# USING STREAM ASSESSMENTS AND WATER QUALITY MONITORING TO DEVELOP WATERSHED RESTORATION PLANS

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Development of watershed restoration and protection plans requires collection of many types of data, including land use and management, water quality, flow and stream health. Stream visual assessment is a valuable tool for plan development when used in conjunction with water quality monitoring. SVAP can provide preliminary information regarding the watershed and potential stressors, or be used to refine stressor identification. This presentation will discuss NJWSA's use of stream visual assessment (SVAP) data in conjunction with water quality and flow monitoring data for the development of watershed plans.

The New Jersey Water Supply Authority (NJWSA) is a project partner in the development of several watershed restoration and protection plans. The goals of these plans, including those for Mulhockaway Creek, Manalapan Brook and Lockatong and Wickecheoke Creeks, include protection of water supply sources, identification of stream restoration projects, development of water quality goals and identification of future monitoring sites. In each case, SVAP is being used in conjunction with water quality and flow monitoring to diagnose watershed health. The interaction between the SVAP and water quality/flow monitoring is valuable in different ways in the various projects.

In the Lockatong and Wickechoke Creeks project, NJWSA implemented an intensive water quality and flow monitoring program to identify potential sources of pollution. SVAPs were then used to assess stream health and identify potential sediment sources such as destabilized stream banks. Sediment is a significant water quality issue in these watersheds, and impacts a water supply system.

In the Manalapan Brook project, SVAP data were collected concurrently with water quality data and, along with modeling results, will yield a ranked series of site-specific locations for implementation projects.

We will discuss the use of SVAP in several projects, highlighting the benefits and disadvantages of performing the SVAP at different stages of watershed plan development. We will also discuss the use of SVAP to diagnose watershed health and identify water quality stressors.

**KEYWORDS:** stream visual assessment, watershed restoration plan, water supply