

*Curriculum Vitae (Aug 2016)*

**William V. Sobczak**

Professor, Biology Department	2015 – present
Associate Professor, Biology Department	2008 – 2015
Director of Environmental Studies	2011 – 2015
Assistant Professor, Biology Department College of the Holy Cross (Worcester, MA 01610)	2002 – 2008
Visiting scientist, Harvard Forest LTER	2004 – present

**PROFESSIONAL PREPARATION**

Bucknell University	Biology / English	B.A. 1990
Michigan State University	Zoology / Kellogg Biological Station	M.S. 1993
Cornell University	Ecology and Evolutionary Biology / Institute of Ecosystem Studies	Ph.D. 1999
U.S. Geological Survey	Postdoctoral Associate, Menlo Park, CA	1999-2002

**NOTEWORTHY HONORS AND PROFESSIONAL POSTS**

Co-Investigator, Harvard Forest's NSF Long-term Ecological Research grants 2012 - 2018  
Title: New Science, Synthesis, Scholarship, and Strategic Vision for Society

Associate Editor Ecology, the Ecological Society of America's flagship journal  
Subject Editor: stream ecology (2010 – 2012) (2012 – 2015)

External advisor and reviewer (6 total, Chaired by Dr. Denise Reed): Fall Outflow for Delta Smelt Protection and Water Supply Reliability (FLaSH) (California), one of the nation's largest ecosystem restoration projects

Recipient of the American Society of Limnology and Oceanography's 2004 Raymond Lindeman Award given annually "in recognition of an outstanding paper in the aquatic sciences by a young scientist under the age of 35"

**REFEREED PUBLICATIONS (\* = REU student)**

Raymond, P. A., J. E. Saiers, and W. V. Sobczak. 2016. Hydrological and biogeochemical controls on watershed dissolved organic matter transport: Pulse-shunt concept. *Ecology (Concepts and Synthesis)* 97: 5-16.

- Sobczak, W. V. and P. A. Raymond. 2015. Watershed hydrology and dissolved organic matter export across time scales: minute to millennium. *Freshwater Science (BRIDGES)* 34: 392-398.
- Connolly\*, C. T., W. V. Sobczak, and S. Findlay. 2014. Salinity effects on *Phragmites* decomposition dynamics among the Hudson River's freshwater tidal wetlands. *Wetlands* (doi:10.1007/s13157-014-0526-1).
- Denfeld\*, B. A., K. E. Frey, W. V. Sobczak, P. J. Mann, and R. M. Holmes. 2013. Summer CO<sub>2</sub> evasion from streams and rivers in the Kolyma River basin, northeast Siberia. *Polar Research* 32:19704 (doi:org/10.3402/polar.v32io.19704).
- Mann, P., W. Sobczak, M. LaRue\*, K. Bulygina, A. Davydov, J. Vonk, J. Schade, S. Davydov, N. Zimov, R. Holmes, and R. Spencer. 2013. Evidence for key enzymatic controls on metabolism of Arctic River organic matter. *Global Change Biology* (doi:10.1111/gcb.12416).
- Wilson, H. F., J.E. Saiers, P.A. Raymond, and W.V. Sobczak. 2013. Hydrologic drivers and seasonality of dissolved organic carbon concentration, nitrogen content, bioavailability, and export in a forested New England stream. *Ecosystems* (doi:10.1007/s10021-013-9635-6).
- Vonk JE, Mann PJ, Davydov S, Davydov A, Spencer RG, Schade J, Sobczak WV, Zimov N, Zimov S, Bulygina E, Eglinton TI, Holmes RM. 2013. High biolability of ancient permafrost carbon upon thaw. *Geophysical Research Letters* (doi: 10.1002/grl.50348).
- Bain, D. J., M. B. Green, J. L. Campbell, J. F. Chamblee, S. Chaoka, J. M. Fraterrigo, S. S. Kaushal, S. L. Martin, T. E. Jordan, A. J. Parolari, W. V. Sobczak, D. E. Weller, W. M. Wolheim, E. R. Boose, J. M. Duncan, G. M. Gettel, B. R. Hall, P. Kumar, J. R. Thompson, J. M. Vose, E. M. Elliott, and D. S. Leigh. 2012. Legacy effects in material flux: Structural catchment changes predate long-term studies. *BioScience* 62: 575-584.
- Willacker\*, J. J., W. V. Sobczak, and E. A. Colburn. 2009. Stream macroinvertebrate communities in coupled hemlock and deciduous watersheds. *Northeastern Naturalist* 16: 101-112.
- Rowell\*, T. J. and W. V. Sobczak. 2008. Will stream periphyton respond to increases in light following forecasted regional hemlock mortality? *Journal of Freshwater Ecology* 23: 33-40.
- Collins\*, B. M., W. V. Sobczak, and E. A. Colburn. 2007. Subsurface flowpaths in a forested headwater stream harbor a diverse macroinvertebrate community. *Wetlands* 27: 319-325.

