

“What keeps you up at night?”

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New limitations on DEP stormwater permitting in Special Protection Watersheds

By Elizabeth S. Stano and John C. Snyder

On October 22, 2009, an important case emerged from the Commonwealth of Pennsylvania's Environmental Hearing Board (the "EHB"), which could have significant implications for stormwater management in Pennsylvania, especially in Exceptional Value and other Special Protection Watersheds. In *Crum Creek Neighbors v. Pa. DEP*, EHB Docket No. 2007-287-L (Adjudication Issued October 22, 2009), the EHB reiterated a "cornerstone of Pennsylvania law" that "a permittee may not degrade a stream by altering its physical or biological properties any more than it may degrade a stream by the direct discharge of pollutants." In addition to this restriction on degradation, *Crum Creek* also raises significant questions for new applicants about the requirements for obtaining a National Pollutant Discharge Elimination System ("NPDES") permit from the Department of Environmental Protection ("DEP").

In *Crum Creek*, the Crum Creek Neighbors ("CCN") (a citizens' group interested in the Crum Creek Watershed) objected when DEP issued an individual NPDES permit to Pulte Homes of PA, L.P. ("Pulte") for stormwater discharges associated with construction activities for a residential development known as Sentinel Ridge, consisting of fifty-eight (58) townhouses and one hundred sixty (160) condominiums in Marple Township, Delaware County. The NPDES permit authorized 20.2 acres of earth disturbance on the 34.88-acre site. About one-half of the pre-development runoff from the site flows into Holland Run, which has an existing Exceptional Value ("EV") use from its headwaters extending down to the upstream edge of a culvert, at which point the stream is no longer EV and becomes a Warm Water Fishery ("WWF"). To determine Holland Run's EV classification, DEP applied its antidegradation integrated benthic macroinvertebrate scoring test to ascertain Holland Run's biological condition score of 95, which is greater than the EV criterion of 92. The EV portion of Holland Run is also fed by a designated unnamed tributary or finger tributary, which is primarily fed by groundwater, that has a very low, but regular, flow down the steep slope into Holland Run.

In its Post-Construction Stormwater Management Plan (the "PCSM Plan"), which it submitted to DEP to obtain the NPDES permit, Pulte included the following structural Best Management Practices ("BMPs"): five (5) recharge basins, two (2) detention basins, three (3) rain gardens, seven (7) water quality structures, six (6) vegetated swales, dry wells and porous pavement parking stalls. Pulte also provided a 150-foot stream buffer for Crum Creek and Holland Run. The PCSM Plan's recharge basins and infiltration basins were designed to control runoff that would

“What keeps you up at night?”

have flowed toward Holland Run prior to development—the Plan was particularly designed to divert all stormwater runoff that did not infiltrate or evapotranspire to a discharge point downstream of the EV portion of Holland Run. Specifically, water that did not infiltrate in the recharge basins was designed to overflow into 6-inch riser pipes and be conveyed to the detention basins to be slowly discharged to the WWF portion of Holland Run, below the EV section.

Pulte, DEP, and CCN put forth experts who testified to the adequacy and potential operation of the PCSM Plan. There was no disagreement among the experts that the recharge basins could adequately manage anything up to a two-year storm (3.36 inches measured over the course of 24 hours). However, the EHB was persuaded by CCN's experts that the recharge basins, either individually or in combination, would not be able to contain, infiltrate, and discharge through the riser pipes all of the water flowing into them during five-year storms and larger. CCN's experts concluded that, during such large storms, excess water would go over the basins' emergency spillways and discharge overland into the EV portion of Holland Run. CCN's experts conducted a thorough review and analysis of the PCSM Plan and supported their opinions by detailed calculations. On the other hand, Pulte and DEP's experts, who opined that the recharge basins would not over-top, did not present calculations or other scientific support and simply relied upon compliance with DEP's checklists and policy manuals, BMPs, and accepted engineering practices to show that the PCSM Plan constituted a “nondischarge alternative” under the antidegradation regulations.

The EHB considered the contradictory expert opinions, all of which were given by qualified and sincere experts. The EHB supported its decision to credit CCN's experts' opinions over the others by stating:

The weight to be given to an expert's opinion depends on such factors as the expert's qualifications, presentation and demeanor, preparation, knowledge of the field in general and facts and circumstances of the case in particular, and the quality of the expert's data and other sources. Perhaps, more fundamentally, we look to opinion itself to assess the extent to which it is coherent, cohesive, objective, persuasive, and well grounded in the relevant facts of a case.

Therefore, based upon the testimony and evidence provided by CCN's experts, the EHB found that there would be direct discharge to the EV stream as a result of overflow.

In addition to the direct discharge to the EV portion of Holland Run from the overflow during five-year storms and larger, the EHB found that an unknown quantity of groundwater that flowed toward Holland Run via the finger tributary would be diverted as a result of Pulte's project, as some portion of the former recharge for the finger tributary would be directed out of the recharge areas and toward the basins, which would then be diverted to the WWF portion of Holland Run. This interference with the recharge could also reduce baseflow to Holland Run. However, the EHB pointed out that no specialist in hydrogeology testified in this case, nor did DEP evaluate the ability of Holland Run to support its EV use in the event of a diminution in flow. The EHB credited CCN's experts' opinions that there was a significant risk that Pulte's project would result in reduced flow to the finger tributary, which presented a risk to the main branch of the stream as well.

