, TN. November 12–16. Abstract available: <https://www.setac.org/>.

Lipton, J., J.A. Hansen, P.G. Welsh, and D. Cacela. 2000. Relationship between Water Exposure, Tissue Residues, Growth, and Mortality of Rainbow Trout (*O. mykiss*) Exposed to Copper. Poster presented at the Third SETAC World Congress 10th Annual Meeting of SETAC-Europe, Brighton, UK. May 21–25.

Welsh, P.G., J.A. Hansen, and J. Lipton. 2000. Acute Toxicity and Relative Sensitivity of Bull Trout and Rainbow Trout to Cadmium and Zinc. Poster presented at the 21st Annual Meeting of the Society of Environmental Toxicology and Chemistry, Nashville, TN. November 12–16. Abstract available: <https://www.setac.org/>.

Welsh, P.G., J. Lipton, and J.A. Hansen. 2000. Determining Site-Specific Bioavailability and Toxicity of Metals to Aquatic Biota. Platform presentation at the 21st Annual Meeting of the Society of Environmental Toxicology and Chemistry, Nashville, TN. November 12–16. Abstract available: <https://www.setac.org/>.

Welsh, P.G., G. Chapman, J.A. Hansen, and J. Lipton. 2000. Ionic Composition of Reconstituted Laboratory Water and Natural Surface Waters in the United States – Implications for Conducting and Interpreting Metal Toxicity Tests. Presented at ASTM Tenth Symposium on

Hansen, J.A., P.G. Welsh, J. Lipton, and T. Podrabsky. 1999. Acute Toxicity and Relative Sensitivity of Bull Trout (*Salvelinus confluentus*) to Copper. Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Philadelphia, PA. November 14–18. Abstract available: <https://www.setac.org/>.

Lipton, J., P.G. Welsh, and J.A. Hansen. 1999. Influence of Mediating Biological Factors in Assessing Copper Risks to Aquatic Biota. Presented at the 20th Annual Meeting of Society of Environmental Toxicology and Chemistry, Philadelphia, PA. November 14–18. Abstract available: <https://www.setac.org/>.

Lipton, J., P. Welsh, J. Hansen, and S. Teh. 1999. Synergistic Toxicity of Copper and the Protozoan *Ichthyobodo sp.* to Rainbow Trout, *Oncorhynchus mykiss*. Presentation at the 9th Annual Meeting of Society of Environmental Toxicology and Chemistry-Europe, Leipzig, Germany, May 25–29.

Lipton, J., P. Welsh, T. Podrabsky, and J. Hansen. 1999. Approaches to Evaluating Copper Risks to Aquatic Biota. Presentation at the 9th Annual Meeting of Society of Environmental Toxicology and Chemistry-Europe, Leipzig, Germany, May 25–29.

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