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Diana Eignor

Health and Ecological Criteria Division

Office of Water (Mail Code 4304T)

Environmental Protection Agency

1200 Pennsylvania Avenue NW.

Washington, DC 20460

Via www.regulations.gov

RE: NACWA Comments on *Draft EPA-USGS Technical Report: Protecting Aquatic Life from Effects of Hydrologic Alteration*

Dear Ms. Eignor,

The National Association of Clean Water Agencies (NACWA) appreciates the opportunity to comment on the document entitled, *Draft EPA-USGS Technical Report: Protecting Aquatic Life from Effects of Hydrologic Alteration (Draft Report)*, EPA Report 822-P-15-002. NACWA's public wastewater treatment and stormwater management utility members understand the significant impacts hydrologic alteration can have on the aquatic environment and support the overall premise of the *Draft Report* – that the ability of a waterbody to fully support aquatic life is strongly associated with in-stream flow conditions. Deviations from natural flow conditions due to anthropogenic modifications can affect overall water quality and therefore impact aquatic life.

Efforts to improve water quality across the United State must acknowledge and work to address these flow-related impacts where possible. Elements of the *Draft Report* provide helpful information on how to identify and begin to address some of these impacts. NACWA has concerns, however, that the *Draft Report* does not strike an adequate balance among the various uses of the nation's waters – beyond the protection of aquatic life – and fails to recognize that returning waters to their natural flow regimes in many places will not be possible given the extent of development and existing alteration.

Outlined below are the Association's comments on the *Draft Report*. Overall, NACWA believes that EPA and USGS must either work to separate and remove the policy

discussions from the document before it is finalized, or initiate a more substantive review process on a revised version of the report acknowledging that it contains both extensive policy and technical information.

Policy Document Should Not Be Presented as a “Technical Report”

The *Draft Report* is described as a “technical” document, but goes well beyond the bounds of scientific and technical analysis by presenting conclusions based on a review of court cases, regulatory programs and previous guidance, advocating far-reaching policies, and offering strategies for states to implement those policies. The *Draft Report* sends a clear message on EPA’s policy preferences for regulation of flow and pushes states to develop and implement water quality criteria for flow.

Though the *Draft Report’s Legal Background and Relevant Case Law* discussion is relegated to an appendix, case law, previous policy statements and documents are used extensively throughout the document to make EPA’s case that states should be considering or regulating flow as they implement the Clean Water Act (CWA or Act). Whether and to what extent states should be regulating flow as a part of the CWA is a policy discussion that frankly will take many states by surprise and will be highly controversial in western states.

With the wide scope of the *Draft Report* and the extensive policy discussions of where and how EPA believes flow can and should be addressed under the CWA, NACWA expects that it will be used to support Agency decisions or actions in the future. In any subsequent legal challenge, EPA would likely seek and be afforded step two *Chevron* deference by the reviewing court. *Chevron, U.S.A., Inc. v. NRDC, Inc.*, 467 U.S. 837 (1984).

Chevron deference requires courts to defer to interpretations of statutes made by those government agencies charged with enforcing them, unless such interpretations are unreasonable. Under *Chevron*, even if a court finds that another interpretation is reasonable, or even better than the agency’s interpretation, it must defer to the agency’s reasonable interpretation. Given the profound and lasting impacts the policy discussions in the *Draft Report* could have, it should be subjected to greater review and scrutiny than a “technical report” would receive.

Focus on Natural Flow Regimes and Aquatic Life Protection Undermines *Draft Report’s* Relevance

The *Draft Report* is premised on the idea that rivers and streams across the country can and must be restored to their natural flow regimes in order to protect aquatic life and by extension meet the objectives of the CWA. However, many streams and rivers lost their natural flow conditions long before the CWA was passed in 1972 and restoration of these natural flow regimes is simply not possible in most cases.

The policy discussion in the *Draft Report* argues that in order to protect and meet designated uses for the protection of aquatic life – a key goal of the CWA highlighted in the document – flow conditions must be managed to return them to their natural flow regime. But the *Draft Report’s* focus on the protection of aquatic life at the exclusion of any other uses for which the waterbody may be designated undermines the goals of the Act. The CWA mandates the restoration and protection of all designated uses, not the restoration of waters to their natural, pre-development conditions in order to protect aquatic life above all else.

