



June 24, 2009

**Town of Dover, New York
The Town Board
126 East Duncan Hill Road
Dover Plains, NY 12522**

Ref: Dover Knolls DEIS

Dear Board Members:

I am the president of the **Mid-Hudson Chapter of Trout Unlimited, Inc.**, a not-for-profit corporation. Our chapter is a member of **Trout Unlimited, Inc.**, a national not-for-profit corporation devoted to the Conserving, Protecting and Restoring of America's Cold Water Fisheries. We view both the Swamp River and the Ten Mile River as Cold Water Fisheries and, therefore, have an interest in the Dover Knolls Project which is currently under consideration by the Town Board, the lead agency for the proposed project.

The Mid-Hudson Chapter of Trout Unlimited, Inc. has conducted a review of the project's DEIS and would like to offer the attached observations and comments for your consideration.

Please do not hesitate to call me at 845-454-0781 should you have any questions.

Sincerely,

**Stephen P. Dolce
President
Mid-Hudson Trout Unlimited**

**c/c Trout Unlimited Inc., National
NYS Department of Environmental Conservation
Army Corp. of Engineers
Coalition for the Responsible Growth of Dover
Housatonic Valley Association
Friends of the Great Swamp
The Nature Conservancy
Scenic Hudson**

**Mid-Hudson Trout Unlimited
Items of Concern
for
Dover Knolls DEIS**

Overview:

Our calculations indicate that after full development the site will contain 13% impervious surface. This figure is well above the 10% level which is often cited in watershed management literature as a major threshold beyond which streams exhibit significant deterioration in water and habitat quality associated with the urban stream syndrome.

Storage volumes of retention basins in the stormwater management plan seem to have enough capacity to minimize runoff from the combination of existing and new impervious surfaces in all but the largest precipitation events. However, the quantities of stormwater to be generated only seem to take into account runoff from impervious surfaces. There is no indication in the DEIS that the applicants have factored in the decrease in canopy storage of precipitation associated with the conversion of forests to grasslands or lawns. The reduction in interception will contribute to greater potential surface runoff (especially in late spring through mid fall) whenever rainfall intensity or amount exceed the ability of water to infiltrate into the soils. We could not find the amount of forest cover reduction (by forest type) or the anticipated increase in lawn area in the documents available on the Town of Dover website.

Decreased canopy interception and more runoff could be especially problematic where slopes are steep such as on this site where significant construction is planned on slopes exceeding 15%. Not only does canopy interception reduce the amount of precipitation reaching the ground by 20 - 40% (depending on forest type and time of year), it also greatly decreases the physical impact of falling raindrops on exposed soils and thereby contributes to a reduction in erosion.

The stormwater runoff from the large amount of impervious surface anticipated at full build-out will carry significant amounts of dissolved materials like road deicing salts, plant nutrients, and radiator antifreeze in addition to insoluble and floating chemicals like motor fuels, crankcase oil, and grease. It is unlikely that the road salts and other soluble chemicals will be removed by the stormwater retention basins for several reasons. The stormwater management plan indicates that salt absorbing vegetation will be planted in the basins. However, these plants will have either died back during the fall or be in a senescent state during the winter and early spring months when rainfall and snowmelt will transport large quantities of road deicing salts. Consequently, the salts will either flow directly through the outlet structures or will percolate into the underlying groundwater and eventually migrate into the Swamp River. Rising salt levels have been identified as a major concern for aquatic life in many Dutchess County streams. Oil and other low density and insoluble chemicals associated with stormwater runoff will float on the water in the retention basins and be discharged whenever the water levels rise to the point of discharge on the outlet structures resulting in a deterioration of water quality in the receiving waters.

It is reasonable to anticipate an increase in the lawn area although the actual amount could not be found in the DEIS. With an increase in lawn area, there will be an increase in the use of fertilizer, herbicides, and insecticides. Runoff of these chemicals will likely increase thereby making a greater contribution to nonpoint source pollution in stormwater runoff. Depending on the handling of the stormwater, these chemicals will either be discharged into the Swamp River directly or via groundwater inputs after infiltration and groundwater transport. Once in the Swamp River, the nutrients will enhance the growth of algae or rooted aquatic plants and the pesticides could have toxic impacts on plants, aquatic insects, and fish.

Groundwater pumping to meet community demands will increase significantly and could lower the water table during periods of prolonged drought. In turn, this would affect groundwater discharge to the Great Swamp and the Swamp River resulting in lower water levels and reduced flows in the Swamp River.

Contrary to statements in the DEIS, the discharge of nutrients from the upgraded wastewater treatment plant will increase significantly over current levels and will likely have a significant impact on the Swamp River and other downstream waterbodies like the Ten Mile River. While nitrogen and phosphorus loading might be less than the quantities allowed under the existing SPDES permit, they will be much larger than current loadings. The total maximum daily loading should be calculated for the Swamp River and compared to the total loading from all point and nonpoint sources associated with the project.

Questions Directed to the Town Board:

- What is the actual percentage of impervious surfaces after final development of the site and if it exceeds 10%, will efforts be made to reduce the total quantity?
- What is the forest type and acreage of forest cover reduction and will said reduction be included in runoff calculations?
- Mid-Hudson T.U. does not support construction on slopes greater than 15%, however, if this is permitted, what efforts will be made to reduce the increased runoff and erosion caused by construction in areas with slopes greater than 15%?
- What measures will be taken to reduce the quantity of dissolved materials and chemicals prior to them entering the storm water detention ponds and water shed system?
- What is the total anticipated groundwater withdrawal for this project and what effect will it have on the water table? Has this anticipated groundwater withdrawal been reviewed in combination with the anticipated groundwater withdrawal for the Advanced Power 1000 Megawatt Power Plant which is also in the planning phase?
- Will the discharge of the wastewater treatment plant represent a significant portion of the flow in the Swamp River during low flow periods?

- What percentage of the average flow of the Swamp River will be made up of discharge from the sewage treatment plant downstream from the plant? What will be the increase in nitrogen nutrients in the Swamp River from the sewage treatment plant and non-point sources? Has the developer or Town Board studied what the nutrient impact might be or considered any plans to reduce eutrophication downstream from this project in the Swamp River, Ten Mile River, or Housatonic River?
- Will a 100 foot buffer zone along the Swamp River be maintained? What efforts will be made to install riparian buffers within said 100 foot buffer zones? If existing riparian buffers are disturbed during construction, will remediation be performed? Will riparian buffers be deeded against future development of properties?

Additionally, Mid-Hudson Trout Unlimited, Inc. is particularly interested in the response to the comments submitted by:

- Dr. James Utter on behalf of Friends of the Great Swamp with regards to tertiary sewage treatment and suggestions that modern technologies be implemented to reduce non point source pollution
- The Housatonic Valley Association with regards to using bridges rather than culverts at roads crossing the Swamp River and tributaries.
- Tom Cusak, Leggett Brashears on behalf of Coalition for the Responsible Growth of Dover with regards to hydrology"