

# *Sparta Township Wetlands Monitoring Plan*



**Location:** Germany Flats Well Field  
Sparta Township  
Sussex County, NJ

**Client:** Township of Sparta  
Mr. Charles P. Ryan, PE  
Municipal Engineer

## **Project Description:**



*The Germany Flats Well Field is a new municipal water system that has been built in Sparta Township in southeastern Sussex County, New Jersey. The well field consists of four, stratified drift aquifer wells in the northwestern section of the township. Due to concerns that these wells may have an adverse impact upon wetlands in the area, the Bureau of Water Allocation required a detailed plan to monitor the ground-water and surface-water levels within the nearby wetlands areas. Some of the wetlands in this area are documented habitat for Bog Turtles. If it is determined that the new wells have had an adverse impact upon the area's wetlands, the NJDEP will require the Township to provide an appropriate Wetlands Mitigation Plan. It is believed that this is the first time that the NJDEP has placed such a requirement on a municipal well field.*



*Based upon ground-water modeling of the proposed pumpage, the New Jersey Geological Survey (NJGS) determined an anticipated area of influence (AOI) for the Germany Flats Well Field. Using a GIS Database, which was developed by White Environmental Services, four wetlands from within the AOI were selected for monitoring. In selecting these sites, the following characteristics were considered:*

- Location within the AOI
- Bedrock & Surficial Aquifers
- Soils
- Drainage Basin
- Bog Turtle Habitat
- Bedrock Geology
- Glacial Sediments
- Vegetation
- Access



*Three additional wetlands that fall outside of the AOI were also selected for monitoring to provide a control sample. Surface gauges and shallow monitoring wells were installed at each site to record water levels. Combined with local meteorological data and pumping records, it is believed that monitoring these seven wetlands will provide an accurate indicator on what impact, if any, the Germany Flats Well Fields may have upon the region's wetlands. This monitoring plan, which was developed by White Environmental Services, has been approved by the NJDEP and is currently in progress.*

