Jon N. Sweetman

Curriculum Vitae – updated 05/20/2024
Assistant Research Professor • Pennsylvania State University • Department of Ecosystem Science and Management
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Education

2002-2006 **PhD,** Department of Biology, Queen's University, Kingston, Ontario, Canada
Dissertation: Developing the use of Cladocera (Crustacea: Branchiopoda) in paleolimnological and ecological studies in Subarctic North America.
Advisor: Dr. John P. Smol

1998-2001 **MS**, Biological Oceanography, University of Alaska Fairbanks, Fairbanks, Alaska, USA *Thesis:* Factors influencing zooplankton populations in Alaskan sockeye salmon (*Oncorhynchus nerka*) nursery lakes: Insights from limnological and paleolimnological analyses. Advisor: Dr. Bruce P. Finney

1992-1996 **BSc (Honours)** Department of Biology, University of Regina, Regina, Saskatchewan, Canada. *Thesis:* Phytolith Evidence of Vegetation Shifts Across a Fescue Grassland-Aspen Forest Boundary, Prince Albert National Park, Saskatchewan. Advisor: Dr. Mary Vetter

2014 **Masters Certificate in Project Management**. Schulich Executive School of Business, York University, Toronto, Ontario, Canada

Professional Appointments

2021-present **Assistant Research Professor** Department of Ecosystem Science and Management, Pennsylvania State University

2015-2021 **Assistant Professor,** Department of Biological Sciences, North Dakota State University

2008-2021 **Assistant Professor (Adjunct)** Department of Biology, University of Waterloo

2012-2015 **Manager, Water Resources** Alberta Innovates–Energy and Environmental Solutions

2007-2012 **Northern Aquatic Ecologist** Western and Northern Service Centre, Parks Canada

2008-2011 **Associate Fellow** Canadian Rivers Institute, University of New Brunswick.

Peer-reviewed Publications (underline = student co-author) orcid.org/0000-0002-9849-7355/

Submitted or in Revision:

Hu, K., Mushet, D. M., & **Sweetman, J. N** (in Revision) Effects of meteorological variability on water chemistry changes in two hydrologically distinct prairie wetlands, USA, using water isotopes tracers. Journal of Hydrology

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Cornish, C.M. (In Review at Restoration Ecology) Recovery of sediment microbial communities in long-term wetland restorations within the Prairie Pothole Region

Bussarakum, J., Burgos, W.D., Cohen, S.B., Van Meter, K., Sweetman, J.N., Drohan, P.J., Najjar, R.G., Arriola, J.M., Emili, L.A., Warner, N.R. (In Review at Science of the Total Environment) Microplastic Accumulation in Freshwater Sediments: Influence of Organic Matter, Sedimentation Rate, and Land Use.

Refereed papers:

Cornish, C. M., Johnson, O.F., Bansal, S., Meier, J.A., Harris, T.D. & **Sweetman, J**.N. (2024). Common use herbicides increase wetland gas emissions. Science of the Total Environment. 933: 172881. https://doi.org/10.1016/j.scitotenv.2024.172881.

Cornish, C. M., & **Sweetman, J**. (2023). A Perspective on How Glyphosate and 2, 4-D May Impact Climate Change. Frontiers in Environmental Science. https://doi.org/10.3389/fenvs.2023.1282821.

Cornish, C., Bergholz, P., Schmidt, K., **& Sweetman, J. (**2023). How benthic sediment microbial communities respond to glyphosate and its metabolite: A microcosm experiment. Microbial Ecology. https://doi.org/10.1007/s00248-023-02296-6

Hu, K., Mushet, D. M., & **Sweetman, J. N.** (2023). Multiproxy paleolimnological records provide evidence for a shift to a new ecosystem state in the Northern Great Plains, USA. *Limnology and Oceanography*. 68, S54-S70. https://doi-org.ezaccess.libraries.psu.edu/10.1002/lno.12218

McLean, K., Mushet, D., & **Sweetman, J.** (2022). Climate and Land Use Driven Ecosystem Homogenization in the Prairie Pothole Region. *Water*, *14*(19), 3106. https://doi.org/10.3390/w14193106

McLean, K. I., Mushet, D. M., & **Sweetman, J. N.** (2022). Temporal coherence patterns of prairie pothole wetlands indicate the importance of landscape linkages and wetland heterogeneity in maintaining biodiversity. *Frontiers in Ecology and Evolution*, 801. https://doi.org/10.3389/fevo.2022.897872

Holgerson MA, Richardson DC, Roith J, Bortolotti LE, Finlay K, Hornbach D, Barnhart A, Gurung K, Ness A, Andersen MR, Bansal S, Finlay JC, Cianci-Gaskill JA, Hahn S, Janke BD, McDonald C, Mesman JP, North RL, Roberts CO, **Sweetman JN**, Webb JR. (2022). Classifying mixing regimes in ponds and shallow lakes. *Water Resources Research*, *58*(7), e2022WR032522. https://doi.org/10.1029/2022WR032522

Richardson, D.C, Holgerson, M.A., Farragher, M.J., Hoffman, K.K., King, K.B.S., Alfonso, M.B., Andersen, M.R., Cheruveil, K.S., Coleman, K.A., Farruggia, M.J., Fernandez, R.L., Hondula, K.L., López Moreira M., G.A, Paul, K., Peierls, B.L,, Rabaey, J.S., Sadro, S., Sánchez, M.L., Smyth, R.L., **Sweetman, J.N.** (2022). A functional definition to distinguish ponds from lakes and wetlands. *Scientific Reports*, *12*, 10472. https://doi.org/10.1038/s41598-022-14569-0

