

Revised Definition of “Waters of the United States” Response to Comments Document

SECTION 8 – TRIBUTARIES

See the Introduction to this Response to Comments Document for a discussion of the U.S. Environmental Protection Agency and the U.S. Department of the Army’s (hereinafter, the agencies’) comment response process and organization of the eighteen sections.

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8.0 Identifying tributaries and regulating features as tributaries

8.0.1 Definition of tributaries

8.0.1.0 *Comments on whether to define “tributary”*

Many commenters criticized the proposed rule’s approach of not defining the term “tributary” in the rule text and/or requested that the agencies provide a definition of “tributary.” Some commenters argued that leaving “tributary” undefined would result in significant confusion, uncertainty, and vagueness, especially where the application of the principles set forth in the preamble to the proposed rule could substantially expand or limit the scope of jurisdiction. In requesting a definition, some commenters stated that if the agencies will not define “tributary,” then the agencies should not attempt to assert jurisdiction over tributaries. A commenter stated that the agencies’ proposed approach to identifying tributaries would not provide adequate guidance to the regulated community. A commenter supported adoption of a definition of “tributary” so long as the definition allows for the consideration of regionally appropriate factors where the feature is located. Another commenter supported the principles for identifying tributaries set forth in the proposed rule preamble but encouraged the agencies to codify the proposed interpretation in the rule text as part of a definition of “tributary” to provide clarity and predictability. That commenter also stated that where scientific literature documents an important impact of tributaries on the integrity of foundational waters,¹ the agencies should consider establishing tributaries as *per se* jurisdictional. The commenter added that given the extensive discussion about the definition of “tributary” in the rule’s supporting documentation and the extensive documentation of effects of tributaries on foundational waters, the public has had an opportunity to comment on these approaches, and neither will create a “logical outgrowth” legal vulnerability.

A commenter supported the agencies’ proposal to not define “tributary” because they stated that not adopting a singular definition would allow for interpretation by individual and satellite agencies who are more familiar with geographic and historical uses and relevant ecology. One commenter supported the omission of a definition of “tributary,” stating that the term has a longstanding common understanding, including that tributaries can be natural, artificially constructed, or human-altered.

One commenter argued that providing a definition for “tributary” is especially urgent because the agencies proposed to assert jurisdiction over ephemeral waters, making the delineation between a land feature and a tributary essential.

A commenter argued that the agencies must provide a definition of “tributary” given that it is a key regulatory issue. The commenter stated that although they recognize that the agencies’ previous attempts to provide a definition have drawn significant challenges, the prospect of critique is a poor justification for not defining a central term.

¹ In the proposed rule, the term “foundational waters” was used to refer to traditional navigable waters, the territorial seas, and interstate waters. In this response to comments, the agencies will preserve the use of the term “foundational waters” as used by commenters; however, responses will use “traditional navigable waters, the territorial seas, and interstate waters” or “paragraph (a)(1) waters,” as the final rule does not use the term “foundational waters.”

Several commenters contended that the agencies were proposing a definition of “tributary”; two critiqued that definition, while another supported it as an interim measure.

Agencies’ Response: The agencies disagree with those commenters who supported inclusions of a definition of “tributary” in the final rule and those who asserted that not defining “tributary” will lead to confusion or regulatory uncertainty. The agencies agree with those commenters who advocated for not defining “tributary” and instead continuing to identify tributaries consistent with the agencies’ longstanding interpretation and practice. As described further in Final Rule Preamble Section IV.C.4, although the agencies are not promulgating a new definition of “tributary,” the agencies have decades of experience implementing the 1986 regulations (which also did not include a definition of “tributary”) and have concluded that a new regulatory definition of tributary is not required. The agencies have found that their interpretation of tributary is reasonable and implementable, and also provides flexibility for regional implementation, as requested by commenters on the proposed rule.

The agencies have provided further clarity in the final rule preamble by articulating and explaining the agencies’ well-established interpretation and practices for identifying tributaries. In addition, the agencies note that while the first step under this provision of the final rule is to identify whether a water is a tributary under longstanding practice, in contrast to the 1986 regulations, that is not the end of the inquiry. A water must not only be a tributary but must also meet either the relatively permanent standard or the significant nexus standard to be jurisdictional under this provision. These standards provide important limitations that also help define the scope of the tributaries that are jurisdictional under the rule. See Final Rule Preamble section IV.C.4.c for additional discussion of implementation of the paragraph (a)(3) tributaries provision. See Section 8.0.2 below for the agencies’ response to comments requesting that certain tributaries be considered categorically jurisdictional under the final rule.

The agencies disagree with the commenter who asserted that there may be confusion as to whether a feature qualifies as land or as an ephemeral tributary. Final Rule Preamble Section IV.C.4.c describes the agencies’ approach to implementing their interpretation of tributary, including identifying tributaries on the landscape. The Technical Support Document for the Final Rule (TSD) Section III.A provides additional information on identifying tributaries. Final Rule Preamble Section IV.C.7.c.ii explains the agencies’ approach to implementing the exclusion for swales and erosional features, and distinguishes those features from ephemeral tributaries.

The agencies disagree that they are required to provide a definition of “tributary.” The agencies have the discretion to consider defining waters as jurisdictional on a categorical basis where scientifically and legally justified, but also have discretion to adopt a case-specific, fact-based approach to further the objective of the Clean Water Act. Although the agencies are not promulgating a new definition of “tributary,” the agencies have decades of experience implementing the 1986 regulations (which also did not include a definition of “tributary”) and have concluded that a new regulatory definition of tributary is not required. To provide further clarity, the agencies have been careful in the preamble to the

final rule to articulate and explain the agencies’ well-established interpretation and practices for identifying tributaries. See Final Rule Preamble Section IV.A.3.a.

Finally, contrary to several commenters’ assertions, the agencies did not seek to define “tributary” in the proposed rule and do not define it in the final rule. Instead, the agencies articulate and explain their well-established interpretation and practices for identifying tributaries in Final Rule Preamble Section IV.C.4.

8.0.1.1 Comments supporting or opposing previous definitions of “tributary”

Several commenters proposed or opposed specific definitions of “tributary.” A commenter supported including the “understandable and straightforward” definition of “tributary” from the 1986 regulatory text in the final rule. A commenter urged the agencies to adopt the definition of “tributary” from the 2020 Navigable Waters Protection Rule (2020 NWPR), stating that that definition was clear and based on logic. A commenter recommended using the definition of “tributary” from the 2015 Clean Water Rule, which they stated includes “waters that are characterized by the presence of physical indicators of flow—bed and banks and [ordinary high water mark]—and that contribute flow directly or indirectly to a traditional navigable water, an interstate water, or the territorial seas.” Another commenter opposed the definition from the 2015 Clean Water Rule because they asserted it was unworkable and impermissibly vague.

Agencies’ Response: The agencies have considered the commenters’ proposed definitions of “tributary,” but the agencies are not defining “tributary” in the final rule.

The 1986 regulations did not define “tributary.” The final rule retains the tributary provision of the 1986 regulations, updated to reflect consideration of the law, the science, and agency expertise. The final rule also adds an important limitation: while identifying a water as a tributary under the 1986 regulations ended the inquiry, under the final rule, a water must not only be a tributary but must also meet either the relatively permanent standard or the significant nexus standard to be jurisdictional.

Unlike the 1986 regulations, the 2015 Clean Water Rule did define “tributary.” However, as discussed in Final Rule Preamble Section IV.B.1, the agencies have determined that the categorical jurisdictional determinations in the 2015 Clean Water Rule are not the best alternative to meet the policy goals of the agencies: to quickly promulgate a durable rule that retains the protections of the longstanding regulatory framework and avoids harms to important aquatic resources, informed by the best available science and consistent with the agencies’ determination of the statutory limits on the scope of the “waters of the United States,” informed by relevant Supreme Court case law. Accordingly, the final rule does not include the 2015 Clean Water Rule’s definition of “tributary” or the associated categorical jurisdictional determinations. Instead, the final rule establishes jurisdictional limitations based on case-specific application of the relatively permanent standard and the significant nexus standard. See Sections 3.2 and 8.0.2 of the agencies’ response to comments.

The agencies disagree with the commenter who asserted that the agencies should adopt the 2020 NWPR’s definition of “tributary,” which failed to advance the objective of the Clean Water Act and was inconsistent with scientific information about the important effects of many types of tributaries on the integrity of paragraph (a)(1) waters. In addition, the

agencies’ experience implementing the 2020 NWPR demonstrated that the rule was not clear. For instance, the definitions in the 2020 NWPR relied on the definition of a “typical year,” which was challenging to implement and led to arbitrary results. See sections 4.2 and 8.0.3 of the agencies’ response to comments and Final Rule Preamble Section IV.B.3.

8.0.1.2 Types of features that may qualify as tributaries

Some commenters generally agreed with the agencies’ longstanding interpretation of the term “tributary.” Some commenters supported the proposed approach to interpreting tributaries as including natural, human-altered, and human-made waters. Some commenters stated that this inclusive interpretation—as well as the condition that tributaries flow directly or indirectly into a traditional navigable water, interstate water, or the territorial seas—is longstanding, citing the 1986 regulations. Many of the commenters that wrote on this theme asserted that tributaries provide important functions whether they are natural, human-made, or human-altered, and one commenter argued that distinguishing among natural, artificial, and altered tributaries can be difficult in practice.

Multiple commenters who considered the proposed rule to be overly broad, or who contended that it gave too much discretion to the agencies or individual regulators, highlighted that natural, human-altered, and human-made features could all be considered tributaries under the proposed rule.

Multiple commenters noted the relationships between regulating ditches and tributaries.

- Several commenters argued that ditches are not tributaries and should not be regulated as such.
- A commenter stated that “tributary” is defined too broadly and will likely include certain conveyances and ditches.
- A commenter supported ditches being included in the definition of “tributary.” The commenter contended that tidal ditches would be jurisdictional, and a non-tidal ditch would only be considered jurisdictional if: it has a bed and bank, connects directly or indirectly through other tributaries, is a natural stream that has been altered, has been excavated partially in wetlands or other “waters of the United States,” holds at least intermittent flow, or connects two or more jurisdictional “waters of the United States.”
- A commenter asserted that a ditch should be jurisdictional if it can be considered a tributary and not an “other water” described in paragraph (a)(3) of the proposed rule.
- A commenter recommended that the definition of “tributary” be narrowed to exclude ephemeral waters and most ditches. The commenter expressed that a broad definition may create uncertainty and unpredictability and would allow greater protections which may trigger more regulatory requirements.
- A commenter argued that the agencies provide no scientific basis for excluding ephemeral features. The commenter further claimed that the agencies provide no justification for concluding that all tributaries are “waters of the United States” while exempting certain ditches. The commenter expressed that a broad definition may create uncertainty and unpredictability.

One commenter recommended the agencies modify the scope of the tributary category to include only waters that contribute perennial or intermittent flow to paragraph (a)(1) waters. This commenter asserted that the proposed rule would invite expansive federal control with its disregard of features such as volume, duration, and frequency of flow. The commenter stated that the proposed rule is more expansive than the 2020 NWPR regarding tributary protections.

A commenter expressed concern that water supply systems could be encompassed by the proposed interpretation of tributary, since they convey flow to downstream waters.

A commenter stated that the agencies lack justification for differentiating between swales/erosional features and jurisdictional tributaries.

A commenter argued that without a definition, it is unclear whether a feature could be an intrastate stream or a tributary and questioned how the feature would be evaluated, stating that the breadth of the proposed “other waters” category could overlap with the tributary category. Another commenter stated that the proposed rule’s preamble highlights the potential for confusion regarding what counts as a tributary in the absence of a definition. The commenter referenced an example from that preamble in which the agencies note that a lake that “is not a tributary,” but has a “continuous surface connection to a traditional navigable water,” could be regulated under the proposed rule as an “other water.” The commenter questioned why the lake would not be regulated as a relatively permanent tributary. The commenter also asked how, as in another example from the proposed rule preamble, an intermittent stream could have a significant nexus with a foundational water but not be considered a tributary. This commenter asserted that without a definition of “tributary,” it is not possible to answer these questions, leading to confusion for the regulated community.

Another commenter stated that the agencies’ proposed interpretation of “tributary” would not help distinguish between tributaries and point sources.

Agencies’ Response: The agencies agree with the commenters who supported treating natural, human-altered, and human-made waters alike. Those distinctions have no bearing on a tributary’s capacity to carry water (and pollutants) to traditional navigable waters, the territorial seas, or interstate waters and the Clean Water Act, in defining “navigable waters,” does not turn on any such distinctions. See TSD Section III.A. The agencies further agree that it is often difficult to distinguish, as a practical or scientific matter, between natural watercourses and watercourses that are wholly or partly modified or constructed.

As described further in Final Rule Preamble Section IV.C.4, the agencies disagree with commenters who asserted that the agencies’ approach to human-made tributaries is overly broad and expansive. The approach is consistent with the agencies’ decades-long practice and the scientific record, and such tributaries must still meet either the relatively permanent standard or the significant nexus standard to be jurisdictional under the final rule. As discussed in Final Rule Preamble Section IV.A, the agencies conclude that this final rule is consistent with the statutory text, advances the objective of the Clean Water Act, is informed by the scientific record and Supreme Court case law, and appropriately considers the policies of the Act.

The agencies disagree with the commenters who asserted that “tributary” should be defined narrowly to exclude most ditches. As described further in Final Rule Preamble Section IV.C.4, given the extensive human modification of watercourses and hydrologic systems throughout the country, it is often difficult to distinguish, as a practical or scientific matter, between natural watercourses and watercourses that are wholly or partly modified or constructed. For example, tributaries that have been channelized in concrete or otherwise have been modified would still be tributaries for purposes of the final rule so long as they

contribute flow to a traditional navigable water, the territorial seas, or an interstate water, and so long as they are not excluded under paragraph (b) of the final rule. Thus, tributaries can include ditches and canals. See Final Rule Preamble Section IV.C.7 for a discussion of the agencies' rationale for excluding certain ditches excavated wholly in and draining only dry lands and that do not carry a relatively permanent flow of water in the final rule.

For the same reasons the agencies disagree with commenters who asserted that most ditches should not be evaluated as tributaries, the agencies disagree with commenters who asserted that ditches should not be evaluated for jurisdiction under the category for intrastate lakes and ponds, streams, or wetlands that do not meet another jurisdictional category. The agencies have clarified in the final rule that ditches can be evaluated as paragraph (a)(5) waters and are jurisdictional under that category if they meet either the relatively permanent standard or significant nexus standard.

As described further below in section 8.0.2.2 of this document, the agencies also disagree that "tributary" should be defined narrowly to exclude ephemeral features.

Furthermore, the agencies agree with the commenter who asserted that the scope of jurisdiction for tributaries in the final rule will be greater than the scope of jurisdiction for tributaries in the 2020 NWPR, but disagree that the rule should be modified as a result. As described further in Final Rule Preamble Section IV.B.3 and Section 4 of the agencies' response to comments, the agencies have determined that the 2020 NWPR is not a suitable alternative to the final rule. The 2020 NWPR failed to advance the objective of the Clean Water Act, significantly reduced Clean Water Act protections over waters, and was inconsistent with scientific information about the important effects of many types of tributaries on the integrity of paragraph (a)(1) waters.

The agencies acknowledge commenters who expressed concerns regarding water supply systems. Consistent with longstanding practice, water supply systems will be assessed on a case-specific basis to determine if they meet the agencies' interpretation of tributary. If such features qualify as tributaries, they will be assessed under paragraph (a)(3) of the final rule to determine if they meet either the relatively permanent standard or significant nexus standard.

Under the final rule, swales and erosional features (*e.g.*, gullies, small washes) characterized by low volume, infrequent, or short duration flow are not tributaries and are not jurisdictional. See Final Rule Preamble Sections IV.C.4 and IV.C.7 for information on how to distinguish between tributaries, swales, and erosional features.

The agencies disagree with those commenters who asserted that the proposed rule was unclear regarding which water bodies are part of the tributary system. As described further in Final Rule Preamble Section IV.C.4, a tributary for purposes of the final rule includes rivers, streams, lakes, ponds, and impoundments, regardless of their flow regime, that flow directly or indirectly through another water or waters to a traditional navigable water, the territorial seas, or an interstate water. As described in Final Rule Preamble Section IV.C.6, streams, rivers, and other aquatic resources that do not qualify as jurisdictional under paragraphs (a)(1) through (a)(4) of the final rule can be assessed under paragraph (a)(5).

However, the agencies have provided additional clarity in the final rule on identifying aquatic resources on the landscape and determining which of those aquatic resources are part of a tributary network that flows directly or indirectly to a paragraph (a)(1) water.

The agencies disagree with commenters who asserted that the proposed rule was unclear regarding when streams should be assessed as tributaries, and when they should be assessed under the category for intrastate lakes and ponds, streams, or wetlands that do not meet another jurisdictional category. As described in Final Rule Preamble Section IV.C.6, lakes and ponds, streams, or wetlands that do not qualify as jurisdictional under paragraphs (a)(1) through (a)(4) of the final rule can be assessed under paragraph (a)(5) of the final rule.

