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November 14, 2014

Water Docket  
Environmental Protection Agency  
1200 Pennsylvania Avenue NW  
Washington, D.C. 20460

Attention: Docket ID No. EPA-HQ-OW-2011-0880

**Re: Definition of “Waters of the United States” Under the Clean Water Act – Proposed Rule (79 Fed. Reg. 22188, April 21, 2014)**

Dear Docket Clerk:

Please find enclosed the comments of the American Petroleum Institute (“API”) to the proposed rule of the U.S. Environmental Protection Agency (“EPA”) and the Department of the Army Corps of Engineers (Corps) (hereafter collectively, “Agencies”) governing “Waters of the United States” under the Clean Water Act (79 Fed. Reg. 22188, April 21, 2014) (“2014 Proposed Rule”).

Although API shares the goal of clean water, this attempt to make a sweeping change to the statutory definition of “waters of the United States” represents a broad and unwarranted expansion of federal jurisdiction inconsistent with Supreme Court precedent - and limited by terminology that inexplicably was not clearly articulated or, in several cases, left wholly undefined in the Proposed Rule. In fact, since the Clean Water Act already prohibits discharges of pollutants that ultimately flow into navigable waters (regardless of whether the point of discharge is a navigable water), it is questionable whether the Proposed Rule could provide sufficient benefits to offset the tremendous increase in regulatory burdens that it will impose. The Proposed Rule threatens to further constrain access to state and private lands essential for growth not only in domestic energy production but also in construction, manufacturing, and agricultural activities. It could also have unintended environmental consequences by impacting access to the abundant, domestic natural gas that has contributed to carbon dioxide reductions in recent years or creating permitting difficulties that apply to energy projects with larger footprints (i.e., wind and solar) and related transmission infrastructure.

API is a national trade association representing over 600 member companies involved in all aspects of the oil and natural gas industry. API’s members include producers, refiners, suppliers, pipeline operators, and marine transporters, as well as service and supply companies that support all segments of the industry. API and its members are dedicated to meeting environmental requirements while economically developing and supplying energy resources for consumers. API’s members have a substantial interest in the scope of asserted federal jurisdiction under the Clean Water Act.

In May 2011 the Agencies issued a Notice of Availability of a comprehensive guidance concerning the extent of federal jurisdiction under the Clean Water Act (CWA) (76 Fed. Reg. 24479, May 2, 2011). In this Notice of Availability, the Agencies stated the guidance was intended to improve clarity and predictability in making jurisdictional determinations subsequent to two Supreme Court decisions, *SWANCC v. Army Corps of Engineers*<sup>1</sup> and *Rapanos v. United States*.<sup>2</sup> In API's comments submitted in response to the Notice (July 31, 2011 letter to EPA Docket # EPA-HQ-OW-2011-0409), API discussed in detail the unwarranted expansion of federal jurisdiction the guidance would constitute and how the guidance, far from affording regulatory clarity added layers of confusion and uncertainty. Moreover API pointed out that if federal jurisdiction under the CWA is to be expanded, the Agencies have an obligation to propose that expansion through notice-and-comment rulemaking rather than through mere issuance of non-legally binding guidance.

In subsequently withdrawing the guidance and issuing the 2014 Proposed Rule, the Agencies have indeed pursued notice-and-comment rulemaking consistent with API's recommendation; unfortunately, the 2014 Proposed Rule is not dissimilar from the guidance, likewise constituting an unwarranted expansion of federal jurisdiction. The 2014 Proposed Rule is confusing and complex to implement, applies many technical terms without regulatory definition, and is apparently arbitrary in its constraints and vague in its exemptions, so that virtually any land feature that retains water for any period of time could be found jurisdictional by its tenets. API does not believe the 2014 Proposed Rule is consistent with either of the two Supreme Court decisions or with the intent of Congress in the CWA. API recommends the Agencies withdraw the 2014 Proposed Rule, address its many deficiencies and ambiguities, and subsequently issue a technically supported rule that does not expand federal jurisdiction and is truly consistent with the constraints on federal jurisdiction imposed by the two Supreme Court decisions.

### **The Agencies Misinterpret the Definition of "Waters of the US" Per the Supreme Court Decisions**

Major portions of the 2014 Proposed Rule rest erroneously and exclusively on Justice Kennedy's concurring opinion in *Rapanos v. United States*, where the justice wrote that wetlands are jurisdictional if they have a "significant nexus" to a navigable water. The Agencies provide no legal justification for why this jurisdictional test reflects the holding of *Rapanos*, and provide no support for why such an opinion should form the foundation for this rulemaking. *Rapanos* does not support the Agencies' "Kennedy only" approach to jurisdiction. The 2014 Proposed Rule inexplicably ignores the views expressed by the other four fifths of the *Rapanos* majority, which found that non-navigable tributaries of navigable waters are jurisdictional only if the tributary has relatively permanent flow, and wetlands are jurisdictional only if they share a continuous surface connection with a navigable water. A faithful application of the opinions in the *Rapanos* majority would therefore find:

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<sup>1</sup> 531 U.S. 159 (2001)

<sup>2</sup> 547 U.S. 715 (2006)

*(1) a non-navigable tributary is jurisdictional only if it has relatively permanent flow<sup>3</sup> into a navigable water<sup>4</sup>; and*

*(2) a wetland is jurisdictional only if it has a continuous surface connection to a navigable water (either directly or through a relatively permanent tributary) and there is a demonstrated significant nexus between that wetland and the navigable water.*

This test for jurisdiction over tributaries and wetlands embodies both opinions constituting the majority opinion in *Rapanos*, and it should form the basis for this rulemaking for wetlands, tributaries, adjacent waters, and isolated “other waters.” The application of this jurisdictional test would be clear and straightforward.

Although the Agencies have based major portions of the 2014 Proposed Rule on the wrong jurisdictional test, they also misinterpret and misapply Justice Kennedy’s significant nexus test. By asserting jurisdiction over landscape features that have a bed, bank, and ordinary high water mark—but almost never actually contain water—the Agencies claim jurisdiction over landscape features that have insignificant or nonexistent connections to a navigable water. By asserting jurisdiction over all waters “adjacent” to navigable waters but not actually connected to them, the Agencies assert jurisdiction over many waters that lack a substantial connection to a navigable water. And with respect to “other waters,” the Agencies have stretched the application of the significant nexus beyond its breaking point by adopting a watershed aggregation approach to evaluate the nexus between an isolated intrastate water and a navigable water within the same watershed.

### **The Office of Research and Development’s Connectivity Report Fails to Define Significant Nexus**

Without a sound legal basis supporting the rule, the Agencies defend their proposed expansion of jurisdiction to virtually all waters in part on the EPA’s Office of Research and Development’s (ORD) synthesis of published peer-reviewed literature discussing the nature of connectivity and effects of streams and wetlands on downstream waters as described in the draft report *Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence* (Connectivity Report; EPA, 2013) and the subsequent review and comment on that report by EPA’s Science Advisory Board (SAB). The charge given to the SAB in its review was overly broad: “to deliberate on the adequacy of the scientific and technical basis of the proposed rule titled Definition of Waters of the United States under the Clean Water Act.” As such, the SAB did not consider its mandate to provide a technically sound supporting definition for “significant nexus,” or otherwise to specify any scientifically-based limitations on waters the Agencies should consider federally jurisdictional.

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<sup>3</sup> For purposes of API’s proposed jurisdictional test for tributaries, “relatively permanent” means the continuous presence of water for at least three continuous months of the year during years of typical precipitation. This definition is a reasonable application of the plurality holding in *Rapanos*. See 547 U.S. at 739.

<sup>4</sup> For purposes of this comment letter, “navigable waters” refers to those waters that are currently jurisdictional under 33 CFR § 328.3(a)(1): those waters that “are currently used, 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.” Courts and commentators often refer to such waters as “traditionally navigable waters.”

Thus, the SAB's efforts failed to provide any further clarity to or technical foundation for the 2014 Proposed Rule. Indeed, the Connectivity Report and the SAB review instead offered to support the theory that essentially all surface waters, however tenuously defined, are connected by physical, chemical, or ecological pathways, however indirect or remote. Neither the CWA statutory language nor any Supreme Court decisions addressing the scope of jurisdictional waters supports the Agencies' assumption that a connection, no matter how intermittent or tenuous, supports federal jurisdiction.

Moreover, the SAB review was executed not before but instead simultaneously with the comment period for the 2014 Proposed Rule, and concluded with a Federal Register notice (79 Fed. Reg. 63594, October 24, 2014) a mere three weeks before the close of the comment period for the 2014 Proposed Rule, affording the public little meaningful opportunity to comment on the SAB's review and its implications for the Proposed Rule. The SAB in its findings nevertheless urged the Agencies to develop a sound methodology to better quantify the connections between waters for which jurisdiction is in question and traditionally navigable waters.<sup>5</sup> API concurs and would point out any attempt to define jurisdiction in accordance with the Supreme Court decisions and the intent of Congress in the CWA, absent such scientifically-based, quantitative relationships, is arbitrary and capricious, unsupportable, costly, and inefficient, interferes with state and local environmental controls, and does not comport with intent of the CWA to address true environmental concerns in our nation's waterways.

### **The Agencies' Economic Analysis of the 2014 Proposed Rule is Inaccurate and Flawed**

Given the lack of clarity in the 2014 Proposed Rule, it is difficult to precisely assess the full extent of costs that this rule would impose. Nonetheless, it is clear that the Agencies have significantly underestimated the cost impacts of the 2014 Proposed Rule. The Agencies underestimate the costs of obtaining permits, and also underestimate the number of additional permits required by increased federal jurisdiction by using permit applications shortly following the Great Recession of 2008-2009, when overall economic activity in the country including oil and natural gas development had slowed significantly. This baseline assumption is particularly erroneous in light of the fact that oil and natural gas activity (and the need for associated permits under the Clean Water Act) has substantially increased in the following years.

The Agencies also overstate the benefits of the 2014 Proposed Rule. They use baseline data from the period immediately following the Great Recession, and erroneously assume that all new waters under federal jurisdiction are not already under state protection.

To illustrate the scope of the true economic impacts of the 2014 Proposed Rule, API commissioned an economic analysis to demonstrate the expected scope of jurisdictional changes and the associated costs. The study also provides an assessment and documents the myriad issues associated with the Agencies' economic analysis. This analysis comprises the second part of API's comment package. Extrapolating from this analysis to a national level using reasonable assumptions, the analysis shows that the 2014 Proposed Rule will have GDP cost impacts of \$8 billion. The 2014 Proposed Rule will delay and impede energy development across the country, leading to higher costs to produce energy, and likely job losses.

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<sup>5</sup> "SAB Seeks EPA Method to Quantify Waters' Connections for CWA Policy," *Inside EPA*, October 23, 2014.

**The Agencies Should Withdraw the 2014 Proposed Rule**

It would be arbitrary and capricious for the Agencies to finalize the 2014 Proposed Rule in its current form. The Agencies should withdraw the proposal and re-issue a proposed rule that resolves the multitude of flaws identified in API's comments and implements the jurisdiction-limiting principles articulated by the full majority of justices in *Rapanos*.

API's detailed comments are enclosed in two parts. The first addresses the legal and policy flaws of the 2014 Proposed Rule, together with API's recommended changes. The second part of API's comment package consists of a report prepared under contract to API, providing a detailed economic analysis of the cost impacts of the 2014 Proposed Rule on the oil and natural gas industry and detailing issues and concerns with the Agencies' analysis.

In addition to the comments provided above and enclosed, API fully supports the comments on the 2014 Proposed Rule submitted by both the Federal Water Quality Coalition and the Water Advocacy Coalition. API appreciates the opportunity to provide these comments.

If you have any questions concerning API's comments, please contact me.

Sincerely,



Roger E. Claff  
Senior Scientific Advisor



Amy Emmert  
Senior Policy Advisor

Enclosures (2)

cc:

P. Tolsdorf  
B. Ehimika

## API LEGAL AND POLICY COMMENTS ON 2014 PROPOSED RULE

### I. Introduction

The EPA and U.S. Army Corps of Engineers improperly rest the foundation for major portions of their proposed rule defining “Waters of the United States” under the Clean Water Act (2014 Proposed Rule) exclusively on the concurring opinion of a single Supreme Court justice from one judicial opinion. The agencies seize on a jurisdictional test articulated by Justice Kennedy in *Rapanos v. United States*<sup>1</sup>—that wetlands are jurisdictional if they have a “significant nexus” to a navigable water. Yet the agencies provide no legal justification for why this jurisdictional test reflects the holding of *Rapanos*, and provide no support for why such an opinion should form the foundation for this rulemaking. Despite a lengthy legal appendix in the rule’s preamble, the agencies *do not even cite to* the leading Supreme Court case, *Marks v. United States*,<sup>2</sup> that instructs courts on how to interpret fragmented Supreme Court decisions such as *Rapanos*. A faithful application of that test does not support the agencies’ assertion of jurisdiction.

The 2014 Proposed Rule inexplicably ignores the opinion of the other four fifths of the *Rapanos* majority. Under Justice Scalia’s plurality opinion (joined by three other Justices), non-navigable tributaries of navigable waters are jurisdictional only if they have relatively permanent flow, and wetlands are jurisdictional if they share a continuous surface connection with a navigable water (either directly or through a relatively permanent tributary).

If the agencies believe that *Rapanos* compels them to apply only Justice Kennedy’s significant nexus test, or if the agencies believe that *Rapanos* allows the agencies to choose between the significant nexus test and the plurality’s jurisdictional test, the agencies must say so, and must defend that choice. The 2014 Proposed Rule’s failure to explain and justify the Kennedy-only approach to jurisdiction over tributaries, adjacent wetlands, and isolated other waters is arbitrary and capricious. Even if it were appropriate for the agencies to base jurisdiction over tributaries, adjacent waters, and isolated other waters solely on Justice Kennedy’s significant nexus test, the 2014 Proposed Rule stretches and distorts that test beyond recognition.

A faithful application of the opinions in the *Rapanos* majority would find:

***(1) a non-navigable tributary is jurisdictional only if it has relatively permanent<sup>3</sup> flow into a navigable water<sup>4</sup>; and***

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<sup>1</sup> 547 U.S. 715 (2006).

<sup>2</sup> 430 U.S. 188 (1977).

<sup>3</sup> For purposes of API’s proposed jurisdictional test for tributaries, “relatively permanent” means the continuous presence of water for at least three continuous months of the year during years of typical precipitation. This definition is a reasonable application of the plurality holding in *Rapanos*. See 547 U.S. at 739.

<sup>4</sup> For purposes of this comment letter, “navigable waters” refers to those waters that are currently jurisdictional under 33 CFR § 328.3(a)(1): those waters that “are currently used, 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.” Courts and commentators often refer to such waters as “traditionally navigable waters.”

***(2) a wetland is jurisdictional only if it has a continuous surface connection to a navigable water (either directly or through a relatively permanent tributary) and there is a demonstrated significant nexus between that wetland and the navigable water.***

This test for jurisdiction over tributaries and wetlands embodies both opinions constituting the majority opinion in *Rapanos*, and it should form the basis for this rulemaking for tributaries, adjacent waters, and isolated other waters.<sup>5</sup>

The application of this jurisdictional test would be clear and straightforward. For example, if a landowner wanted to know whether wetlands on her property were jurisdictional, she could simply observe whether the wetlands have a continuous surface connection to a navigable water. If there is no such connection, there is no jurisdiction. If, however, there is a continuous surface connection, the wetland would be jurisdictional only upon a finding by the Corps or other relevant permitting authority that the connection between the wetland and the navigable water has a “significant nexus” under Justice Kennedy’s standard.

The 2014 Proposed Rule purports to establish clear jurisdictional boundaries, but it succeeds only in proposing a vast jurisdictional overreach. By asserting jurisdiction over landscape features that have a bed, bank, and ordinary high water mark—but almost never actually contain water—the agencies claim jurisdiction over landscape features that bear no resemblance to commonsense notions of “waters” and do not qualify as navigable waters under the Clean Water Act. By asserting jurisdiction over all waters “adjacent” to navigable waters but not actually connected to them, the agencies assert jurisdiction over many waters that would not satisfy either of the jurisdictional tests described by the *Rapanos* majority. And the case-by-case determination of jurisdiction over “other waters” is opaque and abstruse—resulting in neither clarity nor an appropriate scope of jurisdiction.

It is no response to say that such features must be jurisdictional because pollutants discharged into them may someday wash downstream and impact the water quality of navigable waters. The Clean Water Act already prohibits discharges of pollutants that ultimately flow into navigable waters, regardless of whether the point of discharge is a navigable water.<sup>6</sup> The agencies’ apparent rationale that certain non-navigable landscape features must be classified as jurisdictional waters due to their potential impacts on downstream navigable waters also has no logical end point—pollutants discharged nearly anywhere on land may someday wash into a navigable water.

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<sup>5</sup> Establishing jurisdiction under this test would not preclude a water from being deemed non-jurisdictional under an applicable exclusion, such as the exclusion for ditches.

<sup>6</sup> See 33 U.S.C. §§ 1311(a), 1342. As the *Rapanos* plurality noted: “[T]he discharge into intermittent channels of any pollutant that naturally washes downstream likely violates § 1311(a), even if the pollutants discharged from a point source do not emit ‘directly into’ covered waters, but pass ‘through conveyances’ in between.” 547 U.S. at 743. The agencies acknowledge this. See 2014 Proposed Rule, 79 Fed. Reg. 22,191, n.5.

Classifying countless miles of ephemeral tributaries and vast numbers of isolated waters as “navigable waters” under the Clean Water Act does nothing to promote the objectives of the Clean Water Act, but it does impose substantial burdens on entities that must move dirt and rock in these areas to conduct commercial or industrial activity. By way of illustration, consider an ephemeral tributary in the arid Western United States. During infrequent heavy rainstorms, the tributary may briefly flow and ultimately empty into a navigable water 50 miles away. Given the area’s typically dry conditions and lack of vegetation, this occasional flow is enough to create a bed, bank, and “ordinary” high water mark. Otherwise, this tributary is always dry. A natural gas company seeks to drill for natural gas in the area. In constructing a temporary well pad, the company must move rock and dirt in the dry tributary or install culverts in the tributary to construct access roads to the well pads. Other than moving dirt and rock, the company makes no effluent discharges into the dry tributary.

Under the agencies’ 2014 Proposed Rule, this activity would likely constitute a discharge of pollutants into a navigable water, for which the company would likely need to apply for a Section 404 permit. In some circumstances, a general permit may be available (at an average cost of \$28,915 and delay of 313 days).<sup>7</sup> In others, an individual permit may be necessary (at an average cost of \$271,596 and delay of 788 days).<sup>8</sup> Requiring permits for this activity does nothing to promote the objectives of the Clean Water Act, but does impose unreasonable costs, delays, and regulatory burdens on American economic activity.

The 2014 Proposed Rule’s extension of jurisdiction to ephemeral tributaries and many isolated waters also has absurd implications under the SPCC program and OPA-90 programs. As more and more remote waters and dry landscape features are deemed to be jurisdictional, more and more oil and natural gas facilities will be required to comply with needless SPCC plan requirements and construct unnecessary secondary containment facilities for no environmental benefit. More facilities would be required to develop oil spill response plans, provide oil spill response equipment and conduct annual training exercises and drills for oil spills to a navigable water that would in reality only affect dry soil and rock.

As discussed in more detail below, it would be arbitrary and capricious for the agencies to issue the 2014 Proposed Rule in its current form. The agencies have inappropriately based jurisdiction over tributaries, adjacent waters, and isolated other waters exclusively on Justice Kennedy’s significant nexus test. They have failed to explain or defend why this is the appropriate or controlling judicial test for jurisdiction. Even disregarding the inappropriateness of the Kennedy-only approach for this rulemaking, the 2014 Proposed Rule stretches and distorts the significant nexus test beyond recognition. The agencies simply presume they have jurisdiction over any water they now defined as a tributary or adjacent water. The appropriate jurisdictional test under the Clean Water Act is the one articulated by API in this comment letter.

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<sup>7</sup> *Rapanos*, 547 U.S. at 721.

<sup>8</sup> *Id.*



## II. The 2014 Proposed Rule rests on a flawed interpretation of Supreme Court jurisprudence governing the Clean Water Act definition of “Waters of the United States”

The 2014 Proposed Rule’s jurisdictional assertion over tributaries,<sup>9</sup> adjacent waters,<sup>10</sup> and isolated “other waters”<sup>11</sup> improperly rests solely on the jurisdictional test articulated by Justice Kennedy in his concurring opinion in *Rapanos v. United States*: “wetlands possess the requisite [significant] 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.”<sup>12</sup>

In interpreting fragmented decisions like *Rapanos*, the Supreme Court has explained how lower courts should determine the case’s controlling legal principles: “When a fragmented Court decides a case and no single rationale explaining the result enjoys the assent of five Justices, *‘the holding of the Court may be viewed as that position taken by those Members who concurred in the judgment on the narrowest grounds . . . .’*”<sup>13</sup> This doctrine is known as the “Marks Rule.” Despite the relevance of the Marks Rule to interpreting fragmented opinions like *Rapanos*, the agencies’ 2014 Proposed Rule and preamble do not discuss or even cite to the Marks Rule. The agencies also fail to discuss *any* legal principles applicable to determining the controlling legal rule from fractured opinions like *Rapanos*. Applying the Marks Rule, Justice Kennedy’s concurrence does not establish the sole controlling legal standard from *Rapanos*.

Although the 2014 Proposed Rule does not explain why the agencies believe the significant nexus test is the controlling jurisdictional test from *Rapanos*, it is possible that the agencies believe that application of the Marks Rule results in the significant nexus test being the *only* binding jurisdictional test from *Rapanos*. Applying the Marks Rule to *Rapanos*, the Seventh and Eleventh Circuits have found that Justice Kennedy’s significant nexus test is the only controlling

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<sup>9</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,259 (discussing only Justice Kennedy’s test with respect to tributaries, and claiming “assertion of jurisdiction over this category of waters is fully consistent with Justice Kennedy’s opinion in *Rapanos*”).

<sup>10</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,260 (acknowledging that Justice Kennedy did not consider jurisdiction over adjacent non-wetlands, but claiming “it is reasonable to also assess whether non-wetland waters have a significant nexus, as Justice Kennedy’s opinion makes clear that a significant nexus is a touchstone for CWA jurisdiction”); *see also id.* at 22,200.

<sup>11</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,260 (extending the significant nexus standard in Justice Kennedy’s opinion that applied solely to adjacent wetlands to “other waters,” arguing the test “also can reasonably be applied to other waters such as ponds, lakes, and non-adjacent wetlands,” and claiming “assertion of jurisdiction over this category of waters is fully consistent with Justice Kennedy’s opinion in *Rapanos*”); *see also id.* at 22,200.

<sup>12</sup> *Rapanos*, 547 U.S. at 780.

<sup>13</sup> *Marks v. United States*, 430 U.S. at 193 (emphasis added) (quoting *Gregg v. Georgia*, 428 U.S. 153, 169 n.15 (1976) (opinion of Stewart, Powell, and Stevens, JJ.)).

jurisdictional test from *Rapanos*.<sup>14</sup> In *U.S. v. Gerke Excavating*, the Seventh Circuit justified this holding on the basis that the “narrowest ground” in the *Rapanos* decision under the Marks Rule was Justice Kennedy’s significant nexus test. The court reasoned that the “narrowest grounds” are those grounds of the decision that constrain federal jurisdiction the least.<sup>15</sup> The court found that the Kennedy test would find more waters to be jurisdictional than would the plurality’s test, and therefore the Kennedy test was the narrowest ground for the holding under *Marks*.<sup>16</sup> The Eleventh Circuit in *U.S. v. Robison* took the same analytical approach.<sup>17</sup>

The rationale in support of those holdings was flawed, however, and the agencies would be arbitrary and capricious in relying on them to find that the Kennedy test is the sole and exclusive jurisdictional test under *Rapanos*. The flawed rationale arises from the court’s interpretation of *Marks*’s instruction to find the “narrowest grounds” among the opinions in the majority. The operative *Marks* language was quoted from *Gregg v. Georgia*, where the Court analyzed its prior decision in *Furman v. Georgia*, 408 U.S. 238 (1972). *Furman* addressed the constitutionality of the death penalty applied under a Georgia statute. In a fractured opinion, the points of law on which the plurality and concurrence agreed happened to be the least restrictive of federal power.

So, too, was the result in *Memoirs v. Massachusetts*, which *Marks* also discussed.<sup>18</sup> In *Memoirs*, six justices of the U.S. Supreme Court reversed a lower court decision that found a particular novel obscene and therefore not protected by the First Amendment to the U.S. Constitution. Among the six justices in the majority, three justices agreed with the lower court’s conclusion that obscene materials lack constitutional protection. However, the same justices also found that the lower court’s test for obscenity was too strict and articulated a different test to determine obscenity. Two other justices concurring in the opinion concluded that the First Amendment protects all speech, even obscenity. A sixth justice concurred in the judgment on the grounds that all obscenity other than hardcore pornography is constitutionally protected. The *Marks* Court examined these disparate opinions, and found that the rule announced by the three justices in the majority constituted the “narrowest grounds” of the decision.

Even though the First and Seventh circuits have cited *Marks*, *Memoirs*, and *Furman* for the proposition that the “narrowest grounds” of a fractured opinion are the grounds least restrictive of federal jurisdiction, none of those cases ever addressed which opinion was more or less restrictive of federal authority when interpreting the phrase “narrowest grounds.” Those cases did not even consider this issue. The fact that the “narrowest grounds” from those cases resulted in holdings that are less restrictive of government authority is simply incidental.

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<sup>14</sup> *U.S. v. Gerke Excavating*, 464 F.3d 723 (7th Cir. 2006); *U.S. v. Robison*, 505 F.3d 1208 (11th Cir. 2007); *see also U.S. v. Freedman Farms, Inc.*, 786 F. Supp. 2d 1016 (E.D.N.C. 2011) (finding only significant nexus test may be used).

<sup>15</sup> *Gerke*, 464 F.3d at 724.

<sup>16</sup> *Id.*

<sup>17</sup> *Robison*, 505 F.3d at 1219-22.

