

Curriculum Vitae
James Edward Gawel

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EDUCATION

- 1991-1996 **Massachusetts Institute of Technology**, Cambridge MA
Doctor of Philosophy in Civil and Environmental Engineering
Dissertation title: “Phytochelatin: Biomonitors for Metal Stress in Terrestrial Plants”
- 1986-1990 **Brown University**, Providence RI
Bachelor of Science in Civil Engineering with Emphasis on Environmental Problems and Planning

ACADEMIC POSITIONS

- 2005-present **University of Washington, Tacoma**, Tacoma WA
Associate Professor of Environmental Chemistry
Interdisciplinary Arts and Sciences Program
- 2008-present **University of Washington**, Seattle WA
Adjunct Professor
Department of Civil and Environmental Engineering
- 2011-2012 **University of Washington, Tacoma**, Tacoma WA
Assistant Director
Interdisciplinary Arts and Sciences Program
- 2006-2012 **University of Washington, Tacoma**, Tacoma WA
Environmental Sciences Faculty Coordinator
Interdisciplinary Arts and Sciences Program
- 2010-2011 **University of Washington, Tacoma**, Tacoma WA
Curriculum Coordinator
Interdisciplinary Arts and Sciences Program
- 1999-2005 **University of Washington, Tacoma**, Tacoma WA
Assistant Professor of Environmental Chemistry
Interdisciplinary Arts and Sciences Program
- 1996-1999 **Massachusetts Institute of Technology**, Cambridge MA
Postdoctoral Associate in the Department of Civil and Environmental Engineering

CURRENT RESEARCH

- 2017-present Clarks Creek sediment oxygen study, Puyallup, WA.
Co-Investigator: Mike Milne, Brown and Caldwell.
- 2017-present Post alum treatment changes in Wapato Lake, Tacoma, WA.
Co-Investigator: UWT undergraduate Kimberly Oliva-Membreno.
- 2017-present Nutrient cycling in Twin Lakes, Federal Way, WA.
Co-Investigator: UWT undergraduate Kimberly Oliva-Membreno.
- 2015-present Primary succession and community assembly related to hydroperiod in ponds created by the 1980 eruption of Mount St. Helens, Mount St. Helens National Volcanic Monument, Washington.
Co-Investigators: Dr. Angela Strecker and Dr. Meredith Holgerson, Portland State University, Dr. Charlie Crisafulli, USFS; UWT student Lionel Estrada.
- 2014-present The role of floating large woody debris on the nutrient cycling and ecology of Spirit Lake, Mount St. Helens National Volcanic Monument, Washington.
Co-Investigators: Dr. Jeremy Davis, UWT, Dr. Avery Shinneman, UWB, Dr. Kena Fox-Dobbs, UPS; UWT students Jessica West, Julieann Palumbo, Shantelle Reamer, Ken Burkart, Heather Rawley, Jade Redfield, Gabrielle Glynn, Demetra Loulias, Ashley Bachmann, Joseph Meyer.
- 2012-present Puget Sound MusselWatch Program
Co-Investigators: Jim West and Jennifer Lanksbury, WA Dept. of Fish and Wildlife, and UWT undergraduates Christopher Wu, Kim Rocha, Julia Dolan.

2012-present Arsenic in urban lakes: mobility, bioaccumulation and ecological toxicity.
Co-Investigators: Dr. Rebecca Neumann and Dr. Alex Horner-Devine, UW Civil and Environmental Engineering, Dr. Evan Gallagher, UW Environmental and Occupational Health Science, Dr. Julian Olden, UW Aquatic and Fishery Sciences, Dr. Joe Ryan, University of Colorado, Environmental and Architectural Engineering, UW/UWT Postdoctoral Associate Pam Barrett, UWT Research Technologist Erin Hull, and UWT students Ken Burkart, Kimberly Oliva-Membreno, Suji Kim, Krystal Hedrick, Natalia Stilnovich.

PEER-REVIEWED PUBLICATIONS (*UWT undergraduate student co-authors)

- Gawel, J.E., E. Cline, S. Hunter*, R. Posa*, A.R. Ferro.** (in preparation). Long-term changes in metal deposition and metal stress in red spruce along elevational and longitudinal transects in the Appalachian forests of New England, USA. To be submitted to *Environmental Pollution* in 2018.
- Barrett, P.M., E.A. Hull, C.E. King, K. Burkart*, K.A. Ott, J.N. Ryan, J.E. **Gawel**, R.B. Neumann. 2018. Increased exposure of plankton to arsenic in contaminated weakly-stratified lakes. *Science of the Total Environment*, **625**: 1606-1614
- Mendrey, K., E. Cline, J.E. **Gawel** and S. Brown. (in preparation). Douglas-fir foliar metals and phytochelatin in response to modern and historic biosolids and metal salts equivalents: Results of field and greenhouse trials. To be submitted to *Environmental Pollution* in 2018.
- Gawel, J.E., J.A. Asplund*, S. Burdick*, M. Miller*, S.M. Peterson*, A. Tollefson*, and K. Ziegler***. 2014. Arsenic and lead distribution and mobility in lake sediments in the south-central Puget Sound watershed: The long-term impact of a metal smelter in Ruston, Washington, USA. *Science of the Total Environment*, **472**: 530-537.
- Cline, E.T., Q.T.N. Nguyen*, L. Rollins*, J.E. **Gawel**. 2012. Metal stress and decreased tree growth in response to biosolids application in greenhouse seedlings and in situ Douglas-fir stands. *Environmental Pollution*, **160**: 139-144.
- Horner, R.A., C.L. Greengrove, K.S. Davies-Vollum, J.E. **Gawel**, J.R. Postel, A. Cox. 2011. Spatial distribution of benthic cysts of *Alexandrium catenella* in surface sediments of Puget Sound, Washington, USA. *Harmful Algae*, **11**: 96-105.
- Senn, D.B., J.E. **Gawel**, J.A. Jay, H.F. Hemond, and J.L. Durant. 2007. Long-term fate of a pulse arsenic input to a eutrophic lake. *Environmental Science and Technology*, **41**: 3062-3068.
- Gawel, J.E., and C.L. Greengrove.** 2005. Designing undergraduate research experiences for nontraditional student learning at sea. *Journal of Geoscience Education*, **53**: 31-36.
- Gawel, J.E., and H.F. Hemond.** 2004. Biomonitoring for metal contamination near two Superfund sites in Woburn, Massachusetts, using phytochelatin. *Environmental Pollution*, **131**: 125-135.
- Durant, J.L., T. Ivushkina, K. MacLaughlin, H. Lukacs, J. **Gawel**, D. Senn, and H.F. Hemond. 2004. Elevated levels of arsenic in the sediments of an urban pond: sources, distribution and water quality impacts. *Water Research*, **38**: 2989-3000.
- Wagner, W., J. **Gawel**, H. Furumai, M.P. De Souza, D. Teixeira, L. Rios, S. Ohgaki, A.J.B. Zehnder, and H.F. Hemond. 2002. Sustainable watershed management: an international multi-watershed case study. *Ambio*, **31**: 2-13. (cover article)
- Gawel, J.E., C.G. Trick, and F.M.M. Morel.** 2001. Phytochelatin are bioindicators of atmospheric metal exposure via direct foliar uptake in trees near Sudbury, Ontario, Canada. *Environmental Science and Technology*, **35**: 2108-2113.
- Gawel, J.E., B.A. Ahner, A.J. Friedland, and F.M.M. Morel.** 1996. Role for heavy metals in forest decline indicated by phytochelatin measurements. *Nature*, **381**: 64-65.

