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Environmental Protection Agency
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Re: Comments on Draft EPA-USGS Technical Report:
Protecting Aquatic Life from Effects of Hydrologic Alteration

Dear Ms. Eignor and Mr. Kennen:

Mission H₂O is a stakeholder group focused on Virginia developments in water resource management and in particular legislative, regulatory and policy changes that affect the availability of water for water supply purposes. Our members include municipal water providers, industrial water users, agricultural water users, and water supply professionals. Each of our members has extensive experience with water withdrawal permitting, water resource management, and management of source waters and has made significant investments in water infrastructure and the Virginia water supply planning process. While Mission H₂O's primary focus is on state-level developments, our members are also interested in developments at the federal level that affect water resource management in Virginia. Our members are concerned about the policy shift reflected in the *Draft EPA-USGS Technical Report: Protecting Aquatic Life from Effects of Hydrologic Alteration* (the "Technical Report"), the assumptions that appear to be underlying the report, the report's failure to include federal case law arising out of Virginia limiting EPA's ability to regulate flow, and the out-of-context reference to Virginia's water quality standards.

Use of Clean Water Act to Regulate Flow

Although labeled a “technical report,” the draft report describes its purpose as providing information on Clean Water Act programs that can be used to support the “natural flow regime” and to provide a framework for quantifying targets for flow regime components. Report at pp. 7, 13. At the outset, if this were indeed a technical report analyzing impacts of flow alteration, even including a discussion of the Clean Water Act is inappropriate. This report does not read like a technical report; instead, it reads like a policy argument for the inclusion of flow as a pollutant and therefore subject to Clean Water Act Section 304(a) criteria development.

The use of Clean Water Act tools to address flow is a fundamental shift in the direction of the Clean Water Act regulatory program, and one lacking in legal support. The “Legal Background and Relevant Case Law” provided by EPA and USGS in the Report and, in particular, in Appendix B is incomplete and inaccurate. Flow is not a pollutant, and thus is not subject to the regulatory programs established under the Clean Water Act; management and allocation of flow is expressly under the purview of states and localities.

EPA’s statements that this draft report is not creating new requirements and is presenting options for states to consider is undermined by the fact that the report is found on the EPA webpage for development of aquatic life water quality criteria. The very clear messaging on this report is that EPA is seeking development of numeric water quality criteria for flow. The treatment of flow as a pollutant is not supported by the text of the Clean Water Act, and certainly not something that should be advocated for through a technical report.

Legal Background

A. Flow is Not a Pollutant and Thus is Not Subject to CWA Regulatory Programs

Throughout the Technical Report, EPA and USGS cite Clean Water Act section 101(a)(2) as the basis for the report, stating that flow “plays a critical role in supporting the chemical, physical and biological integrity of streams and rivers and the services they provide.” *Id.* at 7. Citing Section 101(a)(2) in isolation is misleading. Section 101 of the Clean Water Act also states that “[i]t is the policy of Congress that the authority of each State to allocate quantities of water within its jurisdiction shall not be superseded, abrogated or otherwise impaired by this chapter. It is the further policy of Congress that nothing in this chapter shall be construed to supersede or abrogate rights to quantities of water which have been established by any State. Federal agencies shall co-operate with State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources.” CWA § 101(g).

The Clean Water Act distinguishes between “pollutants” and “pollution.” The definition of “pollutant” does not include flow. Rather, “pollutant means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water.” CWA § 502. Man-made alterations of flow fall within the definition of “pollution,” which is defined as “the man-made or man-induced alteration of the chemical, physical, biological and radiological integrity of water.” *Id.* Pollutants are addressed by the federal government through the Clean Water Act; pollution is addressed at the state level.

