WEST VIRGINIA RIVERS COALITION

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Laura Cooper
Water Quality Standards Program
WV Department of Environmental Protection
601 57th St., S.E.
Charleston, WV 25304

Submitted electronically to Laura.k.cooper@wv.gov

RE: Requirements Governing Water Quality Standards

Dear Ms. Cooper,

These comments elaborate on our previous triennial review comments as well as respond to some of the information presented in the proposed rule governing Water Quality Standards. They are being submitted on behalf of West Virginia Rivers Coalition and the organizations and individuals signed below.

Category A

West Virginia is a headwaters state. Eleven other states depend on WV's waters for their drinking water after it leaves our state, therefore all waters upon leaving the state should meet Category A use for human consumption as a good faith effort to our neighboring states. We strongly support the current, long-standing, status of Category A designation for all waters within West Virginia.

The current definition of Category A says the state must protect future use. A new state law requires utilities to develop source water protection plans which study the feasibility of secondary intakes or backup sources. Over the next several years, water utilities will be identifying a backup source of water in the event of an emergency. This law makes it especially crucial to preserve the future use of drinking water in sources where the flow makes it a feasible source. Making sure the State's rivers and streams are adequately protected for future drinking water use is prudent management. We applaud the state's policy to protect all of our water supplies with adequate flows for future drinking water use.

Category A is the most stringent standard for 60 parameters that are known or suspected carcinogens. Removing Category A Use Designation from any portion of a state water would allow higher concentrations of known or suspected carcinogens into the waters of the state. If the state allows a use removal though an NPDES permit, more carcinogens will be discharged into a waterbody that has insufficient flow for dilution. Those carcinogens will then flow downstream into a waterbody that has sufficient flow for drinking water use which would adversely impact the health and safety of our current and future populations and users downstream. We cannot allow more carcinogens into our water simply because at that particular location the water is not used for drinking, because the water is still used for drinking downstream of that point. Pursuant to Clean Water Act (CWA) regulations, "[i]n designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters." 40 C.F.R. § 131.10(b). Because the Category A Use Designation protects the population from known carcinogens, the statewide designation must be preserved in the interest of public health.

The new rule allows WVDEP to limit the application of Category A use designation through the National Pollutant Discharge Elimination System (NPDES) process based on insufficient flow or hydrologic modification. Allowing a use removal of Category A through the NDPES permitting process may circumvent the process outlined in the Clean Water Act. Pursuant to 40 C.F.R. § 131.10, "[t]he classification of waters of the State must take into consideration the use and value for public water supplies, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial, and other purposes, including navigation." If a state wishes to remove a designated use it must submit to EPA, "documentation justifying how their consideration of the use and value of water for those uses. . . appropriately supports the State's action."

Additionally, a revision to water quality standards (as well as the issuance of a NPDES permit) must comply with the minimum requirements of the CWA's antidegradation policy. In the case of high quality waters—those exceeding the fishable/swimmable goals of the CWA—the state must make certain required findings before the lowering of water quality is allowed. Specifically, "the State shall find, after an analysis of alternatives, that such a lowering is necessary to accommodate important economic or social development in the area in which the waters are located. The analysis of alternatives shall evaluate a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity." 40 C.F.R. § 131.12(a)(2)(ii). which requires a use attainability analysis and approval of the legislature and EPA. The provisions for Category A use removal should be improved to

include evaluations of water quality, not simply the physical properties of the stream at issue. We object to this proposed method to remove the use of Category A.

Under Section 6.3a Insufficient Flow, the rule states that the Secretary shall consider whether the insufficient flow may be compensated for by the effluent discharge to meet the use. We question whether an effluent dominated flow should be considered as potential source water. If there is insufficient flow to meet Category A, then there may not be sufficient flow to provide dilution for the effluent discharge. A case in point is the 1988 incident in the City of Buckhannon in Upshur County when the Buckhannon River (source of the public water supply) was quite low and the effluent from the large surface mine upstream at Tenmile constituted a major source of water in the river. Water treatment systems were overwhelmed and complaints of nasty water and cream curdling in coffee were plentiful. More expensive water treatment measures have since been added to the basic operation of the water plant and cost to local users increased.

As stated previously, water utilities are currently identifying secondary or backup water sources. Section 6.3.a.3 states that the Secretary shall consider whether the water could serve as a backup water supply. The criteria should also be included in Section 6.6 where it states that the Secretary shall ensure that the water is not currently used as a water supply and shall require the applicant to demonstrate that the water supply has no potential for future use as a backup water source.

Under Section 6.6c the rule states that the applicant shall make a determination of the connection between the wells or springs and the surface water in question. Groundwater under the direct influence of surface water is a common occurrence in West Virginia. The applicant must be required to hire a qualified individual to make a GWUDI determination based on criteria such as physical parameters in wells and surface waters in nearby streams and monitoring bacteria (bacti test) to determine which groundwater sources are affected by surface water sources.

Critical Design Flow for Human Health Criteria

Although the Harmonic Mean Flow is the critical design flow recommended by EPA, there are certain instances where the Harmonic Mean Flow is not a good indicator of flow and should be recognized as such by DEP. The Harmonic Mean Flow is not an appropriate flow measurement when there are seasonably variable effluent discharge rates and hold and release treatment systems. At effluent dominated sites, the effluent load and downstream flow are not independent of each other. Instead of harmonic mean flow, a modeling technique should be used which calculates the average daily concentration of criteria pollutants over time.

