

For the Enhancement and Protection of Waters at Pennsylvania's Capital
**The Paxton Creek Watershed and Education
Association**

P. O. Box 61674, Harrisburg, PA 17106
April 11, 2008

Ms. Lenka Berlin (3WP30)
USEPA, Region III
1650 Arch Street
Philadelphia, PA 19103

Dear Ms. Berlin:

This letter pertains to reports on TMDLs (allowable Total Maximum Daily Loads of pollutants) released (3-3-08) for Paxton Creek watershed in Pennsylvania. We of Paxton Creek Watershed and Education Association (PCWEA), representing 60,000 human watershed stakeholders, desire that the following comments not only be entered into the official process record, but also that you thoughtfully consider, and act upon them.

We are pleased that TMDLs for this stream now exist, even in draft form. They are measurable water quality targets. They place the weight of the Federal government, hopefully as future partners, for local water quality improvement. Adjustments still may occur as to TMDL scope (considerations of other pollutants), magnitudes (amounts of pollutants), modeling capabilities (strengths and weaknesses of calculation techniques, and procedures), and data used, but the final TMDLs will be goals for comprehensive actions to remedy some of the watershed's ills. We thank you, indeed, for the TMDLs!

We feel a little chagrined to criticize something basic to the watershed's improvement, but if you thoughtfully consider what we say, and use some of our information together with data from our Targeted Watershed Grant partner, the Susquehanna River Basin Commission, it will allow better reports and final TMDLs to be produced.

If you or other USEPA personnel have time next week following the TMDLs workshop on April 17, we would be happy to introduce you to some of the problems, promises, and prospects, here, in this watershed at the state's capital. Please also include us in your list of attendees at the workshop.

Sincerely,

E. Drannon Buskirk, Jr., Ph.D.



Statement from E. Drannon Buskirk, Jr., Ph.D. of Paxton Creek Watershed and Education Association on TMDLs for Sediment and Phosphorus, Released by the U. S. Environmental Protection Agency, Region III. Mailed 11 April 2008

The two draft reports on TMDLs for Paxton Creek on sediment and nutrients (phosphorus), each 100+ pages in length, are timely, but are sorely lacking. Deficiencies exist in the following areas: the initial TMDL communication process for Paxton Creek is unrealistic and disrespectful; some report numbers are screwy (which might greatly affect TMDL implementation and watershed remediation cost); pollutant estimates are not based on the best information available; the main origin of the principal pollutant (sediment) is wrong; the recommended best management practices are overly general concerning watershed needs; the report ignores many remediation efforts that currently exist in the watershed; the report narratives at times are “boilerplate.” The parties who wrote the reports need to get out of New York, visit the watershed, and evaluate the whole array of local study resources before making the TMDLs with recommendations.

Get real. It is unrealistic to receive meaningful input from watershed stakeholders: when information solicitation overlooks major resources, and/or the information dispersal is poor (e.g., an announcement was made to the public only half way through the month following the TMDLs release); even the municipality where the public meeting was held did not know about the TMDLs until just before the gathering; crucial watershed management organizations (municipal governments, county agencies, and others) were not notified until then, or not at all; no contacts apparently were made to these parties during the data collection phase and TMDLs formulation. Past communication and information exchange in the TMDL process would be a joke, if it were not so sad.

Some numbers are screwy, and need to be reworked. Numbers are what drive TMDLs, but they have to be accurate and representative. Errors can cause watershed stakeholders to pay a lot more to fix the problems. Just to illustrate the situation: the watershed has three separate agricultural security areas (and the participating farmers were hard-pressed put together the 306 acres to qualify). Yet, the report says that this small portion of agricultural land contributes 37% of the erosion in the 27+ sq. mi. watershed. (The report says the sediment is mainly from croplands, but most of these are livestock farms!).

The same report says that 16% of the sediment from Swatara Township needs to be removed, but Swatara Township occupies only 0.45% (less than half of 1 percent) of the watershed). This municipality has so minor a land area in the watershed, that it is not even listed in many statistical tables for the watershed.



Several years ago the watershed measured an average 30% impervious coverage (over 59% in Harrisburg and Penbrook Borough). It is erosion by stormwater from impervious surfaces that is causing many of the present problems, not erosion from farms. For new residential developments municipalities permit up to 35% of the lands to be impervious, and up to 75% for commercial developments. With this amount of expanding impervious surface, it will be almost impossible for municipalities to meet their nonpoint source MS4 goals, and the TMDLs without major changes in ordinances and ways of handling stormwaters.

The best available data were not used. The TMDLs appear to be based upon limited water samples collected over a decade or more in small parts of the watershed. Maybe, the TMDL efforts did include part of the Macros Blitz study conducted in March, 2004 when PCWEA got five professional organizations together to conduct simultaneous sampling for chemistry analyses (30 parameters) using the same procedures, with an aquatic macroinvertebrates (water bugs) survey under Rapid Bioassessment Protocol Level III (a very high assessment) at 24 sampling sites throughout the watershed. The TMDL reports did not mention water bug data, however, an important omission. Most water sampling gives results limited to moments in time when the samples are collected; the bugs assessment constitutes a “faunal memory,” where the abundance and diversity of the critters can indicate past stresses (such as a poison flowing through the creek), and give an overall perspective on how well biota (various life forms) in the stream are doing. More recently, during the last 18 months, our partner, the Susquehanna River Basin Commission (SRBC) monitored the watershed 8-9 cycles for 11 physico-chemical parameters (including suspended solids, nutrients), the water bugs (2 cycles), water levels, and flows. Pollutant loads can be easily determined from these data – actual, empirical, real world data. To your credit, the USEPA requested data from SRBC, extended the TMDL comments period, and apparently scheduled another public meeting.

