

CURRICULUM VITAE

Sarah J. Nelson

Director, Ecology & Environmental Sciences
Associate Research Professor, School of Forest Resources
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Education

Ph.D. in Ecology and Environmental Sciences, University of Maine, Orono, August 2007
Advisors: Cynthia S. Loftin and Jeffrey S. Kahl
Committee: Kathleen C. Weathers, Ivan J. Fernandez, Katherine E. Webster
Dissertation: Winter contribution to annual throughfall inputs of mercury and tracer ions at Acadia National Park, Maine

M.S. in Ecology and Environmental Sciences – Water Resources, University of Maine, Orono, May 2002
Advisor: Jeffrey S. Kahl
Thesis: Determining atmospheric deposition inputs to two small watersheds at Acadia National Park

B.A. in Art History, Columbia University, New York, NY, October 1994 (cum laude)

Professional Appointments

2015– Director, Ecology and Environmental Sciences, University of Maine
2015– Adjunct Faculty, Schoodic Institute
2014– Associate Research Professor, School of Forest Resources, University of Maine
2014– Associate Research Professor, Ecology and Environmental Sciences, University of Maine
2014– Associate Research Professor, Senator George J. Mitchell Center, Univ. of Maine
2013– Graduate Faculty, Maine RiSE Center, University of Maine
2008–2014 Assistant Research Professor, Senator George J. Mitchell Center for Environmental and Watershed Research, University of Maine
2012–2014 Assistant Research Professor, School of Forest Resources, University of Maine
2011–2012 Assistant Research Professor, Department of Plant, Soil, and Environmental Sciences, University of Maine
2010–2011 Acadian Internship Coordinator, Quebec Labrador Foundation/Atlantic Center for the Environment
2003–2008 Assistant Scientist, Senator George J. Mitchell Center for Environmental and Watershed Research, University of Maine
2007–2008 Fitz Eugene Dixon Fellow, Acadia Partners for Science and Learning
2003 Interim PEARL Coordinator, Senator George J. Mitchell Center for Environmental and Watershed Research, University of Maine
2002 Intern, Field Office, Congressman John Baldacci, Bangor, Maine
2001–2003 Research Associate and Assistant Scientific Coordinator, Senator George J. Mitchell Center for Environmental and Watershed Research, University of Maine
2000–2001 Research Assistant, Water Research Institute, University of Maine
1999–2000 Graduate Research Assistant, Water Research Institute, University of Maine

1998–1999 Laboratory Aide, Water Research Institute, University of Maine

Honors and Awards

Lead scientist, Collaborative Scientific Research program, Old Town High School 2012–2013

Emerge Maine class of 2010, leadership training for women

Schoodic Research Fellow, 2008-2009: Are we under-estimating mercury burdens in winter soils? A case study at Schoodic Peninsula, Acadia National Park, Maine

Fitz Eugene Dixon Fellow, Acadia Partners for Science and Learning, 2007–2008

L.L. Bean Acadia Research Fellow, 2006: How much is enough? Developing a citizen-based monitoring plan for mercury in paired gauged watershed streams at Acadia National Park

Canon National Park Science Scholar, 2003: Closing the loop on hydrologic and mass balances for a temperate forested park

Poster Awards: Association of Graduate Students Research Expo 2002, Maine Water Conference 2000

Synergistic Activities

Coordinator, Wild Acadia/Science-based conceptual models for Acadia National Park. 2015 – present.

Webinar | Dragonfly Mercury Project 2016: the latest news. With C. Flanagan (NPS-ARD) and C. Eagles Smith & J. Willacker (USGS-FRESC). May 3, 2016.

Vermont Winter Roundtable, Hubbard Brook Research Foundation, invited participant. March 2016, Woodstock, VT.

Lead scientist, Developing indicators for comparative watershed mercury burdens: dragonfly larvae citizen science initiative, with C. Flanagan Pritz (NPS-Air Resources Division), C. Eagles-Smith (USGS), D. Krabbenhoft (USGS) 2011 – present.

Lead Scientist, Acadia Learning project, 2007 – present.

University of Maine Program Level Assessment working group, representative of EES program, 2014 – present.

Fish mercury working group, “Monitoring to Evaluate Temporal Trends and Spatial Patterns in Mercury Concentrations in Fish of New York State”, C. Driscoll, convener. 2014 – present.

Session leader, NERC 2015 conference (Winter biogeochemistry and multiple stressors proposed sessions), 2014.

Steering Committee member, Northeastern Ecosystem Research Cooperative (NERC), 2013 – 2017 term.

Member, Science Community Working Group for the Acadia Centennial, 2014 – present.

Webinar: Hg in Dragonfly project | WEBINAR on Interpretive Tools. Led webinar presented to ~50 National Park Service staff and citizen scientists regarding ongoing dragonfly mercury research. With C. Flanagan (NPS-ARD) and H. Webber (Schoodic Institute). January 23, 2014.

Invited participant (of 15), National Park Service and AAAS Scholarly Pursuits Workshop, Yosemite National Park, 19 – 21 September 2013.

Collaborative research, lead scientist, Old Town High School dragonfly mercury study. School year 2012 – 2013.

Panelist, Integrating STEM Education Research into Teaching: Knowledge of Student Thinking-- National Conference, June 20-22, 2012. University of Maine, Orono, ME.

Panelist, Designing effective broader impact projects involving scientists, K-12 teachers and students May 10, 2012, UMaine RiSE Center.

Convener, Teachers' Data Literacy Workshop at International BIOGEOMON 2012 Conference, Northport, Maine, July 15-20, 2012, in collaboration with S. Norton, I. Fernandez, M. Schauffler, B. Zoellick, H. Webber.

Society for Environmental Toxicology and Chemistry (SETAC) Exploratorium mercury workgroup; development of an interactive exhibit for high school students at SETAC's annual meeting in November, 2011. In collaboration with A. Elskus, C. Chen, D. Taylor, A. Jackson. Materials now available online: <http://participatoryscience.org/mercury-watersheds/optional-activity-sources-biomagnification-and-fish-cards>

Assisted NPS - Acadia and ARD (CO) with mercury outreach efforts; NPS-ARD webinar: Impacts of Airborne Mercury on Resources in Northeast National Parks--Getting Involved. September 7, 2011 and invited presentation to ANP interpreters; follow-up to develop Park-wide bio-monitoring for mercury with ARD; developing priority messages for mercury with Acadia NP and NPS-ARD.

Convener, Mercury in Acadia and northeast protected areas: A working group charged with developing research priorities that address natural resource managers' questions about mercury in the environment, April 2011. In collaboration with NPS-ARD, NPS-Acadia, SERC Institute

Consultant (including convening a UMaine team), National Park Service. 2011. Scientific Assessment of Yellowstone National Park Winter Use.187p.

Consultant to Science Advisor for National Park Service, Fall 2010

Consultant, National Park Service-Air Resources Division, Mercury science at Acadia outreach and coordination initiative ([Fact Sheet](#), [Video podcast](#), [Webpage content](#)), summer 2010

Steering committee member, Acadian Internship in Regional Conservation and Stewardship, 2010 – present

Steering committee member, Downeast and Acadian Initiative, 2010 – present

Maine Water Conference, Science Program Chair, 2010 – 2014

Co-convenor, AGU fall meeting (2 sessions regarding mercury biogeochemistry), December 2009

Public access to Acadia National Park Data initiatives: Acadia Science Web site team leader, 2010-present; Acadia Web Portals working group, coordinator, 2009 – 2010; Acadia Learning web site supervisor, 2010

Board member, Maine Lakes Conservancy Institute, 2007 – 2010

January Intersession for High School Students at Schoodic Education and Research Center - Winter watershed geochemistry field class: factors affecting mercury in winter soils, January 2008

Co-Chair, Landscape Change session, Maine Water Conference, 2007

January Intersession for High School Students at Schoodic Education and Research Center - Winter watershed geochemistry field class: Geochemical signatures across the landscape, January 2007

Appalachian Trail Environmental Monitoring Program, Water Quality Working Group, 2006 – 2007

Guest editor (with co-editor J.S. Kahl), Environmental Monitoring and Assessment special issue, 2007: Mercury and nitrogen biogeochemistry in paired watershed studies at Acadia National Park, Maine, USA. Volume 126, Numbers 1-3

Coordinator, University of Maine Mercury Research Group, 2006 – 2008

Northeast Temperate Network Water Quality Monitoring Workgroup, 2006

Acadia Research Opportunities Catalog Physical Sciences Panel, 2006

Maine Water Conference Organizing Committee, 2004 – present

Co-chair, Maine Water Conference, 2004

Coordinator, Watershed Research Group, University of Maine, 2001 – 2005

Co-editor (with K.B. Johnson), Maine Water Conference: Abstract Guide and Conference Program, 2002

Data coordinator, New England Governors and Eastern Canadian Premiers' Acid Rain Steering Committee, 2001 – 2002

Co-editor (with J. M. Peckenham and J.S. Kahl) Proceedings: Planning for water use and water availability in Maine in a changing climate, July 26, 2000.

Peer Reviewed Journal Publications

Strock, K.E., J.E. Saros, **S.J. Nelson**, S.D. Birkel, J.S. Kahl, W.H. McDowell, 2016. Extreme weather years drive episodic changes in lake chemistry: Implications for recovery from sulfate deposition and long-term trends in dissolved organic carbon. *Biogeochemistry* 127:353–365

Pritz, C.F., **S. Nelson**, C. Eagles-Smith. 2014. The Call to Action Collect Dragonflies. *Park Science* 31(1): 74–77.

Webber, H., **S.J. Nelson**, R. Weatherbee, B. Zoellick, M. Schauffler, 2014. The Graph Choice Chart: A tool to help students turn data into evidence. *The Science Teacher*, November 2014.

Strock, K., **S. Nelson**, J. Kahl, J. Saros, W. McDowell, 2014. Decadal trends reveal recent acceleration in the rate of recovery from acidification in the northeastern US. *Environ. Sci. Technol.* 48(9):4681-4689.

Nelson, S.J., K.E. Webster, C.S. Loftin, K.C. Weathers, 2013. Shifts in controls on the temporal coherence of throughfall chemical flux in Acadia National Park, Maine, USA. *Biogeochemistry* 116(1-3): 147-160. DOI: 10.1007/s10533-013-9884-7.

Harris, T.B., N. Rajakaruna, **S.J. Nelson**, P.D. Vaux. 2012. Stressors and Threats to the Flora of Acadia National Park, Maine: Current Knowledge, Information Gaps, and Future Directions. *Journal of the Torrey Botanical Society* 139(3):323-344.

Loftin, C.S., A.J.K. Calhoun, **S.J. Nelson**, A. Elskus, K. Simon, 2012. Mercury Bioaccumulation in Wood Frogs Developing in Seasonal Pools. *Northeastern Naturalist* 19(4):579–600.

Zoellick, B., **S. Nelson**, M. Schauffler, 2012. Participatory Science and Participatory Education: Bringing Both Views into Focus. *Invited, Frontiers in Ecology & the Environment*, 10(6): 310–313, doi:10.1890/110277.

Sancléments, M., G. Oelsner, D. McKnight, **S.J. Nelson**, J. Stoddard, 2012. New insights into the source of decadal increases of dissolved organic matter (DOM) in acid-sensitive lakes of the northeastern U.S. *Environmental Science and Technology* 46(6): 3212–3219; DOI: 10.1007/s11356-009-0176-7.

Godsey, S.E., J.W. Kirchner, M. Palucis, H. de Wit, B.L. Skjelkvåle, W. Aas, C. Neal, M. Neal, **S.J. Nelson**, S. Kahl, S. Norton, I. Fernandez, I. Malcolm, D. Tetzlaff, C. Soulsby, I. Dennis, T. Clair. 2010. Generality of Fractal 1/f Scaling in Catchment Tracer Time Series, and its Implications for Catchment Travel Time Distribution. *Hydrological Processes* 24(12):1660-1671.

