Clean Water Protection Guidance

This guidance describes how the Environmental Protection Agency (EPA)*[a] and the U.S. Army Corps of Engineers ("Corps")[b] will identify waters subject to jurisdiction under the Federal Water Pollution Control Act of 1972 (Clean Water Act or CWA) and implement the Supreme Court's decisions concerning the extent of waters covered by the Act (*Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC)*[1] and *United States v. Rapanos (Rapanos)*[2]). The agencies understand that decisions concerning whether a waterbody is subject to the CWA have consequences for tribal, state, and local governments, and for private parties. Key goals of this guidance are to reduce the complexity of EPA and Corps decisions concerning coverage of waters by the CWA, improve predictability in the process of identifying waters covered under the CWA, and increase consistency of these decisions across the country.

Congress enacted the Clean Water Act "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters," and this guidance will help the agencies achieve this objective.[3] The CWA has a number of programs designed to achieve this goal. The Clean Water Act, however, applies only to waters that are "waters of the United States." This guidance provides that EPA and the Corps will implement programs to protect waters consistent with the Clean Water Act, the *SWANCC* and *Rapanos* decisions, and sound science.

This guidance supersedes previously issued guidance on the scope of "waters of the United States" subject to CWA programs.[4] This guidance reflects the relevant science and responds to the agencies' experience implementing previous guidance documents. In addition, this guidance alleviates the need to develop extensive administrative records for certain jurisdictional determinations that caused delays and added costs to both federal agencies and the regulated community.

The 2008 *Rapanos* guidance reflected a policy choice to interpret Justice Kennedy's opinion narrowly, resulting in fewer waterbodies found to be jurisdictional under the CWA than under a more faithful interpretation. This guidance clarifies and refines the agencies' interpretation of the "significant nexus" standard many waterbodies must meet to be jurisdictional under the CWA that is more consistent with Justice Kennedy's opinion and the science of aquatic ecosystems. The guidance also addresses how to determine the jurisdictional status of waters not addressed by the previous guidance (for example, interstate waters). Therefore, the agencies expect that the number of waters found to be subject to CWA jurisdiction will increase significantly compared to practices under the 2003 *SWANCC* guidance and the 2008 *Rapanos* guidance. Note,

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* To increase clarity of this document, endnotes that simply provide citations will be indicated numerically, and footnotes that provide additional substantive information will be indicated alphabetically.

[a] EPA Regions will use this guidance to oversee and implement programs under the CWA, including Sections 303, 311, 401, 402 and 404.

[b] Corps Districts will utilize this guidance to implement CWA Section 404.

however, that the scope of waters subject to CWA jurisdiction will still not be as extensive as it was prior to the two Supreme Court decisions.

This guidance applies to decisions concerning whether a waterbody is subject to any of the programs authorized under the CWA. Although *SWANCC* and *Rapanos* specifically involved Section 404 of the CWA and discharges of dredged or fill material, this guidance addresses the scope of the term "waters of the United States" for all CWA provisions which use the term. These provisions include the Section 402 National Pollutant Discharge Elimination System (NPDES) permit program, the Section 311 oil spill program,[5] the water quality standards and total maximum daily load programs under Section 303, and the Section 401 State water quality certification process. While there is one CWA definition of "waters of the United States," there may be other statutory factors that define the reach of a particular CWA program or provision.[6]

This guidance does not address the regulatory exclusions from coverage under the CWA for waste treatment systems and prior converted croplands, or practices for identifying waste treatment systems or prior converted croplands, nor does it affect any of the exemptions from CWA Section 404 permitting requirements provided by CWA Section 404(f), including those for normal agriculture, forestry and ranching practices.[7] This guidance also does not address the statutory and regulatory exemptions from NPDES permitting requirements for agricultural stormwater discharges and return flows from irrigated agriculture.[8]

The CWA provisions and supporting regulations described in this document contain legally binding requirements. This guidance does not substitute for those provisions or regulations, nor is it a regulation itself. It does not impose legally binding requirements on EPA, the Corps, or the regulated community, and may not apply to a particular situation depending on the circumstances. Any decisions regarding a particular water will be based on the applicable statutes, regulations, and case law. Therefore, interested persons are free to raise questions regarding the application of this guidance to a particular situation, and EPA and/or the Corps will consider whether or not the recommendations or interpretations of this guidance are appropriate in that situation based on the statutes, regulations, and case law.

This guidance is divided into eight sections:

- The first two sections address the fundamental classes of waters subject to Clean Water Act jurisdiction: traditional navigable waters and interstate waters.

- The next section provides general guidance relating to the "significant nexus" standard described by Justice Kennedy in the *Rapanos* decision (Section 3).

- The next three sections provide guidance on determining whether various types of waters are subject to CWA jurisdiction, including:
  - Tributaries (Section 4);

- Adjacent wetlands (Section 5); and
- Other waters (Section 6).

... The next section provides examples of waters that are generally not waters of the United States under the CWA (Section 7).

... The final section provides guidance on the documentation necessary to support decisions concerning whether waters are covered by the CWA (Section 8).

Finally, the agencies intend to propose revisions of existing regulations in 2011 to provide further clarification of the waters that are subject to CWA jurisdiction, consistent with the Supreme Court's decisions.

Summary of Key Points

The following waters are subject to Clean Water Act jurisdiction:

- **Traditional navigable waters;**
- **Interstate waters;**
- **Wetlands adjacent to either traditional navigable waters or interstate waters;**
- **Non-navigable tributaries to traditional navigable waters that are relatively permanent, meaning at least seasonal; and**
- **Wetlands that directly abut relatively permanent waters.**

In addition, the following waters are subject to Clean Water Act jurisdiction if a fact-specific analysis determines they have a "significant nexus" to a traditional navigable water or interstate water:

- **Tributaries to traditional navigable waters or interstate waters;**
- **Wetlands adjacent to jurisdictional tributaries to traditional navigable waters or interstate waters;**
- **Waters that fall under the "other waters" category of the regulations.**

The following aquatic areas are generally not subject to Clean Water Act jurisdiction as waters of the United States:

- **Wet areas that are not tributaries or open waters or do not meet the agencies' regulatory definition of "wetlands";**
- **Waters excluded from coverage under the CWA by existing regulations;**
- **Waters that lack a "significant nexus" where one is required for a water to be subject to CWA jurisdiction;**
- **Artificially irrigated areas that would revert to upland should irrigation cease;**
- **Artificial lakes or ponds created by excavating and/or diking dry land and used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;**
- **Artificial reflecting pools or swimming pools created by excavating and/or diking dry land;**
- **Small ornamental waters created by excavating and/or diking dry land for primarily aesthetic reasons;**
- **Water-filled depressions created incidental to construction activity.**

Section 1: Traditional Navigable Waters

EPA and the Corps will continue to assert CWA jurisdiction over "[a]ll waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide."[9] These waters are referred to in this guidance as traditional navigable waters. The traditional navigable waters include all of the "navigable waters of the United States," as defined in 33 C.F.R. Part 329 and by numerous decisions of the federal courts, plus all other waters that are navigable-in-fact (for example, the Great Salt Lake, UT, and Lake Minnetonka, MN). Thus, the traditional navigable waters include, but are not limited to, the "navigable waters of the United States" within the meaning of Section 10 of the Rivers and Harbors Act of 1899 (also known as "Section 10 waters").

For purposes of CWA jurisdiction and this guidance, waters will be considered traditional navigable waters if:

- They are subject to Section 9 or 10 of the Rivers and Harbors Act; or
- A federal court has determined that the water body is navigable-in-fact under federal law; or
- They are waters currently being used for commercial navigation, including commercial waterborne recreation (for example, boat rentals, guided fishing trips, water ski tournaments, etc.); or
- They have historically been used for commercial navigation, including commercial waterborne recreation; or
- They are susceptible to being used in the future for commercial navigation, including commercial waterborne recreation. Susceptibility for future use may be determined by examining a number of factors, including the physical characteristics and capacity of the water to be used in commercial navigation (for example, size, depth, and flow velocity,[c] etc.), including commercial recreational navigation, and the likelihood of future commercial navigation, including commercial waterborne recreation. A likelihood of future commercial navigation, including commercial waterborne recreation, can be demonstrated by current boating or canoe trips for recreation or other purposes.[d] A determination that a water is susceptible to future commercial navigation, including commercial waterborne recreation, should be supported by evidence.

[c] While a traditional navigable water need not be capable of supporting navigation at all times, the frequency, volume, and duration of flow are relevant considerations for determining if a waterbody has the physical characteristics suitable for navigation.

[d] A trip taken solely for the purpose of demonstrating a waterbody can be navigated would be sufficient. *See, e.g., FPL Energy Marine Hydro LLC v. FERC*, 287 F.3d 1151, 1157 (D.C. Cir. 2002).

Legal Basis

The Supreme Court has recognized that "[N]avigability is a flexible concept and [e]ach application of the [*Daniel Ball* test] ... is apt to uncover variations and refinements which require further elaboration."[10] EPA and the Corps will be guided by examples of some of the evidence found relevant and sufficient for a traditional navigable waters determination in court decisions, although these will be fact-specific determinations and not every type of evidence will be available or needed in every circumstance. Field staff have sought guidance in particular on how to determine whether a water is susceptible to being used for commercial navigation such that it is a traditional navigable water. The cases discussed below provide specific examples of the types of evidence courts have found sufficient to demonstrate such susceptibility.