The agencies acknowledge the commenter who asserted that the agencies' interpretation of tributary would make it difficult to discern whether a feature is a "tributary" as opposed to a "point source." However, the final rule preamble is clear regarding which features qualify as tributaries (see Final Rule Preamble Section IV.C.4.c). The final rule preamble also clarifies that the agencies have historically taken the position that a ditch can be both a "water of the United States," including ditches that are jurisdictional as paragraph (a)(3) tributaries, and a point source. The agencies are maintaining that position in implementing this final rule. See Final Rule Preamble Section IV.C.7 for additional discussion.

8.0.1.3 Comments concerning the use of flow regime and physical indicators to identify tributaries

Some commenters recommended that the definition of "tributary" include:

- Relatively permanent (defined as flowing "for at least three continuous months per year, except during periods of extreme drought or precipitation according to USGS standards"); and
- "[S]tanding or continuously flowing streams, rivers, and lakes having an indistinguishable surface connection to navigable-in-fact waters."

A commenter recommended that the agencies clearly reference volume, duration, and frequency of flow in defining "tributaries." A commenter asserted that waters should be considered tributaries regardless of their flow regime. However, many commenters recommended that jurisdiction of tributaries be tied to flow regime.

- Some of these commenters asserted that the definition should be limited to perennial waters only, with perennial defined as "water which flows continually and is present all seasons of the year."
- A commenter asserted that a flow threshold would be the simplest way of defining a tributary that is clear, capable of consistent application, and ensures that only tributaries of a certain size are captured. This commenter recommended that the agencies authorize a variety of measurement options available to a typical property owner, including those identified by state agencies like the "float method."
- A commenter recommended that tributaries be limited to waters with perennial or intermittent flow directly connected to a traditional navigable water or territorial sea.
- A commenter stated that flow class should not be the sole indicator of a tributary. This commenter suggested that the connection to a foundational water should be the indicator of a tributary.

- A commenter suggested that the definition of tributary include ephemeral, intermittent, and perennial streams that are chemically, physically, and/or biologically connected to downstream waters.
- A commenter stated that the original definitions of “ephemeral,” “perennial,” and “intermittent” that were used during the pre-2015 regulatory regime should be used in the final rule.

Many commenters generally stated that they support inclusion of ephemeral streams in the definition of “waters of the United States,” support the proposed rule’s scientific approach, and/or made general statements that it is important to protect ephemeral waters because of the functions they provide.

A commenter asserted that inclusion of intermittent and ephemeral streams is consistent with decades of the agencies’ interpretation of “waters of the United States” and creates regulatory certainty for the regulated community. This commenter gave an example of their facility that has had permits and programs for over four decades pursuant to jurisdictional coverage over ephemeral and intermittent streams and asserted that any narrowing of jurisdiction would force states to create their own programs and subject the regulated community to new and different regulatory regimes.

Some commenters stated that extending jurisdiction to ephemeral streams would extend jurisdiction beyond the historical or traditional limits of the “waters of the United States” definition, stating that waters that only flow in response to precipitation have been determined to be non-jurisdictional. A few commenters urged the agencies to exercise caution in asserting jurisdiction over ephemeral streams since commenters stated it would have far-reaching impacts on regulated entities as well as agency and state resources. For example, one commenter asserted that regulating some or all ephemeral features would have a clear impact on Arizona’s mining industry, requiring permits in areas where they previously were not required. A commenter asserted that the question is not whether ephemeral streams are important but rather whether they fall within the bounds of federal jurisdiction. A commenter stated that a “tributary” is defined as “a stream or river flowing into a larger stream or river,” which they asserted is a common understanding that does not encompass ephemeral drainages.

A commenter asserted that the agencies did not originally assert jurisdiction over ephemeral water features and gave an overview of relevant regulations and guidance documents issued by the agencies since 1975, which they asserted support a view that coverage of ephemeral features is relatively recent and contrary to precedent. The commenter stated that the agencies asserting jurisdiction over ephemeral features since 2000 is in contradiction to previous practices and has led to abuses, confusion, and inconsistencies among U.S. Army Corps of Engineers (Corps) districts (giving examples of cases where the ordinary high water mark was used in ways that the commenter asserted was inappropriate and contrary to *Justice Kennedy and the plurality opinions*).

A commenter stated that the agencies’ description of ephemeral streams in the proposed rule is indistinguishable from the definition of dry land, since ephemeral streams are always above the water table and only flow in response to precipitation. The commenter also asserted that the dry channels on alluvial fans and bajadas are no different from dry uplands, with no aquatic life or riparian vegetation, and the commenter asserted that they dry up within hours after rain ends.

Several commenters supported the agencies providing examples of non-jurisdictional features. A commenter supported the proposed rule’s inclusion of examples of waters that are generally non-jurisdictional under the pre-2015 regulations and the proposed rule, stating that those examples would

make the Corps' treatment of ephemeral streams more uniform. Another commenter requested that the preamble include examples of situations not likely to trigger federal jurisdiction in the arid West as well as a discussion of the factors considered, noting that some statements in the preamble to the proposed rule could be read to support a broad exercise of jurisdiction over ephemeral features in the arid West. An additional commenter stated that the agencies should provide an illustrative list of swales and erosional features which are clearly not jurisdictional and would not require any additional jurisdictional analysis.

A commenter expressed concern about areas where seasonal spring flow enters a channel that does not have formed bed and bank features; this commenter requested that there be provisions in the tributary category for including spring flow of this type.

A commenter supported a definition of "tributary" that requires at least a bed, bank, and ordinary high water mark (OHWM). A commenter asserted that the definition of OHWM is not helpful and that without a clear definition and application of boundaries, uncertainty will exist, which does not promote water protection. This commenter also stated that the proposed definition of high tide line is unhelpful. Another commenter stated that using a single OHWM indicator is not reasonable because if only one indicator exists then it is not "ordinary." A commenter asserted that the rule does not define what constitutes "ordinary" in OHWM and how that may change over time with climate change, giving the example of a 5-year storm event becoming a 10-year storm event due to a drier future.

Agencies' Response: The agencies acknowledge commenters who requested a definition of "tributary" that incorporates various criteria based on flow regime. However, as discussed in section 8.0.1 above, the agencies are not defining "tributary" in the final rule. The agencies are interpreting "tributary" consistent with longstanding practice under the pre-2015 regulatory regime, as described further in Final Rule Preamble Section IV.C.4. The agencies disagree with the commenter who asserted that the pre-2015 regulatory regime included definitions of "perennial," "intermittent," or "ephemeral" for purposes of identifying "waters of the United States." Definitions were not included in the pre-2015 regulations, nor did the *Rapanos* Guidance include specific definitions for each of these terms.²

The agencies disagree with commenters who asserted that the proposed rule was unclear regarding how to distinguish between ephemeral tributaries and dry land. See Final Rule Preamble Section IV.C.4.c for additional information on how to identify tributaries on the landscape; see Final Rule Preamble Section IV.C.7 for additional information on how to distinguish between tributaries and excluded features on the landscape.

The agencies disagree with commenters who asserted that extending jurisdiction to ephemeral streams would extend jurisdiction beyond the historical or traditional limits of the "waters of the United States" definition. The 1986 rule defined "waters of the United States" to include all tributaries without qualification. Ephemeral streams were jurisdictional under that rule, historically, and such assertions of jurisdiction were upheld by the courts. For example, in *Quivira Mining Co. v. EPA*, 765 F.2d 126, 130 (10th Cir. 1985), the U.S. Court of Appeals for the Tenth Circuit held that the Clean Water Act applied to

² U.S. EPA & U.S. Army Corps of Engineers, Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States & Carabell v. United States* (June 5, 2007)

creeks and arroyos that were connected to streams during intense rainfall. Similarly, the court in *United States v. Phelps Dodge Corp.*, 391 F. Supp. 1181, 1187 (D. Ariz. 1975) stated: “Thus a legal definition of ‘navigable waters’ or ‘waters of the United States’ within the scope of the Act includes any waterway within the United States also including normally dry arroyos through which water may flow, where such water will ultimately end up in public waters such as a river or stream, tributary to a river or stream, lake, reservoir, bay, gulf, sea or ocean either within or adjacent to the United States.” Indeed, Justice Scalia’s opinion in *Rapanos* noted the agencies’ historic interpretation included ephemeral tributaries, as did the courts. *Rapanos v. United States*, 547 U.S. 715, 725, 726-27 (2006) (“*Rapanos*”) (“the Corps interpreted its own regulations to include ‘ephemeral streams’ and ‘drainage ditches’ as ‘tributaries’ that are part of the ‘waters of the United States,’ see 33 CFR § 328.3(a)(5), provided that they have a perceptible ‘ordinary high water mark’ as defined in § 328.3(e). 65 Fed. Reg. 12823 (2000)”); “Even after *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) (“*SWANCC*”), the lower courts have continued to uphold the Corps’ sweeping assertions of jurisdiction over ephemeral channels and drains as ‘tributaries.’” Under the pre-2015 regulatory regime, non-relatively permanent waters, including ephemeral streams, were commonly evaluated under the significant nexus standard to determine if they were jurisdictional. Furthermore, as discussed in Final Rule Preamble Section V.A, the final rule will establish a regime that is generally comparable to current practice and is expected to generate *de minimis* costs and benefits as compared to the pre-2015 regulatory regime that the agencies are currently implementing.

The agencies acknowledge commenters who expressed concern about seasonal spring flow that enters a channel that does not have formed bed and bank features; such features will continue to be evaluated on a case-specific basis to determine if they meet the agencies’ interpretation of tributary.

The agencies acknowledge commenters who requested a definition of “tributary” that incorporates physical indicators such as indicators of an OHWM. However, as discussed in section 8.0.1 above, the agencies are not defining “tributary” in the final rule. The agencies are interpreting “tributary” consistent with longstanding practice under the pre-2015 regulatory regime, as described further in Final Rule Preamble Section IV.C.4. While the agencies are not defining “tributary” based on physical indicators in the final rule, the agencies will utilize the Corps’ well-established definition of an OHWM to assist in identifying tributaries for purposes of the final rule. See Final Rule Preamble Section IV.C.4.c for information on using the OHWM to assist in identifying a water as a tributary for purposes of the final rule. Additionally, as discussed further in Final Rule Preamble Section IV.A, the agencies are not categorically including or excluding streams as jurisdictional based on their flow regime in the final rule.

The agencies disagree that existing guidance as to what constitutes an OHWM is unhelpful. The regulations at 33 CFR sections 328.3(e) and 329.11(a)(1) list the factors to be applied in identifying an OHWM, and RGL 05-05³ further explains these regulations. Delineation of

³ U.S. Army Corps of Engineers. 2005. Regulatory Guidance Letter 05-05, “Ordinary High Water Mark,” available at <https://www.nap.usace.army.mil/Portals/39/docs/regulatory/rgls/rgl05-05.pdf>.

an OHWM in tributaries relies on the identification and interpretation of physical features, including topographic breaks in slope, changes in vegetation characteristics (e.g., destruction of terrestrial vegetation and change in plant community), and changes in sediment characteristics (e.g., sediment sorting and deposition). Field indicators, remote sensing, and mapping information can also help identify an OHWM. The Corps continues to improve regulatory practices across the country through ongoing research and the development of regional and national OHWM delineation procedures, as described further in Section IV.A.ii of the TSD. For example, the Corps has developed field indicators to help field staff identify the OHWM in common stream types in the arid West. Consistent with longstanding practice, the agencies will apply the regulations and use RGL 05-05 and applicable OHWM delineation manuals, as well as take other steps as needed to ensure that the OHWM identification factors are applied consistently nationwide. See *Rapanos* Guidance at 10-11 n.36.

The agencies recognize and agree that climate change will impact the flow of water through tributaries in multiple ways and therefore affect the determination of the OHWM. See Section II.C of the TSD. When the agencies assess whether or not a water is a “water of the United States,” consistent with longstanding practice, they do not assess future conditions based on potential climatic changes. See also Final Rule Preamble Section IV.C.9.c.ii for a discussion of how the agencies can consider a changing climate under the significant nexus standard consistent with the best available science.

The agencies acknowledge commenters who requested additional clarification regarding generally non-jurisdictional features and exclusions in the final rule. See Final Rule Preamble Section IV.C.7 and the agencies’ response to comments Section 15 for additional information on exclusions.

8.0.1.4 Comments concerning jurisdictional tributaries’ relationship with paragraph (a)(3) “other waters”

Some commenters opposed removing tributaries of “other waters” from categorical protection under the Clean Water Act and/or removing the cross-reference to tributaries in the “other waters” category. Several commenters asserted that the proposed rule’s approach of only regulating tributaries to “other waters” that themselves qualified as “other waters” is a departure from the pre-2015 regulatory regime, arbitrary, not supported by science, and/or very difficult to implement. In discussing the proposed rule’s approach for tributaries to paragraph (a)(3) “other waters,” a few commenters requested that the agencies clarify that the final rule will not limit the scope of Clean Water Act protections relative to the pre-2015 regulatory regime. A commenter stated that the proposed approach is at odds with the agencies’ method of assessing tributaries in combination with similarly situated tributaries. This commenter asserted that the proposed approach may result in tributaries to “other waters” losing protection even though they affect the chemical, physical, and biological integrity of downstream “other waters” that are themselves jurisdictional. A commenter stated that the agencies do not estimate how many tributaries are only tributaries to “other waters” or how many of them would themselves be considered “other waters.” As a result, the commenter asserted the impacts of the policy shift are unidentified, and the commenter further asserted that the impacts could be quite significant for ephemeral streams, especially in Arizona.

A commenter supported deleting the reference to “other waters” as a water to which a tributary can connect, contending that the deletion would better reflect the limits on Clean Water Act authority imposed by the Commerce Clause.

A commenter asserted that deleting the cross-reference to “other waters” may reduce confusion about how to determine jurisdictional status of a water that would meet both the tributary and “other waters” regulatory provisions.

Some commenters argued that the agencies should revise the rule to ensure that tributaries to “other waters” are jurisdictional if they have a significant nexus to the receiving “other water.”

Agencies’ Response: The agencies acknowledge the commenters who expressed concern with deleting the cross reference to the category for intrastate lakes and ponds, streams, or wetlands that do not meet another jurisdictional category (i.e., the paragraph (a)(3) “other waters” provision from the 1986 regulations and paragraph (a)(5) in the final rule) as a category of waters to which tributaries may connect. As described further in Final Rule Preamble section IV.C.4, streams that flow to paragraph (a)(5) waters are not excluded in the final rule. Deleting the cross reference to the category for intrastate lakes and ponds, streams, or wetlands that do not meet another jurisdictional category (the (a)(3) “other waters” provision from the 1986 regulations) as a category of waters to which tributaries may connect reflects the agencies’ consideration of the statute as a whole and the jurisdictional concerns and limitations of *SWANCC* and *Rapanos*. The agencies have concluded that a provision that authorizes consideration of jurisdiction over tributaries that meet the relatively permanent or significant nexus standard when assessed based simply on connections to such waters would have too tenuous a connection to paragraph (a)(1) waters. However, in the final rule any such streams that flow to jurisdictional paragraph (a)(5) waters could be assessed themselves under the paragraph (a)(5) waters category to determine if they meet the relatively permanent or significant nexus standard.

The agencies disagree with commenters who asserted that streams flowing into waters that are jurisdictional under the proposed paragraph (a)(3) “other waters” category (i.e., paragraph (a)(5) in the final rule) should be assessed to determine if they have a significant nexus to that receiving water, rather than a paragraph (a)(1) water. Final Rule Preamble Section IV.A describes the agencies’ rationale for including the significant nexus standard in the final rule.

8.0.2 Approaches to regulating features as tributaries

8.0.2.1 *Relatively permanent and significant nexus standards*

Some commenters stated that they generally support the proposed rule’s approach of considering tributaries jurisdictional when they meet either the significant nexus or relatively permanent standards.

- A commenter stated that they support the proposed rule’s approach to tributaries as long as the relatively permanent standard is not applied to tributaries without consideration of their impact on downstream water quality.

- A few commenters expressed support for the way the relatively permanent standard was applied to tributaries in the proposed rule. In particular, one commenter asserted that the proposed rule appropriately rejected the restrictions on Clean Water Act protections for tributaries that were imposed by the 2020 NWPR.
- A commenter stated that they believe tributaries are adequately covered by the proposed rule.
- Another commenter stated that covering tributaries to impoundments and amending the rule to include the relatively permanent and significant nexus standards makes sense.
- A commenter stated that they only support the proposed rule’s approach to tributaries if the agencies intend to continue revisions and consultations going forward.
- A commenter stated that they support protections for tributaries to the extent those protections are grounded in science and a thorough examination of the significant body of research inside and outside the agencies across all relevant fields.

