January 12, 2005

Mr. Mike Hill
Geologic Specialist
Pennsylvania Department of Environmental Protection
Pottsville District Mining Office
5 West Laurel Boulevard
Pottsville, PA 17901

Re: Proposed Total Maximum Daily Load (TMDL)
Little Schuylkill River Watershed (Acid Mine Drainage Affected Segments)
34 Pa. Bull. 5989 (October 30, 2004)

Dear Mr. Hill:

Citizens for Pennsylvania's Future (PennFuture) appreciates the opportunity to present these comments on the June 21, 2004 Proposed Total Maximum Daily Load (Proposed TMDL) prepared by the Department of Environmental Protection (DEP) for the Little Schuylkill River Watershed. PennFuture's comments focus on the TMDL calculation for sampling point LS10, which is just downstream from a permitted discharge of mine drainage, known as the "Route 309 Discharge," from a Lehigh Coal & Navigation (LCN) coal mine.

PennFuture is a statewide membership organization that advocates in the areas of environmental and energy law and policy in order to promote sustainable economic growth and protection of Pennsylvania's environment and natural resources. Through its work on the problem of guaranteeing the treatment of discharges of coal mine drainage, PennFuture is familiar with the mine drainage contamination problems in the Little Schuylkill River Watershed, and specifically in the segment of the river that includes the LCN Route 309 Discharge.

Section 1 of PennFuture's comments points out that the Proposed TMDL is incorrect in assuming that LCN's National Pollutant Discharge Elimination System (NPDES) wastewater discharge permit contains effluent limits for aluminum. Neither the permit nor the regulation at 25 Pa. Code § 88.92(a) contains technology-based limits for aluminum. Section 2 focuses on a conceptual error that results in overstating the required load reductions and percentage load reductions at LS10 in Table C22 on page 37 of the Proposed TMDL.

The matters addressed in Sections 3 and 4 of PennFuture's comments have immediate practical significance in the design and operation of a treatment system for the LCN Route 309 Discharge. In Section 3, PennFuture questions DEP's apparent failure to follow the "AMD Methodology" described in the Proposed TMDL and applied in other, approved TMDLs. For the LS10 segment, that methodology would require a series of mass balance analyses that do not appear in the Proposed TMDL.

Section 4 addresses DEP's failure to allocate any of the necessary loading reductions at LS10 to the LCN Route 309 point source discharge. The Proposed TMDL claims that the NPDES program is one of the "[t]wo primary programs [that] provide[s] maintenance and improvement of water quality in the watershed," and that DEP's "duties and responsibilities for issuing NPDES permits will be [one of] the focal points in water quality improvement." (p. 16) There is only one NPDES-permitted discharge in the entire watershed – the LCN Route 309 Discharge – that gives DEP an opportunity to use the NPDES program to improve water quality. But the Proposed TMDL would assign all of the necessary load reductions to nonpoint sources and none of them to the LCN Route 309 Discharge, which would only be required to meet the existing (or for aluminum, assumed) technology-based effluent limits rather than more stringent water quality based effluent limits (WQBELs). Remarkably, the Proposed TMDL offers no explanation for why it would require no load reductions from the only permitted source of mine drainage in the watershed. It simply declares: "No required reductions of permit limits are needed at this time. All necessary reductions are assigned to non-point sources." (p. 14) [1]

The Proposed TMDL also provides no explanation for its failure to apply the Equal Marginal Percent Reduction (EMPR) allocation strategy in Attachment E when allocating the allowable loads of metals at point LS10. Appendix E states that EMPR is "an allocation method frequently used by PA DEP in development of Total Maximum Daily Loads (TMDLs) and Water Quality Based Effluent Limitations (WQBELs)," and that DEP "appl[ies] this method to both point and non-point sources of pollution." (Proposed TMDL, p. 50) Based on the description and examples in Appendix E, there would appear to be no reason why DEP should not apply it in this instance, as it does elsewhere in the Proposed TMDL in the allocation of sediment loads.

The TMDL provides no water quality monitoring data for the Route 309 Discharge. Using monitored flows, and assuming that the quality of LCN Route 309 Discharge roughly matches the technology-based effluent limits listed in Table C20 on page 36 of the Proposed TMDL, the LCN Route 309 Discharge contributes 30.29% of the existing aluminum load, 8.51% of the iron load, and 10.70% of the manganese load tracked between LS9 and LS10, but the TMDL assigns none of the required load reductions to that discharge. (As shown in Section 4 of these comments, using LCN's water quality monitoring data from 2003-04, the actual load contributions are greater than these assumed load contributions for iron and manganese, being roughly 33% for iron and 35.8% for manganese.) The Proposed TMDL does not explain why the allocation of the load reductions fails to more closely approximate the percentage load contributions. It simply assigns the LCN Route 309 Discharge a Waste Load Allocation at the existing (or assumed), technology-based effluent limits without giving any consideration to requiring a water quality based allocation below those levels.

By applying the EMPR allocation strategy, PennFuture demonstrates in Section 4, below, that LCN should bear a share of the necessary load reductions. PennFuture also shows that reduction of the Waste Load Allocation to the LCN Route 309 Discharge in accordance with the EMPR formula ultimately will require the establishment of WQBELs that are lower than the

[1] The quoted statement assumes that LCN's permit currently contains effluent limits for aluminum, which is not true.

existing (and assumed), technology-based effluent limits. As a result, it would be risky for LCN and DEP to assume that the new treatment system for the LCN Route 309 Discharge will only have to meet the technology based effluent limits that appear in Table C20 of the Proposed TMDL. See UMCO Energy, Inc. and United Mine Workers of America v. DEP and Citizens for Pennsylvania's Future, EHB Docket No. 2004-245-L, Opinion and Order on Petition for Supersedeas (November 30, 2004), slip op. at 24-26.

Finally, in Section 5, PennFuture explains why, in the situation presented, the EMPR method does not go far enough in limiting the Waste Load Allocation to the LCN Route 309 Discharge. Because the Route 309 Discharge is the only permitted discharge of mine drainage addressed in this TMDL, it is the only discharge over which DEP has authority through the NPDES permitting program. The Proposed TMDL provides no "reasonable assurance" that all (or indeed, any) of the load reductions assigned to the nonpoint sources in segment LS10 will actually be achieved. In light of DEP failure to provide this required "reasonable assurance," it must establish a WLA and WQBELs for the Route 309 Discharge that are even more restrictive than those that would be required through application of the EMPR method.

1. LCN's NPDES Permit Does Not Contain Effluent Limits for Aluminum

Table C20 on page 36 of the proposed TMDL, entitled "Waste Load Allocations at Discharge 005," lists a monthly average allowable concentration of 2.0 mg/l for aluminum. In fact, LCN's NPDES permit does not contain any effluent limits for aluminum. As renewed on October 10, 2002, LCN's NPDES Permit No. PA0012360 contains effluent limits applicable to outfall 005 that are the same as those set forth at 25 Pa. Code § 88.92(a).

