

Solebury adopts aggressive water resources program

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Reiterating the fact that groundwater is the primary water resource for the entire community, the Solebury supervisors have voted unanimously to move forward with its 2009 Water Resources Program at an anticipated cost of approximately \$100,000. The source of funding is the Natural Resource Fund, which constitutes fees assessed to developers.

Before the vote, Peter Brussock of Environmental Planning Consultants (EPC), Buckingham, delivered an assessment of the Primrose Creek and Watershed before a full house, March 3.

Emphasizing that water quality and quantity in carbonate aquifers are highly susceptible to land use impacts, Brussock outlined in detail the negative impacts New Hope Crushed Stone's mining activities have exerted on the Primrose Creek Watershed. Brussock warned that extensive groundwater withdrawal may wreak havoc beyond the watershed's boundaries.

The crux of the current condition of Primrose Creek Watershed rests with a 1998 ruling wherein the state Department of Environmental Protection issued a permit allowing the quarry to deepen its pit based upon an erroneous classification of the

creek as an ephemeral (flows only when raining with no stream resource) rather than an intermittent or perennial stream.

Mining activities have caused a significant decrease in groundwater elevations, loss of aquatic life, and altered flow patterns throughout Primrose Creek's watershed. Removing the Primrose Creek stream channel on the quarry property and pumping groundwater to depths greater than 100 feet below sea level has caused wells to run dry, land erosion, damaged wetlands and water pollution.

In its efforts to protect the Primrose Creek Watershed over the past decade, Solebury Township filed a lawsuit against DEP and New Hope Crushed Stone in response to impacts from the quarry's pumping below sea level at the base of the watershed.

In 2008 Solebury agreed to settle the lawsuit conditioned upon a written agreement with DEP to establish a procedure to jointly monitor and evaluate the numerous detrimental effects quarry operations continue to inflict on the environment. Despite an invitation to participate, NHCS elected not to enter into this agreement.

As a result of the agreement a work plan was developed that encompassed a scientific review of

the watershed and its environs. Solebury then commissioned EPC to conduct a thorough analysis of the township's water resources.

The landmark agreement between Solebury and DEP allowed for scientists, rather than lawyers, to study the water, land and wildlife surrounding the quarry to determine the best course of action to protect the community's natural resources. EPC worked in tandem with the Primrose Creek Watershed Association, community volunteers, and a coalition that included Bucks County Trout Unlimited, Delaware Riverkeeper, the Delaware River Basin Commission, Aquetong, Paunacussing and Pidcock Creek watershed associations as well as numerous conservation organizations, collecting substantive data and conducting tests.

In delivering his findings, Dr. Brussock emphasized that pumping from NHCS has impacted an extensive area upstream of the quarry. NHCS operates by extracting groundwater pursuant to a National Pollution Discharge Elimination System (NPDES) permit, which specifies that water pumped for quarry operations shall be discharged to the downstream reach of Primrose Creek at a rate of 500,000 gallons per day. NHCS is currently

pumping 2 million gallons per day and is seeking a permit from DEP to extend the pit's depth another 50 feet.

The assessment of Primrose Creek Watershed took a three-prong approach, analyzing the physical, chemical and biological conditions of the creek, comparing those conditions with three reference streams in the township similar in topography, continuous stream flow and seasonal changes.

The study concluded that significant alterations to the flow regime in Primrose Creek had occurred as the result of quarry activities. The average base flow upstream of the quarry is much lower than that of the reference streams.

Downstream of the quarry, the flow was 400 percent higher than the reference streams because of pumping by NHCS. Near Phillips Mill, no flow occurs on weekends, only during the week when the quarry is in operation. Changes in stream flow negatively impact aquatic life and water hardness. The study further concluded that quarry activities increased the incidence of sinkholes and silting in the stream channel below the quarry.

Brussock pointed out that according to the terms of the permit, "if during the course of mining the

permittee pollutes or degrades the water quality in Primrose Creek, mining shall cease until pollution has been abated by the permittee." Since data indicate significant degradation of Primrose Creek, he opined that the violation of the term's permit, provides leverage to the township's ability to seek mitigation. However, DEP has failed to require mitigation by NHCS.

Among his recommendations, Brussock advised the township that NHCS should be required to comply with the permit conditions, limiting discharge to the creek to 500,000 gallons per day to allow for restoration of flows upstream to be consistent with the flows in the reference streams. Further, any permit to dig deeper should be conditioned upon restoration and mitigation of the damage that has already occurred as a result of the initial erroneous classification.

Other conditions in the permit, Brussock said, should provide for a minimum base flow in Primrose Creek above and below the quarry, quarterly bioassessment, and more frequent sampling for measurement of turbidity, temperature and suspended solids that vary widely with quarry activity and major storm events as well as monthly measurements of water elevations and flow volumes.