A commenter stated that all tributaries that significantly affect “downstream waters” must be protected under the Act.

A commenter expressed concern about the proposed rule’s combined use of the relatively permanent and significant nexus standards, stating that would allow the agencies to assert jurisdiction over tributaries that remain dry for most of the year. The commenter requested that the agencies instead require that waters satisfy both the relatively permanent and significant nexus standards to be jurisdictional.

A commenter urged the agencies to adopt a standard for identifying tributaries that does not depend on an aggregate analysis of all tributaries in a watershed; includes objective, bright-line standards that will identify tributaries that have a significant nexus to downstream waters; and does not expand the approach from the *Rapanos* Guidance for applying the relatively permanent and significant nexus standards.

A commenter stated that limiting the definition of “tributaries” to include only those that meet the relatively permanent or the significant nexus standard is a departure from the pre-2015 regulatory regime and that the agencies do not give adequate justification for such a departure. Similarly, another commenter stated that once a finding has been made that a tributary has a significant nexus to foundational waters, then the finding should be applied broadly to eliminate the need for repeated tests. The commenter also stated that they do not think findings of “no jurisdiction” should be applied broadly. A few commenters stated that applying the significant nexus standard is ultimately a legal and policy decision.

Many commenters stated that there is no legal or scientific basis for subjecting tributaries to any test (including the relatively permanent standard and the significant nexus standard) to determine their jurisdictional status. Individual commenters argued for tributaries’ inclusion as foundational waters, or claimed:

- The Clean Water Act supports the broadest possible protections for waters;
- This approach is consistent with Justice Kennedy’s opinion in *Rapanos*;
- Science dictates the need for broad protections for all tributaries;

- Tributaries unquestionably have a significant nexus to downstream foundational waters (with some citing the Science Report⁴ or other literature); or
- Tributaries by definition are connected to downstream waters.

Many commenters relied on the scientific literature, the Science Advisory Board (SAB) Report, the Science Report, the 2015 Clean Water Rule preamble, the proposed rule preamble, or the proposed rule technical support document to argue that the functions, values, and extent of tributaries supported categorical protections. A few commenters asserted that the agencies' failure to categorically protect all tributaries is arbitrary, capricious, and contrary to the law.

Another commenter requested that the final rule include some categorical protections for tributaries and recommended that the significant nexus standard should only be used if the tributary does not fit within that categorical protection, such as an ephemeral water; in such circumstances, the commenter suggested that regional considerations should be used to determine jurisdiction.

Some commenters asserted that categorically including tributaries as jurisdictional would eliminate the need for additional work and delays in case-by-case significant nexus determinations.

A commenter supported categorical inclusion of ephemeral and intermittent streams as jurisdictional. The commenter stated that the lack of a state-administered National Pollution Discharge Elimination System (NPDES) program in New Mexico, combined with a regulatory gap for ephemeral (and potentially some intermittent and perennial) waters, would leave traditional navigable waters, and the people who rely on them, vulnerable to water quality degradation and create operational uncertainty, inefficiency, and unwelcome risk for regulated entities.

One tribal commenter expressed concern that their tribe would be disproportionately impacted by environmental pollution and environmental harms generally unless the proposed rule provides for federal Clean Water Act protections over ephemeral and intermittent streams.

Agencies' Response: The final rule defines “waters of the United States” to include tributaries that meet either the relatively permanent standard or the significant nexus standard for the reasons described in Final Rule Preamble Section IV.A. As discussed in that section, the agencies conclude that the final rule is consistent with the statutory text, advances the objective of the Clean Water Act, is informed by the scientific record and Supreme Court case law, and appropriately considers the policies of the Act. See also the agencies' response to comments in Section 2 for a detailed discussion of legal issues raised in comments on the proposed rule.

The agencies have concluded that it is the significant nexus standard that advances the objective of the Clean Water Act because it is linked to effects on the water quality of paragraph (a)(1) waters while also establishing an appropriate limitation on the scope of jurisdiction by requiring that those effects be significant. The relatively permanent standard is administratively useful as it more readily identifies a subset of waters that will

⁴ U.S. Environmental Protection Agency. 2015. Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence (Final Report). EPA/600/R-14/475F. U.S. Environmental Protection Agency, Washington, D.C. (“Science Report”).

virtually always significantly affect paragraph (a)(1) waters, but, on its own, the standard is inconsistent with the text of the statute and Supreme Court precedent and is insufficient to advance the objective of the Clean Water Act. The final rule’s utilization of both the relatively permanent standard and the significant nexus standard thus gives effect to the Clean Water Act’s broad terms and environmentally protective aim as well as its limitations. See Final Rule Preamble Section IV.A.3.

The agencies disagree with commenters who asserted that tributaries should be required to meet both the relatively permanent and significant nexus standards. The relatively permanent standard will generally require less assessment and thus can result in administrative efficiencies. Standing alone as the sole test for Clean Water Act jurisdiction, however, the relatively permanent standard is contrary to the statute. As an initial matter, the standard used alone finds no basis in the text of the statute. Rather than a careful consideration of the Clean Water Act’s specialized definitions in light of the objective of the Act, the relatively permanent standard’s apparent exclusion of major categories of waters from the protections of the Clean Water Act, specifically with respect to tributaries that are not relatively permanent and adjacent wetlands that do not have a continuous surface connection to such relatively permanent waters or to paragraph (a)(1) waters, is inconsistent with the Act’s text and objective. In addition, the relatively permanent standard used alone runs counter to the science demonstrating how other categories of waters can affect the integrity of downstream waters, including traditional navigable waters, the territorial seas, and interstate waters. No court has required that both standards be met. See Final Rule Preamble Section IV.A.3 and the agencies’ response to comments in Section 8.0.2.

The agencies disagree with commenters who stated that the final rule’s jurisdictional scope would be inappropriately broad if the agencies asserted jurisdiction over tributaries that meet either the relatively permanent standard or the significant nexus standard. The significant nexus standard is consistent with the plain language of the Act’s objective because it is based upon effects on the water quality of paragraph (a)(1) waters and limits the scope of jurisdiction based on the text of that objective. Moreover, protection of waters that significantly affect the paragraph (a)(1) waters—*i.e.*, traditional navigable waters, the territorial seas, and interstate waters—is consistent with Congress’s authority under the Commerce Clause, as identified by the Supreme Court in *SWANCC*, and with Congress’s intent to fully exercise that authority in enacting the Clean Water Act. See Final Rule Preamble Section IV.A.3.a.i. The subset of waters that meet the relatively permanent standard will virtually always have the requisite connection to traditional navigable waters, the territorial seas, or interstate waters, and therefore properly fall within the Clean Water Act’s scope.

The agencies disagree with commenters who asserted that waters that meet the relatively permanent standard should be examined on a case-specific basis to determine their impacts on downstream water quality because, as described above, relatively permanent waters will virtually always significantly affect paragraph (a)(1) waters.

With respect to commenters who argued that tributaries should be categorically jurisdictional, as explained in section IV.A.3.a.iii of Final Rule Preamble, the agencies have

concluded that adjudication of which tributaries are within Clean Water Act protections, through case-specific application of the significant nexus standard or the relatively permanent standard under the final rule, is appropriate.

The agencies acknowledge commenters who supported further revisions and consultations regarding the tributaries provision. In the preamble to the proposed rule, the agencies stated that they would consider changes through a second rulemaking that they anticipated proposing in the future, which would build upon the foundation of the final rule. The agencies have concluded that the final rule is durable and implementable because it is founded on the familiar framework of the 1986 regulations, fully consistent with the statute, informed by relevant Supreme Court decisions, and reflects the record before the agencies, including consideration of the best available science, as well as the agencies' expertise and experience implementing the pre-2015 regulatory regime. The agencies may consider further refinements in a future rule to address implementation or other issues that may arise.

The agencies disagree with commenters who asserted that a significant nexus determination for a subject tributary should be applied to waters more broadly than just the subject tributary. Based on the rationale described in Final Rule Preamble Section IV.A., the final rule generally restores the longstanding and familiar categories of the 1986 regulations and establishes jurisdictional limitations based on case-specific application of the relatively permanent standard and the significant nexus standard to certain categories of waters in the rule.

The agencies disagree with commenters who asserted that aggregating waters as part of a significant nexus analysis is inappropriate. See Final Rule Preamble Section IV.C.9 and the agencies' response to comments Section 12 for additional information on the significant nexus standard, including the agencies' rationale for aggregating waters as part of the significant nexus analysis for tributaries and adjacent wetlands.

The agencies acknowledge commenters who recommended that the tributaries provision should be grounded in science. See Final Rule Preamble Section IV.A.2.c, which summarizes how the best available science demonstrates that the final rule properly advances the objective of the Clean Water Act; see TSD Section III.A for a scientific discussion of how tributaries have chemical, physical, and biological effects on downstream waters.

The agencies disagree with commenters who asserted that the final rule's approach to tributaries represents an expansion beyond the pre-2015 regulatory regime; rather, the agencies expect that there will be a slight and unquantifiable increase in waters being found to be jurisdictional under the final rule in comparison to the pre-2015 regulatory regime. Indeed, as discussed in Section V.A of the Preamble to the Final Rule, the final rule is generally comparable in scope to the pre-2015 regulatory regime that the agencies are currently implementing.

8.0.2.2 *Scope of jurisdiction*

A few commenters made general statements that the scope of jurisdictional tributaries under the rule should protect the chemical, physical, and biological integrity of the rivers, streams, lakes, and other waters that are tributaries to interstate waters, traditional navigable waters, impoundments, territorial seas, and other “waters of the United States.” Similarly, a commenter asserted that the agencies should protect all tributaries, including ephemeral streams and other non-permanent streams, that form headwaters of large waters or otherwise impact the quality and health of traditional navigable waters.

Some commenters argued that the proposed rule’s interpretation of tributary is overly broad, expansive, or inclusive. A subset of those commenters argued that the approach could result in the number of covered waters increasing, including wetlands, ponds, man-made conveyances and ditches, dry washes, features that are wet for only part of the year, and others. A few commenters asserted that under the proposed rule’s interpretation of tributary, virtually all streams, lakes, and ponds, regardless of size, flow, length, and potential impacts would be subject to federal jurisdiction. A commenter stated that only waters with significant, measurable, and relatively permanent flows and direct hydrological surface connections to navigable waters should be included as “waters of the United States,” asserting that the proposed rule is overly broad and ambiguous.

Another commenter asserted that, given the agencies’ questionable historical record of asserting jurisdiction over tributaries, the proposed rule’s statement that the agencies would rely on their decades of experience in delineating tributaries is not credible. A commenter questioned the credibility of the proposed rule’s statement concerning the agencies’ experience implementing the 1986 regulations, stating that if there were no issues then there would not be so many attempts to define “waters of the United States” and Supreme Court cases. Similarly, another commenter stated that the agencies have a history of attempting to exert increasing jurisdictional claims over tributaries, ditches, ephemeral streams, and washes.

Some commenters expressed concern that a broad approach to defining tributary could result in the agencies exerting significant discretion beyond their statutory authority, which commenters asserted could result in uncertainty and confusion for regulated entities, including farmers and ranchers who have water flowing on their land in response to precipitation. A commenter urged the agencies to set clear guidelines to help landowners, farmers, and permittees understand the limits of jurisdictional authority. A commenter asserted that the approach would erode the Clean Water Act’s traditional exemptions for farming activities and exclusions for agricultural stormwater and irrigation water given that many common land features exhibit a bed, bank, and OHWM that meet the definition of tributary. A commenter stated that agriculture should remain exempt from section 404.

A commenter who asserted the proposed interpretation of tributary was overly broad gave examples of discharges from sanitary sewer systems or spills to dry creeks, sloughs, or washes that could be considered discharges to “waters of the United States” even when there is no potential impact to surface waters. A commenter noted that the agencies can regulate discharges through dry washes regardless of whether they are jurisdictional, since the discharges will eventually reach jurisdictional waters. The commenter gave the examples of discharges to storm sewers, industrial discharges to uplands, and discharges to groundwater as equivalent discharges that the agencies regulate since the pollutants discharged reach “waters of the United States.”

A commenter stated that under the proposed rule, most waters on their tribal reservation would be defined as “waters of the United States,” since most rain that falls in arid regions is not immediately absorbed into the ground but instead runs off and is collected in watercourses; accordingly, the commenter stated that all of the drainage features contribute flow to some navigable water. This commenter asserted that as a result of the proposed rule approach, a single drop of water could be deemed to have cumulative and significant effects on the chemical, physical, and biological integrity of “waters of the United States,” but that this does not justify the regulation of waters that are dry most of the year, which they argued would be beyond the Congressional grant of authority under the Clean Water Act.

A commenter expressed appreciation for the statement that not all streams and wetlands would be jurisdictional under the proposed rule, which they asserted was consistent with *Rapanos*.

Agencies’ Response: In this action, the agencies are finalizing a definition of “waters of the United States” that is within the agencies’ authority under the Clean Water Act; that advances the objective of the Act; that establishes limitations that are consistent with the statutory text, supported by the scientific record, and informed by relevant Supreme Court decisions; and that is both familiar and implementable. See Final Rule Preamble Section IV.A. The final rule defines “waters of the United States” to include tributaries that meet either the relatively permanent standard or the significant nexus standard on a case-specific basis for the reasons described in Final Rule Preamble Section IV.A. See the agencies’ response to comments in Section 8.0.2.1 above for additional discussion on how this regulatory approach will protect the quality of paragraph (a)(1) waters.

The agencies disagree with commenters who asserted that the final rule generally represents an expansion beyond the pre-2015 regulatory regime; rather, the agencies expect that there will be a slight and unquantifiable increase in waters being found to be jurisdictional under the final rule in comparison to the pre-2015 regulatory regime. Indeed, as discussed in Section V.A of the Preamble to the Final Rule, this final rule is generally comparable in scope to the pre-2015 regulatory regime that the agencies are currently implementing. The agencies further disagree that the proposed rule would exceed the agencies’ statutory authority to regulate tributaries under the Clean Water Act. See Final Rule Preamble Section IV.A.

The agencies disagree with commenters who asserted that the proposed rule would return to the 2015 definition of “waters of the United States.” Unlike aspects of the 2015 Clean Water Rule, the final rule is not based on categorical significant nexus determinations. Rather, the final rule generally restores the longstanding and familiar categories of the 1986 regulations and establishes jurisdictional limitations based on case-specific application of the relatively permanent standard and the significant nexus standard to certain categories of waters in the rule. See Final Rule Preamble Section IV.B.1.

The agencies disagree with commenters who asserted that virtually all lakes, ponds, and streams will be jurisdictional under the rule. A water must not only be a tributary but must also meet either the relatively permanent standard or the significant nexus standard to be jurisdictional under paragraph (a)(3) of the final rule. These standards provide important limitations that also help define the scope of the tributaries that are jurisdictional under the

rule. See Final Rule Preamble Section IV.A for the agencies’ rationale for the scope of jurisdictional tributaries under the final rule.

Furthermore, as described in Final Rule Preamble Section IV.C.9, the agencies have more than a decade of experience implementing the significant nexus standard by making determinations of whether a water alone or in combination with similarly situated waters in the region significantly affects the chemical, physical, or biological integrity of a paragraph (a)(1) water. The agencies, under the pre-2015 regulatory regime, routinely conducted case-specific significant nexus analyses and in many cases concluded that there was no significant nexus. Based on the agencies’ experience, many waters under the final rule will not have a significant nexus to paragraph (a)(1) waters, and thus will not be jurisdictional under the Clean Water Act.

The agencies disagree with commenters who asserted that the final rule would erode the Clean Water Act’s statutory exemptions. Since 1977, the Clean Water Act in section 404(f) has exempted activities such as many “normal farming, silviculture, and ranching activities” from section 404 permitting requirements. The final rule does not affect the Act’s statutory exemptions.

The agencies disagree with commenters who asserted that the tributaries provision in the final rule will be difficult to implement, including commenters who questioned the agencies’ relevant experience making determinations of jurisdiction for tributaries. The agencies have extensive experience implementing the pre-2015 regulatory regime, and this experience will assist the agencies in implementing the final rule. Further, while the agencies’ approach to implementation of the relatively permanent and significant nexus standards is broadly consistent with the pre-2015 regulatory regime, the agencies have clarified and refined both the regulatory text and the guidance on how the agencies intend to implement these standards in order to promote consistent Clean Water Act protections for waters. See Final Rule Preamble Sections IV.A, IV.C, and IV.G; for detailed discussion of how the agencies will identify tributaries, see Final Rule Preamble Section IV.C.4.c.