NPDES permit effluent limits must be "consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7." 40 C.F.R. § 122.44(d)(1)(vii)(B) (incorporated into Pennsylvania law by 25 Pa. Code § 92.2(b)(14)). Therefore, at a minimum, the Proposed TMDL's assumption of a monthly average concentration limit of 2.0 mg/l for aluminum would require DEP to amend LCN's NPDES permit to include that limit, plus a related daily maximum limit of 4.0 mg/l and an instantaneous maximum limit of 5.0 mg/l. PennFuture shows in Sections 4 and 5, however, that more stringent, water quality based effluent limits are required to assure that the instream water quality criterion for aluminum is satisfied at LS10.

The TMDL assumes that the Route 309 Discharge is subject to the standard, technology-based effluent limits for iron, manganese, and total suspended solids that are set forth in 25 Pa. Code § 88.92(a). Those limits were incorporated into the October 10, 2002 renewal of the NPDES permit. PennFuture notes, however, that according to the attached letter from DEP to LCN dated May 5, 2003, no iron, manganese, or total suspended solids effluent limits have been in effect for the Route 309 Discharge at Outfall 005 since May 5, 2003. That letter, entitled "Notice of Permit Correction," purports to eliminate those parameters temporarily "until the BAMR Project has been completed and Lehigh Coal and Navigation Company (LCN) has constructed the permanent treatment facilities" required under a 2002 Consent Order and Agreement with DEP. The letter would: 1) leave in place the existing NPDES effluent limit

requiring that alkalinity exceed acidity at all times; 2) require that the pH remain between 6.2 and 9.0 standard units (inclusive) at all times, which is a slight tightening of the permissible range under the October 2002 permit (6.0 to 9.0), and 3) require that the treatment be "designed for a target pH of 6.4 standard units." But because a modification of the applicable effluent limits does not constitute a "minor modification" under 40 C.F.R. § 122.63, it may not take effect until the permit modification procedures of 40 C.F.R. §§ 122.62, 124.5(c), 124.6, including public notice and an opportunity to comment on a draft permit, are completed. See 25 Pa. Code § 92.2(b)(18) (incorporating 40 C.F.R. §§ 122.62, 122.63); Pennsylvania PIRG v. P.H. Glatfelter Co., 128 F. Supp. 2d 747, 759-61 (M.D. Pa. 2001) (1989 consent adjudication that would have applied more lenient requirements than color effluent limits established in 1984 NPDES permit had no effect on permit limits because DEP did not follow the NPDES permit modification procedures required by federal law).

No public notice of the May 5, 2003 "Notice of Permit Correction" appeared in the Pennsylvania Bulletin. Therefore, as in Glatfelter, because DEP did not follow the procedures required to validly modify a NPDES permit, the "Notice of Permit Correction" has no effect on the final and unappealed effluent limits in the October 10, 2002 renewal of LCN's NPDES permit. Moreover, even if DEP had followed the proper procedures, the "Notice of Permit Correction" would violate the "Anti-backsliding" provision of the federal Clean Water Act, 33 U.S.C. § 1342(*o*). Under that provision, effluent limits in a NPDES permit never may be made less stringent than the current effluent limit guidelines. See id. § 1342(*o*)(3). The current effluent limit guidelines for the coal mining point source category are the same as the total suspended solids, iron, and manganese limits that appear in the October 10, 2002 renewal of LCN's NPDES permit. See 40 C.F.R. § 434.35. In addition, under the Anti-backsliding provision, the relaxation of an effluent limit may never result in the violation of a water quality standard. 33 U.S.C. § 1342(*o*)(3). In Section 4, PennFuture shows that the daily load of iron discharged at outfall 005 from March 2003 through September 2004 was roughly 950 lb/day, and the daily load of manganese was roughly 550 lb/day. These loadings exceed the allowable loads at LS10 of 441.5 lb/day of iron and 334.1 lb/day of manganese (Table C21, p. 37). Thus, by itself, the LCN Route 309 Discharge has caused the exceedance of the allowable loads at LS10 and the violation of water quality standards.

In any event, PennFuture shows in Sections 4 and 5 of these comments that DEP must establish water quality based effluent limits for iron and manganese that are more stringent than the technology-based limits appearing in the October 10, 2002 permit renewal.

2. The Required Load Reductions at LS10 Are Overstated in Table C22

The fifth row of figures in Table C22 on page 37 of the Proposed TMDL is labeled "Allowable Load @LS10 (LS10-WLA)." For the three metals, however, the figures in that row do not represent the overall allowable loads (which appear in the immediately preceding table, C21), but rather the portion of the allowable load at LS10 PADEP is assigning to all of the sources other than LCN's Route 309 discharge. In other words, it is the total allowable load (Table C21) minus the Waste Load Allocation to the Route 309 Discharge. (For acidity, the figure presented in Row 5 of Table C22 is the same as the overall allowable load in Table C21 because there is zero allowable load from the Route 309 discharge, which has a NPDES permit requirement that alkalinity exceed acidity. In essence, Row 5 of Table C22 represents the Load Allocation @LS10, which is the label PennFuture suggests.

The sixth row of figures in Table C22 is supposed to present the required load reductions at LS10. For the metals, however, this row overstates the amount of the actual load reductions required because PADEP subtracted the wrong values from the "Total loads tracked between LS9/Panther and LS10" that appear in Row 4 of Table C22. Those total loads include the waste loads coming from the LCN Route 309 discharge. As a result, when calculating the overall load reductions required at LS10, one must subtract the total allowable concentrations listed in Table C21[2] – not the figures listed in Row 5 of Table C22 – from the "Total loads tracked" that appear in Row 4 of Table C22. Again, for the three metals, using the correct figures reduces considerably both the "Load Reduction @LS10" and the "% Reduction required at LS10" in the final two rows of Table C22. The correct figures appear in the portion of the table presented immediately below.

In the excerpt from Table C22 appearing below, PennFuture has added a row showing the Waste Load Allocation to the LCN Route 309 Discharge (005). Starting with the fourth row of figures ("Total load tracked between LS9/Panther and LS10"), Table C22 would appear as follows:

LS10	Al (Lbs/day)	Fe (Lbs/day)	Mn (Lbs/day)	Acidity (Lbs/day)
Total loads tracked between LS9/Panther and LS10	547.93	2926.58	1552.00	22512.84
Waste Load Allocation @005	165.97	248.96	165.97	0.00
Load Allocation @LS10	93.81	192.50	168.16	4539.55
Load Reduction @LS10	288.15	2485.12	1217.87	17973.29
% Reduction required at LS10	52.59%	84.92%	78.47%	80%

[2] The total allowable load figures in Table C21 only go to one decimal place. Because Table C22 uses figures that go to two decimal places, PennFuture's calculations use total allowable load figures that likewise go to two decimal places.

