United States Environmental Protection Agency

This document is one of the project summaries from the EPA's Targeted Watershed Grants 2005 Annual Report published in December 2005. The reference number is EPA 840-R-06-001. You can find the entire document at **http://www.epa.gov/twg**.

EPA'S TARGETED WATERSHED GRANTS 2005 ANNUAL REPORT

December 2005

Passaic River

NJ

Headwaters of the Passaic River in the Highlands of New Jersey.

WHY IS THIS WATERSHED SPECIAL?

The Passaic River, which traverses both New Jersey and a small portion of New York, has historically been an area of significant industrial activity and is now one of the most impacted rivers in the northeast. Approximately two million people—one quarter of New Jersey's population—live within 669 square miles of the 803-square-mile watershed. In addition, 23 reservoirs, all within the nontidal portion of the river, provide potable water to New Jersey's residents.

ENVIRONMENTAL CHALLENGES

The New Jersey Department of Environmental Protection recently funded watershed characterization and assessment studies. These revealed that surface water quality standards for nutrients, dissolved oxygen, pH, temperature, pathogens, metals, and pesticides are often exceeded.

- Phosphorus loads must be reduced to restore water quality in the rivers, lakes, and reservoirs.
- Nineteen wastewater treatment plants within the nontidal portion of the Passaic River watershed each discharge more than 1 million gallons per day of treated effluent. The plants, studies assert, contribute a large percentage of the phosphorus load.
- Upgrading wastewater treatment plants to meet an effluent limitation for total phosphorus would be extremely costly. All additional costs would be passed on to taxpayers in the form of higher sewer rates unless a water quality trading program with the potential to significantly lower costs is implemented.

RESTORATION ACTIVITIES

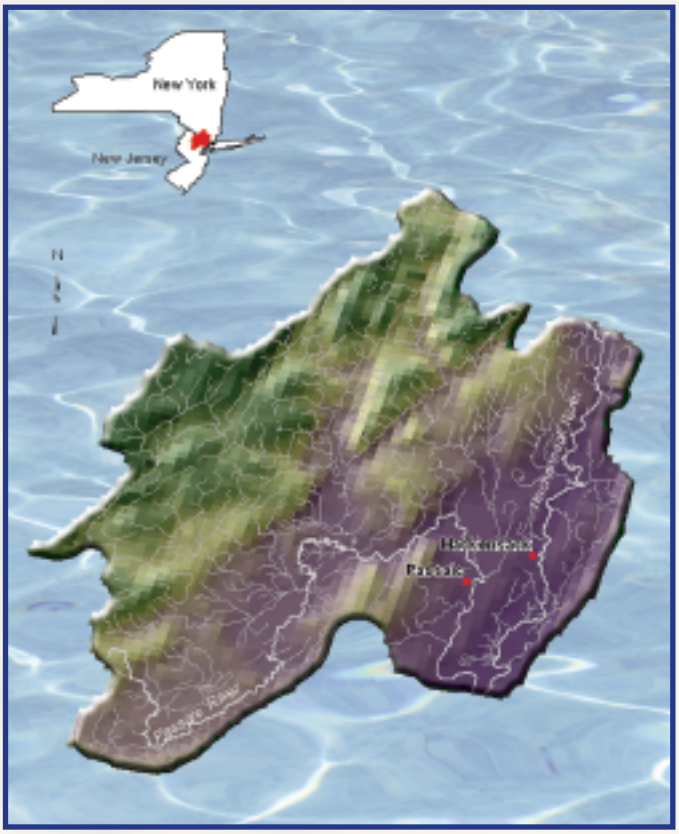
EPA Targeted Watersheds Grant funds will be used to develop, implement, and evaluate an effective water quality trading program for the nontidal Passaic River Watershed that adheres to EPA's Water Quality Trading Policy. The focus of the program will include both point-point source trading and point-nonpoint source trading. The partners will:

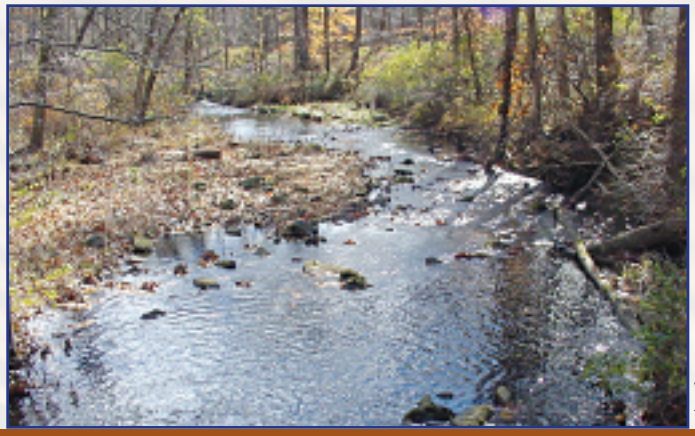
- Review available studies to identify potential trading scenarios and examine ongoing projects around the country to identify models that can be adopted
- Evaluate potential trading scenarios from a scientific and economic perspective and develop a model that will quantify potential load reductions and cost savings
- Evaluate the public policy and legal aspects, including permitting and enforcement implications, of water quality trading as it pertains to the Passaic River watershed and New Jersey statutes, regulations, and policies
- Develop and implement a trading program, including facilitating trading negotiations and recommending modifications to permits
- Report results at local, regional, and national meetings and in peer-reviewed journals
- Develop a website for the project. A website has been initiated for the project at **www.water.rutgers.edu/projects/trading/WQTrading.htm**

A STRONG PARTNERSHIP FOR CHANGE

The watershed contains 19 major point sources. Each may require different levels of upgrade to achieve water quality standards, making a trading program very attractive. An active coalition assembled to complete this endeavor includes:

- The Passaic River Basin Alliance, a nonprofit coalition of wastewater treatment plants in the Passaic Basin
- Experts from Rutgers and Cornell Universities
- The New Jersey Department of Environmental Protection
- A nonprofit organization of New Jersey municipalities
- The New Jersey Association of Environmental Authorities, a nonprofit organization of state wastewater treatment plants, water utilities, solid waste facilities, and collection system operators





Whippany River, one of the many tributaries to the Passaic River that will be protected through the water quality trading project.

"The EPA Targeted Watershed Grants Program has provided a unique opportunity to develop a water quality trading program for the Passaic River Basin that brings together stakeholders with diverse goals, and align their efforts to improve water quality at reduced cost. We aim to achieve a win-win result for the environment and our stakeholders."

– Christopher C. Obropta, Ph.D., P.E., Rutgers Cooperative Extension