

**David Jay Velinsky**  
The Academy of Natural Sciences  
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## **EDUCATION**

- 1987 Old Dominion University (Norfolk, VA)  
Ph.D. in Chemical Oceanography;  
Dissertation Title: "The geochemistry of selenium and sulfur in a coastal salt marsh"  
Thesis Advisor: Dr. Gregory A. Cutter
- 1977 Florida Institute of Technology (Melbourne, FL)  
B.S. in Oceanography, minor in Chemistry;  
Senior Thesis: "Determination of the redox potential and its relationship to the organic structure of the sediment"

## **RESEARCH INTERESTS**

Fate, transport, and cycling of bio-active elements and contaminants in freshwater and marine systems. Geochemical cycling of organic and inorganic constituents in sediments and waters. Biogeochemistry of fresh and marine tidal wetlands. Watershed changes in water quality. Isotope biogeochemistry of carbon, nitrogen, and sulfur. Chemical method development for environmental studies.

## **PROFESSIONAL EXPERIENCE**

- 2009 – Present Board of Trustees; Partnership for the Delaware Estuary (Wilmington, DE)
- 2007 – Present Vice President/Director- Patrick Center for Environmental Research  
The Academy of Natural Sciences (Philadelphia, PA)
- 2006 – Present Science and Technical Advisory Committee (STAC), Delaware Estuary Program,  
Partnership for the Delaware Estuary (Wilmington, DE)
- 2006 – 2007 Acting Vice President/Director- Patrick Center for Environmental Research  
The Academy of Natural Sciences (Philadelphia, PA)
- 2004 - Present Sea Grant Science Advisory Committee Member (New Jersey)
- 2002 - Present Delaware Estuary Program, Toxics Advisory Workgroup, Delaware River Basin  
Commission (West Trenton, NJ)
- 1995 - Present Director, Environmental Biogeochemistry Section, Patrick Center for Environmental  
Research, The Academy of Natural Sciences, (Philadelphia, PA).
- 1998 – 2004 Visiting Research Professor; School of Environmental Science; Drexel University.

- 1991 - 2002      Jug Bay Wetlands Sanctuary, Science Advisory Committee; Chairperson.  
Chesapeake Bay Program (EPA); Toxics Subcommittee
- 1990 - 1995      Environmental Geochemist, Interstate Commission on the Potomac River Basin  
(Rockville, MD).  
  
Lecturer, U.S. Department of Agriculture Graduate School, Natural Sciences  
Department (class: Estuarine Ecosystems).
- 1987 - 1990      Post-Doctoral Research Fellow, College of Marine Studies, University of  
Delaware, and Geophysical Laboratory, Carnegie Institution of Washington.  
  
Visiting Investigator, Geophysical Laboratory, Carnegie Institution of Washington.
- 1982 – 1984      Research Assistant, Atmospheric Sciences Div., NASA Langley Research Center.
- 1979 – 1980      Laboratory Technician, Arnold Greene Testing Laboratory (Natick, MA).

#### **OTHER PROFESSIONAL ACTIVITIES**

Various journal reviews for Marine Chemistry, Estuaries, Marine Environmental Research, Geochimica Cosmochimica Acta, Limnology and Oceanography, and others.

Various proposal reviews for National Science Foundation, NOAA Sea Grant, U.S. EPA, Chesapeake Bay Program, Hudson River Foundation.

Invited participant: PCBs in Fish Tissue (U.S. EPA); Sediment Contamination Forum (U.S. EPA); Sources of Copper: Brake Pad Forum (Common Ground for the Environment, Stanford Univ.); Sediment Bioaccumulation Forum (U.S. EPA).

Judge at Fairfax County Science Fair (1991-1993)

Session Chairperson (joint with Dr. Greg Foster, GMU): Environmental Geochemistry in Urban Watersheds, Society of Environmental Toxicology and Analytical Chemistry (San Francisco, CA, November, 1997).

Invited participant: Connecticut/New York Sea Grant Scientific Proposal Review Panel: Lobster/Shellfish Disease Studies of Long Island Sound (2003)

Sea Grant Panel Reviewer: NJ Sea Grant; Proposal Review Panel (2005)

Sea Grant Panel Reviewer: PA Sea Grant; Proposal Review Panel (2005)

Session Chairperson, S05 Delaware River/Bay at Society of Environmental Toxicology and Analytical Chemistry (Baltimore, MD, November, 2005).

Academy of Natural Sciences' Town Square (Public Forum): Chemicals in the Delaware Estuary. American Philosophical Society (January, 2005).

### **GRADUATE EXPERIENCE**

1985 - 1987      Research Assistant, Department of Oceanography, Old Dominion University

1983 - 1985      Teaching Assistant, Department of Oceanography, Old Dominion University

1980 - 1983      Research Assistant, Department of Oceanography, Old Dominion University

### **SCHOLARSHIPS AND AWARDS**

Old Dominion University Summer Scholarship (1984)  
Outstanding Doctoral Student, Dept. of Oceanography (1987)  
Dissertations Symposium on Chemical Oceanography Participant (1987)  
Award for Excellence of Program Development-Patrick Center (1998)

### **MEMBERSHIPS**

American Chemical Society  
American Geophysical Union  
Society of Environmental Toxicology and Chemistry  
Estuarine Research Federation  
North American Benthological Society

### **STUDENT ADVISEMENT/COMMITTEES**

Erin McKinley, BS, 2010. Department of Environmental Studies, Northland College, Ashland, WI (NSF REU 2008)

Angie Huff, MES, 2007. College of General Studies, Master of Environmental Studies, University of Pennsylvania, Philadelphia, PA.