<sup>18</sup> *Memoirs v. Mass.*, 383 U.S. 413 (1966).

In fact, the “narrowest grounds” cannot mean the opinion in the majority that is least restrictive of federal authority. Not every case involves the question of federal authority. Even in the cases that do, however, one could just as easily imagine a scenario where the “narrowest grounds” among the opinions are those that are the *most* restrictive of federal jurisdiction. By way of example, consider a hypothetical 5-4 decision where the Supreme Court upholds a federal statute that prohibits certain types of commercial speech. Four justices in the plurality uphold the statute on the basis that it survives intermediate scrutiny. The sole concurring justice and fifth vote for the majority upholds the statute on the basis that it survives strict scrutiny. The narrowest ground is the concurrence—because every statute that passes strict scrutiny also passes intermediate scrutiny, but not vice versa. Yet strict scrutiny is *more restrictive* of government authority than intermediate scrutiny is.

Even if, however, a decision’s “narrowest grounds” under *Marks* relates to the scope of federal authority, some courts have recognized that the narrowest grounds in *Rapanos* are those that are the *most* restrictive of government authority: “given the underlying constitutional question presented by *Rapanos*, it seems just as plausible to conclude that the narrowest ground of decision in *Rapanos* is the ground most restrictive of government authority (the position of the plurality)....”<sup>19</sup>

Courts have recognized other reasons why the significant nexus test cannot be the sole controlling jurisdictional test from *Rapanos* under the Marks Rule: “[I]f Justice Kennedy’s test is the single controlling test (as advocated by the Seventh and Ninth Circuits), there would be a bizarre outcome—the court would find no federal jurisdiction even though eight Justices (the four members of the plurality and the four dissenters)—would all agree that federal authority should extend to such a situation.”<sup>20</sup> For example, consider a small wetland that has a continuous surface connection to a continuously-flowing but very small tributary that ultimately empties into the Mississippi River, 50 miles away. The wetland would likely satisfy the jurisdictional tests articulated by the *Rapanos* plurality and dissents, but would probably fail Justice Kennedy’s significant nexus test since the small wetland does not significantly affect the water quality of the Mississippi River.

It is also possible that the agencies believe that the Marks Rule gives the agencies a choice to base jurisdiction under *either* the plurality’s test or Justice Kennedy’s significant nexus test from *Rapanos* (it is unclear whether this is the agencies’ position, since they do not articulate their legal rationale for their Kennedy-only approach to jurisdiction). Some federal circuit courts of appeal have indeed found that the agencies may establish jurisdiction *on a case-by case basis*

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<sup>19</sup> *U.S. v. Johnson*, 467 F.3d 56, 63 (1st Cir. 2006).

<sup>20</sup> *Id.* at 64.

under either the plurality’s test or the Kennedy test.<sup>21</sup> Several other federal circuit courts have not decided which *Rapanos* test governs.<sup>22</sup>

If the agencies believe that the legal principles articulated in the cases that allow an “either/or” approach to jurisdiction provide legal support for the agencies to choose between the Kennedy test and the plurality test as a foundation for this rulemaking, the agencies must say so, and must defend that choice. Their failure to do so in the 2014 Proposed Rule is arbitrary and capricious because it does not give interested parties an opportunity to comment on that decision. For the reasons discussed in the next section of this comment letter, the Marks Rule does not support an “either/or” approach to jurisdiction.

Even if, however, it were appropriate for the agencies to choose among the two tests, the plurality’s test is the only reasonable choice. On a case by case basis in judicial proceedings—with the benefit of limited and clearly defined facts—courts have found the Kennedy test very difficult to apply.<sup>23</sup> By its very nature, a determination of a “significant nexus” between a wetland and a navigable water requires a thorough consideration of a range of factors. It leaves room for a significant amount of discretion and inconsistency. It does not provide landowners with any clarity about which of their waters may be jurisdictional.

In an apparent effort to bring clarity and definitiveness to the significant nexus test, the 2014 Proposed Rule asserts per se jurisdiction over all tributaries to navigable waters regardless of the tributary’s size, length, volume of flow, frequency of flow, and distance to a downstream navigable water. This attempt at clarity is itself ephemeral, however. Landowners may often be at a loss to discern whether a landscape feature on their property has a “bed, bank, and ordinary high water mark.” Even the Corps must resort to lengthy manuals to guide their determinations of whether landscape features in certain regions of the United States have an ordinary high water

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<sup>21</sup> The First, Third, and Eighth Circuits have concluded that jurisdiction exists if either Justice Kennedy’s standard or the plurality’s standard is met. *Johnson*, 467 F.3d at 66; *U.S. v. Donovan*, 661 F.3d 174, 176 (3rd Cir. 2011); *U.S. v. Bailey*, 571 F.3d 791, 798-99 (8th Cir. 2009).

<sup>22</sup> The Second, Fourth, Fifth, Sixth, and D.C. Circuits have not decided which *Rapanos* test governs. See *Cordiano v. Metacon Gun Club, Inc.*, 575 F.3d 199 (2nd Cir. 2009); *Precon Dev. Corp. v. United States Army Corps of Eng’rs*, 633 F.3d 278, 296 (4th Cir. 2011); *United States v. Roberts*, 830 F. Supp. 2d 372, 379 (M.D. Tenn. 2011); *U.S. v. Lucas*, 516 F.3d 316, 326-27 (5th Cir. 2008); *U.S. v. Cundiff*, 555 F.3d 200, 210-13 (6th Cir. 2009); *King v. Palmer*, 950 F.2d 771, 783 (D.C. Cir. 1991) see also *Donovan*, 661 F.3d at 182 n. 7 (collecting cases from the Fourth, Fifth, Sixth, and Ninth Circuits and noting “[s]everal Circuit Courts of Appeals have expressly reserved the issue of which *Rapanos* test or tests, governs CWA enforcement actions.”). See also *Northern California River Watch v. City of Healdsburg*, 496 F.3d 993, 1001 (9th Cir. 2007) (applying Kennedy’s approach but not ruling out plurality).

<sup>23</sup> *United States v. Chevron Pipe Line Co.*, 437 F. Supp. 2d 605, 613 (N.D. Tex. 2006) (“This test leaves no guidance on how to implement its vague, subjective centerpiece. That is, exactly what is ‘significant’ and how is a ‘nexus’ determined?”); *Johnson*, 467 F.3d at 66 (Torruella, J., concurring in part, dissenting in part) (referring to the Kennedy test as “opaque,” and noting that the plurality’s test “strikes a constitutional balance between federal and state regulatory interests, and our nation’s interest in clean water and the individual land owner’s right to manage their property in accordance with their dreams and aspirations....”).

mark.<sup>24</sup> By contrast, the plurality’s test from *Rapanos* would find jurisdiction only “over those relatively permanent, standing or continuously flowing bodies of water ‘forming geographic features’ that are described in ordinary parlance as streams, oceans, rivers, and lakes.”<sup>25</sup> This commonsense and readily-applied definition of tributaries would result in far more regulatory certainty for landowners and other regulated parties.

So, too, the 2014 Proposed Rule’s jurisdictional assertion over all “adjacent” waters may seek to establish clarity, but the definitional terms underlying the meaning of adjacency obscure that result. The Proposed Rule defines “adjacent” as “bordering, contiguous, or neighboring.” No further clarification is provided as to the meaning of “bordering” or “contiguous,” so applicable separation distances are uncertain. “Neighboring” is defined as within the riparian area or floodplain of a water of the United States, with “riparian area” further defined as an area bordering a water where surface or subsurface hydrology directly influences ecological processes and plant and animal communities, and “floodplain” is further defined as an area bordering inland or coastal waters that was formed by sediment deposition and inundated during periods of moderate to high water flows. These incomplete and vague definitions leave landowners with no certainty over whether waters on their lands are jurisdictional. Conversely, under the plurality’s test from *Rapanos*, adjacent *wetlands* (but no other types of waters) are jurisdictional if the wetlands have a continuous surface connection to a navigable water. This is a determination that an ordinary landowner could make.

And, finally, the 2014 Proposed Rule’s jurisdictional reach over “other waters” is bafflingly unclear. The 2014 Proposed rule asserts jurisdiction on a case by case basis over “other waters” that “alone, or in combination with other similarly situated waters, including wetlands, located in the same region, have a significant nexus to a water identified in paragraphs (1)(i) through (iii) of this definition.”<sup>26</sup> Although the 2014 Proposed Rule and preamble further define several of the terms in this definition, the scope of jurisdiction nonetheless remains unclear and indefinite, and may result in confusion and overbroad assertions of jurisdiction. By contrast, under the plurality’s jurisdictional rule, “other waters” are jurisdictional only if the water is a wetland and there is a continuous surface connection between the wetland and a navigable water.

#### **A. The Marks Rule does not allow the agencies to choose between the plurality opinion and concurring opinion from *Rapanos* as a foundation for the 2014 Proposed Rule**

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<sup>24</sup> U.S. Army Corps of Engineers, *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*, available at [http://www.spk.usace.army.mil/Portals/12/documents/regulatory/pdf/Ordinary\\_High\\_Watermark\\_Manual\\_Aug\\_2008.pdf](http://www.spk.usace.army.mil/Portals/12/documents/regulatory/pdf/Ordinary_High_Watermark_Manual_Aug_2008.pdf); U.S. Army Corps of Engineers, *A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States*, available at [http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg\\_supp/west\\_mt\\_finallsupp\\_aug2014.pdf](http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/west_mt_finallsupp_aug2014.pdf) (this guidance document was issued well after the 2014 Proposed Rule had been issued, and thus neither considered nor referenced in specifying the presence of “ordinary high water mark” as indicative of a jurisdictional tributary).

<sup>25</sup> *Rapanos*, 547 U.S. at 739 (internal quotes and brackets omitted).

<sup>26</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,272.

Turning back to the *Marks* analysis, the Marks Rule does not allow courts or agencies to pick and choose among plurality and concurring opinions in a fractured decision for the rule of law that the court or agency likes best. The 2014 Proposed Rule indicates that the agencies are combining the views of the dissenting justices in *Rapanos* to those in the majority in order to determine the controlling rule of law from *Rapanos*.<sup>27</sup> But dissenting opinions are irrelevant under *Marks*: “the holding is the narrowest position taken by those members who *concurred* in the judgment....”<sup>28</sup> Dissenting judges do not, of course, concur in the judgment,<sup>29</sup> and are not part of the judgment of the court.<sup>30</sup> Therefore, under *Marks*, “the positions of dissenting judges ‘are not counted in trying to discern a governing holding from divided opinions.’”<sup>31</sup> As the D.C. Circuit noted in an en banc opinion, courts are not “free to combine a dissent with a concurrence to form a *Marks* majority.”<sup>32</sup>

Some courts have interpreted the Seventh Circuit’s decision in *Gerke* as support for including dissenting opinions in determining the holding of *Rapanos* under *Marks*. In *Gibson v. American Cyanamid Co.*,<sup>33</sup> the Seventh Circuit recently revisited its earlier decision in *Gerke*, and flatly rejected the notion of adding in the *Rapanos* dissenting opinions in a *Marks* analysis, noting that any discussion of dissents in *Gerke* was dicta and unnecessary to resolving the appeal at issue.<sup>34</sup>

The assertion of jurisdiction if either the plurality test or the significant nexus test is met is an incorrect reading of *Rapanos* for another reason. The adoption of two inconsistent holdings is incorrect under *Marks*, which requires that only the plurality and concurring judges’ opinions be considered to form a *single* holding.<sup>35</sup>

Moreover, under Article III of the U.S. Constitution, federal courts are authorized to interpret the law only to the extent that the opinions they issue are tied to a judgment that resolves an actual case or controversy under the U.S. Constitution. Dissenting justices have no part in disposing of an actual case or controversy, so therefore whatever opinions they express as to the controlling rule of law in the case are without effect.<sup>36</sup>

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<sup>27</sup> 2014 Proposed Rule, 79 Fed. Reg. 22,192.

<sup>28</sup> *Marks*, 430 U.S. at 193 (emphasis added).

<sup>29</sup> *Gibson v. American Cyanamid Co.*, -- F.3d --, 2014 WL 3643363, at \*17 (7th Cir. July 24, 2014); *Robison*, 505 F.3d at 1221 (“We are controlled by the decision of the Supreme Court. Dissenters, by definition, have not joined the Court’s decision. In our view, *Marks* does *not* direct lower courts interpreting fractured Supreme Court decisions to consider the positions of those who dissented.”).

<sup>30</sup> “Stare decisis does not apply to dissenting opinions.” 18 James Wm. Moore et al., *Moore’s Federal Practice* §134.05[2] (3d ed. 2006).

<sup>31</sup> *Gibson*, 2014 WL 3643363, at \*17 (interpreting *Marks*).

<sup>32</sup> *King*, 950 F.2d at 783; *see also Bailey*, 571 F.3d at 799; *Johnson*, 467 F.3d at 62-64; *Donovan*, 661 F.3d at 181-82.

<sup>33</sup> *Gibson*, 2014 WL 3643363, at \*17.

<sup>34</sup> *Id.*

<sup>35</sup> *United States v. Garcia*, 413 F.3d 201, 232 n.2 (2d Cir. 2005) (Calabresi, J., concurring).

<sup>36</sup> *See Church of Scientology of Cal. v. United States*, 506 U.S. 9, 12 (1992) (Federal courts may not “declare principles or rules of law which cannot affect the matter in issue in the case before it”); *see also Robison*, 505 F.3d at 1221.

Finally, allowing dissenting justices to determine the controlling rule of law from the case under an “either/or” test that only **four** justices would endorse ultimately allows a nonmajority to establish binding precedent.<sup>37</sup> In *Rapanos*, for example, only the four dissenting justices would apply *either* the Kennedy test or the plurality test. But neither the plurality nor Justice Kennedy would apply the other’s test, of course. Four judges—particularly four *dissenting* justices—is not a majority. To allow the *Rapanos* dissent’s “either/or” approach to prevail would improperly disregard the express intent of the justices in the majority and would result in a legal standard with which the majority of the Supreme Court would not agree.<sup>38</sup> In *United States v. Robison*, the Eleventh Circuit recognized that “[i]t would be inconsistent with *Marks* to allow the dissenting *Rapanos* Justices to carry the day and impose an ‘either/or’ test, whereby CWA jurisdiction would exist when either Justice Scalia’s test or Justice Kennedy’s test is satisfied.”<sup>39</sup> Allowing the dissenters to combine with the plurality or the concurring opinion also violates the consensus view of the majority of the Justices in *Rapanos*—that the Corps overstepped its jurisdictional authority under the Clean Water Act.

A proper application of the Marks Rule requires that among the opinions in the majority, one opinion be a “logical subset” of the other opinions. The controlling rule of law from *Rapanos* depends, then, on which opinion in the majority is a logical subset of the other opinion. Several courts have recognized that a judgment’s “narrowest grounds” means that one opinion in the majority must be a “logical subset” of another opinion in the majority. The D.C. Circuit has interpreted “narrowest grounds” to mean “a common denominator of the Court’s reasoning: it must embody a position implicitly approved by at least five Justices who support the judgment.”<sup>40</sup> In other words, the holding of a fractured opinion can be determined under *Marks* when “the concurrence posits a narrow test to which the plurality must necessarily agree as a logical consequence of its own, broader position.”<sup>41</sup> Under this framework, one opinion must be a complete subset of the other:

*Marks* is workable—one opinion can meaningfully be regarded as ‘narrower’ than another only when one opinion is a logical subset of other, broader opinions. In essence, the narrowest opinion must represent a common denominator of the Court’s reasoning; it must embody a position implicitly approved by at least five Justices who support the judgment.<sup>42</sup>

Courts routinely hold that *Marks* does not apply when the plurality or concurring opinion is not a logical subset of the other:<sup>43</sup> “*Marks* becomes problematic, however, when ‘one opinion

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<sup>37</sup> *Robison*, 505 F.3d at 1221.

<sup>38</sup> See generally Ryan J. Niehaus, *Sustaining A Jurisdictional Quagmire(?): Analysis and Assessment of Clean Water Act Jurisdiction in the Third Circuit*, 19 J. Env’tl. & Sustainability L. 473, 493 (Spring 2013).

<sup>39</sup> *Robison*, 505 F.3d at 1221.

<sup>40</sup> *King*, 950 F.2d at 781.

<sup>41</sup> *Id.* at 782.

<sup>42</sup> *Id.* at 784-85.

<sup>43</sup> *Id.* at 781.

supporting the judgment does not fit entirely within a broader circle drawn by the others.”<sup>44</sup> In a related context, the D.C. Circuit recognized:

When ... one opinion supporting the judgment does not fit entirely within situations where the various opinions supporting the judgment are mutually exclusive, *Marks* will turn a single opinion that lacks majority support into national law. ***When eight of nine Justices do not subscribe to a given approach to a legal question, it surely cannot be proper to endow that approach with controlling force, no matter how persuasive it may be.*** The [Supreme] Court itself does not appear to apply *Marks* in cases of this type.<sup>45</sup>

On this basis, the D.C. Circuit has held that, in a splintered opinion similar to *Rapanos*, where eight justices other than the concurring justice did not agree with the rationale expressed in the concurring opinion, “the concurring opinion is *not controlling* in this circuit.”<sup>46</sup> Instead, the D.C. Circuit considers the underlying case to determine “which, if any, of the rationales in [the case] is persuasive.”<sup>47</sup>

In *Rapanos*, neither Justice Kennedy’s concurrence nor the plurality opinion is a logical subset of the other.<sup>48</sup> In fact, both justices heavily criticized the other’s approach.<sup>49</sup> There are several examples of waters that may be found jurisdictional under the plurality’s test, but not under Kennedy’s test, and vice-versa.<sup>50</sup> For example:

- Justice Kennedy’s test would find jurisdiction over wetlands adjacent to navigable waters regardless of a surface connection between the wetland and the navigable water, whereas the plurality’s test would find jurisdiction over wetlands that have a continuous surface connection to the navigable water.
- The plurality’s test would find jurisdiction over non-navigable tributaries to navigable waters only if such tributaries are relatively permanent. Justice Kennedy’s test for jurisdiction has no such criterion.

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<sup>44</sup> *Bailey*, 571 F.3d at 798 (citing *King*, 950 F.2d at 782).

<sup>45</sup> *King*, 950 F.2d at 782 (emphasis added); see also *United States v. Epps*, 707 F.3d 337, 349 (2013).

<sup>46</sup> *Epps*, 707 F.3d at 351.

<sup>47</sup> *Id.*

<sup>48</sup> See, e.g., *Bailey*, 571 F.3d at 798 (There is “little overlap between the plurality’s and Justice Kennedy’s opinions,” and therefore “it is difficult to determine which holding is the narrowest.”); *Cundiff*, 555 F.3d at 210 (“[T]here is quite little common ground between Justice Kennedy’s and the plurality’s conceptions of jurisdiction under the Act, and both flatly reject the other’s view.”); see also *Rapanos*, 547 U.S. at 756 (Scalia, J., plurality opinion) (“[Justice Kennedy’s] test simply rewrites the statute.”); *id.* at 778 (Kennedy, J., concurring) (“[T]he plurality reads nonexistent requirements into the Act.”).

<sup>49</sup> *Rapanos*, 547 U.S. at 753-54 (Scalia, J., plurality opinion); *id.* at 768-76 (Kennedy, J., concurring).

<sup>50</sup> See, e.g., *Johnson*, 467 F.3d at 64 (“The cases in which Justice Kennedy would limit federal jurisdiction are not a subset of the cases in which the plurality would limit jurisdiction”).



- Under the agencies’ interpretation of Justice Kennedy’s test as described in the 2014 Proposed Rule, “other waters” that are geographically remote from navigable waters could be deemed jurisdictional if they, together with other nearby waters, have a significant nexus to a navigable water. The plurality’s test would not find jurisdiction over such waters.
- A continuously-flowing stream that carries a low volume of water to a downstream navigable water may lack a significant nexus with that downstream water, and therefore may not be jurisdictional under Kennedy’s test, but would be jurisdictional under the plurality’s test because it is a relatively permanent tributary to a navigable water.<sup>51</sup>

Because neither jurisdictional test is a “logical subset” of the other, neither opinion standing alone is the exclusive controlling rationale under *Marks*.<sup>52</sup>

**B. The appropriate test for jurisdiction under *Rapanos* implements the jurisdiction-limiting principles articulated by both the plurality and Justice Kennedy**

The agencies are not free to ignore the limits that the *Rapanos* plurality recognized on the agencies’ assertion of jurisdiction: “[t]he principal objective of the *Marks* rule is to promote predictability in the law by ensuring lower court adherence to Supreme Court precedent. This objective requires that, whenever possible, there be a single legal standard for the lower courts to apply in similar cases and that this standard, when properly applied, produce results with which a majority of the Justices in the case articulating the standard would agree.”<sup>53</sup> This principle becomes even more salient where, as here, the question is not jurisdiction over a single water body (as it would be in a judicial proceeding). Rather, the agencies propose an expansive administrative rulemaking that will apply Clean Water Act jurisdiction to countless different water bodies throughout the country under numerous Clean Water Act programs. It is therefore critical that the 2014 Proposed Rule embody the jurisdiction-limiting principles articulated by *all of the Justices* in the *Rapanos* majority.

A faithful application of the majority opinions in *Rapanos* would conclude that:

- (1) a non-navigable tributary is jurisdictional only if it has relatively permanent flow to a navigable water; and

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<sup>51</sup> *Johnson*, 467 F.3d at 64; *Rapanos*, 547 U.S. at 769 (Kennedy, J., concurring) (under plurality’s test, “[t]he merest trickle, if continuous, would count as a ‘water’ subject to federal regulation”); *see also id.* at 776-77.

<sup>52</sup> *See, e.g., Epps*, 707 F.3d at 350; *Cundiff*, 555 F.3d at 209 (“[w]here no standard put forth in a concurring opinion is a logical subset of another concurring opinion (or opinions) that, together, would equal five votes, *Marks* breaks down.”).

<sup>53</sup> *Planned Parenthood v. Casey*, 947 F.2d 682, 693 (3d Cir. 1991), *aff’d in part and rev’d in part on other grounds*, 505 U.S. 833 (1992).

- (2) a wetland is jurisdictional only if it has a continuous surface connection to a navigable water (either directly or through a relatively permanent tributary) *and* there is a demonstrated significant nexus between that wetland and the navigable water.

This test for jurisdiction over tributaries, adjacent waters, and “other waters” is faithful to both opinions constituting the majority opinion in *Rapanos* and should form the basis for this rulemaking with respect to tributaries, adjacent waters, and “other waters.”

The application of this jurisdictional test would be clear and straightforward. For jurisdiction to exist, wetlands must have a continuous surface connection to a navigable water. If there is no such connection, there is no jurisdiction. If, however, there is a continuous surface connection, jurisdiction exists only when there is a determination by the Corps or other relevant permitting authority that the connection between the wetland and the navigable water has a “significant nexus” under Justice Kennedy’s test.

This jurisdictional test is consistent with the Supreme Court’s guidance on interpreting fractured opinions like *Rapanos*. First, it avoids reliance on dissenting Justices to reach “the holding” of *Rapanos*. Second, it avoids an interpretation of *Marks* that would allow *Rapanos* to have multiple, inconsistent holdings depending upon the particular water body to which it is applied.<sup>54</sup> Third, this approach addresses the main concern of the *Rapanos* majority—recognizing and implementing clear limits on the agencies’ overbroad jurisdictional assertions under the Clean Water Act.

Looking beyond the interpretive principles set forth in *Marks*, it is fundamentally improper as a matter of judicial interpretation for the agencies to issue a rule that ignores the views of four of the five justices in the majority in *Rapanos*. Justice Kennedy wrote only for himself in articulating the significant nexus test.

API’s proposed jurisdictional test not only faithfully implements the Supreme Court’s majority opinion in *Rapanos*, it is clearer and more readily applied than the jurisdictional criteria set forth in the agencies’ 2014 Proposed Rule. The agencies’ 2014 Proposed Rule asserts jurisdiction over tributaries if they contain a bed, bank, and high water mark, and contribute flow to a navigable water. Jurisdiction may be readily determined if a bed, bank, and high water mark are clearly defined, but for many tributaries it will be difficult to discern the presence of these characteristics in the landscape. This is particularly true in the arid Western United States, where dry channels may appear and disappear over varying topography. Without the requirement of relatively permanent flow, it would often be unclear which dry channels meet the 2014 Proposed Rule’s definition of tributary, and which do not.

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<sup>54</sup> Under *Marks*, “the holding of the Court may be viewed as the position taken by those Members who concurred in the judgment on the narrowest grounds.” 430 U.S. at 193 (emphases added). Use of the *singular* form in “the holding” and “the judgment” dictates that the judgments must be read in combination to produce a single holding in the case.

Under API's proposed approach to determining jurisdiction over tributaries, the interpretive difficulties posed by the 2014 Proposed Rule would be avoided. Only relatively permanent tributaries to navigable waters would be jurisdictional. Continuous flow for at least three months of the year is a bright-line criterion that could be easily applied by landowners and the agencies.

With respect to wetlands, the 2014 Proposed Rule would assert jurisdiction over all wetlands and other waters "adjacent" to navigable waters and jurisdictional tributaries. The definition of adjacency creates interpretive challenges, despite the agencies' efforts to define adjacency. Under API's suggested jurisdictional rule, wetlands that lack a continuous surface connection to a navigable water are per se not jurisdictional. It would be easy to identify such wetlands. It would also be easy to identify wetlands that share a continuous surface connection to a navigable water. For those wetlands, a landowner could request a significant nexus determination to determine jurisdiction. Although such determinations would require case-by-case interpretation by the permitting authority, not all wetlands share a continuous surface connection to a navigable water, and therefore the need for such jurisdictional determinations should be relatively infrequent, especially compared to the agencies' current practice.

The clarity and ease of application of API's proposed jurisdictional test for tributaries, wetlands, and "other waters" is particularly apparent with respect to the 2014 Proposed Rule's assertion of jurisdiction over "other waters." The 2014 Proposed Rule's vague and nebulous standard provides no meaningful guidance to landowners or the permitting authority for determining jurisdiction. Applying API's proposed test, however, would clearly identify which of those waters are jurisdictional (only those *wetlands* that have a continuous surface connection to a navigable water, and that also have a significant nexus to that water).

