

June 6, 2005

Mr. Mike Gardner  
Pennsylvania Department of Environmental Protection  
Greensburg District Mining Office  
Armbrust Professional Center  
R.D. 2, Box 603-C  
Greensburg, PA 15601

**Re: Proposed Amendments to Laurel Run Watershed Final TMDL (Fayette Co.)  
35 Pa. Bull. 2173 (April 9, 2005)**

**Comments of Mountain Watershed Association, Inc. and Citizens for  
Pennsylvania's Future**

Dear Mr. Gardner:

Mountain Watershed Association, Inc. (MWA) and Citizens for Pennsylvania's Future (PennFuture) appreciate the opportunity to present these comments on the April 9, 2005 Draft "Amended Final Laurel Run Watershed TMDL, Fayette County, for Acid Mine Drainage Affected Segments" prepared by the Department of Environmental Protection (DEP).

MWA is a non-profit membership organization that has worked to protect, preserve, and conserve the Indian Creek Watershed and surrounding areas. MWA received approval from the Waterkeeper Alliance in 2003 to serve as the Yough Riverkeeper. The mission of the Yough Riverkeeper includes advocating on behalf of, defending, and enforcing the protection and restoration of the ground and surface waters of the Youghiogheny River Basin. PennFuture is a public interest membership organization dedicated to creating a just future in which the environment, communities, and the economy thrive. One focus of PennFuture's work is to improve and protect water resources and water quality across Pennsylvania through public outreach and education, advocacy, and litigation. Members of MWA and PennFuture recreate in and along Laurel Run, Meadow Run, and the Youghiogheny River in Fayette County.

Through an appeal before the Pennsylvania Environmental Hearing Board (EHB) at Docket No. 2004-102-R, PennFuture and MWA have contested DEP's renewal of a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of treated mine drainage from the Kaiser Refractories Potato Ridge Mine, which includes two point source discharges addressed in the original (February 27, 2003) Final Laurel Run Watershed TMDL and the Draft Amended TMDL. In responding to a Motion for Partial Summary Judgment in the EHB appeal, DEP has conceded that the renewed NPDES permit was inconsistent with the 2003 Final Laurel Run Watershed TMDL, which included no Wasteload Allocations (WLAs) for aluminum to the two Kaiser Refractories point source discharges. The Draft Amended TMDL would correct that problem.

The Draft Amended TMDL represents an improvement over the original, 2003 Final Laurel Run Watershed TMDL. The Draft Amended TMDL corrects errors in the original by including WLAs for aluminum, recognizing that the Laurel Run in question has a designated aquatic life use of High Quality-Cold Water Fishes (HQ-CWF), and properly classifying the discharges from the “A/C Seeps” and “B Seeps” Treatment Systems at the Department of Conservation and Natural Resources’ Smith Mine (Mine Drainage Permit No. 2969BSM24) as point source discharges that must receive WLAs. By accounting for two different mine drainage treatment scenarios, the Draft Amended TMDL also takes into consideration developments occurring since the preparation and approval of the original TMDL in 2003.

A number of problems, however, remain, and DEP has introduced some new errors in the Draft Amended TMDL. First, like the original TMDL, the Draft Amended TMDL improperly fails to classify the discharge from the Parks Seeps Treatment System as a point source discharge requiring a WLA. Second, having recognized that Laurel Run has a designated use of HQ-CWF, the Draft Amended TMDL then impermissibly fails to apply that regulatory classification without DEP having completed a Use Attainability Analysis and without it having amended the applicable regulation (25 Pa. Code § 93.9v). Third, by asserting that no critical condition could be identified, the Draft Amended TMDL again fails to follow a binding regulation, 25 Pa. Code § 96.4(g), which specifies that the  $Q_{7-10}$  design flow shall be used in the mathematical modeling to develop TMDLs and water quality based effluent limits for point source discharges where the applicable criteria protect the fish and aquatic life stream use. Fourth, by deleting point 132 and modeling of the entire reach of Laurel Run below Peck Run at a single point (131) downstream from all of the point source discharges into that segment, the Draft Amended TMDL fails to ensure that the maximum daily loads and water quality standards will be met throughout Laurel Run, particularly in the event the discharges from the Kaiser Refractories Potato Ridge Mine and the DCNR Smith Mine continue to be treated in separate treatment systems.