In *FPL Energy Marine Hydro*, a case involving the Federal Power Act, the U.S. Court of Appeals for the District of Columbia Circuit reiterated the fact that "actual use is not necessary for a navigability determination" and repeated earlier Supreme Court holdings that navigability and capacity of a water to carry commerce could be shown through "physical characteristics and experimentation."[11] In that case, the D.C. Circuit upheld a Federal Energy Regulatory Commission navigability determination that was based upon three experimental canoe trips taken specifically to demonstrate the river's navigability.[12] The navigability determination was affirmed although the stream had five sets of rapids, and all parties agreed that the stream has never been used for commercial traffic, that there was no evidence of recreational use of the stream, and that the only evidence indicating actual use of the stream came from the three trips made for the purpose of litigation.[13]

The U.S Court of Appeals for the Ninth Circuit has also implemented the Supreme Court's holding that a water need only be susceptible to being used for waterborne commerce to be navigable-in-fact.[14] In *Alaska v. Ahtna*, the 9th Circuit held that current use of an Alaskan river for commercial recreational boating is sufficient evidence of the water's capacity to carry waterborne commerce at the time that Alaska became a state.[15] It was found to be irrelevant whether or not the river was actually being navigated or being used for commerce at the time, because current recreational boating showed that the river always had the capacity to support navigation.[16] Here, the stream was found to be navigable although the shallowest part of the river is just a foot deep during the low season; the river is customarily used, or is susceptible to use, by watercraft such as powerboats, 12-foot-long inflatable rafts, and motorized freight canoes and double-ended paddle canoes; hunters and fishermen travelled the river by boat in the past; most of the use of the river is recreational; and it is possible to take guided fishing and sightseeing trips on the river.[17]

Section 2: Interstate Waters

EPA and the Corps will assert jurisdiction over all interstate waters, consistent with the agencies' current regulations defining "waters of the United States" to include

"interstate waters and interstate wetlands."[18] Interstate waters, defined by the federal water pollution control statutes prior to the CWA as "all rivers, lakes, and other waters that flow across, or form a part of, State boundaries," remain jurisdictional waters under the CWA. For purposes of this guidance, lakes, reservoirs, and similar lentic (or still) water features crossing state boundaries are jurisdictional in their entirety to the lateral limits of their ordinary high water mark. For purposes of this guidance, streams, rivers, and similar lotic (or flowing) water features crossing a state boundary are jurisdictional upstream and downstream of such boundary for the entire length that the water is of the same stream order (i.e., the entire reach of the water crossing a state boundary that is of the same order).

The agencies will consider tributaries to interstate waters jurisdictional when they have a significant nexus with such interstate waters, consistent with the treatment of tributaries to traditional navigable waters in Section 4 below. Tributaries to interstate waters will be evaluated using the same significant nexus framework articulated by Justice Kennedy for tributaries to traditional navigable waters. A stream is a tributary to an interstate water if it flows directly or indirectly into the reach determined to be an interstate water. Tributaries located downstream of the interstate stream reach are not tributary to that interstate stream reach, but instead to the stream reach into which those tributaries flow.

Similarly, the agencies will assess jurisdiction over wetlands adjacent to interstate waters (except wetlands that are adjacent to interstate wetlands)[19] consistent with the framework established by Justice Kennedy's standard. Thus, wetlands adjacent to non-wetland interstate waters themselves will be considered jurisdictional consistent with Justice Kennedy's conclusion that wetlands adjacent to traditional navigable waters are jurisdictional under the Act based on a showing of adjacency alone.[20] Wetlands adjacent to tributaries of an interstate water are jurisdictional where they have a significant nexus with that interstate water alone or in combination with similarly situated wetlands, consistent with Section 5. Finally, EPA and the Corps will analyze other waters relative to an interstate water consistent with Section 6.

Legal Basis

The language of the CWA indicates that Congress intended the term "navigable waters" to include interstate waters without imposing a requirement that they be traditional navigable waters themselves or be connected to traditional navigable waters. The precursor statutes to the CWA always subjected interstate waters and their tributaries to federal jurisdiction.[e] The text of the CWA, specifically a provision in the CWA that establishes ongoing requirements for interstate waters, in conjunction with the definition of navigable waters, provides clear indication of Congress' intent to protect interstate

[e] See 1948 Act § 2(d)(1),(4), 62 Stat. at 1156-1157, declaring the pollution of interstate waters, "whether the matter causing or contributing to such pollution is discharge directly into such waters or reaches such waters after discharged into a tributary of such waters," which endangers the health or welfare of persons to be a public nuisance, subject to abatement provided by the Act, including suit by the United States.

waters that were previously subject to federal regulation. Other provisions of the statute provide additional textual evidence of the scope of the primary jurisdictional term of the Act.

Congress defined "navigable waters" to mean "the waters of the United States, including the territorial seas." Interstate waters are the waters of the several States and, thus, the United States. While the 1972 Act was clearly not limited to interstate waters, it was equally clearly intended to include interstate waters. Most importantly, there is a specific provision in the 1972 CWA establishing requirements for those interstate waters which were subject to the prior Water Pollution Control Acts. The CWA requires States to establish water quality standards for navigable waters and submit them to the Administrator for review, including "interstate waters." CWA section 303(a)(1) states, "In order to carry out the purpose of this Act, any water quality standard applicable to *interstate waters* which was adopted by any State and submitted to, and approved by, or is awaiting approval by, the Administrator pursuant to this Act as in effect immediately prior to the date of enactment of the Federal Water Pollution Control Act Amendments of 1972, *shall remain in effect* …" (emphasis added). Thus, Congress intended continued protection of interstate waters.

While EPA and the Corps believe congressional intent is clear, the agencies also have a longstanding regulatory interpretation of the CWA that interstate waters fall within the scope of CWA jurisdiction.[21] The agencies' interpretation was promulgated contemporaneously with the passage of the CWA and is consistent with the statutory and legislative history of the Act. Furthermore, the Supreme Court has never addressed the CWA's coverage of interstate waters, and its decisions in *SWANCC* and *Rapanos* do not impose additional jurisdictional requirements on interstate waters.

As noted above, the precursor statutes to the CWA always subjected interstate waters and their tributaries to federal jurisdiction. While Congress clearly intended tributaries to interstate waters to be subject to the CWA, the statute does not define the extent of tributaries that are covered. In light of Justice Kennedy's opinion, the agencies believe it is reasonable to assert jurisdiction over tributaries, adjacent wetlands and other waters consistent with the framework established by Justice Kennedy's standard in *Rapanos*. Justice Kennedy's standard seeks to ensure that waters Congress intended to subject to federal jurisdiction are indeed protected, both by recognizing that waters and wetlands with a significant nexus to covered waters have important beneficial effects on those waters, and by recognizing that polluting or destroying waters with a significant nexus can harm downstream covered waters.

Section 3: Significant Nexus Analysis

The agencies will assert jurisdiction over waters with a significant nexus to traditional navigable waters or interstate waters. Waters have the requisite nexus if they, either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of traditional navigable waters or interstate waters.[22] This section provides general guidance for determining the presence or absence of a significant nexus; the following sections provide more specific guidance for determining jurisdiction over tributaries, adjacent wetlands, and other waters under the agencies' regulations.

To evaluate the presence or absence of a significant nexus, the agencies will, as a general matter, consider:

(1) Waters to be "similarly situated" with other waters of the same regulatory or resource type (i.e., the same subsection of the regulatory definition at 33 CFR 328.3(a) and 40 CFR 230.3(s); but see Section 6 for additional guidance on how to determine whether waters within the other waters regulatory category are "similarly situated");
(2) Waters to be "in the region" if they fall within the same watershed. For the purposes of this analysis, the watershed is defined by the area draining into the nearest traditional navigable water or interstate water. However, there may be circumstances in which field staff may utilize a smaller area for a significant nexus analysis (see discussion below); and
(3) Waters to have a significant nexus if they alone or in combination with other similarly situated waters in the same watershed have an effect on the chemical, physical, or biological integrity of traditional navigable waters or interstate waters that is more than "speculative or insubstantial."

Therefore, field staff should first determine whether the water to be evaluated is a tributary, adjacent wetland, or other water under the regulations - waters in each of these categories should be considered the similarly situated waters (again, see Section 6 for additional guidance on how to determine whether waters within the other waters regulatory category are "similarly situated").

Next, field staff should determine the watershed as defined by the area[23] draining into the nearest traditional navigable water or interstate water and should generally identify the "similarly situated" waters in that watershed. Generally, the logical and scientifically valid "region" for determining whether similarly situated waters have a significant nexus is the geographic area that drains through a single point of entry to the traditional navigable water or interstate water given that significant nexus determinations are made in reference to the closest downstream traditional navigable water or interstate water. There may be circumstances in which field staff, for efficiency purposes, elect to begin the case-by-case significant nexus analysis utilizing a smaller watershed (i.e., the Hydrologic Unit Classification (HUC)-10 "watershed" as identified by the U.S.

Geological Survey and the Natural Resources Conservation Service). Field staff should not however utilize an area larger than the watershed that drains through a single point of entry to the traditional navigable water or interstate water. When a smaller watershed provides sufficient science-based justification to establish jurisdiction, field staff need not unnecessarily expend administrative time and resources analyzing the entire single point of entry watershed. However, field staff should use the single point of entry watershed as the basis for a finding of no jurisdiction.

Finally, field staff should determine whether the water they are evaluating, in combination with other similarly situated waters in the watershed, has a significant nexus to the nearest traditional navigable water or interstate water. Justice Kennedy's opinion pointed to many functions of waters that might demonstrate a significant nexus, such as sediment trapping, nutrient recycling, pollutant trapping and filtering, retention or attenuation of flood waters, runoff storage, and provision of habitat. Furthermore, Justice Kennedy noted that a hydrologic connection is not necessary to establish a significant nexus, since in some cases the lack of hydrologic connection would be a sign of the water's function in relationship to the traditional navigable water or interstate water, such as retention of flood waters or pollutants that would otherwise flow downstream to the traditional navigable water or interstate water.

Thus, field staff should look for indicators of hydrology, effects on water quality, and physical, chemical, biological and ecological connections or functions when assessing whether a water, alone or in combination, has a more than speculative or insubstantial effect on the integrity of downstream traditional navigable waters or interstate waters. Hydrologic data may include volume, duration, and frequency of flow, as well as physical characteristics. Effects on the chemical integrity of downstream waters may include the extent to which the waters have the capacity to carry pollutants (for example, petroleum wastes, toxic wastes, and sediment) or flood waters downstream to traditional navigable waters or interstate waters; the extent to which the waters reduce the amount of pollutants or flood waters that would otherwise enter traditional navigable waters or interstate waters; and the extent to which the similarly situated waters perform physical functions related to the maintenance of downstream water quality such as sediment trapping. Ecological functions performed by the waters that may affect downstream traditional navigable waters or interstate waters include the capacity to transfer nutrients and organic carbon to downstream food webs (for example, macroinvertebrates present in headwater streams convert carbon in leaf litter, making it available to species downstream), and the maintenance of habitat that provides spawning areas for recreationally or commercially important species in downstream waters.