TECHNICAL REPORTS (*UWT undergraduate student co-authors)

- Gawel, J.E., and C. Wu***. 2018. *Twin Lakes Data Report*. Technical report prepared for the City of Federal Way, WA.
- Gawel, J.E., and K. Oliva-Membreno***. 2018. *Wapato Lake Water Quality Monitoring Data Report*. Technical report prepared for Tacoma MetroParks (via Herrera Environmental Consultants), Tacoma, WA.
- Gawel, J.E., and C. Wu***. 2017. *Lake Kapowsin Data Report*. Technical report prepared for the WA Department of Natural Resources, Olympia, WA.
- Park, S., J.E. **Gawel**, M. Milne, J. Turk, C. King, and R. Rigg* (authors not named in report, relative order determined by Gawel). 2017. *Waughop Lake Management Plan*. Technical report prepared for the City of Lakewood, Lakewood, WA.

- Gawel, J.E., H. Jennings*, A. Sonoqui*, S. Ayers*, S. Remington, C. Hancock*, K. Wada*, B. Mason, J. Guenther*, and C. McAllister*. 2011. *Hydrology and Nutrient Budget for Wapato Lake, Tacoma, WA*. Technical Report prepared for the City of Tacoma, Tacoma, WA, 24 pp.**
- Roberts, M., L. Shanafelt*, K. Morris*, and J. Gawel. 2009. *Baseline Data Report: Ueland Tree Farm*. Technical Report prepared for The Mountaineers Foundation, Seattle, WA, 98 pp.**
- Gawel, J.E., and B. Mason. 2008. *Waughop Lake Sediment Phosphorus Study*. Technical Report prepared for the City of Lakewood, Washington, 2 pp.**
- Gawel, J.E., D.B. Senn, H. Lukacs, K.J. MacLaughlin, and J.L. Durant. 2000. *Characterization and Cycling of Phosphorus and Arsenic in Spy Pond (Arlington, Massachusetts)*. Technical Report prepared for the Massachusetts Department of Environmental Management and the Town of Arlington, Massachusetts, January 2000, 46 pp.**

INVITED PEER-REVIEWED BOOK CHAPTER

- Gawel, J.E., C. Crisafulli and R. Miller. 2018. The new Spirit Lake: changes to hydrology, nutrient cycling and biological productivity. In: Crisafulli, C.M., and V.H. Dale (Eds.), *Ecological Responses at Mount St. Helens: Revisited 35 years after the 1980 Eruptions*, Springer Nature, New York, NY, pp 71-95.**

EDITOR-REVIEWED CONFERENCE PROCEEDINGS PUBLICATIONS (*UWT undergraduate student co-authors)

- Horner, R.A., C.L. Greengrove, J.R. Postel, J.E. Gawel, K.S. Davies-Vollum, A. Cox, S. Hoffer*, K. Sorensen*, J. Hubert*, J. Neville*, and B.W. Frost. 2008. *Alexandrium* cysts in Puget Sound, Washington, USA. In: Moestrup, Ø., et al. (Eds.) *Proceedings of the XII International Conference on Harmful Algae*, Copenhagen, DK, 4-8 September 2007. International Society for the Study of Harmful Algae and Intergovernmental Oceanographic Commission of UNESCO, pp. 196-199.**
- Acker*, L., J.R. McMahan*, and J.E. Gawel. 2005. The effect of heavy metal pollution in aquatic environments on metallothionein production in *Mytilus* sp. *Proceedings of the 2005 Puget Sound/Georgia Basin Research Conference*, March 29-31, 2005, Seattle, Washington.**
- Gawel, J.E., and C.L. Greengrove. 2003. Designing undergraduate research experiences for nontraditional student learning at sea. In: Droscher, T. and D. A. Fraser, eds., *Proceedings of the 2003 Georgia Basin/Puget Sound Research Conference*, March 31-April 3, 2003, Vancouver, BC.**
- Gawel, J.E., D.B. Senn, H.F. Hemond, K. MacLaughlin, H. Lukacs, and J.L. Durant. 1999. Effects of eutrophication and runoff on arsenic cycling in an urban lake. *Proceedings of ASCE's 1999 International Water Resource Engineering Conference*, Seattle, WA, August 8-12.**

DOCUMENTARY VIDEOS (*UWT undergraduate student)

- Gawel, J.E., P. Lovelady, and T. Kapler. 2010. *Water Undone: The Effort to Save the Puyallup River Watershed*. Funded by the *Russell Family Foundation* and the *University of Washington, Tacoma*.**
- Gawel, J.E., P. Lovelady*, S. Winch, and T. Kapler*. 2004. *Urban Water: Sustainability in the Balance*. Funded by the *Alliance for Global Sustainability* and the *University of Washington, Tacoma*.**

BOOK REVIEWS

- Gawel, J.E. 2004. (Book Review) *Restoration of Puget Sound Rivers*, book by Montgomery, Bolton, Booth, and Wall, Eds. *Pacific Northwest Quarterly*, **95**: 152.**
- Gawel, J.E. 2001. (Book Review) *Smoke Wars: Anaconda Copper, Montana Air Pollution, and the Courts, 1890-1924*, book by Donald MacMillan. *Pacific Northwest Quarterly*, **92**: 103-104.**

POPULAR PRESS ARTICLES

- Gawel, J.E., P. Barrett, R. Neumann, A. Endresen, E. Hull, A. Kedir, and C. King. 2016. Arsenic in lakes in the Puget Sound Lowlands: mobility and bioavailability 30 years after smelter closure. *Waterline*, **June 2016**: <http://www.walpa.org/waterline/june-2016/arsenic-in-lakes-in-the-puget-sound-lowlands-mobility-and-bioavailability-30-years-after-smelter-closure/>**
- Gawel, J.E. 2014. What role do floating logs play in lake ecology? *Waterline*, **September 2014**: <http://www.walpa.org/waterline/september-2014/what-role-do-floating-logs-play-in-lake-ecology/>**
- Gawel, J.E. 2012. Wapato Lake faces water quality problems, past and present. *Waterline*, **March 2012**: <http://www.walpa.org/waterline/march-2012/wapato-lake-faces-water-quality-problems-past-and-present/>.**

CONFERENCE PRESENTATIONS WITH PUBLISHED ABSTRACTS (*UWT undergraduate student co-authors)