Marcel Vasquez, BS 2008; Philadelphia University, Department of Chemistry. NSF REU Student 2007 and Chemistry Intern (2007-2008).

Ashley Smyth; B.S., 2006 (Highest Honors) Department of Marine Sciences, Carolina Environmental Program, University of North Carolina at Chapel Hill (NSF REU 2005 Advisor and Senior Thesis Co-Advisor)

Lisa Methratta, Ph.D., 2002. Department of Biology; University of Pennsylvania. (Currently at Marine Biological Laboratory, Woods Hole Oceanographic Institution)

Ms. Anne-Marie Compton-O'Brien, M.S., 2002. Department of Chemistry, Northern Arizona University, Flagstaff, Az. (Currently at University of Alaska, Fairbanks)

Chris Osburn, Ph.D., 2000, Department of Earth and Environmental Sciences, Lehigh University (Currently at Naval Research Laboratory; Research Scientist)

Dana Dugan; Department of Chemistry, Philadelphia University, Summer Intern and Senior Thesis; 1999-2000

Alison Potash, Department of Oceanography, Coastal Carolina University, Summer Intern; 1999

Karin Werner, Biology Department, Haverford College, Summer Intern; 1996 (Currently at NIH)

Nathaniel E. Ostrom, Ph.D., 1992. Department of Earth Sciences, Memorial University of Newfoundland, April, 1992. (Currently at Michigan State University; Associate Professor)

Susan Ziegler, BS, Senior Thesis, University of Massachusetts, Amherst; 1992 (Currently at a University of Arkansas; Assistant Professor in Biology).

### **CRUISE EXPERIENCE (selected)**

2003	<b>R/V Bay Eagle;</b> Anacostia River	2 days
1999	<b>R/V Discovery;</b> Delaware and Schuylkill Rivers	Many Days
1990 to Present	Numerous small boats for tidal wetland research	Many days
1995	<b>R/V Aquarius;</b> Anacostia and Potomac River Chief Scientist: Dr. David Velinsky	3 days
1989	<b>R/V Clifford Barnes.</b> Saanich Inlet, B.C. Chief Scientist: Dr. Bradley M. Tebo	6 days
1989	<b>R/V Trygve Braarud.</b> Framvaren Fjord, Norway Chief Scientist: Dr. Jens Skei	10 days
1987 - 1988	<b>R/V Cape Henlopen.</b> Delaware River/Bay/Shelf Chief Scientist: Dr. Jonathan H. Sharp	30 days
1985	<b>R/V Cape Henlopen.</b> Chesapeake Bay/Shelf. Chief Scientist: Dr. Tom Church	5 days
1983	<b>USNS Bartlett.</b> Gulf Stream/Exuma Sound Chief Scientist: Dr. Adam Zsolany	10 days
1982	<b>USNS Lynch.</b> Sargasso Sea. Chief Scientist: Dr. David Reid	20 days

### **PUBLICATIONS**

Ashley, J.T.F., M.L. Webster, J.E. Baker, R. Horwitz, and D.J. Velinsky. 2009. Polychlorinated biphenyls in sediment and biota from the Delaware River estuary. *Proceedings of the Academy of Natural Sciences*. 158: 89-105

- McGee, B.L., A.E. Pinkney, D.J. Velinsky, J.T.F. Ashley, D.J. Fisher, L.C. Ferrington and T.J. Norberg-King. 2009. Using the sediment quality triad to characterize baseline conditions in the Anacostia River, Washington, DC. *Environmental Monitoring and Assessment*: 156: 51-67
- Riedel, G.R., D.J. Velinsky, J.T. Ashley and J. Cornwell 2009. A contamination history of the Anacostia River, Washington, D.C. *Applied Geochemistry* (*Accepted; revisions*).
- K. L. Bushaw-Newton E. Ewers, D. J. Velinsky, J. T. F. Ashley, C. S. Fortunato and S. MacAvoy 2009. Microbial community snapshots from sediments of the Anacostia River using metabolic and molecular analyses. *Microbial Ecology* (*submitted*)
- Bushaw-Newton, K.L., D.A. Kreeger, S. Doaty, and D.J. Velinsky. 2008. Utilization of *Spartina*- and *Phragmites*-derived dissolved organic matter by bacteria and ribbed mussels (*Geukensia demissa*) from Delaware Bay salt marshes. *Estuaries and Coasts* 31: 694-703.
- Fairchild, G.W. and D.J. Velinsky. 2006. Effects of small ponds on headwater stream water chemistry. *Lake and Reservoir Management*. 22: 22(4): 321-330.
- Church, T.M., C. Sommerfield, D.J. Velinsky, D. Point, C. Benoit, D. Amouroux, D. Plaa and O. Donard. 2006. Marsh sediments as records of sedimentation, eutrophication and Metal pollution in the urban Delaware Estuary. *Marine Chemistry* 102(1-2): 72-95.
- Velinsky, D.J., K. Bushaw-Newton, T.E. Johnson and D.A. Kreeger. 2006. Effects of a dam removal in SE Pennsylvania on stream chemistry. *Journal of the North American Benthological Society (JNABS)* 25(3):569-582.
- Ashley, J.T.F., K. Bushaw-Newton, M. Wilhelm, A. Boettner, G. Drames, and D.J. Velinsky. 2006. The effects of small dam removal on the distribution of sedimentary contaminants. *Environmental Monitoring and Assessment* 114(1-3): 287-312.
- Fairchild, G.W., J.N. Anderson and D.J. Velinsky. 2005. The trophic state "chain of relationships" in ponds: does size matter? *Hydrobiologica* 539: 35-46.
- Bushaw-Newton, K.L., J. T. Ashley, and D.J. Velinsky. 2005. A Process for Assessing the Ecological Effects of a Proposed Dam Removal. *Hydroreview* 24(3): 36-44.
- Ashley, J.T.F., A. Moore, H. Stapleton, and D.J. Velinsky. 2003. Sedimentary nonylphenol contamination in an urbanized/industrialized segment of the Delaware River Estuary, USA. *Bull. Environ. Cont. Toxicol.* 70: 978-984.
- Hart, D.D., T.E. Johnson, K. Bushaw-Newton, R.J. Horwitz, A. Bednarek, D.F. Charles, D.A. Kreeger and D.J. Velinsky. 2002. Dam Removal: Challenges and Opportunities for Ecological Research and River Restoration. *Bioscience* 52(8): 669-681.
- Bushaw-Newton, K.L., D. D. Hart, T. E. Johnson, J. Pizzuto, J. Egan, M. Keeley, J. Lawrence, J. Thomson, J.T. Ashley, R.J. Horwitz, D. Charles, C. Gatenby, D.A. Kreeger, T. Nightengale, R.L. Thomas and D.J. Velinsky. 2002. An Integrative Approach Towards Understanding Dam Removal: The Manatawny Creek Study. *Jour. American Water Resources Association* 38(6): 1581-1600.