Analysis of such indicators, whether documented for an individual water or based on scientific literature describing functions of the types of waters in question, will allow field staff to evaluate whether the water alone or combination with similarly situated waters in the watershed is likely to have an effect that is more than speculative or insubstantial on the chemical, physical, or biological integrity of a traditional navigable water or interstate water. It is not appropriate to determine significant nexus based solely

on any specific threshold of distance (for example, between a tributary and its adjacent wetland or between a tributary and the traditional navigable water). Watershed ecosystems, and their interrelationships, are constructed of component parts that have relevance when considered collectively. Failure to protect the components undermines the ecosystem in its entirety. Therefore, the agencies have an obligation to evaluate waters in terms of how they interrelate and function as ecosystems rather than as individual units, especially in the context of complex ecosystems where their integrity may be compromised by environmental harms that individually may not be measurably large but collectively are so.

Among the most difficult questions for field staff is determining how "significant" a nexus must be and how to document its presence or lack thereof. Justice Kennedy provides guidance about the nature of the nexus when he concludes that waters are not jurisdictional when their effects on the physical, chemical, or biological integrity of downstream traditional navigable waters are speculative or insubstantial. Although the word "significant" has different meanings in different statutes and environmental programs, here it can fairly be interpreted to mean "more than speculative or insubstantial." In the context used by Justice Kennedy, a "significant nexus" does not require that the effect on the traditional navigable water be "substantial" or "measurably large."[24] Instead, Justice Kennedy's use of the terms "related to" and "more than speculative and insubstantial" suggest that he meant that "significant," as used in this context, includes having a predictable or observable chemical, physical, or biological functional relationship.

It is important to clarify that agency field staff, in conducting a significant nexus analysis, are not required to identify or evaluate every similarly situated water located within a particular watershed being assessed. Staff should evaluate as many adjacent wetlands, tributaries or other waters as is necessary to support and document the presence or absence of a significant nexus for the type of water being assessed. Staff should be confident that their significant nexus determination based on evaluation of a representative subset of adjacent wetlands, tributaries, or other waters in a watershed would be fully consistent with a determination based on an evaluation of all waters of the same type in the watershed.

Legal and Scientific Basis

In *Rapanos*, Justice Kennedy provides an approach for determining what constitutes a "significant nexus" serving as a basis for jurisdiction.[f] "The required nexus

[f] Again, the four justices who signed on to Justice Stevens' opinion would have upheld jurisdiction under the agencies' existing regulations and so stated that they would uphold jurisdiction under either the plurality or Justice Kennedy's opinion. Justice Kennedy concludes that *Riverside Bayview* and *SWANCC* establish the framework for determining whether an assertion of jurisdiction constitutes a reasonable interpretation of "navigable waters" - the connection between a nonnavigable water or wetland and a navigable water may be so close, or potentially so close, that the Corps may deem the water or wetland a "navigable water" under the Act; "[a]bsent a significant nexus, jurisdiction under the Act is lacking." Id. at 2241.

must be assessed in terms of the statute's goals and purposes. Congress enacted the law to 'restore and maintain the chemical, physical, and biological integrity of the Nation's waters,' 33 U.S.C. § 1251(a), and it pursued that objective by restricting dumping and filling in 'navigable waters,' §§ 1311(a), 1362(12).[25] Justice Kennedy provided further guidance for determining whether wetlands should be considered to possess the requisite nexus in the context of assessing whether wetlands are jurisdictional: "if the wetlands, either alone or in combination with similarly situated [wetlands] in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as 'navigable'."[26] While Justice Kennedy focused on adjacent wetlands in light of the facts of the cases before him, it is reasonable to utilize the same analysis for tributaries and other waters such as ponds, lakes and non-adjacent wetlands that are not themselves directly connected to a tributary system but may still have a significant nexus to a traditional navigable water or interstate water.

In determining which waters to consider "similarly situated" for purposes of analyzing whether they have a significant nexus "in combination," it is reasonable to begin with the categories of waters the agencies identified in promulgating their definition of "water of the United States." For example, tributaries are similarly situated within the landscape because they provide flow to the downstream traditional navigable water or interstate water and provide similar functions to that water. Adjacent wetlands are similarly situated within the landscape because the agencies' definition is focused on their proximity to another water of the United States – "adjacent" is defined in regulations as bordering, neighboring or contiguous (see Section 5 for further discussion). Justice Kennedy's standard allows the agencies to analyze whether all similarly situated waters in a region have a significant nexus to the downstream traditional navigable water. With this standard, Justice Kennedy has recognized the scientific reality that while it may be difficult to demonstrate that a particular individual wetland adjacent to a small headwater tributary has a significant nexus to a traditional navigable water, the destruction of all such adjacent wetlands in a region could have a significant effect on the traditional navigable water and, thus, in such circumstances the CWA must protect those wetlands in order to protect the traditional navigable water. The same logic applies to tributaries and similarly situated other waters.

Waters should generally be considered "in the region" if they are within a watershed that drains to a traditional navigable water or interstate water, defined by the point at which a tributary system first enters a traditional navigable water or interstate water. Using a watershed as the framework for conducting significant nexus evaluations is scientifically supportable. Watersheds are generally regarded as the most appropriate spatial unit for water resource management.[27] It is more effective than focusing on a specific site, such as an individual stream segment, because actions by humans, wildlife, and climactic events can have widespread effects within the watershed that collectively impact the quality of the relevant traditional navigable water or interstate water.[28] The watershed that contributes flow to that point is a logical spatial framework for the evaluation of the nexus. Reasonably, the functions of the contributing waters are inextricably linked in having a cumulative effect on the integrity of the traditional

navigable water or interstate water. The size of that watershed can be determined by tracing the flowpath from the water being evaluated to the nearest a traditional navigable water or interstate water, and then using that point of entry to define the watershed, including all the waters that contribute to the flow at that point.[29]

Justice Kennedy's opinion provides guidance pointing to many functions of waters that might demonstrate a significant nexus, such as sediment trapping, nutrient recycling, pollutant trapping and filtering, retention or attenuation of flood waters, runoff storage, and provision of habitat. Furthermore, Justice Kennedy noted that a hydrologic connection is not necessary to establish a significant nexus, since in some cases the lack of hydrologic connection would be a sign of the water's function in relationship to the covered water, such as retention of flood waters or pollutants that would otherwise flow downstream to the traditional navigable water or interstate water. If a water has a systematic physical, chemical, hydrological, biological, or ecological relationship to the integrity of traditional navigable waters or interstate waters, then showing that a water of this type, individually or in aggregate, performs such a function is sufficient to demonstrate a significant nexus. As noted above, Justice Kennedy was clear that the requisite significant nexus here can fairly be interpreted to mean "more than speculative or insubstantial," and the agencies reasonably interpret significant nexus to mean having a predictable or observable chemical, physical, or biological functional relationship.

Section 4: Tributaries

EPA and the Corps will assert jurisdiction over tributaries under either the plurality standard or the Kennedy standard, as described below.

For purposes of this guidance, a water is a tributary when it contributes flow to a traditional navigable water or interstate water, either directly or indirectly by means of other tributaries. A tributary can be a natural, man-altered, or man-made water body. Examples include rivers and streams, and lakes and certain wetlands that are part of the tributary system and flow directly or indirectly into traditional navigable waters or interstate waters. A tributary may be physically characterized by the presence of a channel with defined bed and bank. The bed of a stream is the bottom of the channel. The lateral constraints (channel margins) are the stream banks. One means of identifying the lateral constraints is the existence of an ordinary high water mark (OHWM). Corps regulations define OHWM as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."[30] As a general rule, the bed is that part of the channel below the "normal" water line, and the banks often extend above the water line. Channel characteristics depend on variables such as hydrology, lithology, climate, physiography, and gradient,[31] among others, and are subject to local interpretation. A tributary continues as far as a channel (i.e., bed and bank) is present. A natural or manmade break (e.g., rock outcrop, underground flow, dam, weir, diversion, or similar

break) in the presence of a bed and bank or ordinary high water mark does not establish the limit of a tributary in cases where a bed and bank and an ordinary high water mark can be identified upstream and downstream of the break.

Certain types of erosional features, such as gullies and rills, are not tributaries for purposes of this guidance. Gullies are relatively deep channels that are generally formed on valley sides and floors where no well-defined channel previously existed. They are commonly found in areas with low-density vegetative cover or with soils that are highly erodible. Rills[32] are formed by overland water flows eroding the soil surface during rain storms. Erosional features that are not tributaries for the purposes of this guidance can also be found in environments where compacted soil and sparse vegetation have increased overland flow significantly. The two main processes that result in the formation of gullies and similar erosional features are downcutting and headcutting, which are forms of longitudinal (incising) erosion. These actions generally result in erosional cuts that are often deeper than they are wide, with very steep banks, often small beds, and typically only carry water during precipitation events. The principle erosional processes that modify streams are also downcutting and headcutting. In streams however, lateral erosion is also very important. The result is that streams, except on steep slopes or where soils are highly erodible, are characterized by the presence of more defined bed and banks as compared to typical erosional features that are more deeply incised. Field staff should consider these factors as they distinguish streams and other tributaries that may be subject to Clean Water Act jurisdiction from other types of erosional features.

Tributaries Covered under the *Rapanos* Plurality Standard

EPA and the Corps will assert jurisdiction over "relatively permanent, standing or continuously flowing bodies of water" connected to traditional navigable waters.[g] Under the plurality standard, relatively permanent waters are jurisdictional without making a significant nexus finding.

Under the plurality standard, a non-navigable tributary is jurisdictional when it satisfies the following characteristics:

(1) The tributary is connected, directly or indirectly through other tributaries, to a downstream traditional navigable water, and
(2) Flow in the tributary, except for drought years, is at least seasonal.

Other tributaries will be evaluated under the Kennedy standard.

[g] The agencies will not assert jurisdiction over such waters under the plurality standard within the Eleventh Circuit, i.e. waters in the states of Florida, Georgia and Alabama. *See United States v. Robison*, 505 F.3d 1208 (11th Cir. 2007); *reh'g en banc denied*, 521 F.3d 1319 (11th Cir.), *cert. denied sub nom. United States v. McWane, Inc.*, 129 S. Ct. 630 (2008). Instead the agencies will use the Kennedy standard.

Tributaries Covered under the *Rapanos* Kennedy Standard

EPA and Corps regulations define "waters of the United States" to include tributaries to traditional navigable waters and to interstate waters.[33] EPA and the Corps will assert jurisdiction over all tributaries to traditional navigable waters or interstate waters, provided that the tributary, alone or in combination with other similarly situated tributaries in the watershed, significantly affects the chemical, physical, or biological integrity of traditional navigable waters or interstate waters.