- Gawel, J.E., P. Barrett, E. Hull, K. Burkart*, O. Hargrave*, J. McLean*, R.B. Neumann.** 2018. Arsenic bioavailability is greater in shallow polymictic urban lakes than deep stratified lakes: flux rates and the involvement of plankton in arsenic cycling. Abstract of talk presented at the Association for the Sciences of Limnology and Oceanography Summer Meeting, June 10-15, 2018, Victoria, BC.
- [INVITED] **Gawel, J.E., P. Barrett, E. Hull, K. Burkart*, O. Hargrave*, J. McLean*, R.B. Neumann.** 2017. Lake mixing regime influences arsenic transfer from sediments into the water column and uptake in plankton. Abstract of talk presented at the American Geophysical Union Conference, December 11-15, 2017, New Orleans, LA.
- Gawel, J.E., J. Ramstack Hobbs.** 2017. Washington Community Allied Lake Monitoring (WA CALM): a collaborative state-wide volunteer lake monitoring pilot. Abstract of talk presented at the Washington State Lake Protection Association 30th Annual Conference, October 11-13, 2017, Spokane, WA.
- Strecker, A.L., M. Holgerson, C. Crisafulli, J.E. Gawel.** 2017. Primary succession and community assembly in ponds created by the Mount St. Helens eruption. Abstract of talk presented at the Ecological Society of America Conference, August 6-11, 2017, Portland, OR.
- Barrett, P. M., E. Hull, C.E. King, J.A. Gawel, R.B. Neumann.** 2017. *Bioaccumulation of arsenic in aquatic food webs of contaminated lakes in the Puget Sound lowland.* Abstract of poster presented at the Association for the Sciences of Limnology and Oceanography Aquatic Science Meeting, Feb 26-Mar 3, 2017, Honolulu, HI.
- Gawel, J.E., C. King*, R. Rigg*, M. Milne, S. Park, J. Turk, and G. Vigoren.** 2016. *Hydrologic and nutrient budgets to support the Waughop Lake management plan.* Abstract of talk presented at the Washington State Lake Protection Association 29th Annual Conference, October 5-7, 2016, Bellingham, WA.
- Hull*, E.A., J.E. Gawel, P.M. Barrett, and R.B. Neumann.** 2016. *Arsenic in shallow polymictic and seasonally stratified urban lakes: mobility, bioaccumulation and ecological toxicity.* Abstract of talk presented at the Washington State Lake Protection Association 29th Annual Conference, October 5-7, 2016, Bellingham, WA.
- Strecker, A.L., M. Holgerson, C. Crisafulli, J.E. Gawel.** 2017. Primary succession and community assembly in ponds created by the Mount St. Helens eruption. Abstract of talk presented at The Association for the Sciences of Limnology and Oceanography Summer Meeting, June 5-10, 2016, Santa Fe, NM.
- Gawel, J.E.** 2015. *The new Spirit Lake: hydrology, nutrient cycling and biological productivity.* Abstract of talk presented at the 2015 WALPA Annual Conference, October 26-28, 2015, Walla Walla, WA.
- Gawel, J.E.** 2014. *The New Spirit lake: current hydrology and nutrient cycling in a disturbed ecosystem.* Abstract of talk presented at the 2014 WALPA Annual Conference, September 30-October 2, 2014, Chelan, WA.
- Gawel, J.E.** 2014. *Remobilization of legacy arsenic from lake sediments in the vicinity of the ASARCO smelter in Ruston, Washington, decades after closure.* Abstract of talk presented at the 2014 Joint Aquatic Sciences Meeting, May 18-23, 2014, Portland, OR.
- Gawel, J.E., J. Dolan*, J. Lanksbury and J. West.** 2014. *Monitoring metal stress in Puget Sound using metallothionein production in mussels in the nearshore.* Abstract of talk presented at the 2014 Salish Sea Ecosystem Conference, April 30-May 2, Seattle, WA.
- Gawel, J.E.** 2013. *The Long-Term Impact of Metal Smelting Operations on Arsenic Availability in Urban Lakes of the South-Central Puget Sound Region.* Abstract of talk presented at the 2013 WALPA/OLA Joint Lakes Conference, October 16-18, 2013, Vancouver, WA.
- Gawel, J.E.** 2012. *Developing a Data-intensive Nutrient Budget for Wapato Lake, Tacoma, Washington, with an Eye towards Future Management.* Abstract of poster presented at the 2012 WALPA Annual Conference, October 24-26, 2012, Wenatchee, WA.
- Gawel, J.E., H. Jennings*, A. Sonoqui*, S. Ayers*, C. Hancock* and S. Remington.** 2011. *Developing a data-intensive nutrient budget for Wapato Lake, Tacoma, Washington, with an eye towards future management.* Abstract of talk presented at the 31st International Symposium of the North American Lake Management Society, October 26-28, 2011, Spokane, WA.
- Gawel, J.E., N. Butcher*, A. Datema*, H. Jennings*, C. Marshall*, B. Mason, M. Roberts, T. Wax*, M. Blanchet, A.J. Joseph, and C. Crisafulli.** 2010. *Constructing a nutrient mass balance model for post-eruption Spirit Lake, Mount St. Helens National Volcanic Monument, Washington.* Abstract of talk given at the Northwest Scientific Association 82nd Annual Meeting, March 24-27, 2010, Centralia, WA.

- Horner, Rita A., James R. Postel, James E. **Gawel**, Cheryl L. Greengrove, Sian Davies-Vollum, Annie M. Cox, Jeff Hubert*, Alexander Abrahamson*, Julie Masura, and Bruce W. Frost. 2007. *Alexandrium catanella* cysts and environmental conditions in Puget Sound, WA: Results of a cyst survey. Abstract of talk given at the *Fourth Symposium on Harmful Algae in the U.S.*, October 29-November 1, 2007, Woods Hole, MA.
- Gawel**, J.E., J.A. Asplund*, J.W. Chynoweth*, M.D. Sage*, S.M. Burdick*, M. Tollefson. 2007. The long-term impact of smelting operations on arsenic availability in lakes of the south-central Puget Sound region, Washington, USA. Abstract of talk given at the *ASLO 2007 Aquatic Sciences Meeting*, February 4-9, 2007, Santa Fe, New Mexico.
- Hubert*, J., K.S. Davies-Vollum, A. Abrahamson*, K. Sorensen*, C.L. Greengrove, R. Horner, J. Postel, A. Cox, J.E. **Gawel**, and B. Frost. 2007. Do sediment conditions affect the incidence of *Alexandrium catanella* and paralytic shellfish poisoning? A study of sites from Puget Sound. (Abstract of poster presented at the 2007 Geological Society of America Cordilleran Section Meeting, Bellingham, WA). *Abstracts with Programs – Geological Society of America*, **39**(4): abstract# 120665.
- Greengrove, C.L., B.W. Frost, R.A. Horner, J.R. Postel, J.E. **Gawel**, K.S. Davies-Vollum, A. Cox, K. Sorensen*, J. Hubert*, S. Hoffer* and J.Neville*. 2006. *Alexandrium* cysts in Puget Sound, Washington, USA. Abstract of poster presented at the *12th International Conference on Harmful Algae*, September 4-8, 2006, Copenhagen, Denmark.
- Greengrove, C.L., B.W. Frost, R.A. Horner, J.R. Postel, J.E. **Gawel**, K.S. Davies-Vollum, A. Cox, S. Hoffer*, K. Sorensen*, and J. Hubert*. 2006. Survey of *Alexandrium* cysts in the surface sediments of Puget Sound, Washington. Abstract of poster presented at the *ASLO 2006 Summer Meeting*, June 4-9, 2006, Victoria, British Columbia, Canada.
- Greengrove, C.L., B.W. Frost, R.A. Horner, J.R. Postel, J.E. **Gawel**, K.S. Davies-Vollum, K. Sorensen*, S. Hoffer*, and S. Wagner*. 2005. *Alexandrium* cysts in Puget Sound, Washington: Preliminary results of a survey. Abstract of poster presented at the *Third Symposium on Harmful Algae in the U.S.*, October 2-7, 2005, Pacific Grove, CA.
- Gawel**, J.E., M.D. Sage*, S.M. Burdick*, M. Tollefson. 2005. Arsenic distribution and mobility in urban lakes in the south-central Puget Sound region, Washington, USA. Abstract of poster presented at the *ASLO 2005 Summer Meeting*, June 19-24, 2005, Santiago de Compostela, Spain.
- Davies-Vollum, K.S., C.L. Greengrove, and J.E. **Gawel**. 2005. A skills-driven gateway course to prepare transfer students for success in upper division science courses. (abstract of poster presented at the 2005 Annual Meeting of the Geological Society of America, Salt Lake City, UT). *Abstracts with Programs – Geological Society of America*, **37**(7): paper# 234-5.
- Jay, J.A., N.E. Keon, H.F. Hemond, D.B. Senn, J.E. **Gawel**, and J.L. Durant. 2001. Investigation of road salt effects on arsenic release from the sediments of an urban pond (abstract of poster presented at the Spring 2001 Meeting of the American Geophysical Union, Boston, MA). *EOS Transactions AGU*, **82**(20): Spring Meet. Suppl., Abstract H42A-16.
- Gawel**, J.E., D.J. Brabander, F.M.M. Morel, and H.F. Hemond. 1999. Using bioindicators to monitor past and present arsenic contamination in groundwater near two Superfund sites in Woburn, Massachusetts (abstract of talk given at the Spring 1999 Meeting of the American Geophysical Union, Boston, MA). *EOS Transactions AGU*, **80**(17): Spring Meet. Suppl., Abstract H42F-08.
- Gawel**, J.E., C.G. Trick, and F.M.M. Morel. 1998. Phytochelatins are bioindicators of atmospheric metal insult to trees near Sudbury, Ontario, Canada (abstract of talk given at the Spring 1998 Meeting of the American Geophysical Union, Boston, MA). *EOS Transactions AGU*, **79**(17): Spring Meet. Suppl., Abstract H42G-4.
- Gawel**, J.E., B.A. Ahner, A.J. Friedland, and F.M.M. Morel. 1995. Metal stress and red spruce decline in the northeastern U.S. *Plant Physiology*, Suppl., **108**: 45.
- Gawel**, J.E., B.A. Ahner, A.J. Friedland, C.G. Trick, and F.M.M. Morel. 1995. Patterns of phytochelatin concentrations in the field: seasonal and spatial characteristics. Poster presented at *Fourteenth Annual Symposium of Current Topics in Plant Biochemistry, Physiology, and Molecular Biology*, Columbia, MO; Abstract #39.