- Johnson T.E., W.C. Hession, D.F. Charles, R.J. Horwitz, D.A. Kreeger, B.D. Marshall, J.D. Newbold, J.E. Pizzuto and D.J. Velinsky. 2001. An interdisciplinary study of the ecological benefits of riparian reforestation in urban watersheds. In: Proceedings of the World Water and Environmental Resources Congress (ASCE), May 20-24, 2001, Orlando, FL, Section 1, Chapter 242.
- Foster, G.D., E.C. Roberts, B. Gruessner and D.J. Velinsky. 2000. Hydrogeochemistry and transport of organic contaminants in an urban watershed of Chesapeake Bay. *Applied Geochemistry* 15: 901-915.
- Hession, W.C., T.E. Johnson, D.F. Charles, D.D. Hart, R.J. Horwitz, D.A. Kreeger, J.E. Pizzuto, D.J. Velinsky, J.D. Newbold, T. Clason, A.M. Compton, N. Coulter, L. Fuselier, B.D. Marshall, and J. Reed. 2000. Ecological benefits of riparian reforestation in urban watersheds: Study design and preliminary results. *Environ. Monitor. Assess.* 63(1): 211-222.
- Velinsky, D.J. and M.L. Fogel 1999. Cycling of dissolved and particulate nitrogen and carbon in the Framvaren Fjord, Norway: Isotopic variations. *Marine Chemistry* 67: 161-180.
- Huanxin, W., B.J. Presley, and D.J. Velinsky. 1997. Distribution and sources of phosphorus in tidal river sediments in the Washington, D.C. area. *Environmental Geology* 30(3/4): 224-230.
- Pennock, J.R., D.J. Velinsky, J.L. Ludlam, J.H. Sharp, and M.L. Fogel. 1996. Isotopic fractionation of nitrogen during the uptake of ammonium and nitrate by *Skeletonema costatum*. *Limnology and Oceanography*. 41(3): 451-459.
- Velinsky, D.J., T.L. Wade, C. Schlekot and B.J. Presley. 1994. Tidal river sediments in the Washington, D.C. area. I. Distribution and sources of trace metals. *Estuaries*, 17: 305-320.
- Wade, T.L., D.J. Velinsky, E. Reinharz, and C.E. Schlekot. 1994. Tidal river sediments in the Washington, D.C. area. II. Distribution and sources of chlorinated and non-chlorinated aromatic hydrocarbons. *Estuaries*, 17: 321-333.
- Schlekot, C.E., B.L. McGee, D.M. Boward, E. Reinharz, T.L. Wade, and D.J. Velinsky. 1994. Tidal river sediments in the Washington, D.C. area. III. Biological effects associated with sediment contamination. *Estuaries*, 17: 333-344.
- Fogel, M.L., L.A. Cifuentes, D.J. Velinsky, and J.H. Sharp. 1992. Carbon limitation during photosynthesis by estuarine phytoplankton. *Marine Ecology Progress Series*, 82: 291-300.
- Velinsky, D.J., D.J. Burdige and M.L. Fogel. 1991. Nitrogen diagenesis in marine sediments: Isotope effects. Carnegie Institution Yearbook; *Annual Report of the Director*, Geophysical Laboratory, 1990-1991, 2250, 154-162.
- Velinsky, D.J., J.F. Todd, B.M. Tebo and M.L. Fogel. 1991. Isotopic fractionation of dissolved ammonium in anoxic waters. *Geophy. Res. Letters*: 18(4): 649-652.
- Velinsky, D.J. and G.A. Cutter. 1991. Diagenesis of selenium in a coastal salt marsh. *Geochim. Cosmochim. Acta*: 55, 179-191.

