



November 6, 2013

U.S. Environmental Protection Agency
Office of Environmental Information Docket
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Docket ID No. EPA-HQ-OA-2013-0582
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Comments on the U.S. EPA Draft Report: *Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence* (September 2013) (EPA-HQ-OA-2013-0582)

Dear Science Advisory Board Panel:

The Waters Advocacy Coalition (“WAC” or “Coalition”) submits the following comments and technical review on the U.S. Environmental Protection Agency’s (“EPA’s”) draft report, *Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence* (Sept. 2013) (“Synthesis Report”). The Coalition represents a large cross-section of the nation’s construction, housing, mining, agriculture, manufacturing, and energy sectors, all of which are vital to a thriving national economy, including providing much-needed jobs. Projects and operations in these sectors are regulated in one manner or another by the numerous sections of the Clean Water Act (“CWA” or “Act”)—402, 404, 401, 303, and others. Because EPA has used the Synthesis Report to prepare a proposed rule on CWA jurisdiction,¹ the report and EPA’s reliance on the report are critically important to Coalition members and the regulated businesses it represents.

¹ On September 17, 2013, EPA and the U.S. Army Corps of Engineers sent a proposed rule on CWA jurisdiction to the Office of Management and Budget for interagency review that “takes into consideration the current state-of-the-art peer reviewed science reflected in the draft science report.” EPA, Notice Announcing Release of Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence (External Review Draft), <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=238345> (last visited Oct. 23, 2013) (“EPA Release Notice”).

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On September 17, 2013, EPA announced the availa

The Synthesis Report assumes, with little scientific support, that all connections, no matter the kind, size, or frequency should be considered equal.

The Synthesis Report does not account for factors of variability in connectivity, such as climate, stream size, habitat, watershed charac

A. The CWA Regulates Navigable Waters, Not All Waters.

The CWA regulates “navigable waters,” defined as “waters of the United States.” 33 U.S.C. §§ 1344, 1362(7). It does not regulate all waters. The United States Supreme Court has recognized that the term “navigable” must be given effect. *See Solid Waste Agency of N. Cook Cnty. v. U.S. Army Corps of Eng’rs*, 531 U.S. 159, 172 (2001) (“SWANCC”) (“The term ‘navigable’ has at least the import of showing us what Congress had in mind as its authority for enacting the CWA: its traditional jurisdiction over waters that were or had been navigable in fact or which could reasonably be so made.”); *Rapanos v. United States*, 547 U.S. 715, 731 (2006) (“[T]he qualifier ‘navigable’ is not devoid of significance.”). Indeed, Congress did not intend for the CWA to cover all waters. When it enacted the CWA, Congress explicitly “recogniz[ed], preserv[ed], and protect[ed]” the States’ primary authority and responsibility over local land and water resources. 33 U.S.C. § 1251(b). Overreaching interpretations of the CWA “result in a significant impingement of the States’ traditional and primary power over land and water use.” *Rapanos*, 547 U.S. at 738 (quoting *SWANCC*, 531 U.S. at 174).

B. In _____, the Court Rejected the “Any Connection” Standard, and Justice Kennedy Established a “Significant Nexus” Standard.

The U.S. Supreme Court has examined the meaning of the scope of “navigable waters” under the CWA three times. In

terms extends.” 531 U.S. at 173. The *SWANCC* Court found that isolated waters fall outside CWA jurisdiction, even when those waters have an ecological connection (via migratory birds) to navigable waters. *Id.* at 167-68.

Following *SWANCC*, the government asserted that the *SWANCC* decision was limited to isolated waters, and that if a water “connected” to navigable waters, it was not an isolated water and could therefore be regulated as a navigable water under the CWA.⁶ The agencies’ “any connection” theory essentially reached all wet areas, including ditches, drains, desert washes, and ephemeral waters that flow infrequently and are far removed from traditional navigable waters. This approach to jurisdiction was challenged in two consolidated cases, *Rapanos v. United States* and *Carabell v. United States*, in which the Court considered whether the agencies could assert CWA jurisdiction over sites with nearby drains and ditches based on the agencies’ determination that the sites were connected to tributaries of navigable waters. 547 U.S. at 720-721.