8.0.2.3 Jurisdiction based on flow regime

Some commenters were opposed to the proposed rule’s approach to identifying ephemeral streams as tributaries, stating that the approach is too inclusive. For instance, a commenter stated that the proposed rule would enable the agencies to extend their jurisdiction over most, if not all, of Arizona’s ephemeral streams, significantly affecting electric utilities in the arid Southwest. Another commenter stated that the proposed rule would lead to potentially unlimited jurisdiction and that the agencies should ensure that tributaries do not include ephemeral drainages. Some commenters stated that including ephemeral streams or the flow path of occasional, small channels and streams under Clean Water Act jurisdiction would be a violation of private property rights by the agencies. A commenter stated that ephemeral (and in some cases intermittent) streams have no clear effect on foundational waters, except through the expansive application of the significant nexus standard. Similarly, a commenter stated that while the proposed rule states that ephemeral streams would only be jurisdictional if they meet the significant nexus standard, it is clear from the preamble that the agencies intend that ephemeral waters would always meet the standard. The commenter asserted that this approach would be a significant and unwarranted expansion of federal jurisdiction. A commenter stated that ecological connections cannot support federal regulatory

jurisdiction. Another commenter asserted that the question is not whether ephemeral streams are important but rather whether they fall within the bounds of federal jurisdiction.

One commenter stated that the agencies' proposed approach ignores the volume, duration, and frequency of flow which goes against both opinions in *Rapanos*. Another commenter asserted that based on their review of relevant regulations and guidance documents issued by the agencies, the agencies have only recently begun to assert jurisdiction over ephemeral water features. The commenter stated that the agencies asserting jurisdiction over ephemeral features has led to abuses, confusion, and inconsistencies among Corps districts, and gave examples of cases where the ordinary high water mark was used in ways that the commenter asserted was inappropriate and contrary to *Rapanos*.

Some commenters stated that the functions cited by the agencies as justification for extending jurisdiction to ephemeral streams (including how they serve as transitional areas) are also provided by upland riparian areas or dry land, with one commenter noting that the Science Report attributes flood mitigation functions to upland features. Accordingly, these commenters stated that the functions do not justify including ephemeral streams as "waters of the United States."

Some commenters stated that ephemeral drainages/streams are dry much of the time, arguing that farmers should not expect the agencies to interpret "tributary" to include such areas. A commenter stated that there are thousands of miles of arroyos, ditches, washes, dry streambeds, and ephemeral or intermittent waterbodies that rarely feature water except in response to precipitation and asserted that many of these features are currently non-jurisdictional due to isolation or lack of a significant nexus to traditional navigable waters. The commenter asserted that the proposed rule does not clearly exclude these waters, which they argued will lead to increased costs of water supply, legal challenges, and a rule that is not durable.

Another commenter stated that farmers in Missouri would be stunned to learn that the agencies have always claimed jurisdiction over "remote, dry or intermittent streams, creek beds or other similar water features." The commenter further asserted that most of those features do not carry enough flow for enough time to reasonably fall under federal control. A commenter stated that the arid climate in California means that seasonal rivers and streams often experience only intermittent flows (sometimes only for hours a year in response to rain). The commenter stated that these features and others that are on dry land without a significant nexus to traditional navigable waters should not be defined as jurisdictional. A commenter stated that ephemeral drainages are commonly dry land and that the proposed rule's approach is confusing because it would regulate many additional features.

Some commenters argued that ephemeral streams should not be considered jurisdictional in the arid West and/or Southwest. A commenter asserted that because of their infrequent flows, ephemeral features in the arid West do not have a major role in chemical transformations or biological processes affecting downstream waters, and that these features do not resemble the more steady-flow conditions characterizing the eastern United States. This commenter also asserted that even when the watershed is flooding, biological processes will be limited because flows are discontinuous due to high evapotranspiration and high transmission losses. A commenter asserted that in the arid West, total precipitation is 5 to 12 inches annually, and that most of the drainage flows only in response to infrequent precipitation, stating that the "waters of the United States" should exclude ephemeral streams in the arid West to give clarity and certainty to the small businesses in the region.

Several commenters stated that ephemeral features are common in the western and southwestern United States and precipitation conditions vary dramatically. These commenters expressed concern regarding how ephemeral features will be regulated in the arid West and southwestern United States. One commenter suggested that the agencies provide regional definitions for ephemeral features, using larger traditional navigable waters as geographic boundaries to help clarify and define “waters of the United States” more clearly.

Some commenters argued in favor of a regional approach to managing ephemeral streams to provide a science-based method for incorporating specific ecosystem characteristics critical for understanding the unique impacts of these channels in different areas. For example, a commenter focused on ephemeral tributaries in the Phoenix area, noting that most tributaries there are ephemeral and transport significant amounts of flow during precipitation events. The commenter also stated that the network of ephemeral tributaries has potential to transport pollutants downstream, especially when they are not covered by federal jurisdiction, noting that the state of Arizona does not have a program to cover them. A commenter stated that sediment loads in ephemeral waterways are increasingly significant during precipitation events, with erosion-producing conditions expected to increase due to climate change. This commenter gave examples of clay deposit loads carried by ephemeral streams in the San Pedro River watershed which reduce water quality, reduce groundwater recharge, and increase the intensity of wildfires in the region through the promotion of invasive plant species growth. The commenter asserted that the sediment buildup can only be addressed through preventative protection of ephemeral streams. Another commenter argued that most perennial and intermittent streams in Arizona have already been depleted or impaired by human activities and asserted that the vast majority of surface waters flow only during precipitation events.

Some commenters asserted that in Wyoming ephemeral tributaries do not have important effects on downstream traditional navigable waters, and a few of those commenters asserted that extending jurisdiction to these tributaries would be a reach by the agencies. One commenter asserted that Wyoming’s numerous ephemeral drainages receive less than 12 inches of precipitation per year and have no visible connection to another waterbody downstream.

A commenter asserted that most tributaries in the southwest are intrastate waters, so the proposed approach may result in many waters not being “waters of the United States” in that region. A commenter asserted that the Corps has repeatedly found ephemeral features in arid areas to be non-jurisdictional due to not having a significant nexus to traditional navigable waters (even when some indicators like OHWM are present), providing examples of specific cases.

A few commenters expressed concern that most ephemeral streams would only be considered jurisdictional under the proposed rule if they meet the definition of paragraph (a)(3) “other waters,” but that at the same time the definition of “other waters” includes only intermittent streams in the parenthetical, not ephemeral streams. A commenter requested that the final rule clarify that interpreting this “other waters” approach to exclude ephemeral streams is contrary to the agencies’ intention, the Clean Water Act, and the scientific record, and other commenters requested that the parenthetical be modified to include ephemeral streams.

A few commenters urged the agencies to exercise caution in asserting jurisdiction over ephemeral streams since they asserted it would have far-reaching impacts on regulated entities as well as agency and state resources. A few commenters stated that expanding federal jurisdiction to ephemeral and isolated features

removes focus from the waterbodies that most significantly affect downstream water quality. A commenter stated that leaving the authority over these waters to the states would provide a clearer understanding of jurisdictional versus non-jurisdictional waters.

Several commenters supported a specific exclusion for non-relatively permanent waters. A few commenters stated that dry creek beds through which water flows only during extreme weather events should not be considered “waters of the United States.” These commenters assert that they are not relatively permanent waters, and their nexus to traditionally navigable waters is speculative. One commenter stated that ephemeral features, which only carry water temporarily in response to rainfall, serve as natural drains on agricultural land and should be excluded from the revised “waters of the United States” definition.

A commenter stated that it is unreasonable to impose “waters of the United States” authority over waters that flow less than 90 days per year and do not have visible evidence of a connection to a major waterbody.

A commenter claimed that the inclusion of all tributaries to navigable waters is a significant overreach of the authority granted to the agencies by the Clean Water Act. Some commenters urged that certain features and characteristics should be excluded from the definition of tributary, including:

- Any waters lacking a relatively permanent flow (*e.g.*, dry washes and arroyos);
- Any ephemeral features;
- Waters that go dry for any period of time;
- Waters that flow only in response to precipitation, including snowmelt; and,
- Intermittent waters.

Agencies’ Response: The agencies disagree with commenters who stated that the proposed rule’s approach to ephemeral tributaries, or tributaries that generally flow infrequently, would lead to expanded or overly broad jurisdiction. The agencies further disagree that ephemeral streams would always be jurisdictional under the proposed rule. See section 8.0.2 above for the agencies’ response to comments on the scope of jurisdiction for tributaries. The agencies also disagree that the proposed rule’s approach to regulating tributaries was unclear. As discussed in Final Rule Preamble Section IV.A.4, the agencies are establishing a final rule that is both familiar and implementable.

The agencies disagree with commenters who asserted that the proposed rule’s approach to assessing ephemeral streams would violate private property rights; see the agencies’ response to comments in Section 2.7.3, Section 2.7.4, and Section 2.8.3.

The agencies disagree with commenters who asserted that the proposed approach to tributaries would disregard flow metrics and lead to inconsistency with the *Rapanos* opinions. As discussed in Final Rule Preamble Section IV.C.4.c, although tributaries are required to flow directly or indirectly through another water or waters to certain downstream waters, tributaries are not required to have a specific flow regime to meet the agencies’ interpretation of “tributary.” However, flow characteristics such as duration and timing of flow will be considered in determining whether tributaries meet the relatively permanent or significant nexus standard.

The agencies disagree with commenters who asserted that the functions provided by ephemeral streams do not justify including them as potential “waters of the United States.” The agencies also disagree that ephemeral streams serve the same functions as dry land, or that ephemeral streams have no clear effect on paragraph (a)(1) waters. As discussed in Final Rule Preamble Section IV.A.2.c and Sections III.A.v and III.B of the TSD, there is overwhelming scientific information demonstrating the effects ephemeral streams can have on downstream waters and the effects wetlands can have on downstream waters when they do not have a continuous surface connection. The science is clear that aggregate effects of ephemeral streams “can have substantial consequences on the integrity of the downstream waters” and that the evidence of such downstream effects is “strong and compelling.” Science Report at 6-10, 6-13. EPA’s Science Advisory Board (SAB) review of the draft Science Report explained that ephemeral streams “are no less important to the integrity of the downgradient waters” than perennial or intermittent streams. Letter from SAB to Gina McCarthy, Administrator, EPA (Oct. 17, 2014) (“SAB Review”) at 22-23, 54 fig. 3. Furthermore, the TSD discusses differences between the functions provided by ephemeral streams and upland areas. For example, TSD Section I.A, summarizing the conclusions of the Science Report, states that “longitudinal flows through ephemeral, intermittent, and perennial stream channels are much more efficient for transport of water, materials, and organisms than diffuse overland flows, and areas that concentrate water provide mechanisms for the storage and transformation, as well as transport, of materials.”

The agencies disagree with commenters who asserted that the final rule should exclude ephemeral streams, or that the final rule should specifically exclude features such as arroyos, ditches, washes, dry streambeds, and intermittent waterbodies. The agencies are not categorically including or excluding streams as jurisdictional based on their flow regime in the final rule. Streams that are tributaries, regardless of their flow regime, will be assessed under the relatively permanent standard or significant nexus standard per paragraph (a)(3) of the final rule, and streams that are not tributaries will be assessed under the relatively permanent or significant nexus standard per paragraph (a)(5) of the final rule. See Section III.A of the TSD for more information on the agencies’ rationale for the scope of tributaries covered by the final rule.

The agencies recognize that there are appropriate levels of regional variation in implementation of the regulations; however, the agencies strive for national consistency. The agencies will work to facilitate effective, consistent, and efficient implementation of the final rule once it becomes effective. The clarity and certainty provided in the final rule will result in further consistency, while still allowing for regional variation in implementation that may be necessary based on regional differences in aquatic resources; for example, the OHWM regional manuals, the regional supplements to the wetland delineation manual, or the regional streamflow duration assessment methods, all of which are outside the scope of the final rulemaking but are related resources. In addition, because jurisdictional decisions are made on a case-specific basis, site-specific circumstances such as regional conditions will be considered as appropriate. See also the agencies’ response to comments in Section 18.3. See also the agencies’ response to comments regarding the functions of tributaries in the arid West in Section 8.1.2 below.

The agencies acknowledge commenters’ prior experiences with the evaluation of ephemeral streams under the significant nexus standard. The agencies’ approach to implementation of the relatively permanent and significant nexus standards is broadly consistent with the pre-2015 regulatory regime, but the agencies have clarified and refined both the regulatory text and the guidance on how the agencies intend to implement these standards in order to promote consistent Clean Water Act protections for waters. For additional clarity, the final rule includes a definition of “significantly affect” for purposes of applying the significant nexus standard. See Final Rule Preamble Section IV.C.

The agencies disagree with commenters who expressed concern that ephemeral streams would only be jurisdictional under the paragraph (a)(3) “other waters” provision of the proposed rule. Under the final rule, ephemeral streams can be jurisdictional as tributaries if they meet the terms of tributaries provision of the final rule.

The agencies acknowledge commenter concerns that the language in paragraph (a)(3) of the proposed rule did not explicitly acknowledge ephemeral streams. The agencies modified the language of paragraph (a)(3) from the proposed rule and are codifying a category for such waters under paragraph (a)(5) of the final rule to include intrastate lakes and ponds, streams, and wetlands that do not meet another jurisdictional category. Ephemeral streams that do not meet the agencies’ interpretation of tributary and that are not excluded under paragraph (b) can be assessed under paragraph (a)(5) of the final rule. See Final Rule Preamble Section IV.C.6 for additional discussion on paragraph (a)(5) waters.

The agencies disagree with commenters who asserted that certain tributaries should be excluded due to potential cost concerns. As discussed in Final Rule Preamble Section V.A, the final rule will establish a regime that is generally comparable to current practice, and the final rule is expected generate *de minimis* costs and benefits as compared to the pre-2015 regulatory regime that the agencies are currently implementing.

8.0.2.4 Jurisdiction based on ordinary high water mark (OHWM) and physical indicators

Some commenters supported the use of the OHWM to determine jurisdiction. A commenter recommended retaining the longstanding and familiar pre-2015 regulatory regime of using the OHWM and bed and banks as indicators of flow when determining the jurisdictional status of channels with less than permanent flow. Some commenters asserted that the agencies have not adequately explained the relevance of the OHWM in determining whether a water is a “water of the United States” and stated that the agencies must clarify the requisite physical features and provide sufficient explanation so that states and the public can comment.

A commenter stated that it is important to sequentially apply the criteria for what is considered a jurisdictional tributary in determining the status of drainages with less than permanent flow, asserting that based on longstanding practice it is necessary to determine if a channel has a bed, bank, and OHWM before applying the significant nexus standard.

Other commenters stated that the OHWM should not be a requirement for jurisdiction, with one commenter arguing that an OHWM requirement is not consistent with science regarding how tributaries affect downstream waters and does not have a sound legal basis. Another commenter stated that there is

no legal or scientific basis for excluding tributaries, including those that are ephemeral streams, from Clean Water Act jurisdiction based on the presence or absence of an OHWM, and this limitation must be abandoned by the agencies.

Several commenters argued that not requiring an OHWM would follow the recommendation of the SAB, which has previously advised the agencies that not all tributaries have an OHWM. A commenter characterized the approach of not requiring an OHWM as similar to the 2015 Clean Water Rule approach, which they stated was informed by science.

A commenter asserted that jurisdiction should be limited to tributaries containing clearly discernable physical features. Similarly, another commenter urged the agencies to clearly delineate the limits of federal jurisdiction by identifying clear lines of what is subject to federal regulation, recommending that the final rule clearly define tributaries based on the scientific understanding of channel formation and structure.

A commenter stated that there are Corps districts that assert jurisdiction over all dry channels that display some development of bed and bank, no matter how dry they are most of the year.

Agencies' Response: The agencies acknowledge commenters who requested clarity regarding how indicators of an OHWM will be used to identify tributaries under the final rule. The agencies acknowledge commenters who supported the use of OHWM indicators or other physical indicators in identifying tributaries or identifying jurisdictional tributaries, as well as commenters who discouraged the agencies from including a requirement for OHWM indicators. As described further in Final Rule Preamble Section IV.C.4, the agencies will utilize the Corps' well-established definition of an OHWM to assist in identifying tributaries for purposes of the final rule. The agencies use OHWM to define the lateral limits of jurisdiction in non-tidal "waters of the United States," provided the limits of jurisdiction are not extended by adjacent wetlands. The preamble to the final rule notes that tributaries typically have at least one indicator of an OHWM and, consistent with pre-2015 practice, physical OHWM characteristics are used to identify waterbodies including streams, lakes, ponds, and ditches that are present on the landscape. *See, e.g.,* "Final Notice of Issuance and Modification of Nationwide Permits," 65 FR 12818, 12823-24 (March 9, 2000); 2007 Corps Instructional Guidebook; RGL 05-05 (December 7, 2005). However, waters will be assessed on a case-specific basis to determine if they meet the agencies' interpretation of tributary in the final rule. See Final Rule Preamble Section IV.C.4.c for further discussion of how the agencies will identify tributaries.

The agencies disagree with commenters who asserted that using the physical indicators of OHWM to identify tributaries is inconsistent with the science. See TSD Section III.A for additional discussion on how to identify tributaries based on an OHWM.