Fifth, and perhaps most important, the TMDL fails to provide the required “reasonable assurance” that all of the load reductions necessary to satisfy the total maximum daily load restrictions at point 131 will be achieved, and in particular that any assumed reductions in the loadings coming from nonpoint sources in segment 131 or the upstream segment 133 (Peck Run) actually will occur. In order to provide the required reasonable assurance, DEP must assign all of the necessary load reductions to the point sources by reducing the WLAs to the point sources by the total of the required load reductions that Draft Amended TMDL assumes will be achieved by nonpoint sources at points 133 and 131.

We discuss these issues in greater detail immediately below.

## **1. The Parks Seeps Treatment System is a Point Source That Must Receive a WLA.**

Page 15 of the Draft TMDL describes the four treatment systems installed to treat mine drainage discharges that emanate within the Ohio State Park. Those systems have three outfalls. The system furthest upstream is known as the Parks Seeps Treatment System or Phase I Treatment System, which discharges at a monitoring point usually identified as HFLB. Moving

downstream on Laurel Run, the next system is the A/C Seeps Treatment System, which discharges at a monitoring point usually identified as ACWL, and shown as “AC” on the maps on pages 18 and 19 of the Draft Amended TMDL. Finally, farthest downstream is the discharge from what is usually referred to collectively as the B Seeps Treatment System. Though DEP apparently counts the treatment systems for the B1 and B3 discharges as separate units, those systems share a final horizontal flow limestone basin and discharge to Laurel Run at a single point, commonly identified as monitoring point B1B3HFLB, which is shown as “B” on the maps on pages 18 and 19 of the Draft Amended TMDL.

Beyond describing the Park Seeps Treatment System in the first paragraph of the Recommendations section on page 15, the Draft Amended TMDL ignores it. The Draft Amended TMDL explains that it is accounting for the discharges from the A/C Seeps Treatment System and the B Seeps Treatment System through WLAs assigned to those point sources (TMDL Amendment Summary, p.1; Draft Amended TMDL, p. 5), but it does not explain why the discharge from the Parks Seep Treatment System is not similarly classified and accounted for. From the description of the classification of the A/C and B discharges, one infers that the Park Seeps Treatment System discharge is not considered a point source because DCNR is not liable for treating the Park Seeps (also known as discharges Laurel Run Nos. 12 and 13), which in turn is because the Park Seeps arise outside the permitted Smith Mine site. (Draft Amended TMDL, p. 5)

The first question, which PennFuture has raised in comments on several other TMDLs, is whether the agency can deviate from the statutory and regulatory definitions of “point source,” see 33 U.S.C. § 1362(14); 40 C.F.R. § 122.22; 25 Pa. Code § 92.1, in classifying sources for the purpose of assigning WLAs and Load Allocations (LAs) in TMDLs. Because the federal TMDL regulations, which implement Section 303(d) of the Clean Water Act, 33 U.S.C. § 1313(d), chose to use the term “point source” in defining “Waste Load Allocation” and “Total Maximum Daily Load,” 40 C.F.R. § 130.2(h), (i), TMDLs must apply that term in accordance with its Clean Water Act definition at 33 U.S.C. § 1362(14). But even assuming that the existence of “liability” or a “responsible party” is a proper touchstone for separating point from nonpoint sources, DEP should classify the discharge from the Parks Seeps Treatment System as a point source discharge and assign a WLA to it. The basis of DCNR’s liability or responsibility for the Parks Seeps is the same as that asserted with respect to the A, B, and C seeps in the case of Dresser Industries, Inc. v. Department of Environmental Resources, 604 A.2d 1177 (Cmwlth. Ct. 1992), namely responsibility as a landowner or occupier for a polluting condition existing on its land, reinforced by DCNR’s duty under Article I, Section 27 of the Pennsylvania Constitution to conserve and maintain Pennsylvania’s public natural resources. See Dresser, 604 A.2d at 1179-81. Though the Parks Seeps apparently were not at issue in that case or in the 1997 Consent Decree in which DCNR accepted responsibility for treating the A, B, and C Seeps, the same theories of liability that resulted in that Consent Decree apply to the Park Seeps.