Direct discharge into the EV portion of Holland Run and a diminution in flow to the EV portion of Holland Run presented a risk of degradation and triggered review under Pennsylvania's antidegradation regulations. The purpose of the antidegradation regulations is to protect the existing quality of High Quality (“HQ”) and EV waters and the existing uses of all surface waters. DEP's “Antidegradation Implementation Guidance Document” states that DEP will evaluate the effect of proposed projects that do not involve a discharge, but may nevertheless affect EV or HQ surface waters to ensure that the use of the special protection waters will be maintained and protected. A permittee may not degrade a stream by altering its physical or biological properties any more than it may degrade a stream by the direct discharge of pollutants. Furthermore, degradation occurs when an activity or discharge interferes with existing or designated in-stream uses or the level of water quality necessary to protect existing uses.

The EHB found that there would be direct discharge to the EV portion of Holland Run from any overflow from the basins that did not drain through the riser pipes and that DEP's error was the issuance of a permit based upon the inaccurate factual assumption that no discharges from the recharge basins, as they currently were designed, would occur. The EHB also found there to be a potential for a diminution in flow to the EV portion of Holland Run as a result of Pulte's project. Both of these changes presented a risk of degradation, thereby triggering review under the antidegradation requirements. DEP must consider the effect of these discharges on flow in accordance with the antidegradation regulations,

“What keeps you up at night?”

however, the EHB did not revoke Pulte’s NPDES permit. In lieu of rescinding Pulte’s NPDES permit, because CCN failed to prove that any degradation **actually** would occur, the EHB suspended the permit and remanded review of the permit to DEP to determine if Pulte’s PCSM Plan actually violates the antidegradation statutes.

Per the EHB’s holding, DEP must conduct an analysis of the Pulte site and the stream to determine if the PCSM Plan would degrade the stream. The analysis must be conducted all along the EV portion of Holland Run to determine the impact of the discharge and/or change in flow on aquatic life. The EHB pointed out that just because there is a change in flow, it does not necessarily mean there is degradation. DEP should utilize hydrologists and hydrogeologists to show what effect the risk of degradation would have on aquatic life in the EV portion of Holland Run. It is up to DEP to conduct adequate investigation to ensure that degradation of Holland Run will not occur as a result of Pulte’s PCSM Plan.

Crum Creek significantly changes how applicants in a Special Protection Watershed should prepare prior to submitting an application for a NPDES permit from DEP. Due to the EHB’s decision in *Crum Creek*, DEP and applicants will have to review the policies and practices employed by DEP. Are they realistic measurements of what is likely to occur or are they simply conservative assumptions aimed at over-design? Since the decrease of flows to a stream could now potentially degrade the stream under the antidegradation regulations, conservative design may actually lead to environment degradation. It is also important to point out that the EHB noted the use of generally accepted BMPs does not create a presumption that the BMPs are effective in preventing degradation of a stream. In some instances, BMPs may actually increase the threat of degradation. For example, the EHB noted that the establishment of a riparian buffer may actually increase evapotranspiration and decrease base stream flow, thus threatening stream quality.

Applicants in a Special Protection Watershed should review proposed designs to determine, to the extent they are able, what changes will occur in the amount of flow to the stream. Whether the design increases or decreases the amount of flow to the stream, the applicant should be prepared to conduct extensive analysis—backed by calculations and scientific data—as to

whether the biological condition of the stream will be degraded by the change in the amount of flow. In addition, applicants should be prepared to conduct a point-by-point analysis of the stream to check for degradation, as opposed to a general, overall analysis of the stream.

Maybe the most important lesson from *Crum Creek* is that applicants on appeal will have the task of justifying the science behind the design, regardless of DEP policies and guidelines. If the applicants’ experts cannot substantiate the assumptions and policies DEP requests them to use, they will face a dead end in the EHB if they use the assumptions and policies as the support for their design. Applicants must insure that their experts use their own assumptions where they cannot support those advanced by DEP.

The EHB’s decision in *Crum Creek* will have a direct and immediate impact on all development in Special Protection Watersheds. Affected parties need to be aware of the potential for more stringent analysis of potential degradation before the issuance of a NPDES permit from DEP.

A copy of *Crum Creek Neighbors v. Pa. DEP*, EHB Docket No. 2007-287-L (Adjudication Issued October 22, 2009) can be found at <http://www.saul.com/PDF/crumvpadep.PDF>.

This Alert was written by Elizabeth S. Stano and John C. Snyder, members of the firm’s Real Estate Department. Elizabeth can be reached at 610.251.5760 or estano@saul.com. John can be reached at 610.251.5079 or jsnyder@saul.com. This publication has been prepared by the Real Estate Department for information purposes only.

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