### **III. The 2014 Proposed Rule unreasonably expands jurisdiction beyond the limits articulated in *Rapanos***

As explained above, the agencies improperly base jurisdiction over tributaries, adjacent waters, and isolated "other waters" exclusively on Justice Kennedy's significant nexus test from *Rapanos*. Even if it were reasonable to take such an approach (which it is not), the agencies have misapplied the significant nexus test as a foundation for the 2014 Proposed Rule.

#### **A. The 2014 Proposed Rule does not adequately define "significance" and misapplies the criteria for significance**

The agencies assert that a "significant nexus" is any impact that is more than "speculative or insubstantial."<sup>55</sup> This interpretation dispenses with any possibility that a wetland may fall somewhere on the spectrum between significant and insubstantial. Are there no wetlands that have a *moderate* impact on navigable waters? The agencies' binary approach to defining

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<sup>55</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,213, 22,262; *see also id.* at 22,264 (regulatory definition of significant nexus requires it to be "more than speculative or insubstantial").

significance is undermined by its statements elsewhere that there is a continuous gradient of significance among waters.<sup>56</sup> When Justice Kennedy wrote of wetlands that have a “speculative or insubstantial” impact on navigable waters, he was simply illustrating the opposite end of the spectrum of significance from those waters that have a significant nexus. The agencies cite to nothing in the *Rapanos* opinion to support that notion that Justice Kennedy understood waters to fall in one of only two categories. In fact, his opinion is replete with statements recognizing the spectrum of impacts that various wetlands may have on navigable waters.

The agencies also fail to define what is “speculative or insubstantial.” Terms with this level of indeterminacy cannot give landowners any meaningful guidance on whether their lands contain jurisdictional waters. In practical application, this standard would allow permitting authorities to exercise unfettered and standardless discretion to decide whether a landowner’s water body is jurisdictional. This hardly demonstrates the agencies’ professed goal to give clarity and certainty to those who would be subject to this regulation.

The 2014 Proposed Rule fundamentally misapplies the significant nexus test in other ways. The 2014 Proposed Rule subtly but significantly changes the requirement to show “chemical, physical, *and* biological” effects on navigable waters to instead show “chemical, physical, *or* biological effects.”<sup>57</sup> Until now, the significant nexus test has been met when the subject water “significantly affects the chemical, physical, *and* biological integrity of other covered waters more readily understood as navigable.”<sup>58</sup> The 2014 Proposed Rule’s preamble uses the term “and” repeatedly in its discussion of Justice Kennedy’s significant nexus test in *Rapanos*, as well as in its review of the scientific literature, the legal analysis, and the discussion of the agency’s scientific and technical expertise. Yet, in some sections, the preamble rephrases Justice Kennedy’s test, selectively claiming, for example, that “Justice Kennedy was clear that waters with a significant nexus must significantly affect the chemical, physical, *or* biological integrity of a downstream navigable water[.]”<sup>59</sup> Under the newly-proposed regulatory language that defines “significant nexus” for the first time and incorporates it into the regulation of “other waters,” a water only needs to “significantly affect[] the chemical, physical *or* biological integrity” of a jurisdictional water.<sup>60</sup>

## **B. The 2014 Proposed Rule’s treatment of tributaries inappropriately expands jurisdiction**

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<sup>56</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,193 (“The existence of a connection, a nexus, does not by itself establish that it is a ‘significant nexus.’ There is a gradient in the relation of waters to each other[.]”)

<sup>57</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,263 (proposed definition of significant nexus in 33 C.F.R. § 328.3(c)(7)).

<sup>58</sup> 2008 Guidance at 1 (significant nexus standard based upon whether water in question will “significantly affect the chemical, physical, *and* biological integrity of downstream traditional navigable waters” (emphasis added)), 2-3 (same, quoting Justice Kennedy’s opinion), 8 (same), 10 (same). This is consistent with the Clean Water Act itself. See 33 U.S.C. § 1251(a).

<sup>59</sup> 79 Fed. Reg. at 22,213 (emphasis added).

<sup>60</sup> 79 Fed. Reg. at 22,270 (definition of “significant nexus” in proposed 33 C.F.R. § 232.2(3)(vii) uses phrase “chemical, physical, *or* biological integrity” (emphasis added) and definition of “waters of the United States” in proposed section 33 C.F.R. § 232.2(1)(vii) incorporates that significant nexus test).

Although the agencies' current rule asserts jurisdiction over tributaries, the 2014 Proposed Rule now defines "tributary" so broadly that it far exceeds the jurisdictional limits of the Clean Water Act. Based on "existing science and law," the agencies categorically presume that all landscape features meeting their proposed definition of "tributary" have a significant nexus to a navigable water.<sup>61</sup> The agencies ground their legal justification for categorically asserting jurisdiction over *all* tributaries on Justice Kennedy's conclusion in *Rapanos* that adjacent wetlands to tributaries of traditional navigable waters may be jurisdictional if they have a significant nexus to a navigable water.<sup>62</sup> The agencies acknowledge that Justice Kennedy's opinion was based solely on the facts of the case, and that under those facts he did not apply (or endorse) the significant nexus test to tributaries.<sup>63</sup> Without legal support, the agencies determine that it is "reasonable and appropriate" to review the scientific literature to determine whether to treat tributaries as *categorically* significantly affecting the chemical, physical *or* biological integrity of downstream waters.<sup>64</sup> The agencies characterize the scientific literature as finding all "tributaries with bed and banks and ordinary high water marks, alone or in combination with other tributaries, as defined by the proposed regulation, in the watershed perform these functions and should be considered, as a category, to be 'waters of the United States.'"<sup>65</sup> In other words, the agencies, for the first time, assert they have *per se* jurisdiction over all tributaries *by assuming* that a significant nexus always exists. The agencies conclude that Justice Kennedy's opinion in *Rapanos* supports this changed interpretation, selectively quoting portions of Justice Kennedy's position.<sup>66</sup> As further support, the agencies claim that Justice Kennedy's opinion did not invalidate the existing regulations governing tributaries.<sup>67</sup>

The 2014 Proposed Rule's definition of tributary is inconsistent with Justice Kennedy's concurring opinion in *Rapanos*. Justice Kennedy never suggested that tributaries should be categorically treated as jurisdictional. Nor did he ever assert that the significant nexus test even applies to non-navigable tributaries.<sup>68</sup> Assuming for the sake of argument that the significant nexus test does apply to non-navigable tributaries, Justice Kennedy's test would require that those waters be analyzed on a case-by-case basis.

***In fact, Justice Kennedy's Rapanos opinion specifically faulted the Corps for "deem[ing] a water a tributary if it feeds into a traditional navigable water (or a tributary thereof) and***

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<sup>61</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,193, 22,197.

<sup>62</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,204.

<sup>63</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,259.

<sup>64</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,259-60.

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

<sup>67</sup> *Id.*

<sup>68</sup> Lower courts—including courts within the same circuit—are mixed on whether Justice Kennedy's significant nexus test is applicable to a jurisdictional determination for non-navigable tributaries. *Compare Benjamin v. Douglas Ridge Rifle Club*, 673 F. Supp. 2d 1210, 1215 (D. Or. 2009) (holding Justice Kennedy's significant test does not apply to non-navigable tributaries) with *EPIC v. Pacific Lumber Co.*, 469 F. Supp. 2d 803, 823 (N.D. Cal 2007) and *Robison*, 505 F.3d 1208 (11th Cir. 2007) (significant nexus test used to analyze jurisdiction over non-navigable tributaries).

*possesses an ordinary high-water mark[.]*<sup>69</sup> The 2014 Proposed Rule misrepresents Justice Kennedy’s position on this point by asserting that he simply “described the Corps’ standard for asserting jurisdiction over tributaries[.]”<sup>70</sup> In fact, the full language of his concurring opinion makes clear that Justice Kennedy was chastising the Corps’ regulations: “[t]he Corps existing standard for tributaries, however, provides no such assurance that tributaries . . . due to their volume of flow (either annually or on average), their proximity to navigable waters, or other relevant considerations, are significant enough that wetlands adjacent to them are likely, in the majority of cases, to perform important functions for an aquatic system incorporating navigable waters.”<sup>71</sup> Justice Kennedy required a consideration of tributary flow, and would have excluded from jurisdiction those tributaries that are dry for most of the year.<sup>72</sup>

Justice Kennedy was also critical of “the breadth of [the Corps’ tributary] standard—which seems to leave wide room for regulation of drains, ditches, and streams remote from any navigable-in-fact water and carrying only minor water volumes toward it.”<sup>73</sup> Without a showing that the tributaries at issue in *Rapanos* were more related to navigable-in-fact waters, Justice Kennedy was concerned they were likely to be just as isolated as the intrastate ponds the Supreme Court held were outside of the Clean Water Act in *SWANCC*.<sup>74</sup> Thus, given the “potential overbreadth of the Corps’ [tributary] regulation,” Justice Kennedy required that the Corps “establish a significant nexus on a case-by-case basis when it seeks to regulate wetlands based on adjacency to nonnavigable tributaries.”<sup>75</sup> Without this case-by-case significant nexus showing, Justice Kennedy asserted there were likely to be “unreasonable applications of the statute.”<sup>76</sup>

The lower courts interpreting *Rapanos* and applying the significant nexus test have interpreted that test to require detailed and site-specific information before finding jurisdiction. These courts have relied on quantitative or qualitative information to support jurisdiction over tributaries, have emphasized the important relationship between flow characteristics and a tributary’s distance to a navigable water, and have looked to a set of characteristics to determine whether a tributary is jurisdictional: physical characteristics (quantification of flow, drainage into navigable waters),

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<sup>69</sup> *Rapanos*, 547 U.S. at 781.

<sup>70</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,259.

<sup>71</sup> *Rapanos*, 547 U.S. at 781. Justice Kennedy noted that the quantity and regularity of a tributary’s flow and its distance to any navigable-in-fact water may be important in assessing the nexus. He also warned against the agencies employing “an undue degree of speculation when determining jurisdiction” and noted that any reviewing court “must identify substantial evidence supporting [jurisdiction]” in order for the agencies to demonstrate rational decisionmaking in compliance with the APA. *Id.* at 786 (citing 5 U.S.C. § 706(2)(E)).

<sup>72</sup> *Rapanos*, 547 U.S. at 781. The Eleventh Circuit has followed this reasoning. *See Robison*, 505 F.3d at 1208 (finding that a creek that contributed flow to a navigable water was not jurisdictional under the Kennedy test because it contributed only minor flow).

<sup>73</sup> *Rapanos*, 547 U.S. at 781.

<sup>74</sup> *Id.* at 781-82; *see also id.* at 785 (a “mere hydrologic connection should not suffice in all cases” as the “connection may be too insubstantial for the hydrologic linkage to establish the required nexus with navigable waters as traditionally understood.”).

<sup>75</sup> *Rapanos*, 547 U.S. at 782.

<sup>76</sup> *Id.*

hydrologic connections (flow characteristics such as volume, duration, frequency) and biological processes (habitat, nutrient cycling, sediment distribution).<sup>77</sup> Some courts have held that evidence of the tributary’s flow, absent additional information about its significance, is insufficient to establish jurisdiction.<sup>78</sup>

The 2014 Proposed Rule’s definition of tributary would improperly extend jurisdiction to ephemeral tributaries and dry channels—in direct contradiction of the majority opinions in *Rapanos*. The *Rapanos* plurality opinion explained that jurisdiction extends only to “relatively permanent, standing, or continuously flowing bodies of water connected to traditional navigable waters.” The plurality opinion further found that “relatively permanent” waters do *not* include “ephemeral tributaries which flow only in response to precipitation and intermittent streams which do not flow typically year round or have a continuous flow at least seasonally.” Thus, the *Rapanos* plurality would categorically find that the term *waters* “does not include channels through which water flows intermittently or ephemerally, or channels that periodically provide drainage for rainfall.”<sup>79</sup> Justice Kennedy’s opinion in *Rapanos* also notes that some low-flowing, intermittent and ephemeral streams have “effects on water quality [that] are *speculative or insubstantial*”<sup>80</sup>—and therefore would not satisfy the significant nexus test.

The 2014 Proposed Rule’s definition of “tributary” to include ponds, lakes, impoundments, certain ditches, and wetlands is also arbitrary and capricious. The 2014 Proposed Rule disregards the intrinsic characteristics of a tributary, rendering it inconsistent with *Rapanos* and subsequent federal court decisions. As Justice Kennedy stated in *Rapanos*, the agencies may issue new regulations that identify “categories of tributaries that, due to their volume of flow (either annually or on average), their proximity to navigable waters, *or other relevant considerations*, are significant enough that wetlands adjacent to them are likely, in the majority of cases, to perform important functions for an aquatic system incorporating navigable waters.”<sup>81</sup> The 2014 Proposed Rule, however, ignores this instruction by defining tributary without regard to flow, distance from a navigable water, considerations of the functions the water performs, or any other relevant considerations.

The agencies’ legal justification for their proposed definition of tributaries is inadequate. They acknowledge that Justice Kennedy’s opinion in *Rapanos* was focused only on the facts of that case, but that it is “reasonable” based on “scientific literature” to *presume* jurisdiction over

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<sup>77</sup> See, e.g., *Bailey*, 516 F. Supp. 2d at 1001 n.1; *Precon*, 633 F.3d at 294-97 (explaining the need to demonstrate why the subject water has significant and not insubstantial effects on downstream water quality); *N. Cal. River Watch*, 496 F.3d at 1001 (significant nexus test satisfied in part based on quantitative evidence: elevated chloride levels in the relevant navigable water); *Cundiff*, 555 F.3d at 210-11 (qualitative evidence that wetlands’ acid mine drainage storage capabilities and flood storage capabilities had “direct and significant” impacts on navigation in the Green River).

<sup>78</sup> *Precon*, 633 F.3d at 293-95.

<sup>79</sup> *Rapanos*, 547 U.S. at 739 (Scalia, J., plurality).

<sup>80</sup> *Id.* at 789 (emphasis added) (Kennedy, J., concurring).

<sup>81</sup> *Id.* at 780-81 (emphasis added).

tributaries that have a bed and bank and ordinary high water mark and that contribute to flow directly or indirectly to a navigable water.<sup>82</sup> The agencies cite no authority to support the notion that scientific literature is a higher authority on questions of law than the U.S. Supreme Court.

The presence of a bed, bank, and ordinary high water mark is not sufficient to establish jurisdiction under the Clean Water Act. In *Rapanos*, the majority opinions rejected the agencies' categorical assertion of jurisdiction over all tributaries based simply on the presence of a bed, bank, and ordinary high water mark. The plurality opinion noted: "[t]his interpretation extended 'the waters of the United States' to virtually any land feature over which rainwater or drainage passes and leaves a visible mark—even if only 'the presence of litter and debris.'"<sup>83</sup> Agreeing with the plurality, Justice Kennedy concluded that the Corps' regulation of tributaries, based on the possession of a high water mark, provides no assurance that "specific minor tributaries bear a sufficient nexus with other regulated waters to constitute 'navigable waters' under the Act" and permitted jurisdictional overreaching to include "regulation of drains, ditches, and streams remote from any navigable-in-fact water and carrying only minor water volumes toward it[.]"<sup>84</sup> Based simply on the presence of an ordinary high water mark and some notion of flow, the agencies' proposed definition of tributaries and treatment of them as *per se* jurisdictional is irreconcilable with both opinions from the *Rapanos* majority.

The 2014 Proposed Rule's definition of tributary also inappropriately extends jurisdiction upstream of a natural or man-made break in a landscape feature's bed, bank, and ordinary high water mark. The agencies provide no legal justification for this approach. Instead, the agencies rely on their general examination of the scientific literature and their assumption of *per se* jurisdiction under Justice Kennedy's significant nexus test.

### **C. The 2014 Proposed Rule's treatment of "adjacent waters" lacks legal support**

The 2014 Proposed Rule would improperly expand the current definition of "adjacency," sweeping in all adjacent waters, not just adjacent wetlands. The 2014 Proposed Rule defines "adjacent" as: "bordering, contiguous or neighboring. Waters, including 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 waters.'"<sup>85</sup>

Neither Justice Kennedy's nor the plurality opinion in *Rapanos* considered jurisdiction over adjacent *waters*. Their analysis was limited to adjacent wetlands. Yet the 2014 Proposed Rule does not limit what "waters" are included in this provision, presumably including anything both wet and "adjacent." The preamble provides a working definition of "waters" for purposes of the 2014 Proposed Rule, but it broadly includes rivers, streams, ditches, wetlands, ponds, lakes,

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<sup>82</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,259.

<sup>83</sup> *Rapanos*, 547 U.S. at 725 (quoting definition of ordinary high water mark in 33 CFR § 328.3(e), which remains unchanged).

<sup>84</sup> *Id.* at 781.

<sup>85</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,263 (proposed definition of significant nexus in 33 C.F.R. § 328.3(c)(1)).



playas, and other types of natural or man-made aquatic systems.<sup>86</sup> The 2014 Proposed Rule also *assumes* all adjacent water bodies have a significant nexus to a navigable water, abandoning any requirement that a significant nexus be demonstrated for any individual water.

The 2014 Proposed Rule appears to base this expansion of jurisdiction on a review of the scientific literature, and acknowledges there is no legal precedent supporting this broad expansion: “While the issue was not before the Supreme Court, it is reasonable to also assess whether non-wetland waters have a significant nexus, as Justice Kennedy’s opinion makes clear that a significant nexus is a touchstone for the CWA.”<sup>87</sup> The agencies provide no statutory or judicial support for this conclusion.

No such statutory or judicial support in fact exists. The Supreme Court has never held that the Clean Water Act protects all “waters” with a significant nexus to navigable waters.<sup>88</sup> In *United States v. Riverside Bayview Homes*, the Court upheld the Corps’ definition of “waters of the United States” to include adjacent *wetlands* based, in large part, on a finding that it was reasonable to treat adjacent wetlands as unique and subject to Clean Water Act jurisdiction despite their non-navigability.<sup>89</sup> *Riverside Bayview* did not suggest that other adjacent waters should be considered jurisdictional. Nor did *Rapanos*: “No Justice [in *Rapanos*], even in dictum, addressed the question whether all waterbodies with a significant nexus to navigable waters are covered by the Act.”<sup>90</sup>

In fact, both opinions in the *Rapanos* majority limited jurisdiction even over adjacent wetlands. The plurality opinion would find adjacent wetlands to be jurisdictional only if the wetlands have a continuous surface connection to a navigable water.<sup>91</sup> Although Justice Kennedy did not overrule the agencies’ presumption that *wetlands* adjacent to navigable waters are jurisdictional, he rejected any presumption of jurisdiction for wetlands adjacent to *non-navigable* waters—requiring that jurisdiction be established by a significant nexus.<sup>92</sup> Lower courts have also rejected the notion that all adjacent “waters” to navigable waters are per se jurisdictional.<sup>93</sup>

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<sup>86</sup> 2014 Proposed Rule, 79 Fed. Reg. 22,191, n.3.

<sup>87</sup> *Id.* at 22,209, 22,260.

<sup>88</sup> *San Francisco Baykeeper*, 481 F.3d at 706.

<sup>89</sup> *Bayview Homes, Inc.*, 474 U.S. at 135 (wetlands “may function as integral parts of the aquatic environment even when the moisture creating the wetlands does not find its source in the adjacent bodies of water”); *Rapanos*, 547 U.S. at 779 (quoting same).

<sup>90</sup> *San Francisco Baykeeper*, 481 F.3d at 707.

<sup>91</sup> *Rapanos*, 547 U.S. at 742.

<sup>92</sup> *Id.* at 780, 782.

<sup>93</sup> In *San Francisco Baykeeper v. Cargill Salt Div.*, 481 F.3d 700 (9th Cir. 2007), the Ninth Circuit explicitly rejected jurisdiction over adjacent ponds: “the district court improperly expanded the regulatory definition of ‘waters of the United States’ when it held that bodies of water that are adjacent to navigable waters are subject to the CWA by reason of that adjacency. Our conclusion is based on the CWA, the regulations promulgated by the agencies responsible for administering it, and the decisions of the Supreme Court addressing the reach of the Act and its regulations.”

The 2014 Proposed Rule extends the reference waters to which adjacency applies to not just navigable waters but also all interstate waters (including interstate wetlands), territorial seas, impoundments of waters, and all tributaries of waters of these waters.<sup>94</sup> This is an exponential expansion in coverage for adjacent waters given the 2014 Proposed Rule’s broad new definition of “tributary.” Under the 2014 Proposed Rule, a tributary to any stream, pond or other wet feature that crosses a state line would become jurisdictional.

The agencies ground their legal justification for asserting *per se* jurisdiction over all adjacent waters on Justice Kennedy’s conclusion that adjacent wetlands to tributaries are jurisdictional.<sup>95</sup> The agencies also acknowledge, however, that Justice Kennedy’s opinion was based solely on the facts before him, and that those facts did not involve the question of jurisdiction over *all* adjacent waters.<sup>96</sup> Without legal support, the agencies determine it is “reasonable to also assess whether non-wetland waters have a significant nexus,” and conclude “that adjacent waters as defined in today’s 2014 Proposed Rule, alone or in combination with other adjacent waters in the region that drains to a traditional navigable water, interstate water or the territorial seas, significantly affect the chemical, physical, and biological integrity of those waters.”<sup>97</sup> On that basis, the agencies have determined to treat all adjacent waters as *categorically* significantly affecting the chemical, physical *or* biological integrity of downstream waters. In support of this sweeping claim of jurisdictional authority, the agencies simply claim that this authority is an “appropriate reflection of Congressional intent.”<sup>98</sup> A new and massive expansion of jurisdiction such as this must rest on more than bald assertions of Congressional intent.

#### **D. The 2014 Proposed Rule’s treatment of “other waters” is overly vague and inappropriately expands jurisdiction**

The 2014 Proposed Rule’s standards for determining the jurisdictional status of “other waters” are interminably vague and shapeless. As a result, the jurisdictional criteria for “other waters” will provide no certainty to landowners, will require endless and needless jurisdictional determinations over possibly millions of isolated waters, and will give permitting authorities unfettered discretion to find remote waters to be jurisdictional.

Under the 2014 Proposed Rule, “other waters” may be jurisdictional if “those waters alone, or in combination with other similarly situated waters, including wetlands, located in the same region, have a significant nexus” to navigable waters, interstate waters, and the territorial seas.<sup>99</sup> In the 2014 Proposed Rule’s application of the significant nexus test, the agencies apply the term “similarly situated in the region” to all waters (not just wetlands), and include waters that

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<sup>94</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,263-64.

<sup>95</sup> *Id.* at 22,260 (“Justice Kennedy’s significant nexus standard provides a framework for establishing categories of waters which are *per se* “waters of the United States.”)

<sup>96</sup> *Id.* at 22,260.

<sup>97</sup> *Id.*

<sup>98</sup> *Id.*

<sup>99</sup> *Id.* at 22,272.

“perform similar functions and are located sufficiently close together or sufficiently close to a ‘water of the United States’ so that they can be evaluated as a single landscape unit with regard to their effect on the chemical, physical, or biological integrity of a water identified in paragraphs (a)(1) through (3).”<sup>100</sup> Explanations of the terms “sufficiently close” and “similar functions” and “single landscape unit” appear in the 2014 Proposed Rule’s preamble but are not in the proposed regulatory text itself.<sup>101</sup> Waters are “sufficiently close” when they are within a contiguous area of land with homogeneous soils, vegetation and landform.<sup>102</sup> Waters have “similar functions” based upon habitat, water storage, sediment retention, pollution sequestration.<sup>103</sup> Under the 2014 Proposed Rule, agencies would group similarly situated “other waters” in the region together when conducting the significant nexus analysis.<sup>104</sup> The 2014 Proposed Rule allows the agencies to make their jurisdictional determination of “other waters” based on regional and national studies, or a “desktop” analysis without any actual observation.<sup>105</sup>

“Sufficiently close together” and “sufficiently close to a water of the United States” are such imprecise terms that almost any size area can be selected to determine if isolated waters are jurisdictional. Isolated playa lakes, prairie potholes and wetlands in areas of hundreds of square miles could be combined to make the determination of jurisdiction because in such a combination they may arguably have an effect on the chemical, physical, or biological integrity of navigable waters.

The agencies’ proposed criteria for determining jurisdiction over other waters is also squarely at odds with the *Rapanos* plurality’s requirement that wetlands are jurisdictional only if they share a continuous surface connection to a navigable water. The agencies’ proposed “other waters” criteria also fail the significant nexus test. That test applies to adjacent wetlands, not all possible water bodies within a watershed. The agencies posit that Justice Kennedy’s treatment of adjacent wetlands “can reasonably be applied to other waters such as ponds, lakes, and non-adjacent wetlands that may have a significant nexus to a traditional navigable water, an interstate water, or the territorial seas.”<sup>106</sup> The agencies also cite to Justice Kennedy’s discussion of the many important functions that wetlands serve—however, as the agencies acknowledge, by definition, “other waters” include “a broad range of different types of waters performing different functions.”<sup>107</sup>

The 2014 Proposed Rule proposes a vague and unworkable standard for jurisdiction over “other waters” that leaves landowners with no certainty whatsoever whether their property contains jurisdictional waters. This portion of the 2014 Proposed Rule, in particular, will result in

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<sup>100</sup> *Id.* at 22,200.

<sup>101</sup> *Id.* at 22,213.

<sup>102</sup> *Id.*

<sup>103</sup> *Id.*

<sup>104</sup> *Id.*

<sup>105</sup> *Id.* at 22,212; 22,214.

<sup>106</sup> *Id.* at 22,261.

<sup>107</sup> *Id.*

countless numbers of individual and aggregate jurisdictional determinations and inconsistent applications.