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Reinl, K. L., Harris, T. D., Elfferich, I., Coker, A., Zhan, Q., Domis, L. N. D. S.,Morales-Williams, A.M., Bhattacharya, R., Grossart, H-P., North R.L., and **Sweetman, J. N.** (2022). The role of organic nutrients in structuring freshwater phytoplankton communities in a rapidly changing world. *Water Research*, 118573. https://doi.org/10.1016/j.watres.2022.118573

McLean, K.I., Mushet, D.M., Newton, W.E., and **Sweetman, J.N.** 2021. Long-term multidecadal data from a prairie-pothole wetland complex reveal controls on aquatic macroinvertebrate communities. 126: 107678. https://doi.org/10.1016/j.ecolind.2021.107678

Labaj, A.L., Jeziorski, A., Kurek, J., Bennett, J.R., Cumming, B.F., DeSellas. A.M., Korosi, J.B., Paterson, A.M., **Sweetman, J.N.,** Thienpont, J.R., Smol, J.P. 2021. Environmental drivers of cladoceran assemblages at a continental scale: a synthesis of Alaskan and Canadian datasets. 66: 949-967. https://doi.org/10.1111/fwb.13689

McLean, K.I., Mushet, D.M., **Sweetman, J.N**., Anteau, M.J. and Wiltermuth, M.T. 2020. Invertebrate Communities of Prairie-Pothole Wetlands in the Age of the Aquatic Homogenocene. Hydrolobiologia. 847:3773–3793. https://doi.org/10.1007/s10750-019-04154-4

Williams, N. and **Sweetman. J.** 2019. Effects of neonicotinoids on the emergence and composition of chironomids in the Prairie Pothole Region. Environmental Science and Pollution Research 26:3862-3868. https://doi.org/10.1007/s11356-018-3683-6

Williams, N. and **Sweetman. J.N**. 2019. Distribution and Concentration of Neonicotinoid Insecticides on Waterfowl Production Areas in West Central Minnesota. Wetlands, 39:311-319. https://doi.org/10.1007/s13157-018-1090-x

Sweetman, J., Sarmaja-Korjonen, K. 2017. First evidence for the occurrence of *Unapertura* spp. (Crustacea, Branchiopoda, Anomopoda, Chydoridae) in North America based on subfossil remains. Journal of Paleolimnology. 58:291-297. https://doi.org/10.1007/s10933-017-9978-7

Balasubramaniam, A.M., R.I. Hall, B.B. Wolfe, **J.N. Sweetman**, X.A. Wang. 2015. Source-water inputs and catchment characteristics regulate limnological conditions of shallow Arctic lakes (Old Crow Flats,Yukon, Canada). Canadian Journal of Fisheries and Aquatic Sciences, 2015, 72:1058-1072. https://doi.org/10.1139/cjfas-2014-0340

MacDonald, L.A., Farquharson, N., Merritt, G., Fooks, S., Medeiros, A.S., Hall, R.I. Wolfe, B.B., Macrae, M.L. and **J. Sweetman.** 2015. Limnological regime shifts caused by climate warming and Lesser Snow Goose population expansion in the western Hudson Bay Lowlands (Manitoba, Canada). Ecology and Evolution. 5:921-939. https://doi.org/10.1002/ece3.1354

Chen, G., Selbie, D.T., Griffiths, K., **Sweetman, J.N.**, Botrel, M., Taranu, Z., Knops, S., Bondy, J., Michelutti, N., Smol, J.P., and I. Gregory-Eaves. 2014. Proximity to ice fields and lake depth as modulators of paleoclimate records: a regional study from southwest Yukon, Canada. Journal of Paleolimnology. 52:185-200. https://doi.org/10.1007/s10933-014-9787-1

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Symons, C.C., Pedruski, M.T, Arnott, S.E. and **Sweetman, J.N.** 2014. Spatial, environmental, and biotic determinants of zooplankton community composition in Subarctic lakes and ponds in Wapusk Naitonal Park, Canada. Arctic, Antarctic and Alpine Research, Special Issue: Environmental Change in the Hudson and James Bay Region, Canada. 46:159-190. https://doi.org/10.1657/1938-4246-46.1.159

MacDonald, L.A., Farquharson, N., Hall, R.I., Wolfe, B.B., Macrae, M.L. and **Sweetman, J.N.** 2014. Avian-driven modification of seasonal carbon cycling at a tundra pond in the Hudson Bay Lowlands (northern Manitoba, Canada). Arctic, Antarctic and Alpine Research, Special Issue: Environment al Change in the Hudson and James Bay Region, Canada. 46:206-217. https://doi.org/10.1657/1938-4246-46.1.206

Symons, C.C., Arnott, S.E., and **Sweetman, J.N**. 2012. Grazing rates of crustacean zooplankton communities on intact phytoplankton communities in Canadian Subarctic lakes and ponds. Hydrobiologia. 694:131-141. https://doi.org/10.1007/s10750-012-1137-6

MacDonald, L.A., Balasubramaniam, A.M., Hall, R.I., Wolfe, B.B. and **Sweetman, J.N.** 2012. Developing biomonitoring protocols for shallow Arctic lakes using diatoms and artificial substrate samplers. Hydrobiologia. 683:231-248. https://doi.org/10.1007/s10750-011-0960-5

Chen, G., Selbie, D.T., Griffiths, K., **Sweetman, J.N**., Botrel, M., Michelutti, N., Smol, J.P., and I. Gregory-Eaves. 2011. Spatio-temporal distributions of sedimentary chironomids from southwestern Yukon lakes and their relationships with environmental conditions. Geohydro 2011 Proceedings. pp. 1-6.