Note that the "Total load tracked" equals the sum of the next three rows: Waste Load Allocation plus Load Allocation plus required Load Reduction. Because of how the "Total loads tracked" are determined, the figures presented above take into account the load reductions required by the finalized TMDL for the Panther Creek Watershed by assuming that all of the load reductions required by that TMDL will be successfully achieved. Because all of the load reductions in the Panther Creek watershed are allocated to nonpoint sources and are dependent on future funding of unspecified projects to treat abandoned mine discharges or to reclaim abandoned mine lands, that assumption is unrealistic.

Finally, note that the figures presented above are not based on application of the "AMD Methodology" discussed in Section 3, immediately below, or the Equal Marginal Percent Reduction (EMPR) allocation strategy in Attachment E of the Proposed TMDL, which is discussed in Section 4 of these comments. As shown in Section 4, application of the EMPR method results in reductions in the Waste Load Allocation to the LCN Route 309 Discharge (005), which in turn will necessitate the establishment of more stringent, water quality based effluent limits. Near the end of Section 4, PennFuture presents a different version of Table C22 based on the application of the EMPR allocation method.

3. Failure to Follow the "AMD Methodology"

The Proposed TMDL includes a summary of a two-step "AMD Methodology" (pp. 9-11) that often appears as an attachment in the mine drainage TMDLs approved through 2003. The Proposed TMDL states that "[f]or situations where there are point-source impacts alone, or in combination with non-point sources, the evaluation will use the point-source data and perform a mass balance with the receiving water to determine the impact of the point source." (p. 9) More than two dozen of Pennsylvania's approved TMDLs for streams impaired by mine drainage include as an attachment a set of calculations for Lorberry Creek in Schuylkill County that was first approved as part of the Upper Swatara Creek TMDL in April 1999. That attachment appears most recently in the March 2004 Final TMDL for Limestone Run in Armstrong County.

The segment of the Little Schuylkill River between LS9 and LS10 is affected by both a point source discharge (the LCN Route 309) and nonpoint sources. But despite the statement from page 9 of the Proposed TMDL quoted above, the Proposed TMDL does not apply a mass balance methodology. What makes DEP's failure to follow the Lorberry Creek model so striking here is how closely the situation at Little Schuylkill segment LS10 parallels the situation encountered at Lorberry Creek. The upstream sampling point (LS9) corresponds to point Swat-04 on Lorberry Creek. The tributary here (Panther Creek) corresponds to Stumps Run/Swat-11. And finally, the point source discharge here (LCN Route 309 (005)) corresponds to the Shadle Discharge (L-1) into Lorberry Creek.

Applying the Lorberry Creek model, the AMD Methodology would require the following steps here:

1. A simulation of the concentration data at LS9. This step is done in the Proposed TMDL.

2. A simulation of the concentration data at Panther Creek (003). This step was done as part of the approved Panther Creek TMDL.

3. A mass balance of the loadings from LS9 and Panther Creek (003) using an equation paralleling Equation 3 in the Lorberry Creek calculation:

   $C_{below\ Panther} = ((Q_{LS9} \times C_{LS9}) + (Q_{PC003} \times C_{PC003}))/(Q_{LS9} + Q_{PC003})$

   This equation would be simulated through 5,000 iterations using the modeling software. A comparison of the 99th percentile value for the resulting data set would be compared to the water quality criterion for each of the metals to determine whether further reductions are required.

   No such mass balance analysis appears in the Proposed TMDL.

4. The mass balance would be expanded to include the LCN Route 309 Discharge using an equation paralleling Equation 4 in the Lorberry Creek calculation:

   $C_{below\ LCN} = ((Q_{LS9} \times C_{LS9}) + (Q_{PC003} \times C_{PC003}) + (Q_{LCN} \times C_{LCN}))/(Q_{LS9} + Q_{PC003} + Q_{LCN})$

   As was true for the Shadle Discharge, there is no effluent limit for aluminum, so the starting concentration (C_{LCN}) used in the modeling would be arbitrarily selected based on any historical monitoring data for aluminum. For the other metals, the Lorberry Creek model uses the daily concentration limits of 6 mg/l for iron and 4 mg/l for manganese. This expanded mass balance would be simulated through 5,000 iterations to determine whether further reductions are required.

   Again, no such mass balance analysis appears in the Proposed TMDL.

The Proposed TMDL does not explain why DEP did not follow this stepwise, mass balance methodology for the segment of the Little Schuylkill River between LS9 and LS10. If DEP did, in fact, follow this methodology, then it should present the kinds of tables that appear in the Lorberry Creek calculation. If not, it should explain why it did not follow the "AMD Methodology" it nevertheless saw reason to summarize in the Proposed TMDL document.

The attached charts show LCN's monitoring data for three monitoring points in the Little Schuylkill River during the period March 2003 through September 2004. Discontinuities in the chart for manganese result from two outlier values above 100 mg/l. The three monitoring points are located above Panther Creek (MP6a), below Panther Creek and above the Route 309

Discharge (MP6b), and below the Route 309 Discharge (MP7). These charts suggest that a mass balance approach would require considerable load reductions from the Route 309 Discharge.

4. Application of the Equal Marginal Percent Reduction Methodology to the Sources Contributing Pollutants at LS10 Requires DEP to Include More Stringent, Water Quality Based Effluent Limits for Aluminum, Iron, and Manganese in LCN's NPDES Permit.

As stated above, the only monitoring data for the LCN Route 309 Discharge presented in the Proposed TMDL are flow readings. (pp. 59-60) The "Allowable Load" numbers in the last column of Table C20 on page 36 of the Proposed TMDL are based on these measured flows and the "Monthly Average Allowable Concentration" figures in Table C20 (which include an assumed effluent limit for aluminum). In reality, LCN has exceeded its permit limits for iron and manganese in every month from at least March 2003 through September 2004. LCN generally samples the Route 309 discharge once per month, with that single grab sample monitoring LCN's compliance with both its average monthly and daily maximum effluent limits. Because it does not have an aluminum effluent limit, LCN does not monitor for aluminum. Using LCN's self-monitoring data (Module 8.1(A)), from March 2003 through September 2004, the monthly samples of the Route 309 discharge ranged from 8.0 mg/l to 13.6 mg/l of iron, with a mean of 11.5 mg/l. For manganese, the range was 6.1-7.3 mg/l, with a mean of 6.7 mg/l.

