May 8, 2015

Ms. Jennifer Orr
Department of Environmental Protection
Bureau of Waterways Engineering and Wetlands
Division of NPDES Construction and Erosion Control
Rachel Carson State Office Building, P. O. Box 8460,
Harrisburg, PA 17105-8460
ep-102regulations@pa.gov.

Re: Comments regarding Interim Final technical guidance documents: Riparian Buffer Equivalency Demonstration (310-2135-002) and Riparian Buffer Offsetting (310-2135-003)

Dear Ms. Orr,

Thank you for the opportunity to comment on the technical guidance documents: Riparian Buffer Equivalency Demonstration (310-2135-002) and Riparian Buffer Offsetting (310-2135-003). As an organization that speaks for over 14,000 members in the Delaware River Watershed who value clean and healthy streams, the Delaware Riverkeeper Network (DRN) encourages the Department of Environmental Protection (PADEP) to finalize strong requirements for protecting Pennsylvania streams and wetlands resources. We are pleased that PADEP recognizes that Riparian buffers are the "only" best management practice that can truly improve and protect the health of our streams. However, we have some concerns with the proposed technical guidance documents and believe that clarifications are needed so that PADEP does not fall short of its charge to protect aquatic resources. We appreciate in advance the time and attention to our comments, and urge you to make sure that any alternatives that are approved are truly equivalent to riparian buffers in function.

Comments applicable to both Interim Final Technical Guidance Documents:

1. The amended section of the Clean Streams Law indicates that alternatives to riparian buffers must be "substantially equivalent." This term should be defined explicitly so applicants, compliance and enforcement officers, and the general public will know if and when a permitee is in compliance with the regulations. This term should be added to the "Definition" section of both documents.
2. The guidance and Application section of the document (p. 7) states: "The scope of the projects to which Act 162 applies is narrow." This sentence indicates a judgement by DEP and should be removed from both guidance documents. More than 26,000 miles of waterways in the Commonwealth are classified as Special Protection Waters, representing a considerable proportion of total stream miles in the state.

DELAWARE RIVERKEEPER NETWORK
925 Canal Street, Suite 3701
Bristol, PA 19007
Office: (215) 369-1188
fax: (215)369-1181
drn@delawareriverkeeper.org
www.delawareriverkeeper.org

3. Based on the narrative on Application requirements (p. 8), DEP indicates that the process described in the guidance documents "is not mandatory". Why is this process not mandatory? What other process could an applicant follow that would result in the use of an alternative BMP to a riparian buffer and a DEP approved permit?
4. Why are the only pollution considered in this process: P, N, and TSS? What about pesticide pollution or other toxic chemicals that could do equal or more harm to our waterways?
5. Under the Monitoring/ Reporting/ Inspection section, there is no process in place to rectify any pollution that occurs if the equivalency demonstration was wrong or if the replacement riparian forest buffer area fails. This guidance document should not be just a thought exercise in which applicants merely have to document that they are doing the best they can do. It should be a document that gives applicants the process in which to prove that their methods are equivalent to buffers and their offsetting is effective.

Comments specific to Interim Technical Guidance Document Riparian Buffer or Riparian Forest Buffer Equivalency Demonstration (310-2135-002)

1. We suggest the following revisions to "Checklist for Functional Equivalency of Riparian Buffers and Riparian Forest Buffers" on page 12:
    a. Revise second entry (Infiltration and maintenance of stream flow) and split this function into two separate entries which would include "Infiltration of runoff" and "Maintenance of stream baseflow"
    b. Revise the 5th entry (Flood Attenuation) into multiple functions that are more specific including "Hold stormwater runoff for X amount of time," "Infiltrate X % of stormwater," "release stormwater created by 2-year storm evenly over X period of time"
    c. Add entry for "Groundwater recharge."
    d. Add entry for "Carbon sequestration."

