

Thomas W. Amidon

Associate

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EDUCATION

M.S., Engineering Science, State University of New York at Buffalo, 1993
B.S., Biology, The Pennsylvania State University, 1987

PROFESSIONAL EXPERIENCE

Omni Environmental

Associate, 2008 – present

Senior Project Manager, 2003 – 2007

NJDEP Division of Watershed Management, Research Scientist, 1998-2003

NJDEP Radiological Assessment Section, Environmental Scientist, 1993-1998

Great Lakes Program Extension, Research Assistant, 1989-1993

AREAS OF EXPERTISE

Mr. Amidon has a broad range of technical expertise in water resources and environmental management, including over fifteen years of experience developing innovative technical and regulatory solutions to difficult problems. Areas of focus include:

- Surface Water Quality Studies
- Total Maximum Daily Loads
- Nutrient Impacts and Water Quality Trading
- Water Quality and Watershed Modeling
- Watershed and Wastewater Management Planning
- Limnology/Shallow Lake Ecology
- Stormwater Management
- Risk Assessment and Communication

PROFESSIONAL AFFILIATIONS

American Water Resources Association

NJ-AWRA member

PA-AWRA member

American Society of Civil Engineers, J. Environmental Engineering manuscript reviewer

Greenwood Lake Commission, Member appointed by NJDEP Commissioner, 2003

NJDEP Mercury Work Group, 2000-2003

NY/NJ Harbor Nutrient TMDL Work Group, 2000-2003

North American Lake Management Society

Passaic River TMDL Workgroup, 1998-2002

Raritan Basin Watershed Alliance, Technical Advisory Committee

Water Environment Association

New Jersey WEA, Regulatory Interface Committee Chair

Water Environment Research, Water Environmental & Technology manuscript reviewer

REPRESENTATIVE EXPERIENCE

The Raritan River Basin Nutrient TMDL Study: developed scope of work and budget, designed sampling approach, performed watershed assessment, evaluated model calibration and results, presented results, and wrote reports. Work is ongoing.

Evaluated water quality data and performed stream assessments to evaluate nonpoint source impacts in Ramanssin Brook. Worked with watershed group to obtain over \$1.3 million in federal 319(h) funding to perform stream restoration and stormwater infrastructure improvements based on study results. Currently working on designs, permitting, and construction oversight to implement the restoration projects.

Evaluated NJDEP's surface water quality assessment methodology and developed recommendations to improve its technical merit and usefulness

Assisted a county government in Delaware in demonstrating that their proposed wastewater disposal method will maintain compliance with the TMDL adopted for the receiving water within the watershed

Currently helping a commercial client in a highly urbanized setting solve flooding problems on their property

Currently helping several wastewater treatment plants implement their PCB Pollutant Minimization Plans required by Delaware River Basin Commission

Developed Expert Report on behalf of two builders to investigate alleged impairment to an off-site pond. Managed project, performed water quality investigation, and wrote report

Successfully demonstrated to NJDEP that Special Water Resource Area protections did not apply to a particular site because of its hydrographic properties

Targeted Monitoring Protocol for Fecal Contamination on behalf of large water supply authority: developed scope of work and budget, obtained grant, managed project, developed a novel targeted monitoring protocol to prioritize and implement source trackdown efforts for fecal contamination, developed case study to illustrate protocol, and wrote final report

Mulhockaway Creek Stormwater Management and Watershed Restoration Plan on behalf of large water supply authority: managed project, assessed water quality sampling results, and wrote final report

Developed an Expert Opinion to support litigation regarding land use permitting issues related to a property transfer in New Jersey

Developed an Expert Report regarding the technical basis for a proposed TMDL in Pennsylvania. As a result of the legal discussions supported by the Expert Report, PADEP withdrew the subject TMDL.