A fundamental weakness in the document is the strong implication, if not direct conclusion, that any flow regime alteration – whether existing or proposed – that does not support fish and other biota dependent on the flow regime is a violation of water quality standards and thus the CWA. There is some acknowledgement of

other uses recognized, protected, and within the scope of the CWA including drinking water supply. But the *Draft Report* provides no means or suggestions on how to balance these sometimes competing uses.

Rather than develop a set of flow regime values and judge how to balance aquatic life needs with other uses, the *Draft Report* sends a strong message that aquatic life must be protected without consideration of the impact on other lawful and protected uses. Again, this bias is not reflective of the CWA, which seeks to provide for and maintain all protected uses without effectively calling for the cessation of another protected use.

As an example, on page 18 the *Draft Report* sets forth the drivers for the natural flow regime – signaling that dams and water diversions for water supply or industry are antithetical to the fishable/aquatic life protection use. This unbalanced approach makes the *Draft Report* of limited use in making decisions on how to appropriately protect the multiple uses under the CWA. The *Draft Report* needs to provide more realistic guidance for operating in the real world where natural flow regimes simply cannot exist in some cases and where protection of aquatic life at the expense of all other uses is not realistic or desirable.

Using a CWA-Based Strategy to Address Flow Has Serious Limitations

Addressing hydrologic alteration (or hydromodification) through the CWA is problematic. The CWA, particularly the municipal separate storm sewer system (MS4) portion of the National Pollutant Discharge Elimination System (NPDES) permit program, is not designed to address existing conditions that are the result of past development. Specifically, the MS4 regulations require communities to address stormwater flows from new development and significant redevelopment. Most urbanized areas are already fully developed, or nearly so, and the majority of that development was in place before federal controls on stormwater were required. These developed areas include impervious surfaces such as roads, parking lots, and structures. These areas lack controls for managing flow or reducing pollutants and continue to alter flow conditions and impact water quality.

Redevelopment is typically addressed using an ad-hoc, opportunistic/need-based approach and is difficult to incorporate into an effective watershed-wide strategy to restore natural flow. In urban areas, using post-construction programs to remedy flow alteration will address only the final development projects covering a small portion of a watershed. In addition, managing flow on-site on this relatively small number of parcels leaves the past impacts of hydromodification in place. Restoring “natural flow” to deeply incised channels flanked by invasive vegetation will likely not protect aquatic life. By failing to address the impacts of existing development, this approach will result, at best, in insignificant protection of aquatic life from the historical effects of hydromodification.

To be clear, NACWA supports reducing stormwater runoff through on-site retention practices where appropriate and feasible – indeed, many NACWA members are already utilizing this approach in their own communities. But at the same time, rather than attempting to produce results solely by mimicking natural flow on the last few developments in a basin, some NACWA members, including Clean Water Services in Hillsboro, Oregon, are working to address hydromodification through an integrated, watershed-based approach. Clean Water Services is providing details on the approach it uses in separate comments. Such approaches are successfully addressing hydromodification. Forcing an approach that requires upland flow controls on all new development in an effort to produce “natural flow” from a small number of parcels can divert resources from successful approaches like this. The effects of past hydromodification will remain, and the many benefits of stream restoration will be lost.

Draft Report Conflicts with Key Western Water Issues

The *Draft Report* largely ignores key western water issues. The policy discussions in the document fail to discuss the interplay among CWA protections and existing water rights that have been in place for decades. The document does not acknowledge that existing water rights agreements could have significant impacts on flow and may directly conflict with the *Draft Report's* objective of restoring the natural flow regime. The CWA expressly limits EPA's authority to impair state control over water quantity. Specifically:

It 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. (33 USC 1251 (g), Authority of States over water).

The *Draft Report* also does not consider the positive aspects of additional flow in ephemeral or low-flow streams. In fact, the document suggests that effluent dominated streams may have negative impacts on aquatic life. The *Draft Report* states that in "many arid environments, streamflow during dry seasons is composed almost entirely of treated effluent from wastewater-treatment facilities (Brooks and others, 2006). These inputs can cause a change in the stability of natural systems by artificially raising the water level during low-flow periods" (pp. 27-28). This runs counter to most western water values where effluent dominated streams are seen as bringing recreational and other benefits to a community.