Symons, C.C., Arnott, S.E., and **Sweetman, J.N.** 2011. Nutrient limitation of phytoplankton communities in Subarctic lakes and ponds in Wapusk National Park, Canada. Polar Biology. 35:481-489. https://doi.org/10.1007/s00300-011-1092-0

MacDonald, L.A., Turner, K.W., Balasubramaniam, A.M, Wolfe, B.B., Hall, R.I., and **Sweetman, J.N.** 2011. Tracking hydrological responses of a thermokarst lake in the Old Crow Flats (Yukon Territory, Canada) to recent climate variability using aerial photos and paleolimnological methods. Hydrological Processes. 26:117-129. https://doi.org/10.1002/hyp.8116

Selbie, D.T., **Sweetman, J.N.**, Etherton, P., Hyatt, K.D., Rankin, D.P., Finney, B.P., and J.P. Smol. 2011. Climate change modulates structural and functional lake ecosystem responses to introduced anadromous salmon. Canadian Journal of Aquatic Sciences 68: 675 – 692. https://doi.org/10.1139/f2011-006

DeSellas, A.M., Paterson, A.M., **Sweetman, J.N.**, and Smol, J.P. 2011. Assessing the effects of multiple environmental stressors on zooplankton assemblages in Boreal Shield lakes since pre-industrial times. J. Limnology 70: 41-56. https://doi.org/10.4081/jlimnol.2011.41

Sweetman, J.N., Rühland, K.M. and Smol, J.P. 2010. Environmental and spatial factors influencing the distribution of cladocerans in lakes across the central Canadian Arctic treeline region. J. Limnology 69:76-87. https://doi.org/10.4081/jlimnol.2010.76

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Gregory-Eaves, I., Selbie, D.T., **Sweetman, J.N**., Finney, B.P. and Smol, J.P. 2009. Tracking sockeye salmon population dynamics from lake sediment cores: A review and synthesis. pp 379-393. In: Haro, A. J., K. L. Smith, R. A. Rulifson, C. M. Moffitt, R. J. Klauda, M. J. Dadswell, R. A. Cunjak, J. E. Cooper, K. L. Beal, and T. S. Avery (editors), Challenges for Diadromous Fishes in a Dynamic Global Environment. American Fisheries Society Symposium 69: 379-393, Bethesda, Maryland.

Sweetman, J.N., LaFace, E., Rühland, K.M., and Smol, J.P. 2008. Evaluating the response of Cladocera to recent environmental change in lakes from the Canadian Arctic treeline region. Arctic Antarctic and Alpine Research 40: 584-591. 10.1657/1523-0430(06-118)[SWEETMAN]2.0.CO;2

DeSellas, A.M., Paterson, A.M., **Sweetman, J.N.** and Smol, J.P. 2008. Cladocera assemblages from the surface sediments of south-central Ontario (Canada) lakes and their relationships to measured environmental variables. Hydrobiologia 600: 105-119. https://doi.org/10.1007/s10750-007-9180-4

Wyn, B., **Sweetman, J.N.**, Leavitt, P.R. Donald, D.B. 2007. Historical metal concentrations in lacustrine food webs revealed using fossil ephippia from *Daphnia*. Ecological Applications, 17:754-764. https://doi.org/10.1890/06-0868

Sweetman, J.N. and Smol, J.P. 2006. Reconstructing past shifts in fish populations using subfossil *Chaoborus* (Diptera: Chaoboridae) remains. Quaternary Science Reviews 25:2013-2023. https://doi.org/10.1016/j.quascirev.2006.01.007

Sweetman, J.N. and Smol, J.P. 2006. Patterns in the distribution of cladocerans (Crustacea: Branchiopoda) in lakes across a north-south transect in Alaska, USA. Hydrobiologia 553: 277-291. https://doi.org/10.1007/s10750-005-1333-8

Sweetman, J.N. and Smol, J.P. 2006. A guide to the identification of cladoceran remains (Crustacea: Branchiopoda) in Alaskan lake sediments. Arch. Hydrobiologie (Supplement). 151: 353-394

Sweetman, J.N. and Finney, B.P. 2003. Differential responses of zooplankton populations (*Bosmina longirostris*) to fish predation and nutrient-loading in an introduced and a natural sockeye salmon nursery lake on Kodiak Island, Alaska, USA. Journal of Paleolimnology 30:183-193. https://doi.org/10.1023/A:1025543421436

Finney, B., Gregory-Eaves, I., **Sweetman, J**., Douglas, M., and Smol, J.P. 2000. Impacts of climatic change and fishing on Pacific salmon abundance over the past 300 years. Science 290: 795-799. https//doi.org/10.1126/science.290.5492.795

Published Data sets:

Richardson, D. C., Holgerson, M. A., Farragher, M. J., Hoffman, K. K., King, K. B.S., Alfonso, M. B., Andersen, M. R., Cheruveil, K. S., Coleman, K. A., Farruggia, M. J., Fernandez, R. L., Hondula, K. L., Lopez Moreira, G. M., Paul, K. E., Peierls, B. L., Rabaey, J. S., Sadro, S., Sanchez, M. L., Smyth, R. L., & **Sweetman, J.** (2022). Pond data: physical, chemical, and biological characteristics with scientific and United States of America state definitions from literature and legislative surveys. *EDI Data Portal.* DOI: doi:10.6073/pasta/ec507ac70846b17d0633d95aa3c680c6

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Hu, K., Mushet, D. M., & **Sweetman, J. N.** (2022). Multi-proxy paleolimnological records provide evidence for a shift to a new ecosystem state in the Northern Great Plains, USA. DOI: https://doi.org/10.5061/dryad.8cz8w9gv0

Non-Refereed Contributions:

Sweetman, J.N. 2022. What is a wetland? An ecologist explains. *The Conversation US.* *https://theconversation.com/what-is-a-wetland-an-ecologist-explains-191495*

Sweetman, J.N. 2012. Evaluating water quality status and trends for Tuktut Nogait National Park. Parks Canada. Report for the Western Arctic Field Unit, Parks Canada.