Harmonic Mean is not designed for low flows because it assumes the flows are log-normally distributed. It's less protective of exposure to carcinogens during low flows, allowing more pollution when there is not enough of a dilution factor. Knowledge of magnitude and frequency of low flows for streams is imperative for calculating waste load allocations (WLA), recreational contact safety, and protecting aquatic life. Low-flow statistics are needed for water quality regulatory activities to be used as thresholds when setting allowable pollutant loads to meet water quality standards. Reliable estimates of stream flow must be calculated for low-flow periods when determining TMDLs or WLA for NPDES permits.

Since stream gages are not located within every stream in the state, accurate methods are needed for estimating harmonic mean flows and low flow frequencies at un-gaged streams. Therefore, we request WVDEP work with USGS to conduct a statewide study to develop regression equations for low-flow frequency statistics and estimation equations for harmonic mean flow statistics to update and improve the accuracy of the estimates.

We request that WVDEP use best-fit equations for calculating harmonic mean flow. Simple equations based on drainage area only have larger prediction errors than the best-fit equations. Best-fit equations quantify the basin characteristics using GIS. Simple equations that do not account for basin characteristics exhibit geographic biases for most stream flow statistics. We urge WVDEP to use a regionalization approach to calculate flow rates based on hydrologic characteristics, landform regions, and soil regions to provide the best estimates of flow. We encourage WVDEP to work with USGS to develop weighted-least-squares regression equations for each region to estimate harmonic mean flow statistics. Caution should be used when applying equations for basins with characteristics near applicable limits of equations and basins within karst topography, which underlies much of the eastern part of the state.

We refer WVDEP to the comments submitted by Affiliated Construction Trades Foundation in 2003 when the change to Harmonic Mean was first proposed. Those comments prepared by Carpenter Environmental Associates gave recommendations on the areas of study to determine the impacts of the proposed changes. Specifically, they recommended a determination of the need for revisions to critical design flow for human health carcinogens, a determination of health impacts as a result of the proposed change to Harmonic Mean Flow, and a determination of the economic impact of revising the critical design flow. The use of Harmonic Mean for critical design should not be adopted until the impacts of the revision is fully investigated. It is vital to the future health of West Virginians that prior to adopting this change, WVDEP must determine the amount of increased carcinogens to be discharged into WV waters as a result of changing from 7Q10 to Harmonic Mean.

Biotic Ligand Model for Copper

We support the revision to use the Biotic Ligand Model (BLM) for Copper to develop site-specific numeric criteria. The BLM represents the best current and available science. Application of this model is the best way to ensure that resulting criteria will be protective of aquatic life designated uses. The BLM provides better accounting for the effects of individual parameters and can be used to develop site-specific criteria for copper by characterizing the bioavailability of metals at a site. The BLM can significantly improve predictions of acute toxicity of certain metals across an expanded range of water chemistry parameters.

Replacing Fecal Coliform with E. Coli as Bacterial Indicator

Other states that have converted from fecal coliform to E. coli have a transition period where both the old and the new bacterial criteria run concurrently until the department has adequately collected E. coli data on the streams. This transition process should be explicitly stated in the water quality standard. All streams listed as impaired based on the existing fecal coliform criterion should remain on the 303(d) list, unless new E. coli data are collected that specifically contradict the existing impairment.

Additionally, we have serious concern over the daily maximum criterion included in the previously proposed revision. Understanding that when WVDEP collects fecal coliform data, it rarely does so more than once a month during routine testing done under the watershed management framework, we are concerned that the proposed daily value for E. coli "not to exceed a concentration level of 1074 cfu/100 ml" is likely to become the default criterion - this would result in criteria less stringent than our existing criteria. This daily maximum criterion should be dropped and the proposed 410 cfu/100 ml should be interpreted the same as the prior fecal coliform criterion i.e., that one sample > than 410 cfu/100 ml is an exceedance of the water quality standard as it would be equal to 10% exceedance even if 10 samples were taken in that month and 9 of those samples were less than 410 cfu/100ml. The added daily value provision to the proposed was confusing and could be interpreted and applied as a weakening of the current bacteria standard and should be removed.

Aquatic Life Criteria

We commend WVDEP on taking EPA's recommendations and adopting standards for aquatic life criteria for 5 organic chemicals; acrolein, carbaryl, diazinon, nonylphenol, and tributyltin and encourage WVDEP to adopt the other 91 standards for organic chemicals that EPA recommends.

Thank you for taking these comments into consideration.

Sincerely,

Angie Rosser & Autumn Bryson
West Virginia Rivers Coalition

Cindy Ellis & Cindy Rank
West Virginia Highlands Conservancy

Gary Zuckett
West Virginia Citizens Action Group

Julie Archer
West Virginia Surface Owners' Rights Organization

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Larry V. Thomas
Friends of Beautiful Pendleton County

Brent Walls
Upper Potomac Riverkeeper

Nancy Novak & Helen Gibbins
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