

**NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION SUMMARY OF WATER  
ISSUES IN SPARTA AND VERNON TOWNSHIPS, SUSSEX COUNTY**

**June 10, 2003**

Sparta and Vernon Townships are located in the Wallkill River watershed. The Wallkill River drainage basin is 90 square miles. The river has its headwaters at Lake Mohawk in Sparta Township then flows north through Ogdensburg, Franklin and Hamburg Borough eventually forming the border between Wantage and Vernon Townships before flowing into New York State. The river runs 27 miles in New Jersey before flowing into New York.

Wastewater service in the Wallkill valley is provided by the Sussex County Municipal Utilities Authority's (SCMUA) Upper Wallkill facility. The Upper Wallkill sewage treatment plant (STP) has a design and permitted capacity of 3.0 MGD and serves areas in Vernon, Hardyston, Sparta, and Wantage Townships and Sussex, Franklin, and Hamburg Boroughs. The Upper Wallkill STP is currently operating at or about half of that capacity. However, the entire 3.0 MGD flow capacity has already been allocated out to individual municipalities. We are not aware of any significant NJPDES permit violations for the STP discharge to surface water (DSW) to date.

**Sparta Township:** The Township collects wastewater for treatment at the Upper Wallkill STP. The Township has a total allocation of 175,000 GPD to serve its town center and a Township school. At the time of the sewer service area adoption this wastewater treatment capacity was adequate to handle the projected flow to be generated by build-out of the sewer service area. Due to zoning changes within the adopted sewer service area, the Department requests that a new build-out analysis be performed based on current zoning within the sewer service area and the wastewater flow calculated. This estimate will be compared to the 175,000 GPD allocation to ensure the adequacy of Sparta's allocation. Since there is no proposed change in the sewer service area or the current allocation, additional environmental analyses are not required at this time.

Sparta Township gets potable water from aquifers that occur in Precambrian fractured rocks, limestone, and glacial valley fill. The New Jersey Department of Environmental Protection (NJDEP) has encountered issues with radon and other water-quality problems with the Precambrian rocks. Although limestone is abundant, it is connected to the glacial sand and gravel and surficial wetlands. The glacial deposits are important to the ecology of the area as they provide a water source for freshwater wetlands. In some areas, these wetlands are threatened by overuse of groundwater.

Sparta Township would like more water from the Germany Flats aquifer, which consists of sand and gravel over limestone. The NJDEP, through a series of meetings and communications with the Township, has reached an understanding that they'll be allocated 1700 gpm (gallons per minute) from their existing Tannis well field that draws from the Germany Flats aquifer, and that they will be granted no increase from their Commerce Park well field, which draws from limestone. To do this, the NJDEP will require the Township to put a wetlands monitoring scheme in place to ensure that the withdrawals will not adversely affect freshwater wetlands in the area and the Township will have to pump a known percentage of their water to White Lake for replenishment. Additionally, Sparta Township will need to conduct a large-scale aquifer test once the well field is operative to investigate the potential impact of a larger water diversion they're seeking.

With regard to the current request for an increased withdrawal from the Tannis well field, the Department has prepared a draft staff report which has been issued and the Department has conducted a public hearing on Sparta's request.

**Vernon Township:** At present, the Division of Watershed Management is in receipt of, and is reviewing an amendment submission for the Vernon Town Center/Mountain Creek area. The Township proposes to collect wastewater from the town center and send that wastewater via pipeline to the Upper Wallkill STP. Wastewater is to be treated at the facility and then piped back to Vernon for discharge to groundwater. Most of the proposed expansion flow is generated within a previously approved sewer service area in the Vernon Town Center. This amendment will require a 266,000 gallon per day (GPD) expansion of the Upper Wallkill STP and a NJPDES Discharge to Groundwater

permit for the treated effluent in Vernon Township, in addition to other NJDEP permits needed for the construction of the infrastructure.

At the time the wastewater management plan (WMP) amendment application was filed, the Department determined that a consumptive/depletive water use analysis was not required because the project would not generate major irrigation uses and would return treated wastewater to the watershed via a discharge to groundwater. One issue that will require additional investigation is that the original sewer service area designation was based on a build-out analysis under the Township's zoning in place at the time. The current amendment for the Vernon Town Center results in a higher build-out density than the original sewer service area plan. Therefore the *NJDEP will require that a new build-out analysis must be conducted to determine the accuracy of the projected wastewater flow to be generated by the center. In addition, due to the higher density now proposed, additional environmental analysis will be also required. Components of that analysis include a non-point source pollution analysis, a riparian corridor protection plan and a threatened and endangered species habitat analysis*

As mentioned above, although the Upper Walkkill STP is operating at just about half of its permitted capacity, the remaining allocations are tied up by participating municipalities. This has caused Vernon to seek to expand the facility, despite substantial available capacity. Therefore, the *NJDEP is asking Vernon Township and SCMUA for a legal analysis of the potential to have the existing unused capacity at the plant reallocated to accommodate the Vernon Town Center.* An investigation of environmentally and economically feasible alternatives to the Township's currently preferred alternative to upgrade the treatment capacity at the Walkkill STP is needed. If other alternatives are found to be environmentally and economically feasible, the Department may require the use of these alternatives, rather than construct the proposed plant upgrade.

Vernon Township also gets its water from limestone and glacial sand and gravel. The Township had previously agreed to institute a ground-water monitoring program when they were granted the Vernon sewer interceptor allocation by the NJDEP, but they have not yet complied with this requirement. The NJDEP believes that there is a potential for more supplies for Vernon, however, but more work is needed to develop a realistic water budget for the Township.

A key concern of the NJDEP that affects Vernon Township is the issue intrabasin transfer. At present, over 300,000 gallons of water per day are removed out of the Black Creek Basin and diverted downstream within the Walkkill Basin to Hamburg. This usage of water is depletive to the Black Creek downstream, even though the waters eventually are returned to the greater Hudson Basin as the Walkkill flows north to New York. The NJDEP has been involved in discussions and has encouraged water users to establish a return line to Vernon, to allow a return of water to the basin for reuse. The greatest potential for this idea relates to the use of water for snowmaking, however the issues related to the use of returned water during the summer have not been resolved. One potential involves the use of the returned water for golf course watering at Great Gorge.

Another issue of concern to the NJDEP relative to Vernon is that their current system of public water supply is actually a collection of disaggregated water systems. This condition makes it difficult to work out solutions to water supply problems in the Township due to the competing concerns of the different purveyors.

The NJDEP is very concerned about the greater issue of consumptive use losses in all these basins and will be looking at with the current allocation requests in comparison to the water-budget analyses the New Jersey Geological Survey is conducting statewide this year.

The Department has proposed specific additions to the proposed Plan Implementation Agendas (PIA) for both Sparta and Vernon to ensure that these communities perform the analysis needed to properly balance their desire for growth and the protection of environmental resources and natural systems.