Sweetman J.N. 2012. Water quality of the Brown River, Ukkusiksalik National Park. Report for the Nunavut Field Unit, Parks Canada.

Sweetman, J.N. 2012. Assessment of water quality status and trends for the Firth River, Ivvavik National Park. Report for the Western Arctic Field Unit, Parks Canada.

Sweetman, J.N. 2011.Technical Compendium for Freshwater Ecosystem Indicators. Wapusk National Park State of the Park Report, Parks Canada.

Culp. J, Gantner. N, Gill. M, Reist. J, **Sweetman**, **J**. and Wrona. F. 2011. Development of an Arctic Freshwater Biodiversity Monitoring Plan; Framework document. Circumpolar Biodiversity Monitoring Programme, CAFF Monitoring Series Report No.4, January 2011, CAFF International Secretariat, Akureyri, Iceland. ISBN 978-9935-431-04-2

Monk, W., Culp, J., Lento, J., Reist, J., **Sweetman, J**.,Wrona, F., and Curry, A. 2010. Developing the Canadian Arctic Freshwater Biomonitoring Network. Circumpolar Biodiversity Monitoring Program. Report from the first workshop, December 7-8, 2009 in Victoria, BC

Sweetman. J.N. 2009. Review and Evaluation of Freshwater Monitoring in Northern Parks, A Discussion Paper prepared for: Parks Canada Northern Bioregion Freshwater Working Group

Research Funding,

2023 Chesapeake Bay Foundation, "Assessing the feasibility of assisted macroinvertebrate colonization in achieving ecological uplift in restored streams" (Co-PI with D. Allen and R. Hilderbrand, $313,194)

2023 McIntire-Stennis Grant, *USDA National Institute of Food and Agriculture, "*Assessing the occurrence and potential ecological impacts of tebufenozide in seasonal forested ponds in Pennsylvania." (PI, $178,448)

2023 Pennsylvania Water Resources Research Center, U.S. Geological Survey 104b Grant "Evaluating the spatial and temporal variability of microplastics in freshwater stream macroinvertebrates in Central Pennsylvania" (PI, $25,000 with L Emili, N. Warner and H. Preisendanz Co-PIs)

2022 Institutes of Energy and the Environment (IEE), "Reservoir Phosphorus Legacies: Reconstructing Long-Term Phosphorus Dynamics using Multi-Proxy Paleolimnological

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Analyses and Water Quality Monitoring" (Co-PI with K. van Meter and N. Warner, $30,000)

2021 McIntire-Stennis Grant, *USDA National Institute of Food and Agriculture,* "Evaluating the impacts of gypsy moth (*Lymantria dispar dispar*) outbreaks on forest vernal pool ecosystems," (PI, $180,011)

2019 ND EPSCoR Research Seed Grant "Evaluating the response of prairie wetland communities to glyphosate" (PI, $9,288)

2018 US EPA Region 8 Wetland Program Development Grants (2018-2019) "Ecosystem Services of Restored PPR Wetlands as a Function of Restoration Age." (Co-PI with M. Otte, $230,368)

2017 NDSU-RCA Seed Grant (2017-2018) Assessing the impacts of droughts and floods on the spatial and temporal dynamics of avian influenza viruses. (PI, $5,000)

2016 USGS Great Plains Cooperative Study Unit (2016-2018) Exploration of historic climate change effects on prairie wetlands at the Cottonwood Lake Study Area, North Dakota. PI, $250,000)

2012 Polar Continental Shelf Program (2012) Assessing spatial and temporal variability of freshwater ecosystems in Ukkusiksalik National Park, Nunavut. PI (declined, $24,720)

2009 Canadian Foundation for Climate and Atmospheric Sciences (CFCAS) (2009-2010) Heterogeneity in Northern Climatic Trends: Assessing the Role of Glacial Modulation. Co-PI, $199,500)

2009 Yukon Geological Survey (2009) Heterogeneity in northern climate trends and freshwater resources: the influence of glacial modulation. (Co-PI, $15,000)

2008 NSERC Strategic Project Grants Supplemental Competition (2008-2010) Development and Evaluation of Benthic Algal Bioassessment Methods for Use in Northern Canada. (Collaborator, $191,850)

2007 Parks Canada Western and Northern Service Centre Fund Developing freshwater monitoring protocols for northern parks: Assessing the impacts of multiple environmental stressors on water quality. (PI, $22,000)

2007 International Polar Year Canada (2007-2009) A freshwater hierarchical ecological classification system in northern national parks for selecting sites for ecological integrity monitoring and assessment. (PI, $161,500)

2007 International Polar Year Canada (2007-2009) Development of protocols to monitor the ecological integrity of northern stream ecosystems: Examining potential ecological indicators (EI measures) of functional processes and benthic invertebrate communities in high latitude streams. (Co-PI, $113,500)

Recent Conference Contributions: (underline = student co-author)

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Ward, M.S., and **Sweetman, J.N.** Impact of spongy moth (*Lymantria dispar dispar)* defoliation on vernal pond aquatic insects. Entomology 2023, National Harbor, MD, USA November 2023

Cornish, C.M. and **Sweetman, J.N.** Can Agrochemicals Have an Effect on Greenhouse Gas Production in Freshwater Ecosystems? SETAC North America 44th Annual Meeting, Louisville, KY, USA, November 2023.