Finally, as practical matter, whether there ultimately are five (as today), four (Option 1, with treatment of Kaiser discharges 10 and 25 combined), or three (Option 2) discharges from mine drainage treatment systems into Laurel Run, it makes no sense to have all but one of them (the Park Seeps system) covered by a NPDES permit or permits. Like the discharges from the

A/C Seeps and B Seeps Treatment Systems, the discharge from the Park Seeps Treatment System should be considered a point source discharge, and the TMDL should include a separate WLA for it.

**2. DEP’s Disagreement With the Designated Aquatic Life Use of Laurel Run (High Quality-Cold Water Fishes) Does Not Authorize DEP to Disregard that Designated Use, which is a Binding Regulatory Standard with the Force of Law.**

The “TMDL Amendment Summary” states that DEP “is not [in] agreement with the designated use [of Laurel Run] as listed in Chapter 93.” (Summary, p. 1) The Draft Amended TMDL explains that “[w]ater quality data prior to 1979 demonstrates that Laurel Run was impaired by AMD and should not have been included in the Meadow Run Basin redesignation” as a HQ-CWF in 1979. (Draft Amended TMDL, p. 4) It then states that “[f]or the purpose of calculating the TMDL, Laurel Run is being considered a CWF.” (*Id.*, pp. 4-5)

First, as a factual matter, it is inaccurate, and indeed, absurd, for DEP to imply that the limited amount of water quality data it cites demonstrate that the entire length of Laurel Run was impaired in 1979 and should not have received the HQ-CWF designated use. The Draft Amended TMDL states that “[m]ining activities have been confined to the lower third of the watershed, on the eastern side of the stream.” (p. 8, emphasis added) Among the “Pre-Redesignation” data that appear on page 40 of the Draft Amended TMDL, the monitoring point farthest upstream is identified as “upstream of T-415 bridge.” Township Road 415 crosses Laurel Run adjacent to the Kaiser Refractories Potato Ridge Mine. Indeed, the discharge from the Potato Ridge Office Trailer Treatment System (NPDES Outfall 001 or “MP-25”) enters Laurel Run near the T-415 bridge. Therefore, as a factual matter, the pre-1979 data cited could possibly support the redesignation of only the comparatively short segment of Laurel Run downstream from the T-415 bridge.

Second, DEP is incorrect as a matter of law in asserting that water quality data indicating that a portion of Laurel Run was impaired by mine drainage in 1979 demonstrate that the impaired segment should not have been designated High Quality in 1979. It is well settled that designated uses may be aspirational and therefore need not match a water body’s existing uses at the time of the designation. *See* 25 Pa. Code § 93.1 (defining “designated uses” as those specified in drainage lists in §§ 93.9a – 93.9z “whether or not they are being attained”); 40 C.F.R. § 131.3(f) (similar definition). In addition, designated uses that “exceed” a current existing use may be designed to satisfy the requirement for the state, “[i]n designating uses of a water body,” to “ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters” like Meadow Run. 40 C.F.R. § 131.10(b). Because the Environmental Quality Board was free in 1979 to make an aspirational use designation for Laurel Run, or a designation designed to protect the downstream waters of Meadow Run, there is no logical or legal inconsistency between Laurel Run’s current HQ-CWF designation and the water quality data DEP now cite. Lacking the authority to revoke the EQB’s earlier, legislative judgment, DEP must give effect to the EQB’s designation of Laurel Run’s aquatic life use as HQ-CWF.

Third, and related to the immediately preceding comment, both federal and state law establish clear processes for changing the designated uses of streams, but those required processes have not been completed, or to our knowledge even initiated, for Laurel Run. Under the federal regulations governing water quality standards, a state may change a water body's designated use only after completing a Use Attainability Analysis (UAA), 40 C.F.R. § 131.10(g), and providing an opportunity for a public hearing. *Id.* §§ 131.10(e), 131.20(b). With respect to “human caused conditions” like mine drainage, the UAA must include a demonstration that attaining the designated use is not feasible because” the “[h]uman caused conditions or source of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place.” *Id.* § 131.10(g)(3). Obviously, DEP has not made such a demonstration, and the ongoing mine drainage remediation efforts are contrary to such a conclusion.