Navrátil, T., S.A. Norton, I.J. Fernandez, **S.J. Nelson**, 2010. Twenty-year inter-annual trends and seasonal variations in precipitation and stream water chemistry at the Bear Brook Watershed in Maine, USA. *Environ. Monit. Assess.* 171:3-21.

Nelson, S.J., I.J. Fernandez, J.S. Kahl, 2010. A review of mercury concentration and deposition in snow in eastern temperate North America. *Hydrological Processes* 24: 1971-1980.

Nelson, S.J., 2009. Mercury in snow at Acadia National Park reveals watershed dynamics. *Park Science*, 26(1): 35-38.

Nelson, S.J., K.B. Johnson, K.C. Weathers, C.S. Loftin, I.J. Fernandez, J.S. Kahl, D.P. Krabbenhoft, 2008. A comparison of winter mercury accumulation at forested and no-canopy sites measured with different snow sampling techniques. *Appl. Geochem.*, 23(3), 384-398.

Kahl, J.S., **S.J. Nelson**, I. Fernandez, T. Haines, S. Norton, G.B. Wiersma, G. Jacobson Jr., A. Amirbahman, K. Johnson, M. Schauffler, L. Rustad, K. Tonnessen, R. Lent, M. Bank, J. Elvir, J. Eckhoff, H. Caron, P. Ruck, J. Parker, J. Campbell, D. Manski, R. Breen, K. Sheehan, A. Grygo, 2007. Watershed nitrogen and mercury geochemical fluxes integrate landscape factors in long-term research watersheds at Acadia National Park, Maine, USA. *Environ. Monit. Assess.*, 126 (1-3): 9-25.

Schauffler, M., **S.J. Nelson**, J.S. Kahl, G.L. Jacobson Jr., T.A. Haines, W.A. Patterson III, K.B. Johnson, 2007. Paleoecological assessment of watershed history in PRIMENet watersheds at Acadia National Park, USA. *Environ. Monit. Assess.*, 126 (1-3): 39-53.

Nelson, S.J., K.B. Johnson, J.S. Kahl, T.A. Haines, I.J. Fernandez, 2007. Mass balances of mercury and nitrogen in burned and unburned forested watersheds at Acadia National Park, Maine, USA. *Environ. Monit. Assess.*, 126 (1-3): 69-80.

Peckenham, J.M., J.S. Kahl, **S.J. Nelson**, K.B. Johnson, T.A. Haines, 2007. Landscape Controls on Mercury in Streamwater at Acadia National Park, USA. *Environ. Monit. Assess.*, 126 (1-3): 97-104.

Dupont, J., T.A. Clair, C. Gagnon, D.D. Jeffries, J.S. Kahl, **S.J. Nelson**, J.M. Peckenham, 2005. Estimation of critical loads of acidity for lakes in northeastern United States and eastern Canada. *Environ. Monit. Assess.*, 109(1-3): 275-292.

Kahl, J.S., **S.J. Nelson**, J.L. Stoddard, S.A. Norton, T.A. Haines, 2004. Lakewater Chemistry at Acadia National Park, Maine, in Response to Declining Acidic Deposition, in *Protecting our Diverse Heritage: The Role of Parks, Protected Areas, and Cultural Sites*. Proceedings of the George Wright Society/National Park Service Joint Conference, April 14-18, 2003, San Diego, CA. D. Harmon, B.M. Kilgore, G.E. Vietzke, eds. The George Wright Society, Hancock, MI. pp. 314-321.

Campbell, J.L., J.W. Hornbeck, M.J. Mitchell, M.B. Adams, M.S. Castro, C.T. Driscoll, J.S. Kahl, J.N. Kochenderfer, G.E. Likens, J.A. Lynch, P.S. Murdoch, **S.J. Nelson**, and J.B. Shanley, 2004. Input-output budgets of inorganic nitrogen for 24 forest watersheds in the northeastern United States: A review. *Water Air Soil Pollut.* 151: 373-396.

Invited Scholarly Papers and Talks

Nelson, S.J., C.Y. Chen, D.P. Krabbenhoft, J.S. Kahl, 2016. Beyond “hotspots” – dragonfly bio-sentinels describe vulnerability (or not) of northeastern lakes and their foodwebs to mercury accumulation. New England Association of Environmental Biologists, March 25, 2016, Rockport, ME.

Nelson, S.J., H. Webber, C. Flanagan Pritz, M. Marion. 2015. The Dragonfly Mercury Project: Citizen scientists contribute to national-scale research in national parks. NAC SETAC MEETING, June 11–12, 2015, Freeport, ME.

Schauffler, M, **S.J. Nelson**. 2015. Does data literacy fall between the cracks? School of Forest Resources Seminar Series. April 10, 2015.

Nelson, S.J., H. Webber, Zoellick, J. Saros, I. Fernandez, 2014. The future of four seasons in Maine a Scientist-Teacher-Student Partnership. NOAA B-WET Grantees meeting, Sept. 18, 2014, Gloucester, MA.

S.J. Nelson, 2014. Freshwater biogeochemistry: a space-time odyssey. School of Forest Resources Faculty Blitz. Sept. 12, 2014.

Nelson, S.J., C. Flanagan, C. Eagles-Smith, D. Krabbenhoft, B. Zoellick, H. Webber, M. Schauffler, R. Weatherbee, B. Bisson, 2014. Dragonfly larvae as sentinels of mercury contamination in Acadia and beyond: Engaging citizen scientists in national-scale research. Acadia Science Symposium. April 16, 2014.

Schauffler, M., **S.J. Nelson**, H. Webber, 2014. Practice #4 , Analyze and Interpret Data: A Framework for Teaching Data Literacy. 2014 RiSE National Conference, “Integrating STEM Education Research and Teaching: Using Assessment to Guide Practice”, June 20–22, 2014, University of Maine, Orono, Maine.

Nelson, S.J., C. Flanagan, C. Eagles-Smith, D. Krabbenhoft, C. Chen, R. Haro, H. Webber. 2013. Dragonfly larvae as mercury bio-sentinels. WNAMS, Sept 19, 2013.

Schauffler, M., H. Webber, **S. Nelson**, R. Weatherbee, B. Zoellick, 2014. The Acadia Learning Data Literacy Project: A framework for using data in science classrooms. Mathematics And Science Partnerships, Community of Practice Meeting, Augusta, ME, February 7, 2014

S.J. Nelson, 2013. School of Forest Resources Faculty Blitz. Sept. 13, 2013.

Nelson, S.J., B. McDowell, S. Kahl, J. Saros, A. Baumann, K. Strock, I. Fernandez. Northern New England Update. LTM Network Cooperators’ Meeting, Troy, NY, June 2–4, 2013.

Saros, J., **S. Nelson**, K. Strock, R. Brown, K. Boeff. Assessing threats of changing climate to drinking water quality. LTM Network Cooperators’ Meeting, Troy, NY, June 2–4, 2013.

Schauffler, M., Webber, H., **Nelson, S.J.**, and Zoellick, W., The Acadia Learning Data Literacy Project: A framework for using data in science classrooms. Cary Institute for Ecosystem Studies research seminar, March 7, 2013.

Nelson, S.J., 2013. Who’s the expert here? Collaborative mercury research in the Acadia Learning Project. Maine Center for Research in STEM Education (The Maine RiSE Center), January 30, 2013.

Nelson, S.J., B. Zoellick, H. Webber, B. Bisson, M. Schauffler. Acadia Learning: When teenaged field assistants meet the six-legged bio-sentinel. 6th Biennial National Education Research Conference: “Integrating Science and Mathematics Education Research into Teaching: Knowledge of Student Thinking”. University of Maine, Orono, ME, June 20–22, 2012.

Nelson, S.J. The Six-legged Mercury Sampler: dragonfly larvae as bio-sentinels. Acadia National Park Interwoods - Seasonal Training, College of the Atlantic Campus, Bar Harbor, ME, June 16, 2012.

Nelson, S.J. An Acadia Learning STSP: Developing dragonfly larvae as bio-sentinels for mercury. Maine Center for Research in STEM Education (The Maine RiSE Center), Designing effective broader impact projects involving scientists, K-12 teachers and students May 10, 2012.

Webber, H., B. Zoellick, **S. Nelson**, B. Bisson. Evidence of the argument: Using student posters to investigate the strength of student ability to present a scientific argument. Maine Center for Research in STEM Education (The Maine RiSE Center), Maine RiSE Center Colloquia & Seminar Series, University of Maine, Orono, ME, March 19, 2012.

Schauffler, M., B. Zoellick, **S. Nelson**, M. Steinman. The Data Literacy Project: Investigating (and improving) how students apply data skills in science investigations. Maine Center for Research in STEM Education (The Maine RiSE Center) Maine RiSE Center Colloquia & Seminar Series, University of Maine, Orono, ME, February 20, 2012.

Nelson, S.J. Are you where you live or what you eat? Developing dragonfly larvae as bio-sentinels for mercury. Keynote lecture; Twin States Mercury Project, Dartmouth College, Hanover, NH, February 15, 2012

Nelson, S.J. Atmospheric deposition of mercury at Acadia National Park: no such thing as 'pristine'. School of Forest Resources noontime seminar, November 11, 2011.

Nelson, S.J., B. Zoellick, H. Webber, 2011. Dragonfly larvae as bio-sentinels for mercury in the Northeast: Interdisciplinary citizen science research. NPS-ARD webinar: Impacts of Airborne Mercury on Resources in Northeast National Parks--Getting Involved. September 7, 2011.

Nelson, S.J., 2011. Mercury in Acadia: Local, regional, and global influences. Presentation to interpretive division and resource management, Acadia National Park, July 20, 2011.

Nelson, S.J., P. Vaux, M.J. James-Pirri. Data-driven assessments of National Park resources. Acadian Internship in Regional Conservation and Stewardship, July 15, 2011.

Nelson, S.J., 2010. Finding mercury in Maine: Local, regional, and global influences. Husson University Environmental Club lecture series, March 30, 2010.

Nelson, S.J., 2009. Finding mercury in Maine: Local, regional, and global influences. Maine Maritime Academy lecture series, Dec. 7, 2009.

Kahl, J.S., **S. Nelson**, A. Baumann, and B. McDowell, 2009 (invited). Long-term trends in lake chemistry in the northeastern U.S. and indicators of recovery from acidic deposition. EPA LTM/TIME workshop, Penn State, June, 2009.

Nelson, S.J., I.J. Fernandez, J.S. Kahl, 2008. Mercury concentration and deposition in snow in eastern temperate North America. Proceedings of the 65th Annual Eastern Snow Conference, Fairlee, VT, May 28-30, 2008, pp. 73-86.

Nelson, S.J., P.D. Vaux, Mary-Jane James-Pirri, C. Schmitt, 2008. Benchmarks for assessing the condition of natural resources in National Park Units: the challenges of heterogeneous data. Boston Harbor Islands Science Symposium, October 3, 2008.

Nelson, S.J., I. Fernandez, S. Norton, B. Wiersma, L. Rustad, J.S. Kahl, 2008. The Bear Brook Watershed in Maine: Long-term research supporting climate change inquiry. Hydroclimatic effects on ecosystem response: participant workshop, Syracuse, NY, September 19, 2008.

Nelson, S.J., K.B. Johnson, J.S. Kahl, I.J. Fernandez, 2006. Watershed mercury geochemical fluxes integrate landscape factors in long-term research watersheds. New England Interstate Water Pollution Control Commission 2006 Northeast Regional Mercury Science & Policy Conference, Newport, RI, April 26-27, 2006.

Kahl, J.S., **S. Nelson**, A. Grygo, 2004. Surface water chemistry data for the northeastern US for interpreting climate and acid rain trends. Northeast Ecosystems Research Consortium meeting, Durham, NH, October, 2004.