- Velinsky, D.J. and G.A. Cutter. 1990. Determination of elemental selenium and pyrite-selenium in sediments. *Anal. Chim. Acta* 235: 419-425.
- Coffin, R.B., D.J. Velinsky, R. Devereux, W.A. Price and L.A. Cifuentes. 1990. Stable carbon and nitrogen isotopes analysis of bacterial nucleic acids. *App. Environ. Microbiol.* 56 (7): 2012-2020.
- Velinsky, D.J., T.C. Hoering, T.G. Ferdelman, G.W. Luther, L.A. Cifuentes, and T.M. Church. 1990. Determination of the  $\delta^{34}\text{S}$  of elemental sulfur from marine sediments. Carnegie Institution Yearbook; *Annual Report of the Director*, Geophysical Laboratory, 1989-1990, 2200; 118-122.
- Velinsky, D.J., J.R. Pennock, J.H. Sharp, L.A. Cifuentes, and M.L. Fogel. 1989. Determination of the isotopic abundance of dissolved ammonium-nitrogen from estuarine waters at the natural abundance level. *Marine Chemistry* 26: 351-361.
- Velinsky, D.J., M.L. Fogel, and B. M. Tebo. 1989. Isotopic composition of dissolved nitrogen in the Black Sea. Carnegie Institution Yearbook; *Annual Report of the Director*, Geophysical Laboratory, 1988-1989, 2150; 123-130.
- Cutter, G.A. and D.J. Velinsky. 1988. Temporal variations of sedimentary sulfur in a Delaware salt marsh. *Marine Chemistry* 23(3/4): 311-328.
- Fogel, M.L., D.J. Velinsky, L.A. Cifuentes, J.R. Pennock and J.H. Sharp. 1988. Biogeochemical processes affecting the stable carbon isotopic composition of particulate carbon in the Delaware Estuary. Carnegie Institution Yearbook; *Annual Report of the Director*, Geophysical Laboratory, 1987-1988, 2102; 107- 113.
- Velinsky, D.J., T.L. Wade, and G.T.F. Wong. 1986. Atmospheric deposition of organic carbon to Chesapeake Bay. *Atmospheric Environment* 20(5):941-947.

#### **ABSTRACTS AND PRESENTATIONS**

- Velinsky, D.J. and C.K. Sommerfield. 2009. Rates of Sediment Accumulation and Marsh Accretion in Tidal Wetlands of the Delaware River Estuary. Presented at the 2009 Coastal and Estuarine Research Federation Meeting, Portland, OR.
- Thomas, R., D.J. Velinsky, D. Charles, and C.K. Sommerfield. 2009. Tidal Marshes in the Delaware Estuary: Historical Reconstruction of Chemical Loadings and Ecosystem Effects. Presented at the 2009 Coastal and Estuarine Research Federation Meeting, Portland, OR.
- Enache, M. D.J. Velinsky, D. Charles, and C.K. Sommerfield. Diatom-based Reconstruction of Past Environmental Changes in the Delaware River Tidal Region along a North-South Transect. Presented at the 2009 Coastal and Estuarine Research Federation Meeting, Portland, OR.
- Weston, N.B., M.A. Vile, S.C. Neubauer, and D.J. Velinsky. 2009. Sea Level Rise and Salt-Water Intrusion Limit Vertical Accretion Potential in Tidal Freshwater Marshes of the Delaware River Estuary. Presented at the 2009 Coastal and Estuarine Research Federation Meeting, Portland, OR.

- Ashley J.T.F., M. Vasquez, H. Stapleton, M. Schafer, R. Horwitz and D.J. Velinsky. 2009. Bioaccumulation of PCBs and PBDEs within a tidal freshwater marsh. Presented at the 2009 Delaware Estuary Science Conference, Cape May, NJ.
- Weston, N.B., M.A. Vile, S.C. Neubauer and D.J. Velinsky. 2009. The impact of climate change and sea level rise on tidal freshwater marshes of the Delaware River Estuary. Presented at the 2009 Delaware Estuary Science Conference, Cape May, NJ.
- Zelanko, P., E. McKinley, J.T.F. Ashley, M. Vasquez, R. Horwitz, and D.J. Velinsky. 2009 Trophic Relationships within Tinicum Marsh, Philadelphia, PA: Insights from the Stable Isotopes of Carbon and Nitrogen. Presented at the 2009 Delaware Estuary Science Conference, Cape May, NJ.
- Velinsky, D.J. 2008. Impact of Climate Change on the Water Quality and Biogeochemical Processes. Presented at workshop hosted by Academy and Partnership for the Delaware Estuary (May, 2008); *Climate Change in the Delaware Estuary*. The Academy of Natural Sciences (Forum and Town Square) (Invited).
- Horwitz, R.J., D. Velinsky, and D. Charles. The Manatawny Creek Dam Removal Study. Invited presentation at symposium on dam removal. State College, PA. May, 2008.
- Velinsky, D.J. 2008. Tidal Marshes in the Delaware Estuary: Historical Reconstruction of Chemical Loadings and Ecosystem Effects. 2008 Zhoushan National Symposium on Mariculture, Zhejiang Ocean University (Invited)
- McKinley, E., P. Zelanko, J. Ashley and D.J. Velinsky. 2008. Trophic Relationships within Tinicum Marsh, Philadelphia, PA: Insights from the Stable Isotopes of Carbon and Nitrogen. 2008 Sigma Xi Annual Meeting and Student Research Conference, Washington, DC.
- Weston, N.B., M.A. Vile, D.J. Velinsky, S.C. Neaubauer and S.B. Joye. 2007. Shifting Pathways and Magnitude of Organic Matter Mineralization in Tidal Freshwater Marshes Following Sea-Level Rise. Estuarine Research Federation, Providence, RI.
- Velinsky, D.J., C. Sommerfield, J.A. Ashley, R. Greene, and D. Charles. 2007. Tidal marshes in urban environments: Historical reconstruction of chemical loadings and ecosystem effects. Society of Environmental Toxicology and Chemistry 28th Annual Meeting, Milwaukee, WI November, 2007.
- Schafer, M. L. Zaoudeh, D. Butera, G.F. Riedel, D.J. Velinsky, J.A. Ashley, and J. Cornwell. 2007. Sediment contamination in the tidal freshwater Potomac and Anacostia Rivers: A pollution history of Washington, D.C. Society of Environmental Toxicology and Chemistry 28th Annual Meeting, Milwaukee, WI November, 2007.
- Thomas, R.L. D.F. Charles, C.A. Flinders and D.J. Velinsky. 2007. A Multi-Year Study of Periphyton Dynamics in the Jackson River: Patterns of Biomass and Community Structure and the Relationship to Physico-Chemical Conditions. North American Benthological Society 55<sup>th</sup> Annual Meeting, Columbia, SC, June 2007.