The agencies acknowledge commenters who expressed concern that the agencies may assert jurisdiction over tributaries solely based on physical channel features. However, the agencies note the final rule includes a requirement that jurisdictional tributaries must meet either the relatively permanent standard or the significant nexus standard, as described further in Final Rule Preamble Section IV.C.4.

8.0.2.5 *Regulatory uncertainty with proposed approaches*

Many commenters opposed extending the definition of “waters of the United States” to ephemeral streams and/or requested an exclusion for features that are typically dry and flow only in response to precipitation, including ephemeral streams, swales, gullies, rills, and pools. Some commenters asserted that ephemeral features, such as dry creek beds, should be excluded from the “waters of the United States” definition since they are not relatively permanent and do not have a demonstrated significant nexus to traditional navigable waters.

A commenter asserted that ephemeral waters should be regulated as tributaries with appropriate regional considerations through field guidance and general permits. A commenter, citing the Science Report, asserted that the science does not support programmatic exclusion of ephemeral streams, stating that the agencies should not consider such streams non-jurisdictional as a class. A commenter asserted that categorically excluding ephemeral streams would be inconsistent with the goal of the Clean Water Act to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters,” given the scientific literature documenting important effects on the integrity of downstream rivers and other waters.

A few commenters stated that excluding ephemeral waters is consistent with congressional intent and Supreme Court precedent.

Some commenters emphasized that it is crucial that the regulated community know the process by which the agencies will make jurisdictional determinations over tributaries. Some commenters argued that the proposed approach to ephemeral waters would lead to uncertainty for farmers or landowners who would need to either seek a jurisdictional determination or take a chance at being held liable with civil penalties (which the commenters asserted were nearly \$60,000 per day) or even criminal liability (which the commenters asserted could result in jail time and up to \$100,000 per day). Commenters stated that farmers and landowners deserve better clarity on how ephemeral waters will be treated. Another commenter expressed concern that the intermittent or seasonal nature of ephemeral streams and features could create subjective and arbitrary regulatory decisions by the agencies, which could subsequently increase costs.

A commenter characterized the proposed rule’s approach as relying on the discretion of individual regulators and urged the agencies to instead provide regulatory certainty to the farmers who best know the features of their land. A commenter asserted that including ephemeral waters would lead to arbitrary and hard to enforce practices. A commenter stated that vague and unclear descriptions in the rule give too much discretion to the agencies.

A commenter asserted that inclusion of intermittent and ephemeral streams is consistent with decades of the agencies’ interpretation of “waters of the United States” and creates regulatory certainty for the regulated community because any narrowing of jurisdiction would force states to create their own programs and subject the regulated community to new and different regulatory regimes.

A commenter asserted that the agencies would not be able to discern which tributaries are protected under the proposed rule, and as such they cannot determine or demonstrate that their definition is consistent with the Clean Water Act.

A commenter stated that the agencies are “chasing misplaced peripheral issues such as ephemeral and mostly dry streams” while imposing major bureaucratic costs on farmers, ranchers, and water suppliers. This commenter also argued that policies and rules that require mitigation “in-kind” and “in-place” most often result in mitigation banking that is non-functional for aquatic species, and asserted that dry, ephemeral, and intermittent streams typically have little or no impact on water quality or aquatic habitat.

Agencies’ Response: In the final rule, the agencies are exercising their authority to interpret “waters of the United States” to mean the waters defined by the familiar 1986 regulations, with amendments to reflect the agencies’ construction of limitations on the scope of the “waters of the United States” informed by the text of the relevant provisions of the Clean Water Act and the statute as a whole, the scientific record, relevant Supreme Court precedent, and the agencies’ experience and technical expertise after more than 45 years of implementing the longstanding pre-2015 regulations defining “waters of the United States.” The agencies disagree with those commenters who opposed a definition of “waters of the United States” that includes some water features that flow only in direct response to precipitation, and agree with those commenters who noted that ephemeral streams can provide important functions to downstream waters and should not be categorically excluded from jurisdiction.

As described further in Section 8.0.2 above, the agencies disagree that “tributary” should be defined narrowly to exclude ephemeral features. Some ephemeral features can affect the integrity of downstream waters, including traditional navigable waters, the territorial seas, and interstate waters. For example, many tributaries that flow for only a short duration in direct response to precipitation, and thus do not meet the relatively permanent standard, are regular and direct sources of freshwater for the sparse traditional navigable waters in the arid Southwest. See TSD Section III.A for discussion of how ephemeral and intermittent tributaries can provide functions that affect the chemical, physical, or biological integrity of paragraph (a)(1) waters. Under the final rule, swales and erosional features (*e.g.*, gullies, small washes) characterized by low volume, infrequent, or short duration flow are not tributaries and are not jurisdictional. See Final Rule Preamble Sections IV.C.4 and IV.C.7 for information on how to distinguish between tributaries, swales, and erosional features.

For the reasons described above and in Final Rule Preamble Section IV.A, including some ephemeral tributaries in the definition of “waters of the United States” is consistent with Congress’s objective as expressed in section 101(a) of the Clean Water Act. The agencies have concluded that there is no sound basis in the text of the statute to exclude tributaries solely on the basis that they are not relatively permanent, standing or continuously flowing bodies of water from the Clean Water Act. In interpreting the Clean Water Act to be limited in such a manner, the *Rapanos* plurality relied on a strained reading of the Act that is inconsistent with the text of the statute—including the statute’s stated objective—the structure of the statute, the statutory history, and Supreme Court precedent interpreting the Clean Water Act. Final Rule Preamble Section IV.A.3.

The agencies disagree with commenters who asserted that the agencies’ treatment of ephemeral waters will lead to undue uncertainty. The agencies acknowledge that the final rule will result in the need for case-specific analyses for certain jurisdictional determinations, potentially raising some timeliness and consistency issues that the agencies’

rules in 2015 and 2020 were designed, in part, to reduce. However, the agencies have provided more clarity in the final rule by: adding limitations to the scope of the definition to the rule text; adding a definition of “significantly affect” that identifies the functions and factors to be evaluated as part of a significant nexus analysis; adding exclusions to the rule; restructuring and streamlining the 1986 regulations; and drawing on more than a decade of post-*Rapanos* implementation experience to provide additional implementation guidance and resources. See Final Rule Preamble Section IV.A.4 for discussion of the agencies’ finding that the final rule is both familiar and implementable. Through the final rulemaking process, the agencies have considered all timely public comments on the proposed rule, including changes that improve the clarity, implementability, and durability of the definition.

Further, the agencies understand that landowners would like to be able to easily discern whether their property contains any “waters of the United States” such that they may need to apply for a relevant Clean Water Act permit. To that end, the agencies have included a section in the preamble to the final rule that provides additional clarity to landowners on how to know when a Clean Water Act permit is required; this guidance for landowners is available in Final Rule Preamble Section IV.C.10. Additionally, individuals uncertain about the status of waters on their property may obtain a jurisdictional determination from the Corps. See 33 CFR 325.1; Regulatory Guidance Letter 16-01 (2016). See also Final Rule Preamble Section IV.A.4 for discussion of the agencies’ finding that the final rule is both familiar and implementable and Final Rule Preamble Section IV.G for information about implementation tools. For implementation-related issues generally, see Final Rule Preamble Section IV.C. The agencies acknowledge that the Clean Water Act does have enforcement and penalty provisions. See discussion in Section III.C. of the Economic Analysis for the Final Rule.⁵

The agencies disagree with the commenter who stated that the agencies will be unable to identify jurisdictional tributaries under the final rule. The agencies have extensive experience implementing the pre-2015 regulatory regime, as described further in Final Rule Preamble Section IV.A.4, and this experience will assist the agencies in implementing the final rule.

The agencies acknowledge that there are indirect costs—both monetary and temporal—associated with implementation of the final rule. Indeed, there are indirect costs associated with implementation of all prior rules defining “waters of the United States.” As the final rule is very similar in scope to that of pre-2015 practice, there will be *de minimis* new indirect costs associated with the implementation of the final rule. See also the agencies’ response to comments in Section 17. The implementation of mitigation policies is outside the scope of the final rulemaking.

⁵ See also David M. Uhlmann, “Prosecutorial discretion and Environmental Crime Redux: Charging Trends, Aggravating Factors, and Individual Outcome Data for 2005-2014,” 8 Mich. J. Env’tl. & Admin. L. 297, 320 (2019)

8.0.3 Prior regulatory regimes

A commenter supported the pre-2015 regulatory regime as implemented in North Carolina regarding tributaries. A commenter urged the agencies to faithfully apply the pre-2015 regulatory regime under which they asserted that many, if not most, ephemeral features in arid systems were outside Clean Water Act jurisdiction. This commenter requested that the agencies provide examples where ephemeral features in the arid West are not jurisdictional to provide clarity to agency staff and the regulated community.

A commenter asserted that the 2015 Clean Water Rule had the most protective, science-based approach to protecting ephemeral streams by treating them as categorically jurisdictional. A commenter stated that the proposed rule does not include the definitions or protections for ephemeral and intermittent streams that were part of the 2015 Clean Water Rule but asserted that it provides more protection than the 2020 NWPR.

Another commenter asserted that the 2015 Clean Water Rule's definition of a tributary (which included only those waters that have a bed and bank and an additional indicator of OHWM) lacked legal and scientific support. A commenter who was opposed to the 2015 Clean Water Rule asserted that rule increased federal jurisdiction over small bodies of water resulting in outsized impacts in arid regions such as Texas, and that the increased regulatory burden posed by that rule was out of proportion to water protection gains.

A commenter argued that the apparent return to the 2015 definition rather than the 1986 definition would have a significant effect on electric utilities in the arid Southwest.

A few commenters supported the approach to tributaries used in the 2020 NWPR. A commenter asserted that the 2020 NWPR eliminated the uncertainty of the 2015 Clean Water Rule by clarifying that ephemeral tributaries are not jurisdictional, and that the 2020 NWPR provided reasonable boundaries for the agencies and regulated community that could be objectively applied.

Other commenters opposed the 2020 NWPR approach because it omitted protections for ephemeral streams that commenters asserted have important effects on downstream water integrity. Some commenters asserted that the 2020 NWPR ignored scientific evidence and presented serious risks to water quality or was not consistent with the agencies' historical approach and prior determinations, including in arid Western states where protection of tributary waters is important to water quality. A commenter asserted that the 2020 NWPR removed protections for more than 90 percent of waters in New Mexico. A commenter asserted that the 2020 NWPR approach significantly reduced protection of tribal waters. A commenter stated that the 2020 NWPR's approach represented a misreading of *Rapanos* and ignored the scientific evidence showing the crucial ecological and hydrological functions provided by ephemeral and intermittent watercourses in the Southwest, where the commenter asserted they represent at least 80 percent of all watercourses. A commenter stated that the 2020 NWPR treated similarly situated streams differently with no rational justification, in conflict with administrative law. The commenter asserted that, in the 2020 NWPR, the agencies acknowledged that ephemeral streams provide similar hydrological and ecological functions to perennial and intermittent streams, yet categorically excluded them from jurisdiction without justification. The commenter asserted that the approach led to inconsistent results in application, and provided an example of an ephemeral stream in the arid Southwest that has a significant influence on downstream waters but would be left without protections under the 2020 NWPR. Another commenter asserted that the 2020 NWPR ignored tributaries' important connections by inappropriately

excluding ephemeral and some intermittent streams. This commenter, who did not support a case-by-case approach to protecting tributaries, cited stream connectivity and argued that this approach does not properly account for the role of tributaries, which the commenter asserted is demonstrated in the scientific literature.

Many commenters stated that they support the 2020 NWPR approach of excluding ephemeral streams from jurisdiction. A commenter asserted that under the 2020 NWPR approach, regulated entities were better able to protect waters while avoiding unnecessary costs associated with uncertainties under prior regimes. A commenter asserted that the approach of the 2020 NWPR was consistent with Justice Scalia's plurality opinion in *Rapanos*, which the commenter asserted required "waters of the United States" to be relatively permanent. A commenter asserted that the 2020 NWPR definitions aligned with their field experience nationally, in which perennial and intermittent streams have extended periods of predictable and continuous flow, whereas ephemeral streams and ditches only flow in response to precipitation, lack hydric soils, and have vegetation that is indistinct from uplands.

A commenter stated that the proposed rule includes statements that ignore the difference between arid and humid regions and could be misinterpreted to suggest that jurisdiction extends further than the law supports. According to the commenter, such statements in the proposed rule include that the 2020 NWPR excluded ephemeral streams and their adjacent wetlands, which the commenter says incorrectly suggests that the proposed rule would support broader jurisdiction.

A commenter noted that the proposed approach is different from the OHWM approach used in the 2020 NWPR because the 2020 NWPR excluded ephemeral tributaries.

Agencies' Response: The agencies acknowledge the commenter supporting the pre-2015 regulatory regime's definition of "tributary," and note that adopting the pre-2015 regulatory regime unchanged is not a suitable alternative to the final rule for the reasons discussed in Section 3.1.2 of the agencies' response to comments.

In response to the commenter who requested examples of ephemeral features that would likely not be considered jurisdictional, the agencies note that ephemeral features that are not excluded under paragraph (b) will be assessed on a case-specific basis to determine if they are jurisdictional under the final rule. Streams that are tributaries, regardless of their flow regime, will be assessed under the relatively permanent or significant nexus standard per paragraph (a)(3) of the final rule, and streams that are not tributaries will be assessed under the relatively permanent or significant nexus standard per paragraph (a)(5) of the final rule. Determinations regarding the jurisdictional status of any specific water would be outside the scope of the final rulemaking.

In developing the final rule, the agencies thoroughly considered alternatives to the final rule, including the 2015 Clean Water Rule and 2020 NWPR, and have concluded that this final rule best accomplishes the agencies' goals to promulgate a rule that advances the objective of the Clean Water Act, is consistent with Supreme Court decisions, is informed by the best available science, and promptly and durably restores vital protections to the nation's waters. See Final Rule Preamble Section IV.B.1 and Section 3.2 of the agencies' response to comments for the agencies' conclusion that the 2015 Clean Water Rule is not a suitable alternative to the final rule. See Section IV.B.3 of the Preamble to the Final Rule

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and the agencies' response to comments in Section 4 for discussion of the agencies' grounds for concluding that the 2020 NWPR is not a suitable alternative to the final rule.

8.1 Functions and spatial extent of tributaries

8.1.1 Functions of streams

Many commenters expressed support for the importance of tributaries based on the ecosystem functions they provide.

- A commenter asserted that the functions provided by tributaries justify their protection under the definition of “waters of the United States.”
- Many commenters asserted that tributaries (including perennial, ephemeral, and intermittent streams, lakes, ponds, and some ditches) are directly connected to downstream waters and have important roles in the physical, chemical, and biological health of downstream and/or foundational waters.
- A commenter asserted that the beneficial functions of tributaries are provided by waters that are near or far away from the foundational waters; are provided by natural, human-altered, or human-made tributaries; and that they are provided by tributaries that flow underground, through boulder fields, through wetlands, and in places lacking indications of flow for a stretch.
- A few commenters stated that when tributaries are polluted or destroyed, downstream fish, fisheries, and/or ecosystems are compromised.
- A commenter stated that protection and restoration of wetlands and streams is critical to the restoration and protection of the Great Lakes since upstream tributaries exert strong influences downstream and, in the Great Lakes region, half of streams do not flow year-round and are at risk without protection.

A commenter asserted that tributaries can and do affect downstream traditional navigable waters but dry uplands within a downstream water's drainage basin, which “no one would seriously contend” should be classified as “waters of the United States,” perform the same functions cited as bases for regulating tributaries in the proposed rule. According to that commenter, the impact of tributaries on downstream waters is therefore not a justification for including them.

Many commenters made general statements about the importance of functions provided by tributaries including ephemeral, intermittent, and headwater streams, such as:

- Contributing sediments, nutrients, organic matter, and biota to downstream waters and ecosystems (with one commenter comparing a watershed to a funnel where tributaries collect water and other materials across a broad area and deliver them to a concentrated point downstream);
- Providing crucial habitat, breeding, spawning areas, and food for fish and other aquatic organisms which in turn affect food-web dynamics and the functioning of headwater ecosystems (which one commenter argued bolsters local and regional economies);
- Providing critical habitat to plants, insects, crustaceans, fish, and listed threatened and endangered species;
- Maintaining biological productivity downstream;
- Filtering, storing, and degrading harmful pollutants;
- Maintaining water quality downstream including prevention of acidification and erosion;

- Capturing excess nutrient loadings and preventing eutrophication;
- Conveying water into local storage compartments (e.g., shallow aquifers, ponds, stream banks, regional and alluvial aquifers) which buffers downstream water chemistry, provides important sources of water for maintaining baseflow in rivers, and/or is necessary for biological connectivity upstream and downstream;
- Contributing to groundwater recharge (which commenters asserted is a vital source of surface water for downstream rivers);
- Providing recreational opportunities;
- Providing natural flood control and mitigating flood damage to communities and infrastructure; and
- Providing drinking water and irrigation (which a commenter asserted is critical to “treatment train” approaches to controlling nonpoint source pollution).