Thus, a tributary is jurisdictional where:

(1) It is a tributary as defined for purposes of this guidance to a traditional navigable water or an interstate water; and
(2) The tributary, alone or in combination with other tributaries in the watershed, has a significant nexus with the traditional navigable water or interstate water.

When performing a significant nexus analysis for a tributary, the first step is to determine whether that tributary has a bed and bank and an ordinary high water mark. If the tributary possesses those characteristics, the next step is to determine whether the tributary drains, or is part of a network of tributaries that drain, into a downstream traditional navigable water or interstate water. If it can be demonstrated that the tributary has a bed and bank, an OHWM and is part of a tributary system to a traditional navigable water or an interstate water, and, therefore, can transport pollutants, sediments, flood waters and other materials to a traditional navigable water or interstate water, generally EPA and the Corps will conclude that the tributary can be demonstrated on a case-by-case basis to have a significant nexus with the downstream traditional navigable water or interstate water. This conclusion is based on the significant harm that pollutants can have on the physical, chemical, or biological integrity of the downstream traditional navigable water or interstate water.[34] The presence of a bed and bank and an OHWM are physical indicators of flow and it is likely that flows through tributaries with the above characteristics are generally sufficient to transport pollutants, sediments, and other materials downstream to the traditional navigable water or interstate water.

Thus, field staff may conclude on a case-by-case basis that a tributary is jurisdictional when they have determined and documented that the tributary has a bed and bank and an OHWM, is part of a tributary system to a traditional navigable water or an interstate water, and that there is no reasonable basis to conclude that pollutants, if introduced, would not be transported to the downstream traditional navigable water or interstate water. Wherever possible, field staff should also document, using available or readily obtainable information, the flow characteristics and functions of the tributary or tributaries, and their hydrologic relationship to the nearest downstream traditional navigable water or interstate water. Field staff should also address other functions, as appropriate, provided by the tributary that may affect the physical, chemical, or biological integrity of downstream traditional navigable waters or interstate waters. In

addition, a tributary is a jurisdictional water when, either alone or in combination with other tributaries in the same watershed, it has a significant nexus with the nearest downstream traditional navigable or interstate water. Therefore, to further support a significant nexus determination for a tributary, field staff should determine whether the tributary, in combination with other tributaries in the watershed, has a significant nexus with a downstream traditional navigable water or interstate water.

When considering whether the tributary at hand eventually flows to an interstate water or traditional navigable water, field staff should trace the tributary connection using resources such as direct observation or U.S. Geological Survey maps, aerial photography or other reliable remote sensing information, soil survey data or other appropriate information.

When field staff provide additional information on the flow characteristics and functions of the tributary or tributaries, and their hydrologic relationship to the nearest downstream traditional navigable water or interstate water, such information may include topographic maps, gage data, historic records of water flow, statistical data, personal observations/records, etc., as well as other information that characterizes the hydrologic and ecological relationships between the tributaries and the nearest downstream traditional navigable water or interstate water. Consideration may also be given to certain relevant contextual factors that directly influence the hydrology of tributaries, including the size of the watershed, average annual rainfall, and average annual winter snow pack. The significant nexus evaluation should also discuss the potential for the tributaries to transport pollutants to a traditional navigable water or interstate water.

Examples of other functions provided by tributaries that may affect the physical, chemical, or biological integrity of downstream traditional navigable waters or interstate waters include: distributing sediment[35] to maintain stream and riparian habitat; nutrient cycling and removal; providing habitat for amphibians, fish, and other aquatic or semi-aquatic species living in and near the stream that may use the downstream waters, including traditional navigable waters, for other portions of their life stages (e.g., spawning areas for recreationally or commercially important species); improving or maintaining biological integrity in downstream waters; and transferring nutrients and organic carbon vital to support downstream food webs (e.g., macroinvertebrates present in headwater streams convert carbon in leaf litter making it available to species downstream).[36] Disruptions in these biological processes affect the functional capacity of the entire downstream system.[37] The network of tributaries also regulates the flow of water into downstream traditional navigable waters and interstate waters, moderate low flow and high flow extremes, reduce downstream flooding, and prevent excess erosion caused by flooding.[38] Field staff may document any of these functions to bolster the conclusion that a tributary is jurisdictional.

To further support a significant nexus determination, field staff should, using their best professional judgment, knowledge of the area, and relevant maps, assess the contribution of all tributaries in the watershed in evaluating the significance of the

chemical, physical, or biological nexus with the nearest traditional navigable water or interstate water. When identifying other tributaries in the watershed to be considered in combination for a significant nexus analysis, field staff may use resources such as direct observation or U.S. Geological Survey maps, aerial photography, or other reliable remote sensing information. Field staff are not required to identify or evaluate every tributary located within a particular watershed being assessed. Using available maps and other appropriate information, staff should include in the evaluation as many tributaries as is necessary to support and document the presence or absence of a significant nexus.

Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow) are generally not waters of the United States because they are not tributaries or they do not have a significant nexus to downstream traditional navigable waters or interstate waters. In addition, ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry relatively permanent flow of water are generally not waters of the United States because they are not tributaries or they do not have a significant nexus to downstream traditional navigable waters or interstate waters.[h] Even when not jurisdictional waters subject to § 404, these geographic features (e.g., swales, ditches) may still contribute to a surface hydrologic connection between an adjacent wetland and a traditional navigable water or interstate waters. In addition, these geographic features may function as point sources (i.e., "discernible, confined, and discrete conveyances"), such that discharges of pollutants to other waters through these features could be subject to other CWA regulations (e.g., CWA §§ 311 and 402).

To clarify, only certain types of non-tidal ditches will be considered tributaries for the purposes of this guidance (tidal ditches are, by definition, waters of the U.S.). For a non-tidal ditch to be considered a tributary, it must first have a bed and bank, an ordinary high water mark, and connect directly or indirectly (through other tributaries or conveyances) to a traditional navigable water or interstate water. If these requirements are satisfied, ditches are considered tributaries for the purposes of this guidance if they are:

- natural streams that have been altered (e.g., channelized, straightened or relocated);
- ditches or portions of ditches that have been excavated in waters of the U.S., including wetlands;

[h] Consistent with longstanding guidance, "the Corps reserves the right on a case-by-case basis to determine that a particular waterbody within these categories of waters is a water of the United States. EPA also has the right to determine on a case-by-case basis if any of these waters are 'waters of the United States.'" Final Rule for Regulatory Programs of the Corps of Engineers, 51 FR 41206, 41217 (Nov. 13, 1986); see also Clean Water Act Section 404 Program Definitions and Permit Exemptions; Section 404 State Program Regulations, Final Rule, 53 FR 20764, 20765 (June 6, 1988). Any such case-by-case determinations would be made consistent with the standards in *Rapanos*. EPA expects that such case-by-case determinations would generally be limited to circumstances in which a person discharges a pollutant into this category of waters that could adversely impact downstream water quality.

- ditches that have relatively permanent flowing or standing water; or
- ditches that connect two or more jurisdictional waters of the U.S.

If a ditch is considered a tributary, it will be evaluated in the same manner as other tributaries (i.e., plurality standard or Kennedy standard, as appropriate).

Exempt activities defined at 33 CFR 323.4 are not affected by this guidance.

Erosional features such as gullies and rills are not part of the tributary system, are not jurisdictional waters, and shall not be assessed as part of the significant nexus determination. Natural and man-made swales are also not tributaries for purposes of this guidance.

In certain cases, ditches or swales include areas that meet the regulatory definition of "wetlands." Wetland ditches will be evaluated as wetlands under the plurality or Kennedy standard, not at as tributary (unless the ditch itself is considered a tributary for one of the reasons stated above).

Field staff should assess the contribution of all tributaries in the watershed in evaluating the significance of the chemical, physical, or biological nexus with the nearest traditional navigable water or interstate water. Generally EPA and the Corps will conclude that the tributary can be demonstrated on a case-by-case basis to have a significant nexus with the downstream traditional navigable water or interstate water based on the significant harm that pollutants can have on the physical, chemical, or biological integrity of the downstream traditional navigable water or interstate water. In addition, in light of the flow contributed by all the tributaries in a watershed and the scientific consensus on the functions provided by tributaries, the agencies expect that tributaries will generally be found to have a significant nexus on a watershed basis. The agencies expect that the substantial volume of flow contributed by the combination of tributaries in the watershed will be sufficient to demonstrate that the tributaries significantly affect the physical, chemical and biological integrity of the downstream traditional navigable water or interstate water. Tributaries help to maintain base flow in the larger rivers downstream, which is particularly important in times of drought. At the same time, a network of tributaries can regulate the flow of water into downstream waters, moderate low flow and high flow extremes, reduce local and downstream flooding, and prevent excess erosion caused by flooding.[39]

As when assessing a tributary on its own, field staff may also, if necessary, assess the other functions provided by the tributaries as a whole in a watershed. The agencies expect that in light of the substantial functions provided by the tributaries in combination in a watershed, such tributaries will generally be found jurisdictional.

Legal and Scientific Basis

Tributaries Covered Under the *Rapanos* Plurality Standard

Jurisdictional determinations based on the plurality standard would have the support of the four justices joining the plurality opinion as well as the four dissenting justices. As noted above, the plurality concluded that the agencies' regulatory authority should extend only to "relatively permanent, standing or continuously flowing bodies of water"[40] connected to traditional navigable waters, and to "wetlands with a continuous surface connection to" such relatively permanent waters.[41] "Relatively permanent waters" were described as waters that typically flow year-round except in times of drought, or waters that have a continuous flow at least seasonally. The plurality opinion emphasized that relatively permanent waters do not include tributaries "whose flow is 'coming and going at intervals … broken, fitful.'"[42] Therefore, "relatively permanent waters" do not include ephemeral tributaries which flow only in response to precipitation and intermittent streams which do not have continuous flow at least seasonally.[i]

Moreover, waters that have had seasonal flow on a historic basis remain jurisdictional despite the fact that man-made diversions for irrigation, water supply or for other reasons have caused a tributary, or portion thereof, to flow less than seasonally.[j]

A central issue to the plurality standard is what constitutes "seasonal flow." In this context, a water is "seasonal" when it has predictable flow during wet seasons in most years. The time period constituting "seasonal" will vary across the country. Rather than having distinct, rigid boundaries, stream reaches classified as perennial, intermittent, and ephemeral may more accurately be described as dynamic zones within stream networks. The length or extent of these zones may be highly variable and is dictated by multiple factors such as annual precipitation, evapotranspiration, and land-use practices.[43] Thus, determination of whether a water meets the plurality standard for relatively permanent should involve determination of the length and timing of seasonal flows in the ecoregion in question.