Nelson, S.J., J.S. Kahl, I.J. Fernandez, K.B. Johnson, 2002. Patterns in N and Hg processing in Lakes and streams across Maine. NERAQC (Northeast Regional Air Quality Committee) Annual Meeting, June 4-5, 2002, Hubbard Brook Experimental Forest Station, NH.

Vidito (**Nelson**), **S.J.**, J.S. Kahl, I.J. Fernandez, S.A. Norton, B. Wiersma, G. Jacobson, 2001. Inferring regional patterns and responses in N and Hg biogeochemistry using gauged paired watersheds at Acadia National Park. PRIMENet Annual Meeting, November 5-8, 2001, Hawaii-Volcanoes National Park, HI.

Vidito (**Nelson**), **S.J.**, J.S. Kahl, S.A. Norton, I.J. Fernandez, C. Cronan, A. White, D. Manski, T.A. Haines, L. Rustad, K. Weathers, 2001. Watershed Inputs: Wet-only, Bulk, and Throughfall Chemistry at Acadia. ARIA (Aquatic Research at Acadia) March 27, 2001, Bar Harbor, ME.

Vidito (**Nelson**), **S.J.**, J.S. Kahl, I.J. Fernandez, C. Cronan, A. White, 2000. The Evolution of Streamwater Chemistry as a Function of Landscape Controls on Deposition Inputs. ARIA (Aquatic Research at Acadia), Orono, ME.

Contributed Scholarly Papers and Talks

Nelson, S.J., C.Y. Chen, D.P. Krabbenhoft, J.S. Kahl, 2016. Beyond “hotspots” – dragonfly bio-sentinels describe vulnerability (or not) of northeastern lakes and their foodwebs to mercury accumulation. American Society for Limnology and Oceanography, June 6, 2016, Santa Fe, NM.

W.H. McDowell, **S.J. Nelson**, J.D. Potter, 2015. DOC concentrations of New England (USA) lakes: is there a response to changing atmospheric deposition? Acid Rain 2015, Rochester, NY, Oct. 19–23, 2015.

McDowell, W.G., K. Webster, **S.J. Nelson**, W.H. McDowell, J.F. Haney, 2015. Regulation and results: biotic and abiotic changes to northeastern lakes following tightening of air emissions rules. Society for Freshwater Science (SFS) Annual Meeting, May 17–22, 2015, Milwaukee, Wisconsin.

Pritz, C.F., **S. J. Nelson**, 2015. Science with Citizens – An Update on the Dragonfly Mercury Study (Organizer and presenter; talk title: Putting the "bio" in "biogeochemist" - tracing mercury from air to water to biota), 2015 George Wright Society Conference on Parks, Protected Areas, and Cultural Sites, March 29–April 2, 2015, Oakland, CA.

Flanagan Pritz, C.M., T.F. Blett, P. Penoyer, C.A. Eagles-Smith, J.J. Willacker, Jr., J.E. Schrlau, S.L. Massey Simonich, **S.J. Nelson**, K. Keteles, 2014. Contaminants in Remote U.S. National Parks. SETAC North America Annual Meeting. Nov. 9–13, 2014.

Sherman, E., **Nelson, S.J.** Mercury deposition in New England: high school students get their feet wet for citizen science. NSTA National Conference, Boston, MA. April 4, 2014.

Appling, A.P., W.H. McDowell, J.D. Potter, **S.J. Nelson**, J.S. Kahl, 2014. From the frying pan into the fire? Lake greenhouse gas responses to acid rain recovery. Joint Aquatic Sciences Meeting. Portland, OR, May 18 – 23, 2014.

Strock, K.E., J.E. Saros, **S.J. Nelson**, S. Birkel, 2014. Interactive effects of extreme weather and reduced sulfate deposition: accelerated recovery from acidification and increased brownification in lakes of the Northeast U.S. Association for the Sciences of Limnology & Oceanography, Portland, OR, May, 2014.

Brown, R.E., J.E. Saros, **S.J. Nelson**, 2014. Algal community response to increases in dissolved organic carbon over recent decades. 22nd Annual Harold W. Borns Jr. Symposium, Orono, ME, USA, April, 2014.

S.J. Nelson, 2013. School of Forest Resources Faculty Blitz. Sept. 13, 2013.

Brown, R.E., Saros, J.E. & **S.J. Nelson**. 2013. Algal community response to increases in dissolved organic carbon: Implications for drinking water utilities. Poster presentation. North American Diatom Symposium, Bar Harbor, ME, August, 2013.

Flanagan, C., **S.J. Nelson**. Citizen Scientists Study Mercury in Dragonfly Larvae from National Parks. NAI (National Association of Interpreters) National Workshop, Reno, Nevada, Nov. 5-9, 2013.

Bisson, B., **S. Nelson**, H. Webber. Guiding Students in the Preparation and Presentation of Research Posters. No Question Left Behind: Teaching and Learning in the Context of the Next Generation Science Standards and the Common Core State Standards in Mathematics. Lincolnville, Maine, June 18–20, 2013.

Brown, R.E., J.E. Saros, **S.J. Nelson**. Algal community response to increases in dissolved organic carbon in Maine lakes: implications for drinking water utilities. 21st Annual Harold W. Borns Jr. Symposium, Orono, ME, USA, April, 2013.

Strock, K.E., J.E. Saros, S. Birkel, **S.J. Nelson**, 2013. Exploring the effects of extreme hydrologic events in the northeastern U.S.: Implications for brownification and episodic acidification in Maine Lakes. 21st Annual Harold W. Borns Jr. Symposium, Orono, ME, USA, April, 2013.

Nelson, S.J., C. Chen, D.P. Krabbenhoft, J.S. Kahl, 2013. Dragonfly larvae as mercury bio-sentinels: a statistical survey of northeast lakes reveals landscape-driven patterns in water and biota mercury concentrations. NERC (Northeastern Ecosystems Research Cooperative) meeting, March 19–20, 2013, Saratoga Springs, NY.

Strock, K.E.D., J.E. Saros, **S.J. Nelson**. 2013. The effects of extreme climate events on lakewater chemistry: Implications for “brownification” in Maine lakes. Maine Water Conference. Augusta, Maine, March 19, 2013.

Strock, K.E.D., J.E. Saros, **S.J. Nelson**, S.D. Birkel. 2013. The effects of extreme climate events on lakewater chemistry: implications for dissolved organic carbon trends in the northeast U.S. American Society of Limnology and Oceanography Meeting. New Orleans, Louisiana, February 17-22, 2013.

Nelson, S.J., K.E. Webster, C.S. Loftin, K.C. Weathers, 2012. Seasonal controls on the temporal coherence of mercury and major ion throughfall flux in Acadia National Park. BIOGEOMON 2012, July 15-20, 2012, Northport, ME.

Sancléments, M., G. Oelsner, D. McKnight, I.J. Fernandez, **S.J. Nelson**, M.B. Adams, M. Mineau, K. Simon, 2012. The effects of acidification and recovery on DOM quality and source in temperate forested watersheds. BIOGEOMON 2012, July 15-20, 2012, Northport, ME.

Nelson, S.J., M. Steinman, M. Schauffler, B. Zoellick, H.M. Webber. But what was your hypothesis? A science data literacy assessment for high school students highlights difficulties in connecting data to inquiry-based research question. 20th Annual Harold W. Borns Jr. Symposium, Orono, ME, USA, April 5, 2012.

Saros, J.E., K.E.D. Strock, S. Birkel, **S.J. Nelson**, 2012. Deciphering the effects of extreme hydrologic events on the response of northeastern lakes to reduced sulfur deposition. 20th annual Harold W. Borns Symposium, University of Maine.

S.J. Nelson, J.S. Kahl, A.J. Baumann, K.B. Johnson, 2012. “Rugged shores and clear waters”: Interpreting biogeochemical response to environmental stressors using the lakes and ponds of Maine’s Baxter State Park. Maine Water Conference, Augusta, ME, March 14, 2012.

Strock, K.E., J.E. Saros, **S. Nelson**, 2012. Why climate matters in recovery from acidification in northeastern US surface waters. Maine Water Conference, Augusta, ME, March 14, 2012.

Webber, H., B. Zoellick, **S. Nelson**, B. Bisson, 2012. A Framework for Partnership: Supporting Scientific Research Goals and Formal Education Objectives. Maine Water Conference, Augusta, ME, March 14, 2012.

Loftin, C.S., A.J.K. Calhoun, **S.J. Nelson**, A. Elskus, K. Simon, 2011. Influences on mercury bioaccumulation in wood frogs developing in seasonal woodland pools in Maine, USA. The 10th International Conference on Mercury as a Global Pollutant (ICMGP), July 24–29, 2011.

Zoellick, B., **S. Nelson**, B. Bisson, M. Schauffler, 2011. Watershed Studies in Schools: Supporting Student Understanding of Systems Concepts. Presented at the Maine Water Conference, Augusta, Maine, March 16, 2011.

Webber, H., B. Bisson, **S. Nelson**, B. Zoellick. Engaging teachers and students in landscape-scale research while supporting improved science education: Investigating eels – an expansion of the Acadia Learning project. Penobscot Science Exchange Spring Meeting, March 4, 2011.

Zoellick, B., **S. Nelson**, T. Johnston, Y. Davis, 2010. Making sense of observations and data: Integrating explicit instruction in working with data into science education. Maine Center for Research in STEM Education, 2010 National Summer Conference, June 21, 2010.

Nelson, S., B. Zoellick, E. Lindsey, E. Sherman, 2010. Dragonfly larvae as indicators for mercury in the Northeast: interdisciplinary citizen science research. Dragonfly Society of the Americas 2010 Annual Meeting, June 24–27, 2010.

Zoellick, B., T. Johnson, **S. Nelson**, 2010. Making Sense of Observation and Data (Graphs are Not Just for Math Class): Integrating explicit instruction in working with data into science education. Integrating Science and Mathematics Education Research into Teaching National Conference University of Maine, Orono, Maine, June 21, 2010.

Nelson, S., P. Vaux, B. Zoellick, 2010. No such thing as pristine: mercury in Maine waters and northeast National Parks. Maine Water Conference, Augusta, ME, March 17, 2010.

Loftin, C., A. Calhoun. **S. Nelson (presenter)**, A. Elskus, K. Simon, 2010. Does mercury bioaccumulate in amphibians developing in vernal pools? Northeastern/Southeastern Geological Society of America meeting, Baltimore, MD, March 13–16, 2010.

Johnston, T., **S.J. Nelson**, 2010. Dealing with data. Workshop for high school teachers. Bangor, ME, Jan. 30, 2010.

Nelson, S.J., 2010. Tracking mercury through Maine ecosystems -- and people. Career and Technical Education Teachers workshop, Schoodic Education and Research Center, June 29, 2009; Madison High School, March 9, 2010.

Shanley, J. B., G. R. Aiken, J. A. Dittman, C. T. Driscoll, A. L. Riscassi, D. A. Burns, K. Bishop, K. Eklöf, **S. Nelson**, 2009. EOS Trans., AGU, 90(52), Fall Meeting Supplement, Abstract H51E-0811.

Nelson, S.J., B. Zoellick, Y. Davis, 2009. Acadia Learning Program. Workshop for high school teachers, Winter Harbor, ME, 2009.

Zoellick, B., **Nelson, S.J.**, 2009. The Acadia Learning Project. Presented at No Question Left Behind: Bringing Guided-Inquiry Curricula into Science and Mathematics Classrooms. June 22 – 23, 2009, Schoodic Education and Research Center, Winter Harbor, Maine.

Nelson, S.J., N. Kamman, D. Krabbenhoft, J.S. Kahl, K. Webster, 2008. Evaluating spatial patterns in mercury and methyl mercury in northeastern lakes: Landscape setting, chemical climate, and human influences. Northeastern Ecosystem Research Cooperative Conference, Durham, NH, November 12–13, 2008.