Notwithstanding LCN's history of violating its NPDES permit limits, the calculations performed to produce the tables presented below assume that the existing pollutant loads coming from the LCN Route 309 Discharge are equal to the "Allowable Loads" in Table C20. In fact, LCN's monitoring data for iron and manganese indicate that during the period considered in the development of the Proposed TMDL, the daily loading the Route 309 Discharge actually contributed to the Little Schuylkill was more than triple the allowable loads that appear in Table C20. For iron, the Table C20 allowable load from the Route 309 Discharge is 248.96 lb/day (8.51% of the existing load tracked at LS10), but the actual load using the concentration figures presented in the preceding paragraph and the average flow of 9.9504 mgd[3] used in the Proposed TMDL is 954.34 lb/day (33% of the existing load tracked at LS10). For manganese, the allowable load is 165.97 lb/day (10.7% of the existing load tracked at LS10), but the actual load is 556.01 lb/day (35.8% of the existing load tracked at LS10).

The upshot is that during the period considered in the development of the Proposed TMDL, the LCN Route 309 has been contributing a much greater share of the metals contaminant loading than the Proposed TMDL would lead one to believe. The reason it has done so is that the discharge has violated the effluent limits in the NPDES permit throughout this period. But by falsely attributing 24.5% of the existing iron load and 25% of the manganese load at LS10 to nonpoint sources, the TMDL overstates the significance of nonpoint sources in this segment while understating the impact of the Route 309 Discharge on instream water quality. PennFuture shows below that in order to attain the instream water quality criteria here, the new treatment system for the Route 309 Discharge must be capable of consistently achieving compliance with water quality based effluent limits that are more stringent than the "Monthly

[3] Based on the flow monitoring data for 2003 available in the LCN file and the amount of precipitation received in the region during 2004, the average flow from the Route 309 Discharge during March 2003 through September 2004 probably exceeded this level considerably.

Average Allowable Concentration" figures in Table C20.

There are four sources or groups of sources contributing loads to point LS10:

1) LS9
The upstream sources in the Little Schuylkill River Watershed, represented by sampling point LS9. For aluminum, the existing wasteload is treated a zero because all samples were below the detection limit. For iron and manganese, the existing wasteloads of 98.18 pounds per day and 63.11 pounds per day,[4] respectively, are considered allowable in the Proposed TMDL because there is no exceedance of the instream water quality standards at sampling point LS9.

2) Panther Creek
The sources in the Panther Creek Watershed, represented by the allowable TMDL loads at the Panther Creek TMDL's point 003. Using the allowable loads gives effect to the approved Panther Creek TMDL by assuming that all of the load reductions it identifies as necessary will be achieved.

3) LS10 Nonpoint Sources – all nonpoint sources between LS9 and LS10.

4) LCN (005) – the permitted LCN Route 309 Discharge.

The Proposed TMDL essentially lumps together all of the sources except the LCN Route 309 Discharge. It assigns the Route 309 Discharge a Waste Load Allocation at the technology-based monthly average effluent limitations listed in Table C20, and it assigns the remaining allowable load and all of the necessary load reductions to the three remaining source categories collectively. Although the Proposed TMDL does not differentiate between the three other groups of sources when addressing the required load reductions at LS10, it is apparent from its discussion of LS9 and Panther Creek that the Proposed TMDL assigns all of the required load reductions at LS10 to the LS10 Nonpoint Sources.

In the three subsections that follow, PennFuture provides tables showing the results of three slightly different variations on the application of the EMPR allocation method to the loadings of aluminum, iron, and manganese at point LS10. In Subsection A, PennFuture groups the pollutant sources in the same way as the Proposed TMDL, applying the EMPR method to two sources: the LCN point source discharge versus all other sources. Subsection B breaks down the "all other sources" category into its three component parts (LS9, Panther Creek, and LS10 Nonpoint), but does not require any additional load reductions at LS9 or Panther Creek. This is, Subsection B treats the allowable loads at LS9 in the Proposed TMDL and at Panther Creek 003

[4] These figures were determined using the average flow and concentration values reported on page 58 of the Proposed TMDL. Note that the chart for LS9 on page 13 and Table C17 on page 35 of the Proposed TMDL incorrectly indicate that iron and manganese were not detected ("ND") at LS9. Similarly, the stick diagram on page 24 incorrectly indicates that there is no loading of iron or manganese at LS9. In fact, both iron and manganese were detected at LS9, and there is a loading of those two contaminants at that point, but no reductions of those loadings are required in order to meet water quality standards at LS9.

in the Final Panther Creek TMDL as not being subject to further reduction in order to satisfy water quality standards at LS10. Although we do not advocate this approach, the finer detail it provides is an improvement over Subsection A because it helps to illustrate the sources of the loading at LS10, and it results in slightly more accurate allocation of the required load reductions between the LCN Route 309 Discharge and the LS10 Nonpoint Sources.

In Subsection C, PennFuture presents what it believes is the proper way to apply the EMPR method to the allocation at LS10, or in any similar situation in which points upstream of, or tributaries to, the segment in question either satisfy water quality standards (as at LS9) or are subject to a final TMDL, the implementation of which would result in attainment of water quality standards (as at Panther Creek 003). Subsection C treats all four of the source categories as being available for further load reductions. PennFuture believes this approach properly recognizes that even if no load reductions are necessary at an upstream point like LS9 in order to satisfy water quality standards in that segment: a) they may be necessary in order to satisfy water quality standards at a downstream point like LS10; and b) it is proper to require the upstream sources to contribute their fair share (as determined through the EMPR method) to the load reductions needed at the downstream point.[5] Similarly, even if a TMDL has established the load reductions necessary to satisfy water quality criteria in a tributary like Panther Creek, it is fair to require additional reductions when that tributary contributes pollutant loads to another stream that is listed as impaired for those pollutants. Although it is not the situation presented in Little Schuylkill segment LS10, the clearest illustration of the need for such an approach comes when the upstream point barely satisfies water quality standards, and lesser load additions in the downstream segment make the stream violate a water quality criterion. In that situation, it clearly would be unfair to require that all the load reductions come from the (lesser) sources in the downstream segment.

The most important point in this section, however, is that any of the three alternatives illustrated in the three subsections is better than the approach taken in the Proposed TMDL. That is to say, the EMPR method is better and more equitable than DEP's approach of automatically assigning all of the required load reductions to the sources other than the LCN Route 309 Discharge and requiring no load reductions from the only permitted point source of mine drainage in the watershed. Given that LCN contributes to the pollutant loads that are impairing the river, it should be required to contribute to the pollutant load reductions that are necessary to satisfy the instream water quality criteria for the three metals at LS10.

All three of the allocations presented below would require the inclusion of WQBELs in the NPDES permit for the LCN Route 309 Discharge. Here again, their similarity in requiring WQBELs is more significant than the distinctions between the specific WQBELs each would require.[6]

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[5] It also may be appropriate to revise the allocations for segments further upstream (e.g., LS8) in light of any reductions that might be required at LS9 in order to satisfy water quality standards at LS10. All of the sources upstream from LS9 are nonpoint sources, however, so there are no NPDES permits that such a reallocation might affect.