Hu, K., Mushet, D.M., and **Sweetman, J.N.** Effects of meteorological variability on water chemistry changes in two hydrologically distinct prairie wetlands, USA, using water isotopes tracers. GLEON 2022 All Hands' Meeting, Lake George, NY, USA, October 2022

Sauskojus, W.**, Sweetman, J.N.,** and Otte, M.L. Aquatic Macroinvertebrates as Indicators of Restoration Success in Prairie Pothole Region Wetlands. Joint Aquatic Sciences Meeting, Grand Rapids Michigan, May 2022

Cornish, C. Bansal, S., Johnson, O., Meier, J., and **Sweetman, J.N.** The Synergistic Role of Herbicides on Methane Emissions from Small Wetlands. Joint Aquatic Sciences Meeting, Grand Rapids Michigan, May 2022

McLean, K., Epele, L.B. and Sweetman, J.N. Environmental Drivers of Wetland Invertebrate Diversity at Different Spatial and Temporal Scales. Joint Aquatic Sciences Meeting, Grand Rapids Michigan, May 2022

Hu, K., Mushet, D.M., and **Sweetman, J.N.** Multi-proxy paleolimnological records provide evidence for a shift to a new ecosystem state, Northern Great Plains. Joint Aquatic Sciences Meeting, Grand Rapids Michigan, May 2022

Cornish, C., Yuan Y., Sauskojus W., Otte, M. and **Sweetman, J.** Evaluating how time since restoration impacts microbial communities in wetland of North Dakota. 2022 North Dakota Water Quality Monitoring Conference. March, 2022

Hu, K, Mushet, D. and **Sweetman, J.** Effects on water chemistry changes in two hydrolofically different praire-pothole wetlands in North Dakota. 2022 North Dakota Water Quality Monitoring Conference. March, 2022

Cornish, C, Bergholz, P. Schmidt, K., and **Sweetman, J.** Glyphosate exposure impacts benthic sediment microbial communities: A microcosm experiment in the Northern Great Plains. Society for Freshwater Science 2021 (Virtual Meeting)

Cornish,C., Bansal, S., Meier, J., Johnson, O. Harris T., Sturm B and **Sweetman J.** Can herbicide loading increase methane emissions in freshwater ecosystems? Great Plains Limnology Conference 2021 (Virtual Meeting)

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Hu, K, **Sweetman, J.** and Mushet, D**.** Multiproxy paleolimnological records provide evidence for a shift to a new ecosystem state in the Northern Great Plains. Great Plains Limnology Conference. October 2020 (Virtual Meeting)

Cornish, C, Bergholz, P. and **Sweetman, J.** Determining benthic sediment microbiome responses to herbicide treatments: A microcosm experiment. . Great Plains Limnology Conference. October 2020 (Virtual Meeting)

Sweetman, JN. Yuan, Y, Ransiear, M. and Otte ML Evaluating ecosystem services of restored prairie pothole wetlands. 8th World Conference on Ecological Restoration. Cape Town, South Africa. September 2019

Hu, K, **Sweetman, J.** and Mushet, D. Evaluating Past Climate Change Effects on Prairie Pothole Wetland Ecosystems Using Paleolimnological Methods. Society of Wetland Scientists Annual Meeting, May, 2019. Baltimore, MD

McLean, K., Mushet, D. and **Sweetman, J.** The Role of Temporally Ponded Wetlands in Maintaining Macroinvertebrate Biodiversity in a Complex of Prairie-Pothole Wetlands. . Society of Wetland Scientists Annual Meeting, May, 2019. Baltimore, MD

Hu, K, **Sweetman, J.** and Mushet, D**.** Understanding intralake seasonal and spatial variability in shallow prairie lake diatom communities: implications for paleolimnological studies. Great Plains Limnology Conference. October 2019 Ames, Iowa

Hu, K and **Sweetman, J.** A long term Investigation of Salinity Change under a Highly Variable Climate in North Dakota). 1st NDWRRI Special Water Resources Seminar (Water Resources Issues in North Dakota Challenges and Opportunities), November 9, 2018. North Dakota State University

McLean, K., Mushet, D. and **Sweetman, J**. Potential Homogenization of Prairie-Pothole Wetland Habitats. North Dakota Chapter of the Wildlife Society. February, 2018. Mandan, ND

Williams, N., Vacek, S., Eash, J, **Sweetman, J.N.** Assessing the Distribution and Concentration of Neonicotinoids across Minnesota's Prairie Pothole region. Minnesota Chapter of the Wildlife Society Annual Meeting, February, 2018, Mandan, MN

Hu,K., **Sweetman, J.N.,** McLean, K.I., and Mushet, D.M. Evaluating past climate change effects on prairie pothole wetland ecosystems using paleolimnological methods. Great Plains Limnology Conference 2018, October, 2018. Lawrence, KS

Sweetman. J.N and Williams, N. Assessing the impact of neonicotinoids on wetland ecosystems in the Great Plains. Great Plains Limnology Conference 2018, October, 2018. Lawrence, KS

McLean, K.I., **Sweetman, J.N.** and Mushet, D.M. Potential Homogenization of Prairie-Pothole Wetland Habitats. North Dakota Chapter of the Wildlife Society Annual Meeting, Mandan, ND February, 2018.

Sweetman, J. Mud and Bugs: Understanding environmental changes in the prairie potholes. NDSU Science Café April 2018 Fargo, ND

Williams, N., Vacek, S., Eash, J, **Sweetman, J.** Assessing the distribution of neonicotinoids across Minnesota's Prairie Pothole Region and their potential effects to aquatic

invertebrates. SETAC North America 38th Annual Meeting. Minneapolis, MN November, 2017.

Williams, N., Vacek, S., Eash, J, **Sweetman, J.** Assessing the distribution and concentration of neonicotinoids across Minnesota's prairie pothole region. Society of Wetland Scientists, North Central Chapter Annual Meeting, Fargo, ND October, 2017.