Nelson, S.J., C.S. Loftin, A. Calhoun, A. Elskus, K. Simon, P. Vaux, 2008. Growing up in the wrong neighborhood? Mercury in vernal pool amphibians at Acadia National Park. Northeast Regional Air Quality Committee Meeting (NERAQC), Winter Harbor, ME, Sept. 24, 2008.

Nelson, S.J., I.J. Fernandez, J.S. Kahl. 2008. Mercury concentration and deposition in snow in eastern temperate North America. Eastern Snow Conference, Fairlee, VT, May 28-30, 2008.

Nelson, S.J., 2008. Evaluating spatial patterns in mercury and methyl mercury in northeastern lakes: landscape setting, chemical climate, and human influences. Maine Water Conference, Augusta, ME, March 19, 2008.

Kahl, S., K. Webster, D. Sassan, C. Rosfjord, **S. Nelson**, M. Greenawalt-Yelle, 2007. Increasing Cl in northeastern surface waters: an indicator of increasing development pressure. Maine Water Conference, Augusta, ME, March 21, 2007.

Nelson, S.J., K.B. Johnson, D.P. Krabbenhoft, C.S. Loftin, K.C. Weathers, 2006. Deposition, re-emission, and evasion: snow sampling provides estimates of mass fluxes in winter at Acadia National Park, Maine, USA. Eighth International Conference on Mercury as a Global Pollutant, Madison, WI, August 6–11, 2006.

Nelson, S.J., K.C. Weathers, K.B. Johnson, J.S. Kahl, 2005. Does Vegetation Matter? Mercury Deposition at Acadia National Park, Maine. Maine Water Conference, Augusta, ME, March 22, 2005.

Grygo, A., P. Vaux, **S. Nelson**, K. Tonnessen, D. Manski, 2005. Sharing the Wealth: Information exchange among research watersheds, George Wright Society Meeting Abstract, March 14–18, 2005, Philadelphia, PA, p. 134.

Peckenham, J.M., B. Mower, J.S. Kahl, **S.J. Nelson**, 2004. Geochemical associations of background mercury concentrations in Maine rivers. National Atmospheric Deposition Program 2004 Scientific Symposium and Annual Technical Committee Meeting, Halifax, Nova Scotia, September 21–24, 2004.

Nelson, S.J., J.S. Kahl, I.J. Fernandez, B. Gawley, K.B. Johnson, S.A. Norton, K.E. Webster, 2003. Maine's Lakes and Research Watersheds: Indicators of Response to the Clean Air Act. Maine Water Conference, April 16, 2003, Augusta, ME.

Vidito (**Nelson**), **S.J.**, J.S. Kahl, S.A. Norton, I. J. Fernandez, C. Cronan, A. White, D. Manski, T.A. Haines, L. Rustad, K. Weathers, 2001. Coupling throughfall chemistry with landscape assessment: determining relative rates of atmospheric deposition at Acadia National Park. Maine Water Conference, May 3, 2001, Augusta, ME.

Invited Field Lectures and Public Presentations

Nelson, S.J., H.M. Webber, 2015. Dragonfly Mercury Project sampling for Earthwatch Expedition: Climate Change: Sea To Trees At Acadia National Park. August, 2015, Bar Harbor, ME.

Nelson, S.J., C. Chen, D.P. Krabbenhoft, J.S. Kahl, 2015. Dragonfly larvae as mercury bio-sentinels in northeast lakes. NSRC webinar, February 10, 2015.

Nelson, S.J., C. Eagles-Smith, C.F. Pritz, D. Krabbenhoft, J. Willacker, 2015. Linking freshwater mercury concentrations in parks to risk factors and bio-sentinels: a national-scale research and citizen science partnership. National Park Service Webinar, April 29, 2015.

Nelson, S.J., C. Eagles-Smith, C.F. Pritz, D. Krabbenhoft, J. Willacker, 2015. Linking freshwater mercury concentrations in parks to risk factors and bio-sentinels: a national-scale research and citizen science partnership. Mercury in the Southwest: Briefing at Saguaro National Park, March 4, 2015.

Nelson, S.J., E. Lindsey, A. Baron, C. Flanagan, 2013. Dragonfly larvae as sentinels of mercury contamination in Maine and beyond. Merryspring Nature Center lecture series, May 6, 2014.

Nelson, S.J., E. Lindsey, A. Baron, C. Flanagan, 2013. Dragonfly larvae as sentinels of mercury contamination in Maine and beyond. Edith Patch seminar series, Old Town, ME, October 26, 2013.

Nelson, S.J., 2013. Mercury at Acadia National Park and dragonflies as bio-sentinels. Series of lectures at Acadia Learning High schools (Bangor HS, John Bapst HS, Old Town HS), February–March, 2013.

Nelson, S.J., 2011. Finding mercury across the Northeast: local, regional, and global influences. Stevens High School, Claremont NH, January 28, 2011.

Nelson, S.J., M. Soukup, E. Lindsey, 2010. WERU Radio – Talk of the Towns. Community Science: Schoodic Education and Research Center links researchers, school teachers and students. November 12, 2010. Available: <http://archives.weru.org/talk-of-the-towns/talk-of-the-towns-111210>.

Nelson, S.J., 2009. Tracking mercury through Maine ecosystems and people; Macroinvertebrate identification and life history. Hancock County Tech Center. October 29, 2010.

Nelson, S.J., 2009. Tracking mercury through Maine ecosystems – and people. Lewiston High School. February 23, 2009.

Nelson, S.J., J.S. Kahl, 2008. Tracking mercury through snow, rain, heat, and gloom of night: What do Acadia's forests have to do with it? Schoodic Education and Research Center “Second Saturdays” lecture series, January 12, 2008.

Nelson, S.J., 2007. Studying mercury in snow at Acadia National Park, Maine, USA. Keynote lecture, Canon National Envirothon, Geneva, NY, August 3, 2007.

Kahl, J.S., **S. Nelson,** K. Johnson, 2005. Perception experiment: paired watershed research at Acadia National Park. Gordon Research Conference field trip, July 20, 2005.

Nelson, S.J., 2005. Modeling atmospheric deposition using GIS techniques, INT527. University of Maine, Orono, Maine, November 14, 2005.

Nelson, S.J., J.S. Kahl, I.J. Fernandez, B. Gawley, K.B. Johnson, S.A. Norton, K.E. Webster, 2003. Patterns in N and Hg processing in lakes and streams across Maine. College of the Atlantic, Bar Harbor, ME, May 30, 2003.

Nelson, S.J., J.S. Kahl, S.A. Norton, I. J. Fernandez, T.A. Haines, D. Manski, 2002. PRIMENet Research – Paired Watersheds at Acadia. Resource Acadia Seminar (Presentation for residents of the Acadia area), June 22, 2002, Acadia National Park Resource Management, Bar Harbor, ME.

Poster Presentations

Nelson, S.J., C. Eagles-Smith, J. Willacker, D.P. Krabbenhoft, C.F. Pritz, H. Greig, C.Y. Chen, R. Haro, 2015. The Dragonfly Mercury Project: linking surface water chemistry and landscape characteristics to biotic sentinels at a national scale. New England Association of Environmental Biologists, March 2016, Rockport, ME.

Nelson, S.J., C. Eagles-Smith, J. Willacker, D.P. Krabbenhoft, C.F. Pritz, H. Greig, C.Y. Chen, R. Haro, 2015. The Dragonfly Mercury Project: linking surface water chemistry and landscape characteristics to biotic sentinels at a national scale. Maine Water and Sustainability Conference, March 2016, Augusta, ME.

Nelson, S.J., C. Eagles-Smith, J. Willacker, D.P. Krabbenhoft, C.F. Pritz, H. Greig, C.Y. Chen, R. Haro, 2015. The Dragonfly Mercury Project: linking surface water chemistry and landscape characteristics to biotic sentinels at a national scale. Acid Rain 2015, Rochester, NY, Oct. 19–23, 2015.

Roy, K., H. Pembroke, **S. Nelson**, A. Riscassi, M. McHale, E. Boyer, G. Lampman, C. Funk, 2015. Long Term Monitoring of Acidification in Sensitive Areas of the Northern and Eastern United States: A New Generation of Research. Acid Rain 2015, Rochester, NY, Oct. 19–23, 2015.

Eimers, C., J. Crossman, N. Casson, D. Burns, J. Campbell, G. Likens, M. Mitchell, **S. Nelson**, J. Shanley, S. Watmough, K. Webster, 2015. Nitrogen dynamics in the dormant season: an inter-watershed comparison. Acid Rain 2015, Rochester, NY, Oct. 19–23, 2015.

Buckman, K., C. Chen, **S.J. Nelson**, J. Stainton, E. Ferland, S. Walasewicz, H. Webber, C.F. Pritz, J. Haley, 2014. Mercury bio-sentinels: student citizen scientists collect dragonfly larvae in national parks in Vermont, New Hampshire, and coast-to-coast. Vermont Monitoring Cooperative and Mt. Mansfield Science and Stewardship Conference, December 11, 2014, Burlington, VT. (proceedings available: <http://www.uvm.edu/vmc/annualMeeting/2014/proceedings>)

Webber, H., C. Eagles-Smith, C. Flanagan Pritz, D. Krabbenhoft, M. Schaufliker, B. Zoellick, **S.J. Nelson**, 2014. Tools for data literacy: Engaging citizen scientists in analysis of mercury data from national parks across the U.S. Citizen Science 2015, February 11–12, 2015, San Jose, CA.

Nelson, S.J., C. Eagles-Smith, J. Willacker, C.F. Pritz, D.P. Krabbenhoft, C.Y. Chen, R. Haro, 2014. Linking abiotic to biotic: servicewide baseline data for mercury in national parks. NADP 2014 Annual Meeting and Scientific Symposium: The Global Connection of Air and Water, October 21–24, 2014.

Nelson, S.J., C. Eagles-Smith, J. Willacker, C.F. Pritz, D.P. Krabbenhoft, C.Y. Chen, R. Haro, 2014. Linking abiotic to biotic: servicewide baseline data for mercury in national parks. Acadia Science Symposium, October 1, 2014.

Brown, R.E., Saros, J.E., **S.J. Nelson**, 2014. Algal community response to increases in dissolved organic carbon over recent decades. Association for the Sciences of Limnology & Oceanography, Portland, OR, May, 2014.

Brown, R.E., Saros, J.E., **S.J. Nelson**, 2014. Algal community response to increases in dissolved organic carbon over recent decades. Maine Water Conference, Augusta, ME, March, 2014.

Arvais, K., S. Fraver, **S.J. Nelson**, 2014. Evaluating spatial and temporal trends in snowpack across Maine. Maine Water Conference, March 2014, Augusta, ME.

Nelson, S.J., C. Chen, D.P. Krabbenhoft, J.S. Kahl, B. Zoellick, 2013. Validating landscape models for mercury in northeastern US lakes using dragonfly larvae as mercury bio-sentinels. ICMGP - International Conference on Mercury as a Global Pollutant, July 28–Aug. 3, 2013, Edinburgh, Scotland.

Flanagan, C., C. Eagles-Smith, **S. Nelson**, D. Evers, A. Jackson, E. Adams, T. Blett, K. Morris, 2013. Mercury in the U.S. National Parks: Status and Effects in Biota. ICMGP - International Conference on Mercury as a Global Pollutant, July 28- Aug. 3, 2013, Edinburgh, Scotland.

Webber, H., B. Bisson, B. Zoellick, **S. Nelson**, 2013. Culverts, Streams and Students: A citizen science investigation of freshwater ecology. DSRRN 2013 Science Meeting, Diadromous Species Restoration Science 2013: Migration, Habitat, Species Interactions, and Management. January 10–11, 2013, University of Maine, Orono, ME.