#### **IV. The 2014 Proposed Rule is arbitrary and capricious because it fails to define key terms and address key issues**

##### **A. The agencies define “adjacency” too broadly**

Although the 2014 Proposed Rule does not change the existing definition of “adjacency,” it has added new embedded definitions of *neighboring*, *floodplain* and *riparian area*.<sup>108</sup> These new definitions result in the aggregation of a much larger group of waters in a greater geographical area, thereby deeming significantly more waters as jurisdictional than before, and in a manner inconsistent with the Clean Water Act and court precedent.

Under the 2014 Proposed Rule, “neighboring” waters (and therefore adjacent waters) include waters located within the riparian area or floodplain of *per se* jurisdictional waters (including the agencies’ new and expansive conception of jurisdictional tributaries).<sup>109</sup> This definition of neighboring is unreasonable because it provides unbridled discretion to the permitting authorities to determine the scope of the riparian area or floodplain based on the “scientific judgment” of the agency, and includes waters that would fail both jurisdictional tests in the *Rapanos* majority.<sup>110</sup> This definition is also arbitrary because it does not consider the proximity of the subject waters to a navigable water, as required by the *Rapanos* majority.<sup>111</sup> The incorporation of all waters within a floodplain or riparian area suggests that the notion of “reasonable proximity” will be effectively abandoned in the 2014 Proposed Rule. To the extent that the agencies assert jurisdiction without regard to distance from a traditional navigable water, interstate water, or territorial sea, they are beyond the bounds of the Clean Water Act.<sup>112</sup>

Even if the subject water is not in the riparian area or floodplain of a jurisdictional water, the 2014 Proposed Rule would deem the “neighboring” water to be jurisdictional if it has a shallow subsurface hydrologic connection or confined surface hydrologic connection to a jurisdictional

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<sup>108</sup> *Id.* at 22,207.

<sup>109</sup> *Id.* at 22,262.

<sup>110</sup> Although Justice Kennedy’s significant nexus test considered the adjacency of “wetlands, either alone or in combination with similarly situated lands in the region,” *Rapanos*, 547 U.S. at 780, his opinion did not define “similarly situated” or “in the region” and the agencies have provided no basis that his opinion supports *per se* jurisdiction for waters under the broad definition of neighboring in the 2014 Proposed Rule.

<sup>111</sup> Both the plurality and the concurrence expressed serious concern over the assertion of jurisdiction over wetlands “adjacent to” covered waters when the wetlands were physically remote from those waters, *Rapanos*, 547 U.S. at 742 (Scalia, J., plurality) (“Wetlands with only an intermittent, physically remote hydrologic connection to ‘waters of the United States’ . . . lack the necessary connection to covered waters that we described as a ‘significant nexus’ in *SWANCC*.”); *id.* at 781 (Kennedy, J., concurring) (applying the significant nexus test because otherwise the regulation allows for jurisdiction over drains, ditches and streams *remote* from any navigable-in-fact water and likely to be beyond the Act’s scope like the isolated ponds in *SWANCC*).

<sup>112</sup> *Rapanos*, 547 U.S. at 742, 781.

water.<sup>113</sup> These terms are not defined in the 2014 Proposed Rule, and are not clearly explained in the preamble. To the extent that a meaning can be divined, there appears to be no limitation on the quality and type of “hydrologic connection” required, and is thereby contrary to Justice Kennedy’s significant nexus test. The 2014 Proposed Rule indicates that the connection may be permanent, intermittent, or ephemeral, and may include non-jurisdictional landscape features such as swales, gullies, rills and ditches.<sup>114</sup>

Groundwater is not a “water of the United States” in the 2014 Proposed Rule,<sup>115</sup> and yet the definition of “neighboring” attempts to regulate “shallow subsurface hydrologic connections” and rely on these connections to expand jurisdiction.<sup>116</sup> This definition of adjacency is unreasonable because it presumes a significant nexus between the two waters without regard to the physical, chemical, and biological connection between the waters. Under this definition of “adjacency,” the agencies (and citizen-suit-eager environmental groups) can assert jurisdiction over isolated waters based on unevaluated and unverified groundwater connections with navigable waters that have no significant effect on the physical, chemical and biological integrity of such waters. It is also unclear what constitutes a “shallow” groundwater connection. This is an overbroad and standardless expansion in jurisdiction, and given the *per se* treatment of adjacency, is likely to result in significant confusion to landowners and permitting authorities.

Moreover, the agencies’ reliance on a groundwater connection was implicitly rejected in both the plurality and concurring opinions in *Rapanos*. The plurality opinion imposed a much higher standard for any “connection”—requiring a continuous *surface* connection to a navigable water.<sup>117</sup> The plurality framed the inquiry of adjacency as whether the subject waters “possess[] a continuous surface connection that creates the boundary-drawing problem we addressed in *Riverside Bayview*”<sup>118</sup>—such that it is “difficult to determine where the ‘water’ ends....”<sup>119</sup> For potential groundwater connections, no such line-drawing difficulties exist. The water ends at the lake bottom, river bed, or ocean floor.

## **B. The agencies’ exclusion for ditches is ambiguous**

The 2014 Proposed Rule includes a narrow jurisdictional exception for two types of ditches: ditches that are excavated wholly in uplands, drain only uplands, and have less than perennial flow; and ditches that do not contribute flow, either directly or through another water, to a water identified in paragraphs (1)(i) through (iv) of the proposed rule.<sup>120</sup> The exclusions are vague and ambiguous, however, because many of the key terms (e.g., “ditch,” “uplands,” “wholly”) are

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<sup>113</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,262.

<sup>114</sup> *Id.* at 22,208.

<sup>115</sup> *Id.* at 22,263.

<sup>116</sup> *Id.* at 22,208.

<sup>117</sup> *Rapanos*, 547 U.S. at 739-42.

<sup>118</sup> *Id.* at 757.

<sup>119</sup> *Id.* at 742.

<sup>120</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,273.

undefined.<sup>121</sup> EPA representatives have stated publicly that EPA intends “upland” in this context to mean “not excavated in or through a water of the U.S.” This definition of upland, however, appears nowhere in the 2014 Proposed Rule. It is similarly unclear what burden of proof will be placed on the regulated party to establish the applicability of the exception, and what type of information must be provided to meet either of the two new ditch exemptions.

Examples of ditches that would not appear to come within the ditches exceptions in the 2014 Proposed Rule include:

- Ditches constructed to convey treated wastewaters from a wastewater treatment system to the point of discharge to a jurisdictional water. These ditches should be nonjurisdictional because they are an integral component of the treatment system. However, it is not clear from either of the ditch exclusions that the effluent conveyance to the discharge point is included in the upland ditch exclusion.
- Ditches that are used to convey storm water (either in MS4 systems or on private property including industrial plant sites) or that are used for agricultural drainage may be sufficiently deep that they intercept the saturated zone and accumulate standing water that is essentially perennial, even during periods of drought, but which do not have any measurable flow. Such ditches are common in areas with relatively impermeable soils. The 2014 Proposed Rule would potentially extend jurisdiction to these ditches, depending upon the interpretation of the assessor, even if such ditches do not have any measurable effects on the physical, chemical, or biological integrity of navigable waters.

### **C. The exclusion for waste treatment systems is incomplete**

The 2014 Proposed Rule provides that “Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act” are not jurisdictional.<sup>122</sup> The meaning and scope of this exclusion is unclear. Does the exclusion require that the facility owner have an NPDES permit? Would interconnecting waters among these waters also be exempted? If a holding pond receives cooling water after it has passed through the facility, is that pond exempted, as it is treating water for temperature to meet CWA Section 316(a)? Are temporary and/or permanent basins designed to meet storm water best management practice provisions exempted? The exclusion should extend to all waters designed and/or operated to meet any provision of the Clean Water Act, whether or not the facility is currently an NPDES permittee. The exclusion should extend to all excavated or installed ditches or conduits conveying water to and from these bodies. Inflow of surface runoff should in no way alter the exclusion. There should be no ambiguity based on the purpose or use of the pond or basin.

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<sup>121</sup> *Id.* at 22,264.

<sup>122</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,272.

Moreover, the exemption should also extend to waste treatment systems that meet the requirements of other environmental statutes, such as the Resource Conservation and Recovery Act, as well as to raw water storage ponds, process water holding ponds, fire water storage ponds, and other industrial water systems necessary for the facility but not designed to meet any particular environmental statutes.

The 2014 Proposed Rule also provides that the exclusion for waste treatment systems “applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal areas in wetlands) nor resulted from the impoundment of waters of the United States.”<sup>123</sup> But then, in a footnote to that very sentence, the agencies explain that in 1980 the agencies suspended that sentence, and further explain that the suspension of that sentence continues unaffected by the 2014 Proposed Rule.<sup>124</sup> This footnote is unnecessary. The Proposed Rule exempts waste treatment systems designed to meet the requirements of the Clean Water Act, “notwithstanding whether they meet the terms of [a water of the U.S.]” This clear exemption is sufficient to cover all cases, including waste treatment systems previously created by impounding waters of the U.S. The footnote should therefore be deleted. The agencies should make the proper change to the regulatory text rather than further continue their makeshift patch from decades ago.

On a related topic, API concurs with the comments of the National Association of Homebuilders concerning the Proposed Rule’s lack of an explicit exclusion of green infrastructure from jurisdiction. EPA promotes green infrastructure – “protecting and restoring natural landscape features and using natural systems (or systems engineered to mimic natural processes) to manage rain water as a resource” as a means to achieve sustainability, offset effects of climate change, and lower energy demands, among other benefits. And yet the agencies do not explicitly recognize green infrastructure and low impact stormwater management under the waste treatment exclusion in the 2014 Proposed Rule. Notwithstanding the waste treatment and artificial pond exclusions, rain gardens, bioswales, and other sustainable stormwater systems may very well be found jurisdictional, requiring permits and compliance with the Clean Water Act requirements. The uncertainty as to whether green infrastructure is considered jurisdictional is a clear disincentive to employ such practices. API members applying green infrastructure at point-of-sale locations such as retail gasoline outlets do not wish to find themselves facing burdensome permitting and other regulatory requirements in response to their efforts at water conservation and sustainability. API recommends the agencies incorporate into the 2014 Proposed Rule an explicit exemption from jurisdiction for green infrastructure projects.

#### **D. The exclusion for artificial lakes or ponds is too narrow**

The 2014 Proposed Rule would exclude from jurisdiction “Artificial lakes or ponds created by excavating and/or diking dry land and used exclusively for such purposes as stock watering,

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<sup>123</sup> *Id.* at 22,213.

<sup>124</sup> *Id.* at 22,313 n.1.

irrigation, settling basins, or rice growing.”<sup>125</sup> This exclusion is incomplete. The exclusion could be interpreted to apply only to the specific activities identified. There are a number of other purposes, however, for which artificial lakes or ponds are created by excavating and/or diking dry land. Examples in the industrial sector include fire water ponds (to supply water in an emergency), raw water storage ponds, cooling water ponds (which should also be excluded as wastewater treatment units), small ponds for temporarily storing produced water from hydraulic fracturing operations, and storm water retention ponds designed not primarily for treatment but to protect against flooding or to serve as water supply storage. These types of industrial ponds, and any other similar industrial ponds, and all ditches and conduits to and from these ponds should be explicitly excluded from jurisdiction under the 2014 Proposed Rule because these ponds have no impact on navigable waters and are necessary for a range of industrial operations. Inflow of surface runoff to these ponds should in no way alter the exclusion.

#### **V. The jurisdiction claimed by the 2014 Proposed Rule exceeds the commerce clause**

The 2014 Proposed Rule’s extension of jurisdiction to nonnavigable ephemeral tributaries and isolated intrastate waters exceeds the bounds of the U.S. Constitution’s commerce clause because these water bodies do not substantially affect interstate commerce. In *United States v. Lopez*, the Supreme Court explained that the federal government’s commerce clause authority extends to three limited areas of activity: (1) the use of channels of interstate commerce; (2) the instrumentalities of interstate commerce; and (3) those economic activities that substantially affect interstate commerce.<sup>126</sup> These three categories are “analytically distinct” and are not to be combined to expand the exercise of commerce clause power.<sup>127</sup> Federal regulation of “traditionally navigable waters,” the territorial seas, and interstate waters comes within the first category—the “use of the channels of interstate commerce.” The agencies’ authority under the Clean Water Act to regulate nonnavigable ephemeral tributaries and isolated intrastate waters is limited by Congress’s authority to regulate activities that “substantially affect interstate commerce,”<sup>128</sup> since those waters are not channels of interstate commerce. The agencies have made no showing that impacts to isolated waters or to remote nonnavigable ephemeral tributaries substantially affect interstate commerce.

Moreover, where a proposed regulatory action approaches the limits of commerce clause authority, an agency must be able to show a clear Congressional intention to extend federal authority so far. As the Supreme Court emphasized in *SWANCC*:

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<sup>125</sup> *Id.* at 22,273.

<sup>126</sup> 514 U.S. 549, 558-59 (1995); *see also* *SWANCC*, 531 U.S. at 172.

<sup>127</sup> *United States v. Bredimus*, 352 F.3d 200, 206 (5th Cir. 2003) (citing *United States v. Robertson*, 514 U.S. 669 (1995)); *United States v. Pappadopoulos*, 64 F.3d 522, 526 (9th Cir. 1995). In addition, in analyzing whether particular economic activities substantially affect interstate commerce and fall within the third *Lopez* category, one must “evaluate the precise object or activity that, in the aggregate, substantially affects interstate commerce.” *SWANCC*, 531 U.S. at 173.

<sup>128</sup> *SWANCC*, 531 U.S. at 172.



Where an administrative interpretation of a statute invokes the outer limits of Congress' power, we expect a clear indication that Congress intended that result. This requirement stems from our prudential desire not to needlessly reach constitutional issues and our assumption that Congress does not casually authorize administrative agencies to interpret a statute to push the limit of congressional authority. This concern is heightened where the administrative interpretation alters the federal-state framework by permitting federal encroachment upon a traditional state power.<sup>129</sup>

The plurality in *Rapanos* reiterated that interpretations that approached the bounds of congressional authority must be viewed with skepticism, and that actions taken in derogation of traditional state authority also require an especially clear congressional directive.<sup>130</sup> Congress has not clearly directed the agencies to arrogate to themselves the power of the individual states to regulate remote intrastate waters and nonnavigable ephemeral tributaries.

#### **VI. The 2014 Proposed Rule is arbitrary and capricious because it abandons the agencies' long-held interpretation of *Rapanos* without any reasoned basis**

The 2014 Proposed Rule is a significant departure from the agencies' interpretation of the jurisdictional test from *Rapanos* during the prior seven years. In the 2014 Proposed Rule's preamble, the agencies do not acknowledge or provide any reasoned basis for this abrupt change. As a result, the agencies' 2014 Proposed Rule, if finalized as proposed, would be entitled to a lower level of judicial deference,<sup>131</sup> and would be arbitrary and capricious under the Administrative Procedure Act.

On June 5, 2007, the Corps and EPA issued joint guidance interpreting *Rapanos*.<sup>132</sup> In the 2007 Guidance, the agencies noted that when "[t]here is no majority opinion in a Supreme Court case, controlling legal principles may be derived from those principles espoused by five or more justices."<sup>133</sup> The agencies cited to *Marks* in support of this statement.<sup>134</sup> (For the reasons described earlier in this comment letter, *Marks* does not support that interpretation.) The

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<sup>129</sup> *SWANCC*, 531 U.S. at 172-73 (internal citations omitted).

<sup>130</sup> *See Rapanos*, 531 U.S. at 738.

<sup>131</sup> *Pfaff v. United States Dep't of Housing & Urban Dev.*, 88 F.3d 739, 748 (9th Cir. 1996) ("Radically inconsistent interpretations of a statute by an agency, relied upon in good faith by the public, do not command the usual measure of deference to agency action."). An agency's decisionmaking is entitled to limited deference when its interpretation conflicts with an earlier position that the agency has taken. *See, e.g., INS v. Cardoza-Fonseca*, 480 U.S. 421, 446 n.30 (1987) ("An agency interpretation of a relevant provision which conflicts with the agency's earlier interpretation is entitled to considerably less deference....") (internal quotation marks omitted); *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 524 F.3d 917, 928, 933 (9th Cir. 2008) (an agency's novel approach that conflicts with a prior approach "merits little deference"); *Young v. Reno*, 114 F.3d 879, 883 (9th Cir. 1997) (an agency's changing interpretations entitled to "considerably less deference" than consistent interpretation).

<sup>132</sup> EPA and Corps, "Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States & Carabell v. United States*," (June 5, 2007) (2007 Guidance), available at <http://www.epa.gov/owow/wetlands/pdf/RapanosGuidance6507.pdf>.

<sup>133</sup> 2007 Guidance at 3.

<sup>134</sup> 2007 Guidance at 3, n.14.

agencies concluded that “regulatory jurisdiction under the CWA exists over a water body if either the plurality’s or Justice Kennedy’s standard is satisfied.”<sup>135</sup> In support of this interpretation, the agencies cited to Justice Stevens’ dissenting opinion, which concluded that the agencies could establish jurisdiction under either the plurality’s test or Justice Kennedy’s significant nexus test.<sup>136</sup> The agencies noted that, post-*Rapanos*, “the United States has filed pleadings in a number of cases interpreting the decision in this manner.”<sup>137</sup>

When EPA and the Corps finalized their guidance in 2008, their interpretation of *Rapanos* remained the same.<sup>138</sup> In 2011, when the agencies proposed revisions to their 2008 Guidance, their interpretation held constant: “The agencies continue to believe, as expressed in previous guidance, that it is most consistent with the *Rapanos* decision to assert jurisdiction over waters that satisfy either the plurality or the Justice Kennedy standard, since a majority of justices would support jurisdiction under either standard.”<sup>139</sup>

The 2014 Proposed Rule significantly changes the agencies’ interpretation of *Rapanos* without explanation. Although the preamble mentions the *Rapanos* plurality in passing, the 2014 Proposed Rule disregards the jurisdictional limitations described in that opinion. Throughout the preamble, the agencies rely solely on Justice Kennedy’s significant nexus test as the rationale for their assertion of jurisdiction over tributaries, adjacent waters, and other waters. Although the 2014 Proposed Rule does not explicitly apply the significant nexus test to tributaries and adjacent waters, the preamble clearly shows that the agencies have based their jurisdiction over those waters on the significant nexus test.

In contrast, under the 2008 Guidance, the agencies recognize the *Rapanos* plurality’s jurisdictional limitations, only presuming jurisdiction when, for example, non-navigable tributaries of navigable waters are *relatively permanent (with flow at least seasonally)* and when wetlands *have a continuous surface connection* to non-navigable tributaries.

Similarly, the agencies’ separate 2014 Questions and Answers document (2014 Q&A) for the 2014 Proposed Rule—which is not part of the rulemaking record but is posted on EPA’s website—discusses the agencies’ basis for changing their interpretation of *Rapanos*.<sup>140</sup> The document acknowledges that the 2014 Proposed Rule applies the Supreme Court decisions to “limit[] CWA jurisdiction only to those types of waters that have a ‘significant nexus’ on

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<sup>135</sup> 2007 Guidance at 3.

<sup>136</sup> *Id.* at 3 (citing *Rapanos*, 547 U.S. at 810 (Stevens, J., dissenting)); *see also Rapanos*, 547 U.S. at 810 n.14.

<sup>137</sup> 2007 Guidance at 3.

<sup>138</sup> *See* EPA and Corps, “Clean Water Act Jurisdiction Following the Supreme Court’s Decision in *Rapanos v. United States & Carabell v. United States*” at 3, available at

[http://water.epa.gov/lawsregs/guidance/wetlands/upload/2008\\_12\\_3\\_wetlands\\_CWA\\_Jurisdiction\\_Following\\_Rapanos120208.pdf](http://water.epa.gov/lawsregs/guidance/wetlands/upload/2008_12_3_wetlands_CWA_Jurisdiction_Following_Rapanos120208.pdf) (2008 Guidance).

<sup>139</sup> EPA and Corps, “Draft Guidance on Identifying Waters Protected by the Clean Water Act” (April 2011) (2011 Draft Guidance) at 2, available at [http://www.epa.gov/tp/pdf/wous\\_guidance\\_4-2011.pdf](http://www.epa.gov/tp/pdf/wous_guidance_4-2011.pdf).

<sup>140</sup> EPA, Questions and Answers about Waters of the U.S. Proposal (undated, 2014) (2014 Q&A), available at [http://www2.epa.gov/sites/production/files/2014-09/documents/wotus\\_qa\\_0.pdf](http://www2.epa.gov/sites/production/files/2014-09/documents/wotus_qa_0.pdf).

downstream traditional navigable waters – not just any hydrologic connection.”<sup>141</sup> More forthrightly than 2014 Proposed Rule’s preamble, the 2014 Q&A acknowledges that “the focus” of the new 2014 Proposed Rule “is to interpret and apply the ‘significant nexus’ test established in Supreme Court decisions, based consistently on the law and science”<sup>142</sup> and that the 2014 Proposed Rule “clearly applies the ‘significant nexus’ test as contemplated by Justice Kennedy.”<sup>143</sup>

The preamble to the 2014 Proposed Rule is, at best, extremely vague about this fundamental departure from the agencies’ previous interpretation of *Rapanos*:

Because Justice Kennedy identified “significant nexus” as the touchstone for CWA jurisdiction, the agencies determined that it is reasonable and appropriate to apply the “significant nexus” standard for CWA jurisdiction that Justice Kennedy’s opinion applied to adjacent wetlands to other categories of water bodies as well (such as to tributaries of traditional navigable waters or interstate waters and to “other waters”) to determine whether they are subject to CWA jurisdiction, either by rule or on a case-specific basis.<sup>144</sup>

In another section of the preamble relating to “other waters,” the agencies assert only that “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 traditional navigable waters and interstate waters have important beneficial effects on those waters, and by recognizing that polluting or destroying waters with a significant nexus can harm downstream jurisdictional waters.”<sup>145</sup>

For the past seven years, the United States has—in permitting decisions, litigation, and in official regulatory guidance—interpreted *Rapanos* to convey jurisdiction when either Justice Kennedy’s or Justice Scalia’s test is met.<sup>146</sup> Although this interpretation of *Rapanos* is itself erroneous, the agencies fail to explain their basis for dispensing with that interpretation and taking a very different approach in the 2014 Proposed Rule. Without any—let alone an adequate—reasoned explanation for adopting this new interpretation of *Rapanos*, the agencies’ 2014 Proposed Rule is arbitrary and capricious. Deference is particularly inappropriate here given the agency’s change in its position of the last seven years. The agencies cannot simply eschew any responsibility for

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<sup>141</sup> 2014 Q&A at 1.

<sup>142</sup> *Id.* at 2.

<sup>143</sup> *Id.* at 3.

<sup>144</sup> 79 Fed. Reg. at 22,192; *see also id.* at 22,200 (“It is reasonable to assert jurisdiction over tributaries, adjacent wetlands and ‘other waters’ that have a significant nexus to interstate waters consistent with the framework established by Justice Kennedy in *Rapanos* for establishing jurisdiction over waters with a significant nexus to traditional navigable waters.”).

<sup>145</sup> 2014 Proposed Rule, 79 Fed. Reg. at 22,200.

<sup>146</sup> 2007 Guidance at 3; 2008 Guidance at 3.

their 2008 Guidance by claiming the guidance did not impose legally binding requirements on EPA, the Corps, or the regulated community.<sup>147</sup>

Although the agencies do not explain their change of heart, there are only two possible explanations. First, it is possible that the agencies now believe that a faithful interpretation of *Rapanos* results in the agencies being compelled to apply only the significant nexus test. Second—and more likely—the agencies believe that the fractured opinions in *Rapanos* allow them to choose whether to base jurisdiction on either the plurality’s test or the significant nexus test.

As described in greater depth earlier in these comments, under either of these possible justifications, the 2014 Proposed Rule is arbitrary and capricious. If the agencies now indeed believe that the significant nexus test is the only controlling rule of law from *Rapanos*, the 2014 Proposed Rule must explain and justify that conclusion. Such a substantial interpretive change requires explanation under the APA and an opportunity for comment. If, rather, the agencies believe that *Rapanos* allows them to base jurisdictional on either the plurality’s test or the significant nexus test, the agencies must explain why one test is a reasonable basis for rulemaking and the other is not, and why it would not be appropriate to apply the jurisdiction-limiting principles articulated by both opinions. Indeed, to apply either the significant nexus test or the plurality test alone, without consideration of the other test, is to willfully ignore the totality of the *Rapanos* majority.

The agencies may believe that this reinterpretation of *Rapanos* is simply a policy choice to “make full use of the authority provided by the CWA to include waters within the scope of the Act, as interpreted by the Court.”<sup>148</sup> This position is untenable, particularly where, as here, the record is void of any explanation of why the agencies have shifted positions or how the agencies justify their “Kennedy only” approach.

## **VII. Procedural matters**

In the 2014 Proposed Rule, the agencies seek comment on numerous alternative regulatory approaches. Given the multitude of alternatives presented in the 2014 Proposed Rule, it is impossible to anticipate how the agencies’ final rule might differ from the 2014 Proposed Rule.

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<sup>147</sup> 2008 Guidance at 4, n.17. The 2008 Guidance, which interpreted *Rapanos* broadly, was a legislative rule. The June 2007 Guidance was subject to public notice and comment as would a rulemaking: EPA and the Corps received over 66,000 public comments, and revised the Guidance in 2008 after considering these comments. 2008 Response to Comments at 1. The entire purpose of the 2008 Guidance was to “ensure that jurisdictional determinations, permitting actions, [administrative enforcement actions,] and other relevant agency actions are consistent with the [*Rapanos*] decision and supported by the administrative record.” 2008 Guidance at 3, 4. Further, the agencies issued the guidance “to ensure nationwide consistency, reliability, and predictability in [their] administration of the statute.” 2008 Guidance at 3, 4. The 2008 Guidance did not merely interpret *Rapanos*, but established new policy positions that the agencies would treat as binding when making jurisdictional determinations. Labeling the agencies’ action as “guidance” does not make it so and does not change the fact that this was a legislative rule.

<sup>148</sup> 2011 Draft Guidance at 2.