Sweetman JN and Williams N. Assessing the effects of neonicotinoids on wetland chironomid community structure and emergence in the Prairie Pothole Region. 2017 ESA Annual Meeting, Portland, OR August, 2017.

Williams, N.B., **Sweetman, J.** Assessing the impact of neonicotinoids on the emergence of aquatic invertebrates. North Dakota Chapter of the Wildlife Society Annual Meeting, Mandan, ND February, 2017. (**Winner, Best Student Poster*)

Sweetman JN, Arnott SA, Cote D, Culp JM, Hall RI, McLennan D, Ouimet C, Scrimgeour G, Wolfe BB. Assessing and Monitoring Environmental Change in Freshwater Ecosystems in Canada's Arctic and Subarctic National Parks. IPY2012 Conference, Montreal, QC, April 2012.

Symons C, **Sweetman JN**, and Arnott SA. Evaluating the Impacts of Recent Environmental Changes on Freshwater Ecosystems in Wapusk National Park (Manitoba, Canada). IPY2012 Conference, Montreal, QC, April 2012.

Tondu JE, Turner KW, Balasubramaniam AM, Wolfe BB, Hall RI, McDonald L, Sumi L, and **Sweetman JN.** Implementing a Long-term Monitoring Program to Assess the Ecological Integrity of Northern Lakes in Partnership with Parks Canada. IPY2012 Conference, Montreal, QC, April 2012.

Culp JM, Lento J, Curry RA, Luiker, EA, Cote D and **Sweetman JN**. Latitudinal Shifts in Benthic Macroinvertebrate Communities of Arctic Rivers. IPY2012 Conference, Montreal, QC, April 2012.

MacDonald LA, Fooks S, Farquharson NM, Hall RI, Wolfe BB, and **Sweetman JN**. Multiple Drivers Lead to Nutrient Regime Shifts in Coastal Tundra Ponds of Wapusk National Park (Manitoba, Canada). IPY2012 Conference, Montreal, QC, April 2012.

Balasubramaniam AM, MacDonald LA, Hall RI, Wolfe BB, and **Sweetman JN.** An Integrative Approach to Understanding Factors that Control Hydro-limnological Conditions in a Complex Arctic Wetland Ecosystem: Results and Impacts. IPY2012 Conference, Montreal, QC, April 2012.

Ouimet C, Hermanutz L, Culp J, Bell T, Jacobs J, Whitaker D, Simpson A, Bentley S, **Sweetman J**, Siegwart-Collier L. Watershed-based Monitoring Approach: Flexible Integrated Monitoring of the Ecological Integrity of a Canadian Arctic National Park. IPY2012 Conference, Montreal, QC, April 2012.

Sweetman, J.N, Arnott, S., Farquharson, N.M., Hall, R.I., MacDonald, L.A., McLennan, D., Sharma, R., Symons, C., and Wolfe, B.B. Evaluating the impacts of recent environmental changes on freshwater ecosystems in Wapusk National Park. Canadian Society for Ecology and Evolution. 6th Annual Meeting, Banff, May 2011.

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Assistant Research Professor • Pennsylvania State University • Department of Ecosystem Science and Management
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Symons, C.C., Arnott, S.E., and **Sweetman J.N.** Controls on Phytoplankton Biomass in Subarctic Lakes: Nutrient Limitation and Zooplankton Grazing. Canadian Conference for Fisheries Research/Society for Canadian Limnologists/Society of Wetland Scientists Joint Meeting, Toronto January, 2011

Arnott S.E., Symons,C., **Sweetman, J.N**. Hanschell, J. and Pedruski, M. The impact of environmental change on aquatic communities in Wapusk National Park. Science for a Changing North II – Sudbury Restoration Workshop, Sudbury, Ontario, 2011.

Sweetman, J.N., Arnott, S.E., Balasubramaniam, A., Chute, A., Culp, J.M., Curry, R.A., Hall, R.I., McLennan, D., Ouimet, C., Ritcey, A., Scrimgeour, G., Symons, C., Thomas, K., Turner, K., Wolfe, B. Assessing environmental change in freshwater ecosystems in Arctic and Subarctic national parks. Canadian Conference for Fisheries Research/Society of Canadian Limnologists/Society of Wetland Scientists Joint Meeting, Winnipeg Manitoba, January 2010.

Culp, J.M., Curry, R.A. Brua, R.B., Lento, J., Luiker, E.A., Monk, W., Ritcey, A. **Sweetman J.** and Wrona, F.J. Establishing Legacy Conditions for Canadian Arctic River Biodiversity and Function. International Polar Year Oslo Science Conference, Oslo, Norway, June 8-12, 2010.

Invited Seminars:

2022 "Water Cooler Talk: Pesticides and Water Pollution," Water Cooler Talk, Extension, State College
2021 Intercollege Graduate Degree Program in Ecology Seminar Series, Penn State
2021 Water Insights Seminar Series, Institute for Sustainable Agriculture, Food and Environmental Science, Penn State, State College PA.
2019 Mn Prairie Conservation Plan - Lac qui Parle Local Technical Team, Watson, Mn
2018 NDSU Science Café, “Mud and Bugs - Understanding past environmental changes in the Prairie Potholes” – Fargo, ND
2018 Department of Environmental Science and Policy, University of California Davis
2018 Department of Natural Resource Management, South Dakota State University,
2018 Department of Biology, University of Minnesota Duluth
2017 Department of Biological Sciences, University of Waterloo
2016 Earth Systems Science and Policy Department, University of North Dakota
2016 Minnesota Department of Natural Resources, Bemidji, MN
2015 USFS Northern Research Station, Grand Rapids, MN
2015 NDSU, Environmental and Conservation Sciences Green Bag Seminar, NDSU
2015 USGS Northern Prairie Wildlife Research Station, Jamestown, ND
2015 Department of Biological Sciences, North Dakota State University
2014 Department of Biology, University of Lethbridge
2013 Invited Panelist - Sensible Innovation for Smaller Alberta Communities. WaterWise 2013 Alberta Information Session. Closer to Home Initiative, Edmonton, Alberta
2013 Athabasca River Basin Research Institute Collaborative Research Conference

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2011 Department of Geography, Laurentian University.
2009 Department of Biology, University of Waterloo.