- Flinders, C.A., D.F. Charles, O. Gibb, D.D. Hart, R.J. Horwitz, R.L. Thomas, D.J. Velinsky, J. Zalack. 2007. Using Pulsed Flows in the Jackson River: Spatial Effects of a Planned and Natural Pulsed Flow Event on Biomass. North American Benthological Society 55<sup>th</sup> Annual Meeting, Columbia, SC, June 2007.
- Horwitz, R.J., D.F. Charles, C.A. Flinders, D.D. Hart, D.H. Keller, R.L. Thomas, D.J. Velinsky, J. Zalack. 2007. Using Pulsed Flows in the Jackson River: Effects of High Flow Refuges on Periphyton Biomass during a Pulsed Flow Experiment. North American Benthological Society 55<sup>th</sup> Annual Meeting, Columbia, SC, June 2007.
- Vile, M., N. Weston, D. Velinsky, and S. Neubauer. 2007. Assessing the Impact of Climate Change Induced Sea-Level Rise on Carbon Cycling Dynamics in Freshwater Tidal Marshes. Presented at the Society of Wetland Scientists, 10th International Symposium on Biogeochemistry of Wetlands, Annapolis, MD. April, 2007.
- Weston, N.B., M.A.Vile, D.J.Velinsky, S. Joye and S.C. Neubauer. 2007. Rising sea levels and salinity intrusion into tidal freshwater marshes: Shifting microbial communities and pathways of organic matter mineralization. Presented at the American Society of Limnology and Oceanography 2007 Annual Meeting. Santa Fe, NM, February, 2007.
- Fairchild, G.W. and D.J. Velinsky. 2007. The chemical effects of ponds on streams. Presented at the American Society of Limnology and Oceanography 2007 Annual Meeting. Santa Fe, NM. February, 2007.
- McLaughlin, C, A Smyth, DJ Velinsky, NB Weston, O Gibb, R Thomas, and MA Vile. The Impact of Salinity Intrusion on the Biogeochemical Cycling of C in Sediments from Tidal Freshwater Marshes. 2006. Presented at the Atlantic Estuarine Research Society (AERS) Meeting at The Academy of Natural Sciences, Philadelphia, PA. (March, 2006).
- Weston, NB, DJ Velinsky, D Fonseca and MA Vile. 2006. Climate Change and Salinity Intrusion into Tidal Freshwater Marshes: Coupling Shifting Microbial Populations and Community Compositions to Attendant Changes in Metabolic Rates. Presented at the Atlantic Estuarine Research Society (AERS) Meeting at The Academy of Natural Sciences, Philadelphia, PA (March, 2006).
- Fairchild, G.W. and D.J. Velinsky. 2006. Chemical Transformations of streamwater by headwater ponds of varying size and trophic state. 91st Ecological Society of America (ESA) Meeting, Memphis, TN (Aug, 2006)
- Smyth, A, D.J.Velinsky, S.Ensign, M.Phieler and M. Vile. 2006. Two Marshes, One Problem: The Impact of Sea Level Rise on Freshwater Tidal Marshes. Presented at the Southeast Estuarine Research Society (SEERS) Meeting. Savannah, GA (October, 2006).
- McLaughlin, C., A. Smyth, D.J. Velinsky, R.L. Thomas, and M. Vile. 2006. The impact of salinity intrusion on the biogeochemical cycling of C in sediments from tidal freshwater marshes. North American Benthological Society Annual Meeting, Athens, GA. June, 2006. Bulletin of the North American Benthological Society. 23(1): 749.

- Velinsky, D.J., C.J. Flinders, D.F. Charles, and R.L. Thomas. 2006. Benthic algae response following phosphorus reduction in a nutrient point source. North American Benthological Society Annual Meeting, Athens, GA. June, 2006. *Bulletin of the North American Benthological Society*. 23(1): 704.
- Fairchild, G.W. and D.J. Velinsky. 2005. Physicochemical determinants of trophic state, nutrient transformations and downstream export in headwater ponds. North American Lake Management Society (NALMS) Annual Meeting. Madison, WI
- Velinsky, D.J., G.F. Riedel, J. Ashley, G. Foster, and C. Schultz. 2004. Spatial and temporal changes in trace contaminants in the tidal Anacostia River after precipitation events. Pg. 148 (talk 668). Presented at the 25th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Portland, OR, November, 2004.
- Riedel, G.F., D.J. Velinsky, J. Ashley, T.L. Wade, and J. Cornwell. 2004. Sediment contamination in the Anacostia River: A pollution history of Washington, D.C. pg. 124 (talk 552). Presented at the 25th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Portland, OR, November, 2004.
- Velinsky, D.J., Ashley, J.T.F. and C. Schultz. 2004. Understanding the fate and transport of PCBs in the tidal freshwater Anacostia River, Washington, D.C. 228th National American Chemical Society, Philadelphia, PA (Abst # 768675).
- Kreeger, D. A., R.L. Thomas, N. Saxe and D.J. Velinsky. 2003. Spatial and temporal variability in fitness and carbon and nitrogen stable isotopes in *Crassostrea virginica* in San Antonio Bay, TX. Presented at the 2003 Estuarine Research Federation, Seattle, WA.
- Velinsky, D.J., C.A. Flinders, N.E. Saxe and R.L. Thomas. 2003. Incorporation of pulp mill effluent solids in aquatic food webs: use of carbon and nitrogen stable isotopes. North American Benthological Society Annual Meeting, Athens, GA. June, 2003. *Bulletin of the North American Benthological Society*. 20(1): 232.
- Church, T., C. Sommerfield, D.J. Velinsky, D. Point, C. Benoit, D. Amouroux, O. Donard. 2003. Historical Pollution As Recorded In Marsh Sediments Of The Upper Delaware River. *Eos Trans. American Geophysical Union*, 84(52), Ocean Sci. Meet. Suppl., Abstract OS21D.
- Anderson, J.N., G.W. Fairchild and D.J. Velinsky. 2003. Watershed effects on water quality and primary producers in shallow ponds. North American Benthological Society Annual Meeting, Athens, GA. June, 2003. *Bulletin of the North American Benthological Society*. 20(1): 240.
- Hagan, E.E., C.A. Flinders, N.E. Saxe, D.J. Velinsky, D.F. Charles and R.L. Thomas. Ecological studies of algal communities in the Jackson River (Covington, VA): An assessment of stream health through multi-year nutrient and biomass monitoring. North American Benthological Society Annual Meeting, Athens, GA. June, 2003. *Bulletin of the North American Benthological Society*. 20(1): 382.
- Bushaw-Newton K.L., S. Doaty, D.A. Kreeger, & D.J. Velinsky. 2003. Bacterial utilization of dissolved organic matter derived from *Spartina alterniflora* and *Phragmites australis*. Presented at the 2003 Estuarine Research Federation, Seattle, WA.

