House Committee on Environmental Resources and Energy Hearing January 29, 2014

Testimony by Mr. Brian Oram Geologist, Soil Scientist, Educator, and Citizen of Pennsylvania

My name is Brian Oram and I wanted to thank you for this opportunity. I am a licensed professional geologist, soil scientist, and owner of B.F. Environmental Consultants, Inc. I am lifelong resident of Northeastern Pennsylvania and currently reside in Dallas, Luzerne County. I am here today as a citizen and licensed professional in Pennsylvania in support of House Bill 1565.

The proposed house bill makes a slight change to the Clean Streams Law which would eliminate the requirement to use or install an arbitrary 100 foot riparian buffer on all streams and 150 foot a riparian buffer zone for EV and HQ streams. The proposed wording change for HB 15656 is as follows:

"(c) The use or installation of riparian buffers and riparian forest buffers shall not be required under this section. Riparian buffers and riparian forest buffers may be used as a choice among best management practices, design standards and alternatives to minimize the potential for accelerated erosion and sedimentation and to protect, maintain, reclaim and restore water quality and for existing and designated uses."

The reasons that I support this proposed change:

1. This proposed change in the law will not result in the destruction of riparian zones or significant encroachment or disrupt of these zones because existing environmental permitting processes are already in place to protect these areas. The change in the law will permit the development of a site that permits the design professionals to evaluate all alternatives and select the approach that limits disturbance and manages the potential impacts.

Riparian zones can be divided into three broad zones:

a. Active Zone is the area within the banks of the stream and the channel bottom;

b. Zone 1 is typically associated with the floodway and floodplains; and

c. Zone 2 is typically associated with wetland areas, organic soils, and other transition zones.

Under the current laws in PA, the floodway, floodplains, and delineated wetland areas are protected from direct development and encroachment. With respect to floodways and wetland areas, there are existing permit processes in place to address issues related to encroachment into these zones.

2. The proposed legislative change allows for use of riparian buffers as a site-specific BMP as a function of the stream classification. This approach is consistent with the criteria for HQ and EV streams as already outline in Chapter 93. (Currently, the Chapter 102 regulation is a standard not based on science or a site-specific analysis, but a universally applied arbitrary mandate).

The proposed legislation permits the establishment of riparian buffers zones or maintaining specific riparian buffers that are based on a site-based criteria/analysis. This analysis includes the nature of the proposed development, proposed management system, current conditions, stream classification, and the water quality criteria/biological criteria provide in the law. The proposed change will ensure that riparian buffers are sized and utilized in a manner that is consistent with the provisions of the Clean Streams Law.

3. The proposed change will prevent negative impacts to current or future stream quality.

In most cases, the concept around forest riparian zones is based on the principle that the zone is actively used to manage uncontrolled flow or to control nutrients and sediment. When projects use engineering controls, such as: bioretention devices, rain gardens, wet detention ponds, water reuse, land-based irrigation systems, groundwater recharge, and peak flow retention, treatment is provided by a combination of engineering controls and non-engineering controls that occur and are managed outside of the stream side "riparian zone" and/or wetland areas.

4. Many of the recommendations related to the size of a riparian buffer assume the buffer is the main active control system for post- construction stormwater management and includes provisions that will protect wildlife habitat.

For engineered projects, riparian buffers should not and are not the main system that is used to control sediment, water flow, volume reduction, or even nutrient control. These riparian buffer's primary role is to further polish that water after it already meets design criteria. However, DEP's current guidance

suggests transporting managed water through the buffer in a pipe or swale directly to the receiving waterbody, which is inconsistent with the true role of the riparian buffer zone.

Criteria for riparian buffers- Buffers and set-backs for a stormwater management system should be based solely on maintaining in stream quality, downgradient use provisions, and biological criteria that are part of Chapter 93. Riparian buffers should not be established in stormwater management regulations to protect the general wildlife habitat for the watershed. Chapter 93 provides wildlife protection to High Quality Waters if the water is a Class A Wild Trout Stream or where the *Rapid Bioassessment Protocols for Use in Streams and Rivers: Benthic Macroinvertebrates and Fish resulted in a score of 83 % compared to a reference site. (Chapter 93)*

RIPARIAN BUFFERS: WHAT ARE THEY and HOW DO THEY WORK?

(http://www.soil.ncsu.edu/publications/BMPs/table.html

"Most decisions about buffer widths will be a compromise between ideal widths based on environmental goals (wildlife corridors, bank stabilization, water quality protection) and sociologic or economic constraints. Science-based criteria, for which research data may be available to support an informed decision, include the functional value of the water resource; watershed, site, and buffer characteristics; adjacent land use; and buffer function. The functional value of the water resource is important for determining buffer width in that a highly valued resource may merit a wider buffer for increased protection."

5. A project can use a riparian buffer zone as an additional management tool, but the minimum buffer should be based on site-specific analysis. This analysis should be site and project specific and be done by licensed professionals and not an arbitrary non-scientific approach.

In the long-run, an arbitrary buffer zone will result in inadequate protection in areas with larger streams were a project proposes using little or no engineering control systems. The minimum size of a riparian buffer zone should be site-specific and a function of the proposed project and proposed engineering and non-engineering controls. The regulations, with this proposed change, will be more effective if they are less restrictive and permit the licensed professional in the state of Pennsylvania to make decisions based on the site-specific conditions, proposed nature of the development, and long-term management for the site.

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"The current proposed buffer standards in North Carolina use a two-tiered riparian buffer: forested areas near the streams and grassed areas away from the stream. The proposed buffer width is 50 feet: 30 feet of forest and 20 feet of grass (NCDEHNR, 1997). Some streams, however, may need greater and some streams need less buffer width, depending not only on site location but also on the pollutant that is being controlled. For optimal performance, riparian forest buffer systems must be designed and maintained to maximize sheet flow and infiltration and impede concentrated flow".