The *Rapanos* Court, in a four-Justice plurality opinion authored by Justice Scalia and a separate concurrence by Justice Kennedy, rejected the Corps’s assertion of jurisdiction over the wetlands at issue and rejected the Corps’s broad interpretation that the CWA regulates any non-navigable water with “any connection” to navigable waters. *Id.* at 734 (plurality); *id.* at 781 (Kennedy, J., concurring). The plurality held that the plain language of the CWA “does not authorize this ‘Land is Waters’ approach to federal jurisdiction” and that “[i]n applying the definition to ‘ephemeral streams,’ ‘wet meadows,’ storm sewers and culverts, ‘directional sheet flow during storm events,’ drain tiles, manmade drainage ditches, and dry arroyos in the middle

⁶ See, e.g., Brief for the United States at 31, *Rapanos v. United States*, 547 U.S. 715 (2006) (No. 04-1034); *Rapanos*, 547 U.S. at 780 (Kennedy, J., concurring) (“The Corps’ theory of jurisdiction in these consolidated cases—agency to tributaries, however remote and insubstantial—raises concerns . . .”).

of the desert, the Corps has stretched the term ‘waters of the United States’ beyond parody.” *Id.* at 734 (internal quotations omitted). Rather, the plurality held that the Act “confers jurisdiction over only relatively *permanent* bodies of water.” *Id.*

In his concurrence, Justice Kennedy also criticized the Corps’s standard as too broad because it “leave[s] wide room for regulation of drains, ditches, and streams remote from any navigable-in-fact water and carrying only minor water volumes” *Id.* at 781 (Kennedy, J. concurring). Justice Kennedy established a “significant nexus” standard and explained that “[a]bsent a significant nexus, jurisdiction under the Act is lacking.” *Id.* at 767. Justice Kennedy noted that consideration of “the quantity and regularity of flow” and proximity to traditional navigable waters is important for assessing whether there is a significant nexus. *Id.* at 786. Following the *Rapanos* decision, therefore, identifying which waters have a “significant” nexus is critical.

II. The Draft Synthesis Report Is Scientifically and Technically Flawed.

A. The Report Identifies the Presence of Connections Between Waters, but Does Not Address the “Significance” of These Connections.

As discussed above, following the *Rapanos* decision, identifying which waters have a “significant” nexus is critical to determining CWA jurisdiction. The Synthesis Report, the agencies’ purported scientific basis for determining such a nexus, however, focuses on the ability of science to simply identify the *presence* of connections. As discussed in the attached GEI Technical Comments, demonstrating that an observed or potential physical connectivity can be identified does not provide a basis for concluding to what extent such connections may or may not significantly affect the downstream waters. *See* GEI Technical Comments at 3-4. Merely

Perhaps most importantly, the Synthesis Report totally fails to explain which types of connections or how many connections of what frequency, magnitude, and duration are needed to significantly affect the flow, ecology, and water quality of downstream waters. The Synthesis Report's conclusion that any connection (no matter

C. The Synthesis Report Inappropriately Uses Overly Broad Definitions That Could Sweep in Many Man-Made Features.

Since *Rapanos*, the regulatory status of ditches has been under scrutiny. The Synthesis Report's broad definitions and sweeping conclusions could leave some to think that this report supports a scientific basis to regulate ditches. Yet GEI found no scientific support in the Synthesis Report for such regulation given that its nearly singular focus was on natural features. See GEI Technical Comments at 5-6. *Therefore, it should be made clear that this report does not establish a scientific basis to conclude that federal regulation of ditches is justifiable.* As explained in the GEI Technical Comments, the Synthesis Report includes a broad definition of "stream" and discusses ditches as connecting wetlands and open waters with downstream waters, thereby allowing readers to infer that ditches might be considered a component of the stream network. *Id.* Moreover, the Synthesis Report contains no discussion of how ditches and swales are distinguished from streams. Yet, as the GEI Technical Comments note, there is no discussion in the scientific literature reviewed by the Synthesis Report of ditches and other channelized features being considered streams. *Id.* at 6.

The Synthesis Report's broad definition of stream could be read to include many linear features, such as ditches, canals, and other industrialized features. Because the science on connectivity is limited to natural stream features and does not address or review linear features, the Synthesis Report should clarify that industrialized and man-made features are beyond the scope of the report. *See id.*

III. EPA's Proposed Use of the Synthesis Report and the Agency's Proposed SAB Review Process for the Synthesis Report Are Procedurally Flawed.

