

## Wetland Mitigation Bank

*Somerset County*

*Branchburg Township, NJ*

The Somerset County Wetland Mitigation Bank was developed to compensate for wetland impacts associated with both past and future County infrastructure projects. The remaining wetland credits created by this wetland project will be used, as needed, solely by Somerset County.

The 8.1-acre wetland mitigation bank was created as a floodplain wetland system composed mostly of forested wetland adjacent to the South Branch of the Raritan River. The project was designed to provide several important wetland functions such as flood storage, sediment removal and wildlife habitat. The site is appropriate for creating a floodplain wetland system because of the proximity of the South Branch of the Raritan River and the presence of similar wetlands to that proposed downstream of the site. This naturally occurring wetland was used as a model for the wetland system proposed.

The wetland mitigation included the construction of emergent and floodplain forested wetlands from an existing upland agricultural field. Extensive earthwork was required to lower the surface elevation and expand the current backflow channel to establish wetland hydrology. The grading was proposed to lower the surface elevation, thereby facilitating the retention of stormwater and stream backflow during flood events. The retention of surface water in the mitigation site will increase the duration of inundation and saturation typical of a floodplain wetland. HEC-RAS was used to establish the elevations needed to design the site so that it will flood at least four times a year. In addition, HEC-RAS was used to determine tractive force and velocity at different flood stages, depths, and cross sections to guide the mitigation design.

The long-term objective was to facilitate the development of a floodplain wetland consisting of three distinct vegetation planting types: forested wetland, scrub/shrub wetland, and emergent wetland as well as open water. In addition, plantings were installed to enhance wildlife value. The proposed species are limited to indigenous species that are common components of the local riparian or floodplain flora. Based on the Plant Stewardship Index (PSI) studies, the site has a comparatively high floristic quality and supports several rare species. Although completed only a few years ago, the site is not only a natural-looking feature of the South Branch Raritan River floodplain, but already supports a diverse flora and wildlife community.

**This project was awarded a Firman E. Bear Chapter, Soil and Water Conservation Society award for Ecological Excellence.**