If the final rule would not be a logical outgrowth of the proposed rule under applicable judicial precedent, the agencies must re-propose the rule to allow interested parties to comment.

The 2014 Proposed Rule also fails to provide any procedural clarity and safeguards relating to past, ongoing, and future jurisdictional determinations. For example, the 2014 Proposed Rule would provide no opportunity for a landowner to challenge the agencies' categorical presumption of jurisdiction for a particular tributary or adjacent water when there is qualitative or quantitative evidence that the water in question should not be deemed jurisdictional under the Clean Water Act. The rulemaking does not discuss an implementation plan or anticipated effective date, nor does it indicate how the agencies intend to address pending or in-process jurisdictional determinations, preliminary jurisdictional determinations, informal jurisdictional decisions and communications, and Clean Water Act permit applications. For clarity, the agencies should confirm in their final rule that all of these pending and in-process jurisdictional determinations and permits will be treated under the 2008 Guidance, and not under the Final Rule.

### **VIII. Summary**

In their 2014 Proposed Rule, the agencies improperly base jurisdiction over tributaries, adjacent waters, and isolated other waters exclusively on Justice Kennedy's significant nexus test from *Rapanos*. The agencies provide no support for why this jurisdictional test reflects the holding of *Rapanos*. A faithful application of the Supreme Court's guidance on how to interpret fractured opinions like *Rapanos* does not support the agencies' "Kennedy only" approach to jurisdiction. The 2014 Proposed Rule inexplicably ignores the jurisdiction-limiting principles articulated by a majority of justices in the majority opinion in *Rapanos*.

Without acknowledgment or explanation, the agencies' approach to basing jurisdiction solely on the Kennedy test reverses years of agency guidance that found waters to be jurisdictional if they met *either* the plurality test or the Kennedy test (a jurisdictional approach that itself reflects a misinterpretation of *Rapanos*). The agencies have not provided a reasoned basis for this change. If the agencies believe *Rapanos* indeed allows the agencies to establish jurisdiction under either the plurality's test or Kennedy's test, the agencies must explain and defend their choice. Their failure to do so renders this rule arbitrary and capricious. If the agencies have such a choice, their choice of the significant nexus test over the *Rapanos* plurality's jurisdictional test is unreasonable.

Under *Rapanos*, the appropriate test for jurisdiction over tributaries, adjacent waters, and "other waters" would find that:

- (1) a non-navigable tributary is jurisdictional only if it has relatively permanent flow into a navigable water; and

(2) a wetland is jurisdictional only if it has a continuous surface connection to a navigable water (either directly or through a relatively permanent tributary) *and* there is a demonstrated significant nexus between that wetland and the navigable water.

This test for jurisdiction over tributaries and wetlands is faithful to both opinions constituting the majority opinion in *Rapanos*, and it should form the basis for this rulemaking for tributaries, adjacent waters, and isolated other waters. The application of this jurisdictional approach protects navigable waters and is clear, straightforward, and easily applied—in stark contrast to the 2014 Proposed Rule.

Please direct any questions or comments about this comment letter to Peter Tolsdorf, Senior Counsel, API at (202) 682-8074.

**American Petroleum Institute**

**An Assessment of EPA/USACE's Economic Analysis  
of the Proposed Definition of "Waters of the United  
States," and Cost Implications for the Oil and Gas  
Industry**

November 2014

<b>Executive Summary</b>	<b>1</b>
<b>1. Introduction</b>	<b>3</b>
<b>2. Lack of clarity in the Proposed Rule and lack of consistency in the Agencies' interpretations render it problematic to develop a reasonably complete and accurate cost assessment.</b>	<b>5</b>
2.1 The Proposed Rule either does not include definitions for key terms, or fails to define them with sufficient clarity for meaningful comment and analysis.	7
2.2 EPA's changing and often conflicting analyses of jurisdiction under the Proposed Rule precluded stakeholders from developing accurate, quantifiable alternative economic impact assessments.	7
2.3 The scope of the Proposed Rule will be further affected by a definition of "significant nexus" contained in a Connectivity Report that EPA has not yet finalized.	10
2.4 It is unclear even how jurisdiction will be established.	10
<b>3. Since the potential benefits of the Proposed Rule were overestimated and its costs were underestimated, it is unlikely to pass a cost-benefit analysis once multiple deficiencies in analytical methodology are addressed.</b>	<b>11</b>
3.1 The Agencies' cost-benefit assessment dramatically underestimates the costs of the Proposed Rule in multiple ways.	13
3.1.1 The Agencies' original economic analysis fails to capture the full cost of the Proposed Rule by using a limited, internal government database and recessionary economic data.	13
3.1.2 The Agencies significantly underrepresented the costs associated with obtaining virtually every type of permit analyzed.	15
3.1.2.1 The Agencies' analysis of CWA 404 permit applications underestimates the number of new permits required and the real cost of these permits.	16
3.1.2.2 The Agencies' costs associated with CWA 404 compensatory mitigation underestimates the real cost of mitigation through unrealistically low implementation costs and limited acres.	18
3.1.2.3 The Agencies' analysis underestimates the change in CWA 402 Stormwater Permitting compliance cost by using the unrealistically low 2.7 percent increase in jurisdictional waters.	21



3.1.2.4	The Agencies' analysis underestimates the change in CWA 401 Water Quality Certification (WQC) Permitting cost by using the unrealistically low 2.7 percent increase in jurisdictional waters.	21
3.1.2.5	The Agencies underestimated the true costs associated with CWA 311 Oil Spill Prevention, Control, and Countermeasure Plans.	22
3.1.3	Key costs associated from permitting were omitted from the economic analysis.	23
3.1.3.1	Opportunity cost of permitting Delays were excluded from the Agencies' economic analysis	23
3.1.3.2	Costs of complying with new state regulations were also excluded from the Agencies' economic analysis - as were the costs to the States of creating those regulations.	25
3.1.3.3	Litigation costs for both industry and states were excluded from the Agencies' economic analysis.	27
3.2	The Agencies' benefit assessment is flawed in several respects and is inconsistent with EPA's own Guidelines.	28
3.2.1	The Agencies' benefits for avoiding wetlands losses rely upon a problematic estimate of wetland acres and a benefits-transfer approach that fails to meet EPA's own guidelines.	29
3.2.1.1	Most of the inputs to the Agencies' estimate of benefit acres are problematic.	29
3.2.1.2	The Agencies' estimate of benefits per acre relies upon a benefits-transfer approach that fails to meet the agency's own guidelines.	30
3.2.2	The Agencies' estimated benefits of avoiding oil spills are largely illusory due to the lack of actual referenced data.	37
<b>4.</b>	<b>Alternative geospatial mapping exercise indicates that the change in jurisdiction resulting from the Proposed Rule could be far greater than predicted by the Agencies.</b>	<b>40</b>
4.1	Arcadis Geospatial Mapping Exercise	40
4.1.1	Methodology	41
4.1.1.1	Site Selection	42
4.1.1.2	Data Review	44
4.1.1.3	Desktop Review and Delineation	45

4.1.1.4	Jurisdictional Evaluations	45
4.1.1.5	Data Uncertainty	48
4.1.2	Results	48
4.1.2.1	Test Site 1 New Mexico	58
4.1.2.2	Test Site 2: Utah	59
4.1.2.3	Test Site 3: North Dakota	60
4.1.2.4	Conclusions	62
4.2	An individual analysis conducted by one API member company indicated that the Agencies' estimate of increased permitting may be low by a factor of 10 or more for upstream oil and natural gas well sites.	62
4.3	A desktop study by another API member company in the mid-Continent demonstrated considerably increased infrastructure impacts under the Proposed Rule.	76
<b>5.</b>	<b>The Proposed Rule will cost the oil and natural gas industry at least several hundred million dollars annually and the costs could easily approach billions depending upon how the rule is implemented.</b>	<b>77</b>
5.1	Every sector of the oil and natural gas industry will be affected by this Proposed Rule.	78
5.1.1	The Upstream sector may bear the most significant costs due to sheer volume of permitting accompanying each oil or natural gas well site, and the increasing amount of onshore development.	78
5.1.2	The Proposed Rule will also increase costs for midstream and downstream infrastructure and facilities.	79
5.2	The costs of the Proposed Rule to the oil and natural gas industry will be magnified due to recently increased growth in production and infrastructure.	79
5.2.1	Current U.S. onshore production data indicates far greater impacts to the oil and natural gas industry than estimated by the the Agencies due to the recent dramatic growth in domestic onshore development.	80
5.2.2	Infrastructure investments accompanying the additional growth in domestic energy production will also require additional permits that were not considered by the Agencies in economic estimates.	80
5.3	The Proposed Rule effectively will further restrict access to state and private lands essential for growth in domestic onshore U.S. energy production, and may even further restrict offshore production.	81

5.4	The Proposed Rule will increase the costs of assessing and complying with virtually every type of permit available under the Clean Water Act and associated regulations that rely on the CWA definition of WOTUS.	82
5.4.1	The site selection process will become more time-consuming and expensive – regardless of whether or not a permit is ultimately necessary.	82
5.4.2	Permitting will become more time-consuming and expensive due to both increased jurisdictional features and their lack of clarity.	88
5.4.3	Mitigation requirements will increase due to increased jurisdictional features.	88
5.4.4	Costs for the Spill Prevention, Control, and Countermeasure Rule will increase – possibly without providing any additional environmental protection.	89
5.4.5	Impoundment costs will increase.	89
5.4.6	Expanded remediation considerations are also likely to yield increased expenditures.	89
5.4.7	Lack of clarity in jurisdictional features will increase the risk of permit denials, effectively increasing costs for appeals and potentially deterring investors.	90
5.4.8	Increased enforcement risks resulting from the lack of clarity in jurisdictional features will increase costs for contesting or settling enforcement actions and may potentially deter investors.	90
5.4.9	Other costs including maintaining created WOTUS, conflicts between state and federal regulations, and grandfathering should also be considered.	91
5.5	Permitting Cost Breakdown	92
<b>6.</b>	<b>Even a conservative estimate of financial and temporal costs associated with the Proposed Rule indicate over \$8 billion in GDP impacts to the U.S. economy.</b>	<b>93</b>
<b>7.</b>	<b>Conclusions</b>	<b>96</b>

**Tables**

Table 2-1	Illustrating Key Changes in the Agencies June and September Q&A Documents	9
Table 3-1	Comparison of Costs for Permits	17

Table 3-2 Summary Information on the 10 Wetland Valuation Studies in the Agencies' Economic Analysis	31
Table 3-3 Comparison of States in Valuation Studies to States in Regions in Economic Analysis of the Proposed Rule	34
Table 4-1 Test Site 1 New Mexico	58
Table 4-2 Test Site 2 Utah	60
Table 4-3 Test Site 3 North Dakota	61
Table 4-4 API Member Example Jurisdictional Change Between Current Guidance and Proposed Rule	72
Table 4-5 Comparison of the Agencies' Cost-Benefit Study Analysis and API Analyses of East Texas and Appalachia Sites	<b>Error! Bookmark not defined.</b>
Table 5-1 One-Acre Site Section 404 Permit Compliance Costs Under Proposed Rule	93

## Figures

Figure 4-1 Test Site Location Map	43
Figure 4-2 Test Site 1 (New Mexico Example) Existing Data Map	49
Figure 4-3 Test Site 1 (New Mexico Example) Jurisdictional Waters per Current Guidance	50
Figure 4-4 Test Site 1 (New Mexico Example) Jurisdictional Waters per Proposed Rule	51
Figure 4-5 Test Site 2 (Utah Example) Existing Data Map	52
Figure 4-6 Test Site 2 (Utah Example) Jurisdictional Waters per Current Guidance	53
Figure 4-7 Test Site 2 (Utah Example) Jurisdictional Waters per Proposed Rule	54
Figure 4-8 Test Site 3 (North Dakota Example) Existing Data Map	55
Figure 4-9 Test Site 3 (North Dakota Example) Jurisdictional Waters per Current Guidance	56
Figure 4-10 Test Site 3 (North Dakota Example) Jurisdictional Waters per Proposed Rule	57
Figure 4-11 Well Site Comparison Between 2008 Guidance and Proposed Rule	64
Figure 4-12 Pipeline Site Comparison Between 2008 Guidance and Proposed Rule.	69

Figure 5-1 Old Logging Road Potentially Jurisdictional.	84
Figure 5-2 Path Possibly a Tributary.	85
Figure 5-3 Arroyo Potentially Jurisdictional.	86
Figure 5-4 Combining Jurisdictional and Non-Jurisdictional Ditches.	87

## Executive Summary

***The Proposed Rule to redefine Waters of the United States (“WOTUS”) represents sweeping regulatory changes in the basis for federal jurisdiction under the Clean Water Act (“CWA”) that promise to further constrain access to state and private lands essential for growth in domestic onshore energy production and may even further restrict offshore production.*** Although this paper only analyzes potential impacts to the oil and natural gas industry, the Proposed Rule is far-reaching with provisions that apply to virtually any type of development including agriculture, construction, and manufacturing.

***The full cost impacts of the Proposed Rule were difficult to determine because key terms are not defined with sufficient clarity or consistency to allow for meaningful analysis of its full scope.*** These ambiguous terms are important because the Proposed Rule represents a fundamental regulatory shift in the basis of federal jurisdiction over navigable waters that would shift from a case-by-case analysis to jurisdiction by rule unless narrow exemptions apply. Because these definitions are essential to stakeholder analysis, the Proposed Rule should be revised to include limiting definitions for key terms and resubmitted for public comment along with a revised economic impact analysis, using alternative approaches similar to those in this document, prior to finalization.

***Even when analyzed under conservative assumptions about the definitions, it is clear that the EPA and the Army Corps of Engineers (“the Agencies”) have seriously underestimated the cost and inflated the benefits of the Proposed Rule in the accompanying Preliminary Economic Analysis (“PEA”).*** Contributing factors include: 1) underestimation of the increase in jurisdiction and permitting by extrapolating from a single, limited and restricted-access Agency database using recessionary economic data; 2) underrepresented costs for virtually every type of CWA permit analyzed by the PEA; 3) important costs wholly omitted from the PEA; 4) inflated benefits estimated with problematic methodology and lacking pivotal data, and 5) a troubling assumption that benefits are obtained only under expanded Federal jurisdiction.

***In fact, since the Clean Water Act already prohibits discharges of pollutants that ultimately flow into navigable waters (regardless of whether the point of discharge is a navigable water), it is questionable whether this Proposed Rule could provide any benefits to offset the tremendous increase in regulatory burden that it will impose.***



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

***A thorough evaluation of economic impacts is likely to find that the Proposed Rule would fail a true cost-benefit analysis. Under a conservative economic analysis, applying only the PEA's likely underestimate of a 2.7 percent increase in permitting, the Rule would penalize the U.S. economy by \$8 billion in lost GDP during the first year in the Upstream segment of the oil and natural gas industry alone.*** This may be contrasted with the Agencies' estimate of \$162-278 million in costs for the entire U.S. economy.

Moreover, the 2.7 percent increase is likely to be low because it relies on recessionary FY 2009-2010 data that predates widespread onshore shale energy development. In fact, estimates of the expansion in jurisdiction using alternative analyses presented in this document in all cases obtain results that are far higher than the 2.7 percent increase posited by the Agencies, and one analysis indicates that the increase in Upstream permitting may be far more than ten times the number predicted by the PEA.

Furthermore, we identify several elements of increased cost, neglected or underestimated in the Agencies' analysis when compared to real world costs, such as spill reporting and secondary containment, mitigation, field surveys, and specific other costs relating to various sections of the CWA.

Wholly omitted costs include: the impact on time-value of investment to permitting delays; additional delays and monetary expenditures relating to determining whether permitting is even necessary due to ambiguous jurisdictional features; restricted access to large portions of state and private lands essential to U.S. energy development and associated infrastructure; restricted site options (e.g., design or access roads) for development and mitigation; and potential conflicts in state and federal regulations that could delay ditch maintenance, decommissioning, and restoration work required by state permits.

***Finally, it should be noted that the costs of the Proposed Rule could impact a broad range of industries and activities beyond oil and natural gas, resulting in unanticipated consequences for energy security, environmental protection, and essential segments of the economy.*** The same permitting difficulties experienced by oil and natural gas projects could apply to other energy or development projects in remote areas – many with considerable larger footprints like wind, solar, or related new transmission infrastructure. Furthermore, reduced access to onshore natural gas may slow the production of this important domestic energy resource, which has done much to reduce U.S. emissions of the greenhouse gas carbon dioxide in recent years while simultaneously helping to revitalize the U.S. manufacturing industry. Regulators should carefully consider these and other unintended impacts prior to proceeding.

## 1. Introduction

In 2014, the U.S. Environmental Protection Agency (“EPA”) and the U.S. Army Corps of Engineers (USACE; “the Corps”) issued a Proposed Definition of Waters of the United States under the Clean Water Act (CWA)(“Proposed Rule”).<sup>1</sup> As a part of this proposal, the EPA and the Corps (hereafter “the Agencies”) also developed an economic analysis of the Proposed Rule – “Economic Analysis of Proposed Revised Definition of Waters of the United States” (March 2014).

The focus of this paper is two-fold. First, it critically evaluates the economic analysis performed, which is essentially a cost-benefit analysis, and provides recommendations for improvement where appropriate. Second, it assesses potential impacts to the oil and natural gas industry to better understand the cost ramifications of the Proposed Rule. In particular, it examines the following questions:

1. Is it possible to accurately assess the costs of the Proposed Rule as it is now written?
2. Did the economic analysis accompanying the Proposed Rule accurately indicate its costs and benefits? Is the cost-benefit analysis appropriately conducted? If not, how do the assumptions and inputs applied in the analysis impact its overall conclusions?
3. Do geospatial mapping exercises conducted by various stakeholders affirm the Agencies’ jurisdictional estimates?
4. What are the costs to the oil and natural gas industry of the Proposed Rule?
5. What are the impacts to the overall economy of those costs?

The Proposed Rule seeks to revise the existing regulatory definition of “Waters of the U.S.” or “navigable waters.” While a complete summary of the Proposed Rule and the legal significance of its changes is beyond the scope of this document, for the purposes of this paper, the Proposed Rule differs from the existing rule and practice under the 2008 guidance in at least three significant ways.

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<sup>1</sup> See Docket EPA-HQ-OW-201 1-0880.



1. The scope of “tributaries” is now defined to include any geographic features that have a “bed and banks and an ordinary high water mark” and that contribute flow to any water under subsections (1) through (4). This definition would extend jurisdiction to geographic features that are dry for most of the year, including areas that carry water only during heavy rains (“ephemeral streams”) or during a spring wet season.” This substantially expands the scope of geographic features that would fall under federal jurisdiction.
2. All waters that are “adjacent” to any other water that is itself jurisdictional under subsections (1) through (5) would become jurisdictional under the Proposed Rule. Currently, only adjacent *wetlands* fall under federal jurisdiction. The Proposed Rule’s definition of “adjacent” is broad – encompassing “neighboring” areas.
3. The Proposed Rule introduces a new category of “other waters” that may be deemed jurisdictional after a case-specific analysis if the water and other waters “in the same region” have a “significant nexus” to a traditional navigable water. The term “significant nexus” is exceedingly broad: “more than speculative or insubstantial.” Other waters may be aggregated with the water at issue to determine the significance of the nexus if the waters are “a single landscape unit with regard to their effect on the chemical, physical, or biological integrity of certain waters.”

A thorough examination of the Proposed Rule revealed that it is virtually impossible to develop a complete and reasonably accurate cost estimate of the Proposed Rule for several reasons.

First, definitions pivotal to understanding the Proposed Rule are absent or unclear. These terms include, but are not limited to “uplands,” “floodplain,” “subsurface connection,” “neighboring,” “riparian area,” “other waters,” and “waste treatment.”

Second, no quantifiable metrics currently exist for measuring the significance of a nexus so as to identify the “significant nexus” required to establish federal jurisdiction under the Proposed Rule. As of the writing of these comments, the scientific report charged with developing these metrics has not been finalized; however, the current version which has been reviewed several times by the EPA’s Scientific Advisory Board contains no quantifiable guidance that policymakers or impacted stakeholders could use to determine the extent of nexus impacts under this Proposed Rule.

Third, the Agencies have issued changing and conflicting analyses<sup>2</sup> of jurisdiction under the Proposed Rule multiple times – claiming that it will decrease jurisdiction even after releasing an economic impact analysis indicating a jurisdictional increase<sup>3</sup> and offering conflicting terminology without explanation in subsequent Q&A documents sometimes not even entered into the docket.<sup>4</sup> In August 2014, well after the Agencies issued the Proposed Rule, the Corps issued detailed, comprehensive guidance on the identification of an ordinary high water mark (OHWM), a key concept in the Proposed Rule for identifying jurisdictional tributaries.<sup>5</sup> Issuing continually moving targets which cannot be reconciled with one another - not to mention placing the burden of discovering these changes wholly on stakeholders - creates an almost insurmountable barrier to both meaningful comment and a reasonably accurate economic analysis.

**2. Lack of clarity in the Proposed Rule and lack of consistency in the Agencies' interpretations render it problematic to develop a reasonably complete and accurate cost assessment.**

The Proposed Rule seeks to assert federal regulatory authority over waters for which the Agencies can find a “significant nexus” with a navigable or interstate water or territorial sea. It would expand federal Clean Water Act jurisdictional requirements to ephemeral drainages, ditches (including roadside, flood control, irrigation, storm water, and agricultural ditches), water bodies in riparian areas or across broad watersheds, industrial ponds, and isolated waters and wetlands not previously regulated as “Waters of the United States” (WOTUS).

Beyond the statement that this is a significant expansion of jurisdiction, it is possible to say little more with reasonable accuracy. Within the confines of the Proposed Rule, key terms are either missing or defined so ambiguously that they leave open the possibility for sweeping jurisdictional determinations. **If finalized in its current form, the Proposed Rule would leave both regulators and the regulated community**

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<sup>2</sup> Remarks of Gina McCarthy at Agricultural Business Council of Kansas City on Clean Water Proposal (July 10, 2014), available at <http://go.usa.gov/xmh>

<sup>3</sup> The Agencies', Economic Analysis of Proposed Revised Definitions of Waters of the United States at 12 (March 2014), available at <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OW2011-0880-003>.

<sup>4</sup> See e.g., the definition of Ordinary High Water Mark in the Agencies' June and September Q&A document.

<sup>5</sup> [http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg\\_supp/west\\_mt\\_finalsupp\\_aug2014.pdf](http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/west_mt_finalsupp_aug2014.pdf) and <http://acwc.sdp.sirsi.net/client/search/asset/1036026>



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

**vulnerable to significant variations in interpretation and enforcement throughout the country.**

The EPA's Science Advisory Board (SAB) is currently (at the time of writing these comments) finalizing a report on "Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence" ("Connectivity Report" or "Science Report"). This report was supposed to provide the scientific definitions and quantifiable metrics that would not only guard against arbitrary and capricious enforcement of the "significant nexus" evaluation, but also give impacted stakeholders the reasonable certainty over the scope of the Proposed Rule necessary to conduct meaningful economic impact assessments. In its current form, the Connectivity Report provides many examples of ways in which waters can potentially be chemically, physically, or biologically connected but continues to lack the necessary evaluation to elaborate upon the concept of nexus significance in a way that would provide any value to policymakers, stakeholders, and corporate compliance specialists seeking to understand the reach of the Proposed Rule. Far from confirming the Agencies' approach, scientific reviewers have rejected the Proposed Rule's use of significant nexus as a 'bright line' or 'binary' determiner of jurisdiction, in favor of a "gradient" approach that shades gradually along a spectrum of connectivity—but without further definition. The Agencies have gone ahead with the rulemaking, however, despite this evidence that their approach will not provide the regulatory clarity promised as a benefit.

As if those two challenges were not enough, throughout the comment period, the Agencies have continued to offer different and conflicting jurisdictional interpretations – often without calling attention to the changes or uploading them into the rulemaking docket. While the economic analysis accompanying the release of the Proposed Rule clearly indicated an increase in jurisdiction, blogs and statements by key EPA administrators have begun to claim the Proposed Rule would actually be a decrease in jurisdiction. They have never once explained how this could be true, and it is impossible to reconcile that statement with the facts contained in this report. A supposed example of "enforcement challenges" that the Rule was intended to address has been removed without explanation as to what has changed. Additionally, the Q&A document posted on EPA's website has changed in several wholly inconsistent ways between June and September. Stakeholders have been placed in the position where they not only need to monitor the docket, but also to track blog posts and *ad hoc* statements for definitions of regulatory terms that may change without notice at any time.

**2.1 The Proposed Rule either does not include definitions for key terms, or fails to define them with sufficient clarity for meaningful comment and analysis.**

Definitions of key terms including but not limited to “uplands,” floodplain,” “subsurface connection,” “neighboring,” “riparian area,” “other waters,” and “waste treatment,” are unclear. A more complete understanding of these terms is essential to implementing the Proposed Rule. Placing stakeholders in situations where key definitions are absent, forthcoming, or defined in documentation, which may or not be uploaded into the rulemaking docket, precludes effective comment.

For example, the meaning of the term “upland” is central to determining if a ditch is excluded from the Proposed Rule’s “Waters of the U.S.,” however, its definition is absent. EPA acknowledged this during multiple discussions in the comment period, but then a September 9 Q&A document issued by the Agencies offered a new definition of “upland:” “Under the rule, an ‘upland’ is any area that is not a wetland, stream, lake, or other waterbody. So any ditch built in uplands that does not flow year round is excluded from CWA jurisdiction.”<sup>6</sup> This definition of “upland” remains wholly absent from the Proposed Rule’s preamble or regulatory text, as well as the rulemaking docket.

Likewise, the extent of categorical jurisdiction for adjacent waters depends on the extent of floodplains or riparian areas, neither of which is objectively defined in the Proposed Rule. Thus any analyst trying to estimate the changes in jurisdiction has to make an assumption whether the Agencies will use a 100-year floodplain, 500-year floodplain, or some other floodplain as a basis. The results will vary dramatically as a result.