Flanagan, C., C. Eagles-Smith, **S. Nelson**, D. Evers, A. Jackson, E. Adams, T. Blett, K. Morris, 2012. Mercury in the National Parks: Status and Effects in Biota. AGU Fall Meeting, Dec. 3–7, 2012, San Francisco, CA.

Flanagan, C., **S.J. Nelson**, 2012. Citizen scientists study mercury in dragonfly larvae at National Parks. Acadia Science Symposium, October 23, 2012, Winter Harbor, ME.

Flanagan, C., **S.J. Nelson**, 2012. Citizen scientists study mercury in dragonfly larvae at National Parks. NADP (National Atmospheric Deposition Program) 2012 Annual Meeting and Scientific Symposium-The NADP Cooperative: State, Local and Tribal Perspectives. South Portland, ME, October 2–5, 2012.

Strock, K.E., J.E. Saros, **S.J. Nelson**, 2012. Analyzing Legacy Data in a Climate Context to Decipher Modern Changes in Lakewater Chemistry. BIOGEOMON 2012, July 15–20, 2012, Northport, ME.

Fernandez, I.J., S.A. Norton, **S.J. Nelson**, C. Salvino, 2012. Evidence of Transient Alteration of N Dynamics From an Ice Storm at the Bear Brook Watershed in Maine, USA. BIOGEOMON 2012, July 15–20, 2012, Northport, ME.

Rajakaruna, N., T.B. Harris, **S.J. Nelson**, P.D. Vaux. 2012. Stressors and Threats to the Flora of Acadia National Park, Maine: Current Knowledge, Information Gaps, and Future Directions. Poster to be presented at the Northeast Natural History Conference, OnCenter Convention Center, Syracuse, New York, USA, April 15–19.

Nelson, S.J., M.H. Steinman, M. Schaufler, B. Zoellick, H.M. Webber, 2012. But what was your hypothesis? A science data literacy assessment for high school students highlights difficulties in connecting data to inquiry-based research questions. Maine Sea Grant Symposium, April 5, 2012, Orono, ME.

Zoellick, B., **S.J. Nelson**, B. Bisson, M. Schauffler, H. Webber, 2012. A Framework for Participatory Science in High Schools that Supports Useful Scientific Research as Well as Student Learning: Requirements and Constraints. Maine Sea Grant Symposium, April 5, 2012, Orono, ME.

Nelson, S.J., M.H. Steinman, M. Schauffler, B. Zoellick, H.M. Webber, 2012. But what was your hypothesis? A science data literacy assessment for high school students highlights difficulties in connecting data to inquiry-based research questions. Maine Water Conference, Augusta, ME, March 14, 2012.

Zoellick, B., **S.J. Nelson**, B. Bisson, M. Schauffler, H. Webber, 2011. A Framework for Participatory Science in High Schools that Supports Useful Scientific Research as Well as Student Learning: Requirements and Constraints. AGU Fall Meeting, San Francisco, CA, Dec 5–9, 2011.

Nelson, S.J., C. Chen, H. Roebuck, B. Zoellick, 2011. Sensible sentinels: Preliminary mercury data for dragonfly nymphs (*Odonata: anisoptera*) across northern New England corroborate expected spatial pattern. Acadia Science Symposium, October 26, 2011.

Nelson, S.J., C. Chen, H. Roebuck, B. Zoellick, 2011. Sensible sentinels: Preliminary mercury data for dragonfly nymphs (*Odonata: anisoptera*) across northern New England corroborate expected spatial pattern. The 10th International Conference on Mercury as a Global Pollutant (ICMGP), Halifax, NS, July 24–29, 2011.

Nelson, S.J., Zoellick, B., Davis, Y., Lindsey, E., 2009. The Acadia Learning Project: Lessons Learned from Engaging High School Teachers and Students in Citizen Science Supporting National Parks. American Geophysical Union Fall Meeting, Dec. 14–18, 2009, San Francisco, CA.

Nelson, S.J., K.B. Johnson, 2009. Are We Under-Estimating Mercury in Soils? Experimental Acidification and Sample Collection Timing Demonstrate Variability in Estimates of Mercury in O-Horizon Soils at a Maine Site. American Geophysical Union Fall Meeting, Dec. 14–18, 2009, San Francisco, CA.

S.J. Nelson, J.S. Kahl, N.C. Kamman, D.P. Krabbenhoft, W.H. Halteman, 2009. Predicting mercury concentrations in northeast lakes using hydrogeomorphic features, landscape setting and chemical co-variates. Gordon Research Conference, Forested Catchments, July 12–17, 2009, Proctor Academy, NH.

Nelson, S., K. Johnson, B. Zoellick, R. Ahearn, A. Chenevert, J. Dolan, A. Jarrett, N. Jimenez, N. Jimenez, C. Keen, I. Macomber, K. Stenberg, S. Buraceski, 2007. Does melting snow contribute mercury to vernal pools? Student-led research in the Schoodic Watershed. Student research poster, Dixon awards ceremony, August 5, 2007.

Nelson, S.J., K.C. Weathers, C.S. Loftin, K.B. Johnson, J.S. Kahl, 2005. Pick your season: under-estimation (summer) and over-estimation (winter) of total mercury deposition by MDN collection methods at Acadia National Park, Maine. National Atmospheric Deposition Program 2005 Scientific Symposium and Annual Technical Committee Meeting, Jackson, Wyoming, September 27–30, 2005.

Nelson, S.J., K.C. Weathers, K.B. Johnson, J.S. Kahl, 2004. Seasonal patterns and total deposition of mercury at Acadia National Park, Maine: relationships to MDN monitoring data. National

Atmospheric Deposition Program 2004 Scientific Symposium and Annual Technical Committee Meeting, Halifax, Nova Scotia, September 21-24, 2004.

Grygo, A., J.S. Kahl, K.E. Webster, C. Loftin, K. Tonnessen, **S.J. Nelson**, 2004. Development of the SPARC Database for National Park Watershed Research: Searchable Park Access to Research Catchments. Maine Water Conference, 2004.

Nelson, S.J., J.S. Kahl, J.L. Campbell, C. Goodale, J. Stoddard, L.E. Rustad, S.W. Bailey, J. Kellogg, 2003. Can forest fires affect nitrogen retention for centuries? Patterns of nitrogen flux in a chronosequence of burned watersheds. Gordon Research Conference – Catchment Science, July 20–25, 2003, New London, NH.

Nelson, S.J., K.E. Webster, J.S. Kahl, K.B. Johnson, 2003. The Effects of Increasingly Variable Climate and Disturbance History on Episodic Acidification at a Coastal Maine Site, USA. American Geophysical Union Chapman Conference on Ecosystem Interaction with Land Use Change, June 14–18, 2003, Santa Fe, NM.

Nelson, S.J., K.B. Johnson, J.S. Kahl, J. Hepinstall, 2002. Sulfate and mercury deposition at Acadia National Park: integrating enhancement ratios, wet deposition, and landcover data. Association of Graduate Students Research Expo, April 22, 2002, Orono, ME.

Vidito (**Nelson**), **S.J.**, J.S. Kahl, I. J. Fernandez, S.A. Norton, C. Cronan, A. White, D. Manski, 2001. Modification of atmospheric inputs at Acadia National Park, Maine: the relative influence of landscape factors. Gordon Research Conference – Forested Catchments, July 2001, Concord, NH.

Vidito (**Nelson**), **S.J.**, J.S. Kahl, I.J. Fernandez, S.A. Norton, C.S. Cronan, A.S. White, D. Manski, 2000. Landscape factors and riparian zones: Modification of atmospheric inputs in a paired watershed study at Acadia National Park, Maine. Graduate Research Exposition April 10–12, 2001, Orono, ME.

Vidito (**Nelson**), **S.J.**, J.S. Kahl, I. J. Fernandez, C. Cronan, A. White, 2000. The Relative Importance of Landscape Factors: Linkages between Atmospheric Deposition and Stream Export in Contrasting Watersheds at Acadia National Park, Maine. Gordon Research Conference - Environmental Sciences: Water, Holderness, NH.

Vidito (**Nelson**), **S.J.**, J.S. Kahl, I.J. Fernandez, S.A. Norton, T.A. Haines, 1999. N and Hg Biogeochemistry in Paired Watersheds at Acadia National Park, ME. Gordon Research Conference – Forested Catchments, Concord, NH.

Research Reports from Grant or Contract Work (* Peer-reviewed)

Eagles-Smith, C.A., **Nelson, S.J.**, Willacker, J.J., Jr., Flanagan Pritz, C.M., and Krabbenhoft, D.P., 2016, Dragonfly Mercury Project—A citizen science driven approach to linking surface-water chemistry and landscape characteristics to biosentinels on a national scale: U.S. Geological Survey Fact Sheet 2016-3005, 4 p., <http://dx.doi.org/10.3133/fs20163005>.

* Vaux, P.D., **S.J. Nelson** M.J. James-Pirri, 2015. Assessment of natural resource conditions in Boston Harbor Islands National Park Area. Natural Resource Report NPS/XXXX/NRR—20XX/XXX. National Park Service, Fort Collins, Colorado. In review.

* **Nelson, S.J.**, H.M. Webber, C.M. Flanagan Pritz, 2015. Citizen Scientists Study Mercury in Dragonfly Larvae: Dragonfly larvae provide baseline data to evaluate mercury in parks nationwide. Natural Resource Report Series NPS/NRSS/ARD/NRR—2015/938. National Park Service, Fort Collins, Colorado.

Zoellick, B., H. Webber, **S.J. Nelson**, B. Bisson, 2013. Final Project Report to NOAA: Acadia B-WET: a partnership to help teachers engage students in sustained, project-oriented investigations of the American eel (*Anguilla rostrata*) in Gulf of Maine watersheds. September 28, 2013.

Nelson, S.J., A.J. Baumann, A. Coffin, K. Johnson, C. Schmitt, 2013. Lake Site Assessments: US EPA TIME-New England Lakes. May 30, 2013.

* **Nelson, S.J.**, P. Vaux, M.J. James-Pirri, G. Giese, 2012. Natural resource condition assessment: Cape Cod National Seashore, Massachusetts. Natural Resource Report NPS/NER/NRR—2012/605. National Park Service, Fort Collins, Colorado. Available:
<http://www.nature.nps.gov/water/nrca/reports.cfm#predate>

* **Nelson, S.J.**, H. Webber, 2011. Mercury in Acadia and northeast protected areas. SERC Institute report. 44 pp. Available: <http://www.sercinstitute.org/research/recent-research-projects>

Zoellick, W. B. Bisson, **S.J. Nelson**, 2011. Acadia B-WET: a partnership to help teachers engage students in sustained, project-oriented investigations of the American eel (*Anguilla rostrata*) in Gulf of Maine watersheds. NOAA Office of Education Semi-Annual Project Progress Report Award Number: NA10NMF4690135.

McDowell, B., S. Kahl, **S. Nelson**, 2011. Determining the effectiveness of the Clean Air Act and Amendments on the recovery of surface waters in the northeastern US (IAG 06HQGR0143). Annual Report to USGS WRD WRRI, Reston, VA; US EPA, CAMD, Washington DC; and US EPA, ORD, Corvallis OR.

Zoellick, B., M. Schauffler, **S. Nelson**, 2011. Acadia Learning: Data Literacy. Interim Progress Report to Maine Department of Education – Year One, March 14, 2011.

Zoellick, B., **S. Nelson**, Y. Davis, 2011. Professional Partnership and Praxis: A program to connect teachers and working scientists in support of citizen science and student inquiry. Report to Maine Department of Education - Year Three, January 26, 2011.

Kahl, J.S., W. McDowell, **S. Nelson**, K. Webster, 2010. Determining the effectiveness of the Clean Air Act and Amendments on the recovery of surface waters in the northeastern US (IAG 06HQGR0143). Annual Report to USGS WRD WRRI, Reston, VA; US EPA, CAMD, Washington DC; and US EPA, ORD, Corvallis OR, March, 2010.