Teaching Experience:

As Instructor:

Penn State University

WFS 497 Aquatic Invertebrate Ecology (Spring 2022, Spring 2023)
WFS 597 Emerging issues in Freshwater Ecology and Management (Spring 2022 & 2023)
WFS 496 Individual Studies (Fall 2022)

As Guest Lecturer:

ECLGY 515 (Guest Lecture, Sept 28, 2022) Advances in Ecology

North Dakota State University

As Instructor:

BIOL 470 Freshwater Ecology and Limnology (Spring 2020, Fall 2020) (and lab)
BIOL 850 Advanced Ecology (Fall 2018)
BIOL 450 Invertebrate Zoology (Spring 2016, Fall 2017, Fall 2019) (and lab)
BIOL 364 General Ecology (Fall 2016, Spring 2017, Spring 2018, Spring 2021)
2019-2020 NATURE Sunday Academy – leading workshop **"***What lives in wetlands*?"
at five North Dakota tribal colleges

Queen's University, Department of Enrichment Studies, Aquatic Biology (2002-2004)

As Teaching Assistant:

- Population Ecology (BIOL 302), Queen's University, 2005.
- Limnology (BIOL 335), Queen's University, 2004
- Animal Behaviour (BIOL 321), Queen's University, 2004
- Community and Ecosystem Ecology (BIOL 303), Queen's University, 2003
- Introduction to Biology (BIOL 101), Queen's University, 2001, 2002.
- Introductory Biology (BIOL 100), University of Regina, 1996.
- Human Biology (BIOL 200), University of Regina, 1995.

Mentoring

Graduate Student Advisees:

Mason Ward (MS) Penn State, Ecosystem Science and Management, 2022 – present
Whitney Sauskojus (MS) NDSU, Environmental and Conservation Sciences 2021-present
Christine Cornish (PhD) NDSU, Environmental and Conservation Sciences 2019-present
Kui Hu (PhD) NDSU, Environmental and Conservation Sciences 2017-2023
Kyle McLean (PhD) NDSU, Environmental and Conservation Sciences 2017-2020
Nathan Williams (MS) NDSU, Environmental and Conservation Sciences 2016-2018

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Morgan Ransiear (MS) NDSU, Environmental and Conservation Sciences 2019 (withdrew)

Graduate Committee Member:
Kierstyn Higgins, MS, Ecology Interdisciplinary Program, Penn State, 2022- present
Alice Belskis, MS, Ecosystem Science and Management, Penn State 2022-present
Heather Husband, MS, Natural Resources Management, NDSU, 2020-present
Lydia Nixon, PhD, Biological Sciences, NDSU, 2019-present
Taylor Young, MS, Natural Resources Management, NDSU, 2018-2020
Gretchen O'Neil, PhD, Environmental and Conservation Sciences, NDSU, 2017-2020
Brandon Paulson, MS, Environmental and Conservation Sciences, NDSU, 2018-2019
Libby Sternhagen, MS**,** Biological Sciences, NDSU, 2017-2018
Ann Balasubramanian, PhD, Biology, University of Waterloo, 2009-2017
Lauren MacDonald, PhD, Biology, University of Waterloo, 2010-2015
Travis Dickson, PhD, Biology, University of British Columbia, Okanogan, 2010-2013
Jana Tondu, MSc, Biology, University of Waterloo, 2011-2013.
Jerry White, MSc, Biology, University of Waterloo, 2010-2011.
Celia Symons, MSc, Biology, Queen's University, 2011-2012.

Undergraduate Student Supervisor and Mentoring:
Caroline Simonsen, Undergraduate Research Assistant, Penn State, 2022
Travis Krivitski, Undergraduate Research Assistant, Penn State, 2022
Ellen Schneider, Undergraduate Research Assistant, NDSU, 2021
Whitney Sauskojus, Undergraduate Research Assistant, NDSU, 2020
Rebecca Tomany, Undergraduate Research Assistant, NDSU, 2019
Brenna Mueller, Undergraduate Research Assistant, NDSU, 2017-2018
Chris Spagnolia, Undergraduate Research Assistant, NDSU, 2017-2019
Reed Junco, Undergraduate Research Assistant, NDSU, 2017-2018
Sara Bachmeier, Undergraduate Research Assistant, NDSU, 2017
Madison Sager, Undergraduate Research Assistant, NDSU, 2017
Katherine Millette, Undergraduate Research Assistant, NDSU, 2016
Aidan Resh, Undergraduate Research Assistant, NDSU, 2016

Awards:
National Academies Education Fellow in the Life Sciences (2016)

Pedagogical Education and Development:

- Participant, Teaching with Transparency: Evidence-Based Approaches to Foster Student Motivation and Engagement, Center for the Integration of Research, Teaching and Learning (November, 2023)
- Participant, Building Mentoring Relationships Workshop Series, North Dakota State University (Spring 2021)
- Participant, Project EDDIE Workshop: Teaching Quantitative Reasoning with Data, Northfield MN (June 2019)