**2.2 EPA’s changing and often conflicting analyses of jurisdiction under the Proposed Rule precluded stakeholders from developing accurate, quantifiable alternative economic impact assessments.**

Throughout the rulemaking process, EPA has used a number of different analyses which create a moving target for commenters:

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<sup>6</sup> TEPA and U.S. Army Corps of Engineers, Question and Answers – Waters of the U.S. Proposal at 5 (Sept. 9, 2014), [http://www.2.the.Agencies.gov/sites/production/files/2014-09/documents/q\\_a\\_wotus.pdf](http://www.2.the.Agencies.gov/sites/production/files/2014-09/documents/q_a_wotus.pdf) (hereinafter September Q&A document.”

- In March 2014, the Agencies' original impact analysis entered into the rulemaking docket estimated that "the proposed rule increases overall jurisdiction under the CWA by 2.7 percent."<sup>7</sup>
- In June 2014, an EPA blog entry noted that "[T]he rule protects fewer waters than prior to the Supreme Court cases."<sup>8</sup> The economic impact analysis was not amended, nor did the blog explain how both the increase predicted in the rulemaking docket and the blog entry could both be true.
- In July 2014, EPA Administrator Gina McCarthy noted that, "EPA feels confident that, under this proposal, fewer waters will be jurisdictional than under President Reagan."<sup>9</sup> Again, the economic impact analysis was not amended, nor did the blog explain how both the increase predicted in the rulemaking docket and the blog entry could both be true.
- In September 2014, the Agencies' Q&A document used a wholly different calculation to support "the proposed rule reflects a substantial reduction in waters protected by the CWA [when compared to the Agencies' existing regulations]."<sup>10</sup>

Another example of the lack of consistency and clarity concerns the Agencies' Q&A document originally released on June 30, 2014 and linked to in a blog by Nancy Stoner (former Acting Assistant Administrator for Water). Although the Agencies have not admitted to or provided notice for revising the Q&A document, the blog now links to a new Q&A document containing abbreviated information and revised responses. Table 2-2 illustrates the confusion caused by some of these pivotal, conflicting, and unexplained changes.

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<sup>7</sup> EPA and the Corps, Economic Analysis of Proposed Revised Definition of Waters of the United States, at 12 (March 2014), available at <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OW-2011-0880-003>.

<sup>8</sup> Nancy Stoner blog entry, "Setting the Record Straight on Waters of the U.S." (June 30, 2014).

<sup>9</sup> Remarks of Gina McCarthy at Agricultural Business Council of Kansas City on Clean Water Proposal (July 10, 2014), available at <http://go.usa.gov/xmvh>.

<sup>10</sup> Sept. Q&A at 3.

**Table 2-1 Illustrating Key Changes in the Agencies' June and September Q&A Documents**

Topic	June Q&A	September Q&A	Resulting Question
Under the heading "The Proposed Rule does NOT mean that previous decisions about jurisdictions will have to be revisited."	"Any existing jurisdictional determination issued by the Corps will continue to be valid, and we will not review existing valid determinations."	The entire section has vanished – including the statement about existing jurisdictional determinations	Have the Agencies changed positions on revising previous determinations?
Ordinary High Water Mark (OHWM)	"Features that flow extremely rarely would not exhibit these characteristics and would not be jurisdictional."	"Water features that don't flow frequently enough or with enough volume to exhibit these characteristics would not be jurisdictional."	Different meanings, possibly not accurate with other interpretations of the rule. Have the Agencies changed their position?

Concerning the first topic in Table 2-2 - notwithstanding the EPA' remarkable assertion that the Proposed Rule will result in fewer jurisdictional waters than before the Supreme Court cases - and even with an influx new jurisdictional determinations to be made based on the detailed provisions of the Proposed Rule, the Agencies assert that the Proposed Rule will result in a 2.7 percent increase in jurisdictional waters strictly based on a database of jurisdictional determinations made after the Supreme Court cases means that a number of previous jurisdictional determinations will be reversed.

The Agencies' estimate of increased jurisdiction under the Proposed Rule directly contradicts the Agencies' deleted Q&A response that all previous jurisdictional determinations, including determinations of no jurisdiction, will be honored. Yet landowners have already made land use decisions based on those determinations of no jurisdiction. To now require these landowners to reverse their land use decisions and effect environmental restoration would be burdensome, unreasonable, and unfair. **The Agencies should explicitly state that no previous jurisdictional determinations will be reversed under the Proposed Rule and that existing land use decisions based on prior jurisdictional determinations will not be overruled by the Agencies.**

Concerning the second topic in Table 2-2, the Corps issued in August 2014 its comprehensive guidance on the definition of ordinary high water mark.<sup>11</sup> The late issuance of this guidance, over three months after date of the Proposed Rule, is a clear example of the Agencies' inconsistency and moving target for critical definitions necessary for proper understanding and implementation of the Proposed Rule. This guidance should have been issued prior to the Proposed Rule and the Proposed Rule's definition of OHWM based upon it. Moreover, the descriptive language in the Agencies' Q&A such as "features that flow extremely rarely," and "waters that don't flow frequently enough or with enough volume," are so nebulous, case-specific, and lacking in context, that they are essentially meaningless.

**2.3 The scope of the Proposed Rule will be further affected by a definition of "significant nexus" contained in a Connectivity Report that EPA has not yet finalized.**

The Proposed Rule will not be implemented in a vacuum; its reach will be impacted by a Connectivity Report that has not yet been finalized and therefore is not available for stakeholders to evaluate in their assessment of economic impacts.

Even as the Science Advisory Board finalizes the Connectivity Report, its current version does not contain scientific or quantitative definitions of significant nexus that would provide value to policymakers, stakeholders, or corporate compliance specialists. The Science Advisory Board has recommended to the Agencies further study on the connectivity of waters and expanded consideration of 'gradient' approaches to quantifying connectivity.<sup>12</sup> This recommendation underscores the Agencies' lack of a clear vision as to what should constitute a significant nexus between waters, and just as importantly, what connectivity characteristics between waters fall short of significance. Without addressing this crucial concern, the Agencies cannot hope to propose a technically sound jurisdictional regulation to implement Justice Kennedy's significant nexus test.

**2.4 It is unclear even how jurisdiction will be established.**

Questions arise as to whether the Agencies will be able to assert jurisdiction through a desk review and/or field investigation. For example, a Corps Regulatory Guidance

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[http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg\\_supp/west\\_mt\\_finalsupp\\_aug\\_2014.pdf](http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/west_mt_finalsupp_aug_2014.pdf) and <http://acwc.sdp.sirsi.net/client/search/asset/1036026>

<sup>12</sup> "SAB Seeks EPA Method To Quantify Waters' Connections For CWA Policy," Inside EPA, October 23, 2014.

Letter states that a field visit is not required to establish jurisdiction. Former Acting Assistant Administrator Stoner stated that maps will not be used to establish jurisdiction,<sup>13</sup> in contrast to what Administrator McCarthy told the House Appropriations Committee.<sup>14</sup> Inconsistent statements regarding this regulatory procedure render it difficult to determine costs of this Proposed Rule for both the Agencies and the regulated community.

**3. Since the potential benefits of the Proposed Rule were overestimated and its costs were underestimated, it is unlikely to pass a cost-benefit analysis once multiple deficiencies in analytical methodology are addressed.**

The March 2014 *Economic Analysis of Proposed Revised Definition of Waters of the United States* (“Economic Analysis” or “PEA”) understates the costs and overstates the benefits that would result from the Proposed Rule change. Other reviews of the Agencies’ report have come to the same conclusion. The Brattle Group states: “Unfortunately, the EPA analysis relies on flawed methodology for estimating the extent of newly jurisdictional waters that systematically underestimates the impact of the definitional changes. This is compounded by the exclusion of several important types of costs and use of flawed benefits transfer methodology.”<sup>15</sup> ARCADIS reviewed both the Economic Analysis and the Brattle Group’s report and has found that the analysis and conclusions in the Brattle Group’s report are correct.

The increase in federal jurisdiction (and the concomitant increase in the number of additional permits required) has been grossly underestimated due to exclusive reliance on incomplete data from one year of one regulatory database unavailable in the public domain. The database contained only projects for which jurisdictional determinations had been requested, during one of the most recessionary periods in modern history. The Agencies further assumed (incorrectly) that the Proposed Rule would not impact the number of permit filings. The resulting underestimate was subsequently used throughout the rest of the analysis. These are discussed in more detail below.

On the cost side, the PEA’s cost estimates significantly underrepresent the costs of obtaining virtually every permit the Agencies analyzed, and wholly omit key costs.

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<sup>13</sup> Letter from Nancy Stoner to Congressman Lamar Smith, July 28, 2014

<sup>14</sup> <http://appropriations.house.gov/calendararchive/eventsingle.aspx?EventID=373134> (46:08 to 50:00)

<sup>15</sup> Sunding, David. Review of 2014 EPA Economic Analysis of Proposed Revised Definition of Waters of the U.S.” (2014).





## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

Some sections of the Clean Water Act (CWA) were assumed to include little or no additional compliance costs (Sections 303 and 402) but lack analysis to support such assumptions. The costs of CWA permitting expenses and mitigation costs were incomplete and omitted essential activities such as field work. Similar issues accompany their analysis of NPDES permits, storm water permits, water quality certification permits, and SPCC plans.

Some of the most significant costs neglected in the Economic Analysis are the costs of permitting delay, opportunity cost of increased regulatory burden, and impact avoidance and minimization costs. "However, because there is not a defensible, ready basis for estimating these costs, the agencies did not estimate compliance costs for these categories as part of this economic analysis."<sup>16</sup>

The potential benefits of the Proposed Rule were also overstated due to problematic data inputs and methodology. The estimated increase in jurisdictional scope led to a calculation that, annually, 1,332 acres (about 2 square miles) of wetlands would be additionally created or protected as a result of implementing the Proposed Rule. Though this incremental increase in absolute terms is vanishingly small compared to the estimated 110.1 million acres of wetlands in the conterminous United States,<sup>17</sup> the benefit of it was inflated using largely hypothetical contingent valuation studies and a controversial benefits-transfer model. The ten studies that the Agencies relied upon in the analysis are dated, many are not peer reviewed, and one was even such an outlier that excluding its valuation estimate from the average lowers calculated benefits by roughly \$100 million.

**The Agencies should have conducted an original wetlands valuation study for the different regions of the country, as required by EPA's Guidelines.** The Agencies made no allowance for the fact that Proposed Rule will produce almost no benefit to the public in states that already protect "isolated waters." Likewise, the benefits estimate from avoiding oil spills under CWA 311 is speculative and overstates the benefits of the Proposed Rule.

ARCADIS has built upon the Brattle Group's conclusions in the following sections by providing appropriate estimates for the individual costs and benefits and discussing significant cost omissions from the Agencies' analysis.

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<sup>16</sup> EPA and the Corps, *Economic Analysis of Proposed Revised Definition of Waters of the United States*, March 2014.

<sup>17</sup> Dahl, T.E. 2011. Status and trends of wetlands in the conterminous United States 2004 to 2009, U.S. Department of the Interior, Fish and Wildlife Service, Washington DC pp. 108.

**3.1 The Agencies' cost-benefit assessment dramatically underestimates the costs of the Proposed Rule in multiple ways.**

3.1.1 The Agencies' original economic analysis fails to capture the full cost of the Proposed Rule by using a limited, internal government database and recessionary economic data.

In estimating the increased jurisdiction and accompanying costs, the Agencies used records contained in the Corps' Operation and Maintenance Business Information Link, Regulatory Module (ORM2) database from fiscal years 2009 and 2010. The exclusive reliance on this one database significantly underestimates the potential increase in jurisdictional waters resulting from the Proposed Rule.

First, it includes information only on actual impacted areas for projects for which a jurisdictional determination or permit was requested by project proponents – i.e., it does not include or provide a means of estimating increases for areas outside the project impacts, or for those projects which did not require a permit, or would not have been envisioned as requiring a permit. It excludes all Preliminary Jurisdictional Determinations, i.e., those which project proponents have questions about jurisdiction but decline to pursue them in the interests of reducing permit processing time. This may help to explain why some 98 percent of tributaries and 98.5 percent of adjacent wetlands were found to be already jurisdictional, prompting the Agencies to assume (erroneously, as we will show) that any increase in jurisdiction for these classes of waters would be negligible. As a result, detailed analysis was conducted only on isolated waters, which were evaluated by a team of USACE experts using a subset (262) of ORM2 project files. The Agencies further assume that any waters heretofore not considered jurisdictional are "...likely to be the most isolated and the least connected to other waters, and therefore the least likely to have their status changed under the Proposed Rule."<sup>18</sup>

Unfortunately, that statement is an oversimplification and underestimation. Multiple scenarios and developments in the arid Southwest (e.g., discontinuous ephemeral drainage impacts) and the Midwest (e.g., isolated prairie pothole wetland impacts) currently do not require a permit but would require permits for impacts to newly regulated resources under the Proposed Rule.

Each of these developments not currently accounted for in the ORM2 database would add to the jurisdictional waters under the new rule.

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<sup>18</sup> EPA, 2014.

It should be noted that the data is incomplete—roughly 18.4 percent of the data records for aquatic resources are blank—and the categories of water, defined under the 2008 CWA guidance, does not align in practice with the new definitions of the Proposed Rule. Therefore, the ORM2 database does not comprehend the full sampling universe of water features that might be subject to the Proposed Rule, and so using it exclusively to determine the percent increase in jurisdictional waters understates the true impact of the Proposed Rule.

**The ORM2 database is not accessible on-line nor is access provided through the rulemaking docket, so for a detailed review of ORM2 records and their application in this rulemaking, a FOIA request would be required. Given the importance of ORM2 to the Agencies’ cost-benefit analysis, the Agencies should have provided instructions for public access to ORM2 in their economic analysis of the Proposed Rule.**

Significantly, the Agencies’ Economic Analysis used the ORM2 data records from fiscal years 2009 and 2010 – a time when the U.S. economy was in a recession with the lowest number of housing starts on record.<sup>19</sup> Similarly, 2009-2010 was also characterized by a decrease in industrial development due to a reduction in capital expenditures. This time period included the only reduction in capital expenditure spending by the oil and gas majors in the past 20 years,<sup>20</sup> and comes just prior to a dramatic and continuing upturn in drilling and production associated with shale gas and liquids development, which has transformed markets and prospects for U.S. energy security. The selection of data for 2009-2010 may lead to an understatement in the number of permits submitted and the types of water evaluated; therefore, they would not be a true representation of the impacts under the current economic conditions.

The Agencies relied on ORM2 exclusively to calculate an increase in jurisdiction for 2 percent of streams, 1.5 percent of adjacent wetlands, and (based on case-by-case analysis by Army Corps of Engineer specialists, checked by outside experts) 17 percent of isolated “other” waters. That increase results in the total number of jurisdictional records in ORM2 increasing by 2.7 percent. **This number is used as the basis for all subsequent estimates of impacts and benefits arising from**

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<sup>19</sup> <https://www.census.gov/construction/nrc/pdf/startsan.pdf>

<sup>20</sup> Bloomberg - <http://www.resilience.org/stories/2014-03-04/beginning-of-the-end-oil-companies-cut-back-on-spending>



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

**implementation of the Proposed Rule.**<sup>21</sup> For example, the Agencies determined that a 2.7 percent increase in jurisdiction would lead to a 2.7 percent increase in permits required: 75 additional individual permits and 1,327 additional general permits.

We will show later in this document some alternative analyses of potential jurisdictional increase that give far higher estimates than ORM2. Moreover, one of these analyses takes a “bottom-up” approach, looking specifically at the increase in permit requirements for oil and gas developments, and concludes that the increase is far higher than the proportional increase in jurisdiction owing to the non-linear, bracketed “threshold” nature of programmatic permit requirements.

3.1.2 The Agencies significantly underrepresented the costs associated with obtaining virtually every type of permit analyzed.

The Agencies’ Economic analysis included a breakdown of the four types of CWA permitting costs: 1) permit application costs; 2) compensatory mitigation costs; 3) permitting time costs; and 4) impact avoidance and minimization costs. The Agencies recognized that the latter two could be significant “for some share of permit applicants,” however, they excluded these costs from the calculation on the assertion that no “defensible, ready basis for estimating these costs” exists.<sup>22</sup> The oil and gas industry is certainly one of those for whom these costs will be significant, and this comment will endeavor to provide the estimates, lacking in the Economic Analysis.

Meanwhile, ARCADIS also estimates the first two costs, for permit applications and compensatory mitigation, to be considerably higher than those estimated by the Agencies. This section discusses issues with the Agencies’ methodology and provides more realistic cost estimates.

The Agencies’ Economic Analysis oversimplifies and understates the potential cost implications resulting from the Proposed Rule. As shown below, it is certain that the increased costs from permit application fees, compensatory mitigation, SPCC, and NPDES permits will be significantly higher than the Agencies’ current estimates.

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<sup>21</sup> The PEA later provides a “sensitivity” calculation to estimates of increased permitting but it is applied subsequent to the estimate from the ORM2 database, and so addresses none of the shortcomings of reliance on this database, mentioned above.

<sup>22</sup> EPA, 2014.



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

3.1.2.1 *The Agencies' analysis of CWA 404 permit applications underestimates the number of new permits required and the real cost of these permits.*

In the PEA, the estimated 2.7 percent increase in jurisdiction is applied proportionately to the number of both individual and general permits issued in 2010 to estimate the additional number of permits arising from application of the Proposed Rule.

The Agencies attempted to evaluate the costs for each type of permit based on 1) phone interviews with various personnel; and 2) a survey from Sunding and Zilberman in 2000.<sup>23</sup> The series of phone interviews with permitting consulting firms and Corps district regulatory staff demonstrated an average increased cost for a general permit to be \$13,100 and an individual permit to be \$31,400 (both in 2010 dollars). In contrast, the Sunding and Zilberman study relied on a survey of permitting costs for 103 nationwide permit and individual permit applications. This survey showed an average cost for a general permit to be \$22,079 plus \$12,153 per impacted acre for an average total cost of \$25,482. Individual permits typically cost \$57,280 plus \$15,441 per impacted acre, leading to an average total cost of \$254,979. The Sunding and Zilberman numbers are also expressed in 2010 dollars (indexed from a 1999 Consumer Price Index for All Urban Consumers (CPI-U) of 166.6 to a 2010 CPI-U of 218.056).<sup>24</sup>

From the phone interviews and the Sunding and Zilberman survey, the Agencies estimated a range of potential costs for each permit type, and applied those costs to the estimated increase in number of permits (determined using the total number of permits filed in 2010 in the ORM2 database and the estimated 2.7 percent increase). Exhibit 6 demonstrates the Agencies' estimates of the total increase in costs from the Proposed Rule as a range from \$19.8 MM to \$52.9 MM.

The Agencies' analysis also included the additional administrative costs associated with the newly increased permitting workload (determined by using man hours and associated USACE fully loaded salary rates). Applying the 2.7 percent incremental increase in 404 permits, the USACE determined their additional administrative costs to be \$7.4 to \$11.2 million per year.

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<sup>23</sup> D. Sunding and D. Zilberman. 2000. *Analysis of the Army Corps of Engineers' NWP 26 Replacement Permit Proposal*. Prepared for the National Association of Counties and the Foundation for Environmental and Economic Progress. (January).

<sup>24</sup> Total average costs were determined using the average acreage for each type of permit (GP=.28 and IP=12.81) from the FY2010 ORM2 database (Exhibit 5, the Agencies, 2014).



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

The Sunding and Zilberman estimate for individual permits are cost calculations and \$75,000 - \$155,000 for individual permits (see sample cost breakdowns below). These estimated costs not only include the preparation and submission of the permit application but also the associated field activities and costs necessary to provide information to support the permit package (e.g., wetland delineation, biological assessment reports, floodplain determination in areas not mapped by FEMA, Section 7 consultations, cultural resource survey reports, etc.).

The Agencies' report considered CWA permitting expenses but made no provision for the cultural, historical, and archeological investigations that are also part of the permitting process. The CWA 404 permitting process includes USACE consultations with state historic preservation offices. A combination of these state and local agencies, with input from other stakeholders (e.g., any affected Native American tribes) will direct these investigations. The investigations are conducted over numerous phases; consequently, they are time-consuming and expensive. Based on the findings, an additional type of Archeological and Historical Compensatory Mitigation may be required. Like wetland or stream mitigation, this may involve additional studies of similar sites in the area or other project work that benefits local historic preservation efforts, museum displays, etc. If any of the above investigations are necessary, the resulting permitting costs would increase above the values in Table 3-1, therefore increasing the difference in costs between the Agencies' estimate and real world cost.

Table 3-1 below provides a comparison of cost estimates for the different permit types.

**Table 3-1 Comparison of Costs for Permits**

Permit Type	Unit Cost NWP Analysis <sup>25</sup> (2010\$ per permit)	Unit Cost from Sunding and Zilberman <sup>26</sup> (2010\$ per permit)
Individual	\$31,400	\$57,180 plus \$15,441 per acre
General	\$13,100	\$22,079 plus \$12,153 per acre

<sup>25</sup> U.S. Army Corps of Engineers. 2001. *Cost analysis for the 2000 issuance and modification of nationwide permits*. Institute for Water Resources. (August)

<sup>26</sup> D. Sunding and D. Zilberman. 2000. *Analysis of the Army Corps of Engineers' NWP 26 Replacement Permit Proposal*. Prepared for the National Association of Counties and the Foundation for Environmental and Economic Progress. (January).



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

An updated total increase in costs cannot be calculated until a more accurate increase in jurisdiction is developed than the current Economic Analysis. Moreover, as one analysis in the document shows, the additional number of permits may increase faster than the increase in jurisdiction (counter to Agencies' assumptions) and the distribution of individual versus general permits is not expected to stay the same.

**Since the increase in jurisdictional area is expected to be significantly larger than 2.7 percent (Section 4) and more permits of both kinds (individual and general) will be necessary, ARCADIS believes that the Agencies have grossly underestimated the additional 404 permitting costs. In addition, as shown in Section 5.5, complete analysis of direct permitting and compliance costs for a project requiring one acre of wetland restoration shows that costs may exceed \$405,000.**

*3.1.2.2 The Agencies' costs associated with CWA 404 compensatory mitigation underestimates the real cost of mitigation through unrealistically low implementation costs and limited acres.*

The Agencies state that "a portion of the costs to applicants will result from compensatory mitigation of wetlands and streams." Using information from published studies and survey results, phone inquiries to USACE Districts and mitigation banks, and relevant websites, the Agencies estimated per acre costs for wetland mitigation and per linear foot cost for stream mitigation. A team of USACE staff then determined the most applicable range of values per state, which the Agencies combined with their estimated increase in wetland acres and stream feet to develop the total annual estimated mitigation costs of \$59.7 million to \$113.5 million.

There are a number of deficiencies with the Agencies' approach. First, the unit costs shown in Appendix A of the PEA do not match the values used in the Agencies' 2011 analysis. The 2014 values for the lower bound costs are the same; however, the upper bound costs are at times approximately 50 percent below the costs shown in the 2011 report. This discrepancy should be addressed and explained in the 2014 report.

Second, there is a discrepancy in the additional number of wetland acres between the 2011 and 2014 documents. Approximately 20 percent fewer wetland acres are used in the mitigation cost estimates for 2011 (2,517) than 2014 (2,042). This difference cannot be effectively explained with different baseline mitigation acres (53,000 in the Agencies' 2011 document and 43,000 in the 2014 report) because both values are



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

cited to the same data sources, fiscal years, and methods.<sup>27</sup> The Agencies' 2014 report even states that "it is consistent with the level of mitigation the Corps has estimated over the past 10-15 years." If the Agencies truly feel that there has been a consistent level of mitigation over the past 15 years, there must be an additional discussion of the 20 percent discrepancy between the two reports.

Third, the Agencies' estimated per acre costs for wetland mitigation (Appendix A: Supplemental Cost Analysis Information; Exhibit 31. State-Level Unit Costs for Wetland and Stream Mitigation; the Agencies, 2014) in the majority of states are significantly lower than real-world mitigation costs. The Agencies' analysis included an average per acre cost ranging from \$25,000 to \$49,000. Although variability occurs among regions and states, ARCADIS recommends a more realistic range of mitigation costs at \$100,000 to \$150,000 per acre, and in some areas of the United States can reach as much as \$300,000 per acre depending on demand for the habitat type, the availability of suitable mitigation land, the complexity of restoration, and the availability of approved mitigation bank credits. A realistic cost estimate must include all of the following:

- Site selection and preparation;
- Acquisition/propagation of plant materials;
- Irrigation design and installation;
- Conservation easement/deed restriction;
- Maintenance (3 years);
- Monitoring (5 years);

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<sup>27</sup> The Agencies, 2011 (regarding the 53,000 acres) – based on approximately 44,000 acres of permittee responsible mitigation documented in the ORM2 database in FY 2010, approximately 7,000 acres of bank mitigation in the RIBITS database for FY2009, and 2000 of in lieu fee mitigation estimated from the ratio of ORM2 entries for banks (26%) and ILF (7%) in FY 2010. The Agencies, 2014 (regarding the 43,000 acres) – Corps provided a baseline assessment of 43,000 acres of wetland mitigation. This estimate is based on approximately 32,500 acres of permittee responsible bank mitigation documented in ORM2 database for FY2010, approximately 8,200 acres of bank mitigation in RIBITS database FY2010, and approximately 2,200 of in-lieu fee mitigation estimated from the ratio of ORM2 entries for banks (26%) and ILF (7%) for FY2010.



- Reporting (5 years).

Fourth, the Agencies' estimated per linear foot costs for stream mitigation in the majority of states are significantly lower than real-world mitigation costs. Similar to wetland projects, stream restoration projects frequently benefit from economies of scale, with smaller projects costing more per linear foot,<sup>28</sup> and stream restoration projects involving extensive realignment being more expensive than those solely involving softer stabilization activities.<sup>29</sup> In some cases, stream restoration costs can be as much as approximately \$1,000 per linear foot. The Agencies' analysis included an average per acre cost ranging from \$200 to \$300. Stream restoration project costs include all of those activities listed above for wetland mitigation, but also typically involve more complex engineering and stakeholder negotiations such as:

- Hydrogeomorphic evaluations;
- Structural bed and bank stability planning and design;
- Negotiations with local planners, land owners, and flood prevention agencies;
- Repair of erosion and/or structural elements following severe weather events.