6. In Pennsylvania, we have enough examples of well-meaning guidance documents not specifically based on science and designed and package primarily in response to lawsuits. These guidance documents have caused the development of policy in PA that are ineffective, make the goals effectively unachievable, potentially creates future problems, and creates significant other unintended consequences.

Recent examples would be the legislation that developed after the PA Guidance Document on Stormwater Management and the recent attempts to regulate nitrates from individual on-lot septic systems.

We do recommend some proposed wording changes to the proposed House Bill:

With respect to the proposed House Bill, we would suggest a slight wording change to clarify the scope and intent.

We recommend the phrase "and/or" should be included in the proposed language to account for the difference in the level and type of protection afforded to EV streams and HQ streams. The level of protection afforded by the current law is not the same for EV and HQ streams.

We would also recommend that the size of the buffer be based on a site-specific evaluation that takes into consideration the existing conditions, proposed use, proposed engineering/non-engineering controls, and the proposed long-term management that are proposed by the project.

In conclusion, it is my personal and professional opinion that the change in the regulations would put the sizing and the development of stormwater management systems in the hands of professionals that have been licensed by the State of Pennsylvania and other professionals that provide facts and science-based information to make site-specific and project specific recommendations to meet the goals and objectives of Chapter 102 and to meet the water quality standards in Chapter 93. We should not have a one-size-fits-all approach to stormwater management in Pennsylvania.

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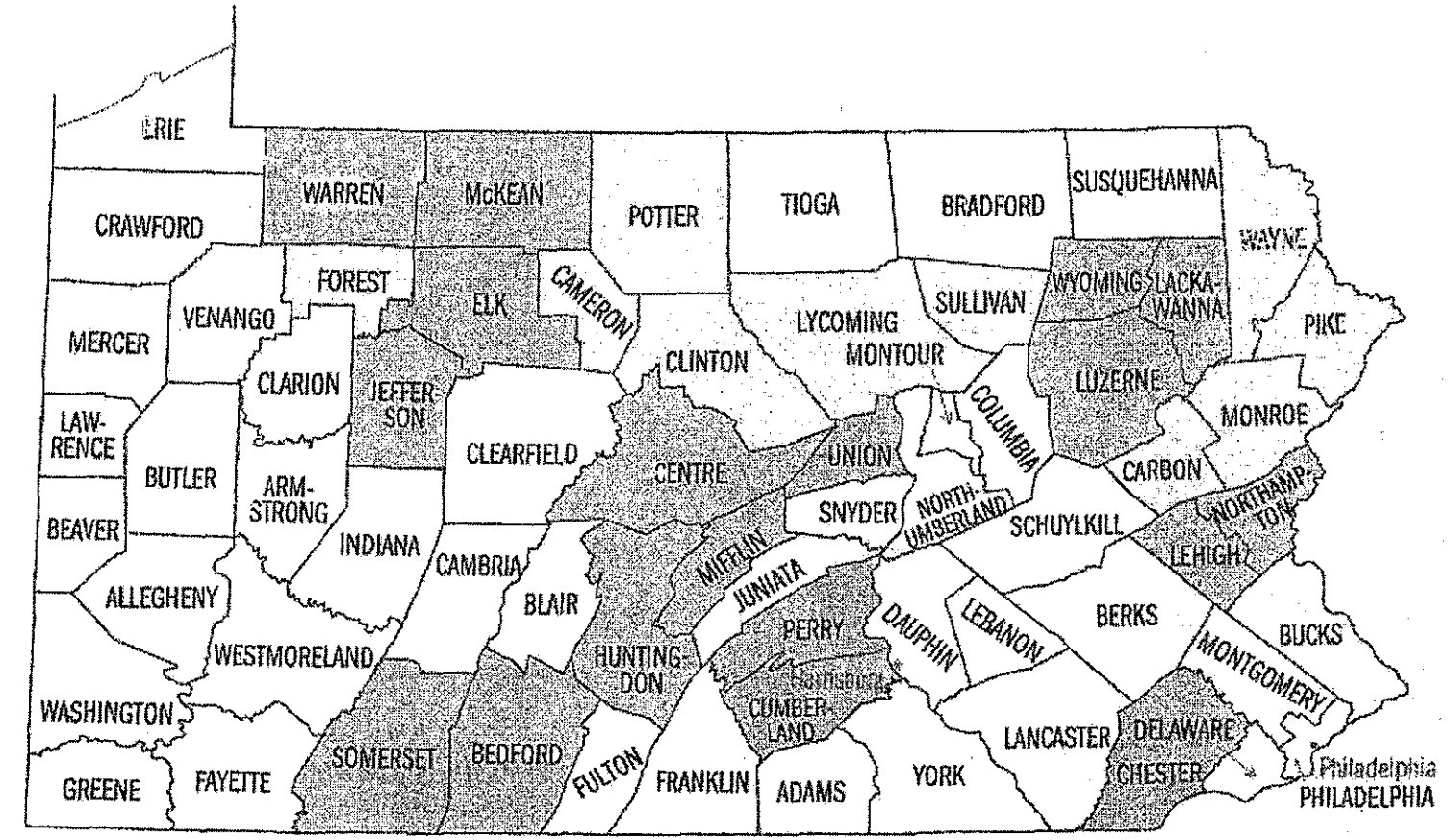
Map Showing Counties in Pennsylvania Having Greater than 25% Land Area Within Special Protection Watersheds



50% or more EV & HQ Special Protection Watersheds

25% - 50% Special Protection Watersheds