On the state level, designated stream uses are specified by regulation. *See* 25 Pa. Code §§ 93.7(b), 93.9. The designated aquatic life use of the Meadow Run Basin as HQ-CWF appears in the stream list codified at 25 Pa. Code § 93.9v. “Duly promulgated regulations, of course, are not only binding upon the regulated community but also on the Department itself.” *Harriman Coal Corp. v. DEP*, 2000 EHB 1008, 1012 n.1 (citing *Al Hamilton Contracting v. Department of Environmental Protection*, 680 A.2d 1209, 1212-1213 (Pa. Cmwlth. 1996)). In light of this basic principle, the cavalier manner in which DEP now proposes to toss aside a 26-year old, binding regulation is troubling. If DEP or any other agency could simply disregard any regulation with which it now disagrees, or for which it can cite some contrary information, regulations would no longer represent binding norms, and all parties would be deprived of the stability and predictability such binding norms provide. Thus, until the Environmental Quality Board changes the designated use of part or all of Laurel Run by amending 25 Pa. Code § 93.3v in accordance with the requirements of the Commonwealth Documents Law and the Regulatory Review Act (which also would satisfy the procedural requirements of the federal regulations), DEP is bound to treat Laurel Run as having a HQ-CWF designation.

Finally, DEP's Water Quality Antidegradation Implementation Guidance (November 29, 2003) states that “[w]ith regard to HQ and EV waters, existing quality must be protected by applicants proposing discharges directly to these waters or upstream from these waters. (p. 39 (emphasis added)). This statement simply reminds NPDES permit applicants and DEP permit reviewers that any permitting decisions must ensure the protection of any downstream HQ or EV waters that may be affected by the discharge(s) under consideration. So, regardless of Laurel Run's aquatic life use, any NPDES permit(s) for the discharges into Laurel Run must ensure there is no diminution in the quality of the HQ waters of Meadow Run, into which Laurel Run empties a short distance downstream from the B Seeps Treatment System discharge.

### **3. The Water Quality Regulations Specify that the Q<sub>7-10</sub> Flow of the Receiving Stream is the Critical Condition for Evaluating Aluminum and Iron.**

The federal TMDL regulations require that “[d]eterminations of TMDLs shall take into account critical conditions for stream flow, loading, and water quality parameters.” 40 C.F.R. § 130.7(c)(1). Nevertheless, the Draft Amended TMDL states that “[t]he reductions specified in

this TMDL apply at all flow conditions,” and that “[a] critical flow condition could not be identified from the data used for this analysis.” (p. 32) But for two of the three metals at issue, iron and aluminum, DEP did not need to deduce the critical flow condition from the data, because the governing regulation requires DEP to use the receiving stream’s  $Q_{7-10}$  flow as the critical stream condition.

The Pennsylvania regulation governing design flow conditions provides:

(g) Mathematical modeling at the design flow conditions listed in Table 1 shall be used as applicable to develop TMDLs and WQBELs for point source discharges.

**TABLE 1**

| <i>Water Quality Criteria</i>                  | <i>Steady State Design Flow</i> |
|------------------------------------------------|---------------------------------|
| Fish and Aquatic Life, Except Ammonia-Nitrogen | $Q_{7-10}$                      |
| Ammonia-Nitrogen                               | $Q_{30-10}$                     |
| Threshold Human Health                         | $Q_{7-10}$                      |
| Nonthreshold Human Health (Carcinogens)        | Harmonic Mean Flow              |

25 Pa. Code § 96.4(g). The water quality criteria (or TMDL endpoints) for both total iron, see 25 Pa. Code § 93.7(a) (Table 3), and total aluminum, see 25 Pa. Code Ch. 16, Appendix A, Table 1, are based on the protection of the fish and aquatic life stream use. For those two parameters, section 96.4(g) specifies that DEP must use Laurel Run’s  $Q_{7-10}$  flow as the critical streamflow condition.

If the statement in the draft TMDL is intended to indicate that DEP lacks sufficient data to determine the  $Q_{7-10}$  flow for Laurel Run, that is a different story. In that case, DEP should be able to derive a  $Q_{7-10}$  flow for Laurel Run from the  $Q_{7-10}$  flow for a comparable reference watershed. Alternatively, DEP should be able to make a reasonable approximation of Laurel Run’s  $Q_{7-10}$  flow from the mean flow, perhaps based on the relationship between the  $Q_{7-10}$  and mean flows for streams in similar watersheds. At a minimum, the TMDL should provide for future adjustment based on additional flow measurements that allow the determination of a  $Q_{7-10}$  flow for Laurel Run.