Field staff have flexibility to determine what seasonal flow means in each particular case.[44] Seasonal runoff can be the result of snow melt, seasonal patterns in precipitation, and seasonal fluctuations in ground water levels. In the arid west, stream discharges are driven by three large-scale weather patterns.[45] Precipitation produced by these weather patterns varies greatly for any given locality, but generally, precipitation shifts from winter in the north to summer in the south. The variation of precipitation in time, coupled with the highly variable topography of the arid west, results in spatially variable precipitation patterns.[46] For example, seasonal flow in most of New Mexico and large portions of Arizona and Colorado would be during the period of just two months, July and August, when they normally receive between 30-50 percent of their annual precipitation as rain.[47] In some areas, snow melt drives stream flow, and seasonal flow is typically in the spring.[48] Seasonal patterns of flow may be less pronounced in the semi-

[i] Note that under the Kennedy standard, such waters may be jurisdictional where they have a significant nexus.

[j] See *S. D. Warren Co. v. Maine Board of Environmental Protection*, 547 U.S. 370 n.5 (2006)("nor can we agree that one can denationalize national waters by exerting private control over them.").

arid Midwest, perhaps because of less seasonal precipitation patterns and relatively more vegetative cover.[49] In the east precipitation is more uniform but increased evapotranspiration during the growing season can reduce ground water levels and surface flows to create seasonal and ephemeral flows.[50]

Tributaries Covered Under the *Rapanos* Kennedy Standard

Justice Kennedy rejected the plurality's approach that only "relatively permanent" tributaries are within the scope of CWA jurisdiction. Instead, Justice Kennedy concluded that "Congress could draw a line to exclude irregular waterways, but nothing in the statute suggests it has done so;" in fact, he states that Congress has done "quite the opposite."[51] Further, Justice Kennedy concludes, based on "a full reading of the dictionary definition" of "water," that "the Corps can reasonably interpret the Act to cover the paths of such impermanent streams."[k] Even in Justice Kennedy's rejection of Justice Steven's opinion it is clear that he only rejects the broad scope of jurisdiction over wetlands without further analysis, not jurisdiction over tributaries regardless of their size or characteristics: "the dissent would permit federal regulation whenever wetlands lie alongside a ditch or drain, however remote and insubstantial, that eventually may flow into traditional navigable waters. The deference owed to the Corps' interpretation of the statute does not extend so far."[52]

Justice Kennedy described the Corps' standard for asserting jurisdiction over tributaries: "the Corps deems a water a tributary if it feeds into a traditional navigable water (or a tributary thereof) and possesses an ordinary high-water mark."[53] Justice Kennedy concluded that this standard "presumably provides a rough measure of the volume and regularity of flow."[54] In addition, if it is applied reasonably consistently, the Corps' existing standard for tributaries "may well provide a reasonable measure of whether specific minor tributaries bear a sufficient nexus with other regulated waters to constitute 'navigable waters' under the Act."[55] Thus, Justice Kennedy's opinion may reasonably be read as not overturning the existing agency regulations for tributaries.

However, the agencies have decided to address *per se* jurisdiction over tributaries through the rulemaking process and for purposes of this guidance assert jurisdiction over tributaries utilizing the same standard Justice Kennedy articulated for adjacent wetlands. In establishing the significant nexus standard, Justice Kennedy recognized that upstream adjacent wetlands can have significant effects on the physical, chemical and biological integrity of covered waters under the CWA. As a scientific matter, tributaries can, of

[k] 126 S.Ct. at 2243 (emphasis added). First, Justice Kennedy notes that the term "waters" can mean "flood or inundation," according to the Webster's Second definition, and that these events are "impermanent by definition." Second, even looking to the plurality's preferred dictionary definition of "waters," i.e., "water as found in streams and bodies forming geographical features such as oceans, rivers, and lakes," Justice Kennedy notes that "intermittent flow can constitute a stream." Id. And finally, Justice Kennedy notes that the plurality's reference to the statement by the *Riverside Bayview* Court comparing wetlands to "rivers, streams, and other hydrographic features more conventionally identifiable as 'waters' … could just as well refer to intermittent streams." Id. (citations omitted).

course, have similar effects and it is reasonable to utilize the same standard for determining whether tributaries have a significant nexus to downstream covered waters.

As noted in Section 3, it is reasonable to consider all tributaries in a watershed to be "similarly situated" for purposes of a significant nexus analysis because they contribute flow to the downstream traditional navigable water or interstate water and provide similar functions to those downstream waters. Further, Section 3 demonstrated that it is reasonable to consider the region for significant nexus analysis to be a watershed defined by the point at which a tributary system first enters a traditional navigable water or interstate water.

The agencies' identification of the presence of an ordinary high water mark as one of the factors for considering a water to be a tributary for purposes of this guidance is consistent with Justice Kennedy's observation that an ordinary high water mark may be a reasonable measure of whether a tributary possesses a significant nexus with a traditional navigable water or interstate water. This observation, in turn, is supported by both the agencies' scientific judgment in the past and the scientific literature of the present. As the Corps stated in promulgating the definition of "waters of the U.S." in 1977 to include tributaries, "[t]he regulation of activities that cause water pollution cannot rely on . . . artificial lines, however, but must focus on all waters that together form the entire aquatic ecosystem. Water moves in hydrologic cycles, and the pollution of … part of the aquatic ecosystem … will affect the water quality of the other waters within that aquatic ecosystem."[56] In fact, the agencies made the assessment of the nexus between tributaries and traditional navigable waters envisioned by Justice Kennedy: for more than 30 years, EPA and the Corps have interpreted the CWA to protect "the many tributary streams that feed into the tidal and commercially navigable waters … since the destruction and/or degradation of the physical, chemical, and biological integrity of each of these waters is threatened by the unregulated discharge of dredged or fill material."[57] As Congress and the Supreme Court have recognized, "[w]ater moves in hydrologic cycles and it is essential that discharge of pollutants be controlled at the source."[58]

A large volume of scientific literature documents the important functions that tributaries provide to downstream waters.[1] Headwater, intermittent, and ephemeral streams are the most common stream types in the United States. Collectively, they determine the chemical, physical, and biological integrity of downstream waters, and provide many of the same functions as non-headwater and perennial streams.[59] Headwater, intermittent, and ephemeral streams and their associated riparian areas reduce the amount of sediment delivered to downstream waters by stabilizing stream banks to reduce bank erosion and filtering sediment from water and runoff.[60] The smallest streams are responsible for most nutrient cycling and removal, and thus transforming and changing the amount of nutrients delivered to downstream waters.[61] A close connection

[1] For purposes of applying the current body of scientific literature to the questions created by the Supreme Court decision, traditional navigable waters can be considered analogous to downstream waters. This is because the vast majority of traditional navigable waters are downstream of headwater, intermittent, and ephemeral streams.

exists between the water quality of these streams and the water quality of downstream water bodies.[62] Activities such as discharging a pollutant into one part of the tributary system are well-documented to affect other parts of the system, even when the point of discharge is far upstream from the navigable water that experiences the effect of the discharge.[63] These streams provide habitat and protection for amphibians, fish, and other aquatic or semi-aquatic species living in and near the stream that may use the downstream waters, including traditional navigable waters, for other portions of their life stages.[64] They also serve as migratory corridors for fish. These areas can improve or maintain biological integrity and control water temperatures in the downstream waters. Headwater streams serve as a source of food materials such as insects, larvae, and organic matter to nourish the fish, mammals, amphibians, and other organisms in downstream streams, rivers, and lakes.[65] Disruptions in these biological processes affect the ecological functions of the entire downstream system.[66] Headwater, intermittent, and ephemeral streams help to maintain base flow in the larger rivers downstream, which is particularly important in times of drought. At the same time, the network of these small streams can regulate the flow of water into downstream waters, mitigating low flow and high flow extremes, reducing local and downstream flooding, and preventing excess erosion caused by flooding.[67]

Section 5: Adjacent Wetlands

The agencies will assert Clean Water Act jurisdiction over adjacent wetlands that meet either the plurality standard or the Kennedy standard under *Rapanos*.

Wetlands Covered Under the *Rapanos* Plurality Standard

EPA and the Corps will assert jurisdiction over "wetlands with a continuous surface connection to" "relatively permanent, standing or continuously flowing bodies of water" connected to traditional navigable waters.[68]

The plurality opinion in *Rapanos* created a standard for finding jurisdiction under the CWA for wetlands, which is related to the presence of a physical connection between the wetland and the relatively permanent tributary to which it is adjacent. Under the plurality standard, wetlands with a continuous surface connection to relatively permanent waters are jurisdictional without the legal obligation to make a significant nexus finding.

Under the plurality standard, an adjacent wetland is jurisdictional when it satisfies the following characteristics:

(1) The wetland is adjacent to a relatively permanent, non-navigable tributary, that is connected to a downstream traditional navigable water, and

(2) A continuous surface connection exists between the wetland and a relatively permanent tributary where the wetland directly abuts the tributary (e.g., they are not separated by uplands, a berm, dike, or similar feature). A "continuous surface connection" refers to a physical

connection between the wetland and the jurisdictional water, but does not require the presence of water between the wetland and the jurisdictional water.

Wetlands Covered Under the *Rapanos* Kennedy Standard

The agencies will assert Clean Water Act jurisdiction over wetlands[m] adjacent to another water of the U.S. where such wetlands have a significant nexus with downstream traditional navigable or interstate waters.[n] Adjacent wetlands will be considered to have a significant nexus if they, alone or in combination with similarly situated wetlands, have an effect on the chemical, physical, or biological integrity of traditional navigable waters or interstate waters that is more than "speculative or insubstantial." As a general matter, "similarly situated" adjacent wetlands include all adjacent wetlands located in the region. Wetlands adjacent to traditional navigable waters or interstate waters are *per se* jurisdictional and do not require a showing of significant nexus.