CONFERENCE PRESENTATIONS BY UNDERGRADUATES

- Burkart, K., E. Hull, and J.E. **Gawel**. Influences of lake mixing regime on arsenic transfer from sediments into the water column and bioaccumulation in plankton. Talk presented at the Washington State Lake Protection Association 30th Annual Conference, October 11-13, 2017, Spokane, WA.

- Wu, C., and J.E. **Gawel**. 2017. Summer water quality and implications for fisheries management in Lake Kapowsin, Washington. Student poster presented at The Twentieth Annual University of Washington Undergraduate Research Symposium, May 19, 2017, Seattle, WA.
- Endresen, A., and J.E. **Gawel**. 2016. Phytoremediation of arsenic by aquatic plants in contaminated urban lakes in the South-Central Puget Sound region. Poster presented at the Washington State Lake Protection Association 29th Annual Conference, October 5–7, 2016, Bellingham, WA.
- Kedir, A., and J.E. **Gawel**. 2016. Metal uptake in midge larvae in contaminated urban lakes in the Puget Sound region. Student poster presented at The Nineteenth Annual University of Washington Undergraduate Research Symposium, May 20, 2016, Seattle, WA.
- Hull, E., and J.E. **Gawel**. 2016. Arsenic in shallow polymictic and seasonally stratified urban lakes: mobility, bioaccumulation and ecological toxicity. Student poster presented at The Nineteenth Annual University of Washington Undergraduate Research Symposium, May 20, 2016, Seattle, WA.
- Burkart, K., and J.E. **Gawel**. 2016. Nutrient contributions from floating logs in Spirit Lake, Mount Saint Helens National Volcanic Monument. Student poster presented at The Nineteenth Annual University of Washington Undergraduate Research Symposium, May 20, 2016, Seattle, WA.
- Endresen, A., and J.E. **Gawel**. 2016. Phytoremediation of arsenic by aquatic plants in contaminated urban lakes in the south-central Puget Sound region. Student poster presented at The Nineteenth Annual University of Washington Undergraduate Research Symposium, May 20, 2016, Seattle, WA.
- Knutsen, T., and J.E. **Gawel**. 2016. Improving usability of the Puyallup River Outreach Project website to decrease bounce rate. Student poster presented at The Nineteenth Annual University of Washington Undergraduate Research Symposium, May 20, 2016, Seattle, WA.
- Burkart, K., and J.E. **Gawel**. 2015. Nutrient contributions from floating logs in Spirit Lake, WA. Student poster presented at the 2015 WALPA Annual Conference, October 26-28, 2015, Walla Walla, WA.
- Hull, E., and J.E. **Gawel**. 2015. Mobility and bioaccumulation of arsenic in shallow unstratified and seasonally stratified urban lakes. Student poster presented at the 2015 WALPA Annual Conference, October 26-28, 2015, Walla Walla, WA.
- King, C., R. Rigg, and J.E. **Gawel**. 2015. Determining sources of nutrients in a shallow, eutrophic, kettle lake in Lakewood, Washington. Student poster presented at the 2015 WALPA Annual Conference, October 26-28, 2015, Walla Walla, WA. [*Best Undergraduate Student Poster Award*].
- Rawley, H., and J.E. **Gawel**. 2015. Nitrogen cycling in the post-eruption Spirit Lake, Mount St. Helens National Volcanic Monument. Student poster presented at the 2015 WALPA Annual Conference, October 26-28, 2015, Walla Walla, WA.
- Suter, C., and J.E. **Gawel**. 2015. Nutrient and hydrologic budgets of Wapato Lake, Tacoma. Student poster presented at The Eighteenth Annual University of Washington Undergraduate Research Symposium, May 15, 2015, Seattle, WA.
- Reamer, S., and J.E. **Gawel**. 2014. Role of log mat biofilm in nutrient cycling of Spirit Lake, Mount St. Helens National Volcanic Monument. Student poster presented at the 2014 WALPA Annual Conference, September 30-October 2, 2014, Chelan, WA. [*Best Undergraduate Student Poster Award*]
- Palumbo, J., and J.E. **Gawel**. 2014. Analysis of new organic sediment material in Spirit Lake, Mount St. Helens National Volcanic Monument. Student poster presented at the 2014 WALPA Annual Conference, September 30-October 2, 2014, Chelan, WA.
- Dolan, J. M., and J.E. **Gawel**. 2014. Monitoring metal stress in Puget Sound using metallothionein production in mussels in the nearshore. Student poster presented at the 2014 Joint Aquatic Sciences Meeting, May 18-23, 2014, Portland, OR.
- Ehle, A., and J.E. **Gawel**. 2014. Trophic status of Wapato Lake, Tacoma, Washington. Student poster presented at The Seventeenth Annual University of Washington Undergraduate Research Symposium, May 16, 2014, Seattle, WA.
- Hunter, S., E. Cline and J.E. **Gawel**. 2014. Stress responses from metal pollutants of *Picea abies* (red spruce) and mycorrhizal fungi in forest communities along an elevational gradient within the Appalachian Mountains. Student poster presented at The Seventeenth Annual University of Washington Undergraduate Research Symposium, May 16, 2014, Seattle, WA.
- Ehle, A., L. Hagen, and J.E. **Gawel**. 2013. Trophic Status of Two Shallow Urban Lakes in Pierce County, Washington. Student poster presented at the 2013 WALPA/OLA Joint Lakes Conference, October 16-18, 2013, Vancouver, WA.