#### **4. The Amended TMDL Must Establish a TMDL for Point 132.**

The 2003 Final Laurel Run TMDL divided the reach of Laurel Run below Peck Run into two segments with monitoring points at or near the end of each segment. Moving downstream, the first segment was from Peck Run to monitoring point 132, which was located at the township road bridge crossing Laurel Run. Both point source discharges from the Potato Ridge Mine enter Laurel Run above monitoring point 132, which apparently was established at that location in order to monitor the immediate impacts of those discharges on Laurel Run. The 2003 TMDL

showed that Laurel Run was impaired at point 132 for iron and manganese. The second segment, the remainder of Laurel Run downstream of point 132, was modeled at monitoring point 131, which was located downstream of the discharge from the Smith Mine B Seeps Treatment System. The discharges from the Smith Mine Park Seeps, A/C Seeps, and B Seeps Treatment Systems enter Laurel Run between monitoring points 132 and 131.

The Draft Amended TMDL would retain point 131 at its original location but would remove point 132 from consideration entirely, modeling the TMDLs for Laurel Run below Peck Run only at point 131. After mentioning the ongoing discussions about the possible construction of a combined treatment system for the Potato Ridge Mine discharges, the Smith Mine A/C Seeps, and other discharges – “Option 2” in the Draft Amended TMDL – the “TMDL Amendment Summary” states: “In order to capture the [e]ffects of all mining impacts into one segment, point 132 was removed from the analysis.” The Draft Amended TMDL does not explain why, in light of the documented impairment at point 132, the obvious value of that point in monitoring the immediate impacts of the Potato Ridge Mine discharges, and the possibility that those discharges will continue to enter Laurel Run above point 132, it is advisable or permissible to consolidate the two segments into one and to limit the modeling to point 131.

The 2003 Final TMDL showed that Laurel Run is impaired for iron and manganese at point 132, and that load reductions of 5.9 lb/day of iron and 39.2 lb/day of manganese are required in order to achieve the applicable water quality criteria at that location. (2003 Final TMDL, p. 32) In order to demonstrate that this documented impairment of Laurel Run at point 132 will be eliminated, the Amended TMDL must demonstrate that these load reductions will actually be achieved at point 132. This demonstration must be made for both treatment scenarios, but is particularly important for the “Option 1” scenario, which assumes that the Potato Ridge Mine discharges will continue to enter Laurel Run upstream from monitoring point 132.<sup>1</sup> Without this demonstration, the Amended TMDL will fail show Laurel Run will satisfy all applicable water quality standards throughout the reaches now identified as impaired.

In general, the fact that a stream meets water quality standards at a downstream point does not demonstrate that it meets the same water quality standards at an upstream point where the stream flow is likely to be lesser. Because of the different flow regimes at points 132 and 131 and the fact that three point source discharges and “Tributary C” enter Laurel Run between those two points, achieving the Draft Amended TMDL’s maximum daily loads at downstream point 131 will not necessarily result in achieving the load reductions and meeting the maximum daily load restrictions at point 132 that the 2003 Final TMDL showed to be necessary to alleviate the existing impairment of Laurel Run at that point. The only way to demonstrate that the TMDL will alleviate the impairment at point 132 is to reinstate point 132 and do the necessary modeling of the instream data and discharge scenarios for that point. Therefore, in order to demonstrate that Laurel Run will achieve water quality standards throughout the stream, DEP must reinstate point 132 and perform the necessary modeling for that point.

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<sup>1</sup> Even if the two existing Potato Ridge Mine treatment systems are replaced in the future with a single treatment system under the “Option 1” scenario, the outfall from that new system is likely to be at or near the current NPDES Outfall 001, and thus upstream of monitoring point 132.