NACWA recommends that EPA better recognize the net environmental benefits that may result from the addition of treated effluent to naturally ephemeral or low-flow streams. For example, perennial water flows resulting from point source discharges may create habitat for aquatic life that would not be there naturally. Also, the discharge of treated effluent in flow-limited water bodies may provide dilution for naturally occurring pollutants that can impact aquatic life, such as selenium.

Protection From Climate Change Should Not Be Used as a Rationale for Flow Requirements

Climate change is cited by the *Draft Report* as a source of alteration:

Today's water-resource managers face a universal challenge: balancing the needs of a growing human population with the protection of natural hydrologic regimes to support aquatic life, ecosystem health, and services of crucial importance to society (Annear and others, 2004; Postel and Richter, 2003). Further complicating this challenge are expected changes to historic hydrologic conditions as a result of climate change, which add complexity to the task of estimating acceptable levels of hydrologic variation (Milly and others, 2008). (p. 10)

The tone of the text suggests that the CWA be used as a tool to manage stream flows to counteract the effects of climate change. The *Draft Report* states that:

Adaptive capacity, or the ability of a stream ecosystem to withstand climate-driven stresses, may be seen in rivers whose flow patterns more closely resemble the natural flow regime. These rivers may be buffered from the harmful effects of climate-related disturbances on aquatic life (Palmer, 2009; Pittock and Finlayson, 2011). (p. 31)

This text suggests that the proposed solution to climate change is to restore the flow regime to protect the uses that existed before there were any recognized impacts from climate change. This is an unrealistic and unreasonable approach, even for addressing anthropogenic-influenced changes in the climate. While focused on flow, the document's tone suggests that other extreme measures, like chilling a stream to restore a pre-climate change temperature condition, should be considered. Under the *Draft Report's* logic, these type of measures would be necessary to protect existing uses and compensate for the change in temperature as a result of climate change.

Here again, the *Draft Report* fails to strike a balance between restoring pristine, pre-development and pre-climate change flows and the reality in which we currently operate where returning to these reference conditions is in some cases not possible. EPA and USGS should be looking for approaches that help to improve the resiliency of streams to these changing conditions. Restoring a reference condition does not guarantee a resilient waterbody.

Policy, Legal Discussions in Section 5 Not Appropriate for a “Technical” Report

Section 5 of the document contains an extensive policy and legal discussion on the ways flow/water quantity can be addressed using current authorities. This policy/legal discussion is not appropriate for what is being billed as a “technical” report. If the true intent of EPA/USGS is for this document to be solely a technical document, NACWA requests that the entirety of Section 5 be removed from the final report. If Section 5 remains in the final report, NACWA requests that the document not be referred to as a “technical” report and that it go through a more significant review process before finalization with the acknowledgement from EPA/USGS that it contains significant policy discussions.

The *Draft Report* states “CWA case law has affirmed that the distinction between water quantity and water quality is artificial and that sufficient water quantity may be necessary in order to protect designated uses and meet anti degradation requirements” (p. 40). While sufficient water quantity may be necessary in order to protect designated uses, making such a blanket statement about case law – while only citing one example – is not appropriate.

The analysis of and reliance on the U.S. Supreme Court case *Public Utility District No.1 of Jefferson County v. Washington Dept. of Ecology*, 511 U.S. 700 (1994), goes beyond the holding in the case and misapplies it to other settings. The Court's holding in the case is actually quite narrow: “...the State may include minimum stream flow requirements in a certification issued pursuant to §401 of the Clean Water Act insofar as necessary to enforce a designated use contained in a state water quality standard.” 511 U.S. at 723. The *Draft Report* discusses the case immediately before describing those CWA programs that it suggests should consider flow alteration. While the document stops short of stating that flow can be regulated through the NPDES permitting and total maximum daily load (TMDL) programs, this juxtaposition implies that the case somehow supports broader consideration of flow beyond Section 401.

Public Utility District No. 1 does not provide any support for using the NPDES or TMDL program to regulate flow. To the contrary, case law emphasizes the Agency's limits in this area, which should be clearly represented in the *Draft Report*.