[6] The "Required WQBEL" in each applicable chart is simply the allowable load from the LCN (005) Discharge – the "Multiple Value" in the chart – divided by 82.99, which was derived by multiplying a

Application of the EMRP Method to the Load Allocations at LS10

A. LCN (005) Point Source Versus All Other Sources

i. Results of EMPR calculations

ALUMINUM (Total)						
Source	Total Load Tracked (lbs/day)	Baseline Value (lbs/day)	Multiple Value (lbs/day)	Final % Reduction	Assumed Mo. Avg. Allowable Conc.	**Required WQBEL** (mo. avg. conc.)
Point: LCN (005)	165.97	165.97	101.27	38.98%	2.0 mg/l	**1.22 mg/l**
All Other: LS9 + Panther Creek + LS10 Nonpoint	381.96	259.78	158.51	58.50%		
TOTAL	**547.93**	**425.75**	**259.79**	**52.59%**		

IRON (Total)						
Source	Total Load Tracked (lbs/day)	Baseline Value (lbs/day)	Multiple Value (lbs/day)	Final % Reduction	Tech-based Effluent Limit (mo. avg. conc.)	**Required WQBEL** (mo. avg. conc.)
Point: LCN (005)	248.96	248.96	159.19	36.06%	3.0 mg/l	**1.92 mg/l**
All Other: LS9 + Panther Creek + LS10 Nonpoint	2677.62	441.46	282.27	89.46%		
TOTAL	**2926.58**	**690.42**	**441.46**	**84.92%**		

MANGANESE (Total)						
Source	Total Load Tracked (lbs/day)	Baseline Value (lbs/day)	Multiple Value (lbs/day)	Final % Reduction	Tech-based Effluent Limit (mo. avg. conc.)	**Required WQBEL** (mo. avg. conc.)
Point: LCN (005)	165.97	165.97	110.89	33.19%	2.0 mg/l	**1.34 mg/l**
All Other: LS9 + Panther Creek + LS10 Nonpoint	1386.03	334.13	223.24	83.89%		
TOTAL	**1552.00**	**500.10**	**334.13**	**78.47%**		

conversion factor of 0.00000834 by the average daily flow from the LCN discharge of 9,950,400 gallons.

ii. Allocation of load reductions

ALLOCATION OF LOAD REDUCTIONS (As Proposed by PADEP, p. 37)				
Parameter	LCN (005)		All Other Sources	
	lbs/day	% of Total	lbs/day	% of Total
Aluminum	0	0%	454.12	100%
Iron	0	0%	2734.08	100%
Manganese	0	0%	1383.84	100%

ALLOCATION OF LOAD REDUCTIONS (As Proposed by PADEP, but corrected to account for LCN (005) point source load in total load tracked between LS9 and LS10)				
Parameter	LCN (005)		All Other Sources	
	lbs/day	% of Total	lbs/day	% of Total
Aluminum	0	0%	288.15	100%
Iron	0	0%	2485.12	100%
Manganese	0	0%	1217.87	100%

EMPR ALLOCATION OF LOAD REDUCTIONS AT LS10 (Applying Equal Marginal Percent Reduction and corrected to account for LCN (005) point source load in total load tracked between LS9 and LS10)				
Parameter	LCN (005)		All Other Sources	
	lbs/day	% of Total	lbs/day	% of Total
Aluminum	64.70	22.45%	223.45	77.55%
Iron	89.77	3.61%	2395.35	96.39%
Manganese	55.09	4.52%	1162.80	95.48%

iii. Comparison between existing load contributions and required load reductions

EXISTING LOADS tracked between LS9/Panther and LS10 (based on assumption of compliance with Table C20 monthly average allowable concentration limits at point 005)				
Parameter	LCN (005)		All Other Sources	
	lbs/day	% of Total	lbs/day	% of Total
Aluminum	165.97	30.29%	381.96	69.71%
Iron	248.96	8.51%	2677.62	91.49%
Manganese	165.97	10.70%	1386.03	89.30%

PERCENTAGE OF EXISTING LOAD versus PERCENTAGE OF LOAD REDUCTION AT LS10 under PADEP'S PROPOSED ALLOCATION				
Parameter	LCN (005)		All Other Sources	
	% Existing Load	% Load Reduction	% Existing Load	% Load Reduction
Aluminum	30.29%	0%	69.71%	100%
Iron	8.51%	0%	91.49%	100%
Manganese	10.70%	0%	89.30%	100%

PERCENTAGE OF EXISTING LOAD versus PERCENTAGE OF LOAD REDUCTION AT LS10 under EMPR ALLOCATION				
Parameter	LCN (005)		All Other Sources	
	% Existing Load	% Load Reduction	% Existing Load	% Load Reduction
Aluminum	30.29%	22.45%	69.71%	77.55%
Iron	8.51%	3.61%	91.49%	96.39%
Manganese	10.70%	4.52%	89.30%	95.48%

B. Separating the four source categories, but requiring no further reductions at LS9 or Panther Creek

This set of calculations expressly recognizes that some of the loads at LS10 come from LS9 and Panther Creek, but expressly declines to require any load reductions at those points beyond those already required by the Panther Creek TMDL. This approach places a greater share of the load reduction burden on the LCN Route 309 Discharge than in the first set of calculations.

i. Results of EMPR calculations

ALUMINUM (Total)						
Source	Total Load Tracked (lbs/day)	Baseline Value (lbs/day)	Multiple Value (lbs/day)	Final % Reduction	Assumed Mo. Avg. Allowable Conc.	**Required WQBEL** (mo. avg. conc.)
Point: LCN (005)	165.97	165.97	100.26	39.59%	2.0 mg/l	**1.21 mg/l**
LS10 Nonpoint	375.46	253.28	153.02	59.24%		
Subtotal LS10	**541.43**	**419.25**	**253.28**	**53.22%**		
LS9	0.00		0.00	N/A		
Panther Creek	6.50		6.50	No more		
TOTAL	**547.93**		**259.78**	**52.59%**		

IRON (Total)						
Source	Total Load Tracked (lbs/day)	Baseline Value (lbs/day)	Multiple Value (lbs/day)	Final % Reduction	Tech-based Effluent Limit (mo. avg. conc.)	**Required WQBEL** (mo. avg. conc.)
Point: LCN (005)	248.96	248.96	141.59	43.13%	3.0 mg/l	**1.71 mg/l**
LS10 Nonpoint	2564.44	328.28	186.69	92.72%		
Subtotal LS10	**2813.40**	**577.24**	**328.28**	**88.33%**		
LS9	98.18		98.18	None		
Panther Creek	15.00		15.00	No more		
TOTAL	**2926.58**		**441.46**	**84.92%**		