Some commenters focused on the functions of headwater streams, with some stating that most are ephemeral and intermittent. These commenters asserted that headwater streams perform functions that are critical to the health of downstream waters. In stating their support for reinstating the inclusion of headwater tributaries as jurisdictional, a commenter discussed the issue of hypoxia in the Gulf of Mexico as an example of the cumulative downstream impacts of upstream pollution and nutrient loading. This commenter stated that the hypoxic area impacts fisheries and has major economic and social consequences. The commenter added that pollution in headwater systems can exacerbate harmful algal blooms, causing fish kills and creating toxic water leading to domestic animal and human death and economic damage. A commenter stated that the Clean Water Act is the best available tool to protect headwater areas. A commenter emphasized the importance of tributaries in the context of climate change, stating that ephemeral streams play a critical role in carbon sequestration. That commenter also indicated that small streams break down leaf litter and other organic matter, releasing it to downstream waters during storm events which they asserted is important for downstream animals. Citing the Science Report, some commenters asserted that 50 percent or 60 percent of total mean annual flow to Northeastern U.S. streams and rivers are from first-order streams.

A commenter stated that headwaters that lack defined channels or experience ephemeral or seasonal flow are still important for downstream waters, as demonstrated by EPA’s Science Report. A commenter cited a report by North Carolina’s Department of Natural Resources concluding that the protection of headwater streams and wetlands is essential to protecting downstream water quality.

A commenter cited a 2009 EPA study that stated that intermittent, ephemeral, or headwater streams supply at least part of the public drinking water for at more than 7.3 million California residents. A commenter asserted that 2.4 million people in Missouri get some or all of their drinking water from systems relying on intermittent, ephemeral, or headwater streams. Another commenter cited excess nutrient loading causing algal blooms in the western Lake Erie basin, contaminating the Toledo water system with harmful cyanobacteria, depriving residents of municipal drinking water, and costing millions of dollars of lost tourism and tax revenues for the local economy.

One commenter stated that EPA considers 50 percent of the country’s rivers and streams to be “impaired,” including 25 percent of rivers that serve as drinking water supplies. The commenter further stated that the definition of “waters of the United States” has a significant impact on drinking water and Safe Drinking Water Act compliance. The commenter stated that, especially in the arid West, all water is

drinking water and that the 2020 NWPR exposed more waters to impairment by removing Clean Water Act protections and allowing discharges to the waters. The commenter asserted that this decrease in protections led to contamination of drinking water, especially in communities with limited access to the water, with the result that agencies and water providers have had to do further treatment on those waters to make them safe for drinking, ultimately passing treatment costs on to customers and exacerbating affordability issues.

A commenter emphasized the importance of headwaters to the maintenance and sustainability of aquatic and riparian biodiversity as well as fish stocks in headwaters and larger downstream habitats, citing a 2007 study that estimated headwater streams provided a value of \$15.7 trillion per year in ecosystem services for the conterminous U.S. and Hawaii, and a 2016 study that estimated a value of \$673 billion per year for ecosystem services provided by wetlands outside of floodplains (which the commenter stated are considered headwaters). A commenter stated that headwaters are key to fish stocks in upstream and downstream waters, so if protections were inadequate because of jurisdictional limitations, threatened and endangered species would be harder to recover and more species would be at risk. That commenter asserted that insufficient protections for headwaters would threaten economies that depend on healthy environments, including tribal economies.

A commenter asserted that the science behind the importance of ephemeral streams is sufficient to justify their inclusion as jurisdictional alongside perennial and intermittent streams, especially since field techniques are sufficient to make their identification routine. A few commenters stated that ephemeral streams provide the same ecological and hydrological functions as perennial rivers and streams. Some commenters stated that eliminating protection for some tributaries, including ephemerals, in prior rules has “brought catastrophic impacts to the health of our waters.” Some commenters cited or quoted the Science Report to argue that ephemeral and intermittent streams are vitally important to the health of freshwater ecosystems. Another commenter cited a 2019 scientific study that stated that the loss of legal protections for tributaries would create a cascade of consequences including reduced water quality, impaired ecosystem functioning, and loss of fish habitat for commercial and recreational fish species.

A commenter asserted that the existence of a tributary should not be discounted because it is ephemeral or intermittent, arguing that pollution prevention should be the “operative objective,” consistent with the underlying premise of the Clean Water Act. Extensively citing scientific literature, a commenter stated that summer-dry or winter-wet streams and rivers, including spatially intermittent and temporally ephemeral streams, host unique and diverse biota and respond differently to stressors than permanent streams and rivers. The commenter asserted that this means such streams and rivers must be monitored, assessed, and managed differently from permanent waters.

Some commenters provided more detailed discussions of specific functions that ephemeral streams provide.

- A commenter emphasized the flood control functions of ephemeral streams stating that, because heavy precipitation events are expected to increase, protection of ephemeral streams is critical.
- A commenter emphasized habitat provision for fish, noting that most species require different physical habitats for different life stages, and as such connectivity between intermittent, ephemeral, perennial, and headwater streams is important.
- Another commenter specified that ephemeral streams are important to stormwater management, especially in more urban regions, because they slow down flow via increased stream bed

roughness, woody debris, floodplains, wetlands, and stream meanders. The commenter asserted that engineering stormwater systems usually increases runoff volumes and downstream peak flows.

- A commenter stated that organisms continue to live in the soils exposed when water is not present and argued that allowing contamination of these waterbodies just because they do not have water year-round would allow that contamination to spread into permanent bodies of water through downstream movement, groundwater, or uptake in precipitation.
- A few commenters asserted that ephemeral streams support wildlife, are critical to downstream water quality, and are important to the religious, traditional, and cultural practices of tribes.
- Some commenters emphasized the importance of groundwater recharge, nutrient cycling, sediment retention and transport, pollutant trapping and filtration, and water quality improvements. These commenters asserted that stringent protection for these functions is critical.

A commenter wrote that single images of dry waterways misleadingly imply that these channels do not contribute to downstream waters. Using the example of traffic pattern evaluations, this commenter asserted that it is critical to look at all the data together—across seasons and dry/wet fluctuations—to understand the impact. A commenter claimed that while the contributions of an individual ephemeral stream may be small, the combined effects of an ephemeral stream network are integral to healthy watersheds, as they physically, chemically, and biologically impact downstream waters.

Some commenters emphasized the importance of ephemeral waters to tribes, both functionally (*e.g.*, providing drinking water, pollution protection, and irrigation supply) and as part of cultural practices. A commenter asserted that the exclusion of ephemeral waters would inhibit tribes from exercising authority over waters within their boundaries, which they asserted disproportionately exposes tribes to pollution, contamination, and detrimental health effects (including elevated rates of COVID-19). The commenter emphasized that access to clean water is a fundamental right for all humans.

Some commenters mentioned that ephemeral streams are particularly important due to climate change (including increased storm events and wildfires), changes to seasonal flow patterns (including increased severity of storms), and/or in arid regions. A commenter stated that resilience to climate change and land cover change requires a strong “waters of the United States” rule that acknowledges the connectivity between ephemeral and intermittent streams, wetlands, and downstream surface waters.

A commenter asserted that their regional sewer district has substantially invested in improvements to water quality through wastewater management and asserted that reinstating federal protection of ephemeral streams will improve water quality, protecting watersheds and these investments. The commenter stated that historical stream channelization, culverting, and filling have resulted in increased degradation of downstream waters, stating that the primary drivers of water quality degradation are increased stormwater flows from impervious surfaces and filling of headwater and ephemeral streams. A commenter asserted that if ephemeral and intermittent streams are deemed non-jurisdictional, they would become “sewers” transporting waste down to traditional navigable waters.

A commenter asserted that the proposed rule did not provide sufficient scientific evidence for the connections between intermittent and ephemeral drainages and downstream traditional navigable waters and requested that the rule and associated guidance provide literature-backed criteria for and guidance on how to determine the strength of a connection and its effect on the chemical, physical, and biological

integrity of downstream waters. A commenter asserted that the impacts of tributaries on downstream traditional “waters of the United States” are minimal and that the agencies did not explain how waters that episodically release stored materials have significant or substantial effects on traditional “waters of the United States.”

A commenter argued that uplands also provide the same functions as tributaries including flood control, groundwater recharge, sediment trapping, leaf litter processing, and fertilizer trapping. The commenter stated that in many cases uplands are better than tributaries at providing the functions, including provision of biological diversity, noting that “dry denuded channels do not provide much biodiversity.” The commenter also asserted that uplands or artificial features better achieve reductions in peak flows relative to natural tributaries. The commenter also addressed the volume of water transported, noting that rain mostly falls on uplands, not directly onto tributaries or rivers and is transported downstream by channels such as dry washes (in arid areas) or storm sewers (in urban areas). The commenter asserted that these channels are important to rivers because they provide this function, but that “the importance of dry washes does not make them waters either,” citing the plurality in *Rapanos*. The commenter concluded that all dry uplands affect downstream waters but are not themselves waters, and that the proposed rule’s premise that tributaries can be regulated because they affect downstream waters is wrong and a usurpation of authority.

Agencies’ Response: The agencies agree with commenters who asserted that the scope of jurisdictional tributaries should protect the chemical, physical, and biological integrity of paragraph (a)(1) waters. The agencies recognize the functions that can be provided by streams, including headwater streams, intermittent streams, and ephemeral streams. The agencies are not categorically including or excluding streams as jurisdictional based on their flow regime in the final rule. Streams that are tributaries, regardless of their flow regime, will be assessed under the relatively permanent or significant nexus standard per paragraph (a)(3) of the final rule, and streams that are not tributaries will be assessed under the relatively permanent or significant nexus standard per paragraph (a)(5) of the final rule. See Section III.A of the TSD for more information on the agencies’ rationale for the scope of tributaries covered by the final rule. The agencies recognize the importance of ephemeral waters to tribes. See Section V of the Economic Analysis for additional discussion on the impacts of the proposed rule to tribal communities.

The agencies agree with commenters who asserted that excluding all ephemeral streams, intermittent streams, and/or headwater streams would have negative impacts on the quality of downstream waters, including paragraph (a)(1) waters. See Final Rule Preamble Section IV.B.3 for additional discussion on the negative effects of the 2020 NWPR, which excluded all ephemeral streams regardless of their effects on paragraph (a)(1) waters.

The agencies recognize the many commenters who cited evidence of specific functions of streams. Many of these functions are described in the TSD. The agencies disagree with commenters who asserted that the proposed rule did not provide sufficient scientific evidence to demonstrate the effects intermittent and ephemeral streams can have on paragraph (a)(1) waters. The scientific literature unequivocally demonstrates that streams, individually or cumulatively, exert a strong influence on the chemical, physical, and biological integrity of larger downstream waters, including the paragraph (a)(1) waters. Tributary streams are the dominant source of water in most rivers. In addition to water,

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streams transport sediment, wood, organic matter, nutrients, chemical contaminants, and many of the organisms found in rivers. The scientific literature provides robust evidence that streams are biologically connected to larger downstream waters by the dispersal and migration of aquatic and semiaquatic organisms, including fish, amphibians, plants, microorganisms, and invertebrates, that use both upstream and downstream habitats during one or more stages of their lifecycles, or provide food resources to downstream communities. In addition to material transport and biological connectivity, ephemeral, intermittent, and perennial flows influence fundamental biogeochemical processes by connecting channels and shallow groundwater with other landscape elements. See TSD Sections I and III.A.

The agencies recognize and agree that climate change will impact stream systems. See Section II.C of the TSD. When the agencies assess whether or not a water is a “water of the United States,” consistent with longstanding practice, they do not assess future conditions based on potential climatic changes. See also Final Rule Preamble Section IV.C.9.c.ii for a discussion of how the agencies can consider a changing climate under the significant nexus standard consistent with the best available science.

The agencies acknowledge commenters who referenced the societal and economic impacts of the functions provided by streams, including intermittent and ephemeral streams. As discussed above, the agencies will assess streams on a case-specific basis to determine if they are jurisdictional under the final rule. Ecosystem services that do not influence the chemical, physical, or biological integrity of paragraph (a)(1) waters will not be considered as part of a significant nexus determination. See Final Rule Preamble Section IV.C.9 for additional discussion. See the Economic Analysis for the Final Rule for additional discussion on the social and economic impacts of the final rule.

The agencies recognize the commenter who emphasized the importance of looking at the larger stream network when making jurisdictional determinations. In evaluating tributaries under the significant nexus standard, the agencies will determine whether the tributaries, either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of paragraph (a)(1) waters. The agencies consider tributaries and their adjacent wetlands to be “similarly situated” waters. The agencies consider similarly situated waters to be “in the region” when they lie within the catchment area of the tributary of interest. See Final Rule Preamble Section IV.C.4.c for additional discussion on the agencies’ implementation of the significant nexus standard for tributaries; see Final Rule Preamble Section IV.C.9.c for additional discussion on the definition of “significantly affect” in the final rule, including the factors that will be evaluated and the functions that will be assessed as part of a significant nexus analysis.

The agencies disagree with commenters who asserted that ephemeral streams should be non-jurisdictional under the rule because the functions provided by ephemeral streams are the same as the functions provided by uplands in the watershed. While uplands may perform some of the same functions as do aquatic resources, the agencies find that aquatic resources are fundamentally different from uplands, generally provide more of these functions, and provide these functions more efficiently and effectively than do uplands. The conditions in wetlands and other aquatic resources are different than those in uplands, and

it is those conditions that allow for wetlands and other aquatic resources to efficiently perform myriad functions. The agencies conclude that the science is clear that uplands do not perform all of the functions that wetlands and other aquatic resources provide. The TSD states, for example, that “longitudinal flows through ephemeral, intermittent, and perennial stream channels are much more efficient for transport of water, materials, and organisms than diffuse overland flows, and areas that concentrate water provide mechanisms for the storage and transformation, as well as transport, of materials.”

Regarding the commenter asking for guidance on how to determine the strength of connection between tributaries and downstream waters, Final Rule Preamble Section IV.C.4 provides implementation guidance for identifying jurisdictional tributaries, and the final rule includes factors and functions that will be considered as part of significant nexus evaluations, as described further in Final Rule Preamble Section IV.C.9.

8.1.2 Functions of tributaries in the arid West

Many commenters addressed the science and functions of tributaries in the arid and semi-arid West and Southwest. Some commenters stated that ephemeral streams are particularly important in arid regions, and one commenter explicitly requested that the agencies acknowledge this outsized importance in the rule. A commenter stated residents of the arid Southwest know that even if waters do not flow constantly, they are essential to the integrity of all waterbodies under the jurisdiction of the Clean Water Act. A commenter stated that in arid and semiarid areas, fish may not travel up ephemeral channels to the same degree as in other regions but that the channels nevertheless have a significant influence on fish in downstream rivers because native fish are adapted to the variable flows that these tributaries provide, allowing them to compete against invasive species.

A commenter stated that the Navajo Nation relies on streams that flow seasonally after precipitation events, noting that these waters are culturally significant and are vital headwaters supporting fish and wildlife, contributing water flow and storage, and influencing the chemical, physical, and biological integrity of downstream waters.

A commenter discussed tributaries in Arizona’s northeastern Santa Rita Mountains, which they stated receive 18 to 22 inches of rainfall annually and flow via three streams into washes that drain toward Tucson. The commenter stated that the streams provide critical functions including the creation of riparian zones supporting healthy vegetation, diverse ecology, and erosion control; water supply for springs and tinajas (water holes) which provide water for wildlife; groundwater recharge in the Tucson basin; and recreational opportunities for residents and visitors. This commenter discussed how the Santa Cruz River basin provides water for many commercial and municipal users but warned that additional large users may cause overdraft and water shortages.

A commenter pointed to evidence showing that ephemeral and intermittent streams from the Pajarito Plateau in New Mexico have been demonstrated (through gage stations) to reach the Rio Grande, demonstrating their potential to affect the chemical, physical, and biological integrity of a traditional navigable water. A commenter discussed the distinctive geographic features of northern New Mexico. The commenter described that on the Pajarito Plateau, adjacent to the Jemez Mountains, there is a group of seven watersheds that drain into the Rio Grande basin. The commenter asserted that these watersheds have 78 miles of surface waters, with 10 percent of the miles perennial, 25 percent intermittent, and 65

percent ephemeral. The commenter explained that during snowmelt and monsoon season, these waters carry flows directly to the Rio Grande River, upstream of municipal water intake locations. This commenter also stated that the river sustains habitats for multiple endangered species and resources that are culturally significant to local Pueblo populations.