- Rainey\*, J. D., W. V. Sobczak, and S. C. Fradkin. 2007. Zooplankton diel vertical distributions in Lake Crescent, a deep oligotrophic lake in Washington (USA). *Journal of Freshwater Ecology* 22: 469-476.
- Sobczak, W. V. 2005. Lindeman's trophic-dynamic aspect of ecology: Will you still need me when I'm 64? *Bulletin of the American Society of Limnology and Oceanography* 14: 53-57.
- Sobczak, W. V., J. E. Cloern, A. D. Jassby, B. E. Cole, T. Schraga, A. Arnsberg. 2005. Detritus fuels ecosystem metabolism but not metazoan foodweb in the San Francisco Estuary freshwater Delta. *Estuaries* 28: 124-137.
- Aaron M. Ellison, Michael S. Bank, Barton D. Clinton, Elizabeth A. Colburn, Katherine Elliott, Chelcy R. Ford, David R. Foster, Brian D. Kloeppel, Jennifer D. Knoepp, Gary M. Lovett, Jacqueline Mohan, David A. Orwig, Nicholas L. Rodenhouse, William V. Sobczak, Kristina A. Stinson, Pam Snow, Jeffrey K. Stone, Christopher M. Swan, Jill Thompson, Betsy Von Holle, and Jackson R. Webster. 2005. Loss of foundation species: consequences for the structure and dynamics of forested ecosystems. *Frontiers in Ecology and the Environment* 3: 479-486.
- Findlay, S., R. L. Sinsabaugh, W. V. Sobczak, and M. Hoostal. 2003. Metabolic and structural response of hyporheic microbial communities to variations in supply of dissolved organic matter. *Limnology and Oceanography* 48: 1608-1617.
- Sobczak, W. V., J. E. Cloern, A. D. Jassby, and A. Mueller-Solger. 2002. Bioavailability of organic matter in a highly disturbed estuary: The role of detrital and algal resources. *Proceedings of the National Academy of Sciences* 99: 8101-5.
- Sobczak, W. V. and S. Findlay. 2002. Variation in bioavailability of dissolved organic carbon among stream hyporheic flowpaths. *Ecology* 83: 3194-3209.
- Sobczak, W. V., S. Findlay, and S. Dye. 2002. Relationships between DOC bioavailability and nitrate removal in an upland stream: An experimental approach. *Biogeochemistry* 62: 309-327.
- Lovett, G. L., K. W. Weathers, and W. V. Sobczak. 2000. Nitrogen saturation and retention in forested watersheds of the Catskill Mountains, NY. *Ecological Applications* 10:73-84.
- Findlay, S. and W. V. Sobczak. 2000. Microbial communities in hyporheic sediments. IN: *Streams and Ground Waters*. Jones, J. & P. Mulholland (Eds.). Academic Press.
- Burton, T. M., D. G. Uzarski, R. S. Stelzer, S. L. Eggert, W. V. Sobczak, and D. M. Mullen. 2000. The impact of extremely low frequency electromagnetic fields on stream periphyton: an eleven year study. *Hydrobiologia* 439: 61-76.

