

**Raritan Basin Targeted Watersheds Grant:
Update on the First Year**

Daniel J. Van Abs, AICP
Manager, Watershed Protection Programs
New Jersey Water Supply Authority
74 East Main Street
Somerville, NJ 08876-2312
Email: <dvanabs@raritanbasin.org>

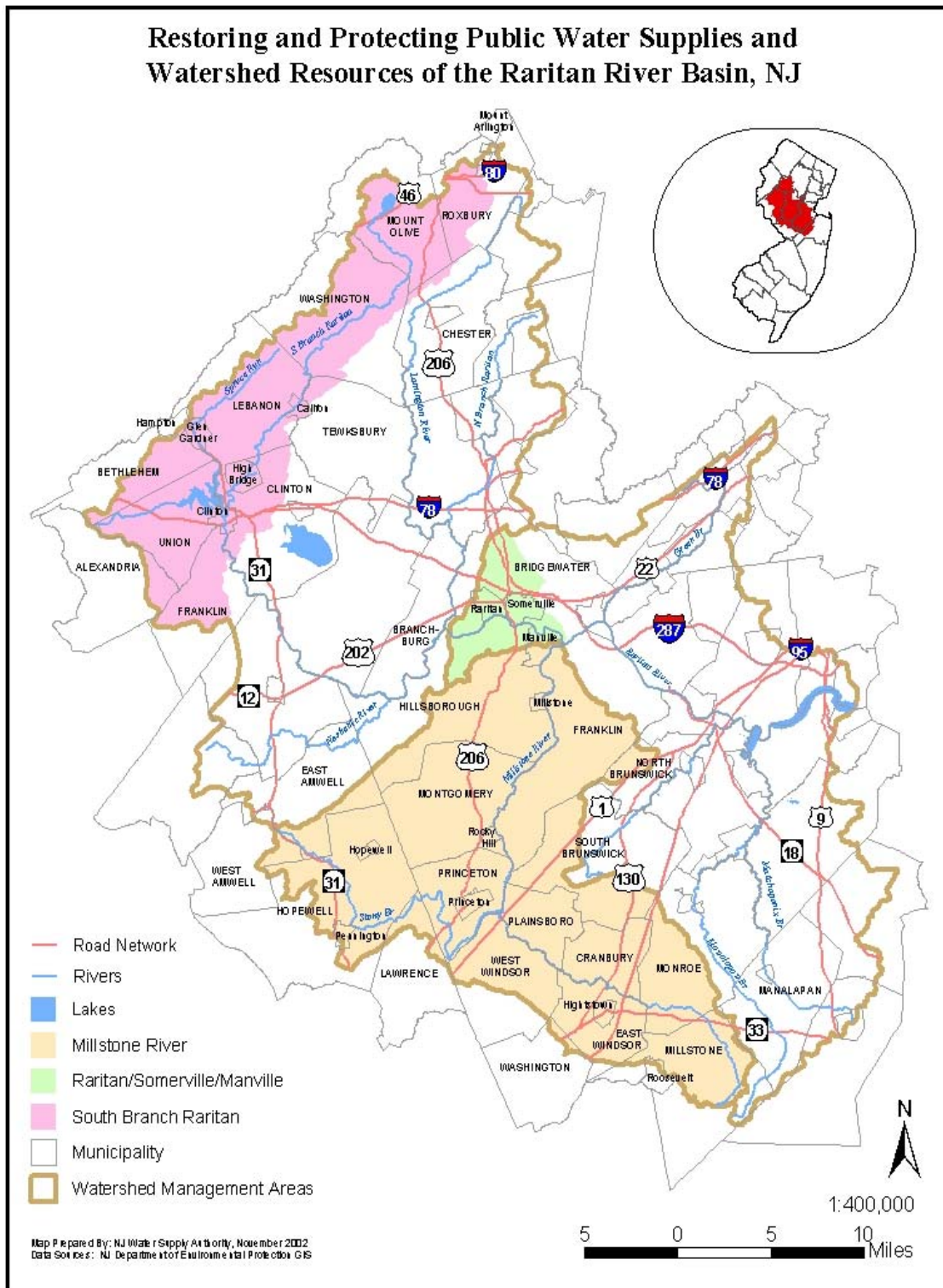
In the January 2003 *Regional Update* (the predecessor of **Watershed Update**), we provided an overview of the **Raritan Basin Watershed Management Project and Plan**. This effort has resulted, among other accomplishments, in a newly approved project in the Raritan River Basin of central New Jersey. In May 2003, USEPA announced that the Raritan Basin would receive one of its largest Targeted Watersheds Initiative (formerly Watersheds Initiative) grants. The recipient is a public-nonprofit partnership led by the New Jersey Water Supply Authority (NJWSA), a state-owned supplier of bulk water, and the Stony Brook-Millstone Watershed Association (SBMWA), one of the nation’s oldest and largest nonprofit watershed associations. The grant of \$1 million is being matched by more than \$1 million from the grant recipients and their partners, the NJ Department of Environmental Protection (NJDEP) and the South Branch Watershed Association (SBWA).