The Act outlines a series of regulatory tools to be used to address pollutants. For example, Section 301 requires the development of effluent limitations for pollutants discharged by categories and classes of point sources. Section 303(d) of the Act requires states to establish the total maximum daily load for the pollutants which have been identified as suitable. Likewise, Section 304 relates to the development of water quality standards that must be established for pollutants. Thus, these tools are not meant to apply to nonpollutants such as flow.

Notwithstanding the lack of Clean Water Act authority, EPA has attempted to regulate flow. At least one such attempt has been found to be an unlawful exceedance of the agency’s statutory authority. In Virginia, EPA attempted to establish a TMDL to limit the flow rate of stormwater to Accotink Creek located in Fairfax County, Virginia. That attempt was challenged by local and state agencies and was struck down in *Virginia Department of Transportation et al v United States Environmental Protection Agency*, 2013 U.S. Dist. LEXIS 981. The court found that “EPA may not regulate something over which it has no statutorily granted power – annual loads or nonpollutants – as a proxy for something over which it is granted power – daily loads or pollutants.” *Id.* at *9. Flow is not a pollutant, and thus cannot be regulated by EPA through the TMDL program.

The holding in this case was not acknowledged or referenced in the report or in Appendix B. This is a significant omission. Appendix B is incomplete and should include the full range of cases addressing the regulation of flow.

B. Management of Flow is a State and Local Responsibility

Although the Technical Report fails to include the Accotink Creek case in Appendix B, it does acknowledge that, while flow and alteration in flow can influence water quality, flow is not within EPA's Clean Water Act powers to regulate as a pollutant. Rather, whether, when and how to regulate flow is left to the states. Maintaining this state responsibility, without federal intrusion, is of critical importance as the states are the most knowledgeable of, and in the best position to manage, state water resources.

Congress recognized this when it established the cooperative federal-state system under the Clean Water Act. The Act states that “the primary responsibilities and rights of states to prevent, reduce and eliminate pollution, to plan the development and use (including restoration, preservation and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under this chapter. . . . It is further the policy of the Congress to support and aid research relating to the prevention, reduction and elimination of pollution, and to provide Federal technical services and financial aid to state and interstate agencies and municipalities in connection with the prevention, reduction and elimination of pollution.” CWA § 101(b).

Flow is not a pollutant regulated under the Clean Water Act. Changes in flow fall may contribute to pollution. The plain language of the Clean Water Act places responsibility for both flow and pollution in the hands of states and localities, not at the federal level. While the technical report does state that it is not intended to be regulation, it also makes clear that its goal is to encourage states to apply Clean Water Act tools (which would then be enforceable by EPA) to flow. This is not appropriate and undermines the construct of the Act.

Mischaracterization of Virginia’s Water Quality Standard

The Technical Report cites several states with narrative water quality criteria as support for its position that states should regulate flow through their delegated Clean Water Act programs. Virginia is one of the states referenced by EPA. However, the information provided in the Technical Report is incomplete and provided without context. Citations to the state water quality standards are not provided; instead, the language from state regulations is merely excerpted without context. At least in the case of Virginia, this has led to a misrepresentation of the standard and how it is used.

Virginia originally adopted its narrative water quality standard for flow in 1992. At that time, the section was headed “Standards Application; Stream Flow.” This section outlined the flow levels to be used when applying water quality standards. The final provision in this section stated “Man-made alterations in stream flow shall not contravene reasonable, beneficial uses including protection of the propagation and growth of aquatic life.” Guidance issued at the time of this new stream flow standard (*see* New Standards – Interpretations, Feb. 24, 1992; Water Quality Standards Interpretation of Biologically Based Flows, Low Flow Application and Mixing Zones, Nov. 2, 1992, copies attached) confirmed that this section was to be used to determine the appropriate flow values in modeling to apply water quality standards. In other words, this provision was not a stand-alone water quality standard.