Performed Water Reuse Impact Analysis on behalf of wastewater treatment plant to support proposed water reuse project in New Jersey

“Broadview at Berlin, Connecticut” storm water management design and evaluation: developed scope of work and budget, managed project, prepared Water Resource Evaluation and Impact Assessment as well as presentation for testimony

Performed Anti-Degradation Evaluation and Metals Translator Study on behalf of municipal utility authority

Performed phosphorus impact evaluation on tidal stream surrounded by extensive tidal wetlands: developed scope of work and budget, designed sampling approach, performed assessment, and wrote report

Developed “currency of exchange” coefficients and point source trading zones for nutrient trading program to implement Passaic River TMDL. Managed project and developed technical approach in cooperation with New Jersey EcoComplex, reviewed simulation scenarios, and facilitated technical discussions with NJDEP.

The Non-Tidal Passaic River Nutrient TMDL Study: evaluated model calibration and results, developed watershed-specific criteria, presented results, and wrote reports

Developed an empirical model to define the export of phosphorus from the Great Swamp to the Passaic River based on actual flow and loads to the swamp

Performed the Non-Tidal Rancocas Creek Watershed Nutrient Impairment Study to evaluate the impact of phosphorus from both natural and anthropogenic sources on productivity. Developed scope of work and budget, designed sampling approach, performed watershed assessment, and wrote report.

The South Branch Pennsauken Creek Model Re-verification and Nutrient Impairment Study: evaluated model calibration and results, and wrote report

Performed Lawrence Brook Sampling Study to assess level of impairment and characterize pollutant sources

Evaluated iron and phosphorus chemistry associated with streams that run through glauconitic soil formations in Monmouth and Burlington Counties

Designed and obtained regulatory approval for many Quality Assurance Sampling Plans to perform stream and effluent sampling and analysis

Performed Phosphorus Evaluation Studies on behalf of wastewater utilities to determine the applicability of the phosphorus stream criterion to their receiving waters

Provided litigation support to municipality seeking to defend its land use ordinance

Assisted a private fishing club to ensure adequate regulation and enforcement of a quarry operation along a Category One waterway. Also assisted private fishing club in defeating a proposed development with poor stormwater management design.

Developed 37 Total Maximum Daily Loads for phosphorus to address eutrophic lakes in New Jersey, all of which gained EPA approval. Also obtained EPA approval for 168 TMDLs for fecal coliform in streams calculated using simple approach based on ambient data.

Developed soil cleanup standards for diffuse radioactively contaminated sites using a novel approach to account for individual site features. Authored technical basis document and developed spreadsheet model to calculate soil cleanup criteria based on pathway analyses.

SELECTED PUBLICATIONS AND PRESENTATIONS

Cosgrove, Jr., J.F. and T. Amidon, *Impact of Proposed Amendments to Category One Surface Water Quality Standards on Wastewater Treatment Plants*, The Authority View, August/September 2007.

Amidon, T., *Export of Phosphorus from Great Swamp to Passaic River*, Technical Session 74, American Water Resources Association, 2007 Annual Conference, Albuquerque, NM, November 2007.

Amidon, T. and G. Jaligama, *Using GIS-Based Hydrologic, Hydraulic, and Pollutant Loading Models to Understand Nonpoint Source Impacts and Guide Restoration Initiatives*, Technical Session 60, American Water Resources Association, 2007 Annual Conference, Albuquerque, NM, November 2007.

Cerucci, M., Ph.D., G. Jaligama, T. Amidon, and J.F. Cosgrove, Jr., P.E., *The Simulation of Dissolved Oxygen and Orthophosphate for Large Scale Watersheds Using WASP7.1 with Nutrient Luxury Uptake*, Proceedings of WEFTEC 2007, San Diego, CA, October 2007.

Cerucci, M., Ph.D., T. Amidon, and G. Jaligama, *Enhanced Simulation of Nonpoint Sources of Nutrients Based on Stormwater and Baseflow Field Measurements*, Proceedings of WEFTEC 2007, San Diego, CA, October 2007.

Cosgrove, Jr., J.F. and T. Amidon, *Raritan River Basin TMDL Study: Water Quality Targets and Future Simulations*, Presented to Raritan River Basin Technical Advisory Committee, December 17, 2007.