The purpose of the Raritan project is to implement three types of pollutant control measures (restoration, protection/preservation, pollution prevention) in three different watershed areas (urban, suburban, and rural/suburban). Table 1 provides a brief overview of the intended efforts. Figure 1 shows the project area.

TABLE 1: PROJECT OVERVIEW (Implemented November 2003 through December 2006)

GEOGRAPHIC TARGET AREA	RESTORATION	PROTECTION & PRESERVATION	POLLUTION PREVENTION
South Branch Raritan River: Raritan Reservoirs Source Waters (rural/suburban)	◆ 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 (urban)	◆ 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 (suburban)	◆ 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

Figure 1: Project Area



NJWSA is taking the lead in the South Branch Raritan area, which is upstream of its two reservoirs, and in the main stem Raritan River area, which is just upstream of the largest water supply intake in the Basin. SBMWA is taking the lead in the Millstone River watershed where it has been active for 55 years.

Getting Up and Running

The old adage, things take time, comes to mind. While the project grant announcement took place in May 2003, the actual grant agreement was signed in October 2003, which probably comes as no surprise to those who have handled major government grants. Most work during this period was procedural in nature. However, since that time the project has been up and running in good style, with new and existing staff focusing on the project.

Restoration

Through the winter season and into the spring of 2004, staff conducted a large number of stream assessments in several subwatersheds of the Millstone and South Branch Raritan project areas. NJWSA used the Stream Visual Assessment Program (SVAP) of the USDA-Natural Resources Conservation Service, which includes a combination of biological and physical assessments using relative scales. As such, the method is very useful for a quick assessment of the relative health of various streams, but is not a true monitoring technique. The purpose of the SVAP process in this case was selection of two to three stream reaches where a comprehensive restoration project would be possible. Feasibility included a combination of factors, including site access regarding private ownership, fiscal constraints, and the project's ability to actually achieve a restored state to the stream given anticipated upstream impacts. Following selection of the target stream reaches and reference reaches, monitoring for biological, physical and chemical parameters will be conducted pre- and post- restoration, under a USEPA-approved Quality Assurance Project Plan (QAPP). Table 2 from Spruce Run and the photographs below it from Spruce Run and Mulhockaway Creek are examples of the information collected during the SVAP process. SBMWA has the most experience with stream restoration, having completed many smaller projects in recent years. NJWSA has not performed any recent stream restoration projects, but has experience in field assessment techniques. Both organizations are being assisted by the Delaware River Basin Commission (DRBC), which has received a grant allowing them to provide technical assistance for such projects to organizations throughout New Jersey.

Protection & Preservation

The greatest progress has been made in this project focus, primarily due to SBMWA's long-term project working with municipalities to improve their approaches to water resources protection. The SBMWA process is being adapted for use in the South Branch Raritan and Mainstem Raritan project areas.

Table 2: Spruce Run Results

Assessed 9 sites:

0 Excellent 6 Fair

3 Good 0 Poor

Assessment Leads: Kathleen Hale and Deborah Newcomb, NJWSA

Spruce Run									
SVAP #	2	3	11	13	32	33	34	35	37
	Spruce Run	Spruce Run	Spruce Run	Spruce Run	Spruce Run	Spruce Run	Spruce Run	Spruce Run	Spruce Run
Assessment Scores:									
Channel condition	6	6	8	7	9	9	7	5	6
Hydrologic alteration	7	6	7	7	8	8	8	6	4
Riparian zone	3	1	9	7	8	8	8	4	5
Bank stability	6	4	8	5	9	9	8	8	7
Water appearance	9	8	9	8	8	7	8	4	8
Nutrient enrichment	9	9	8	8	8	5	6	5	7
Barriers to fish movement	3	3	9	3	2	2	9	7	7
Instream fish cover	7	9	8	7	8	5	8	6	7
Pools	9	7	7	6	7	6	7	5	7
Invertebrate habitat	9	9	9	7	8	5	7	6	8
Canopy cover (if applicable)	8	7	9	8	8	8	8	6	8
Manure presence (if applicable)	na	na	na	na	na	na	na	na	na
Salinity (if applicable)	na	na	na	na	na	na	na	na	na
Riffle embeddedness (if applicable)	5	8	8	6	5	4	8	6	5
Macroinvertebrates observed (optional)	13	8	13	13	11	na	11	13	11
Overall Score (Total divided by number scored)	7.2	6.5	8.6	7.1	7.6	6.3	7.9	6.2	6.9
<i>Poor = <6.0; Fair = 6.1 - 7.4; Good = 7.5 - 8.9; Excellent = >9.0</i>									



The SBMWA process begins with a formal agreement between SBMWA and a municipality (note: *all of New Jersey is within incorporated municipalities, which have the power of zoning*). SBMWA then works with the municipality's governing body, planning board, environmental commission and professionals to understand the municipality's goals and vision for the future. The current comprehensive master plan, environmental resource inventory and ordinances are then compared to the vision and goals to determine what steps have already been taken toward the vision and goals, and what next steps are needed. Finally, SBMWA works with the municipalities to implement the next steps. NJWSA will follow a similar process in its work.

This method differs from similar projects in two important ways. First, each municipality is addressed separately, rather than as a group. Second, each municipality is compared to its own vision and goals, rather than to an outsider's view of what should be done. As such, municipalities are more likely to accept the results. NJWSA will be experimenting with this method in two parts of the South Branch Raritan project area, where intermunicipal committees (the Spruce Run Initiative and the Raritan Highlands Compact) already exist and are more likely to develop a joint expression of vision and goals against which existing municipal efforts can be compared.

SBMWA is already working with 10 of the 26 municipalities in their watershed, and expect to conduct the municipal assessment process with all 26 by the end of the EPA grant. NJWSA has begun securing commitments from municipalities for this process, and has been working for three years with the municipalities of the Spruce Run Initiative, which is focused on protecting water resources draining to the Spruce Run Reservoir.

Pollution Prevention

Once again, SBMWA has provided the template program for this project focus. The River Friendly program is oriented toward working with individual landowners (e.g., businesses, golf courses, residences, farms) to improve their land management practices for the protection of water resources. As such, it is not a regulatory program, but rather provides technical assistance and recognition to willing landowners. SBMWA is working with NJWSA and the SBWA to develop a similar approach for the South Branch Raritan and Mainstem Raritan project areas.

SBMWA achieved a major milestone with its River-Friendly Business program recently, when Janssen Pharmaceutica (a Johnson & Johnson subsidiary) reach its initial program

River-Friendly Golf Course Certification Program

A Partnership to Protect Our Natural Resources



Streambank buffer at Cherry Valley Country Club, Skillman, NJ (© SBMWA, 2000)



goals and received a River-Friendly Certificate on 22 April 2004. SBMWA is also working with several other businesses and local golf courses.

NJWSA has decided that its administration complex in Hunterdon County will serve as the pilot site for the River-Friendly Business program in that project area. Work has already begun in reducing the large mowed lawns and developing naturalized habitat, and will continue through 2004.

Conclusions

It is, of course, too early for conclusions. However, the project teams are moving forward and progress is accelerating after a slow start. NJDEP has been providing technical and planning assistance as a partner to the project, which provides ready access to knowledge that benefits the project. Another 30 months remain in the project – we hope to provide another update, perhaps after year two is complete.

Who to Contact

The four organizations involved in this project are as follows:

New Jersey Water Supply Authority
74 East Main Street
Somerville, NJ 08876-2312
Phone: 908.685.0315
Web: www.raritanbasin.org

Stony Brook-Millstone Watershed Association
31 Titus Mill Road
Pennington, NJ 08534
Phone: 609.737.3735
Web: www.thewatershed.org

New Jersey Department of Environmental Protection
Division of Watershed Management
PO Box 418
Trenton, NJ 08625
Phone: 609.633.3812
Web.: www.state.nj.us/dep/watershedmgt/

South Branch Watershed Association
Lechner House,
Echo Hill Environmental Education Area
41 Lilac Drive
Flemington, NJ 08822
Web: www.sbwa.org