Comments specific to Interim Technical Guidance Document Riparian Buffer or Riparian Forest Buffer Offsetting (310-2135-003)

1. According to the document, an applicant who will conduct earth disturbance within 100 feet of the surface water must offset the area disturbed including the area between 150 and 100 feet of the surface water (see hashed area in figure 2). In Step 2 of the process (page 11), the sizing criteria indicates that the replacement buffer must be only 100 feet in width. The applicate should be required to offset a 150-foot buffer with a replacement buffer of at least 150 feet. Wider riparian buffers provide greater capacity for biological uptake to remove contaminants from runoff. Greater buffer width equates to more biological organisms including plants, trees, and soil microbes. More plants and more microbes intuitively have the greater potential for taking up more nutrients and processing higher concentrations of water pollutants. Removal efficiency per unit width of buffer varies, but consistently increases with increasing buffer width.[1] For example, nitrogen removal estimates for narrow buffers less than 100 feet range from 45% to 88%, but removal estimates for buffers greater than 100 feet range from 81% to 92%.[2] Therefore, effective nitrogen removal

[1] Vidon, P. G., & Hill, A. R. (2006). A LANDSCAPE-BASED APPROACH TO ESTIMATE RIPARIAN HYDROLOGICAL AND NITRATE REMOVAL FUNCTIONS1. JAWRA Journal of the American Water Resources Association, 42(4), 1099-1112.

[2] Zhang, X., Liu, X., Zhang, M., Dahlgren, R. A., & Eitzel, M. (2010). A review of vegetated buffers and a meta-analysis of their mitigation efficacy in reducing nonpoint source pollution. Journal of environmental quality, 39(1), 76-84.; Mayer, P.M., S.K. Reynolds, Jr., M.D. McCutchen, and T.J. Canfield, (2007). Meta-Analysis of Nitrogen Removal in Riparian Buffers. Journal of Environmental Quality 36:1172-1180.

requires buffers that are at least 100 feet, and removal efficiencies will be even greater for buffers that are wider than 100 feet.[3]

2. There is no indication in the document how long the replacement buffers must be maintained by the permitee. Furthermore, there are no requirements that the replacement buffer be designed for sustainability. These are important considerations, and guidance on these issues should be explicit in the document.
3. According to Appendix B, the Sample Replacement Riparian Forest Buffer Maintenance and Monitoring Plan indicates that "Herbicide application" should occur multiple times a year. Although it is important that replacement buffers be protected from destruction or invasion, herbicides are toxic and must be avoided in order to protect local streams and aquatic life. Encouraging or requiring the use of these toxic chemicals so close to a waterway will ensure that these get washed into our streams, rivers, and wetlands. The guidance document should be revised to discourage the use of herbicides since they are merely a short term solution, and sustainable methods should be required instead. In those limited instances when there may be an overriding reason for using chemicals, such as in an area overrun by invasive plants that cannot be eradicated via any other means, herbicides should be applied in the most limited amounts effective.

Newly installed riparian buffers are prone to high rates of failure, and therefore, without adequate safeguards in place, the offsetting requirements may end up inadequately compensated for or not compensated for at all the destruction of important riparian buffer habitats. The purpose of environmental legislation such as the Clean Water Act is to force entities to internalize the externalities and social costs imposed by the entities' actions. We should have compensation programs that include meaningful ecosystem functions that are subject to objective and meaningful monitoring and transparent data collection and reassessment to assure that the goals of the mitigation are continually being met.

The importance of our state's aquatic resources cannot be understated. Watersheds in the state may be in the greatest need of restoration activity, and the water quality issues that are affecting these watersheds may differ significantly. It is very important that measures are put into place that improve water quality. We urge you to finalize clear and precise guidance documents and to make sure that alternatives that are approved are truly equivalent to riparian buffers in function and offsetting that is conducted actually compensates for the destruction that occurs.

Thank you again for consideration of our comments and please don't hesitate to contact us at 215-369-1188 should you seek further information.

Sincerely,

Maya K. van Rossum
the Delaware Riverkeeper
Delaware Riverkeeper Network

[3] Sweeney, B. W., & Newbold, J. D. (2014). Streamside Forest Buffer Width Needed to Protect Stream Water Quality, Habitat, and Organisms: A Literature Review. JAWRA Journal of the American Water Resources Association, 50(3), 560-584.