MANGANESE (Total)						
Source	Total Load Tracked (lbs/day)	Baseline Value (lbs/day)	Multiple Value (lbs/day)	Final % Reduction	Tech-based Effluent Limit (mo. avg. conc.)	**Required WQBEL** (mo. avg. conc.)
Point: LCN (005)	165.97	165.97	101.62	38.77%	2.0 mg/l	**1.22 mg/l**
All Nonpoint LS10	1314.02	262.12	160.50	87.79%		
Subtotal LS10	**1479.99**	**428.09**	**262.12**	**82.29%**		
LS9	63.11		63.11	None		
Panther Creek	8.90		8.90	No more		
TOTAL	**1552.00**		**334.13**	**78.47%**		

ii. Allocation of load reductions

ALLOCATION OF LOAD REDUCTIONS (As Proposed by PADEP, p. 37)				
Parameter	LCN (005)		All Other Sources	
	lbs/day	% of Total	lbs/day	% of Total
Aluminum	0	0%	454.12	100%
Iron	0	0%	2734.08	100%
Manganese	0	0%	1383.84	100%

ALLOCATION OF LOAD REDUCTIONS (As Proposed by PADEP, but corrected to account for LCN (005) point source load in total load tracked between LS9 and LS10)				
Parameter	LCN (005)		All Other Sources	
	lbs/day	% of Total	lbs/day	% of Total
Aluminum	0	0%	288.15	100%
Iron	0	0%	2485.12	100%
Manganese	0	0%	1217.87	100%

EMPR ALLOCATION OF LOAD REDUCTIONS AT LS10 (Applying Equal Marginal Percent Reduction and corrected to account for LCN (005) point source load in total load tracked between LS9 and LS10)								
Parameter	LCN (005)		LS10 Nonpoint		LS9		Panther Creek (additional)*	
	lbs/day	% of Total	lbs/day	% of Total	lbs/day	% of Total	lbs/day	% of Total
Aluminum	65.71	22.80%	222.44	77.20%	0	0%	0	0%
Iron	107.37	4.32%	2377.75	95.68%	0	0%	0	0%
Manganese	64.35	5.28%	1153.52	94.72%	0	0%	0	0%

*Reductions in addition to those required under Panther Creek Watershed TMDL

iii. Comparison between existing load contributions and required load reductions

EXISTING LOADS tracked between LS9/Panther and LS10 (based on assumption of compliance with Table C20 monthly average allowable concentration limits at point 005)								
Parameter	LCN (005)		LS10 Nonpoint		LS9		Panther Creek	
	lbs/day	% of Total	lbs/day	% of Total	lbs/day	% of Total	lbs/day	% of Total
Aluminum	165.97	30.29%	375.46	68.52%	0.00	0.00%	6.50	1.19%
Iron	248.96	8.51%	2564.44	87.63%	98.18	3.35%	15.00	0.51%
Manganese	165.97	10.70%	1314.02	84.66%	63.11	4.07%	8.90	0.57%

PERCENTAGE OF EXISTING LOAD versus PERCENTAGE OF LOAD REDUCTION AT LS10 under PADEP'S PROPOSED ALLOCATION				
Parameter	LCN (005)		All Other Sources	
	% Existing Load	% Load Reduction	% Existing Load	% Load Reduction
Aluminum	30.29%	0%	69.71%	100%
Iron	8.51%	0%	91.49%	100%
Manganese	10.70%	0%	89.30%	100%

PERCENTAGE OF EXISTING LOAD versus PERCENTAGE OF LOAD REDUCTION AT LS10 under EMPR ALLOCATION								
Parameter	LCN (005)		LS10 Nonpoint		LS9		Panther Creek	
	% Existing Load	% Load Reduct.	% Existing Load	% Load Reduct.	% Existing Load	% Load Reduct.	% Existing Load	% Load Reduct.
Aluminum	30.29%	22.80%	68.52%	77.20%	0.00%	0%	1.19%	0%
Iron	8.51%	4.32%	87.63%	95.68%	3.35%	0%	0.51%	0%
Manganese	10.70%	5.28%	84.66%	94.72%	4.07%	0%	0.57%	0%

C. Separating and requiring load reductions from all four source categories

Because it treats the loads from every source category contributing to the impairment of segment LS10 as being available for reduction, PennFuture believes this set of calculations best applies the EMPR method.

i. Results of EMPR calculations

ALUMINUM (Total)						
Source	Total Load Tracked (lbs/day)	Baseline Value (lbs/day)	Multiple Value (lbs/day)	Final % Reduction	Assumed Mo. Avg. Allowable Conc.	**Required WQBEL** (mo. avg. conc.)
Point: LCN (005)	165.97	165.97	99.75	39.90%	2.0 mg/l	**1.20 mg/l**
LS10Nonpoint	375.46	259.78	156.13	58.42%		
LS9	0.00	0.00	0.00	0.00%		
Panther Creek	6.50	6.50	3.90	40.00%		
TOTAL	**547.93**	**432.25**	**259.78**	**52.59%**		

IRON (Total)						
Source	Total Load Tracked (lbs/day)	Baseline Value (lbs/day)	Multiple Value (lbs/day)	Final % Reduction	Tech-based Effluent Limit (mo. avg. conc.)	**Required WQBEL** (mo. avg. conc.)
Point: LCN (005)	248.96	248.96	136.77	45.06%	3.0 mg/l	**1.65 mg/l**
LS10Nonpoint	2564.44	441.46	242.53	90.54%		
LS9	98.18	98.18	53.93	45.07%		
Panther Creek	15.00	15.00	8.23	45.14%		
TOTAL	**2926.58**	**803.60**	**441.46**	**84.92%**		

MANGANESE (Total)						
Source	Total Load Tracked (lbs/day)	Baseline Value (lbs/day)	Multiple Value (lbs/day)	Final % Reduction	Tech-based Effluent Limit (mo. avg. conc.)	**Required WQBEL** (mo. avg. conc.)
Point: LCN (005)	165.97	165.97	96.93	41.60%	2.0 mg/l	**1.17 mg/l**
LS10 Nonpoint	1314.02	334.13	195.13	85.15%		
LS9	63.11	63.11	36.87	41.58%		
Panther Creek	8.90	8.90	5.20	41.57%		
TOTAL	**1552.00**	**572.11**	**334.13**	**78.47%**		

ii. Allocation of load reductions

ALLOCATION OF LOAD REDUCTIONS (As Proposed by PADEP, p. 37)				
Parameter	LCN (005)		All Other Sources	
	lbs/day	% of Total	lbs/day	% of Total
Aluminum	0	0%	454.12	100%
Iron	0	0%	2734.08	100%
Manganese	0	0%	1383.84	100%

ALLOCATION OF LOAD REDUCTIONS (As Proposed by PADEP, but corrected to account for LCN (005) point source load in total load tracked between LS9 and LS10)				
Parameter	LCN (005)		All Other Sources	
	lbs/day	% of Total	lbs/day	% of Total
Aluminum	0	0%	288.15	100%
Iron	0	0%	2485.12	100%
Manganese	0	0%	1217.87	100%