Zoellick, B., B. Bisson, **S. Nelson**, 2010. Acadia B-WET: a partnership to help teachers engage students in sustained, project-oriented investigations of the American eel (*Anguilla rostrata*) in Gulf of Maine watersheds. NOAA Office of Education Semi-Annual Project Progress Report, December 2010.

Vaux, P., **S.J. Nelson**, 2010. KnowledgeBase On-Line Bibliographic and Dataset Catalogue: Maintenance and Update of AcadiaScience.org Web site. Report to National Park Service, December 2010.

Nelson, S.J., 2010. The Acadian Internship in Regional Conservation and Stewardship: Large landscape conservation training and service for the next generation of public, private and non-profit conservation leaders. Report to Quebec-Labrador Foundation/Atlantic Center for the Environment, August 2010. 61 pp.

* James-Pirri, M.J., **S.J. Nelson**, P.D. Vaux, 2011. Natural Resource Condition Assessment for Saugus Iron Works National Historic Site. Natural Resource Report NPS/NER/NRR—2011/457. National Park Service. Fort Collins, Colorado. Available:
<http://www.nature.nps.gov/water/nrca/reports.cfm#predate>

Zoellick, B., **S.J. Nelson**, Y. Davis, 2009. Report on year 2: Professional Partnership and Praxis - A program to connect teachers and working scientists in support of citizen science and student inquiry. Report to Maine Department of Education, October, 2009.

Nelson, S.J., K.B. Johnson, 2009. Are we under-estimating mercury in soils? Experimental acidification and sample collection timing demonstrate variability in estimates of mercury in O-horizon soils at a Maine site. Final report to Acadia Partners for Science and Learning and Acadia National Park.

Nelson, S.J., S. Kahl, D.P. Krabbenhoft, N.C. Kamman, 2009. Evaluating spatial patterns in mercury and methyl mercury in northeastern lakes: landscape setting, chemical climate, and human influences. Final technical report to NSRC.

Nelson, S.J., 2009. Mercury concentrations in northeast lakes predicted using landscape features, landscape setting, and water chemistry. Final “Project Impacts” report to NSRC.

Kahl, J.S., W. McDowell, **S. Nelson**, K. Webster, 2009. Determining the effectiveness of the Clean Air Act and Amendments on the recovery of surface waters in the northeastern US (IAG 06HQGR0143). Annual Report to USGS WRD WRRI, Reston, VA and US EPA, ORD, Corvallis OR, January, 2009.

* Vaux, P.D., **S.J. Nelson**, N. Rajakaruna, G. Mittelhauser, K. Bell, B. Kopp, J. Peckenham, G. Longworth, 2008. Assessment of natural resource conditions in and adjacent to Acadia National Park, Maine. Natural Resource Report NPS/NRPC/WRD/NRR—2008/069. National Park Service, Fort Collins, Colorado.

Kahl, J.S., K. Webster, W. McDowell, **S. Nelson**, 2008. Determining the effectiveness of the Clean Air Act and Amendments on the recovery of surface waters in the northeastern US (IAG 06HQGR0143). Annual Report to USGS WRD WRRI, Reston, VA and US EPA, ORD, Corvallis OR, May, 2008.

Nelson, S.J., K.B. Johnson, E.A. Dziezyk, J.S. Kahl, 2007. Determining trends in water chemistry for two salmon rivers and their small tributaries, 1985-2006. Final Report to the Maine Atlantic Salmon Commission.

Nelson, S.J., K. Johnson, C. Schmitt, 2007. How much is enough? Developing a citizen-based monitoring plan for mercury in gauged watershed streams at Acadia National Park. Report to the L.L. Bean Acadia Research Fellows Program.

Nelson, S.J., J.S. Kahl, I.J. Fernandez, K.D. Sheehan, A. Grygo Diamond, K.B. Johnson, K.C. Weathers, 2007. Final Report: Understanding atmospheric deposition to complex landscapes at Acadia National Park, Maine, 2002-2005. National Park Service, Northeast Region, Technical Report NPS/NER/NRTR-2007/080.

Nelson, S.J., 2006. Quicksilver from the skies: mercury in snow at Acadia National Park. Acadia Partners Report 2006-01. Published online: http://www.acadiapartners.org/pubs/Nelson_Report.pdf

Rosfjord, C.H., J.S. Kahl, K. Webster, **S. Nelson**, I. Fernandez, L. Rustad, R. Stemberger, 2006. Final Report: Acidic deposition-relevant changes in lake chemistry in the EPA Eastern Lake Survey, 1984-2004. Submitted to USDA NSRC.

Nelson, S.J., P. Vaux, A. Grygo, R. Hallsworth, D. Kramar, 2006. Final Project Report: Searchable Park Access to Research Catchments (SPARC). National Park Service report.

Nelson, S.J., J.S. Kahl, K.B. Johnson, J. Boothroyd, 2005. Final Report: Are road de-icing salts a factor in the chemistry of salmon rivers? 2004 Maine Atlantic Salmon Conservation Fund.

Nelson, S.J., J.S. Kahl, (editors), 2003. Final Integrated Report: Establishing paired gauged watersheds at Acadia National Park for long-term research on acidic deposition, nitrogen saturation, forest health, and mercury biogeochemistry (1998–2002). Submitted to US EPA and National Park Service.

Peckenham, J., J.S. Kahl, **S.J. Nelson**, 2002. Lake Water Chemistry Trends in New England. Report to the New England Governors-Eastern Canadian Premiers Water Quality Workgroup.

Dupont, J., T.A. Clair, S. Couture, R. Estabrook, C. Gagnon, P.J. Godfrey, D.S. Jeffries, J.S. Kahl, **S.J. Nelson**, J. Peckenham, W. Pilgrim, P. Stacey, D. Taylor, A. Van Arsdale, 2002. WARNING NETWORK: Changes in Water Quality in New England and Eastern Canada. Produced on behalf of the New England Governors and Eastern Canadian Premiers' Acid Rain Steering Committee.

Dupont, J., S. Kahl, **S. Nelson**, J. Peckenham, C. Gagnon, J. Choate, T.A. Clair, D.S. Jeffries, D. Taylor, 2002. Critical loads of acidity and water sensitivity in New England states and Eastern Canadian provinces. Produced on behalf of the New England Governors and Eastern Canadian Premiers' Acid Rain Steering Committee.

Current Research Funding

Contosta, A., **S.J. Nelson**, N. Casson, S. Garlick. Winter Climate Change in the Northern Forest: Scientific Synthesis and Practical Solutions. Northeastern States Research Cooperative (NSRC) 2016 "Special Topics" RFP. October, 2015. \$58,453 funded.

Supplement to Eagles-Smith, **Nelson**, et al., Continuation of Dragonfly Mercury Project, 2016 Centennial Sampling, National Park Service, June 2016. \$114,000, funded to USGS and UMaine.

Nelson, S.J., Klemmer, A. Technical Assistance: GLKN Monitoring Larval Dragonflies for Mercury. National Park Service Task Agreement. June 2016. \$30,000 funded.

Nelson, S.J. Adirondack TIME Compendium. US EPA through Adirondack Lakes Survey Corporation. 2016. \$8,714 funded.

Nelson, S.J., J. Saros. Determining the effectiveness of the Clean Air Act and Amendments on the recovery of surface waters in the northeastern US (IAG o6HQGR0143) US EPA and USGS. \$69,956 renewal, 2016-2017.

Blomberg, E., **S.J. Nelson.** BatME: Monitoring bat distributions in Maine using citizen science. Maine Department of Inland Fisheries and Wildlife, 2016. \$72,016, funded.

Nelson, S.J. Developing a DNA barcoding approach to address a nationwide research challenge: species identification of dragonfly larvae used as mercury bio-sentinels. University of Maine Faculty Research Funds. \$6,251 funded, January 2015.

Nelson, S.J., J. Saros. Determining the effectiveness of the Clean Air Act and Amendments on the recovery of surface waters in the northeastern US (IAG o6HQGR0143) US EPA and USGS. \$53,350 renewal, 2015-2016.

Eagles-Smith, C., **S.J. Nelson,** D. Krabbenhoft. Linking freshwater mercury concentrations in parks to risk factors and bio-sentinels: a national-scale research and citizen science partnership. USGS-NPS Water Quality Partnership. \$300,000 funded, August 2013.

Nelson, S.J., B. Zoellick, H. Webber, I. Fernandez, J. Saros. The Future of Four Seasons in Maine: a Scientist-Teacher-Student Partnership to investigate climate change in seasonally snow-covered watersheds. NOAA B-WET. \$236,000 funded, June 2013.

Prior Funding

S.J. Nelson. Bangor Savings Bank-LoRusso Faculty Development Grant for travel to George Wright Society meeting. \$1,475 funded, October 2014.

Amirbahman, A., C. Devoy, **S. Nelson.** Proposal to HEIR to develop the capability to characterize sediment “reactive mercury”. University of Maine High End Instrumentation Research program. \$5,000 funded, June 2013.

Flanagan, C., **S.J. Nelson.** Citizen Scientists Study Mercury in Dragonfly Larvae. US National Park Service, Director’s Office. \$72,000 funded, March 2013.

Nelson, S.J., D.C. Evers, D.P. Krabbenhoft, C. Eagles-Smith, C. Chen. Mercury in Acadia National Park: Synthesizing a rich history of research at a highly sensitive site. US NPS \$20,000 funded to BioDiversity Research Institute, June 2012.

Saros, J., **S. Nelson.** Assessing threats of changing climate to drinking water quality. USGS WRII. \$28,247 funded, 2013.

McDowell, W., J.S. Kahl, **S.J. Nelson**, J. Saros, A. Baumann. Determining the effectiveness of the Clean Air Act and Amendments on the recovery of surface waters in the northeastern US (IAG 06HQGR0143). US EPA and USGS. \$196,336 funded, spring 2012.

Nelson, S., C. Chen, J.S. Kahl, B. Zoellick. Validating landscape models for mercury in northeast lakes using dragonfly nymphs as mercury bio-sentinels. USDA Northeastern States Research Cooperative. \$84,634 funded, September 2011.

Zoellick, B., M. Schauffler, **S.J. Nelson**. Extended Data Literacy. Maine Department of Education. \$223,975 funded, June 2011.

Nelson, S.J., A. Amirbahman, S.A. Norton, L.C. Bacon. Do coastal Maine lakes have fish higher in mercury? A targeted survey including lakes in Acadia National Park. USGS WRRRI Grants Program. \$16,547 funded, September 2011.

Saros, J., **S.J. Nelson**, S. Birkel, K. Strock. Analyzing Legacy Data in a Climate Context to Decipher Modern Changes in Lakewater Chemistry. USGS WRRRI Grants Program. \$25,369 funded, 2011.

Nelson, S., Maine Water Conference Science Program Chair funding, University of Maine Mitchell Center, ~\$5500/year funded, 2010–2014.

Nelson, S.J., J. Saros. Determining the effectiveness of the Clean Air Act and Amendments on the recovery of surface waters in the northeastern US (IAG 06HQGR0143). US EPA and USGS. \$50,000 renewal, 2014-2015 increment.

Nelson, S.J. Site assessments for US EPA TIME Lakes. US EPA. \$20,000 funded, June 2012.

Zoellick, B., M. Schauffler, **S. Nelson**. Acadia Learning - Phase II: Data Literacy. Maine Department of Education, Title IIB Mathematics and Science Partnership. \$100,000 funded, 2012.

Zoellick, B., B. Bisson, **S. Nelson**. Acadia B-WET: a partnership to help teachers engage students in sustained, project-oriented investigations of eel population and distribution in coastal watershed systems. NOAA B-WET. \$261,000 funded, 2010.