Specifically, in *Virginia Dept. of Transportation v. United States EPA*, Civ. No. 1:12-CV-775, 2013 WL 53741, *5 (E. D. Va. Jan. 3, 2013), the only federal court decision to have directly addressed the question of whether flow could be regulated as a pollutant under the CWA, the court resoundingly answered this question in the negative:

The language of § 1313(d)(1)(C) is clear. EPA is authorized to set TMDLs to regulate pollutants, and pollutants are carefully defined. Stormwater runoff is not a pollutant, so EPA is not authorized to regulate it via TMDL. Claiming that the stormwater maximum load is a surrogate for sediment, which is a pollutant and therefore regulable, does not bring stormwater within the ambit of EPA's TMDL authority. Whatever reason EPA has for thinking that a stormwater flow rate TMDL is a better way of limiting sediment load than a sediment load TMDL, EPA cannot be allowed to exceed its clearly limited statutory authority.

EPA chose not to appeal the decision, potentially in part to avoid further negative precedent from a federal appeals court. While some may take the position that the legal question of regulating flow under the CWA is still open for debate given that only one federal district court has weighed in on the issue, it is imperative that EPA/USGS acknowledge the existing negative case law on this question if Section 5 remains in the final document.

The *Draft Report* notes that streamflow data are used to calculate pollutant discharge limits in NPDES permits, that the most current streamflow data should be used, and that changes in flow may warrant changes in effluent limits. These are all valid and appropriate uses of flow in the permitting context. However, as careful as EPA and USGS have been in crafting the language, the discussion creates the false impression for some readers that regulating flow for the protection of aquatic life is a legitimate approach. These processes use data on existing flow conditions to set protective effluent limits based on anticipated flow. They are not opportunities to control flow alteration and the text should clearly reflect this limitation.

Stormwater Discussion Mischaracterizes MS4 Regulations

The *Draft Report's* description of the MS4 program mischaracterizes EPA's regulations. The second sentence of the last paragraph on page 60, beginning "MS4 regulations require...", mixes terms from the Phase I and Phase II regulations. In fact, no MS4 regulation includes the requirements quoted. The regulations applicable to MS4s serving communities greater than 100,000 (Phase I communities) are found at 40 CFR 122.26. Specifically, 40 CFR 122.26(d)(2)(iv) requires Phase I permit applicants to submit a proposed management program containing prescribed elements. One of those elements is a description of structural and source control measures to reduce pollutants in runoff from commercial and residential areas. This program must include maintenance, planning to include controls to reduce the discharge of pollutants from areas of new development and redevelopment, street operation, assessment of flood management projects, monitoring pollutants from municipal waste facilities, and municipal use of pesticides. Other than this, there is no regulatory requirement for post-construction programs for Phase I MS4s.

Regulations regarding the permitting of Phase II communities are found at 40 CFR 122.34, which requires development, implementation, and enforcement of a stormwater management program including six minimum control measures. One of these control measures is post-construction stormwater management in new development and redevelopment. This program must prevent or minimize water quality impacts through best management practices and ordinances.

Subsection 5.6 of the *Draft Report* takes parts of the Phase I and Phase II regulations and combines them into a regulation that does not exist. Although EPA's *MS4 Permit Improvement Guide*, EPA 833-R-10-001 (April 2010), notes that permit writers may find the Phase II minimum control measures helpful for writing Phase I MS4 permits, there is no regulation that applies the Phase II six minimum control measures to Phase I permits. The discussion of MS4 permit requirements should be either revised or deleted from the *Draft Report*.

Throughout the discussion of stormwater in the document, it should be stressed that the federal statutory requirements in permits for discharges from MS4s are subject to the requirement to "reduce the discharge of pollutants to the maximum extent practicable" (MEP), not compliance with water quality standards or criteria. See *Defenders of Wildlife v. Browner*, 191 F.3d 1159 (9th Cir. 1999).