A. Rather Than Ask Questions First, Evaluate Relevant Science Second, and Then Prepare a Proposed Rule, the Agencies' Rulemaking Appears To Be Rushed and Does Not Take into Account Scientific and Technical Underpinnings.

The Coalition is concerned that the agencies have co-opted the SAB in a flawed process. EPA has prepared a draft review of the scientific literature on "connectivity" without a focus on the vital questions of "significance" and how the review will interplay with the agencies' proposed rule on the scope of CWA jurisdiction. Furthermore, the agencies have drafted the proposed rule in reliance on the draft Synthesis Report, without waiting for the SAB's review of the report. Sending a proposed rule to OMB for interagency review before the SAB completes its peer review of the Synthesis Report demonstrates that the agencies are not properly taking the science into account and that the outcomes have been pre-determined. Any proper rulemaking should begin with an agency collecting, developing, and then appropriately evaluating all the relevant science. The agency should seek to validate or correct its understanding of the science through conducting independent scientific peer review. Finally, the agency should use what is learned through a vetting process to inform any policy or regulatory decisions.

Instead, EPA has asked the SAB to engage in a post-hoc review of a severely limited portion of the science that will be used to justify a rule that has already been written. EPA's decision to develop a rule based on a scientific report that has not undergone external scientific peer review calls into question the legitimacy of the rulemaking process. EPA should allow the SAB to complete its review, including the public comments on the science that will be reviewed by the SAB panel and will ultimately inform the agencies' rulemaking. Only after this process is

complete, and the report is thoroughly vetted, should the agencies begin to draft a proposed rulemaking that is based on the final, peer-reviewed report.

B. Consistent with the Environmental Research, Development and Demonstration Authorization Act (“ERDDAA”), SAB Review Should Include Review of the Draft Rule.

We understand that EPA has not provided the SAB panel with the proposed rule or any briefing on the proposed rule’s contents. If the agencies are intent on pursuing their present course and proceeding with a rule before the Synthesis Report is final, we strongly recommend that, consistent with the SAB’s organic statute, EPA should provide the SAB panel with the proposed rule so the panelists understand the implications of the report. Under ERDDAA, any time a proposed criteria document, standard, limitation, or regulation under the CWA is “provided to any other Federal agency for formal review and comment,” EPA “shall make available to the Board such proposed criteria document, standard, limitation, or regulation, together with relevant scientific and technical information in the possession of [EPA] on which the proposed action is based.” 42 U.S.C. § 4365(c)(1). According to the statute, this enables the Board to provide “its advice and comments on the adequacy of the scientific and technical basis of the proposed criteria document, standard, limitation, or regulation” *Id.* § 4365(c)(2). These ERDDAA procedures are in place to ensure that regulations are founded on sound scientific information.

Without a copy of the draft rule, the SAB’s review of the science presented in the Synthesis Report will have no context and likely will not result in the kind of meaningful information that the agencies and the public need to assess the proposed rule’s scientific underpinnings. For example, there are certain key concepts and terms, such as “stream” and

“wetland,” that are defined and used in the Synthesis Report in a manner that is inconsistent with CWA regulatory definitions. The Synthesis Report, for instance, uses the Cowardin definition of “wetland,” which allows for an area to be classified as a wetland if it has only one of three characteristics (hydrology, hydrophytes, or hydric soils), rather than the federal regulatory definition which requires an area to exhibit all three characteristics to be classified as a wetland. *See* Synthesis Report at 3-6.⁷ It is inappropriate for the Synthesis Report, which will be used as the scientific basis for the new CWA regulation, to rely on the broader Cowardin definition of “wetland” rather than the narrower federal regulatory concept. Indeed, if the Cowardin definition of wetland were to be adopted into future federal regulation, there would be significant ramifications for the business community, as well as federal agencies charged with implementing the regulations.

