



WEST VIRGINIA RIVERS COALITION

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September 30, 2015

Laura Cooper
Water Quality Standards, DWWM
WV Department of Environmental Protection
601 57th St., S.E.
Charleston, WV 25304
Submitted via email to Laura.K.Cooper@wv.gov

Re: 2017 Triennial Review Recommendations

Dear Ms. Cooper,

West Virginia Rivers Coalition submits these comments for the 2017 Water Quality Standards Triennial Review on behalf of its members and in collaboration with the organizations listed on the signatory page of this document. Each signatory has a vested interest in the quality of West Virginia's waters, and believes that strengthening standards are critical to the future health of our water resources and economic development opportunities in the state. We request the WVDEP act on behalf of the citizens of West Virginia by moving to further protect their water quality.

EPA-Recommended Human Health Criteria

In 2015, EPA updated its national recommended water quality criteria for human health for 94 chemical pollutants to reflect the latest scientific information and EPA policies. EPA updated its fish consumption rate, water consumption rate, and default body weight for humans. As a result, many recommended criteria have been strengthened—some significantly. Some recommended criteria have been weakened. In general, we recommend that WVDEP update West Virginia's human health criteria to reflect EPA's updates.

We have concerns, however, that if WVDEP uses local fish consumption rates to update state criteria, it must recognize that local fish consumption is likely impacted by fish consumption advisories. If people have been told that it is unsafe to eat local fish, their consumption rates will likely be less than if local waters were clean. Rather than allowing a periodic decrease in state standards as West Virginians consume less fish, the state should be aspiring to restore waterways so that fish consumption advisories are a thing of the past. Criteria should reflect this aspiration and reflect past local fish consumption amounts.

Category A Use Designation

We strongly urge WVDEP to maintain its statewide application of Category A use designation for all rivers and streams. While some rivers and streams are currently used for public drinking water intakes,

others are used for private intakes. And all rivers and streams may be used as drinking water sources in the future. Category A criteria protect us from exposure to pollutants that are most harmful to human health. Applying Category A to all streams recognizes the potential future use of all rivers and streams as drinking water sources, thus keeping options available for finding water suitable for drinking in the future. This policy keeps West Virginia attractive for businesses and citizens that are currently in West Virginia, or that might locate here in the future.

Total Dissolved Solids, Electrical Conductivity, and Sulfate Criteria

A growing body of scientific evidence points to the harmful effects of three related parameters on aquatic life: total dissolved solids (TDS), conductivity, and sulfate. Without numeric criteria for these parameters, Clean Water Act enforcement must rely on impacts to narrative criteria. In general, WVDEP has chosen not to impose limitations on these parameters nor to enforce the narrative criteria, which has led to a series of lawsuits that have resulted in great uncertainty for permittees. A lack of numeric criteria for these parameters also makes it more difficult to determine 303(d) listings and to write TMDLs. A more transparent and efficient approach would apply today's best science to promulgate numeric criteria for these three parameters.

WVDEP acknowledges that these parameters cause toxicity to aquatic life. In its TMDLs, when biological impairments are found, candidate causes and pathways are investigated. One candidate is: "High sulfates and increased ionic strength cause toxicity" (Lower Kanawha TMDL, http://www.dep.wv.gov/WWE/watershed/TMDL/grpb/Documents/Lower%20Kanawha/Lit%20Kan/LK_Final_TMDL_Report_09_26_06.pdf and many other TMDLs). Increased ionic strength can be measured by TDS and conductivity.

For conductivity, a recent series of peer-reviewed scientific analyses link high conductivity with harms to aquatic life. USEPA published a draft report that derived a conductivity benchmark of 300 uS/cm in 2010, and after review by its Science Advisory Board, this draft report was finalized in 2011 (EPA Office of Research & Development Final Report: A Field-based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams, May 27, 2011). In 2013, the methods and results from this analysis were published as a series of articles in the peer-reviewed journal, Environmental Toxicology and Chemistry, including: "A method for assessing causation of field exposure-response relationships," "A method for deriving water-quality benchmarks using field data," "A method for assessing the potential for confounding applied to ionic strength in Central Appalachian streams," "Derivation of a benchmark for freshwater ionic strength," "Assessing causation of the extirpation of stream macroinvertebrates by a mixture of ions," and "Relationship of land use and elevated ionic strength in Appalachian watersheds." Further evidence has been presented in a series of federal court cases, in which the Court has sided with plaintiffs.

For TDS and sulfate, criteria should be based on the best scientific data available that links these parameters with impacts to aquatic life.

Bromide

We request DEP consider a bromide standard. A bromide/bromine effluent concentration should be set such that these pollutants are not detectable at the point of discharge or mixing into the rivers and

streams. This will reduce the carcinogenic compounds formed upon chlorination of intake water where the polluted water contains these effluent chemicals from fracking sites upstream. Bromide facilitates formation of brominated trihalomethanes, also known as THMs, when it is exposed to disinfectant processes in water treatment plants. THMs are volatile organic liquid compounds. The federal safe drinking water standard for THMs is 80 micrograms per cubic liter, and removing them from finished drinking water is difficult. Keeping bromide levels in raw water sources low is a much easier way to address the problem.

We appreciate the opportunity to submit these recommendations for the 2017 Triennial Review. Thank you for your time and consideration.

Sincerely,

Angie Rosser and Autumn Bryson
West Virginia Rivers Coalition

Gary Zuckett
West Virginia Citizens Action Group

Nancy Novak and Helen Gibbins
League of Women Voters of West Virginia

Julie Archer
West Virginia Surface Owners Rights Organization

Brent Walls
Upper Potomac Riverkeeper

Dianne Bady
Ohio Valley Environmental Coalition

Conni Gratop Lewis
West Virginia Environmental Council