- Bushaw-Newton K.L., D.A. Kreeger, S. Doaty & D.J. Velinsky. 2003. Relative effects of dissolved organic matter derived from *Spartina alterniflora* and *Phragmites australis* on secondary production. Ecological Society of America, Savannah, Georgia, August 2003.
- Moore, A., J.T. Ashley, H. Stapleton and D.J. Velinsky. 2002. Assessing Nonylphenol Contamination in Sediment from the Schuylkill and Delaware Rivers. Presented at the 23rd Society of Environmental Toxicology and Chemistry Annual Meeting, Salt Lake City, UT., November, 2002.
- Ashley, J.T.F., A. Moore, H. Stapleton and D.J. Velinsky. 2002. Sedimentary Nonylphenol Contamination in Delaware and Schuylkill Rivers. Presentation at the Annual American Water Resources Conference. November, 2002. Philadelphia, PA. November, 2002.
- Schultz, C.L., A.M. Buckley, J.M. Miller, D.J. Velinsky, T.J. Murphy, G. Foster, S. Hahn and M. Buchman. 2002. Contaminant Loads to the Tidal Anacostia River. Presented at the 23rd Society of Environmental Toxicology and Chemistry Annual Meeting, Salt Lake City, UT., November, 2002.
- Velinsky, D.J., J.T.F. Ashley, F. Pinkney, B.L. McGee and T.J. Norberg-King . 2002. Using the Sediment Quality Triad Approach to Assess Sedimentary Contamination in the Anacostia River, Washington, D.C. Presented at the 23rd Society of Environmental Toxicology and Chemistry Annual Meeting, Salt Lake City, UT., November, 2002.
- Velinsky, D.J., G.D. Foster, D.P. Kelso and P.D. Doelling Brown. 2002. Stable Isotope Variations and PCB Uptake in the Food Web of a Tidal Freshwater River. Presented at the Third International Conference on Applications of Stable Isotope Techniques to Ecological Studies; Northern Arizona University; Flagstaff, Arizona. April 2002.
- Turner, K., K.L. Bushaw-Newton and D.J. Velinsky. 2002. Photochemical modification and Bacterial utilization of dissolved organic matter-derived from *Phragmites australis* and *Spartina alterniflora*. NJ Sea Grant *Phragmites* Workshop, Vineland, NJ.
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#### **TECHNICAL REPORTS**

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Riedel, G.F. and D.J. Velinsky. 2008. Tidal Basin and Ships Channel Toxics Monitoring. Final Report (05g-05-WQD01 (APPR05)). District of Columbia, Department of the Environment, Washington, DC. (PCER Report: 08-4).

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Velinsky, D.J., J.T.F. Ashley and G.R.Riedel. 2007. Sediment Contaminants in the upper Tidal Potomac River; Washington, DC: Spatial and Temporal Trends. Final Report submitted to Department of the Environment, District of Columbia.