In 1997, this section of Virginia’s narrative water quality standards was revised to move the initial sections pertaining to flow information to be used when calculating waste load allocations to the numerical criteria tables. The remaining portion of the section read: “Man-made alterations in stream flow shall not contravene designated uses including protection of the propagation and growth of aquatic life.” 9 VAC 25-260-40. While leaving this lone provision

may have created confusion about its purpose, the fact remains that it was originally promulgated as part of a section recognizing how changes in stream flow affect the application of numeric water quality standards. It was not meant to be a stand-alone water quality standard for flow.

It is our understanding that this provision has never been applied directly as a water quality standard for flow. Instead, alterations to stream flow are addressed through Virginia's surface water withdrawal permitting program. Permits for water withdrawals assess the impacts of withdrawals on flow.

EPA's reference to Virginia's "narrative water quality standard for flow" is inaccurate because it fails to recognize that Virginia does not use this standard in its assessment of compliance with the designated use for aquatic life. This is borne out by DEQ's 2012 Water Quality Assessment Guidance Manual (the most recent version of this manual), which outlines the standards used to assess compliance with the aquatic life use.

6.4.2 Aquatic Life Use Support

Determination of the degree of use support for aquatic life is based on conventional physical parameters (DO, pH, temperature) and aquatic life toxic criteria along with biological monitoring data and best professional judgment, relying primarily on recent data collected during the current reporting period. Up to 6 additional years of data may be used if they reflect current conditions. Additional potential chemical pollutants with no Water Quality Standard criteria are examined as well. These include sediment and nutrients and they are assessed according to Section 6.5 of this guidance.

2012 Assessment Manual at pages 32-33.

The 2014 update to the Assessment Manual includes similar language:

Support of aquatic life use can be determined by the assessment of conventional parameters (dissolved oxygen, pH and temperature), toxic pollutants in the water column (relative to acute water quality standards), toxic pollutant analysis of sediments, toxicity testing, nutrient analysis and/or the biological assessment of benthic communities. All available data, relative to aquatic life use, shall be considered to determine if the aquatic life use is being supported. This assessment includes the sub-categories of aquatic life use associated with the Chesapeake Bay criteria. The maximum temperature will not be assessed for aquatic life in tidal waters since no maximum temperature standard is applicable.

2014 Assessment Manual at page 14.

Finally, in 2007, DEQ issued a Notice of Intended Regulatory Action (NOIRA) to revise the water quality planning regulations to provide for regulation of stormwater flow through the total maximum daily load program. DEQ stated in support of the NOIRA that, "[t]his action provides for the inclusion of the concept of regulating flow or other qualities or quantities of a point source

discharge that cause or contribute to pollutants or pollution of state water downstream of the point source discharge.” NOIRA Agency Background Document at 2. Such a change would not be needed if the flow language cited in the report (9 VAC 25-260-40) was, in fact, a water quality standard for flow. Ultimately, this proposed regulatory change was withdrawn and never acted upon.

To our knowledge, Virginia’s flow provision (9 VAC 25-260-40) has never been used as the basis for an impaired water listing in Virginia. Nor has it been used as a VPDES permit limitation. Thus, contrary to the report’s assertion, the existence of this provision in Virginia’s regulations does not support for the development of narrative water quality standards for flow, much less numeric criteria for flow.

Failure to Prioritize Among Uses During Times of Shortage

While the report acknowledges that climate change may result in increasing occurrences and severity of drought, the report’s only solution is greater protection against (and regulation of) flow alteration. But such regulation will have no effect on hydrologic alteration caused by natural weather and climate changes. And the report as drafted indicates that preservation of aquatic life is the sole priority to be protected during those events. The report fails to acknowledge that there are multiple beneficial uses for waters – not just aquatic life – that likewise need to be considered when flow is altered. Particularly noticeable is the absence of any mention of use of water for public water supply purposes. There may be times when aquatic life is not the highest priority for protection. The failure to acknowledge beneficial uses of water for other purposes is a glaring omission.