In order to avoid confusion and misuse of the SAB’s findings, the SAB must understand how certain Synthesis Report terminology will be interpreted in the regulatory context so that important terms and concepts from the Synthesis Report marry up with the agencies’ existing regulatory framework. Moreover, with an understanding of the context in which the SAB’s findings will be used, the SAB may raise additional issues or questions that should be addressed. For all of these reasons, the SAB should request, and EPA should provide, the proposed rule for inclusion in the SAB’s review.

⁷ *See also* 33 C.F.R. § 328.3(b); 1987 Corps of Engineers Wetlands Delineation Manual at 9 (Jan. 1987), available at <http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf>.

body and downstream water) can be quantified with respect to the health or ecological integrity of the downstream water?

2. What specific metrics can be used to determine if a measured connection (chemical, physical, or biological) significantly influences the health or ecological integrity of a downstream water body?
3. If such quantitative methods and metrics exist, how will “significance” be rigorously defined from a statistical, regulatory, or management perspective? In other words, how will public agencies determine and scientifically defend (with a transparent level of confidence) a determination of significance?

See GEI Technical Comments at 10.

IV. Conclusion

The concerns with the Synthesis Report outlined above, and explained in more detail in the attached GEI Technical Comments, must be addressed before the report can be used as the scientific basis for the agencies’ rulemaking on the scope of CWA jurisdiction.

Thank you for considering these comments and recommendations. If you have any questions, please feel free to contact Deidre G. Duncan, counsel for the Coalition, at (202) 955-1919.

Sincerely,

Agricultural Retailers Association
American Farm Bureau Federation™
American Forest and Paper Association
American Iron and Steel Institute
American Road & Transportation Builders Association
Associated Builders & Contractors, Inc.
Associated General Contractors of America
CropLife America
Edison Electric Institute
Florida Sugar Cane League
Foundation for Environmental and Economic Progress
Independent Petroleum Association of America
Industrial Minerals Association – North America
International Council of Shopping Centers
Irrigation Association

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NAIOP, The Commercial Real Estate Development Association
National Association of Home Builders
National Association of Manufacturers
National Association of REALTORS™
National Association of State Departments of Agriculture
National Cattlemen's Beef Association
National Corn Growers Association
National Council of Farmer Cooperatives
National Milk Producers Federation
National Mining Association
National Multi Housing Council
National Pork Producers Council
National Rural Electric Cooperative Association
National Stone, Sand, and Gravel Association
Portland Cement Association
Public Lands Council
RISE – Responsible Industry for a Sound Environment®
Southern Crop Production Association
The Fertilizer Institute
Treated Wood Council
United Egg Producers

Geotechnical
Environmental
Water Resources
Ecological





such a link is clearly evident in the scientific literature. Because the significance of these connections is truly what is needed to apply these concepts in a regulatory context, the Synthesis Report asks entirely the wrong scientific question, and so is of little practical value.

The Synthesis Report falls short of addressing whether the substantial variability in connectivity or the specific point at which a stream, wetland, or open water falls on the connectivity isolation gradient has any importance or relevance to the effect of the connection on downstream integrity. The role of isolation is discussed to a limited extent in the Synthesis Report, but a full description of the connectivity isolation gradient is not presented; connectivity alone is the clear focus of this analysis.

The Synthesis Report uses a broad definition of stream that could include many linear features that are not natural stream features but may be considered "connected." Yet, the science on connectivity does not address or review linear features such as ditches, canals, and other industrialized features. The Report also does not discuss the uncertainty in making distinctions among these features. Therefore, the report should clarify that the science is limited to natural stream features, and, as such, industrialized and man made features are beyond the scope of this report.

The Synthesis Report suggests that aggregation of streams and other waters needs to be considered to understand effects on downstream waters, but no science is presented to support "aggregation" as a relevant concept in connectivity, nor how much or how little aggregation is needed to have a significant effect on downstream waters. In fact, the Synthesis Report only concludes that the importance of aggregation "might be" substantial, so this concept has too little scientific basis to be of practical value.

The Synthesis Report creates new categories for wetlands and open waters – bidirectional and unidirectional – which had not been previously used or established by the scientific literature, and broadly concludes that any wetland or water in a riparian area or floodplain can be considered connected to and having an important effect upon downstream waters. In fact, the term "floodplain" itself is poorly and subjectively defined. [(d.)0003660002IT3 (subject) (b) (5) (d)



This section describes these specific shortcomings of the Synthesis Report in more detail, leading to our conclusion that the science presented in the report is insufficient to support regulatory or policy decisions related to expanding Clean Water Act jurisdiction on the basis of connectivity.

