USEPA Targeted Watersheds Initiative Grant:

Restoring and Protecting Public Water Supplies and Watershed Resources of the Raritan River Basin, NJ

Introduction: USEPA provided a $1 million grant from its Targeted Watershed Initiative in November 2003, with the Stony Brook-Millstone Watershed Association (Stony Brook, one of the nation's largest watershed organizations) serving as project lead in partnership with the NJ Water Supply Authority (NJWSA, a major state-owned water supply utility) and the NJ Department of Environmental Protection (NJDEP, an innovator in environmental management). The South Branch Watershed Association is also a partner, working with NJWSA. The partners are providing $1.1 million in matching resources, for a total $2.1 million effort. This project is an exciting effort to improve surface water quality using a three-prong effort of **restoration, protection, and pollution prevention** within three areas – a semi-rural area (the South Branch Raritan) that supports the state's first and third largest reservoirs; the rapidly developing suburban Route 1 corridor (Millstone River) between Philadelphia and New York; and a core urban/industrial area (Raritan/Somerville/Manville area along the mainstem Raritan River) that is just upstream of the Basin's largest water supply intake. (See map.)

The Raritan Basin provides a unique opportunity to demonstrate and evaluate an innovative set of approaches to restore, protect and enhance water resources. It is a manageable watershed (1,100 square miles) with the full spectrum of land uses from urban to forested and agrarian. Most of the Basin is a source water area for surface water supplies. It has significant demographic diversity, and a wide variation in local efforts to protect watershed resources.

The project builds on ongoing, extensive efforts by NJWSA and NJDEP on the Raritan Basin Watershed Management Plan (released in March 2003), NJWSA's Spruce Run Initiative (a cooperative effort with municipalities surrounding the Spruce Run Reservoir), and Stony Brook's powerful watershed management program using subwatershed action plans and its "River Friendly" program.

First, the project will involve implementation of restoration (e.g., stream stabilization/restoration for entire streams), preservation (through improved development controls) and pollution prevention (through reduction of chemical and salt use) – individually insufficient but powerful in combination. Second, the project involves implementation in semi-rural, rapidly suburbanizing, and urbanized areas within one basin – representing dominant land use scenarios in the United States. Third, the project is evaluating use of a variety of partnerships between non-profit, governmental and private entities. The best innovation comes from effective combination of techniques, comprehensively implemented within target areas rather than implemented ad hoc. No project in New Jersey has even approached this level of comprehensiveness.

The Project: The Project is founded on the principle that successful watershed protection is only possible when three strategies are used together: restoration focused on existing problems, protection and preservation of high-quality resources, and pollution prevention focused on ongoing discharges. To evaluate the effectiveness of strategies in varying land use scenarios, projects will be implemented in three areas (comprising 41% of the Basin) highlighting major land use characteristics. Table 1 provides an overview.

Further Information: The following Web sites can be consulted for further information:

www.epa.gov/owow/watershed/initiative/2003/selected.html
www.njwsa.org/watershed
www.state.nj.us/dep/watershedmgt/
www.thewatershed.org
www.sbwa.org

TABLE 1 – PROJECT OVERVIEW (Implemented July 2003 through November 2006)			
GEOGRAPHIC TARGET AREA	**RESTORATION**	**PROTECTION & PRESERVATION**	**POLLUTION PREVENTION**
South Branch Raritan River: Raritan Reservoirs Source Waters	♦Study full stream restoration in at least one high priority stream, preferably of the Spruce Run Reservoir watersheds	Facilitate adoption of municipal ordinances addressing riparian area protection, stormwater management and NPS management in all 14 municipalities	♦ Implementation of Stony Brook "River Friendly" program ♦Reduction of nutrient use in residential, commercial/ office and agricultural areas ♦ Road salting controls
Mainstem Raritan River: Raritan/ Somerville/ Manville area	♦Study stormwater system improvements to address turbidity at water supply intake in Bridgewater	Facilitate adoption of municipal ordinances addressing riparian area protection, stormwater management and NPS management in all five urban municipalities	♦ Implementation of "River Friendly" program ♦Road salting controls ♦Targeted intervention on sites identified as Source Water risks by NJDEP
Millstone River Watershed: Route 1 Corridor	Study full stream restoration in at least one high priority stream based on the Action Plans for the Beden Brook, Rocky Brook and other targeted watersheds	Facilitate adoption of municipal ordinances addressing riparian area protection, stormwater management, NPS management in all 26 municipalities	♦Implementation of "River Friendly" programs targeted at a full range of landowners (residential, golf courses, business, etc.) ♦Road salting controls
Evaluation Methods	♦Pre and post project stream monitoring during storms for TSS and turbidity upstream and downstream of each site and the full stream ♦Pre and post Visual Assessments of streams ♦Pre and post project macroinvertebrate and habitat monitoring ♦Water quality monitoring at integrator site (lower portion of each subwatershed)	♦Using population projections and available land for development, project NPS loadings through 2020 with and without new ordinances ♦Track subdivision and site plans approved under the new ordinances, and assess NPS loads (pre and post ordinance) ♦Water quality monitoring at integrator site (lower portion of each subwatershed)	♦Track nutrient use changes by agricultural producers and homeowners and other targets of River Friendly programs ♦Using Spruce Run Reservoir NPS loading model, assess water quality improvements based on nutrient and road salting BMP implementation ♦Water quality monitoring at integrator site (lower portion of each subwatershed)

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