Agriculture is not the main source of nutrients or sediment. Agriculture was a principal source of pollutants for 2 1/2 centuries in Paxton Creek. Today, agriculture is almost gone from urban-suburban Paxton Creek watershed. Land development in the past half century has changed most remaining farmlands into buildings, parking lots, roads, and other developments with impervious surfaces. These surfaces cause precipitation (stormwater, snowmelt) to run off the landscape into Paxton Creek, where the waters erode surface lands, swell the creek, cut its bottom and banks, and create further misery downstream (clogged waterways, less lake depth, smothered habitat, floods). The nutrients are mainly coming from yard fertilizers, animal waste, and leaks from cracked or open (combined) sewers. Again, impervious surface is the bane of Paxton Creek!

The reports recognize remediation projects from only one source, and they are not the majority. The Paxton Creek Targeted Watershed (TWG) grant for \$1.5 millions (matching) administered by SRBC is a grand effort, but it will result in only 5-6 projects



with associated monitoring, education, and other actions. PCWEA, the community college, Boy Scouts, municipalities, and other partners have built more than another dozen stormwater management facilities in the last 4 years. These projects are of a wide variety: stream naturalization (channel rehabilitation), bioretention areas, rain gardens, riparian buffers, swales, retrofitted detention basins, a soak-a-way (infiltration terrace), and other best management practices (BMPs). In the watershed another 4-6 projects are to be built during the next two years, besides those of the TWG.

The recommended best management practices are overly general, and need direction concerning watershed needs. The BMPs suggested in the TMDL reports are neither complete, nor show the complete scope suited to the watershed. Paxton Creek has undergone several great transformations: partial forest clearance, farms and small industries, residences and major industries, transport, commercial, and governmental centers, but the changes are not consistent throughout the watershed. These differences prompted PCWEA to develop a plan that addresses watershed management in the context of 11 subwatersheds, each with its unique requirements for remediation and enhancement (emphasis upon creek buffers where channel degradation has been minimal, as in headwater areas; rain gardens, bioretention areas, and other BMPs where impervious surface area is moderate; retrofitted detention basins, Low Impact Development (LID)-based infill, and other BMPs in areas with extensive impervious surface). Over 10 different best management practices in various combinations, employed in a two-prong strategy (LID implementation, and impervious surface/other retrofits) together with appropriate educational programs, are being used in specific areas of the subwatersheds. For more insight see the Rivers Conservation Plan on the website www.paxtoncreek.org

Some report narratives at times are what consultants call “boilerplate” with limited usefulness. Some sections of the TMDL reports for nutrients and sediment have essentially the same words. The sections are the same from the beginning to the end, except for where the word “sediment” needs to read “nutrients,” and vice versa. It is fine for the consultants (report authors) to do this to save time, money, and effort, but there is a danger that insufficient attention will be paid to unique aspects that warrant additional attention. This happened in the Paxton Creek reports on TMDLs, where the words are exactly the same in Section 6.2.2 concerning Existing Projects, and elsewhere such as in the reference lists, Section 8.0. The nutrient TMDL report lists 3 more in-house (USEPA) publications than does the sediment report, but neither contains several important documents for Paxton Creek watershed itself such as: the *Act 167 Stormwater Management Plan for Paxton Creek* which includes stormwater management modeling, and BMP considerations; the *Paxton Creek Rivers Conservation Plan* of 2006, which has lots of information on watershed characteristics, an educational chapter, discussions on problems, impervious surfaces, projects, and over 100 strategies and tactics for dealing with the TMDL-related conditions in the watershed; the Paxton Creek Roundtable (Builders for the Bay) document of 23 LID-type principles or guidelines that resulted from months of discussions among local developers, municipal officials, and



environmental groups; the many reports of surveys and analyses of the 52+ linear miles of the creek corridors for erosion, and riparian landscapes for pollutant sources with opportunities for correcting the creek's problems; the educational brochure *Are You Loving Paxton Creek To Death?* fact sheets, and slide shows that various stakeholders can use to improve the creek around them. Most are available online, again, at www.paxtoncreek.org, and the website for the Center for Watershed Protection at http://www.cwp.org/Community_Watersheds/Paxton/paxtoncreek.htm One has to ask, did a "boilerplate" approach and mentality get in the way of the best considerations and analyses for Paxton Creek? Paxton Creek, this watershed upon which the capital of the great state of Pennsylvania was built (see its history, briefly covered in the Rivers Conservation Plan with appendices) d-e-s-e-r-v-e-s better.

The inadequacies of the TMDL reports mainly reflect shortcomings of the authors, not the USEPA, Region III officials. However, this agency in attending to problems of the draft TMDLs needs to make adjustments that achieve products most suitable for the watershed – TMDLs that are worthy of the efforts required to change Paxton Creek from what a major newspaper a few years ago described as a "watershed of shame" (little more than a stormwater drain), into a waterway with immense prospects -- one that can greatly enrich the lives of its stakeholders, both human and otherwise.