- McCartha, M., K. Best, B.J. Becker, and J.E. **Gawel**, 2013. Metallothionein as a Bio-indicator of Metal Toxicity in South Puget Sound. Student talk presented at The Sixteenth Annual University of Washington Undergraduate Research Symposium, May 17, 2013, Seattle, WA.
- Vittetoe, J., E. Cline, J.E. **Gawel**, and G. Ettl. 2013. Foliar Uptake of Toxic Metals and Stress Responses of Pine Seedlings from Biosolids-Treated Sites at Pack Forest, WA. Student poster presented at The Sixteenth Annual University of Washington Undergraduate Research Symposium, May 17, 2013, Seattle, WA.
- McCartha, M., B.J. Becker, and J.E. **Gawel**, 2012. Metallothionein as a Bio-indicator of Metal Toxicity in Commencement Bay. Student poster presented at the South Sound Science Symposium, October 30, 2012, Shelton, WA.
- Strowbridge, C., and J.E. **Gawel**. 2012. The Role of the Water Column in the Nutrient Budget of Spirit Lake, Washington. Student talk at the 2012 WALPA Annual Conference, October 24-26, 2012, Wenatchee, WA.
- Miller, A.J. and J.E. **Gawel**. 2012. Comparative Affiliative Behavior and Social Structure in Sykes and Vervet Monkeys in Kenya. Student poster presented at The Fifteenth Annual University of Washington Undergraduate Research Symposium, May 18, 2012, Seattle, WA.
- Hurlbut, T. and J.E. **Gawel**. 2012. The Role of Sediments and Aquatic Plants in the Nutrient Budget of Spirit Lake, Washington. Student poster presented at The Fifteenth Annual University of Washington Undergraduate Research Symposium, May 18, 2012, Seattle, WA.
- Klein, E., J.E. **Gawel** and C. Strowbridge. 2011. The Role of the Water Column in the Nutrient Budget of Spirit Lake, Washington. Student poster presented at the 31st International Symposium of the North American Lake Management Society, October 26-28, 2011, Spokane, WA.
- Dahlquist, D., J.E. **Gawel** and A. Leslie. 2011. The Role of Surface and Ground Waters in the Nutrient Budget of Spirit Lake, Washington. Student poster presented at the 31st International Symposium of the North American Lake Management Society, October 26-28, 2011, Spokane, WA.
- Alskog, L., J.E. **Gawel** and T. Hurlbut. 2011. The Role of Sediments and Aquatic Plants in the Nutrient Budget of Spirit Lake, Washington. Student poster presented at the 31st International Symposium of the North American Lake Management Society, October 26-28, 2011, Spokane, WA.
- Royer, K. and J.E. **Gawel**. 2011. The Role of Insects in the Nutrient Budget of Spirit Lake, Mount Saint Helens, Washington. Student poster presented at the 31st International Symposium of the North American Lake Management Society, October 26-28, 2011, Spokane, WA.
- Spencer, J., and J.E. **Gawel**. 2010. Using Metallothionein in Mussels as a Bioindicator of Metal Stress in South Puget Sound, Washington. Student poster presented at the 3rd Annual South Sound Science Symposium, October 27, 2010, Shelton, WA.
- Jennings, H., and J.E. **Gawel**. 2010. Water Column Nutrient Budget for Spirit Lake, Mount Saint Helens, WA. Student poster presented at The Thirteenth Annual University of Washington Undergraduate Research Symposium, May 21, 2010, Seattle, WA.
- Wax, T.A., and J.E. **Gawel**. 2010. The Nutrient Cycling of Insects by Spirit Lake, Mount Saint Helens, WA. Student poster presented at The Thirteenth Annual University of Washington Undergraduate Research Symposium, May 21, 2010, Seattle, WA.
- Rollins, L.G., E. Cline, and J.E. **Gawel**. 2010. Phytochelatin Production in *Pseudotsuga menziesii* Seedlings - a Greenhouse Study. Student poster presented at The Thirteenth Annual University of Washington Undergraduate Research Symposium, May 21, 2010, Seattle, WA.
- Butcher, N.M., and J.E. **Gawel**. 2010. Stream and Groundwater Nutrient Budget for Spirit Lake, Mount Saint Helens, WA. Student poster presented at The Thirteenth Annual University of Washington Undergraduate Research Symposium, May 21, 2010, Seattle, WA.
- Nguyen, Q.N., J.E. **Gawel** and E. Cline. 2009. Phytochelatins as a Bioindicator Suggesting Metal Stress in Douglas-fir Trees Treated with Municipal Biosolids. Student poster presented at The Twelfth Annual University of Washington Undergraduate Research Symposium, May 15, 2009, Seattle, WA.
- Marshall, C., and J.E. **Gawel**. 2009. The Role of Insects in Nutrient Cycling in Spirit Lake, Washington. Student poster presented at The Twelfth Annual University of Washington Undergraduate Research Symposium, May 15, 2009, Seattle, WA.
- Souers, G., and J.E. **Gawel**. 2009. Using metallothioneins in benthic marine worms as bioindicators of metal toxicity in Puget Sound. Student poster presented at the 2nd Annual South Sound Science Symposium, May 6, 2009, Shelton, WA.
- King, K., and J.E. **Gawel**. 2008. Arsenic Distribution in the Water Column and Sediments of Shallow Lakes Impacted by the ASARCO Smelter near Tacoma, Washington. Student poster presented at The Eleventh Annual University of Washington Undergraduate Research Symposium, May 16, 2008, Seattle, WA.

- Donley-McClure, S., and J.E. **Gawel**. 2008. Timeline of Deposition and Concentrations of Lead in Lake Sediments. Student poster presented at The Eleventh Annual University of Washington Undergraduate Research Symposium, May 16, 2008, Seattle, WA.
- Nguyen, Q.N., and J.E. **Gawel**. 2008. Measuring Metal Stress in Trees in Norway Using Phytochelatins. Student poster presented at The Eleventh Annual University of Washington Undergraduate Research Symposium, May 16, 2008, Seattle, WA.
- Price, T., and J.E. **Gawel**. 2006. The role of heavy metal concentrations on the decline of the Norway spruce in Norwegian forests. Student talk presented at the 2006 UWT Environmental Research Symposium (UWaTERS), June 5, 2006, Tacoma, WA.
- Asplund, J.A., and J.E. **Gawel**. 2006. Arsenic cycling in relation to physical and chemical parameters in lakes of South Puget Sound, Washington. Student poster presented at The Ninth Annual University of Washington Undergraduate Research Symposium, May 19, 2006, Seattle, WA.
- Chynoweth, J.W., and J.E. **Gawel**. 2006. A comparative limnological analysis of lakes inside and outside of the blast zone 25 years after the 1980 eruption of Mount St. Helens. Student poster presented at The Ninth Annual University of Washington Undergraduate Research Symposium, May 19, 2006, Seattle, WA.
- Sage, M., and J.E. **Gawel**. 2005. Arsenic mobility as a function of physical and chemical parameters in lakes in south King County, Washington. Student poster presented at The Eighth Annual University of Washington Undergraduate Research Symposium, May 13, 2005, Seattle, WA.
- Acker, L., J.R. McMahan, and J.E. **Gawel**. 2005. The effect of heavy metal pollution in aquatic environments on metallothionein production in *Mytilus* sp. Student oral presentation at The Seventh Annual University of Washington Undergraduate Research Symposium, May 13, 2005, Seattle, WA.
- Hurt, J., and J.E. **Gawel**. 2005. Site analysis and remediation prospects for lead contamination in former WWI and WWII army firing ranges: A study of the Miller Hill ranges of Fort Lewis, Washington. Student poster presented at The Eighth Annual University of Washington Undergraduate Research Symposium, May 13, 2005, Seattle, WA.
- Soto, S., and J.E. **Gawel**. 2004. Metallothionein concentrations in Commencement Bay mussels as bioindicators of metal stress. Student poster presented at The Seventh Annual University of Washington Undergraduate Research Symposium, May 14, 2004, Seattle, WA.
- Lenigan, L., and J.E. **Gawel**. 2003. Arsenic release from American Lake sediments. Student poster presented at The Sixth Annual University of Washington Undergraduate Research Symposium, May 16, 2003, Seattle, WA.
- Halvorsen, N.L., J.E. **Gawel**, and C.L. Greengrove. 2004. Oceanographic data for the Pacific Northwest coast from Washington to Northern California: results from an undergraduate research cruise (poster abstract). In T.W. Droscher and D.A. Fraser (eds). *Proceedings of the 2003 Georgia Basin/Puget Sound Research Conference*. March 31-April 3, 2003, Vancouver, BC.

