

Comment received from John Wood

Sent: Wednesday, May 08, 2013 7:12 AM

To: Richardson, William

Subject: EPA Review of West Virginia's 2012 Section 303(d) list

Bill Richardson, Water Protection Division (3WP30)

U.S. Environmental Protection Agency Region 3

1650 Arch Street,

Philadelphia, PA 19103-2029

Richardson.william@epa.gov

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RE: Federal Register 78(67):20912-20913 (Notice and initial request for public input)

Dear Mr. Richardson,

I support EPA's proposed additions to West Virginia's Section 303(d) list of water quality limited segments (WQLSs) that are violating West Virginia's narrative water quality criteria as applied to aquatic life uses. I also support EPA's repeated recommendation that WVDEP move toward use of a more rigorous, genus-level biological assessment methodology (i.e., GLIMPSS) rather than continuing to rely on a family-level methodology of macroinvertebrate community assessment (i.e., WVSCI).

I request that EPA consider revising the list of pollutants that are associated with biological impairment in West Virginia. Peer-reviewed scientific studies have found a statistically significant correlation between high concentrations of conductivity, sulfate, and total dissolved solids (TDS) with degradation of aquatic stream life (Palmer et al. 2010, Bernhardt and Palmer 2011, Lindberg et al. 2011). Aquatic salamanders also appear to be affected by these parameters (Wood and Williams 2013). Declines in stream macroinvertebrate biodiversity have been linked to the amount of mining activity in a watershed (Pond et al. 2008, Merriam et al. 2011, Cormier et al. 2013a) and to increased levels of sulfate (Palmer et al. 2010, Bernhardt et al. 2012) and specific conductance (Pond et al. 2008, Mincy 2012). Percentages of valley fill, mining, and urban development were found to be strong predictors of rising conductivity levels in streams, but that “the type of ions associated with urban land uses differs (i.e., CL- dominated), from that of coal mining land use (i.e., HCO₃⁻ and SO₄²⁻ dominated)” (Cormier et al. 2013a). A mixture dominated by the ions Ca⁺, Mg⁺, HCO₃⁻, and SO₄⁻, as measured by conductivity, is a common cause of extirpation of aquatic macroinvertebrates in Appalachia where surface coal mining is prevalent (Cormier et al. 2013b).

To my knowledge, there are no peer-reviewed studies that contradict these findings.

The WVDEP refuses to acknowledge sulfate and specific conductance as pollutants even though both are strongly correlated indicators of mining pollution. If the WVDEP can (and does) set numerical limits on pH and total suspended solids, which are clearly indicators of pollution, then the WVDEP can and should set numerical limits on sulfate, conductivity and TDS. A water quality benchmark already exists for conductivity (Cormier and Suter 2013): “The derivation of this aquatic life benchmark using conductivity illustrates the practical use of the field-based method for developing water-quality benchmarks for pollutants that are not amenable to laboratory methods [11]. The method is credible because it is adapted from methods that have been successfully used for nearly 30 years to develop water-quality criteria using laboratory data

and because the field-based method has withstood extensive public and peer review. The derived benchmark is credible because it has been validated and has withstood tests of the models, causation, and potential confounding.” (Cormier et al. 2013c)

Furthermore, I request that EPA urge the WVDEP to expedite the priority ranking of WQLSs where the cumulative adverse effects of mining on aquatic life are evident. For example, approximately 2172 acres of 9420 acres, or 23% of the Scotts Run watershed (Stream Code WVM-6), has already been surface mined and/or permitted for surface mining operations. The DEP should prioritize development of numeric TMDLs that represent attainment of the narrative water quality standards for conductivity, TDS and sulfate in these overdeveloped, overly stressed watersheds before any new NPDES permits associated with surface mining activities are issued, modified, or renewed.

Based on past actions, WVDEP will very likely delay the development of TMDLs for the new WQLSs. Thus, I believe it is important for EPA to provide WVDEP with specific, interim guidance on what permit requirements that new, modified, and existing NPDES permits need to include to comply with narrative water quality criteria.

Sincerely,

John Wood

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