Assumptions Underlying the Report are Flawed

The Technical Report is drafted based on the underlying assumption that all hydrologic alteration is bad. Moreover, the Technical Report disregards the fundamental fact that the natural flow regime is one that is highly variable, with regular and natural changes that are ongoing. Finally, the Technical Report fails to recognize (and encourage) other options for addressing hydrologic flow alteration, such as the development of new water sources. Examples that could have been included are recharge projects, storage projects, and other projects that enable the release of additional flows for augmentation during drought or other natural conditions.

As noted above and as recognized in the Technical Report, hydrologic alteration is a situation that will occur more and more frequently due to natural climatological events. Man-made alterations can have both short and long-term impacts. The Technical Report appears to consider all man-made alterations as negative. But, this is short-sighted. There may be man-made alterations that have an adverse impact in the short-term but that have long-term benefits such as creation of the ability to augment flows during natural low-flow events such as drought. There may also be man-made alterations to flow that are beneficial from the start. Such projects should be acknowledged.

Additionally, the Technical Report does not address the fact that over the long-term history of the world, plants and animals have shown an amazing ability to adapt to changes in their environment. The current mosaic of flora/fauna is the direct result of a constantly changing geography and climate. It is unclear how scientifically based metrics for biota will be developed that can accurately frame the tolerances and adaptation of aquatic species. USGS has published papers relating to flows and precipitation that explain that the existing 100-150 year observation record as so incomplete (compared to the breadth of historical conditions) that use of this flow record can lead to significant mismanagement and statistical errors. *See, e.g., Milly et al., Stationarity is Dead: Whither Water Management?*, Science Magazine Feb. 1, 2008; Hirsch, Robert M., *A Perspective on Nonstationarity and Water Management*, Journal of the American Water Resources Association, June 2011. It is difficult to reconcile this important work with the discussion in the Technical Report, which suggests that man-made flow alterations deviate from historical fluctuations and adversely impact aquatic life.

Recommendations

State regulators and those involved with water quality and supply issues already recognize and address flow within their own programs. The Technical Report as drafted does not include a complete or accurate picture of the Clean Water Act framework, is unnecessary and only confuses the issue and interferes with the approaches states are taking. The report is not necessary; if issued, it must be significantly revised.

If EPA and USGS are intent on moving forward, the Technical Report must do the following:

- Remove the references to the Clean Water Act and focus more narrowly on the technical impacts and issues associated with changes in hydrologic flow alteration. If the references to the Clean Water Act remain, include a complete overview of the legal framework governing the regulation of flow, including the full range of relevant cases.
- Recognize that there are many beneficial uses of water, and include a discussion of the importance of maximizing the use of water so that multiple uses are protected. Include a statement that public water supply and offstream beneficial uses are also important; during times of shortage not all uses can be obtained. The report should also include a discussion about how to prioritize among uses during shortage scenarios.
- Acknowledge that not all hydrologic alterations are bad; there can be projects that improve or enhance the hydrology of a stream. Such projects are important tools in ensuring the sustainability of water resources.

- Regulating hydrologic alteration is not the only solution; there is also a need for and benefit to projects that make more water available such as groundwater recharge projects and storage projects.
- Provide context for the application and use of the example state narrative water quality standards for flow provided in the report.

Additionally, the Technical Report should more affirmatively state that:

- EPA does not have authority to regulate flow.
- Aquatic life is not the only beneficial/designated use of water. Other uses, particularly public water supply uses, are of equal or greater priority.
- The Technical Report only looks at one potential influence on aquatic habitat and other environmental, economic and basic human health needs and factors must be considered.
- The Technical Report in no way represents the only or best means to address flow and habitat alterations.
- States can address flow and aquatic habitat alteration in the manner they believe appropriate without influence by the Technical Report. The report is not making an affirmative recommendation for how flow should be addressed by states.

Thank you for your consideration of these comments.

Sincerely,



Andrea W. Wortzel
Coordinator, Mission H2O

cc: Mission H2O Members