PENNFUTURE'S PROPOSED ALLOCATION OF LOAD REDUCTIONS AT LS10 (Applying Equal Marginal Percent Reduction and corrected to account for LCN (005) point source load in total load tracked between LS9 and LS10)								
Parameter	LCN (005)		LS10 Nonpoint		LS9		Panther Creek (additional)*	
	lbs/day	% of Total	lbs/day	% of Total	lbs/day	% of Total	lbs/day	% of Total
Aluminum	66.22	22.98%	219.33	76.12%	0.00	0.00%	2.60	0.90%
Iron	112.19	4.52%	2321.91	93.43%	44.25	1.78%	6.77	0.27%
Manganese	69.04	5.67%	1118.89	91.87%	26.24	2.16%	3.70	0.30%

*Reductions in addition to those required under Panther Creek Watershed TMDL

iii. Comparison between existing load contributions and required load reductions

EXISTING LOADS tracked between LS9/Panther and LS10 (based on assumption of compliance with Table C20 monthly average allowable concentration limits at point 005)								
Parameter	LCN (005)		LS10 Nonpoint		LS9		Panther Creek	
	lbs/day	% of Total	lbs/day	% of Total	lbs/day	% of Total	lbs/day	% of Total
Aluminum	165.97	30.29%	375.46	68.52%	0.00	0.00%	6.50	1.19%
Iron	248.96	8.51%	2564.44	87.63%	98.18	3.35%	15.00	0.51%
Manganese	165.97	10.70%	1314.02	84.66%	63.11	4.07%	8.90	0.57%

PERCENTAGE OF EXISTING LOAD versus PERCENTAGE OF LOAD REDUCTION AT LS10 under PADEP'S PROPOSED ALLOCATION				
Parameter	LCN (005)		All Other Sources	
	% Existing Load	% Load Reduction	% Existing Load	% Load Reduction
Aluminum	30.29%	0%	69.71%	100%
Iron	8.51%	0%	91.49%	100%
Manganese	10.70%	0%	89.30%	100%

PERCENTAGE OF EXISTING LOAD versus PERCENTAGE OF LOAD REDUCTION AT LS10 under PENNFUTURE'S PROPOSED ALLOCATION								
Parameter	LCN (005)		LS10 Nonpoint		LS9		Panther Creek	
	% Existing Load	% Load Reduct.	% Existing Load	% Load Reduct.	% Existing Load	% Load Reduct.	% Existing Load	% Load Reduct.
Aluminum	30.29%	22.98%	68.52%	76.12%	0.00%	0.00%	1.19%	0.90%
Iron	8.51%	4.52%	87.63%	93.43%	3.35%	1.78%	0.51%	0.27%
Manganese	10.70%	5.67%	84.66%	91.87%	4.07%	2.16%	0.57%	0.30%

D. Summary: Implications of Applying the EMPR Method

Under PennFuture's proposed allocation in Subsection C, the portion of Table C22 addressed in Section 2 of these comments would be expanded further by adding rows for the Load Allocations to LS9 and Panther Creek in order to differentiate the load allocations among the four source categories. In full, that table would read:

Table C22. Allocations LS10				
LS10	Al (Lbs/day)	Fe (Lbs/day)	Mn (Lbs/day)	Acidity (Lbs/day)
Existing Load @ LS10	587.73	2969.18	1617.30	26881.61
Difference in measured loads between upstream loads and existing LS10	541.43	2911.58	1543.10	21369.79
Additional load tracked from above samples (Allowable @LS9 plus Allowable @ Panther Creek)	6.50	15.00	8.90	1143.05
Total loads tracked between LS9/Panther and LS10	547.93	2926.58	1552.00	22512.84
Waste Load Allocation @005	99.75	136.77	96.93	0.00
Load Allocation @ LS9	0.00	53.93	36.87	
Load Allocation @ Panther Creek	3.90	8.23	5.20	
Load Allocation @LS10 (Nonpoint)	156.13	242.53	195.13	4539.55
Overall Load Reduction @LS10	288.15	2485.12	1217.87	17973.29
% Reduction required at LS10	52.59%	84.92%	78.47%	80%

The most immediate effect of applying the EMPR load allocation method at LS10 is to require the application of WQBELs to the LCN Route 309 Discharge. The following table compares the existing technology-based effluent limits for iron and manganese in LCN's NPDES permit (which would be retained under DEP's proposed TMDL), plus the allowable limit for aluminum used by DEP in determining the WLA for the LCN Route 309, against the WQBELs that would be required under the three variations of the EMPR allocation method presented above. Contrary to the statement in the Proposed TMDL's "Allocation Summary" (p. 14), reductions in LCN's effluent limits <u>are</u> necessary at this time.

EFFLUENT LIMITS AT LCN (005) **(Monthly average concentrations, in milligrams per liter)**			
Parameter	Aluminum	Iron	Manganese
PADEP Allocation (Table C20 Allowable)	2.0	3.0	2.0
EMPR Option A	1.22	1.92	1.34
EMPR Option B	1.21	1.71	1.22
EMPR Option C (recommended)	1.20	1.65	1.17

PennFuture recommends the version of the EMPR method presented in Subsection C, above, because it requires each source category to make load reductions roughly commensurate with the loads it contributes to LS10. But any version of the EMPR method is fairer and more accurate than the allocation at LS10 presented in the Proposed TMDL, and as shown in the table immediately above, any version of the EMPR method would require significant reductions in the effluent limits applicable to the LCN Route 309 Discharge. But the EMPR-driven WQBELs are just a start. PennFuture shows in the next section why DEP must apply even more stringent WQBELs than those summarized above.

5. Failure to Provide Reasonable Assurance of Attainment

As in most Pennsylvania TMDLs for streams impaired by mine drainage, the "Recommendations" section of the Proposed TMDL for the Little Schuylkill River Watershed cites "[t]wo primary programs that provide reasonable assurance for maintenance and improvements of the water quality in the watershed": the NPDES permitting program, and DEP's "efforts to reclaim abandoned mine lands." (p. 16) But something more is required here. For watersheds like this one that include both Load Allocations to nonpoint sources and Wasteload Allocations to point sources, EPA's 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 May 20, 2002 Guidelines, p. 4) (emphasis added) The idea behind this requirement is that because there are no permitting or enforcement mechanisms available for nonpoint sources, if the agency cannot provide "reasonable assurances" that load reductions assigned to nonpoint sources actually will be realized, it must ensure that the necessary reductions occur by further reducing the WLA(s) and tightening the effluent limits on the point source(s).