Thus, an adjacent wetland is jurisdictional where such wetland meets the definition of "adjacent" as that term is defined in the agencies' regulations and is either:

(1) Adjacent to a traditional navigable water or interstate water; or
(2) Adjacent to a tributary, lake, reservoir, or other jurisdictional water (except another wetland) and either alone or in combination with other adjacent wetlands in the watershed has a significant nexus to the nearest downstream traditional navigable or interstate water.

The regulations define "adjacent" as follows: "[t]he term adjacent means bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are 'adjacent wetlands.'"[69] Under this definition, a wetland does not need to meet all criteria to be considered adjacent. The agencies consider wetlands to be bordering, contiguous, or neighboring, and therefore "adjacent" if at least one of following three criteria is satisfied:

(1) There is an unbroken surface or shallow sub-surface hydrologic connection between the wetland and jurisdictional waters; or
(2) The wetlands are physically separated from jurisdictional waters by "man-made dikes or barriers, natural river berms, beach dunes, and the like;" or

[m] Under normal circumstances, a wetland will meet all three parameters of hydrology, hydrophytic vegetation, and hydric soils, as required by agency regulations, and described in the *Corps of Engineers Wetlands Delineation Manual* (1987) or appropriate Regional Supplement. The regulatory definition of waters of the U.S. includes "wetlands adjacent to waters (other than waters that are themselves wetlands) identified [as jurisdictional]." 33 CFR § 328.3(a)(7); 40 CFR § 230.3(s)(7).

[n] The plurality standard in *Rapanos* may provide an alternative basis for asserting jurisdiction, see Section 7.

(3) Where a wetland's physical proximity to a jurisdictional water is reasonably close, that wetland is "neighboring" and thus adjacent. For example, wetlands located within the riparian area or floodplain of a jurisdictional water will generally be considered neighboring, and thus adjacent. One test for whether a wetland is sufficiently proximate to be considered "neighboring" is whether there is a demonstrable ecological interconnection between the wetland and the jurisdictional waterbody. For example, if resident aquatic species (e.g., amphibians, reptiles, fish, mammals, or waterfowl) rely on both the wetland and the jurisdictional waterbody for all or part of their life cycles (e.g., nesting, rearing, feeding, etc.), that may demonstrate that the wetland is neighboring and thus adjacent. The agencies recognize that as the distance between the wetland and jurisdictional water increases, the potential ecological interconnection between the waters is likely to decrease.

An unbroken surface or shallow sub-surface hydrologic connection to jurisdictional waters may be established by a physical feature or discrete conveyance that supports periodic flow between the wetland and a jurisdictional water. Water does not have to be continuously present in this hydrologic connection and the flow between the wetland and the jurisdictional water may move in either or both directions. The hydrologic connection need not itself be a water of the U.S. A shallow subsurface hydrologic connection is lateral water flow through a shallow subsurface layer, such as may be found in steeply sloping forested areas with shallow soils, soils with a restrictive horizon, or in karst systems.[70] Shallow subsurface connections may be found below the ordinary root zone (below 12 inches), where other wetland delineation parameters may not be present. A combination of physical factors may reflect the presence of a shallow subsurface connection, including close proximity, position in the landscape (for example, on a slope directing flow from wetland to jurisdictional waters), stream hydrograph, and soil surveys (for example, exhibiting indicators of high transmissivity over an impermeable layer).[71] Indicators such as these may support an inference of a shallow subsurface connection without requiring a case-specific field verification.

If uplands separating a wetland from jurisdictional water can reasonably be characterized as "man-made dikes or barriers, natural river berms, beach dunes, and the like," then, under the agencies' regulations, the wetlands are adjacent even if no apparent hydrologic connection exists. It is important to note that natural river berms are formed by sediment deposits accumulating at or near the stream bank during flood events. Such berms vary in height from inches to feet, and also can be quite wide.[72] Similarly, multiple beach dunes may exist between a wetland and jurisdictional water (including primary and secondary dunes), since beach dunes typically consist and function as an interdunal system (particularly on barrier islands).

The link between physical proximity and an ecological connection is well documented in the scientific literature. A wetland within the riparian area[73] or floodplain[74] typically has such an ecological interconnection. For example, adjacent wetlands typically help to store floodwaters, pollutants, and sediments that could

otherwise reach a jurisdictional water.[75] Adjacent wetlands often provide important sources of stored water that augment stream flow during low-flow periods.[76] Species, such as amphibians, certain reptiles (e.g., watersnakes), waterfowl, invertebrates, and fish (including anadromous and catadromous fish), move between an adjacent wetland and a jurisdictional water for spawning, nesting, feeding, refuge, and other life stage requirements.[77] Species that move between an adjacent wetland and a jurisdictional water are distinguishable from migratory species, which use the wetland during a journey to a different area[78] and are not to be used as a scientific basis for demonstrating an ecological interconnection for adjacency. The agencies recognize that as the distance between the wetland and jurisdictional water increases, the potential ecological interconnection between the waters is likely to decrease. As a result, field staff should generally increase the record support and technical basis for demonstrating that an ecological interconnection is present as the distance between waters increases.

Under Justice Kennedy's standard, the following legal test for Clean Water Act jurisdiction applies: If a wetland is adjacent to a traditional navigable water or a non-wetland interstate water, a finding of adjacency is sufficient in and of itself to demonstrate that wetland is subject to Clean Water Act jurisdiction. On the other hand, a finding that a particular wetland is adjacent to a jurisdictional waterbody other than a traditional navigable water or non-wetland interstate water is not sufficient in and of itself to establish Clean Water Act jurisdiction over that wetland. For the latter category of adjacent wetlands, in order to establish Clean Water Act jurisdiction, field staff, on a case-by-case basis, must determine whether the particular adjacent wetland, alone or in combination with similarly situated wetlands in that watershed, has a significant nexus with traditional navigable waters or non-wetland interstate waters (see discussion below). A determination of adjacency is based on an evaluation of the relationship between a wetland and the nearest jurisdictional water, which may include considerations of an ecological connection between those waterbodies. In contrast, a determination of significant nexus is a different inquiry, which is based on evaluating whether there is a significant nexus between that adjacent wetland (in combination with similarly situated adjacent wetlands in the watershed) with a traditional navigable water or a non-wetland interstate water.

All wetlands within a wetland mosaic should generally be considered collectively when determining adjacency or jurisdiction. Wetlands present in such systems act generally as a single ecological unit. A wetland mosaic refers to a landscape where wetland and non-wetland components are too numerous and closely associated to be appropriately delineated or mapped separately. These areas often have complex microtopography, with repeated small changes in elevation occurring over short distances. Tops of ridges and hummocks are often non-wetland but are interspersed with wetlands having hydrophytic vegetation, hydric soils, and wetland hydrology. Examples of wetland mosaics include ridge-and-swale topography in large floodplains, coastal flatwoods and savannas containing numerous shallow depressions, and coastal dune and swale systems.[79]

As discussed in Section 3, an adjacent wetland is a jurisdictional water when, either alone or in combination with other similarly situated waters in the region, such wetland has a significant nexus with the nearest downstream traditional navigable or interstate water. In addition, as discussed in Section 3, the agencies consider all wetlands within the relevant watershed area that meet the regulatory definition of adjacency to be "similarly situated." Adjacent wetlands will be considered to be "in the region" if they fall within the same watershed. As discussed in Section 3, for the purposes of this analysis, the watershed is defined by the area draining into the nearest traditional navigable water or interstate water. However, there may be circumstances in which field staff may utilize a smaller area for a significant nexus analysis. When identifying other adjacent wetlands in the watershed to be considered in combination for a significant nexus analysis, field staff may use resources such as direct observation or U.S. Geological Survey maps, aerial photography, or other reliable remote sensing information. Field staff are not required to identify or evaluate every adjacent wetland located within a particular watershed being assessed. Using available maps and other appropriate information, staff should include in the evaluation as many adjacent wetlands as is necessary to support and document the presence or absence of a significant nexus.

To determine whether adjacent wetlands in the watershed have the requisite significant nexus, field staff should first evaluate the tributaries as described in Section 4. Field staff will then evaluate whether the adjacent wetlands, in combination with similarly situated wetlands in the watershed, have the requisite significant nexus, taking into consideration the integral role of the tributary system in linking the wetlands to the downstream traditional navigable water or interstate water. When evaluating adjacent wetlands, field staff should consider the many functions of waters such as sediment trapping, nutrient recycling, pollutant trapping and filtering, retention or attenuation of flood waters, runoff storage, and provision of habitat. When documenting the significant nexus of adjacent wetlands, field staff should consider the physical, hydrological and ecological relationships between the tributaries and their adjacent wetlands and their closely linked role in protecting the chemical, physical or biological integrity of the nearest downstream traditional navigable water or interstate water. Adjacent wetlands and their tributaries function as an integrated hydrologic system, and as a unit they affect the amount of pollutants and floodwaters that reach the downstream traditional navigable waters or interstate waters. Furthermore, a hydrologic connection is not necessary to establish a significant nexus, since in some cases the lack of hydrologic connection would be a sign of the water's function in relationship to the traditional navigable water or interstate water, such as retention of flood waters or pollutants that would otherwise flow downstream to the traditional navigable water or interstate water.

Legal and Scientific Basis

Adjacent Wetlands Covered under the *Rapanos* Plurality Standard

Under the plurality standard, wetlands that have a continuous surface connection with a relatively permanent, non-navigable tributary are jurisdictional without the need for a significant nexus finding. The plurality opinion indicates that "continuous surface connection" is a "physical connection requirement." A continuous surface connection does not, however, require surface water to be continuously present between the wetland and the tributary.

Adjacent Wetlands Covered under the *Rapanos* Kennedy Standard

Because the question in *Rapanos* was whether particular adjacent wetlands were "waters of the U.S.," Justice Kennedy's opinion focused on the standard for determining whether wetlands have the requisite nexus:

> With respect to wetlands, the rationale for Clean Water Act regulation is, as the Corps has recognized, that wetlands can perform critical functions related to the integrity of other waters—functions such as pollutant trapping, flood control, and runoff storage. 33 CFR § 320.4(b)(2). Accordingly, wetlands possess the requisite nexus, and thus come within the statutory phrase "navigable waters," if the wetlands, either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as "navigable." When, in contrast, wetlands' effects on water quality are speculative or insubstantial, they fall outside the zone fairly encompassed by the statutory term "navigable waters."[80]

With respect to wetlands adjacent to traditional navigable waters, Justice Kennedy concluded that the agencies' regulation "rests upon a reasonable inference of ecologic interconnection, and the assertion of jurisdiction for those wetlands is sustainable under the Act by showing adjacency alone."[81] The agencies will apply Kennedy's reasoning to conclude wetlands adjacent to interstate waters are similarly jurisdictional without the need of demonstrating a significant nexus.