Fernandez, I., J. MacRae, S. Norton, L. Rustad, K. Simon, with subcontract for Acadia Learning via **S.J. Nelson**. Biogeochemical Controls on Altered Nitrogen Cycling in the Third Decade of Whole-Watershed Simulated N Deposition. National Science Foundation. \$1,485,330 funded, 2010.

Nelson, S.J., J. Saros, K. Strock. Analysis and summary of trends during approximately three decades of lake sampling. EPA IAG for Clean Air Act trends research, 2011-2012, Amendment to Incremental request for Year 6 funding. \$10,000 funded, 2011.

McDowell, W., J.S. Kahl, **S.J. Nelson**. Determining the effectiveness of the Clean Air Act and Amendments on the recovery of surface waters in the northeastern US (IAG 06HQGR0143). US EPA. \$202,227 funded, 2012.

Amirbahman, A., R. Bushway, A. Calhoun, C. Loftin, **S. Nelson**. Proposal to purchase a methyl mercury analyzer. UMaine Multiuser Equipment Initiative. \$41,555 funded, spring 2012.

Nelson, S.J., S. Norton, I. Fernandez. BIOGEOMON 2012 Teachers Workshop. Maine NSF EPSCoR, University of Maine. \$17,402 funded, February 2012.

Nelson, S., C. Devoy. University of Maine High End Instrumentation Research. \$4,680 funded, December 2011.

Nelson, S. Developing a citizen science program for mercury in National Parks: can dragonfly larvae both inform science and engage Park audiences? University of Maine, Regular Faculty Research Funds. \$10,000 funded, December 2011.

Nelson, S. Acadian Internship Coordinator. Supplemental funding to **S. Nelson** from SERC Institute (2010) and Quebec-Labrador Foundation (Summer 2011). ~\$14,000 funded.

Sebestyen, S., D. Ross, J. Shanley, D. Burns, J. Campbell, B. Dail, C. Driscoll, I Fernandez, C. Goodale, G. Lawrence, G. Lovett, M. Mitchell, **S. Nelson**. A survey of nitrate isotopes to detect atmospheric nitrate inputs to stream and soil waters of forested watersheds in the northeastern USA. USDA NSRC. \$14,919 funded, 2010.

Zoellick, B., **S.J. Nelson**, B. Bisson. Acadia Partners Program Expansion in Learning, Research, and Understanding Natural Science. National Oceanic and Atmospheric Administration. \$500,000 funded, 2009–2011.

Vaux, P., J. Cradock, **S. Nelson**. Development of a Natural Resource Stewardship Strategy for Boston Harbor Islands National Park Area. National Park Service. \$60,000 funded, 2008–2011.

Vaux, P., M.J. James-Pierre, **S. Nelson**, C. Schmitt, P. Godfrey. Assessment of natural resources and watershed conditions in three National Parks: Cape Cod National Seashore, Boston Harbor Islands, and Saugus Ironworks. National Park Service. \$150,000 funded, 2007–2011.

Kahl, J.S., W. McDowell, **S. Nelson**, K. Webster. Determining the effectiveness of the Clean Air Act and Amendments for the recovery of surface waters in the northeastern US. U.S. Geological Survey. \$1,019,125 funded, 2003–2011.

Nelson, S.J., C. Schmitt. Preliminary comparison of mercury concentrations in wild and farm-raised shrimp. NOAA-Sea Grant development (seed) funds. \$200 + match funded, 2010.

Nelson, S., P. Vaux. KnowledgeBase On-Line Bibliographic and Dataset Catalogue. National Park Service. \$4,700 funded, 2011.

Nelson, S. Supplemental funding for mainframe migration. Determining the effectiveness of the Clean Air Act and Amendments for the recovery of surface waters in the northeastern US. U.S. Geological Survey. \$6,000 funded, 2009–2010.

Nelson, S., J.S. Kahl, D. Krabbenhoft, N. Kamman. Evaluating spatial patterns in mercury and methyl mercury in northeastern lakes: landscape setting, chemical climate, and human influences. Northeastern States Research Cooperative. \$30,000 funded, 2007–2008.

Zoellick, B., **S. Nelson**, Y. Davis. Professional Partnership and Praxis: Connecting Teachers, Working Scientists, and College Education Faculty to Attain New Learning Results. Maine Department of Education. \$25,000 funded, 2009–2010.

Nelson, S. Are we under-estimating mercury burdens in winter soils? A case study at Schoodic Peninsula, Acadia National Park, Maine. Schoodic Research Fellowship Program. \$5,000 funded, 2008–2009.

Zoellick, B., **S. Nelson**, Y. Davis. Professional Partnership and Praxis: Connecting Teachers, Working Scientists, and College Education Faculty to Attain New Learning Results. Maine Department of Education. \$75,000 funded, 2008–2009.

Nelson, S. Pilot studies of mercury in vernal pools at Acadia National Park. Fitz Eugene Dixon Fellowship, Acadia Partners for Science and Learning. \$10,000 funded, 2007–2008.

Vaux, P., **S. Nelson**. Assessment of Natural Resources and Watershed Conditions in and Adjacent to Acadia National Park (supplement for additional work products). US DOI, National Park Service. \$8,000 funded, 2008.

Vaux, P., **S. Nelson**, J. Peckenham, K. Bell, N. Rajakaruna, G. Mittelhauser, B. Kopp. Assessment of natural resources and watershed conditions in and adjacent to Acadia National Park. National Park Service. \$50,000 funded, 2006–2007.

Zoellick, B., G. Saunders, **S. Nelson**. Professional Partnership and Praxis: Connecting Teachers, Working Scientists, and College Education Faculty to Attain New Learning Results. Maine Department of Education. \$106,000 funded, 2007–2008.

Nelson, S., K. Johnson. Determining trends in water chemistry for two salmon rivers and their small tributaries, 1985–2006. Maine Atlantic Salmon Commission. \$40,000 funded, 2004–2007.

Johnson, K., **S. Nelson**. Do water sampling techniques affect aluminum speciation? Maine Atlantic Salmon Commission. \$15,000 funded, 2006.

Nelson, S.J. How much is enough? Developing a citizen-based monitoring plan for mercury in paired gauged watershed streams at Acadia National Park. L.L. Bean Acadia Research Fellowship. \$5,000 funded, 2006.

Nelson, S.J. Funds awarded to support a study of data quality produced by citizen monitoring as a complement to L.L. Bean-funded project, below. Davis Conservation Foundation, subcontract via Acadia Partners for Science and Learning. \$1,500 funded, 2006.

Nelson, S.J., D.P. Krabbenhoft, K.B. Johnson, J.S. Kahl. In-kind award for analysis of 50 samples for isotopic and total mercury analyses to support the project: Does mercury migrate from soils to snowpack? USGS Mercury Research Lab. 2004–2006.

Nelson, S.J. Closing the loop on hydrologic and mass balances for a temperate forested park. Canon National Parks Science Scholarship. \$78,000 funded, 2003.

Kahl, J.S., P. Vaux, **S. Nelson**. Servicewide Park Research Collaborative (SPaRC) for gauged watersheds. National Park Service. \$20,000 funded, 2003.

Kahl, J.S., J. Stoddard, R. Church, **S. Nelson**, L. Rustad, K. Webster, I. Fernandez, R. Stemberger. Evaluating scope and trends for the base cation decline in surface waters of the northeastern US. U.S. Department of Agriculture/Northeastern States Research Cooperative. \$99,000 funded, 2003.

Nelson, S.J. Funds awarded to purchase GIS software and present water research maps on the Web. Margaret E. Burnham Charitable Trust. \$1,500 funded, 2003.

Kahl, J.S., **S.J. Nelson**, I.J. Fernandez. Correlating predictive contaminant deposition maps with streamwater chemistry at Acadia National Park (Project PMIS Number 75017). Natural Resources Challenge-NRPP, National Park Service. \$340,000 funded, 2002.

Nelson, S.J. Association of Graduate Students, University Alumni Association, and Professional Employees Advisory Council Travel and Research Grants. 12 grants funded, 1999–2006.

Miscellaneous Publications and Presentations, including multimedia:

Sampling videos for Dragonfly Mercury Project in national parks, 2015.
<http://www.schoodicinstitute.org/what-we-offer/educational-scientific-partnerships/dragonfly-mercury-project/>

Nelson, S.J., C.F. Pritz, 2014. Six-legged Scouts: Dragonfly larvae provide baseline data to evaluate mercury in parks nationwide. National Park Service Issue Brief, Oct. 2014.

Webber, H.M., **Nelson, S.J.**, 2013. (Video) Dragonfly larvae identification. Available:
<https://vimeo.com/76713446>

Nelson, S.J., C. Flanagan. Six-legged Scouts: Dragonfly larvae help scientists understand mercury in national parks. National Park Service Issue Brief, May 2013. Available:
http://www.nature.nps.gov/air/Studies/air_toxics/dragonfly/index.cfm

Webber, H., **S. Nelson**, et al. Data story videos (series of eight videos documenting teachers' work with scientists) at BIOGEMON 2012. In final preparation, 2012-2013.

Schauffler, M., S.J. Nelson, R. Weatherbee, 2013. Data literacy mini-lessons and instructionals. Available: <http://participatoryscience.org/search/mini-lessons>
Schauffler, M., R. Weatherbee, B. Polson, **S.J. Nelson**. 2013. Data literacy skill assessments. In prep.

Sunkhaze Café. January 2013. Student presentations and scientist Q&A with the public regarding mercury research in the Sunkhaze National Wildlife Refuge.

Nelson, S.J., I.J. Fernandez, S.A. Norton. BIOGEMON 2012 Teachers' Workshop exhibit. 2012 Maine EPSCoR State Conference, "Building Partnerships for Sustainability Solutions". September 24, 2012, University of Maine, Orono. ME.

Nelson, S.J. Web site development for BIOGEMON Teachers' Workshop,
biogeoteach.wordpress.com

Fernandez, I.J., **S.J. Nelson**, H.M. Webber, 2012. (Video) “Dr. Ivan Fernandez Introduces the Nitrogen Cycle”. Available: <http://participatoryscience.org/video/ivan-fernandez-introduces-nitrogen-cycle>

Nelson, S.J., H.M. Webber. 2012. Curriculum for high school teachers and students: Nitrogen Cycling in Watersheds. A series of six curriculum units, available: <http://participatoryscience.org/search/curriculum-activities>

Nelson, S.J., C. Flanagan. 2012. Sampling protocol for the collection of dragonfly larvae and water samples from National Parks for mercury analysis. March 2012.

Nelson, S.J., H.M. Webber. 2012. Curriculum for high school teachers and students: Culverts and Stream Ecology. A series of six curriculum units, available: <http://participatoryscience.org/search/curriculum-activities>

Nelson, S., H. Webber, B. Zoellick, Y. Davis, 2011 (version 3). Curriculum for high school teachers and students: Mercury in Watersheds. A series of six curriculum units, available: <http://participatoryscience.org/search/curriculum-activities>

Lindsey, E., **S. Nelson**, H. Webber. 2012. Dragonfly Larvae in Citizen Science Partnership. In consideration for ARGIA, the news journal of the Dragonfly Society of the Americas.

Nelson, S.J., C.V. Schmitt. 2011. Safe, Sustainable Seafood: A Study of Mercury in Shrimp. Maine Sea Grant Research in Focus series. Available: <http://www.seagrants.umaine.edu/publications/outreach>

Nelson, S.J., B. Zoellick, T. Johnston, M. Schaufli. 2009-2011. Assessment instrument for data literacy (Dragonfly Survey). Administered to 300+ high school students. In validation as part of ongoing data literacy research.

Web site development for Acadian Internship, acadianinternship.wordpress.com

Web site development for Acadia Learning Project, participatoryscience.org

Image-based key to identification of dragonfly larvae, web site developed and supervision of undergraduate web designer. See <http://parkcitizenscience.org/dragonfly/>

Zoellick, B., **Nelson, S.**, Davis, Y. 2010 (version 2). Teachers’ Guides to Mercury in Maine’s People and Ecosystems. A series of six curriculum units, published online, www.acadialearning.org.