A commenter asserted that in the arid and semi-arid Southwest, flows from ephemeral tributaries are a major driver of flows in downstream rivers, supplying substantial amounts of water during infrequent but influential flood events. This commenter gave an example of a storm in New Mexico that dropped one-quarter of the area's annual rainfall in two days; the commenter described that during the event, one ephemeral tributary accounted for 76 percent of the flood flow in the Rio Grande. One commenter asserted that in New Mexico, EPA estimated that more than 280,000 people (10 percent of the state) receive drinking water from sources reliant on ephemeral or intermittent streams. Commenters also asserted that 130 species of wildlife rely on these streams for survival including threatened and endangered species.

One commenter asserted that ephemeral desert washes are easily recognizable by their dense corridor of vegetation that is in strong contrast to more sparsely vegetated uplands.

A commenter contended that the science does not support a general assertion of federal jurisdiction over ephemeral features in arid systems, even if it is appropriate in individual cases and requested that the agencies provide a complete picture of the science regarding the hydrology of the arid West.

A commenter stated that the proposed rule includes statements that ignore the difference between arid and humid regions and could be misinterpreted to suggest that jurisdiction extends further than the law supports. According to the commenter, these statements include:

- *Ephemeral streams are physically, chemically, and biologically connected to jurisdictional waters*, which the commenter says could be misunderstood as a justification for regulating arid ephemeral features even when they lack connections to downstream jurisdictional waters;
- *The aggregate effects of ephemeral streams—especially in arid regions—can be substantial*, which the commenter asserted could result in features with no significant nexus being considered jurisdictional due to aggregate or cumulative effects, which the commenter stated is contrary to traditional practice and Supreme Court precedent of analyzing tributaries individually;
- *The 2020 NWPR excluded ephemeral streams and their adjacent wetlands*, which the commenter says incorrectly suggests that the proposed rule would support broader jurisdiction;
- *Ephemeral and intermittent channels have episodic flow*, which the commenter asserted inappropriately suggests that the agencies could find jurisdiction over features based on impacts that occur only after storm events; and,
- *Small streams perform key ecological functions*, which the commenter argued overgeneralizes the impacts and is not true in the arid West.

The commenter urged the agencies to add qualifications to the statements cited, so that they are not misunderstood to support blanket assertions of jurisdiction over ephemeral features.

A commenter provided extensive descriptions of hydrology and ephemeral drainages in the arid southwest, including infrequent rainfall events, high water temperatures, high erodibility of soils which results in extensive cutting during storm events, flashy and abnormal flow characteristics, and the

presence of “losing systems,” in which water is lost to infiltration before traveling far downstream. The commenter asserted that in most instances, dry desert washes lack any relevant physical connection or significant nexus to downstream traditional navigable waters. The commenter also asserted that, due to the flashy nature of flows, ephemeral washes lack any relevant processes that could chemically or biologically impact downstream waters. This commenter extensively quoted the Science Report to argue that there is little potential for biological or physical connectivity between ephemeral washes in the arid southwest and downstream receiving waters.

A commenter stated that there is a low degree of hydrological connectivity between ephemeral drainage networks and traditional navigable waters in the arid West, citing their own technical report, stating that this means that ephemeral features are unlikely to reach traditional navigable waters before being lost to seepage or evaporation. Another commenter asserted that there are also many closed basins where channels do not reach downstream traditional navigable waters, and provided examples and detailed explanations of such occurrences.

Agencies’ Response: The agencies acknowledge commenters who discussed the unique hydrology and climate conditions in the arid West and Southwest, including commenters who asserted that general statements in the proposed rule may not apply to arid regions. The agencies recognize that streamflow regimes differ across the country. For example, the agencies acknowledged in the proposed rule preamble that the arid West contains a high proportion of streams that do not flow year-round. However, the agencies disagree with commenters who asserted that such ephemeral and/or intermittent streams in arid regions should be categorically non-jurisdictional. The agencies agree that streams can provide many important functions for paragraph (a)(1) waters. Indeed, the functions that streams provide to benefit downstream waters occur even when streams flow less frequently, as discussed further in Final Rule Preamble Section IV.A. As described in Final Rule Preamble Section IV.C.4, the agencies are not categorically including or excluding streams as jurisdictional based on their flow regime in the final rule. Streams that are tributaries, regardless of their flow regime, will be assessed under the relatively permanent or significant nexus standard per paragraph (a)(3) of the final rule, and streams that are not tributaries will be assessed under the relatively permanent or significant nexus standard per paragraph (a)(5) of the final rule. See Section III.A of the TSD for more information on the agencies’ rationale for the scope of tributaries covered by the final rule. The agencies have found that categorically excluding ephemeral waters, as in the 2020 NWPR, is inconsistent with the objective of the Clean Water Act, as discussed further in Final Rule Preamble Section IV.B.3. The agencies disagree with commenters who asserted that it is inappropriate to aggregate tributaries as part of a significant nexus analysis for the reasons set forth in Final Rule Preamble Section IV.C.9.c.

The agencies have considered public comments regarding regional approaches and regional variations. The agencies received many helpful comments on the proposed rule that resulted in refinement of the final rule to provide further clarity and certainty to the regulated public. The initial phase of implementing the rule will require education and training for agency staff as well as co-regulators, stakeholders, and the regulated public, which will likely include regionally based training to ensure consistent and efficient implementation of the rule. See also the agencies’ response to comments in Section 18.3.

Several commenters mentioned specific areas of the Southwest and addressed the importance of streams for communities, tribes, and the integrity of downstream waters in arid watersheds. The TSD includes several examples of the hydrological importance of ephemeral streams to downstream flows in the Southwest. See Final Rule Preamble Section IV.C.4.c for the agencies’ approach for assessing the jurisdictional status of streams in the final rule.

8.1.3 Spatial extent of non-perennial flow regimes

A commenter cited an EPA report that estimated that ephemeral streams make up 59 percent of all streams in the U.S. (excluding Alaska). A commenter cited a report by Trout Unlimited that showed that 48 percent of stream miles in the historical range of native trout are classified as ephemeral or intermittent, and that 58 percent of stream miles are in headwater streams. The commenter stated that for salmon/steelhead ranges, 64 percent of stream miles are ephemeral or intermittent, and 57 percent of stream miles are in headwater streams. Another commenter cited a 2019 scientific study that stated that the loss of legal protections for tributaries would create a cascade of consequences including reduced water quality, impaired ecosystem functioning, and loss of fish habitat for commercial and recreational fish species. A commenter asserted that Ohio EPA estimates that there are 36,045 miles of ephemeral streams in the state, which serve as headwaters for larger streams and rivers.

Some commenters highlighted the prevalence of ephemeral streams in the arid southwest, citing EPA reports or evaluations of information from the National Hydrography Dataset that estimated 80 percent to 81 percent of river miles are ephemeral or intermittent. Another commenter asserted that Arizona’s Department of Environmental Quality found that approximately 80 percent of the state’s waterway flow regimes are undetermined, which the commenter asserted creates vulnerability under the proposed rule. A few commenters asserted that New Mexico’s Environment Department estimated that 93.3 percent of waters in the state are ephemeral or intermittent, and that these waters are critical to the physical, chemical, and biological integrity of the state’s rivers. Another commenter asserted ephemeral and intermittent streams account for up to 90 percent of surface waters in New Mexico, while another commenter asserted up to 96 percent. Another commenter asserted that 88,810 miles of the New Mexico’s waters are ephemeral or intermittent and that only 6,362 miles are perennial. A few commenters stated that 96 percent of stream channels in Arizona are ephemeral or intermittent.

Agencies’ Response: The agencies acknowledge commenters who provided data on the spatial extent of non-perennial streams. For the agencies’ response to comments regarding the functions these streams provide, see Section 8.1.2 above. For the agencies’ response to comments regarding the scope of jurisdiction for tributaries, see Section 8.0 above.

8.2 Implementation of tributaries

8.2.1 State-related implementation issues

Several commenters raised concerns about the interactions between the proposed rule’s treatment of ephemeral or intermittent waters and individual states’ treatment of those waters. A commenter stated that most states’ water quality standards do not extend to ephemeral or intermittent streams and requested that, if the definition of “waters of the United States” includes these waters, the agencies work with states,

tribes, and territories to modify their water quality standards to apply to these waters. Similarly, a commenter asserted that ephemeral streams are the only waterways which Maryland typically does not consider jurisdictional under state law, although Maryland considers them to be waters of the state for the purpose of National Pollution Discharge Elimination System (NPDES) permits. The commenter acknowledged the importance of ephemeral waters, particularly in the arid West, but contended that if ephemeral waters were included as “waters of the United States,” states that lack extensive ephemeral waters should be provided ample flexibility to implement a regulatory framework for these waters that appropriately balances the needs of the agricultural community. A commenter expressed concern about the status of permit requirements under NPDES for large federal nuclear facilities which discharge to ephemeral drainages from in New Mexico. A commenter from Arizona expressed concern that the state plans to eliminate all ephemeral waterways from its definition of “waters of the state,” which the commenter asserted reflects simplistic, unscientific, and politically driven thinking that the state should only protect waterways that are wet for most of the year, disregarding desert hydrology.

One commenter contended that states may be in a better position to address issues related to regional variability of ephemeral features.

A commenter asserted that any rule excluding ephemeral streams from jurisdiction—leaving some watersheds to state control and others to federal—would lead to regulatory uncertainty and decreased overall protection for water quality in New Mexico. This commenter also asserted that excluding intermittent and ephemeral waters from jurisdiction could result in conflicting regulatory requirements within the same watershed, since perennial waters would be under federal jurisdiction, whereas ephemeral and intermittent streams would be under state regulation.

A commenter asserted that New Jersey’s State Open Waters definition excludes erosional channels of less than two feet wide in agricultural uplands and does not use a significant nexus standard. The commenter asserted that this approach may result in some small headwaters with an OHWM not being delineated in the state. The commenter further stated that the uncertainty of how jurisdictional waters are identified leaves permit applicants in limbo when the state is sued for non-compliance with the Clean Water Act. This commenter stated that jurisdictional intermittent streams in agricultural fields may be disturbed by agricultural activity, impeding identification of the OHWM. The commenter urged the agencies to issue guidance for identifying jurisdictional streams which are permanent due to their lower topographic elevation, but which are disturbed by agricultural activities and thus lack consistently defined banks, bed, and shelving features. This commenter urged the agencies to provide guidance materials for identifying headwaters that are jurisdictional and suggested using the “2006 Field Operations Manual for Assessing the Hydrological and Ecological Conditions of Headwater Streams” and revising the Science Report into a field manual.

A commenter described the Hydrology Protocol developed by New Mexico, which distinguishes among perennial, intermittent, and ephemeral streams and is used to establish the highest attainable use for a waterbody. The commenter asserted that this is now the primary technical method for designated use changes in New Mexico and that a nationwide federally promulgated definition can be a useful baseline; however, such definition may fail to address state-specific issues such as those reflected in the Hydrology Protocol and could create inconsistency and conflicts. The commenter supported a federal definition of the term “tributary” as a water course with bed, bank, and other evidence of flow, while allowing state-specific expertise to inform what constitutes other evidence of flow based on local geographic conditions.

Agencies' Response: The agencies are promulgating this final rule to define “waters of the United States.” Definitions of “waters of the state” and state-specific implementation of permitting programs, such as Clean Water Act NPDES or other non-Clean Water Act related state programs, are beyond the scope of the final rulemaking. The Act provides for the federal government to implement some Clean Water Act programs, and it gives direct grants of authority to authorized tribes and states for implementation and enforcement of others. In some cases, the Act provides authorized tribes and states the option to take on certain Clean Water Act programs. Eligible tribes or states implement the section 401 program and may request approval by EPA to administer a Clean Water Act section 402 or 404 program. Moreover, consistent with the Clean Water Act, Tribes and states retain authority to implement their own programs to protect the waters in their jurisdiction more broadly and more stringently than the federal government. Section 510 of the Clean Water Act provides that, unless expressly stated, nothing in the Clean Water Act precludes or denies the right of any state or tribe to establish more protective standards or limits than the Clean Water Act. For example, many tribes and states regulate groundwater, and some others protect vital wetlands that may be outside the scope of the Clean Water Act. See Final Rule Preamble Section III.A.1.b.

In response to the commenter who expressed concern about the implications of excluding ephemeral and/or intermittent streams from jurisdiction, as discussed further in Final Rule Preamble Section IV.A, the agencies are not categorically including or excluding streams as jurisdictional based on their flow regime in the final rule. See the agencies' response to comments in Section 8.0 above for additional discussion on the scope of jurisdiction for tributaries.

The agencies recognize that there are appropriate levels of regional variation in implementation of the regulations; however, the agencies strive for national consistency. The agencies will work to facilitate effective, consistent, and efficient implementation of the final rule once it becomes effective. The clarity and certainty provided in the final rule will result in further consistency, while still allowing for regional variation in implementation that may be necessary based on regional differences in aquatic resources; for example, the OHWM regional manuals, the regional supplements to the wetland delineation manual, or the regional streamflow duration assessment methods, all of which are outside the scope of the final rulemaking but are related resources. In addition, because jurisdictional decisions are made on a case-specific basis, site-specific circumstances such as regional conditions will be considered as appropriate. See also the agencies' response to comments in Section 18.3.

The agencies acknowledge the commenter who cited New Jersey's State Open Waters Definition. As noted in Section IV.C.4 of the Final Rule Preamble, a discontinuity in the OHWM does not necessarily sever jurisdiction, for example where an OHWM has been removed by agricultural practices. See Final Rule Preamble Section IV.C.4.c and Final Rule Preamble Section IV.C.8 for additional information on the definition and implementation of OHWM.

The agencies agree that rapid field assessment methods, including state-specific methods such as the New Mexico Hydrology Protocol and nationally applicable methods such as the agencies' SDAMs, may be helpful for determining whether tributaries are relatively

permanent. The agencies have identified other remote tools and field methods that can be utilized to identify tributaries and assess the relative permanence of tributaries. See Final Rule Preamble Section IV.C.4.c.

8.2.2 Technical approaches to identifying jurisdictional tributaries

8.2.2.1 *Use of physical indicators*

A commenter asserted that, while the OHWM can be a reasonable indicator of flow, it relies solely on physical characteristics and ignores hydrologic measures. The commenter asserted that using a bed, bank, and another indicator of flow ensures that protections are limited to those that significantly affect downstream foundational waters. A commenter asserted that this approach is consistent with Justice Kennedy’s suggestion in *Rapanos*, past practices, and scientific support. The commenter cited the SAB’s recommendation to instead require bed, bank, and other evidence of flow. A commenter asserted that the agencies should consider state expertise to inform what constitutes acceptable evidence of flow.

A commenter provided a detailed analysis of the historical use of the OHWM, stating that while it has been utilized in the context of the Rivers and Harbors Act and jurisdictional determinations related to traditional navigable waters, the commenter believes it does not meaningfully contribute to the meaning of “waters of the United States.” The commenter argued, relying on the Science Report and the SAB, that the OHWM is not the only indicator of connectivity and that connections are not limited to tributaries that have an OHWM. That commenter also asserted that there have been extensive problems with the interpretation and implementation of the OHWM in the section 404 program, giving several specific examples from a Government Accountability Office report. A commenter cited the guidance used by the State of Tennessee as a better regulatory approach than using a single indicator of OHWM. A commenter urged the agencies to provide guidance materials for delineating the OHWM. The commenter suggested using the 2016 “Synthesizing the Scientific Foundation for Ordinary High Water Mark Delineation in Fluvial Systems” as a basis for a guidance manual with attention to regional differences including karst landscapes. This commenter asserted that in developing the OHWM guidance, the agencies should consider requiring multiple factors supporting jurisdiction to be present before identifying a water as jurisdictional.

Some commenters argued that the OHWM is not a meaningful or appropriate metric in arid environments, and some of those commenters contended specifically that the concept of OHWM is based on more humid regions of the country where, unlike in the arid West, it is a fair indicator of flow. A commenter asserted that there is no OHWM in the dry washes of arid regions because there is ordinarily no water in them, while another commenter asserted that the agencies overstate the likelihood that OHWM delineation manuals can be applied nationwide. According to one commenter, the OHWM is also unreliable in the arid Southwest given the vast difference in “ordinary” conditions. Another commenter asserted that using approaches beyond the OHWM is important in the arid Southwest where ephemeral streams are critical to the health of the environment and downstream water sources that support tribes and local communities.

