RARITAN BASIN STREAM RESTORATION FRAMEWORK: PROJECT IDENTIFICATION THROUGH PROJECT MONITORING

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ABSTRACT

Increasing dollars are being spent on stream restoration projects. These projects include a level of uncertainty due to the complex nature of stream systems; however, as documented by several recent efforts, little or no monitoring is typically performed to assess project success.

The Raritan Basin Watershed Alliance (RBWA, www.raritanbasin.org), a coalition of watershed interests, and the American Water Resources Association - NJ Section's Stream Restoration Committee (NJAWRA-SRC) are developing a framework for identification, design and monitoring of stream restoration projects.

The framework includes five levels of detail, beginning with the baseline identification of riparian areas, followed by an assessment of riparian health and potential stressors at the HUC-14 level using GIS data. The next level is stream visual assessment of targeted reaches, which may include data collection to support future monitoring.

Levels III and IV are the focus of this presentation, and detail the data collection necessary to properly design and monitor stream restoration projects.

Monitoring, maintenance and adaptive management plans, developed in conjunction with the restoration design, will increase the likelihood of project success. A well-designed monitoring plan will enable the project team to assess progress and determine if additional maintenance or adaptive management is required.

Level III and IV data collection includes hydrological, geomorphological, biological (e.g. macroinvertebrate) and water quality data. These two levels involve significant field data collection at specific project sites. The goal of Level III is to collect the appropriate data for design and permitting, while establishing the framework for Level IV project monitoring.

We will discuss the progression of the framework from the watershed scale to specific project locations, and from assessment through project implementation. The need for proper data acquisition at all levels of the process will be emphasized.

KEYWORDS: riparian health, stream restoration, evaluation