In order to provide the required "reasonable assurances," the agency must do more than list programs that might, at some unspecified time in the future, support projects that might reduce the loadings from nonpoint sources. Instead, it must identify specific projects, provide reason to believe that those projects will occur, and provide reasonable estimates of the loading reduction benefits of those specific projects. The Proposed TMDL falls far short of providing this kind of reasonable assurance that the required load reductions from nonpoint sources in the LS10 segment will be realized.

The NPDES permitting program is limited to point source discharges. See 25 Pa. Code § 92.3. The Proposed TMDL identifies only one point source discharge of mine drainage, but it requires no loading reductions from that discharge. It is plainly disingenuous for DEP to say it is "relying on" the point source NPDES program for the purpose of achieving reductions in loads from sources DEP has classified in the same document as exclusively nonpoint sources. Cf. EPA May 20, 2002 Guidelines, p. 4 ("When a TMDL is developed for waters impaired by point sources only, the issuance of a National Pollutant Discharge Elimination System (NPDES) permit(s) provides the reasonable assurance that the wasteload allocations contained in the TMDL will be achieved.")(emphasis added).

The second "primary program" on which the Proposed TMDL says it will rely to achieve the required loading reductions is the state's efforts to reclaim abandoned mine lands. Although the Proposed TMDL describes efforts to reclaim abandoned mine lands and treat abandoned mine discharges in the headwaters area of the Little Schuylkill Watershed, as well as one completed or largely completed BAMR project near Tamaqua (p. 7), it provides no details about any specific future projects. It also offers no estimates of loading reductions that such projects reasonably might achieve, or any implementation plan that demonstrates how and when the specific projects will occur and when the load reductions needed to attain water quality standards will be achieved. The Proposed TMDL therefore provides no assurance that the second "primary program" on which DEP intends to rely will attain the necessary load reductions.

Given this inability to provide reasonable assurance that the necessary load reductions from the nonpoint sources will be achieved, DEP must evaluate further waste load reductions – beyond those required under the EMPR method – from the only point source in the watershed, the LCN Route 309 Discharge. For example, assigning the LCN Discharge a proportion of the allowable load equal to the discharge's percentage of the existing load tracked at LS10 would result in the following allowable waste loads and WQBELs:

Parameter	Total Allowable Load at LS10 (lbs/day)	LCN (005) % of Existing Load Tracked at LS10	Proportion of Allowable Load based on pct. of Existing Load (lbs/day)	WQBEL (monthly average concentration)
Aluminum	259.78	30.29%	78.69	0.95 mg/l
Iron	441.46	8.51%	37.57	0.45 mg/l
Manganese	334.13	10.70%	35.75	0.43 mg/l

Regardless of whether DEP adopts these specific waste load allocations and WQBELs, given that there is only one permitted point source of mine drainage in this watershed, it must at a minimum evaluate whether waste load reductions beyond those required by the EMPR method are attainable here. Under no circumstances, however, should DEP follow the Proposed TMDL's suggestion that "[n]o required reductions of [LCN's existing, technology-based] permit limits [or the assumed limit for aluminum] are needed at this time" (p. 14), nor should DEP take the easy but unsupportable path of assigning all of the necessary load reductions to nonpoint sources. The EMPR allocations presented above and the WQBELs associated with them represent the minimum waste load reductions that DEP must require from the LCN Route 309 Discharge.

PennFuture believes that the Proposed Little Schuylkill River Watershed TMDL has significant implications not only for the allocation of loads within this watershed, and in particular to the LCN Route 309 Discharge, but also statewide as a precedent for handling the allocation of pollutant loads in the kind of situation confronted at point LS10. Please feel free to contact me at 717-214-7920 if you have any questions about PennFuture's comments.

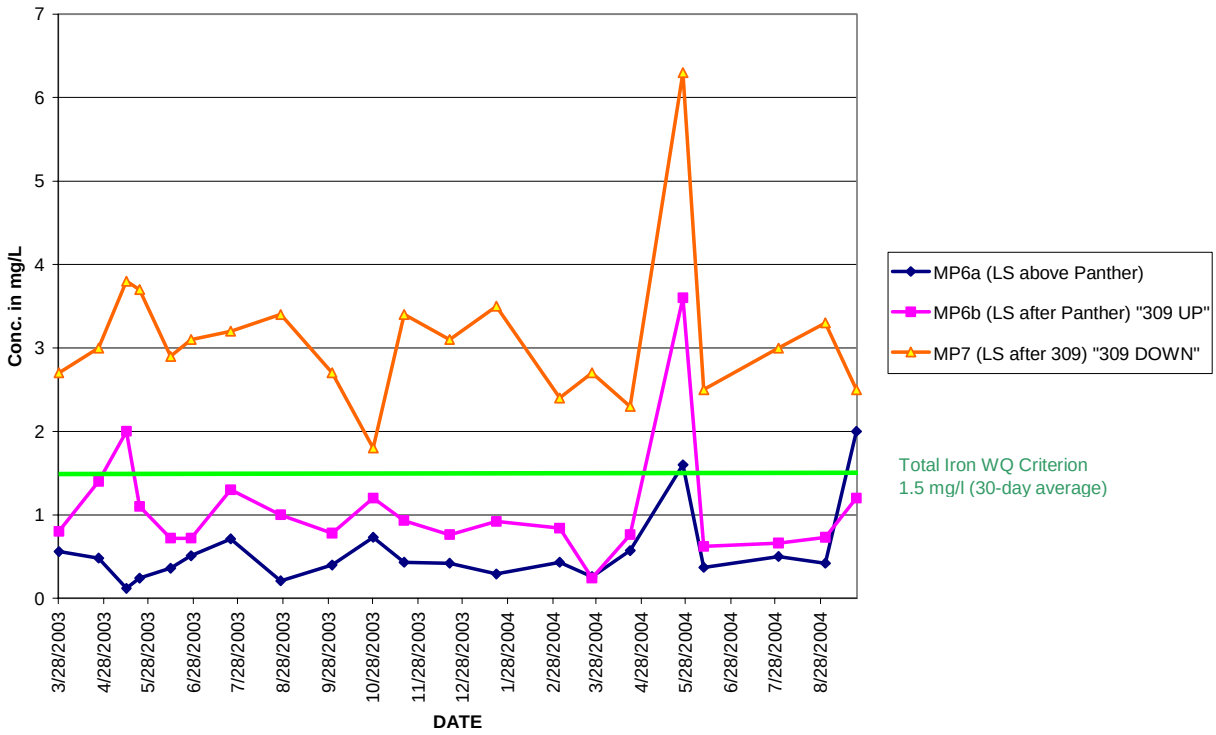
Sincerely,

Kurt J. Weist
Senior Attorney
Harrisburg Office

Attachments

cc: Lee McDonnell, Office of Water Management
Mary Kuo, U.S. EPA, Region 3

Little Schuylkill River Iron Concentration



Little Schuylkill River Manganese Concentration