When individual states are evaluated rather than average values, the Agencies underestimated restoration costs for approximately 80 percent of the states with only 10 of 50 states identified as having even the high-end unit cost per acre for wetland restoration exceeding \$100,000 (Appendix A, Exhibit 31 of the PEA, 2014).

Again, although these figures provide an indication of underestimates in the economic impact analysis for the Proposed Rule, the true increase in mitigation cost cannot be estimated until an accurate increase in jurisdiction is developed. What is certain, however, is that the overall increase in costs will be significantly larger than those currently included in the Agencies analysis.

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<sup>28</sup>Bonham and Stephenson, 2005 as referenced in the PEA.

<sup>29</sup>Blair, 2000 as referenced in the PEA.

*3.1.2.3 The Agencies' analysis underestimates the change in CWA 402 Stormwater Permitting compliance cost by using the unrealistically low 2.7 percent increase in jurisdictional waters.*

The Agencies used the Economic Analysis of the Final Phase II Stormwater Rule to estimate the potential incremental increase in construction stormwater permits under the Proposed Rule.<sup>30</sup> The Agencies used the 1998 costs for construction, the aforementioned 2.7 percent estimated increase in jurisdictional waters, and 30 percent increase in program growth<sup>31</sup> to determine an overall annual cost for construction of \$25.6 to 31.9 million. The actual costs are expected to be significantly higher than what was presented when the percentage increase in jurisdictional waters is correctly estimated (i.e., the Agencies' estimate of percent increase of 2.7 percent in jurisdictional waters is much lower than what is expected to result from the Proposed Rule [see Section 4]).

*3.1.2.4 The Agencies' analysis underestimates the change in CWA 401 Water Quality Certification (WQC) Permitting cost by using the unrealistically low 2.7 percent increase in jurisdictional waters.*

The Agencies' analysis estimated current staffing needs for 401 WQC at 312.5 full time equivalents with fully loaded average salaries of \$87,360<sup>32</sup>. Using these values, the Agencies estimated annual certification expenditures at \$27.3 million with increased annual costs of \$737,000 associated with the 2.7 percent increase in jurisdiction. Though ARCADIS could not verify the number of required full time employees, the Agencies underestimate the true costs – which will significantly increase when the percent increase in jurisdictional waters is accurately reflected. Additionally, many of the State agencies currently enacting the Section 401 WQC program are significantly under-funded and already lag months behind the Corps in completing the permitting process. The increase in workload does not come with a guaranteed increase in funding. This may compound staffing challenges for these agencies across their obligations, potentially exacerbating lost opportunity costs (which the Agencies did not include in their cost of the Proposed Rule [see Section 3.1.3.2) resulting from even further delays in obtaining permits.

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<sup>30</sup> EPA, October 1999.

<sup>31</sup> 30% program growth is the increase from the number of construction starts in 1994 (130,000, EPA 1999 Economic Analysis) to 2011 (169,000 EPA's GPRA Data).

<sup>32</sup> The fully loaded salary was based on a mix of occupations (scientists, engineers, economists, and managers) from the Bureau of Labor Statistics OES Report providing an average hourly rate of \$42/hr.



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

### 3.1.2.5 *The Agencies' underestimated the true costs associated with CWA 311 Oil Spill Prevention, Control, and Countermeasure Plans.*

Section 311 of the CWA requires inland non-transportation oil facilities or storage infrastructure exceeding 1,320 gallons' capacity to prepare and implement a Spill Prevention, Control, and Countermeasure (SPCC) Plan if they are in proximity to jurisdictional waters. The Agencies estimated incremental costs using the average annual costs of \$9,128 for production facilities (35 percent of total facilities) and \$13,038 for storage facilities (65 percent of total facilities). The Agencies assumed that 1,000 new facilities would need to comply with SPCC plans at a total cost of \$11.7 million per year.

The Agencies' estimated SPCC costs are at least 50 percent lower than the true costs in ARCADIS's experience. Section 311 requires facilities to install (and maintain in perpetuity) secondary containment around certain facility components. These costs are difficult to estimate given the different locations and requirements of each facility, but are significantly greater than the cost of the initial SPCC plan. For the cost estimates provided above, ARCADIS assumed the following cost allocation:

- Upstream facility, midstream infrastructure project (new pipeline/temp storage or transfer facility): \$3500/site to prepare SPCC; \$20,000 in secondary containment (a berm or dike) using locally sourced earthen material, and \$5000/year in maintenance.
- Downstream facility: \$8500/site to prepare SPCC; \$45,000 in secondary containment structures, and \$5000/year in maintenance.
- Cost of regularly scheduled inspections and recordkeeping should be added to the estimates previously listed.

Note that this ongoing maintenance cost is completely absent from the Economic Analysis.

Secondly, the expansion of the jurisdictional waters under the proposed rule would obviously increase the number of facilities that would require SPCC plans. This increase would be especially prevalent in the more arid regions in the west where features having only intermittent or ephemeral flow dominate, and where current facilities that are now located miles from the nearest traditional navigable water would suddenly find themselves in proximity to newly-jurisdictional features. In short, the



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

increase in facilities has the potential to be significantly greater than the 1,000 assumed by the Agencies.

Finally, the Agencies did not consider the costs associated with additional spill reporting required by OPA-90 for facilities that require SPCC plans. The costs that were not included in the Agencies' estimate are spill response plans, spill response personnel, response equipment and infrastructure, and spill drills. These costs are difficult to estimate across the industry, but could be significant. . Again, once the appropriate modifications are made, the associated costs will increase.

3.1.3 Key costs associated from permitting were omitted from the economic analysis.

### 3.1.3.1 *Opportunity costs of Permitting Delays were excluded from the Agencies' Economic Analysis*

For the oil and natural gas industry, one of the most significant cost impacts is likely to be the lost production due to increased permitting time requirements, as well as lost opportunity costs. These costs are entirely and unjustifiably omitted from the Agencies' Economic Analysis.

For example, Sunding and Zilberman state that the average time to prepare and obtain an individual permit is 788 days, while the average time to obtain a general permit is 313 days.<sup>33</sup> As we anticipate the number of individual and general permits to increase significantly over current levels, so too will the impacts of this delay increase. Moreover, the required time periods to obtain these permits may also increase under the Proposed Rule for reasons that include but are not limited to the following: 1) more permits submitted for waters that are not currently jurisdictional, resulting in increased workload for Agencies' personnel that is far in excess of that predicted by the Economic Analysis; and 2) USACE will require more time to conduct pre-application visits and complete significant nexus determinations for other waters. Additionally, the increased 404 permitting requirements will require a commensurate increase in 401 WQC processing at the state level. Many of the agencies processing the 401 WQCs are already lagging behind the Corps in processing the 401 WQC applications. The increased permitting requirements will increase the burden on these agencies and may further create permitting delays for the applicants.

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<sup>33</sup> D. Sunding and D. Zilberman. 2000. *Analysis of the Army Corps of Engineers' NWP 26 Replacement Permit Proposal*. Prepared for the National Association of Counties and the Foundation for Environmental and Economic Progress. (January).

Simple short term delays may foreseeably extend beyond merely a longer permitting process. For example, slight delays may result in missed construction opportunities associated with suitable weather and/or special restrictions associated with sensitive resources (e.g., breeding season for amphibians or birds). Slightly longer delays can result in missed opportunities for rig scheduling, meaning that not all wells can be drilled at approximately the same time. Not only is this economically less efficient, it also extends the need to maintain some drilling infrastructure in the area and delays well completions, at which time the development assumes for the long term a lower profile to the community than the construction phase.

However, much more significant cost impacts will be associated with more significant delay. As an example, in Pennsylvania, permitting would be handled under PADEP ESCGP-2 and the General Permit System, which have a 60 day review period under the most stringent conditions. It would not be difficult to envision a permitting increase from 6 to 9 months to over 2 years – especially if this responsibility is passed to the Corps. Significant increases in permitting timeframes will impact how the oil and gas industry manages projects and their risk. Given the volatility in the price of oil and gas, projects that are feasible today may not be feasible in two years, thus companies will potentially decrease spending which will have ramifications through the national economy in terms of job losses and less domestic production. Finally, given that typical lease terms are on the order of three years, a permit delay of two (or more) years could result in lost opportunity costs that include total loss of lease rights due to inactivity, resulting in foregone production, and lost revenues to the company, the landowner, and federal, state and local treasuries.

**API estimates that the costs to the economy could reach \$8 billion in the first year alone, due to \$9.9 billion in forgone production and 67,200 lost jobs [see Section 6].**

In the Economic Analysis, the Agencies recognize that these costs exist, however, they are not included because "...there is not a defensible, ready basis for estimating these costs."<sup>34</sup> This omission is unjustifiable. This additional permitting time and associated permitting delays must be addressed to accurately understand the cost impacts of the proposed rule change. API members are prepared to assist the Agencies in developing a basis for estimating these costs that is at least as defensible as that used for estimating benefits. A re-evaluation of the Economic Analysis should be conducted

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<sup>34</sup> EPA and the Corps, 2014.

prior to finalization of the Proposed Rule. Once this significant cost is given fair consideration, there is every reason to expect that the Rule will fail the cost-benefit analysis.

*3.1.3.2 Costs of Complying with New State Regulations were also excluded from the Agencies' economic analysis – as were the costs to the States of creating those regulations.*

The Agencies state in the Economic Analysis that a definitional change will have little to no effect on section 303 (state water quality standards and implementation plans) and section 402 (National Pollutant Discharge Elimination System (NPDES) permitting). This appears to be an unjustified assertion. Even in States where the State's definition of waters may be broader than the Proposed Rule, an expanded federal definition will limit State regulatory ability and impose new costs on stakeholders.

The Clean Water Act imposes a number of mandatory obligations on States that do not apply to purely "State" waters. These include, but are not limited to the following:

- Monitoring water quality for WOTUS
- Controlling and permitting of discharges into WOTUS
- Setting effluent limits for discharges into WOTUS;
- Designating beneficial uses for WOTUS
- Establishing water quality standards for WOTUS
- Establishing Total Maximum Daily Loads (TMDL) for WOTUS
- Listing all impaired WOTUS and developing a strategy for each segment failing to meet water quality standards;
- Inventorying all point source discharges into WOTUS and
- Identifying non-point sources contributing to failure of a water quality standard in "Waters of the U.S."



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

For example, Kansas defines “waters of the State” broadly to include “all streams and springs, and all bodies of surface and subsurface water within the boundaries of the state...”<sup>35</sup> This definition includes some areas like groundwater that fall outside of the Proposed Rule. Kansas, however, does not classify ephemeral streams as waters<sup>36</sup> and the state’s EPA-approved water quality standards do not encompass ephemeral streams.<sup>37</sup> Under the Proposed Rule, Kansas estimates that ephemeral stream miles would increase 460 percent - from 30,620 stream miles to 134,488 stream miles. Both the state and stakeholders would have to comply with CWA requirements for these ephemeral streams.<sup>38</sup>

Similar increases would occur in other states. In fact, comparing the WOTUS reported by States in reports available on EPA’s website<sup>39</sup> to recent USGS maps released by EPA shows a 131 percent increase in federal waters.<sup>40</sup>

All States must set water quality standards for federally designated WOTUS or be subject to third party law suits; consequently, any increase in federal jurisdiction will require states to conduct expensive and time-consuming assessments to determine the applicable water quality standards. In some cases, if existing standards do not apply (e.g., existing “lakes” criteria inappropriate for industrial ponds), States will need to conduct expensive baseline data gathering to develop new water quality standards for these bodies. Mere EPA approval of not setting water quality standards has been shown to be insufficient to protect against litigation from third parties.<sup>41</sup>

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<sup>35</sup> See K.S.A. 65-161a.

<sup>36</sup> Kansas “finds it wholly unnecessary and wasteful of limited state programs resources to set water quality standards, issue wastewater permits, assess impairment, and develop TMDLs for surface drainage features that may have flowing or standing water no more than a few days each year.” See Comments of the Honorable Sam Browback, Governor of Kansas, EPA and Army Corps of Engineers Guidance Regarding the Identification of Waters Protected by the Clean Water Act, Docket ID No. EPA-HQ-OW-2011-0409 (July 14, 2011).

<sup>37</sup> Letter from Leo J. Alderman, EPA Director, Waters, Wetlands, and Pesticides Division, to Roderick L. Bremby, Secretary, Kansas Department of Health and Environment (Nov. 3, 2003).

<sup>38</sup> Presentation of Mike Tate and Tom Stiles, Kansas Department of Health and Environment, Waters of the U.S. (May 2, 2014).

<sup>39</sup>

[http://water.epa.gov/lawsregs/guidance/cwa/305b/upload/2000\\_06\\_28\\_305b\\_98report\\_appenda.pdf](http://water.epa.gov/lawsregs/guidance/cwa/305b/upload/2000_06_28_305b_98report_appenda.pdf)

<sup>40</sup> <http://science.house.gov/epa-maps-state-2013#overlay-context>

<sup>41</sup> Missouri defines “Waters of the State” to mean “[a]ll rivers, streams, lakes and other bodies of surface and subsurface water lying within or forming a part of the boundaries of the state which are not entirely confined and located completely upon lands owned, leased, or otherwise



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

The Coastal Zone Management Act (CZMA) provides for the management of the nation's coastal resources, including the Great Lakes. The CZMA is intended to balance competing land and water issues through state and territorial coastal management programs and was passed to encourage coastal states to develop and implement coastal zone management plans. Consistency determinations are required for issuance of CWA permits in coastal zones and include requirements that the activities being permitted under the CWA also demonstrate compliance with applicable state laws. These include state environmental protection acts, state endangered species acts, state air protection policies, and many others. The cost assessment for CWA permits in coastal states should be separately assessed to ensure that the costs of compliance with the CZMA are fully represented in the Agencies' cost impact analysis.

*3.1.3.3 Litigation costs for both industry and states were excluded from the Agencies' economic analysis.*

Definitions of key terms including but not limited to "uplands," "floodplain," "subsurface connection," "neighboring," "riparian area," "other waters," and "waste treatment," are absent from the Proposed Rule. Ambiguity within the Proposed Rule is likely to lead to confusion in implementation and also to increased litigation in enforcement scenarios as well as in third party litigation against the federal government, state governments, and industry.

The Proposed Rule seeks to use the Court decisions to clarify WOTUS definitions, and the Agencies sponsored the preparation of the Connectivity Report to define the connectivity between traditional navigable waters (TNWs) and waterbodies and wetlands as a basis for determining significant nexus. The Connectivity Report inclines to the conclusion that connections exist between the majority of the waterbodies and wetlands in a watershed and the downgradient streams/rivers in that watershed. The Science Advisory Board, in their review of the Connectivity Report, have likewise suggested that the significance of those connections occurs along a gradient based on variations in the frequency, duration, magnitude, predictability, and consequences of those connections. Justice Kennedy's significant nexus test requires the connection of

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controlled by a single person or by two (2) or more persons jointly or as tenants in common. These waters also include Waters of the U.S. lying within or adjacent to the state." Pursuant to a 2007 settlement agreement, EPA and Missouri agreed that Missouri was not required to set water quality standards for its ephemeral waters. However, Missouri later had to defend its water quality standards against a third party suit arguing that Missouri's water quality standards did not meet the requirements of the CWA because they failed to designate uses and set water quality criteria for all of Missouri's waters. See *Missouri Coalition for the Environment v. Jackson*, No. 10-04167 (Feb. 16, 2012).





## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

a wetland to be sufficient to have a significant effect on the physical, chemical, and biological characteristics of a TNW. Although the Connectivity Report described connections between wetlands and TNWs, it does not include a definition of the point along the gradient of connectivity that separates significant from non-significant connections.

The Proposed Rule fails to define the physical, chemical, and biological characteristics described in the Kennedy concurrence that affirmatively demonstrate the significance of the connections categorized in the Connectivity Report for the determination of jurisdiction, or even to acknowledge that the “physical, chemical, or biological nexus” required by the Proposed Rule is a substantially and inexplicably lower threshold to meet (i.e., the substitution of “or” for “and” in the original Clean Water Act reference). Furthermore, the Proposed Rule was drafted prior to the finalization of the Connectivity Report, and does not use information in the Report to define what constitutes a “significant nexus.” In fact, the Proposed Rule only uses a circular reference to define the term “significant nexus” as a water, including wetlands, either alone or in combination with other similarly situated waters in the region, that ***significantly affects*** the chemical, physical, or biological integrity of waters more readily understood as navigable [emphasis added]. This is a consistent theme throughout the report as well.

Without clear standards and definitions of significance, the definition of WOTUS provided in the Proposed Rule is incomplete, fails to clarify jurisdiction, and is expected to lead to litigation [see Section 5.4.8].

### **3.2 The Agencies’ benefit assessment is flawed in several respects and is inconsistent with EPA’s own Guidelines.**

The Proposed Rule’s Economic Analysis estimates annual benefits ranging from \$301 million to \$398 million, resulting mainly from avoiding losses of wetlands and preventing oil spills.

With respect to avoiding losses of wetlands, the Proposed Rule will produce almost no benefit to the public in states that already protect “isolated waters” that are not currently WOTUS. Even in states that do not currently protect the features that would be designated WOTUS under the Proposed Rule, the benefits are tenuous at best. In fact, the benefits transferred by the Agencies in their Economic Analysis do not meet the Agency’s own Guidelines for such an approach and it is clear that the Agencies should have conducted an original wetlands valuation study for the different regions of the country (as required by EPA’s Guidelines). Even if the 10 wetland valuation



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

studies in the Agencies' Economic Analysis met EPA's Guidelines for benefit transfer, the Agencies' estimate of benefit would be reduced by more than \$100 million (roughly 40 percent) by excluding just one of the studies, which is a clear outlier from the rest. In addition to the flaws in the estimate of wetlands benefits, the benefits estimate from avoiding oil spills under CWA 311 is speculative and probably substantially overstates the benefits of the Proposed Rule.

3.2.1 The Agencies' benefits for avoiding wetlands losses rely upon a problematic estimate of wetland acres and a benefits-transfer approach that fails to meet EPA's own guidelines.

Of the annual benefits from the Proposed Rule, the Agencies attribute \$258 million to \$345 million to preserving or replacing of wetlands under CWA Section 404 (86 percent of the estimated annual benefits). In calculating these numbers, the Agencies used the following: 1) the annual incremental number of wetland acres that would be preserved or replaced by mitigation after implementing the Proposed Rule (hereafter "benefit acres"), assumed to be the same as the number of acres impacted; 2) an annual average value per acre of wetlands per household; and 3) the number of households in the U.S. We summarize the problems with the first two elements below.

*3.2.1.1 Most of the inputs to the Agencies' estimate of benefit acres are problematic.*

The Economic Analysis' annual incremental estimate of impacted wetlands in Exhibit 5 (1,332 acres) is based on the number of individual and general permits in FY 2010, the percentage annual increase in individual and general permits under the Proposed Rule, and the acreage of each type of permit in 2010. ARCADIS found the annual estimate of impacted wetlands problematic for several reasons.

First, the Agencies underestimated the impacts of current state protection, with the implicit and problematic assumption that these benefits arise only from Federal protection. The 1,332 acres of wetland losses avoided by the Proposed Rule in Exhibit 5 is likely an overestimate because many states protect natural resources that are not currently WOTUS under federal law. In those states where waters/wetlands are fully protected under state law (such as California), the proposed expansion of WOTUS will produce no benefits – i.e., the newly designated WOTUS will receive no additional effective protection beyond that which is currently in place under state law.

Second, the average acreage per individual and general permit in the Economic Analysis cannot be verified without access to the ORM2 database. If the average acreage per permit is different for projects affected by the Proposed Rule than projects

in FY2010, then the estimates in the Economic Analysis' Exhibit 5 will not reflect the actual economic impacts of the Proposed Rule. The Agencies need to provide access to the ORM2 database for transparency reasons. Increased acreage devoted to development and so needing permits means decreased benefits attributable to avoiding loss of wetlands.

*3.2.1.2 The Agencies' estimate of benefits per acre relies upon a benefits-transfer approach that fails to meet the agency's own guidelines.*

The Economic Analysis uses a problematic benefits-transfer approach to estimate the average annual value per acre of wetlands per household. The approach used an average value from several existing wetland valuation studies to determine benefit estimates, rather than conducting an original wetland valuation study.

While the benefits-transfer approach may save time and money, it also poses disadvantages by reducing the reliability of the benefit estimates. To this end, a special section of *Water Resources Research* in 1992 contained eleven (11) articles that provided guidelines for conducting valid benefits transfer. Those guidelines provided the basis for EPA's Guidelines for Preparing Economic Analyses" ("EPA's Guidelines"), which states that **the benefits transfer approach "should only be used as a last resort and a clear justification for using this approach over conducting original valuation studies should be provided."**<sup>42</sup> **The Economic Analysis of the Proposed Rule provides no such justification.**

Table 3-2 provides summary information on the 10 studies used by the Agencies in their benefits transfer. EPA's Guidelines identify two basic criteria for the benefits transfer approach: applicability and quality.<sup>43</sup> The applicability criterion ensures that values from the case studies are relevant for the policy cases. It focuses on the similarity of existing valuation studies (known as study cases) and the policy case with respect to: 1) environmental commodity being valued (including scale and presence of substitutes); 2) baseline and extent of environmental changes; and 3) characteristics of affected populations.<sup>44</sup>

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<sup>42</sup> EPA and the Corps 2014, p. 7-45

<sup>43</sup> EPA and the Corps 2014, p. 7-46.

<sup>44</sup> EPA and the Corps 2014, p. 7-46.



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

**Table 3-2 Summary Information on the 10 Wetland Valuation Studies in the Agencies' Economic Analysis**

Authors (Publication Year)	State	Publication Type	Survey Year	Survey Mode	Target Population	Response Rate	Non-Response Analysis?	Number of Respondents	Commodity Being Valued	Non-Jurisdictional Wetlands Focus?	Acres	Valuation Approach	Type of Value	Payment Frequency	Payment Vehicle	Payment Elicitation Method
Azevedo, Herges, and Kling (2000)	IA	Report	1998	Mail	Mix of General Population and Hunters/Anglers	59%	NO	2,094	Purchase riverine wetlands; generic, but focused on the Iowa River Corridor Project	NO	7,000	Contingent Valuation	Mix of Use and Non use	One Time	Trust Fund cont.	Single-bounded Dichotomous Choice
						57%	NO	1,045	Purchase prairie pothole wetlands; generic - no specific sites, but focused on the Prairie Pothole Joint Venture	YES	2,500 per year for 15 years					
Bloomquist and Whitehead (1998)	KY, IN, TN, IL, & MO	Journal Article	1990	Telephone, then Mail	Households in KY and Some Nearby Cities in Other States	51% (67% times 76%)	NO	379	Preserve four types of wetlands that would be lost due to coal mining: "persistent emergent wetlands," temporarily flooded bottomland hardwood forests, seasonally flooded bottomland hardwood forests, and permanently flooded hardwood forests (i.e., Cypress swamps); fish in all four wetlands; increasing amounts of other wildlife as quality improves	NO (mostly)	500	Contingent Valuation	Mix of Use and Non use	Annual - Unspecified Duration	Trust Fund cont.	Mix of Single-bounded Dichotomous Choice & Polychotomous Probabilistic Choice
Dillman, Beran, and Hook (1993)	SC	Report	1992	Mail	South Carolina households	21%	NO	627	Purchase of wetlands having different functional characteristics to be added to a South Carolina wetland preserve (Francis Beidler Forest)	NO	2,500	Contingent Valuation	Mix of Use and Non use	One Time	Trust Fund cont.	Dichotomous Choice
Johnson and Linder (1986)	SD	Journal Article	1983	Mail	1982 licensed resident hunters in South Dakota	61%	NO	1,053	Hunting on mix of public and private wetlands, including waterfowl production areas, wildlife production areas, meandered lakes, and portions of National Wildlife Refuges	Partial (isolated private wetlands)	529,000	Contingent Valuation	Use	One Time	Increase in hunting costs	Payment Card
Lant and Tobin (1989)	IA & IL	Journal Article	1989 (pub. year)	In person interviews	Illinois and Iowa residents	100% (only in person interviews recorded)	NO	35	Increase "poor" river quality in Edwards River basin (few riparian wetlands & 50% of river channelized) to "good" river quality in South Skunk River basin (intermittent riparian forests & 15% of river channelized)	NO	1,406	Contingent Valuation	Mix of Use and Non use	Unspecified	Increase in sales tax	Payment Card
									Increase "good" river quality in South Skunk River basin (intermittent riparian forests & 15% of river channelized) to "excellent" river quality in Wapsipicon River basin (substantial riparian forests and swamps with 0% of river channelized)	Possibly Partial	1,663					



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

**Table 3-2 Summary Information on the 10 Wetland Valuation Studies in the Agencies' Economic Analysis**

Authors (Publication Year)	State	Publication Type	Survey Year*	Survey Mode	Target Population	Response Rate	Non-Response Analysis?	Number of Respondents	Commodity Being Valued	Non-Jurisdictional Wetlands Focus?	Acres	Valuation Approach	Type of Value	Payment Frequency	Payment Vehicle	Payment Elicitation Method
Loomis, et al. (1991)	CA	Book Chapter	1991 (pub. year)	Mail followed by telephone interview	General population households in CA - San Joaquin Valley and rest of CA	51%	NO	803	Maintain a mix of seasonal and permanent wetlands on 85,000 acres in San Joaquin Valley	Partial (isolated wetlands)	85,000	Contingent Valuation	Mix of Use and Non use	Annual - Unspecified Duration	Tax	Double-bounded Dichotomous Choice & Referendum
								803	Acquire 40,000 acres of seasonal and permanent wetlands in San Joaquin Valley, bringing total wetlands acreage to 125,000 acres	Partial	125,000	Contingent Valuation				
Mullarkey and Bishop (1999)	WI	Presentation	1999 (pub. year)	Mail	Wisconsin residents	60%	NO	239	Preserve 47 acres of tributary system wetlands and 63 acres of isolated wetlands; no threatened or endangered species in wetlands; wetlands are "poor quality" next to a highway	Partial	110	Contingent Valuation	Mix of Use and Non use	Annual - Unspecified Duration	State income tax	Multi-bounded Poly-chotomous Choice
Poor (1999)	NE	Journal Article	1996	Mail	Nebraska households	46%	No	952	Increase acreage of Rainwater Basin wetlands, internationally recognized as important waterfowl habitat for migrating birds; location of wetlands on the Central Flyway makes them a highly valuable and unique wetlands complex.	NO (mostly)	41,000	Contingent Valuation	Mix of Use and Non use	Annual - Unspecified Duration	Tax	Double-bounded Dichotomous Choice
Roberts and Leitch (1997)	MN/SD	Report	1995?	Mail	Households within 30 mile radius of Mud Lake	62%	Non-response bias was tested by comparing willingness-to-pay for use, option, and existence values among mailings.	575	Lacustrine wetland of Mud Lake and associated palustrine wetlands, some of which are permanently, semi-permanently, or seasonally flooded. Historically this area was prime hunting and fishing. Due to flood mitigation the lake is no longer as productive and no longer a destination for hunting and fishing.	Partial	5,000	Contingent Valuation	Mix of Use and Non use	Annual - Unspecified Duration	Voluntary donation	Payment Card
Whitehead & Bloomquist (1991)	KY	Journal Article	1989	Phone and Mail	Households in KY	31%	No	215	Preserve high-quality Clear Creek bottomland hardwood forest wetlands that would be lost to coal mining; several threatened & endangered species found in wetlands; largest wetland in western KY; part of Wildlife Management Area	NO (mostly)	5,000	Contingent Valuation	Mix of Use and Non use	Annual - Unspecified Duration	Trust Fund cont.	Single-bounded Dichotomous Choice

\* Publication Year, if Survey Year not specified

8820



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

In analyzing applicability, the Proposed Rule focuses on “isolated waters” that are not currently WOTUS. However, several of the 10 studies address WOTUS. For example, Dillman, Beran, and Hook (1993) focus on wetlands to be added to an existing wetland preserve. Lant and Tobin (1989) focus on riparian wetlands and forests in a river basin. These wetlands are WOTUS. Similarly, the wetlands valued in Bloomquist and Whitehead (1998) and Whitehead and Bloomquist (1991) are mostly WOTUS. The remaining 6 valuation studies include a mixture of WOTUS and non-WOTUS. If WOTUS, as defined under current guidance, provide more services and/or higher quality services than non-WOTUS, the former would presumably have higher value to the public than the latter in a scenario where other things were equal. Consequently, it is likely that the 10 studies are overstating the value of the wetlands potentially affected by the Proposed Rule.

