

**AREAS OF EXPERTISE**

Over thirty years of experience in stormwater and water resources management. Experience in local government, non-profit, private, and academic sectors. Strong skills with water resources policy, stormwater design, and program implementation. Exceptional communication skills and broad experience with outreach, training, classroom teaching, conference presentations, webcasts, and other forms of communication, ranging from keynote addresses to four-day workshops.

**EXPERIENCE****PRINCIPAL, HIRSCHMAN WATER & ENVIRONMENT, LLC — 2005-PRESENT**

Manage small consulting business focusing on implementation of low impact development and green infrastructure projects and natural resources planning, including natural resources property evaluations, stormwater research, stormwater design and training, and MS4 program support. Projects have included conducting research on methods to boost performance of stormwater BMPs, developing green infrastructure practice manuals, developing site-specific natural resources and stormwater plans, coordinating stormwater inspector training programs, performing BMP maintenance evaluations and improvements, and serving as an instructor for the Chesapeake Bay Landscape Professional pilot certification program.

**PROGRAM DIRECTOR, CENTER FOR WATERSHED PROTECTION — 2005-2016**

Managed core program areas for the Center, including stormwater and watershed services and watershed training. Developed new projects, secured funding, arranged and managed project teams, conducted work, and provided quality control. Projects involved work for government agencies at local, state, and federal levels as well as watershed organizations. Represented the Center at meetings and conferences.

Representative programs/projects include: working with MS4s to develop watershed/BMP plans, BMP inventories, and IDDE programs, authoring national guidance for local stormwater programs, coordinating and moderating a national webcast series, designing and implementing green infrastructure projects, working with the State of Virginia to develop the Runoff Reduction Method, and training multiple stakeholders through conferences, workshops, and field sessions.

**WATER RESOURCES SPECIALIST, BIOHABITATS OF VIRGINIA — 2004-2005**

Provided consulting services on innovative water management for sites and master plans, including water resources plans and ordinances, groundwater assessments, low-impact development design, identification of environmentally-sensitive areas, stormwater solutions, and watershed planning. Conducted staff development, training, and education programs for municipal water resources staff, environmental organizations, and the general public.

**WATER RESOURCES INSTRUCTOR, UNIVERSITY OF VIRGINIA SCHOOL OF ARCHITECTURE — 2004-2005**

Prepared and taught graduate level courses on water resources protection in site planning. Courses included lectures and field work.

**WATER RESOURCES MANAGER, ALBEMARLE COUNTY, VIRGINIA — 1993-2004**

Responsible for all facets of water resources program, including drinking water reservoir source water programs, stream protection, stormwater management, groundwater, comprehensive planning, policy coordination, and grants/budget management. Spearheaded development of water protection program; authored ordinance and design manual for implementation of drinking water reservoir protection program, streamside buffers, best management practices, and groundwater assessments. Coordinated stream assessment, stormwater master planning, and NPDES Phase II projects. Supervised water resources staff, and represented program at conferences and workshops.

**ASSOCIATE ANALYSIS, WASTE POLICY INSTITUTE — 1992-1993**

Worked for research and policy institute assessing innovative groundwater and soil remediation technologies for application to Department of Energy waste sites. Researched and authored procedure for peer review evaluation of research and development activities concerning waste site clean-up.

**ENVIRONMENTAL POLICY INSTRUCTOR, VIRGINIA TECH DEPARTMENT OF URBAN AFFAIRS & PLANNING — 1992**

Designed and taught undergraduate environmental policy course covering broad range of environmental policy issues, including energy, climate, water, waste, and biodiversity.

**RESEARCH ASSOCIATE, VIRGINIA TECH DEPARTMENT OF URBAN AFFAIRS & PLANNING — 1990-1992**

Designed and implemented demonstration projects in five Virginia communities, including water supply planning, river corridor management, groundwater protection, citizen participation, and application of GIS technology. Authored several technical publications on various water resources topics

**CO-DIRECTOR, SERVICE TRAINING FOR ENVIRONMENTAL PROGRESS, VANDERBILT UNIVERSITY — 1986-1987**

Responsible for day-to-day operation of university-affiliated non-profit environmental agency. Delivered technical assistance to community groups on wide range of water quality, waste management, and regulatory and policy issues. Worked directly with community liaisons to develop summer projects for undergraduate and graduate interns. Supervised interns and provided quality control on final projects and reports. Secured program funding from foundations and funding agencies.

**CO-DIRECTOR, STREAMWALK PROJECT, NORTH CAROLINA PUBLIC INTEREST RESEARCH GROUP — 1984-1985**

Conducted research, outreach, and training to support biological and chemical stream monitoring in North Carolina. Coordinated laboratory testing between citizen monitors and university laboratories. Co-authored state-wide guide on water quality issues and monitoring in North Carolina.

**EDUCATION**

Master of Urban & Regional Planning, Virginia Tech, 1991

BA, Biology, Duke University, 1983

**SELECTED ARTICLES, BOOK CHAPTERS, GUIDANCE MANUALS, PAPERS & REPORTS**

Hirschman, D. and Battiatia, J., *Urban Stormwater Management: Evolution of Process and Technology*, chapter in *Sustainable Water Management in Urban Environments*, Ed. Dr. Tamim Younos and Dr. Tammy Parece, Springer International Publishing, 2016.

Hirschman Water & Environment. *Technical Memorandum: Performance Enhancing Devices for Stormwater BMPs*. Prepared for: Chesapeake Stormwater Network, 2016.

Horsley Witten Group, Inc. and Center for Watershed Protection, *Stormwater Management in Pacific and Caribbean Islands: A Practitioner's Guide to Implementing LID*, Prepared for: NOAA Coral Reef Conservation Program, 2013.

Center for Watershed Protection, Inc., *West Virginia Stormwater Guidance Manual*, West Virginia Department of Environmental Protection, 2012.

Center for Watershed Protection, Inc. and Downstream Strategies, *West Virginia Mitigation & Payment In Lieu Guidance*, West Virginia Department of Environmental Protection, 2013.

Cappiella, K., Hirschman, D., Stack, B., and Drescher, S., *Using Nutrient Credits and Offsets to Achieve Stormwater Compliance with the Chesapeake Bay TMDL: A Discussion Paper*, Center for Watershed Protection, 2013.

Hirschman, D. Caraco, D., and Drescher, S., Linking Stormwater and Climate Change: Retooling for Adaptation, Watershed Science Bulletin, Association of Watershed & Stormwater Professionals, Spring, pp. 11-18, 2011.

Foraste, A. and Hirschman, D., A Methodology for using Rainwater Harvesting as a Stormwater Management BMP, proceedings, 2010 Low-Impact Development Conference, American Society of Civil Engineers, San Francisco, CA.

Hirschman, D. and Kosco, J., *Managing Stormwater in Your Community: A Guide for Building an Effective Post-Construction Program*, EPA Publication No. 833-R-08-001, 2008.

**PANELS, BOARDS, AND ADVISORY GROUPS**

Chesapeake Bay Stakeholder Advisory Group, 2014 -- Present

City of Charlottesville, Water Resources Advisory Committee, Past-Chair, 2013 -- Present.

Urban BMP Chesapeake Bay TMDL Advisory Group, Virginia Department of Conservation and Recreation, 2010.

Rivanna River Basin Commission, Technical Advisory Group, 2007 – present.

Green Infrastructure Center, Board of Directors, 2010 – present.

South River Science Team, Expert Panel, Virginia Department of Environmental Quality, DuPont, Inc., 2010 – present.