A few commenters asserted that ephemeral streams in the desert cannot have a real OHWM because they do not ordinarily have water in them (only during infrequent flooding). Additionally, these commenters asserted that some non-jurisdictional waters such as rills may have distinct vertical edges, arguing that

there is really no difference between dry desert washes and rills/swales. Some commenters stated that the agencies are using the OHWM to distinguish between “small washes,” gullies, and swales (that are not jurisdictional) and ephemeral streams (that are jurisdictional when they have a significant nexus), and these commenters asserted that the OHWM does not have any effect on downstream waters and requested the agencies acknowledge that it is of no significance in dry desert washes. Some commenters asserted that because of high erosion potential in arid landscapes, flashy storms can cause cuts that may appear to have OHWM indicators, but either flow infrequently or do not have any further flow or contribute to downstream waters. These commenters asserted that such indicators only suggest that flow may have existed at one time and are not representative of ordinary or reliable conditions, and that these indicators do not suggest meaningful connections downstream, with a commenter quoting from a Corps report about stream channels in arid regions. A commenter asserted that for many ephemeral and intermittent drainages in the Western United States, physical features of flow (OHWM and bed and banks) that are typically used to identify a “water of the United States” can be difficult to discern and discontinuous, and are almost meaningless, while ephemeral drainages can be difficult to distinguish from the surrounding landscape in the arid West. The commenter stated that, because of the unique characteristics of arid regions, the use of OHWM and the significant nexus standard would result in numerous “false positives (*i.e.*, a determination that a drainage is jurisdictional when in fact it does not have more than a speculative or insubstantial effect on the chemical, physical, or biological integrity of a downgradient [Traditional Navigable Water]).”

A commenter asserted that the identification of the OHWM is complex and dependent on environmental factors that vary significantly across regions and asserted that past guidance documents have not included Nevada. A commenter stated that the agencies determine the OHWM in arid regions as a wide zone extending from the channel. The commenter critiqued this approach, providing maps and images to argue that the agencies have located the OHWM far away from the edge of the channel that may hold water, thereby classifying large areas of alluvial fans as “waters.” The commenter contrasted this against perennial streams in the East that are confined to their narrow banks.

Some commenters requested additional clarifications about the OHWM and how it will be applied.

One commenter recommended that the final rule and guidance clearly state that the absence of an OHWM and bed and bank will be used in the Western U.S. to determine the lack of a connection for intermittent and ephemeral streams. Another commenter requested that the agencies consider several options for addressing the jurisdictional status of ephemeral and intermittent drainages in the Western United States that the commenter asserted would provide greater certainty, including:

- Stating that a lack of an OHWM and bed and bank indicates insufficient flow to affect the integrity of downstream navigable waters;
- Stating that the absence of an OHWM and bed and bank will be used to determine the lack of a connection to downstream waters; and
- Where a significant nexus is found, developing regional general permits that allow some fill activities in ephemeral and intermittent drainages in the Western United States with conditions to limit downstream impacts.

A commenter that was supportive of the OHWM indicator asserted that many tributaries may lose OHWM indicators through a portion of the feature, but that these features influence the quality of foundational waters and their tributaries and therefore merit consideration for protection.

A commenter requested that the pre-2015 regulatory regime and practices regarding isolation and breaks in jurisdiction be included in the rule. Under this approach, the commenter asserted that discontinuous features could render drainages isolated and thus non-jurisdictional above breaks. This commenter requested that the final rule define the characteristics that distinguish non-jurisdictional areas and features from jurisdictional areas and features, noting that this guidance is especially important in the arid West where differences can be minor. This commenter also provided a list of ephemeral and intermittent features that are non-jurisdictional under the pre-2015 regulations pursuant to isolation and discontinuous features. Another commenter requested that the agencies clarify and explain the treatment of “ephemeral breaks” in the arid West. A commenter questioned whether features in the West that are only connected to downstream channels under extreme storm events would be considered tributaries. A commenter asserted that the agencies may not regulate tributaries that have broken connections to other covered waters; the commenter asserted that the agencies’ authority under the Clean Water Act and Commerce Clause of the U.S. Constitution dictates that they may only regulate tributaries up to the point where any disturbance would substantially affect the commercial quality of federal waters.

Agencies’ Response: The final rule makes no changes to the definition of OHWM contained in the 1986 regulations (and in the 2020 NWPR, which made no changes to the 1986 regulation). The term, unchanged since 1977, *see* 41 FR 37144 (July 19, 1977), defines the lateral limits of jurisdiction in non-tidal waters, provided the limits of jurisdiction are not extended by adjacent wetlands.

The agencies disagree with commenters who asserted that OHWM should not be used to assist in identifying “waters of the United States.” The agencies agree with commenters who asserted that OHWM is an established implementation tool and can be indicative of flows that occur with a frequency and power sufficient to establish and maintain a consistent mark on the landscape. As discussed in Final Rule Preamble Section IV.C.4.c, the agencies will utilize the Corps’ well-established definition of an OHWM to assist in identifying tributaries for purposes of the final rule. Tributaries typically have at least one indicator of an OHWM and, consistent with pre-2015 practice, physical OHWM characteristics are used to identify waterbodies including streams, lakes, ponds, and ditches that are present on the landscape. However, to be jurisdictional, tributaries must meet either the relatively permanent standard or the significant nexus standard.

The agencies disagree that an OHWM should not be used to establish evidence of surface flows through tributaries in the arid West. The Corps has developed field indicators to help field staff identify the OHWM in common stream types in the arid West that assist in differentiating between low flow channels, OHWM, and floodplains in arid alluvial systems. In addition to regionalized manuals for unique geographic areas, the Corps has also published supporting research and technical reports to improve the identification of an OHWM. See Section IV.A.ii of the TSD.

The agencies acknowledge commenters who expressed concerns about the implementation of OHWM, including commenters who referenced case-specific or regionally-specific challenges in consistently identifying an OHWM. The agencies note that the regulations at 33 CFR sections 328.3(e) and 329.11(a)(1) list the factors to be applied. RGL 05-05 further explains these regulations. Delineation of an OHWM in tributaries relies on the

identification and interpretation of physical features, including topographic breaks in slope, changes in vegetation characteristics (*e.g.*, destruction of terrestrial vegetation and change in plant community), and changes in sediment characteristics (*e.g.*, sediment sorting and deposition). Field indicators, remote sensing, and mapping information can also help identify an OHWM. The Corps continues to improve regulatory practices across the country through ongoing research and the development of regional and national OHWM delineation procedures, as described further in Section IV.A.ii of the TSD. For example, the Corps has developed field indicators to help field staff identify the OHWM in common stream types in the arid West. Consistent with longstanding practice, the agencies will apply the regulations and use RGL 05-05 and applicable OHWM delineation manuals, as well as take other steps as needed to ensure that the OHWM identification factors are applied consistently nationwide. See Final Rule Preamble Section IV.C.4.c for further discussion of how the agencies may use OHWM indicators to identify jurisdictional tributaries.

The agencies disagree with commenters who asserted that discontinuities in the OHWM should sever upstream jurisdiction, or that such discontinuities sever downstream connectivity. Final Rule Preamble Section IV.C.4.c describes in detail how natural or man-made discontinuities in OHWM will be assessed consistent with pre-2015 practice.

In response to commenters who requested clarification on ephemeral “breaks,” the agencies note that tributaries must flow directly or indirectly through another water or waters to a traditional navigable water, the territorial seas, or interstate water. As described in Final Rule Preamble Section IV.C.4, a tributary may flow through a number of downstream waters, including non-jurisdictional features, such as a ditch excluded under paragraph (b) of the final rule or an excluded waste treatment system, and jurisdictional waters that are not tributaries, such as an adjacent wetland. But, the tributary must be part of a tributary system that eventually flows to a traditional navigable water, the territorial seas, or an interstate water to be jurisdictional. A tributary may flow through another stream that flows infrequently, and only in direct response to precipitation, and the presence of that stream is sufficient to demonstrate that the tributary flows to a paragraph (a)(1) water. Tributaries are not required to have a surface flowpath all the way down to the paragraph (a)(1) water. For example, tributaries can contribute flow through certain natural and artificial breaks (including certain non-jurisdictional features), some of which may involve subsurface flow as described above in Final Rule Preamble Section IV.C.4.b.

In response to the commenter who requested regional permits for filling certain ephemeral and intermittent streams, the agencies note that the development of permits for discharging pollutants under specific Clean Water Act programs is beyond the scope of the final rulemaking.

8.2.2.2 *Other tributary implementation approaches*

A few commenters provided input regarding how the tributary reach concept relates to flow regime. A commenter noted that under the proposed rule, the tributary includes “the entire reach of the stream that is of the same order (*i.e.*, from the point of confluence, where two lower order streams meet to form the tributary, downstream to the point such tributary enters a higher order stream).” The commenter stated that under the relatively permanent standard, if the point of confluence is considered to be unrepresentative of the entire reach of the tributary then the “flow regime that best represents the

tributary” is to be used. The commenter characterized the proposed “reach” as “unworkable” and “unlawful,” as asserted a “reach” analysis would require a project proponent to collect data on an expansive span of lands, which the proponent may not own. The commenter urged the agencies to rescind the “reach” analysis.

A commenter asserted that the “entire reach” approach would present considerable implementation challenges as reaches may stretch for miles across many properties. The commenter claimed that determining which flow regime best characterizes the entire reach may be practically difficult or impossible for project applicants. A few commenters stated that the reach analyses assume jurisdiction of the entire reach of a tributary based on a single point of that tributary. One commenter asserted that the proposed rule would assume the entire reach of a tributary is jurisdictional based only on an analysis at the point of confluence, stating that this approach is inappropriate since it does not analyze the entire upstream reach. Another commenter asserted that the agencies failed to provide any guidance in the proposed rule as to how they will determine if the downstream point of confluence is not representative of the entire reach. That commenter claimed that this will lead to confusion for landowners trying to determine jurisdiction on their properties. One commenter stated that the “entire reach” approach of the significant nexus standard may be an overreach by the agencies and present considerable implementation challenges, especially for small businesses.

One commenter responded to the agencies’ request for comment on “relevant reach” by stating that they do not believe that the “relevant reach” of a ditch should pertain to an artificial drainage.

Some commenters urged the agencies to use local input to ascertain and develop clearly defined and reliable parameters, criteria, and standards regarding the relevance of tributaries to traditional navigable waters. A few commenters suggested that the agencies should consider a water’s intended use as a review tool, and a commenter suggested that only waters with designated uses should be included as “waters of the United States.” A commenter expressed concern about the use of USGS soil survey maps to assess the contribution of flows of tributaries to downstream waters. The commenter asserted that the maps are imperfect because they have not been verified for accuracy and instead represent the best approximation of soil scientists, and the commenter further stated that the maps have historically been developed to support agricultural uses, not to provide information about the connectivity of aquatic features. A few commenters asserted that the agencies should use the national delineation manual for jurisdictional determinations.

Agencies’ Response: As described in the final rule, the agencies will characterize tributary reaches based on stream order for purposes of applying the relatively permanent standard (see Final Rule Preamble Section IV.C.4.c.ii). The agencies also characterize tributary reaches based on stream order to delineate the catchment for purposes of applying the significant nexus standard in the final rule (see Final Rule Preamble Section IV.C.4.c.iii). Stream order is a common, longstanding scientific concept of assigning whole numbers to indicate the branches of a stream network. Consistent with the pre-2015 regulatory regime, the agencies will assess the flow characteristics of a particular tributary at the farthest downstream limit of such tributary (i.e., the point the tributary enters a higher order stream). *Rapanos* Guidance at 6 n.24. Where data indicate the flow characteristics at the downstream limit are not representative of the entire reach of the tributary, the flow characteristics that best characterizes the entire tributary reach will be used. In other words, if there are different flow regimes in different parts of the tributary, the agencies

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will assess which flow regime covers the largest spatial extent to identify the “flow characteristics that best characterize the entire tributary reach.” The agencies disagree with commenters who asserted that characterizing tributary reaches based on stream order would be confusing and inappropriate. The agencies have concluded that characterizing tributary reaches based on stream order is reasonable and provides a method that is transparent, well-understood, predictable, and easy to implement.

The agencies disagree with the commenter who asserted that this method would allow the agencies to assert jurisdiction over waterbodies across an inappropriately broad spatial extent, or that the method would lead to unique implementation challenges and regulatory uncertainty. As described in Final Rule Preamble Section IV.C.9.c, the determination of jurisdiction applies only to the subject water(s) located in the area of interest. For a significant nexus evaluation, this means that where a subject water, either alone or in combination with similarly situated waters in the region, is found to significantly affect a paragraph (a)(1) water, only the subject water would be jurisdictional. Similarly, where a subject water, either alone or in combination with similarly situated waters in the region, is found not to significantly affect a paragraph (a)(1) water, only the subject water would be non-jurisdictional. When evaluating tributaries under the relatively permanent standard, this means that the determination of jurisdiction applies only to the subject tributary located in the area of interest, even if a larger tributary reach based on stream order is used to determine the relative permanence of the subject tributary. Individuals uncertain about the status of waters on their property may obtain a jurisdictional determination from the Corps. The Corps does not charge a fee for this service. *See* 33 CFR 325.1; RGL 16-01 (2016). The agencies will use a variety of field-based and remote tools to determine the jurisdictional status of tributaries, as described further in Final Rule Preamble Section IV.C.4.c.

The agencies disagree with the commenter who asserted that the agencies should not characterize ditch reaches based on stream order, even if those ditches are tributaries under the final rule. See Final Rule Preamble Section IV.C.4 for the agencies’ rationale for including ditches as tributaries, provided the ditches are not excluded under paragraph (b). See Final Rule Preamble Section IV.C.7.c for additional discussion on how the agencies will identify ditch reaches when applying the relatively permanent or significant nexus standards.

The agencies will consider a variety of tools and sources of information, including local sources of information as recommended by commenters, in determining whether tributaries meet the relatively permanent or significant nexus standards under the final rule. See Final Rule Preamble Section IV.C.4.c. To the extent commenters referencing the “national delineation manual” are referring to the Corps’ 1987 Wetland Delineation Manual, the agencies agree with commenters that the manual will be used to identify wetlands under the final rule. However, the agencies will further evaluate any wetlands to determine if they meet the jurisdictional criteria under the final rule. The agencies disagree with the commenter who asserted that only waters with designated uses should be included as “waters of the United States”; indeed, states are only required to establish water quality

standards (including designated uses) under the Clean Water Act for “waters of the United States.” The agencies acknowledge commenter critiques regarding USGS soil survey maps. As stated in Final Rule Preamble Section IV.C.4.c, the agencies will evaluate multiple sources of information and use the best available information in making determinations of jurisdiction.

8.2.3.2 Implementation in regions with karst features

Some commenters discussed the characteristics and functions of tributaries in areas characterized by karst features, where a commenter described carbonate bedrock as prone to being dissolved. That commenter remarked that 25 percent of the United States is underlain with carbonate bedrock and that, in these areas, intermittent and perennial flows often discharge into sinkholes or flow below the surface through losing streams or disappearing streams. A commenter recommended that the agencies should ensure protections for waters that flow through karst features, even if those waters may not flow consistently.

Two commenters indicated that streams in karst systems often have discontinuous channels and subsurface flows, resurfacing through springs, ponds, streams, or directly in rivers and lakes. Some commenters stated that although they may not have continuous surface connections, these streams affect downstream waters chemically (by providing dissolved carbonates that affect pH levels), physically (by contributing flow), and biologically (by providing habitat for species such as trout). One of those commenters described ephemeral and intermittent streams in New Jersey where characteristics have changed over time (*e.g.*, streams that once had direct connections to larger rivers now flow primarily through sinkholes with shallow subsurface connections to larger rivers). The commenter asserted that the New Jersey Department of Environmental Protection does not recognize some of these streams as “waters of the United States.” This commenter stated that USGS data indicates that geologically unique karst features can convey surface waters via subsurface channels to downstream waters miles away in a matter of hours. The commenter added that these features can also convey notable levels of dissolved carbonates downstream and that features with subsurface flows also support the biological integrity of trout and mussel habitat. The commenter stated that hydrological surface water and groundwater connections are critical to maintaining the native Eastern Brook Trout habitat by regulating surface water temperatures in the winter and summer, which is critical to the outdoor recreation industry—and thus interstate commerce—in the region. Due to these physical, chemical, and biological connections, these commenters stated that these waters should be included as “waters of the United States” even when flow is intermittent or discharging to sinkholes or when they are adjacent—but not connected—to a jurisdictional water.

Agencies’ Response: The agencies acknowledge commenters who highlighted the important functions that tributaries in karst regions can provide, and who expressed concern regarding implementation of the tributaries provision in karst regions. The agencies have addressed streams that may have discontinuities due to karst geology in Final Rule Preamble Section IV.C.4.c. The agencies will assess any discontinuity in the OHWM, including where a stream temporarily flows underground in regions with karst geology. Consistent with pre-2015 practice, a natural or human-made discontinuity in the OHWM does not necessarily sever jurisdiction upstream. The agencies acknowledge that in karst regions, tributaries may temporarily flow underground, maintaining similar flow characteristics underground and at the downstream point where they return to the surface. The agencies have also noted that other water features may be linked to streams through shallow subsurface connections which can be maintained as water moves through karst

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topography. A shallow subsurface hydrologic connection is predominantly lateral water flow through a shallow subsurface layer. See Final Rule Preamble Section IV.5.c for additional information on how wetlands may be adjacent to tributaries in karst systems.

Streams that are not connected to a tributary network and lack physical downstream connections, as indicated by the lack of a channel, ditch, or indicators of OHWM, can be evaluated under paragraph (a)(5) of the final rule.