Sobczak, W. V., L. O. Hedin, and M. J. Klug. 1998. Relationships between bacterial productivity and organic carbon at a soil-stream interface. *Hydrobiologia* 386: 45-53.

Findlay, S., R. O. Hall, and W. V. Sobczak. 1998. Book review: *Methods in stream ecology*. *Limnology and Oceanography* 43: 1020-1021.

Findlay, S. and W. V. Sobczak. 1996. Variability in removal of dissolved organic carbon in hyporheic sediments. *Journal of the North American Benthological Society* 15: 143-154.

Sobczak, W. V. 1996. Epilithic bacterial responses to variations in algal biomass and labile DOC during biofilm colonization. *Journal of the North American Benthological Society* 15: 143-154.

Sobczak, W. V. and T. M. Burton. 1996. Epilithic bacterial and algal colonization among a stream run, riffle, and pool: a test of co-variation. *Hydrobiologia* 332: 159-166.

#### **MANUSCRIPTS IN REVIEW PROCESS**

Schade, J. D., E. C. Seybold, T. Drake, W. V. Sobczak, K. E. Frey, R. M. Homes, N. Zimov. 2015. Nitrogen and phosphorus uptake in headwater streams in the Kolyma basin, East Siberia. *Polar Science*. (Accepted IN PRINT)

#### **UNDERGRADUATE INSTRUCTION**

Freshwater Ecology (BIO233) with integrated field-based laboratory in which students conduct research projects that address regional aquatic ecology issues,

Ecosystem Ecology (BIO331), a capstone-seminar organized around the discussion of topical primary literature that addresses human-accelerated environmental change,

Environmental Science (BIO117), foundation course for Environmental Studies Program,

Contributing instructor for Introduction to Ecology and Biodiversity (BIO163), a core course for Biology and ENVS majors.

#### **NSF RESEARCH GRANTS AND FUNDING**

NSF Polar Programs: “The Polaris Project: Rising Stars in the Arctic” (2008-2010) co-PI  
Lead PI: Dr. R. Max Holmes at Woods Hole Research Center ([www.thepolarisproject.org](http://www.thepolarisproject.org))

NSF-Awarded Research Grant for Polaris Project II: Amplifying the Impact (2011-2015)

Lead PI: Dr. R. Max Holmes, Woods Hole Research Center

Co-Investigator, Harvard Forest's NSF Long-term Ecological Research grants (2012-2018)

Title: New Science, Synthesis, Scholarship, and Strategic Vision for Society

<http://harvardforest.fas.harvard.edu/>

National Science Foundation: Collaborative Research: RUI: The Pulse-Shunt Concept: A conceptual framework for quantifying and forecasting watershed DOM fluxes and transformations at the MacroSystem scale. 2015-2019 (Lead Institution is Yale University- Lead PI: Dr. Peter Raymond)

### **SELECTED CONFERENCE PAPERS AND PUBLISHED ABSTRACTS (2007 – 2014)**

Sobczak, W. V., P. Raymond, E. Boose, and S. Singh. 2007. Annual meeting of the American Society of Limnology and Oceanography in Santa Fe, NM. Title: Allochthonous organic matter export from a hemlock dominated watershed threatened by an invasive forest herbivore.

Sobczak, W. V. 2007. Bi-annual meeting of the Estuarine Research Federation in Providence, RI. Title: Urban stream syndrome and the impairment of downstream estuarine ecosystems: Blackstone River and Narragansett Bay.

Sobczak, W. V. 2008. Bi-annual meeting of the River Management Society. Portland, ME. Title: Urban stream syndrome and the impairment of downstream estuarine ecosystems: Blackstone River and Narragansett Bay.

Sobczak, W. V. and 9 co-authors. 2009. American Geophysical Union meeting in San Francisco, CA. Title: Bioavailability of organic matter in aquatic environments throughout Siberia's Kolyma River watershed during summer baseflow.

Schade, J. E. (one of 12 co-authors). 2009. American Geophysical Union meeting in San Francisco, CA. Title: Assessing biogeochemical cycling and transient storage of surface water in Eastern Siberian streams using short-term solute additions.