For wetlands adjacent to other covered waters, however, absent more specific regulations, the agencies must establish that the wetland alone or in combination has a significant nexus to a traditional navigable water or interstate water. Justice Kennedy provided some guidance as to the analysis necessary to conclude that a water has a sufficient nexus. Justice Kennedy's concern was that neither the Corps nor the reviewing courts applied the proper legal standard.[o] Evidence was presented that the wetlands were providing habitat, sediment trapping, nutrient recycling, flood peak diminution and reduction, and flow water augmentation.[82] The administrative record in one of the

[o] Id. at 2251. Justice Kennedy thought that in both the consolidated cases before the Supreme Court, "the record contains evidence suggesting the possible existence of a significant nexus according to the principles outlined above. Thus the end result in these cases and many others to be considered by the Corps may be the same as that suggested by the dissent, namely, that the Corps' assertion of jurisdiction is valid." Id. at 2250.

consolidated cases noted the wetland's connection to wildlife habitat and water quality and also noted that the project would have a major, long-term detrimental effect on wetlands, flood retention, recreation and conservation and overall ecology.[83] Justice Kennedy concluded that much the same evidence previously analyzed by the Corps should permit the establishment of a significant nexus with traditional navigable waters, particularly if supplemented by further evidence about the connection between the wetlands and the navigable water.[84]

A hydrologic connection is neither determinative of nor required to show a significant nexus. Justice Kennedy noted that a mere hydrologic connection would not suffice in all cases; the connection may be too insubstantial for the hydrologic linkage to establish the required nexus with navigable waters as traditionally understood.[85] On the other hand, Justice Kennedy was also clear that a hydrologic connection between a wetland and a tributary is not required to establish a significant nexus: "Given the role wetlands play in pollutant filtering, flood control, and runoff storage, it may well be the absence of hydrologic connection (in the sense of interchange of waters) that shows the wetlands' significance for the aquatic system."[86]

Section 6: Other Waters

The "other waters" or "(a)(3) waters" provision of EPA's and the Corps regulations includes:

> "All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce …"

The agencies recognize that Supreme Court decisions in *SWANCC* and *Rapanos* have identified limitations on the geographic scope of (a)(3) waters that may be determined to be jurisdictional. The agencies intend to address, in greater detail in future notice-and-comment rulemaking, the full extent that Clean Water Act jurisdiction may reach over (a)(3) waters. In the meantime, the agencies will make case-by-case, fact-specific determinations of jurisdiction under (a)(3) of whether waters or particular types of other waters, alone or in combination with similarly situated other waters in the region, significantly affect the chemical, physical, or biological integrity of traditional navigable waters or interstate waters.

The agencies believe that the fewer of a particular water type in a watershed, the less likely there is to be a fact specific basis for concluding that those waters in combination have a significant nexus to a downstream traditional navigable water or interstate water. By contrast, the agencies believe that non-wetland waters that are adjacent to jurisdictional tributaries or to traditional navigable waters or interstate waters will usually be determined on a case-by-case basis to have a significant nexus to the

traditional navigable water or interstate water (for example, an oxbow lake which, because of its close proximity to a jurisdictional tributary, contributes significantly to the chemical, physical, or biological integrity of a traditional navigable water, or prairie potholes that, together in the same watershed, significantly reduce flooding of an interstate water). While as a scientific matter a geographically isolated other water may have a significant nexus to a traditional navigable water or interstate water, as a practical matter in the field, it may be difficult to demonstrate that water has a significant nexus, individually or in combination with similarly situated other waters.

Examples of the nature of effects that support a significant nexus finding are the same as those considerations identified under Section 3 above. In conducting the significant nexus analysis, field staff should specifically consider the distance between the other water and the nearest traditional navigable water or interstate water, and the impact of proximity on potential chemical, physical, or biological effects. Consideration of use by migratory species is not relevant to the significant nexus determination.

Legal and Scientific Basis

The starting point for any assertion of jurisdiction remains the EPA and Corps regulations defining the term "waters of the United States." As noted above, those regulations provide for CWA jurisdiction over "all other waters … the use, degradation, or destruction of which could affect interstate or foreign commerce…"[87] This provision of the regulations was the focus of the *SWANCC* decision. In that case, the Court was considering the validity of the Corps' assertion of jurisdiction over ponds and mudflats under (a)(3) of the Corps' regulations. In rejecting the assertion of jurisdiction in that case, the Court held that it "was the significant nexus between the wetlands and 'navigable waters' that informed our reading of the CWA in *Riverside Bayview Homes*."[88] Justice Kennedy further explained the *SWANCC* decision – and his understanding of when EPA and the Corps could assert jurisdiction over "other waters" – in his concurring opinion in *Rapanos*: "In *Solid Waste Agency of Northern Cook Cty. v. Army Corps of Engineers*, 531 U.S. 159 (2001) (*SWANCC*), the Court held, under the circumstances presented there, that to constitute 'navigable waters' under the Act, a water or wetland must possess a 'significant nexus' to waters that are or were navigable in fact or that could reasonably be so made."[89] Since the Court in *SWANCC* was considering the validity of the Corps' assertion of jurisdiction over ponds and mudflats under (a)(3) of the Corps' regulations, it is clear that Justice Kennedy intends for his significant nexus standard to apply to the "other waters" of this regulation.

An "other water" is jurisdictional only if it both has a significant nexus to a traditional navigable water or interstate water and meets the regulatory definition. One of the ways of demonstrating that a water is one "the use, degradation or destruction of which could affect interstate or foreign commerce" under (a)(3) of the regulations is through demonstration that the water has a significant nexus to a traditional navigable water or interstate water. A water that meets Justice Kennedy's significant nexus standard means that the degradation or destruction of that water could harm the downstream

traditional navigable water or interstate water and therefore could affect interstate or foreign commerce.

For purposes of the significant nexus evaluation, similarly situated waters means those waters of a similar type having like physical and ecological characteristics and performing similar functions in the same watershed. For example, similarly situated waters may include all oxbow lakes, prairie potholes, all lakes and ponds, or all vernal pools in the same watershed. Both the position of the waters in the landscape (headwaters, riparian, flood plain) and the type of water (Cowardin class, wetlands defined by hydrogeomorphic classification type, or other classifications based on functions and values) are factors in determining similarly situated waters. When conducting a significant nexus analysis for a pond or lake, for example, which is not directly connected to the tributary system and therefore falls under (a)(3) of the agencies' regulations, field staff should evaluate the effects of the lake or pond in combination with the effects of all other non-tributary lakes and ponds within the same watershed. Similarly, the effects of a non-adjacent wetland together with the effects of all other non-adjacent wetlands of the same type (for example, prairie potholes, vernal pools, etc.) within the same watershed should be assessed in making a significant nexus determination for a particular non-adjacent wetland.

While all adjacent wetlands are reasonably proximate to a jurisdictional water by regulation and, therefore, "similarly situated," the other waters provision of the regulations encompasses a wide-range of waters. For purposes of this guidance, the agencies have decided that it is more scientifically appropriate to assess significant nexus for other waters in combination with waters of a similar type rather than, for example, aggregating all other waters that were located approximately the same distance in the watershed from a traditional navigable water or interstate water because the types of waters identified in the regulation can provide quite different functions. For instance, prairie potholes function to retain floodwaters, recharge groundwater, provide habitat for waterfowl and other species, and process and retain nutrients and pollutants that may otherwise enter tributaries; oxbow lakes are connected to the river during high floods and provide a protected habitat for eggs and young of many fish species, as well as provide refuge for spawning for some species. [90]

For the reasons articulated in Section 3 of this guidance, the agencies will interpret "in the region" to be the watershed boundary defined by the geographic area that drains through a single point of entry to the nearest downstream traditional navigable or interstate water.

Finally, the agencies will need to identify a significant chemical, physical or biological nexus. It is important to note that Justice Kennedy concluded that a water may have a significant nexus even if it does not have a hydrologic connection to the downstream traditional navigable water or interstate water: "Given the role wetlands play in pollutant filtering, flood control, and runoff storage, it may well be the absence of a hydrologic connection (in the sense of interchange of waters) that shows the wetlands'

significance for the aquatic system."[91] Thus, effects that should be considered include circumstances where "other waters" trap pollutants such as nutrients or sediment, for example, or where they hold precipitation or snow melt, thereby reducing contamination or flooding of traditional navigable or interstate waters. Surface flow in streams draining mountain headwater areas in the arid west is commonly physically isolated from downstream playa lakes, wetlands, or larger streams and rivers by stream reaches that are dry much of the time. Such physical isolation may be broken for brief periods after rainfall. Despite the physical isolation of surface flow in these streams, they are an integral part of the hydrologic system in arid regions.[92] There are often strong biological connections: many aquatic and semi-aquatic animals move between land-locked waters, adjacent wetlands, and stream channels. Some wetlands that are not adjacent may be hydrologically isolated most of the time but connected to the stream network during rare high-flow events. Geographically remote prairie potholes, for example, may be able to store significant amounts of runoff, thus reducing flooding as well as nutrient and soil pollution in downstream waters.[93] Filling wetlands reduces water storage capacity in the landscape and causes runoff from rainstorms to overwhelm the remaining available water conveyance system.[94] Wetlands improve water quality by accumulating nutrients, trapping sediments, and transforming a variety of substances.[95] In many watersheds, wetlands have a disproportionate effect on water quality because they receive dissolved and suspended compounds and materials from large areas, releasing higher quality water.[96] For an individual wetland, this is most pronounced where it lies immediately upstream of a drinking water intake, for example.[97] But in the aggregate, such wetlands may have significant effects on the quality of water many miles away.[98]

Section 7: Waters Generally Not Jurisdictional

The scope of "waters of the United States" does not include all waters. EPA and the Corps previously have described in preambles to CWA regulations waters that the agencies generally do not consider to be waters of the U.S.[99] The agencies' position regarding these waters is unchanged. The categories of waters generally not "waters of the U.S." include:

- Wet areas that are not tributaries or open waters and do not meet the regulatory definition of wetlands.[100]
- Waterbodies excluded from coverage under the CWA by existing regulations
- Waters that lack a significant nexus when one is required for jurisdiction.
- Artificially irrigated areas which would revert to upland if the irrigation ceased.
- Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.