## **5. The Draft Amended TMDL Fails to Provide the Required “Reasonable Assurance” that the Necessary Load Reductions Will be Achieved.**

For watersheds like this one that include both WLAs to point sources and LAs to nonpoint sources, the Environmental Protection Agency’s (EPA’s) national TMDL guidance states that “the TMDL should provide reasonable assurances that nonpoint source control measures will achieve expected load reductions in order for the TMDL to be approvable.” (EPA, “Guidelines for Reviewing TMDLs under Existing Regulations issued in 1992” (May 20, 2002), p. 4 (emphasis added)) This requirement is based on the critical importance of achieving the pollutant load reductions identified in the TMDL in order to ensure that the impairment of the stream will be alleviated and the stream will attain the applicable water quality standards. Because there are no permitting or enforcement mechanisms available for nonpoint sources, if the agency cannot provide other “reasonable assurance” that any load reductions assigned to nonpoint sources actually will be realized, it must instead ensure that those necessary load reductions will occur by re-assigning them to point sources through reducing the applicable WLAs a commensurate amount.

The Draft Amended TMDL expressly relies on future load reductions from nonpoint sources above point 133, and implicitly relies on future load reductions from nonpoint sources between points 133 and 131, in order to achieve the overall load reductions required to meet the modeled maximum daily loads at those monitoring points. It fails, however, to provide the required “reasonable assurance” that the required load reductions attributed to nonpoint sources at points 133 and 131 actually will occur, and thus fails to provide reasonable assurance that the overall load reductions required at those points will be realized. As a result, it fails to demonstrate that the total maximum daily loads and water quality standards will be achieved at those points, and that the impairment of Laurel Run at those points will be alleviated. For point 131, the only way for DEP to provide reasonable assurance that the necessary load reductions (including those expected at upstream point 133) will be achieved is to reduce the WLAs to the point sources by the total amount of the load reductions assigned to the nonpoint sources at monitoring points 133 and 131.

### **A. Monitoring Point 133 (Peck Run)**

The Draft Amended TMDL identifies no point source discharges into Peck Run above monitoring point 133, so all of the pollutant loads are assumed to come from nonpoint sources. Likewise, all of the required load reductions – 0.7 lb/day of aluminum, 0.2 lb/day of iron, and 12.1 lb/day of acidity – are expected to come from the nonpoint sources. Nothing in the Draft Amended TMDL suggests that any nonpoint sources of mine drainage into Peck Run will be eliminated or treated. The Draft Amended TMDL thus fails to provide reasonable assurance that the load reductions required to alleviate the impairment at station 133 actually will be achieved.

Like the 2003 Final TMDL, the Draft Amended TMDL lists various funding and regulatory programs that are available statewide to assist in reclaiming abandoned mine lands, but it does not indicate that any projects using these programs are in the works for any lands or discharges in the Peck Run watershed. Moreover, given the enormity of the abandoned mine

land problem in Pennsylvania – a problem with an estimated \$15 billion price tag that will take more than a century to eliminate at current funding levels – and the tremendous competition for the scarce restoration funds listed in the Draft Amended TMDL, simply saying that statewide programs exist is not enough to provide reasonable assurance that pollution from nonpoint sources into a specific stream segment like Peck Run will be eliminated or reduced. Instead, DEP must point to specific, planned projects that both target specific pollution sources and have a reasonable likelihood of being funded and implemented in the near future.<sup>2</sup> Because the Draft Amended TMDL points to no such reasonably foreseeable and reasonably probable projects, it fails to provide reasonable assurance that the load reductions required to alleviate the impairment in Peck Run at point 133 will be achieved.

**B. Monitoring Point 131 (Laurel Run)**

**i. Accounting for nonpoint source load reductions at point 133 for which there is no reasonable assurance of attainment.**

Even if the “reasonable assurance” requirement does not apply directly to the required load reductions at point 133/Peck Run because there are no point source discharges into that segment, it nevertheless applies indirectly to those required nonpoint source load reductions at point 133. The reasonable assurance requirement indisputably applies to point 131, because several point source discharges enter Laurel Run between points 133 and 131. The TMDL for each downstream point is “based on the assumption that all upstream allocations are achieved and take into account all upstream reductions.” (Draft Amended TMDL, p. 12) In other words, the Draft Amended TMDL assumes that all load reductions required at all upstream points will be achieved. So, the determination of the maximum daily loads at point 131 in the Draft Amended TMDL assumes the achievement of all of the required load reductions at point 133, and attaining the water quality criteria at point 131 thus depends on the assumed nonpoint source load reductions at point 133 actually occurring. If the assumption that certain load reductions will occur at point 133 turns out to be incorrect, then the actual loads at both points 133 and 131 would be expected to exceed the modeled maximum daily loads, and Laurel Run would not satisfy the applicable water quality criteria at either point.