1. *The Synthesis Report does not provide criteria for determining the significance of connectivity on*



The Synthesis Report describes the science measuring physical, chemical, and biological connections, but falls short of explaining which types of connections or how many connections of what frequency, magnitude, and duration are needed to significantly affect the integrity of downstream waters. Consequently, the Synthesis Report provides inadequate support for any subsequent regulatory application that ultimately would rely on identifying some level of significance. The Synthesis Report clearly states that "connectivity is not a fixed characteristic of a system, but rather varies over space and time" [p. 3 31]. The Synthesis Report discusses numerous studies that have evaluated spatial and temporal variation in the "extent, magnitude, timing, and type of hydrologic connectivity" [p. 3 31]. Further, the Synthesis Report describes five key factors that affect physical, chemical, and biological connectivity within river systems: climate, watershed characteristics, spatial distribution patterns, biota, and human activities and alterations. These five factors are said to interact in complex ways to determine "where components of a system fall on the connectivity isolation gradient at a given time" [p. 3 33].

However, despite such statements, the Synthesis Report falls short of addressing whether the substantial variability in connectivity or the specific point at which a stream falls on the connectivity isolation gradient has any importance or relevance on the effect of the connection on downstream integrity. According to the Synthesis Report, simply any connection, no matter how small, is relevant. This answer is not supported by critical scientific analysis, and thus provides little to no value in definin[0TD.0003Tc(point)Tj/TT31Tf2.14210TD2TD0Tn400p[(im)4(p)3.8(o).3(rt)4.6(an)3.8(ce)]T90xte0003Tj



in terms of *significance* of these connections on the downstream waters, and what regionally unique approaches are needed to support any potential regulatory implications of these connections.

3. *The Synthesis Report's definition of stream is overly broad, and it should be clarified that the report does not address the connectivity of man made industrialized features as streams.*

The definition given in the Synthesis Report for a



for it to have an effect by itself, or how many small streams need to be considered in aggregate to have a significant effect on downstream integrity. ...

5. *The Synthesis Report creates new categories for wetlands and open waters and broadly but with limited information concludes that any wetland or water in*



significance influence on downstream integrity. Indeed, even the definition of floodplain itself is highly subjective:

“A level area bordering a stream or river channel that was built by sediment deposition from the stream or river under present climatic conditions and is inundated during moderate to high flow events. Floodplains”



streams, non tidal wetland, and certain open waters." "Connectivity and downstream effects of three categories of waters were considered:

- (1) ephemeral, intermittent, and perennial streams;
- (2) riparian or floodplain wetlands and open waters; and
- (3) wetlands and certain open waters that lack bidirectional hydrologic exchanges with downstream waters.

Nonetheless, it is notable that in the Executive Summary of the Synthesis Report, the specific wording of major conclusions related to the second category extends beyond "riparian or floodplain wetlands and open waters" to



numerous factors that can alter the degree of connectedness, no consideration is given to whether the degree of connectedness is proportional to the significance of the effect on downstream water quality.

Merely documenting the *presence* of connections does not provide the basis for concluding to what extent such connections may or may not be of the sufficient type, breadth, frequency, or magnitude to directly and *significantly* affect the integrity of downstream perennial waters. It is crucial to define this *significance* prior to any conclusion that Clean Water Act jurisdiction needs to apply to upstream waters to protect the integrity of downstream waters. The Synthesis Report presents no such analysis of connectivity significance in this important context.

Science Advisory Board Charge Questions

The Science Advisory Board (SAB) charge questions were of such limited scope that they will do little to direct the Synthesis Report toward a more useful exploration of the science needed to inform policy. As stated previously, given that the *significance* of the connections on downstream waters is of the greatest importance for regulatory purposes, both the Synthesis Report and the SAB charge questions in effect ask the wrong questions. Asking the right question is a central tenet and first step of any rigorous scientific inquiry. The SAB charge questions should be refocused on questions of the significance of connectivity, 3gTD(1s)j/TT31Tf.6230TD0003Tj/TT41Tf.SAB