State Water Quality Criteria for Flow

Subsection 5.1 discusses the development of narrative flow criteria in state water quality standards. The *Draft Report* notes that the "goals and provisions of the CWA and corresponding EPA regulations provide for states to adopt narrative and (or) numeric chemical-specific criteria, as well as criteria that address the physical and biological integrity of the Nation's waters (see CWA sections 101 and 303(c); see also Title 40 of the Code of Federal Regulations (40 CFR) part 131.11(b))" (p. 42). The *Draft Report* then presents examples of existing narrative flow criteria from several states. Here again, while EPA has carefully crafted the language of this document, it fails to note that water quality standards are not directly enforceable and must be implemented through one of the other programs EPA discusses. With the exception of CWA Section 401 water quality certifications, flow cannot be regulated by these other programs, making the discussion of flow criteria confusing and not relevant for most of the document.

The *Draft Report* fails to point out that, with the exception of Vermont's criteria and possibly Tennessee's, the example state criteria listed in the document are appropriately focused on not impairing uses instead of restoring conditions to the natural flow regime. In an effort to drive states in the direction it prefers, EPA points out that it does not think any of the criteria go far enough. It states that "although the narrative examples in Table 1 may be useful tools to help states make informed decisions about their water resources, they do not explicitly describe the specific components of the natural flow regime (that is, magnitude, duration, frequency, rate of change, and timing) to be maintained to protect aquatic life uses" (p. 46).

The *Draft Report* also includes a statement that "EPA recently reiterated that WQS (designated uses and criteria) must ensure attainment and maintenance of downstream WQS, including the hydrologic condition (U.S. Environmental Protection Agency, 2014d)" (p. 46). While EPA believes this has been its longstanding position on the issue, the citation refers to a Frequently Asked Questions document that was never subjected to public review and comment.

For completeness, subsection 5.1 should address the attainability of designated uses. Even the so-called "101(a)(2) uses" (protection and propagation of fish, shellfish and wildlife, and recreation in and on the water) may be removed upon a showing that the use is not attainable. The basis for finding that attainability is not feasible includes low flow conditions and hydrologic modifications (131.10(g)). Since urbanized areas typically do not have natural flow and cannot be feasibly returned to natural conditions, it is possible that designated uses of protecting aquatic life, supported by "natural flow" criteria, would be found unattainable.

TMDL Program

Subsection 5.2 (Monitoring, Assessing, and Identifying Waters Impaired as a Result of Flow Alteration) contains a significant misstatement regarding the identification of impaired waters under section 303(d). The *Draft Report* states that under 303(d), states identify and report “...those waters that have impairments from pollution...” and goes on to quote the CWA definition of “pollution”. In actuality, the CWA at 1313(d)(1)(A) (303(d) TMDL provisions) requires each state to “identify those waters within its boundaries for which the effluent limits required by section 1311(b)(1)(A) and section 1311(b)(1)(B) of this title [technology-based effluent limits] are not stringent enough to implement any water quality standard applicable to such waters” (bracketed note added). This standard is very different from the one suggested in the *Draft Report*. Rather than listing waters “impaired from pollution,” states list waters that do not meet established water quality standards because technology-based effluent limits are not stringent enough.

But even with a narrower reading, the discussion of identifying waters impaired by flow alteration is of limited value. Under the statutory scheme, the identification of impaired waters is the first step in a management process, to be followed by development of TMDLs for impaired waters and water-quality based effluent limitations in permits. However, since flow is not a pollutant, TMDLs may not be established for flow and flow cannot be used as a surrogate for pollutants in a TMDL. *Virginia Dept. of Transportation v. United States EPA*, 2013 WL 53741, at 5.

EPA explains the relevance of the TMDL discussion by citing the *Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act*, U.S. EPA, July 29, 2005, which suggests that monitoring should be done on such waters to determine whether there are associated pollutants and to support unspecified “water quality management actions necessary to address the cause(s) of the impairment.” *Id.* at 56. But this discussion of flow, and the fact that flow is considered in calculating TMDLs for pollutants, should not be used to imply that flow can be somehow incorporated into a TMDL.

NACWA thanks EPA and USGS for the opportunity to comment on the *Draft Report*. Please contact me at 202/833-9106 or chornback@nacwa.org should you have any questions about our comments.

Sincerely,



Chris Hornback
Chief Technical Officer

cc: Jonathan Kennen, USGS