Because meeting the TMDL at point 131 is dependent upon meeting the TMDL at upstream point 133, in order to provide the required reasonable assurance that Laurel Run will not exceed the maximum daily loads at point 131, DEP must provide reasonable assurance that the load reductions required at upstream point 133 actually will occur. As explained above, DEP has not provided reasonable assurance that the required load reductions of 0.7 lb/day of aluminum, 0.2 lb/day of iron, and 12.1 lb/day of acidity from nonpoint sources into Peck Run above point 133 actually will occur, or indeed that those nonpoint source loadings will be reduced at all. As a result, DEP also has failed to provide the required reasonable assurance that the modeled maximum daily loads at point 131 will be achieved.

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<sup>2</sup> In that regard, the 2003 Final TMDL misclassified the discharges from the DCNR Smith Mine as nonpoint sources, and therefore mistakenly cited the treatment of those discharges as the principal evidence that load reductions from nonpoint sources would be achieved.

The TMDL indicates that all of the pollutant loads into Peck Run come from nonpoint sources. Because of the inability to mandate load reductions from such sources and the tremendous demand for the limited funding available to address nonpoint pollution sources, DEP is unable to provide reasonable assurance that the load reductions required at point 133 will occur. But DEP clearly does have the power – and because of the reasonable assurance requirement, the obligation – to make up for those excess loads at point 133 by requiring additional reductions from the downstream point sources over which it does have regulatory control through the NPDES permitting program. Specifically, in order to provide the required reasonable assurance of the necessary load reductions at point 131, DEP must make up for the lack of reasonable assurance of the required nonpoint source load reductions at point 133 by reducing the WLAs for the segment 131 point sources<sup>3</sup> by the amount of the required load reductions at point 133. So, for example, the Option 1 WLA for aluminum of 4.8 lb/day at point 131 must be reduced by the 0.7 lb/day load reduction at point 133 for which there is no reasonable assurance, yielding an adjusted Option 1 WLA of 4.1 lb/day at point 131. Results of the series of calculations for these adjustments are summarized in the table immediately below.<sup>4</sup>

| <b>Parameter</b>                     | <b>Point 131 WLA</b><br>TMDL Table 3, p. 13<br>(lb/day) | <b>Required Load</b><br><b>Reduction at 133</b><br>TMDL Table 3, p. 13<br>(lb/day) | <b>Adjusted Point 131</b><br><b>WLA</b><br>(lb/day) |
|--------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------|
| <b>OPTION 1 – Current Treatment</b>  |                                                         |                                                                                    |                                                     |
| Al                                   | 4.8                                                     | 0.7                                                                                | 4.1                                                 |
| Fe                                   | 9.0                                                     | 0.2                                                                                | 8.8                                                 |
| Acidity                              | 0.0                                                     | 12.1                                                                               | (-12.1)<br>12.1 net alkalinity                      |
| <b>OPTION 2 – Proposed Treatment</b> |                                                         |                                                                                    |                                                     |
| Al                                   | 5.2                                                     | 0.7                                                                                | 4.5                                                 |
| Fe                                   | 8.3                                                     | 0.2                                                                                | 8.1                                                 |
| Acidity                              | 0.0                                                     | 12.1                                                                               | (-12.1)<br>12.1 net alkalinity                      |

<sup>3</sup> DEP would have to add another step to this analysis if it reinstates point 132 in the TMDL.

<sup>4</sup> The table does not include manganese because no load reductions are required for manganese at point 133. The calculations yield a value of negative 12.1 pounds per day of acidity, and thus would require that the point sources add at least 12.1 pounds per day of net alkalinity to segment 131 (which they presumably will be doing anyway if the treatment systems are functioning properly). DEP would be required to ensure this result by including effluent limits in one or more of the NPDES permits that would result in an average discharge of 12.1 pounds per day of net alkalinity. Neutralizing the excess acidity flowing downstream from point 133 in this manner obviously will not result in achieving the required load reductions and water quality standards at point 133, but it nevertheless is essential in order to achieve them at point 131.