- Artificial reflecting pools or swimming pools excavated in uplands.

- Small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.

- Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel, unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States.[p]

- Groundwater drained through subsurface drainage systems[q] are not "waters of the United States." While groundwater associated with such subsurface drainage systems are not waters of the U.S., construction and the associated maintenance of a subsurface drainage system built in waters of the U.S. (e.g. wetlands) may require a CWA Section 404 permit.

Section 8: Documentation

EPA and Corps field staff should document in the administrative record the available information supporting a jurisdictional determination. In addition to location and other descriptive information regarding the water at issue, the record should include a clear explanation of the rationale for the jurisdictional conclusion, and include, as appropriate:

- Information leading to a conclusion that a water falls within a category considered in this memorandum to be jurisdictional without the need to demonstrate a significant nexus;
- Information used to conclude a water has a significant nexus when one is required for jurisdiction;
- Information supporting a conclusion that a water lacks a significant nexus, when one is required for jurisdiction; or
- Information supporting a conclusion that a water falls within one of the categories of geographic features generally considered non-jurisdictional.

In short, both affirmative and negative jurisdictional determinations should be well-documented, to ensure both public transparency and defensibility should a jurisdictional conclusion be challenged. The level of documentation may be greater for jurisdictional determinations associated with complex projects.

[p] Ditches should be evaluated consistent with Section 4 to determine whether they are tributaries, and then should further be considered under Section 4 to determine if they are waters of the U.S.

[q] A subsurface drainage system is an agricultural practice designed to drain subsurface water through a below ground pipe system in order to maintain the groundwater table below the root zone to facilitate crop production.

Other sections of this guidance discuss the findings necessary for particular categories of waters to be considered jurisdictional and/or to have a significant nexus. Information relevant to these findings can come from many sources, including but not limited to maps, aerial photography, soil surveys, watershed studies, local development plans, literature citations, and references from studies pertinent to the parameters being reviewed. Such information need not always involve the specific water whose jurisdictional status is being evaluated; regional and national studies of the same type of water or similarly situated waters can help to inform a jurisdictional analysis.

Information that is often an important part of a jurisdictional analysis is the location and type of water under consideration, so as to readily determine if jurisdictional status of similarly situated waters has been previously determined. If so, the jurisdictional conclusion, rationale, and supporting information for a similarly situated water may be directly relevant. As Justice Kennedy noted in *Rapanos*, where a significant nexus has been established for a particular wetland, "it may be permissible, as a matter of administrative convenience or necessity, to presume covered status for other comparable wetlands in the region."[101]

ENDNOTES

[1] 531 U.S. 159 (2001).
[2] *Carabell v. U.S. Army Corps of Eng'rs*, 391 F.3d 704 (6th Cir. 2004), *United States v. Rapanos*, 376 F.3d 629 (6th Cir. 2004). After certiorari was granted, these cases were consolidated, and the resulting opinion cited as *Rapanos v. United States*, 547 U.S. 715 (2006).
[3] 33 U.S.C. §1251(a).
[4] Specifically, this memorandum supersedes the "Joint Memorandum" providing clarifying guidance on *SWANCC*, dated Jan. 15, 2003 (68 FR 1991, 1995), and "Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States & Carabell v. United States*," dated December 2, 2008.
[5] While Section 311 uses the phrase "navigable waters of the United States," EPA has interpreted it to have the same breadth as the phrase "navigable waters" used elsewhere in Section 311, and in other sections of the CWA. See, United States v. Texas Pipe Line Co., 611 F.2d 345, 347 (10th Cir. 1979); United States v. Ashland Oil & Transp. Co., 504 F.2d 1317, 1324-25 (6th Cir. 1974). In 2002, EPA revised its regulatory definition of waters of the United States to ensure that the actual language of the rule was consistent with the regulatory language of other CWA programs. A district court vacated the rule for failure to comply with the Administrative Procedure Act, and reinstated the prior regulatory language. American Petroleum Institute v. Johnson, No. 02-2247, 2008 U.S. Dist. LEXIS 25859 (D.D.C. Mar. 31, 2008). However, EPA interprets "navigable waters of the United States" in CWA Section 311(b), in the pre-2002 regulations, and in the 2002 rule to have the same meaning as "navigable waters" in CWA Section 502(7).
[5] For example, the CWA Section 402 program regulates discharges of point sources to waters of the United States, whether these pollutants reach jurisdictional waters directly or indirectly. The plurality opinion in *Rapanos* noted that "… there is no reason to suppose that our construction today significantly affects the enforcement of §1342 … The Act does not forbid the 'addition of any pollutant *directly* to navigable waters from any point source,' but rather the 'addition of any pollutant *to* navigable waters.'" (emphasis in original) 126 S. Ct. 2208, 2227. Section 311(b)(1) provides that: "[I]t is the policy of the United States that there should be no discharges of oil or hazardous substances into or upon the navigable waters of the United States (or) adjoining shorelines. . . . or which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States." (emphasis added).
[6]For example, the CWA Section 402 program regulates discharges of point sources to waters of the United States, whether these pollutants reach jurisdictional waters directly or indirectly. The plurality opinion in *Rapanos* noted that "… there is no reason to suppose that our construction today significantly affects the enforcement of §1342 … The Act does not forbid the 'addition of any pollutant *directly* to navigable waters from any point source,' but rather the 'addition of any pollutant *to* navigable waters.'" (emphasis in original) 126 S. Ct. 2208, 2227. Section 311(b)(1) provides that: "[I]t is the policy of the United States that there should be no discharges of oil or hazardous substances into or upon the navigable waters of the United States (or) adjoining shorelines. . . . or which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States." (emphasis added). "Discharge" is broadly defined in § 311(a)(2) to include "any spilling, leaking, pumping, pouring, emitting, emptying or dumping," with certain enumerated exceptions, and is not limited to point source discharges.
[7] CWA § 404(f); 40 C.F.R. § 232.3; 33 C.F.R. § 323.3.
[8] 402(l)(1) ("The Administrator shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture.); 502(14)("The term point source does not include agricultural stormwater discharges and return flows from irrigated agriculture."); 40 CFR 122.3(f)(Return flows from irrigated agriculture are excluded from NPDES program); 40 CFR 122.2 (The term "point source" "does not include return flows from irrigated agriculture or agricultural storm water runoff.").
[9] 33 C.F.R. § 328.3(a)(1); 40 C.F.R. § 230.3(s)(1); 40 C.F.R. § 122.2 waters of the US (a), 40 C.F.R. § 110(a).
[10] *United States v. Appalachian Elec. Power Co.*, 311 U.S. 377, 406 (1940).

[11] *FPL Energy Marine Hydro LLC v. FERC*, 287 F.3d 1151, 1157 (D.C. Cir. 2002).
[12] Id. at 1158-59.
[13] Id. at 1157.
[14] *Alaska v. Ahtna, Inc.*, 891 F.2d 1404 (9th Cir. 1989).
[15] Id. at 1405.
[16] Id. at 1404.
[17] Id. at 1402-03.
[18] 33 C.F.R. § 328.3(a)(2); 40 C.F.R. § 230.3(s)(2); 40 C.F.R. § 122.2 waters of the US (b), 40 C.F.R. §112.2.
[19] 33 C.F.R. § 328.3(a)(7); 40 C.F.R. § 230.3(s)(7).
[20] 126 S.Ct. at 2248.
[21] The term "waters of the United States" includes "all interstate waters including interstate wetlands." 40 C.F.R. 230 .3(s)(2), 33 C.F.R. 328.3(a)(2).
[22] See, id. In discussing the significant nexus standard, Justice Kennedy stated: "The required nexus must be assessed in terms of the statute's goals and purposes. Congress enacted the [CWA] to 'restore and maintain the chemical, physical, and biological integrity of the Nation's waters' . . ." 126 S.Ct. at 2248. Consistent with Justice Kennedy's instruction, EPA and the Corps will apply the significant nexus standard in a manner that restores and maintains any of these three attributes of traditional navigable waters and interstate waters.
[23] See Omernik, J.M., "The Misuse of Hydrologic Unit Maps for Extrapolation, Reporting, and Ecosystem Management." *Journal of the American Water Resources Association* 39(3):563-573 (2003).
[24] See, e.g., Merriam-Webster Online Dictionary, 2010.
[25] *Rapanos*, 126 S.Ct. at 2248.
[26] Id.
[27] See, e.g., "Handbook for Developing Watershed Plans to Restore and Protect Our Waters: Planning & Implementation Steps, U.S. Environmental Protection Agency, EPA 841-B-08-002 (Washington, DC, March 2008); Omernik, J.M., and R.G. Bailey, "Distinguishing Between Watersheds and Ecoregions," *Journal of the American Water Resources Association*, 33(5):935-949 at 939, 940 (1997); Montgomery, D.R., "Process Domains and the River Continuum," *Journal of the American Water Resources Association* 35:397-410 (1999); Winter, T.C., The concept of hydrologic landscapes. Journal of the American Water Resources Association 37: 335-349 (2001); Baron, J.S., N.L. Poff, P.L. Angermeier, C.N. Dahm, P.H. Gleick, N.G. Hairston, R.B. Jackson, C.A. Johnston, B.D. Richter, and A.D. Steinman, "Meeting Ecological and Societal Needs for Freshwater," *Ecological Applications* 12:1247-1260 (2002); Allan, J.D., "Landscapes and Riverscapes: The Influence of Land Use on Stream Ecosystems," *Annual Review of Ecology Evolution and Systematics* 35:257-284 (2004).
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[30] 33 C.F.R. § 328.3(e).
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[32] Leopold, L.B., *A View of the River*, (Harvard, 1994) p. 3.
[33] 33 C.F.R. § 328.3(a)(2), (7); 40 C.F.R. § 230.3(s)(2)(7).
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[40] *Rapanos*, 126.S.Ct. at 2241.
[41] Id. at 2226.
[42] Id. at 2221.
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[55] Id. at 2249
[56] 42 Fed. Reg. at 37128.
[57] 42 Fed. Reg. 37121, 37122 (Jul. 19, 1977).
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