Sobczak, W.V. and John Schade. 2010. American Society of Limnology and Oceanography meeting in Santa Fe, NM. Organic matter availability among aquatic habitats in Siberia's Kolyma River watershed.

Sobczak, W. V. and A. Crowley\*. 2010. American Geophysical Union meeting in San Francisco, CA. Dissolved Organic Matter (DOM) Bioavailability among Aquatic Ecosystems in Russia's Kolyma River Watershed During Summer Baseflow.

Vonk, J., W. V Sobczak, P. Mann, E. B. Bulygina, S. A. Zimov, R. M. Holmes. 2010. American Geophysical Union meeting in San Francisco, CA. Title: The Crucial Role of Particulate Matter in Fluvial Degradation of Thaw-Released Arctic Carbon.

Co-author on 9 additional posters at American Geophysical Union meeting in San Francisco, CA, 2010.

Sobczak, W. V. 2011. North American Benthological Society, Providence RI. Title: Partnerships and River Management on the Blackstone River: A Grassroots Effort to Support a Watershed Approach.

Co-author on two student posters at the meeting. Jonathan Jones '11, College of the Holy Cross and Erin Miller '11 Clark University.

Mann, P.J., W. V. Sobczak, J. E. Vonk, A. Davydova, E. Bulygina, J. Schade, S. Davydov, R. M. Specer, S. Zimov, R. M. Holmes. 2012. Enzymatic regulation of organic matter metabolism in Siberia's Kolyma River watershed. Annual Meeting of the European Geophysical Union, Vienna, Austria

Vonk JE, Mann PJ, Davydov S, Davydova A, Spencer RGM, Schade J, Sobczak WV, Zimov N, Zimov S, Bulygina E, Eglinton TI, Holmes RM. High reactivity of ancient permafrost carbon upon hydrological release. European Geosciences Union Annual Meeting, Vienna, Austria, April 2013.

Sobczak, W. V. and R. M. Holmes. Undergraduate education and research in the Siberian Arctic: Polaris Project II. Ecological Society of America, Portland, OR, Aug 2012.

\*LaRue, M., W. Sobczak, E. Bulygina, and R. Spencer. Potential release of dissolved organic matter from sediment due to Arctic coastal erosion. Joint Aquatic Sciences Meeting, Portland, OR, May 2014. Poster presentation.

Raymond, P. A., J. E. Saiers, and W. V. Sobczak. The Pulse-shunt concept. Joint Aquatic Sciences Meeting, Portland, OR, May 2014.

Sobczak, W. V. and P. A. Raymond. How was the global carbon cycle plumbed?: Historical benchmarks in methods, theory, scaling, and serendipity. Joint Aquatic Sciences Meeting, Portland, OR, May 2014.

## **ACADEMIC AND PROFESSIONAL SERVICE**

Director of Environmental Studies Program (2011 -2015), multi-disciplinary program that includes ~12 core faculty members, ~20 majors, and 45 minors  
<http://academics.holycross.edu/environmentalstudies>

Chair of the Presidential Hewlett/Mellon Foundation's Discretionary Funds (2012-2014)  
Academic Affairs Council, Biology Representative (two terms), College of the Holy Cross

Associate Editor for Ecology (subject editor: stream ecology) (2010 – 2015)

Member of the Blackstone River Coalition's Board of Directors (2003-2013)  
The Blackstone River Coalition is a NPO promoting watershed research, education, and outreach. See: [www.zaptheblackstone.org](http://www.zaptheblackstone.org)

Expert reviewer during the appeals process of CA Fish and Wildlife Service's environmental impact evaluation of the federal and state water diversion operations (Sacramento, CA) (Fall and Winter 2009 - 2010) (June, 2011)

National Science Foundation (NSF) Panel: Graduate Fellowships: Ecology (2013)

NSF Panel: Division of Environmental Biology pre-proposals: Ecosystems (Spring 2013)

NSF Panel Division of Environmental Biology full proposals: Ecosystems (Fall 2013)