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- *Gateways-ND, Cohort 2 Participant* – NSF funded Learner-focused STEM Instructional Development Program (2016-2018)
- Participant, *Faculty Mentoring Network* (FMN), SimBio and the Quantitative Undergraduate Biology Education and Synthesis (QUBES) project (Fall 2016)
- *National Academies of Science Northstar Summer Institute on Undergraduate STEM Education*, June 6-8, 2016, University of Minnesota, Twin Cities
- NDSU Faculty Teaching and Learning Conferences, attendee (Fall 2015, 2016)
- NDSU Faculty Professional Development Conference, attendee (Fall 2017, 2018)
- *Faculty Professional Development Luncheons*, North Dakota State University
- *Media Training course*, June, 2013, Alberta Innovates–Energy and Environment Solutions
- *Workshop*: "Instructional Strategies for Learning", 2013, Centre for Teaching and Learning, University of Alberta
- *Course*: "Giving and Receiving Feedback", 2011, Canada School of Public Service, Winnipeg, MB
- *Course*: "Developing and Delivering your Message" 2011, Canada School of Public Service, Winnipeg, MB

Professional Societies:

Association for the Sciences of Limnology and Oceanography (ASLO)
Society for Freshwater Science (SFS)
Ecological Society of America (ESA)
Society of Wetland Scientists (SWS)
Association of Mid-Atlantic Biologists (AMAAD)

Professional Service and Outreach:

University

2023-present	Disease and Biological Containment subcommittee, Plantworks Initiative, Penn State University
2023- present	Department of Ecosystem Science and Management DEI committee
2022-present	Wildlife and Fisheries Graduate Program, Qualifying Exam Committee, PSU
2023	Search Committee, Department of Ecosystem Science and Management, Invasive Species Biology and Management Position
2019-2021	Member, Department of Biological Sciences, Undergraduate Affairs Committee, NDSU
2018-2021	NDSU FORWARD Ally (mentor & advocate for gender, sexual orientation and racial equity on the NDSU campus)
2017-2019	Co-organized new "Behavior, Ecology & Evolution Research Seminar" Series with Dr. J. Hamilton
2017-2021	Environment and Conservation Sciences Graduate Program Steering Committee
2016-2019	Chair, Department of Biological Sciences, Public Relations Committee

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2015	Department of Biological Sciences, Public Relations Committee Member
2015	Department of Biological Sciences, Conservation Sciences undergraduate subplan Committee Member

External

2023	Women Angler's Workshop, Trout Unlimited, Spring Creek Chapter, "*An introduction to Aquatic Invertebrates for Fly Fishers*"
2019-2020	NATURE Sunday Academy – developed and lead workshop **"***What lives in wetlands*?" for high school students at five North Dakota tribal colleges
2017	Moderator, NCC Chapter Meeting, Society of Wetland Scientists
2015-2021	ND State Water Quality Monitoring Council
2014-2015	Co-chair, Lake Management Working Group, Alberta Water Council
2014-2015	Alberta Water Research and Innovation Strategy Implementation Committee
2014	Secretariat, International Review Board, Alberta Water Research Institute, Water Research Initiative Grant, Alberta Innovation and Advance Education
2013-2015	Steering Committee Member, Bow Basin Flood Mitigation and Watershed Management Project
2013-2015	Chair, Steering Committee, South Saskatchewan River Basin Water Project
2013-2015	Steering Committee Member, Water Reuse in Alberta
2013-2015	Steering Committee Member, Groundwater Recharge in the Prairies (GRIP)
2013	Co-chair, Aquatic Invasive Species Working Group, Alberta Water Council
2012-2015	Consortium Leadership Group, Member, Canadian Municipal Water Consortium. Canadian Water Network
2012-2014	Steering Committee Member, South Saskatchewan River Basin Climate Adaptation Project
2012-2013	Advisory Board member, Alberta Watershed Toolkit Advisory
2012-2013	Steering Committee, Alberta Epigenetics Network,
2009-2012	Steering Committee Member, Circumpolar Biodiversity Monitoring Program, Freshwater Expert Monitoring Group
2007-2008	Climate Change Adaptation Task Team member, Parks Canada
1999-2000	Student Faculty Representative, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks, Fairbanks, Alaska, USA

Professional Development

2017	Working with Time Series in R Using NEON Data, Portland, OR
2017	Introduction to Community Data Analysis Using the vegan Package in R, Portland, OR
2015	Invited Participant, NSF Food Energy Water Nexus Workshop, Rapid City, SD
2013	Alberta Wetlands: From Classification to Policy, Aquality Environmental, Red Deer, AB
2012	Geomatica Training, PCI Geomatics, Winnipeg, MB
2012	Radarsat-2 Training Course, Noetix Research, Winnipeg, MB
2011	Statistical Analysis of Biological Data in R, CSEE Workshop, Banff, AB
2010	R for Monitoring Natural Resources, Online Course, USGS, Fort Collins, CO

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2008 Canadian Aquatic Biomonitoring Network (CABIN) Training, Canadian Rivers Institute, University of New Brunswick, Fredericton, NB
2008 Introduction to ArcGIS, ESRI Canada, Winnipeg, MB
2002 Chironomid Identification Course, Department of Biology, University of New Brunswick, Fredericton, NB
2001 Introduction to Ostracode Identification, National Water Research Institute, Burlington, ON

Peer Reviewer (*ad hoc*)
Reviewer for*: Aquatic Conservation: Marine and Freshwater Ecosystems*, *Archives of Environmental Contamination and Toxicology, Canadian Journal of Fisheries and Aquatic Sciences, Chemosphere, Climatic Change, Ecological Indicators; Ecotoxicology, Environmental Science and Pollution Research, Environmental Science & Technology; Freshwater Biology; Global and Planetary Change, Hydrobiologia, Journal of Paleolimnology, Lake and Reservoir Management, Plos ONE, Quaternary Research, Scientific Reports, Water, Air & Soil Pollution, Water Quality Journal of Canada, Water Research, Wetlands*