GRANTS AND AWARDS RECEIVED

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|------|---|
| 2018 | National Association of Geoscience Teachers – my class exercise, “Environmental Justice in Tacoma: A Non-Majors Qualitative Assessment of Pollution and Public Policy in the Local Community,” was accepted into NAGT’s <i>On the Cutting Edge Exemplary Teaching Activity</i> collection |
| 2018 | Pierce County (\$4,632) – “Clarks Creek Restoration Plan – Implementation Phase I” |
| 2018 | Metropolitan Park District of Tacoma (\$20,543) – “Wapato Lake Alum Treatment Monitoring – Phosphorus Budget” |
| 2018 | The Russell Family Foundation Puyallup River Initiative (\$14,500) – SEARCH: Science Education through Authentic Research Collaboration with Higher-ed |
| 2017 | SIAS Research and Teaching Funds (\$5,486) – “Undergraduate Research on Metal Toxicity in Aquatic Organisms.” |
| 2017 | Metropolitan Park District of Tacoma (\$7,756) – “Wapato Lake Alum Treatment Monitoring – Initial Phase” |
| 2017 | National Institutes of Environmental Health Sciences (\$1,954,649) – co-PI on “Arsenic in Shallow Unstratified and Seasonally Stratified Urban Lakes: Mobility, Bioaccumulation and Ecological Toxicity” |
| 2017 | The Russell Family Foundation Puyallup River Initiative (\$16,000) – “YEAR 3: Environmental Education Community of Interest: School district model for implementing environmental education throughout the watershed.” |

2016 UWT Distinguished Community Engagement Award (\$1,000)

2016 WA Dept. of Natural Resources (\$6,800) – “Lake Kapowsin Water Quality Monitoring.”

2016 SIAS Research and Teaching Funds (\$1,707) – “Arsenic v. Phosphorus Competition in Low-Nutrient Marine Waters.”

2016 SIAS Research and Teaching Funds (\$2,500) – “Ecosystem effects of large woody debris in montane lake ecosystems.”

2016 The Russell Family Foundation Puyallup River Initiative (\$6,700) – “YEAR 2: Environmental Education Community of Interest: Higher Education/K-12 Research Partnerships Using NGSS.”

2016 IAS Support Funds (\$4,000) – “Arsenic in Urban Lakes: Mobility, Bioaccumulation and Toxicity.”

2015 National Institutes of Environmental Health Sciences (\$432,000) – co-PI on “Arsenic in Shallow Unstratified and Seasonally Stratified Urban Lakes: Mobility, Bioaccumulation and Ecological Toxicity.”

2015 IAS Support Funds (\$1,750) – “IT and SIAS Collaborative Learning Project: Spirit Lake.”

2015 IAS Support Funds (\$2,500) – “Large woody debris (LWD) as habitat and a source of nutrients in montane lake ecosystems.”

2015 UW Green Seed Fund (\$48,959) – co-investigator on “Carbon Challenge: Footprint Reduction through Curricular Development and Community Building.”

2015 UW Green Seed Fund (\$35,915) – co-investigator on “UWT Husky Lines.”

2015 The Russell Family Foundation Puyallup River Initiative (\$18,000) – “Environmental Education Community of Interest: Higher Education/K-12 Research Partnerships Using NGSS.”

2014 IAS Support Funds (\$4,000) – “Metal uptake and toxicity in plankton and aquatic invertebrates in arsenic-contaminated lakes.”

2014 City of Lakewood (\$42,433) – “Waughop Lake Management Plan.”

2014 UWT Distinguished Teaching Award nominee

2013 E3 Washington Green Apple Award for Formal Educator in a College/University

2013 UWT Distinguished Community Service Award nominee

2013 IAS Funds to Support Research (\$4,418) – “MusselWatch: using metallothioneins as bioindicators of metal stress in Puget Sound mussels.”

2013 Pierce County Surface Water Management (\$1,997) – “Wapato Lake Phosphorus Study.”

2013 IAS Funds to Support Research (\$4,732) – “Geochemical Controls on Metal Bioavailability in Lakes.”

2013 IAS Funds to Support Research (\$5,000) – “Metal Stress and Forest Decline along an Elevational Gradient on Whiteface Mountain, NY.”

2012 UW Undergraduate Research Mentor Award nominee

2012 Pierce County Surface Water Management (\$1000) – “Phosphorus Reduction Study.”

2012 IAS Funds to Support Research (\$3,100+\$2,360) – “Metal Pollution and Forest Decline in the Appalachian Mountains of New England.”

2012 City of Tacoma Make a Splash Grant (\$4,000) – “UWT Green Roof Initiative.”

2011 The Russell Family Foundation (\$28,000) – “Water Undone: the Effort to Save the Puyallup River Watershed (Documentary Post-Production).”

2011 The Russell Family Foundation (\$2,000) – “Documentary Dissemination – Water Undone: the Effort to Save the Puyallup River Watershed.”

2011 UWT Chancellor’s Fund for Research and Scholarship (written with UWT students Chelsie Strowbridge, Amy Leslie and Terri Hurlbut, \$4,700) – “Modeling nutrient sources and sinks in lakes in Mount St. Helens National Monument, Washington.”

2011 Green Partnership Fund, Pierce Conservation District (\$10,000) – “UWT Rain Gardens and Native Plant Interpretive Project.”

2011 UW Husky Green Award nomination – UWT Hood Corridor Planning Team

2011 Pierce Conservation District Stream Team Award – UWT Environmental Program

2010 City of Tacoma, Office of Sustainability, Sustainable Tacoma Grant (\$3,994) – “Energy Reduction in the UWT Science Building: A Model for Campus Sustainability.”

2010 U.S. Forest Service, Pacific NW Research Station award for new research at Mount St. Helens National Volcanic Monument

2010 UW Husky Green Award winner – UWT Environmental Programs

2010 Nominated for the UWT Distinguished Research Award

2010 The Mountaineers Foundation (\$3,000) – “Nutrient Cycling in Spirit Lake Thirty Years after Eruption.”

2010 City of Tacoma, Office of Sustainability (\$1,000) – “Envisioning Tacoma as a Leader in the New Green Economy.”

2010 Russell Family Foundation (\$15,000) – “Puget Sound Nearshore Biomonitoring Study.”

2010 Russell Family Foundation (\$15,000) – “First Creek Volunteer Monitoring and Stewardship Project”

2010 Green Partnership Fund, Pierce Conservation District (\$10,000) – “ISCE Projects: Giving Garden Expansion, Green Building and First Creek Restoration.”

2009 City of Tacoma, Research Contract (\$205,549) – “Wapato Lake Study.”

2009 UW Undergraduate Research Mentor Award (small cash award and engraving)

2009 University of Washington Tacoma, Founders Endowment Grant (\$5,262) – “Undergraduate research field experiences at Mount St. Helens: Building a Bioenergetics Model for Spirit Lake.”

2009 UWT Center for Leadership and Social Responsibility, Curriculum Enhancement Grant (\$1000 submitted with Bridget Mason and Kayomi Wada) – “Service Learning in TESC 410: Environmental Science Senior Seminar.”

2008 Greater Tacoma Community Foundation, Green Partnership Fund (\$23,965 submitted with Bridget Mason and Kayomi Wada) – “Proposal for the Institute for Service to the Community and Environment (ISCE).”

2008 University of Washington Tacoma, Chancellor’s Fund for Research and Scholarship (\$5,000 submitted with Sián Davies-Vollum) – “Urbanization and Metal Pollution in Puget Sound: a Historical Spatial Analysis.”

2008 UWT Center for Leadership and Social Responsibility, Curriculum Enhancement Grant (\$2000 submitted with Bridget Mason) – “Service Learning in TESC 410: Environmental Science Senior Seminar.”

2008 University of Washington Tacoma, Founders Endowment Grant (\$6,413 collaborative proposal submitted by Erica Cline) – “Do Biosolids Cause Tree Stress? Undergraduate Research Assessing Metal Stress in Douglas-fir Trees Treated with Municipal Biosolids and the Role of Mycorrhizal Root Communities in Metal Uptake.”

2007 University of Washington Tacoma, New Program Development Grant (\$15,000) – support for developing pre-allied health offerings at UWT.

2007 University of Washington Tacoma, Founders Endowment Grant (\$5,700) – “Out of Sight, Out of Mind: Urban Water Management Issues in Puget Sound (a video documentary learning tool).”