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- Pinkney, A.E., B.L. McGee, P.C. McGown, D.J. Fisher, J.T.F. Ashley and D.J. Velinsky. 2004. Using the Sediment Quality Triad to Characterize Toxic Conditions in the Chesapeake Bay (2002): An assessment of tidal river segments in the Bohemia, Elk, Northeast, and Severn Rivers. Submitted by the US Fish and Wildlife Service, Chesapeake Bay Program Office to US EPA Chesapeake Bay Program, Annapolis, MD.
- Ashley, J., D.J. Velinsky, M. Wilhelm, J. Baker, D. Secor and M. Toaspern. 2003. Bioaccumulation of Polychlorinated Biphenyls in the Delaware River Estuary. Submitted to Delaware River Basin Commission.
- Srivastava P., D.A. Kreeger, T.E. Johnson and D.J. Velinsky. 2003. Non-point Source Pollution Assessment Techniques Curriculum Development. Submitted to Pennsylvania Coastal Zone Management Program (NOAA), Project Number: CZ1:02PD.12.
- Fairchild, G.W., D.J. Velinsky and J. Bowers. 2003. Small Pond Ecology and Management: The effects of nutrients on shallow-water ecosystems in Chester County, PA. Submitted to the State of Pennsylvania as part of a Growing Greener Project.
- Johnson, T.E., W.C. Hession, D.F. Charles, D.D. Hart, R.J. Horwitz, T.E. Johnson, D.A. Kreeger, B. Marshall, J.E. Pizzuto & D.J. Velinsky. 2002. Riparian Reforestation in an Urbanizing Watershed: Effects of Upland Conditions on Instream Ecological Benefits. Final Report to the U.S. EPA. STAR Program, Contract # R 825798-01-0.
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- Schultz, C. and D.J. Velinsky. 2001. Collection of Field Data for the Transport of Sediments in the Anacostia River. District of Columbia, Department of Health, Environmental Health Administration. Washington, DC.
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- Bouchard, R., F. Acker, D. Charles, T. Nightengale, R. Horwitz, D.J. Velinsky, R. Davis & R. Thomas. 2001. Biological and Chemical Studies of the Guadalupe River, 2000. Rept. No. 01-10F. Patrick Center for Environmental Research, ANSP, Philadelphia, PA. 136 pp.
- Velinsky, D.J., S. Gibbons, P. May, and J. Ducnuigen. 2000. Seasonal Transformation and Fluxes of Nitrogen, Carbon and Phosphorus in a Tidal Freshwater Marsh. Final Report. Submitted to: USGS Patuxent Wildlife Research Center, Laurel, MD.

- Velinsky, D.J. and A. Potash. 1999. Atmospheric deposition of nitrogen and phosphorus in the Philadelphia region. Final Report. Submitted to the Environmental Associates, Academy of Natural Sciences, Philadelphia, PA.
- Horwitz, R.J., D.J. Velinsky, P. Overbeck and P. Kiry. 1999. Phase II assessment of total mercury concentrations in fishes from rivers, lakes and reservoirs of New Jersey. Report No. 99-7R. Prepared for NJ DEP, Office of Science and Research. June, 1999. Patrick Center for Environmental Research, The Academy of Natural Sciences, Philadelphia, PA.
- Velinsky, D.J. and J.E. Baker. 1999a. Relative importance of point and non-point sources of chemical contaminants to Chesapeake Bay. Chapter 8. In: *Chesapeake Bay Basin Toxics Loading and Release Inventory*. EPA 903-R-99-006/ CBP/TRS 222-100, May 1999, Chesapeake Bay Program, Annapolis, MD.
- Velinsky, D.J. and J.E. Baker. 1999b. Mass balance of chemical contaminants within Chesapeake Bay. Chapter 9. In: *Chesapeake Bay Basin Toxics Loading and Release Inventory*. EPA 903-R-99-006/ CBP/TRS 222-100, May 1999, Chesapeake Bay Program, Annapolis, MD.
- Velinsky, D.J. and A.M. Compton. 1999. Distribution and Cycling of Nitrogen and Phosphorus in the Jackson River, Covington, VA. Submitted to Westvaco Corporation, Covington, VA. Patrick Center for Environmental Research, The Academy of Natural Sciences, Philadelphia, PA.
- Velinsky, D.J., G.F. Riedel and G.Foster. 1999. Effects of Stormwater Runoff on the Water Quality of the Tidal Anacostia River. PCER Report #99-6. Submitted to U.S. EPA Region III. The Academy of Natural Sciences, Patrick Center for Environmental Research, Philadelphia, PA.
- Velinsky, D.J., D.A. Kreeger, W.C. Hession, R.T. Field and K.R. Philipp. 1998. Impact of Aquatic Vegetation on Water Quality of the Delaware River Estuary. ANSP Report #98-5. Prepared for the Delaware River Basin Commission. The Academy of Natural Sciences, Patrick Center for Environmental Research, Philadelphia, PA.
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- Hession, W.C and D.J. Velinsky. 1997. Nutrient and contaminant loads from the San Antonio and Guadalupe Rivers. ANSP Report 97-3. Academy of Natural Sciences, Philadelphia, PA, 54 pp.
- Gruessner, B., D.J. Velinsky, G.Foster, J. Scudlark, T.M. Church and R. Mason. 1997. Dissolved and particulate transport of chemical contaminants in the Northeast and Northwest Branches of the Anacostia River. ICPRB Report #97-2. Prepared for the DCRA, District of Columbia. Interstate Commission on the Potomac River Basin, Rockville, MD.
- Velinsky, D.J., M. Ziegenfuss and R. Horwitz. 1997. Characterization of the Aquatic Habitats and Resources near the Philadelphia Naval Complex Part II: Recommendations for Identification of Data Needs for Sediment Risk Management. Department of the Navy, Northern Division; Naval Facilities Engineering Command. Under contract to: EA Engineering, Science, and Technology, Hunt Valley, MD.

Velinsky, D.J., T.L. Wade, B. Gammisch, and J. Cornwell. 1997. Sediment Deposition and Inventory of Chemical Contaminants in the Tidal Anacostia River, Washington, D.C. ICPRB Report #97-2. Interstate Commission on the Potomac River Basin, Rockville, MD.

Velinsky, D.J. 1997. A Chemical Contaminant Mass Balance Framework for Chesapeake Bay. EPA 903-R-97-016, CBP/TRS 176/97. Chesapeake Bay Program Office, U.S. Environmental Protection Agency, Annapolis, MD.

Velinsky, D.J., R. Horwitz, P. Kiry, P. Overbeck and M. Ziegenfuss. 1996. Characterization of the Aquatic Habitats and Resources near the Philadelphia Naval Complex. Report No. 96-18. The Academy of Natural Sciences of Philadelphia, Patrick Center for Environmental Research, Philadelphia, PA.