Cosgrove, Jr., J.F. and T. Amidon, *Raritan River Basin TMDL Study: Model Calibration and Validation*, Presented to Raritan River Basin Technical Advisory Committee, September 17, 2007.

Amidon, T., *Raritan River Basin TMDL Study: Data Summary*, Presented to Raritan River Basin Technical Advisory Committee, August 20, 2007.

Amidon, T.W., and J. F. Cosgrove, Jr., P.E., *Development of Nutrient TMDLs for the Raritan River Basin*, Proceedings of WEFTEC 2006, Dallas TX., October 2006.

Cosgrove, Jr., J.F., M. Cerucci, Ph.D., and T.W. Amidon, *Development and Evaluation of Scenarios for Non-Tidal Passaic River Basin Nutrient TMDL*, Proceedings of WEFTEC 2005, Washington, D.C., November 2005.

Bergstrom, J.D. and T.W. Amidon, *Ramanessin Brook Stormwater Modeling and Pollutant Loading Study*, presented at:

Navesink – Swimming River Regional Stormwater Management, October 26, 2005

WMA 12 Technical Advisory Committee Meeting, October 27, 2005.

Cosgrove, Jr., J.F., M.S. Wright, and T.W. Amidon, *Development of a Watershed-Based Nutrient TMDL for the Non-Tidal Passaic River Basin*, Proceedings of WEF TMDL 2005, Philadelphia, PA, June 2005.

Cerucci, M., Ph.D, J.F. Cosgrove, Jr., and T.W. Amidon, *Modeling Water Quality for the Non-Tidal Passaic River System*, Proceedings of WEF TMDL 2005, Philadelphia, PA, June 2005.

Amidon, T.W., “*Raritan River Basin TMDL Study*,” presented at NJ WSA Raritan Basin Alliance meeting, June 22, 2005.

Amidon, T. W. and J.F. Cosgrove, Jr., *Watershed Solutions to Real Nutrient Impairments*, Proceedings of WEFTEC 2004, New Orleans, LA, October 2-6, 2004.

Amidon, T.W., “*Non-Tidal Passaic River Basin Nutrient TMDLs*,” presented at the Association of Environmental Authorities’ Commissioners’ Conference on “Phosphorus Control in New Jersey,” June 24, 2003, East Windsor, NJ.

Amidon, T.W., “*TMDLs in New Jersey*,” presented at:

USDA CSREES USEPA Region 2 Water Quality Coordination Project, June 10, 2003.

NJWEA Conference & Exposition, May 8, 2003.

37 TMDLs for Eutrophic Lakes in 5 Water Regions
2003; NJDEP Division of Watershed Management; Trenton, NJ

Determination that Phosphorus is Neither Limiting Primary Production nor Causing Impairment of Uses in the Whippany River

1999; Appendix E, Amendment to Northeast WQMP; Trenton, NJ

Development of Generic Standards for Remediation of Radioactively Contaminated Soils in New Jersey: A Pathways Analysis Approach

1999; Chapter 11 of Contaminated Soils, Volume 4; Amherst, MA

1998; Technical Basis Document for Proposed Rule; Trenton, NJ

1998; RaSoRS, software implementing pathways methodology; Trenton, NJ

Amidon, T.W., *Interactions among Nutrient and Food Web Dynamics: Development of the Kinetic Structure of a Model for Lake Ontario*
1993; M.S. thesis, State University of New York at Buffalo; Buffalo, NY
1993; Great Lakes Program technical monograph No. 6; Buffalo, NY

SPECIALIZED TECHNICAL TRAINING

- Geographic Information Systems – intro and advanced
- Radioactivity Short Courses – physics, safety, waste and materials management
- Models: HSPF, QUAL2E, GWSCREEN, BASINS
- Water Quality, Trading, and Reduction of Non-Point Sources of Phosphorus
- Interest Based Negotiation – effective negotiating skills
- Public Meeting Skills Training

HONORS AND AWARDS

- NJDEP Teamwork/Partnership Achievement Award
- NJDEP Customer Service Excellence Award