2006 Norwegian Institute of Science and Technology (~\$10,000) – “Phytochelatin as bioindicators of the role of metal stress in forest decline in Norway.”

2006 University of Washington Tacoma, Chancellor’s Fund for Research and Scholarship (\$5,000) – “Arsenic fate and transport in lakes in south-central Puget Sound.”

2006 Russell Family Foundation (\$10,000) – video documentary of modern urban water quality issues affecting Puget Sound

2006 University of Washington Bergen-Trondheim Faculty Exchange Program (\$1,155) – airfare to Trondheim, Norway, for research on the effects of metal stress on forest decline in Scandinavia

2005 University of Washington Tacoma, Founders Endowment Grant (\$7,500) – “Phytochelatin as bioindicators of the role of metal stress in forest decline in Norway.”

2005 Nominated for UWT Distinguished Teaching Award

2005 Mount St. Helens National Monument Research Pulse (paid participation) – Invited participation in 5-day data collection field camp and research colloquium at Mount St. Helens National Monument, Washington.

2004 NOAA, ECOHAB Program (\$444,216) – “The relationship between paralytic shellfish toxins and *Alexandrium* cysts in Puget Sound, WA.”

2004 University of Washington (\$17,500) – Brotman Award for Teaching Excellence

2004 University of Washington (\$1,000) – Institute for Teaching Excellence

2004 National Science Foundation Regional Workshop (paid participation) – “New approaches and techniques for teaching science: addressing environmental problems to stimulate undergraduate learning.”

2004 Outstanding Student Organization Advisor (nominee) – Project Earth

- 2003 University of Washington Tacoma, Founders Endowment Grant (\$6,600) – “Metallothioneins as bioindicators of metal stress in mussels in Commencement Bay, WA.”
- 2002-2003 UWT Faculty Scholarship Support award (one quarter teaching release)
- 2002 University of Washington Tacoma, Founders Endowment Grant (\$7,600 joint proposal with Cheryl Greengrove, submitted by Cheryl Greengrove) – “Estuarine and sedimentary conditions in Commencement Bay: establishing oceanographic undergraduate research opportunities.”
- 2002 PNNL Equipment Gift and Loan Program (muffle furnace valued at \$1,500)
- 2001 University of Washington Tacoma, Founders Endowment Grant (\$4,924 joint proposal with John Banks, submitted by Jim Gawel) – “Effect of metal stress on broccoli-aphid interactions: greenhouse experiments.”
- 2000 Alliance for Global Sustainability (\$59,973) – “Water for life: an AV-production about the sustainable use of our water resources.”
- 2000 University of Washington Tacoma, Founders Endowment Grant (\$4,332 joint proposal with John Banks, submitted by John Banks) – “Effect of metal stress on broccoli-aphid interactions: field experiments.”

GRADUATE THESES/RESEARCH SUPERVISED

- Stiling, R.R. 2018-2019. *Title TBA*. M.S. Thesis, School of Aquatic and Fisheries Sciences, University of Washington, Seattle, WA.
- Saunders, J.K. 2016. *Evolutionary response of marine bacteria to the co-occurring pnictogens phosphorus and arsenic*. Ph.D. Thesis, School of Oceanography, University of Washington, Seattle, WA.
- Smith, D.N.C. 2016. *The Sustainable Hub for Education and Demonstration*. M.A. Thesis, Interdisciplinary Arts and Sciences Program, University of Washington Tacoma, Tacoma, WA.
- Rader, E. (on hold). *Underdevelopment and hunger: implementing a community garden to reduce food insecurity for a rural Ugandan village*. M.A. Thesis, Interdisciplinary Arts and Sciences Program, University of Washington Tacoma, Tacoma, WA.
- Laakso, A. 2013. *Building Sustainability through Social Marketing: Encouraging Reusable Shopping Bag Use at Stadium Thriftway in Tacoma, WA – A Case Study*. M.A. Thesis, Interdisciplinary Arts and Sciences Program, University of Washington Tacoma, Tacoma, WA.
- LaFontaine, M. 2012. *Assessment and Monitoring of Water Quality in Lake Waughop, a Small Kettle Lake in Lakewood, Washington, as a Service-Learning Project: A Case Study Approach*. M.A. Thesis, Interdisciplinary Arts and Sciences Program, University of Washington Tacoma, Tacoma, WA.
- Roberts, T. 2007. *The Thea Foss Waterway Superfund Site: A Case Study in Community Involvement*. M.A. Thesis, Interdisciplinary Arts and Sciences Program, University of Washington Tacoma, Tacoma, WA.
- Bates, A. 2005. *Environmental Injustice: An Evaluation of Tacoma, Washington*. M.A. Thesis, Interdisciplinary Arts and Sciences Program, University of Washington Tacoma, Tacoma, WA.
- Albaugh, A. 2002. “Metallothionein analysis as a measure of heavy metal stress in the sea anemones *M. senile*, *A. elegantissima*, and *A. artemisia* in Puget Sound, WA.” M.S. in Civil & Environmental Engineering, University of Washington, Seattle, WA.
- MacLaughlin, K.J. 1999. *An Investigation of Arsenic in Spy Pond*. M.Eng. Thesis, Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, Cambridge, MA.

INVITED TALKS/PRESENTATIONS

- 2018 Senior University, Franke Tobey Jones, Tacoma, WA – *Arsenic and Old Lakes: Metal Pollution, Urbanization and the Aquatic Food Chain*
- 2018 UW Bothell Physical Sciences Seminar, Bothell, WA – *Lessons from Loowit: Changes to Nutrient Cycling and Biological Productivity in the New Spirit Lake*
- 2017 UW School of Aquatic and Fisheries Sciences Seminar, Seattle, WA – *Lessons from Loowit: Changes to Nutrient Cycling and Biological Productivity in the New Spirit Lake*
- 2017 Judson Park Retirement Community, Federal Way, WA – *Arsenic and Old Lakes: Metal Pollution, Urbanization and the Aquatic Food Chain*
- 2017 Judson Park Retirement Community, Federal Way – *Lessons from Loowit: Changes to Nutrient Cycling and Biological Productivity in the New Spirit Lake*
- 2017 UW Tacoma Strategic Plan Lightning Talks – *SEARCH: Science Education and Applied Research through Collaboration with Higher-ed*