Zoellick, B., **Nelson, S.**, Davis, Y. 2009. Teachers’ Guides to Mercury in Maine’s People and Ecosystems. A series of six curriculum units, published online, www.acadialearning.org.

Nelson, S.J., B. Zoellick. 2009. Mercury in the Foodweb: Guiding Students Through Inquiry. Maine Stream Team Newsletter, Spring 2009.

Mapping/GIS contributions:

- Signs of the Seasons observers’ site maps. For Maine Sea Grant, 2012-2013
- Senator George J. Mitchell Center for Environmental & Watershed Research, 2008. Lower

Penobscot River Map & Field Guide. Orono, ME: University of Maine.

- Maine Sea Grant Kiosk poster. 2007. Water Quality in Kenduskeag Stream.
- Maine Sea Grant Kiosk poster. 2007. The Penobscot River Watershed.

Workshops

S.J. Nelson, H. Webber, I. Fernandez, J. Saros, B. Zoellick, 2013-2016. Series of workshops for Acadia B-WET Snowpack project. Orono, ME and delivered over distance via telecomm.

S.J. Nelson, H. Webber, 2014-2016. Teacher Summer Institutes for B-WET Snowpack Project (two institutes, June 2014, August 2014, June 2015, June 2016), Schoodic Education and Research Center.

M. Schauffler, **S. Nelson**, H. Webber, J. Muhlin, R. Weatherbee. Data Literacy Summer Institute for teachers. Schoodic Education and Research Center, August 19-22, 2013.

H. Webber, **S. Nelson**, B. Bisson, B. Zoellick, I. Fernandez. Series of science education workshops for teachers participating in Acadia B-WET (Acadia Learning), 2010-2013.

B. Zoellick, M. Schauffler, **S.J. Nelson**. Series of data literacy workshops for science teachers. Statewide (Maine), 2012-2013.

S. Nelson, I. Fernandez, S. Norton, M. Schauffler. Data literacy workshop, BIOGEOMON 2012, Northport, Maine, July 15-20, 2012.

B. Zoellick, M. Schauffler, **S.J. Nelson**. Series of data literacy workshops for science teachers. Statewide (Maine), 2011-2012.

B. Bisson, **S. Nelson**, H. Webber, M. Schauffler, B. Zoellick. Teacher summer institute: Watershed Studies and Data Literacy, June 27-July 1, 2011.

B. Zoellick, M. Schauffler, **S.J. Nelson**. Series of data literacy workshops for science teachers. Statewide (Maine), 2010-2011.

T. Johnston, **S.J. Nelson**. Dealing with data. Workshop for high school teachers. Bangor, ME, Jan. 30, 2010.

S.J. Nelson, B. Zoellick, Y. Davis. Acadia Learning Program. Workshop for high school teachers, Winter Harbor, ME, 2009.

S.J. Nelson, B. Zoellick, Y. Davis. Career and Technical Education Teachers workshop, Schoodic Education and Research Center, June 29, 2009.

S.J. Nelson, B. Zoellick, Y. Davis. Mercury and Human Health. Workshop for high school teachers, Brunswick, ME, November 14, 2008.

S.J. Nelson, B. Zoellick, K. Johnson, Y. Davis. Schoodic Summer Academy: Mercury. Workshop and field course for high school teachers, Unity College, Unity, ME, August 19-20, 2008.

Schoodic Summer Academy, Intertidal Ecology. Amy Philippi, Unity College. Assisted and made presentations. June 17-20, 2008.

Professional Affiliations

- NERC Winter Ecology Working Group, 2015-present
- American Society for Limnology and Oceanography, 2016-present
- NERC Steering Committee, 2013-present
- Earth Science Women's Network, 2014-present
- Citizen Science Central listserv, 2013-present
- Catchment Club, 2012-present
- Global Lake Ecological Observatory Network (GLEON), 2012-present
- George Wright Society, 2012-present
- North Atlantic Chapter, SETAC, 2012-2015
- American Geophysical Union, Member Biogeosciences Section, 2002-2014
- American Association for the Advancement of Science, 2006-2008
- Ecological Society of America, 2003

Institutional Service

Chair, Search Committee – EES Lecturer, 2016; NSFA Undergraduate Curriculum Committee, 2015-2016; University of Maine Program Assessment, lead for EES program, 2015-2016; Multicultural Committee, School of Forest Resources, 2015-present; Space Committee, Nutting Hall; Nutting Hall Technology Committee; Field trip, School of Forest Resources Summer Camp, May 2015; Maine RiSE Center, volunteer for teacher observers in classrooms; Freshwater Science group, 2014-2015; Advisory Board Member, Sawyer Environmental Chemistry Research Laboratory, 2013-2014; NSF-ADVANCE Rising Tide Center, Peer Mentor, 2012-2013; UMaine Public Relations, UMaine Today feature, news stories, blog, and video assistance, 2013; Poster judge, University of Maine Graduate Expo, April 2012; Department of Earth Sciences Critical Zone working group, 2011-2012; Special seminar (C. Eagles-Smith, USGS) organizer, UMaine SSI and School of Biology and Ecology, 2011; Professional Employees Advisory Council (Subcommittees: Nominations, Professional Development Survey), 2002-2005; Association of Graduate Students, Grant Review Committee, 2002-2003; Associate of Graduate Students, Vice President, 2001-2002; Search Committees: Outreach and Development Coordinator, Environmental Chemistry Lab Director, Associate Dean for Students and Community Life, 2001-2002; Graduate Student Representative to the University of Maine Faculty Senate (Subcommittee: University Environment), 2001-2002; Health Insurance Subcommittee of the Association for Graduate Students, 2001-2002; Student Employment Advisory Council, 2000-2002; University of Maine Fitness Center Feasibility Committee, 2001-2002

Outreach Activities and Community Service not listed above

- Poster preparation seminar (informal) for EES Seniors, Spring 2016
- Graduate presentation judge, University of Maine CUGR Research Showcase, May 2016.
- Poster Judge, NERC 2015 (Saratoga Springs, NY).
- Acadia National Park – Dragonfly Project field sessions. Skowhegan High School (May 2014); Upward Bound (June 2014); Bar Harbor area schools (October 2014).
- Historic Rights-of-way committee, Lucerne-In-Maine, 2014 – present
- Golden Gate National Recreation Area, BioBlitz scientist, March 2014.
- Children's Water Festival 2012, assisted with activity development
- Speechwriter, national-level politician, 2012

- Co-nominated Ed Lindsey for US EPA 2011-2012 Presidential Innovation Award for Environmental Educators (award was granted in spring 2012, one of only two given in EPA Region 1)
- Friends of the Bangor Dog Park – fundraising and development lead
- Emerge Maine class of 2010
- Canon National Envirothon final presentation judge, August, 2007
- MDI Water Quality Coalition student mentor, 2006-2007
- Skowhegan High School Environmental Chemistry Water Project mentor, 2006
- Chair and Comprehensive Plan Committee Liaison, Planning Board, Town of Clifton, Maine, 2003-2005
- ESRI Grant recipient and GIS coordinator, Town of Clifton, 2004
- Member, Planning Board, Town of Clifton, Maine, 2001-2005
- Northern Maine Children’s Water Festival Volunteer, October 2002, 2004

Research training, certification, and permits:

- FERPA and Advising 101 Workshops, University of Maine CLAS series, 2014 and 2015.
- Blackboard workshops, Faculty Development Center, University of Maine, 2015.
- Active learning in large lectures workshop, Maine RiSE Center, 2014.
- UMaine IACUC for Acadia B-WET (S. Nelson, lead), approved 2010.
- UMaine IRB and Human Subjects Research training (S. Nelson, lead), approved 2011.
- National Park Service permits for research at Acadia National Park (several permits issued 1999–2016), Marsh Billings Rockefeller National Historic Park (2012), and several other parks for 2012–2016.
- New Hampshire Fish and Game and New York State permit for collection of macroinvertebrate specimens (2010-current).

Reviewer for the following journals/agencies: Limnology and Oceanography: Methods; NYSEDA Technical Evaluation Panel; National Park Service, Air Resources Division; Acadia National Park Resource Management; NSRC (Northeastern States Research Collaborative) review panel (multiple reviews); Environmental Pollution; Environmental Monitoring and Assessment; Environmental Science and Technology (multiple reviews); Geochimica et Cosmochimica Acta, National Fish and Wildlife Foundation; USGS Maine Water Research Institute grants program; Atmospheric Chemistry and Physics; Israel Science Foundation; SERC citizen science working committee; USGS colleague reviewer (multiple reviews)

Graduate Committees: Amanda Gavin (M.S., expected 2018, Ecology and Environmental Sciences); Michael Jakubowski (M.S., expected 2017, Plant, Soil, and Environmental Sciences); Kaizad Patel (Ph.D., expected 2016, School of Forest Resources); William Schlager (M.S.T., expected 2016, University of Maine); Kelsey Boeff (M.S., 2014, Quaternary Studies, University of Maine); Kristin Strock (Ph.D., 2013, Ecology & Environmental Sciences, University of Maine); Delia Massey (M.S., 2013 Civil & Environmental Engineering, University of Maine), Lauren Brown (M.S., spring 2010, Civil & Environmental Engineering, University of Maine); Melinda Diehl (Ph.D. candidate, Ecology & Environmental Sciences, University of Maine); M.J. Jones (M.S.T., 2013, University of Maine)

Committee Service, Undergraduate Honors Theses: Emily Anderson, 2015–2016; Megan Little, 2015–; Elizabeth Dziezyk, 2007 (Report stemming from thesis, Determining trends in water chemistry for two salmon rivers and their small tributaries, 1985-2006).

Undergraduate advising: All incoming EES students (74 total advisees in Fall 2015).

Courses taught:

- EES 489: Critical Issues in Ecology and Environmental Sciences, Fall 2015. (Senior capstone; writing intensive)
- EES 497: Independent Study in Ecology and Environmental Sciences, Spring 2016.
- EES 217: The Acadia Lessons Project – Field Problems in Ecology and Environmental Sciences, Fall 2015.
- EES 117: Introduction to Ecology and Environmental Sciences, Fall 2014, Fall 2015.
- BIO387: Undergraduate Research in Biology, Summer 2015.
- EES 100: Human Population and the Global Environment, Spring 2015, Spring 2016. (large enrollment).
- EES 490: Senior Seminar, Spring 2015 (writing intensive).
- SFR 521: Research Methods, Fall 2013.
- SMT 504: Integrated Methods in Earth Sciences Education, Fall 2013; assisting Molly Schauffler, course instructor, with the research project component of this course.

Guest Lectures:

- ENG 212: Writing in my discipline. Feb. 18, 2015.
- SFR 521: Lessons from a long career of writing successful research proposals. Dec. 1, 2014.
- SFR 103: Careers in forest resources research. Dec. 8, 2014.
- EES 117: Introduction to Ecology and Environmental Sciences (A. Calhoun). Field sampling and mercury in the environment. Oct. 1, 2013.
- INT 527: Applications of Remote Sensing and GIS in Natural Resource Management (C. Loftin). Modeling atmospheric deposition using GIS techniques, Nov. 14, 2005.
- Bates College class, “Valuation of Human-Altered Ecosystems” (H. Ewing). Acadia National Park paired research catchments, Northeast Harbor, ME, May 3, 2006.
- College of the Atlantic, Environmental Chemistry (D. Cass). Patterns in N and Hg processing in lakes and streams across Maine. Bar Harbor, ME, May 30, 2003.
- Eagle Hill Field course, “The Interactions of Hydrology, Geology, and Biology” (J.S. Kahl). Watershed controls on nitrogen and mercury – field methods and data analysis. July 23–29, 2000, Humbolt Center, ME.

Press:

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