**ii. Accounting for nonpoint source load reductions at point 131 for which there is no reasonable assurance of attainment.**

The same reasoning explained in Section 5.B.i., immediately above, for the non-assured nonpoint source load reductions at point 133 applies with equal force to any load reductions that are expected to come from any nonpoint sources that discharge into Laurel Run below Peck Run (i.e., in segment 131). This is particularly true under the Option 1 treatment scenario, in which a number of discharges that enter Tributary C would not be collected and conveyed to a new combined treatment system, as proposed under Option 2.

To the extent the Load Allocations to the nonpoint sources at point 131 would require load reductions from those nonpoint sources, for the reasons explained in Section 5.A., above, there is no reasonable assurance that those expected load reductions actually will be achieved. As a result, just as the WLAs for the point sources at point 131 must be reduced by the amount of the assumed but non-assured nonpoint source load reductions at point 133 (see Section 5.B.i.), those same WLAs must be reduced a second time by the assumed but non-assured nonpoint source load reductions at point 131.

The Draft Amended TMDL does not contain sufficient data to allow us to calculate this second set of adjustments to the WLAs for point 131. The Draft Amended TMDL does not indicate what portion of the existing pollutant load at point 131 comes from point sources (which routinely violate the average allowable concentrations used in calculating the WLAs) and what portion comes from nonpoint sources. Subtracting the WLAs at point 131 from the existing load from point sources at point 131 would yield the required load reduction from the point sources, while subtracting the LA at point 131 from the existing load from nonpoint sources at point 131 would yield the required load reduction from the nonpoint sources. Without the data on the breakdown of the existing load between point and nonpoint sources for each parameter, one cannot perform those calculations, and thus cannot determine what portion of the required overall load reductions for each parameter at point 131 is expected to come from the point sources versus the nonpoint sources under the TMDL. (Draft Amended TMDL, Table 3, p. 13) But to the extent the Draft Amended TMDL assumes that any of the required future load reductions at point 131 will come from nonpoint sources, it fails to provide reasonable assurance that those assumed reductions will occur. The WLAs at point 131 therefore must be reduced by the amount of any future load reductions that are assumed to come from the segment 131 nonpoint sources.

**6. Miscellaneous Comments**

**A. Watershed name and description of sources (p. 4)**

Because there is a different Laurel Run in the Indian Creek Watershed on the eastern side of the Youghiogheny River in Subbasin 19-E, we suggest that Table 1 on page 4 of the Draft Amended TMDL identify Subbasin 19-E as the “Upper Youghiogheny River Watershed.”

The statement on page 4 of the Draft Amended TMDL that “[a]ll impairments resulted from acid drainage from abandoned coal mines” obviously is incorrect. No matter what basis

was stated for the 1996 listing decision, the principal mining activity in the watershed was the mining of clay at the Potato Ridge and Smith Mines in the lower third of the watershed, which are not abandoned but rather permitted mines. (Draft Amended TMDL. p. 8) Although some coal was extracted and some spoiled as part of those mining operations, they were principally clay mines and have been classified by DEP as noncoal mines.

**B. Assumption that data are “log-normally distributed”**

Like many other DEP mine drainage TMDLs, the Draft Amended TMDL states: “For each source and pollutant, it was assumed that the observed data were log-normally distributed.” (p. 9) Statistical tests are available to determine whether a set of data is normally distributed, and the TMDL offers no explanation for failing to take the simple step of verifying that the data in question are “log-normally distributed” by running statistical tests for normality on the log-transformed data. Particularly if normal distribution of the data is important for proper functioning of the “@Risk” Monte Carlo simulation, this characteristic should be verified rather than assumed.

**C. Need for future monitoring for zinc**

The Watershed Restoration Action Strategy for Subbasin 19-E states that some “surface mining resulted in highly acidic discharges with elevated concentrations of iron, aluminum and zinc.” Although we have not located any instream monitoring data for Laurel Run that included analyses for zinc, the Action Strategy’s statement, combined with the fact that the discharges from the Potato Ridge and Smith Mines have elevated levels of iron, aluminum, or both, suggests that zinc, a toxic metal, might be contributing to the impairment of Laurel Run. We therefore recommend that future instream monitoring in Laurel Run include zinc to determine whether it is a contaminant of concern in this specific watershed.

Please feel free to contact me at 717-214-7920 if you have any questions about our comments.

Sincerely,

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