- 2017 Grit City Drink and Think, Tacoma, WA – *Arsenic and Old Lakes: Metal Pollution, Urbanization and the Aquatic Food Chain*
- 2017 Lakewood City Council Meeting, Lakewood, WA – *Waughop Lake Management Plan*
- 2016 Chambers/Clover Watershed Council, Lakewood, WA – *Waughop Lake Management Plan*
- 2016 UWT Community Engagement Award Presentation, Tacoma, WA – *Building a K-16 Science Community through Authentic Research Collaborations*
- 2016 Pacific Science Center Science Café talk, Kirkland, WA – *Logs and Landslides: 10 Years of Research on Spirit Lake*
- 2016 Steel Lake Advisory Committee, Federal Way, WA – *Arsenic Mobility and Bioavailability in South King County Lakes*
- 2015 Lake Kapowsin Planning Committee Meeting, Graham, WA – *Limnology of Lake Kapowsin*
- 2015 Pacific Science Center Science Café talk, Tacoma, WA – *Logs and Landslides: 10 Years of Research on Spirit Lake*
- 2015 Graduation Speaker for SAMI high school
- 2014 Mount St. Helens Institute Seminar Series, Vancouver, WA – *The New Spirit Lake: Current Hydrology and Nutrient Cycling in a Disturbed Ecosystem*
- 2014 Mount St. Helens Institute Seminar Series, Longview, WA – *The New Spirit Lake: Current Hydrology and Nutrient Cycling in a Disturbed Ecosystem*
- 2014 UW Dept of Environmental and Occupational Health Sciences Seminar Series – *The Long-Term Impact Of Metal Smelting Operations On Arsenic Availability In Urban Lakes Of The South-Central Puget Sound Region.*
- 2013 IAS Brown Bag Seminar Series – *The Long-Term Impact of Metal Smelting Operations in Urban Lakes of the South-Central Puget Sound Region.*
- 2013 Grand Cinema, Science on the Screen – *Alien vs. Spirit Lake: How the 1980 eruption of Mount St. Helens completely changed the ecosystem and chemistry of Spirit Lake.*
- 2013 University of Washington Superfund Research Program (UW-SRP) sponsored agency seminar series at EPA Region 10 (national webinar) - *The Long-Term Impact of Metal Smelting Operations on Arsenic Availability in Urban Lakes of the South-Central Puget Sound Region.*
- 2013 Washington Native Plant Society – Puyallup River documentary and web education project.
- 2012 Pierce County Executive, Sustainability Coalition Meeting – Puyallup River documentary and web education project.
- 2012 Friends of Pierce County – screening of *Water Undone: the Effort to Save the Puyallup River Watershed* at The Grand Cinema for their annual meeting.
- 2011 Chambers-Clover Watershed Council – “Developing a data-intensive nutrient budget for Wapato Lake, Tacoma, Washington, with an eye towards future management.”
- 2011 Tacoma MetroParks – “Developing a data-intensive nutrient budget for Wapato Lake, Tacoma, Washington, with an eye towards future management.”
- 2011 WA Dept. of Ecology – “Nutrient cycling in post-eruption Spirit Lake, Mount St. Helens National Volcanic Monument.”
- 2011 Pierce College (Ft. Steilacoom campus) – screening of *Water Undone: the Effort to Save the Puyallup River Watershed.*
- 2011 Puyallup River Watershed Council (annual retreat keynote presentation) – screening of *Water Undone: the Effort to Save the Puyallup River*
- 2011 Pierce College (Puyallup campus) – screening of *Water Undone: the Effort to Save the Puyallup River*
- 2011 Seattle School District (teachers workshop sponsored by UW College of Education) – screening of *Water Undone: the Effort to Save the Puyallup River*
- 2010 UW Tacoma – screening of *Water Undone: the Effort to Save the Puyallup River*
- 2010 Washington Lakes Protection Association Annual Conference, Tacoma, WA – fieldtrip to Wapato Lake and presentation on nutrient sources and control in urban lakes.
- 2010 Aquatic Ecology Seminar Series, Olympia Forestry Sciences Laboratory, US Forest Service Pacific NW Research Station, Olympia, WA – “Leeches, Logs and Loadings: Constructing a Nutrient Mass Balance for Post-Eruption Spirit Lake.”
- 2010 Fennel Creek Preservation Group, Bonney Lake, WA – “Water Undone: The Effort to Save the Puyallup River Watershed.”

- 2010 UWT Environmental Seminar Series, Tacoma, WA – “Leeches, Logs and Loadings: Constructing a Nutrient Mass Balance for Post-Eruption Spirit Lake.”
- 2010 WSU Vancouver Seminar, Vancouver, WA – “Leeches, Logs and Loadings: Constructing a Nutrient Mass Balance for Post-Eruption Spirit Lake.”
- 2010 Northwest Science Association, Centralia, WA – “Constructing a nutrient mass balance model for post-eruption Spirit Lake, Mount St. Helens National Volcanic Monument, Washington.”
- 2010 Waterfront Tacoma, UWT Urban Studies Community Forum, Tacoma, WA – “Applied Research, Undergraduate Education and Service Learning: The UWT Environmental Science Model.”
- 2009 Washington Lakes Protection Association, Spokane, WA – “The Long-Term Impact of Metal Smelting Operations on Arsenic Availability in Urban Lakes of the South-Central Puget Sound Region.”
- 2009 UWT Environmental Seminar, Tacoma, WA – “The Long-Term Impact of Metal Smelting Operations on Arsenic Availability in Urban Lakes of the South-Central Puget Sound Region.”
- 2008 Friends of Wapato Lake, Tacoma, WA – “Wapato Lake Volunteer Monitoring Program.”
- 2008 Washington State Department of Ecology, Lacey, WA – “The Long-Term Impact of Metal Smelting Operations on Arsenic Availability in Urban Lakes of the South-Central Puget Sound Region.”
- 2008 Seattle University, Department of Civil and Environmental Engineering, Seattle, WA – “The Long-Term Impact of Metal Smelting Operations on Arsenic Availability in Urban Lakes of the South-Central Puget Sound Region, Washington, USA.”
- 2008 American Water Resources Association, Washington Section Dinner Meeting, Seattle, WA – “Urban Water: Sustainability in Balance.”
- 2008 American Fisheries Society, North Pacific International Chapter Annual Meeting, Bellingham, WA – “A Puyallup River Documentary: Population Growth and the Impact on Urban Waters.”
- 2008 Fifth Annual KJC Winter Lecture, Bremerton, WA – “Cities and the Sound: Population Growth and the Impact on Urban Waters.”
- 2006-07 UWTV, Seattle, WA – Cable broadcast and webcast of “Urban Water: Sustainability in the Balance” on multiple dates (<http://www.uwtv.org/programs/displayevent.asp?rid=3271>).
- 2006 Woburn Public Media Center, Massachusetts – Cable broadcast of “Urban Water: Sustainability in the Balance” on multiple dates in February 2006.
- 2005 United States Geological Survey, Tacoma, WA – Presentation of “Urban Water: Sustainability in the Balance.”
- 2005 Sigma Xi Annual Meeting and Student Research Conference, Seattle, WA – “Comparative Analysis of Three Urban Watersheds on Three Different Continents.”
- 2004 Lecture at the University of Puget Sound, Tacoma, WA – “Arsenic Chemistry in Lakes: A Coast to Coast Trip.”
- 2004 Biological Oceanography Seminar Series, UW School of Oceanography, Seattle, WA – “Biological monitoring of metal stress in marine invertebrates using metallothioneins.”
- 2004 Puget Creek Restoration Society, Water Quality Conference, Tacoma, WA – “Modern Urban Water Management Issues.”
- 2003 Environmental Chemistry Speaker Series, UW Dept. of Civil and Environmental Engineering, Seattle, WA – “Pruning trees in two countries in the name of research: biomonitoring for metal stress using phytochelatins.”
- 2001 Graduate Seminar Series, UW Dept. of Civil and Environmental Engineering, Seattle, WA – “Arsenic sources and cycling in a hyper-eutrophic urban lake.”
- 2000 EPA Water Quality Monitoring and Analysis meeting, Olympia, WA – “Groundwater monitoring using phytochelatins and their promise for surface water.”
- 2000 U.S. Geological Survey, Water Science Center Office, Tacoma, WA – “Using phytochelatins to monitor metal stress in trees at environmental exposure levels.”

PROFESSIONAL REGISTRATIONS

Engineer in Training (EIT)

PROFESSIONAL SOCIETIES

American Society of Limnology and Oceanography

Northwest Science Association

Sigma Xi

Washington Lake Protection Association
American Geophysical Union

COURSES TAUGHT

TCORE 102: “Sustainability by the Numbers”
TESC 301: Sustainability in Action
TIAS 305: Seminar in Interdisciplinary Arts and Sciences
TESC 200: Environmental Seminar
TESC 300: Introduction to Environmental Science (lab course)
TESC 303: Sustainable Development in Africa – Study Abroad (field course)
TESC 310: Environmental Research Seminar
TESC 333: Environmental Chemistry (lab course)
TESC 345: Pollution and Public Policy
TESC 347: Maritime History and Science in the Pacific Northwest
TESC 349: Research at Sea (field course)
TESC 410: Environmental Science Senior Seminar
TESC 433: Pollutant Fate and Transport in the Environment (lab course)
TESC 435: Limnology (field course)
TESC 495: Research Experiences for Undergraduates (research-based course)