Velinsky, D.J. and J.C. Cummins. 1996. Distribution of Chemical Contaminants in 1993-1995 Wild Fish Species in the District of Columbia. ICPRB Report # 96-1. Interstate Commission on the Potomac River Basin, Rockville, MD.

Velinsky, D.J. 1994. Loading estimates for specific chemical contaminants to Chesapeake Bay. Chesapeake Bay Environmental Effects Studies: Toxics Research Program, 1993 Workshop Report, Virginia and Maryland Sea Grant College Programs, VSG-94-14 and UM-SG-TS-94-03.

Velinsky, D.J. and J.C. Cummins. 1994. Distribution of chemical contaminants in wild fish species in the Washington, D.C. area. ICPRB Report # 94-1. Interstate Commission on the Potomac River Basin, Rockville, MD.

Velinsky, D.J., J. Cornwell, and G. Foster. 1994. Effects of dredging on the water quality of the Anacostia River. ICPRB Report # 94-2; Interstate Commission on the Potomac River Basin, Rockville, MD

Velinsky, D.J., C.H. Haywood, T.L. Wade, and E. Reinharz. 1992. Sediment contamination studies of the Potomac and Anacostia Rivers around the District of Columbia. Interstate Commission on the Potomac River Basin Report # 92-2. ICPRB, Rockville, MD.

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## **PUBLIC OUTREACH**

What's In the Water: Article in *Boston Herald American*; 1978

Mercury in Fish from the Local Area; Article in *Philadelphia Inquirer*; 2003

Remains of the Monitor Faces a Corrosive Enemy: Article in *Philadelphia Inquirer*; 2005

Muck tells a story for scientists to read. Article in *Wilmington News Journal*, November 4, 2007.

Interviews for articles in *Time*, *NPR*, *Philadelphia Inquirer*, *Metro* Newspaper (Philly) and others.

Lectures for public including ANSP's Town Square; High School Teacher Workshops, Har Zion Day School.

Quoted in article in The Press of Atlantic City "EPA Climate Change Study to target the Delaware Estuary", June 30, 2008.

### **INVITED SEMINARS**

2008 Zhejiang Ocean University at 2008 Zhoushan National Symposium on Mariculture, Zhejiang, China

Academy of Natural Sciences; Climate Change in the Delaware Estuary  
Presented at workshop hosted by Academy and Partnership for the Delaware Estuary

2007 Philadelphia University, Department of Biology  
Sponsor: Dr. Jeff Ashley

University of Pennsylvania, Department of Biology, EcoLunch  
Sponsor: Ms. Emma Aronson

2006 American University, Department of Biology,  
Sponsor: Dr. Karen Bushaw-Newton

Pennsylvania State University, York, Department of Biology  
Sponsor: Dr. Matt Hotch

2005 American Philosophical Society, Town Square  
Sponsor: Dr. D. James Baker

Philadelphia Water Department; Environmental Section  
Sponsor: Ms. Paula Connolly

2003 George Mason University, Department of Chemistry  
Sponsor: Dr. Gregory Foster

2002 Johns Hopkins University, Advanced Academic Graduate Program; Environmental Science and Policy Program. Class Lecture  
Sponsor: Mr. Chris Swarth

University of Pennsylvania, Department of Biology.  
Sponsor: Dr. Peter Petratis

2000 Drexel University, School of Environmental Science, Engineering, and Policy  
Sponsor: Dr. Clarie Welty

- Patuxent Wildlife Research Center, United States Geological Survey  
Sponsor: Dr. Richard Hammerschlag
- Philadelphia University, Department of Environmental Science  
Sponsor: William Brendley, Jr.
- 1997 The American University, Department of Biology  
Sponsor: Dr. W.C. Banta
- 1996 Drexel University, School of Environmental Science, Engineering, and Policy  
Sponsor: Dr. Clarie Welty
- 1995 Sigma XI Chapter, The Academy of Natural Sciences  
Sponsor: Dr. Dominique Didier Davit
- 1993 Lehigh University, Department of Earth and Environmental Sciences  
Sponsor: Dr. Gray Bebout
- 1992 National Oceanic and Atmospheric Administration, NOS/ORCA  
Sponsor: Dr. Nathalie Valette-Silver
- Smithsonian Institution, Smithsonian Environmental Research Center  
Sponsor: Dr. David Correll
- University of South Alabama, Department of Marine Sciences  
Sponsor: Dr. Erich Mueller
- 1991 University of Toronto, Department of Geology  
Sponsor: Dr. Jeff Fawcett
- Florida International University; Department of Chemistry  
Sponsor: Dr. William Cooper
- University of Uppsala, Department of Limnology  
Sponsor: Ms. Katarina Vrede/ Dr. Russell Bell
- The Academy of Natural Sciences, Division of Environmental Research;  
Sponsor: Dr. John Sherman
- 1990 Old Dominion University, Department of Oceanography;  
Sponsor: Dr. David J. Burdige
- American Chemical Society, Division of Geochemistry, "Progress in Marine  
Chemistry", Special session in honor of Dr. E. D. Goldberg;  
Sponsor: Dr. Thomas M. Church
- Carnegie Institution of Washington, Geophysical Laboratory;  
Sponsor: Dr. Francis Boyd

1989 Chalmers University of Technology and University of Goteborg,  
Department of Analytical and Marine Chemistry;  
Sponsor: Dr. David Dyrssen

University of Florida, Department of Fisheries and Aquaculture;  
Sponsor: Dr. Claire Schelske

1988 Oak Ridge National Laboratory, Environmental Sciences Division;  
Sponsor: Dr. Patrick J. Mulholland

United States Geological Survey, Water Resources Division;  
Sponsor: Dr. Carol Kendall