Additionally, the 10 valuation studies provide values for wetlands in just 12 states – less than one-quarter ( $\frac{1}{4}$ ) of all states. As shown in Table 3-3, no wetlands values exist for states in 3 regions and there are wetlands for just 1 state in each of the 4 other regions containing between three and five states. In effect, the Economic Analysis is applying wetland values for the Midwest and Prairie Pothole regions to the remainder of the U.S. The number of substitutes is likely to differ in those regions, and that would also affect the public’s value for wetlands. Similarly, the characteristics of affected populations (e.g., average household income and preferences toward environmental goods) are likely to differ in the Midwest and Prairie Potholes regions compared to other regions in the country. Other things being equal, people with higher incomes might be expected to set higher values for wetland services than people with lower incomes; however, the value of wetlands per household acre is also expected to vary by regional use. The Economic Analysis ignores regional differences in wetland values and assumes that all regions value wetlands the same – which is not realistic or appropriate.



**Quantifying Cost Impacts**

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

**Table 3-3 Comparison of States in Valuation Studies to States in Regions in Economic Analysis of the Proposed Rule**

Region	States in Region <sup>45</sup>	No. of States	No. of States in Valuation Studies	Percent
Central Plains	KS, NE, & OK	3	1	33%
Delta & Gulf	AR, LA, MS, TN, & TX	5	1	20%
Mountain	AZ, CO, ID, NM, NV, UT, & WY	7	0	0%
Midwest	IL, IN, KY, MI, MN, MO, OH, & WI	8	6	75%
Northeast	CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT, & WV	12	0	0%
Pacific	CA, OR, & WA	3	1	33%
Prairie Potholes	IA, MT, ND, & SD	4	2	50%
Southeast	AL, FL, GA, NC, SC, & VA	6	1	17%
Other	AK & HI	2	0	0%
<b>TOTAL</b>		<b>50</b>	<b>12</b>	<b>24%</b>

In short, these studies are not applicable for two reasons. First, the environmental commodity being valued in the 10 studies is not applicable to the newly designated WOTUS under the Proposed Rule. Additionally, the assumption that all regions in the U.S. have the same value for the newly designated WOTUS is not realistic or appropriate.

The second criterion addresses the quality of the valuation studies because the “quality of value estimates in the study cases will in large part determine the quality of the

<sup>45</sup> Regions are shown in Exhibit 11 in the Economic Analysis for the Proposed Rule.

benefit transfer.”<sup>46</sup> The quality criterion considers factors including: 1) the design of the valuation studies; 2) survey of development and structure; 3) sampling approach; 4) value elicitation question; 5) data processing of survey responses; and methodology for analyzing the responses to the valuation questions.

In addition to failing the applicability criterion, the 10 wetland valuation studies are also problematic for the quality criterion in several ways.

First, the response rates for 9 of the studies varied from 31 percent to 62 percent. Such low response rates may produce substantial non-response biases, which could vary greatly over the 10 studies. Although EPA’s Guidelines describe two methods to evaluate potential non-response biases,<sup>47</sup> the 10 studies do not mention the use of either method to test for non-response bias.

Second, the 10 studies all use the contingent valuation method (CVM) to estimate the public’s value for wetland services. Responses to CVM questions may suffer from hypothetical biases – which are especially likely when respondents are asked to value commodities that are not well known or understood by the general public (e.g., wetlands). While EPA’s Guidelines describe several tests for such biases,<sup>48</sup> none of the 10 studies indicate that they implemented and passed such tests.

In addition to hypothetical biases, CVM responses can exhibit other types of bias. These include, but are not limited to the following:

- Strategic responses – responses intended to influence the “policy” associated with the environmental commodity rather than reflect the respondent’s willingness to pay for the commodity;
- Protest responses – responses based on a rejection of the valuation scenario or payment vehicle for the environmental commodity (e.g., increased taxes);
- Yea saying – the tendency for respondents in personal interviews to accept the valuation scenario in an attempt to please the interviewer;

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<sup>46</sup> EPA and the Corps 2014, p. 7-46.

<sup>47</sup> See p. 7-43, and 7-44.

<sup>48</sup> See p. 7-41 to 7-43.



- Anchoring bias – the tendency for respondents to state a value influenced by a value provided in the valuation scenario; and
- “Warm glow” responses – a value provided by respondents that reflects their enjoyment of supporting a worthy cause rather than their value for the environmental commodity.

Due to significant controversies about these and other biases in CVM responses, the National Oceanic and Atmospheric Administration (NOAA) formed a Blue Ribbon Panel in the early 1990s to develop guidelines on the use of the methodology. The Panel issued its guidelines in early 1993,<sup>49</sup> indicating that no CVM studies up to that point met its guidelines. Six of the 10 valuation studies in the Economic Analysis for the Proposed Rule were implemented prior to the issuance to the Panel’s guidelines and do not meet them. Thus, it is very unlikely that the 10 valuation studies produce valid results for wetlands.

Additional problems with the benefits transfer of the 10 studies include:

- The 10 studies also have different payment frequencies and payment vehicles (e.g., trust fund donation, sales tax, and income tax). Past research has shown that these factors influence valuation responses. It is unlikely that the mix of payment frequencies and payment vehicles reflected in the 10 studies produces a valid estimate of wetland values for the Proposed Rule.
- Only 5 of the 10 studies are peer-reviewed journal articles (a well-known indicator of high-quality studies). The other studies include 1 book chapter, 3 reports, and 1 presentation. These “studies” may lack any peer review or may have minimal peer-review – the extent of peer review for 5 of the 10 valuation studies is simply unknown.
- The value in one of the 10 studies is clearly an outlier. Specifically, the Mularkey and Bishop (1999) value per acre per household is more than 100 times the geomean value per acre per household for the 10 studies. Removing that one study reduces the geomean value per acre per household by 40 percent for both discount rates. In other words, **removing the 1 outlier value for the 10 studies would lower the Agencies’ benefit estimate for avoiding the loss of wetland acres by more than \$100 million.**

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<sup>49</sup> 58 Federal Register 4,601 (January 15, 1993).

In conclusion, the Economic Analysis produces an overstatement of the benefits per acre of protecting wetlands for three important reasons:

1. Most of the valuation studies involve WOTUS, which produce more services and presumably have a higher value than non-WOTUS, the focus of the Proposed Rule.
2. Many studies have demonstrated that CVM methodology produces inflated values for environmental commodities that are not well known or understood by the public, such as wetlands.
3. One of the 10 valuation studies has a value that is more than 100 times the average value for all 10 studies – removing that one study decreases the average value by 40 percent.

Given all the issues discussed above, **the Agencies' benefits estimates for preserved / mitigated wetlands are not appropriate for use in this evaluation. The Agencies should perform an updated benefits evaluation taking all these concerns into consideration. Without these revisions, the cost-benefit analysis performed is of little value.**

3.2.2 The Agencies' estimated benefits of avoiding oil spills are largely illusory due to the lack of actual referenced data.

The Agencies' Economic Analysis also estimates that the Proposed Rule would provide benefits from avoiding oil spills under CWA 311 due to increasing SPCC plans required for the newly designated WOTUS. Using National Response Corporation (NRC) data, the Economic Analysis concludes that the average oil spill from 2000-2005 was 1,290 gallons. The remainder of their analysis is purely speculative:

- No reference data is provided for the average cleanup cost, which the Agencies estimated at \$221 per gallon to arrive at an average oil spill cost of \$285,090.
- Again, without referencing the source of the data, the Economic Analysis assumes that the incremental risk associated with hypothetical inaction is 1 in 20. Dividing \$285,090 by 20 yields \$14,255 as the estimated total cost of the average oil spill.
- Without providing a basis for their assumption, the Economic Analysis assumes 1,000 facilities are non-complying each year. Multiplying 1,000 by their



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

speculatively estimated total cost of the average oil spill produces a \$14.3 million estimate of the annual benefit for avoiding oil spills.

In short, references and/or support for 3 of the 4 major elements of this benefit estimation eliminate the possibility of replicating that estimate. Since the quantity of spilled oil and the cost of cleaning up spills vary greatly, a median estimate of the two elements is probably more appropriate than an average.

Perhaps most importantly, the incremental risk of hypothetical inaction is likely to be far smaller than 1 in 20. The correct incremental risk is the difference between the risk of a spill in the absence of a SPCC plan and the risk of a spill with a SPCC plan. All companies take steps to avoid oil spills for a variety of reasons – including complying with requirements under state law, meeting industry standards for spill prevention, avoiding damage to a company’s reputation, the high cost of cleanup, various liabilities from oil spills (e.g., natural resource damages), and the resulting loss of product and/or production. Consequently, oil spills are relatively rare because of these steps. Nevertheless, it is possible that secondary containment installation as a direct consequence of SPCC plan implementation might marginally reduce spill risk. For example, if the risk of a spill without an SPCC Plan is 1 in 1,000 and the risk of a spill with a SPCC plan is 1 in 5,000, then the incremental risk reduction from the SPCC Plan in this hypothetical example would be 4 in 5,000 – or about 0.0008. In contrast, the Economic Analysis assumes the incremental risk is 0.05, or about 2 orders of magnitude higher.

Finally, the Agencies propagate misperception by implying that the Proposed Rule in any way improves protection against oil spills (or any unregulated discharge) for waters that are not Federally-protected. The Clean Water Act *already prohibits* unregulated discharges of pollutants that ultimately flow into navigable waters, regardless of whether the point of discharge is a navigable water. As noted earlier, Federal protection in some cases only duplicates protection provided by State laws. And finally, for all the reasons stated above, it is in the interest of API member companies to take steps to avoid spills—and to clean them up promptly in the unlikely event of an occurrence. The EPA initially published on its website three enforcement “challenges” to illustrate the need for the Proposed Rule; one of these was an oil spill in Texas that was subsequently removed because records show there was, in fact, no enforcement “challenge” –the responsible party (an API member) cleaned up the release and mitigated under EPA supervision as soon as it was notified.

### 3.3 A perspective on benefits of the Proposed Rule

One primary benefit to arise from implementation of the Proposed Rule, according to the Agencies' analysis, is the preservation or recreation of 1,332 acres of wetlands each year—about 2 square miles.

To put this in perspective, we turn to a recent report to Congress by the Fish and Wildlife Service<sup>50</sup>. Upon analysis, we find that:

- There were an estimated 110.1 million acres of wetlands in the Conterminous U.S. in 2009.
- Wetland area declined by an estimated 62,300 acres between 2004 and 2009. This equated to an average annual loss of 13,800 acres. However, *the difference in the national estimates of wetland acreage between 2004 and 2009 was not statistically significant* [emphasis added].
- Although the rate of total wetland gain (from restoration) increased 17 percent from the previous study (1998-2004), the rate of total wetland loss increased 140 percent. Heaviest losses were noted by coastal wetlands, specifically estuarine intertidal emergent wetlands, which experienced a loss of 111,500 acres over the period, three times greater than during the previous study period. Interestingly, less than 1 percent of these estuarine losses are attributed to direct anthropogenic activity (Section 404 of the Clean Water Act in addition to state regulations protect them from being filled) while 99 percent are attributed to physical processes such as coastal storms, land subsidence, and sea-level rise.
- Nonetheless, this represents marked improvement from the period prior to the Clean Water Act's enactment (1950s-1970s), in which average net wetland loss has been estimated at 458,000 acres per year<sup>51</sup>. Steady progress peaked in 1998-2004 with an estimated net gain of 32,000 acres per year<sup>52</sup>, before falling back to a net loss of 13,800 acres per year, as described in the previous paragraph. Again, it should be emphasized that these are estimates, subject to considerable uncertainty.

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<sup>50</sup> Dahl, T.E. 2011. Status and trends of wetlands in the conterminous United States 2004 to 2009. U.S. Department of the Interior; Fish and Wildlife Service, Washington, D.C. 108 pp.

<sup>51</sup> Frayer, W.E., T.J. Monahan, D.C. Bowden, and F.A. Graybill. 1983. Status and trends of wetlands and deepwater habitats in the conterminous United States, 1950's to 1970's. Colorado State University, Fort Collins, CO. p. 31

<sup>52</sup> Dahl, T.E. 2006. Status and trends of wetlands in the conterminous United States 1998 to 2004. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. p. 112



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

Given this background, the objective of this Rule to preserve 1,332 acres of additional wetlands each year appears exceedingly modest, falling well below the level of statistical measurement accuracy of the U.S. wetlands inventory. Gains twenty to thirty times greater have been achieved in recent years under the existing Clean Water Act.

Given the Proposed Rule fails completely to achieve regulatory clarity and that its promise of improved protection of waters is illusory, the tangible objective of preserving so much as 1,332 acres of wetlands is an important benefit. It is fair to ask however, whether this is a reasonable exchange for the costs and shortcomings of the Proposed Rule outlined in this document; and whether a better policy option could not be found to achieve the same objective at lower cost and regulatory burden.

#### **4. Alternative geospatial mapping exercise indicates that the change in jurisdiction resulting from the Proposed Rule could be far greater than estimated by the Agencies.**

This section discusses three separate mapping exercises conducted by Arcadis and/or API members. Although the results of these exercises varied widely, all resulted in substantially greater jurisdictional area due to the Proposed Rule and would likely require increased permitting as a result of the Proposed Rule.

##### **4.1 ARCADIS Geospatial Mapping Exercise**

To indicate the types and significance of potential changes in jurisdiction, this section compares the linear feet of streams and acreage of wetlands that are federally jurisdictional under current Clean Water Act definitions with areas that would likely become jurisdictional under the Proposed Rule.

The analysis was conducted on three hypothetical test areas selected as representative for oil and gas activities in areas where non-jurisdictional features (e.g., isolated wetlands and discontinuous ephemeral streams) are prevalent. The analysis was based on examination of certain on-line databases and aerial imagery only and did not include any field investigations. Quantification of the linear feet and acreages of identified features was conducted using geographic information system software to estimate changes in jurisdictional extent. The selected areas were chosen intentionally to allow for visual representation of anticipated areas of expanded jurisdiction associated with the proposed rule. These areas are not intended to represent all



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

situations across the country. Nevertheless, they clearly illustrate the Agencies' gross underestimation of the increase in jurisdictional areas that would occur should the Proposed Rule be finalized.

Although these test areas may not fully representative of the change nationwide, lessons learned from this exercise include:

- No decreases in jurisdictional area were observed anywhere.
- The increase is highly non-uniform. Some areas will see very high increases in jurisdictional area.
- The Agencies' assumption of no significant increase in tributary and adjacent waters jurisdiction is seriously flawed. In all three cases, the 2.7 percent increase in jurisdiction estimated by the Agencies was significantly lower than that estimated through the subject mapping exercise.
- The increase in jurisdiction for tributaries is highly sensitive to drainage discontinuity, i.e., man-made or natural breaks of any length, which constitute a difference between the Proposed Rule and current practice. Discontinuous drainage cannot be determined except by field work; consequently, it is unclear as to the added value of the Proposed Rule in providing clarity relative to the 2008 Guidance.
- A more rigorous evaluation of potential increase in jurisdiction, such as through geospatial mapping, as opposed to the approach used by the Agencies (i.e., survey of areas where permits were catalogued in the ORM2 database), is a useful approach. The Agencies should rework the rule and complete a comparable geospatial analysis over a fully representative sample of lands to provide a more accurate estimate of the impact of the Proposed Rule before continuing with the rulemaking process.

### 4.1.1 Methodology

Publicly available national geospatial data managed and analyzed in geographic information system (GIS) was used to identify distributions of waters and wetlands, as well as to assess potential jurisdictional classifications under both current practices and the Proposed Rule. The analysis was conducted by experienced wetland delineators with experience across different areas of the U.S., who worked in conjunction with



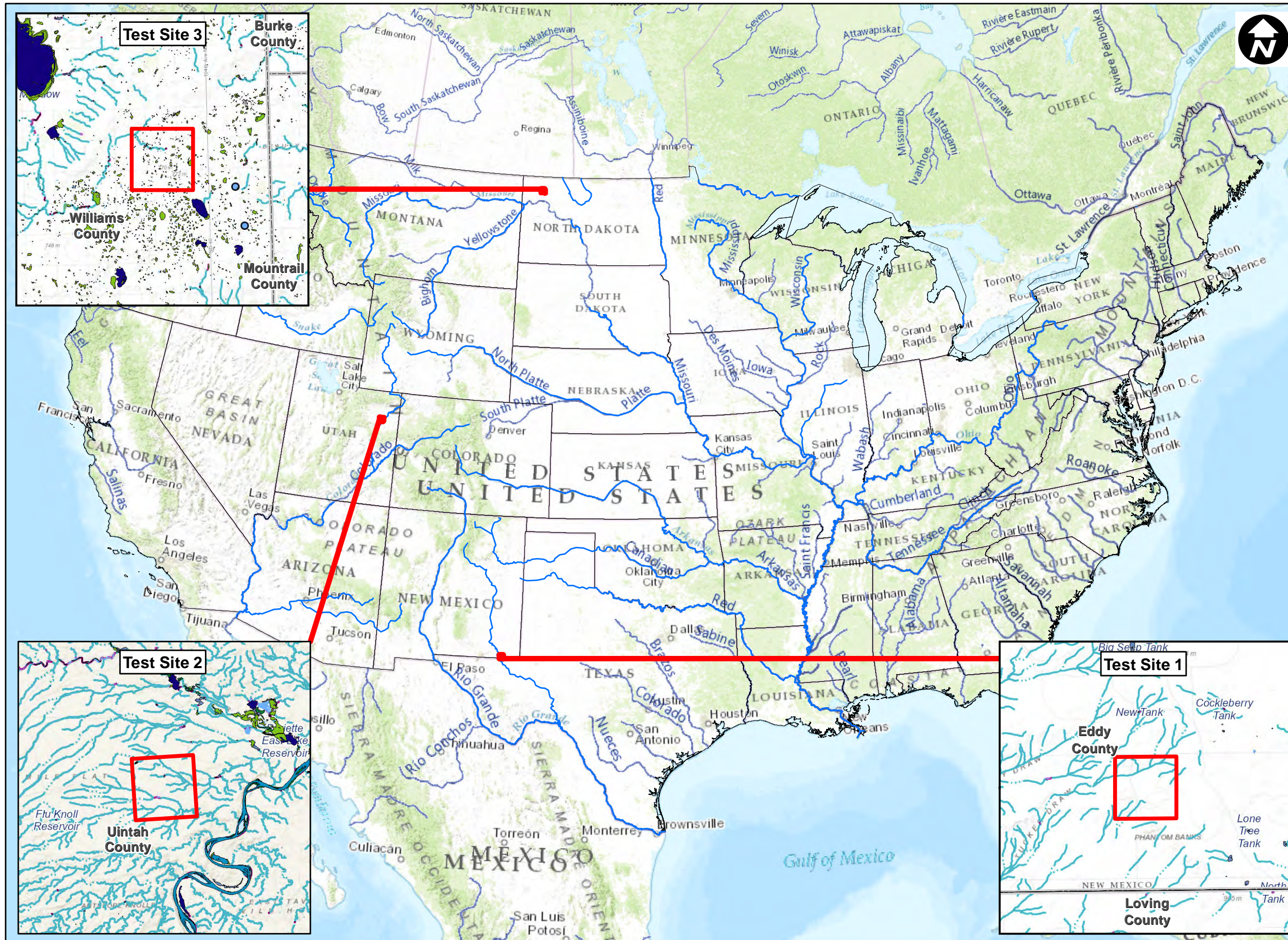
## Quantifying Cost Impacts

Proposed Rule to Define  
Waters of the United States  
for Oil and Natural  
Gas Industry

professional GIS technicians, to provide an assessment of jurisdictional areas under current practice and under the Proposed Rule that reflects the best professional judgment of practitioners with extensive experience in dealing with Clean Water Act jurisdictional aspects across the United States. Knowledge of current oil and natural gas activities developed from environmental professionals with several decades of experience in the oil and gas industry, as well as available database information, facilitated initial selection of test sites. Wetland professionals then reviewed the database information and aerial photography to identify current and proposed jurisdictional WOTUS for quantitative comparisons. Aerial imagery evaluation focused primarily on physical features including the likelihood of bed, bank, and ordinary high water mark (OHWM) presence as well as interruptions in physical connectivity to a traditional navigable water.

### *4.1.1.1 Area Selection*

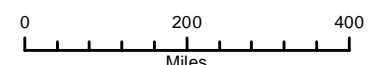
Three two-mile by two-mile square areas were selected to evaluate potential changes in federally jurisdictional WOTUS. The test areas are located in New Mexico, Utah, and North Dakota (Figures 4-1 through 4-10). Each test area is presented in the attached figures and specific features of the sites are discussed in the appropriate sections.



**Legend**

- Test Site Extent
- WETLANDS**
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Flowline - Small Scale**
- Perennial
- Intermittent
- Artificial Path
- Canal Ditch
- Coastline
- Connector
- Pipeline
- Underground Conduit

Service Layer Credits: WWF, USGS, EPA, Esri  
 Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community



**API CLEAN WATER ACT REVISIONS**

**TEST SITE LOCATION MAP**

**FIGURE: 4-1** | Definitions of Water of the U.S. in the Proposed Rule



#### 4.1.1.2 Data Review

The following data sets were reviewed for applicability and used to build a GIS database:

- Hydrological – United States Geological Survey (USGS) National Hydrography Database (NHD) high resolution
- Wetlands – United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI)
- Elevation and derived contours – (USGS) National Elevation Dataset
- Aerial Photographs – Environmental Systems Research Institute (ESRI) Online Services
- Features presented in these databases formed the initial basis for evaluation of jurisdiction under both current practice and the Proposed Rule.

Features presented in these databases formed the initial basis for evaluation of jurisdiction under both current practice and the Proposed Rule.

The following data sets include additional information required to assess “other waters” and connectivity through a significant nexus:

- Floodplain – Federal Emergency Management Agency
  - It should be noted that FEMA floodplain maps are not available for all streams, particularly for ephemeral and intermittent streams. Therefore, waters and wetlands within the floodplain of streams not included in FEMA mapping may not have been identified, thereby underestimating the amount of these features that would be jurisdictional by rule under the Proposed Rule.
- Riparian – United States Fish and Wildlife Service (“USFWS”)
- Soils – United States Department of Agriculture Web Soil Survey



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

The datasets below could assist in improving site assessments of connectivity though are not clearly defined in the Proposed Rule or have incomplete coverage:

- Light Detection And Ranging (LiDAR) – Elevation data
- Physical, chemical, and/or biological data

### 4.1.1.3 Desktop Review and Delineation

Wetland professionals evaluated features from the above-listed databases to assess potential for federal jurisdiction under both current practices and the Proposed Rule. Features were reviewed through assessment of aerial photography and elevation data using best professional judgment. In some cases, feature extent was reduced (e.g., tributary lines from the National Hydrography Database (NHD) were removed if the identified features were judged unlikely to have beds, banks, and OHWMs after aerial imagery examination) and in other cases features were added or expanded (e.g., open waters or wetlands not identified in the NHD and/or the National Wetlands Inventory). Wetlands professionals also used the database information, elevation information, and aerial imagery to evaluate whether identified features possessed a continuous surface connection to downgradient TNWs. Open water or wetlands without a continuous surface water flow connection (either through streams with bed, bank, and OHWM or through upland or wetland swales) were classified as isolated. Streams without a continuous bed, bank, and OHWM connection to a downgradient TNW were classified as discontinuous/isolated.

### 4.1.1.4 Jurisdictional Evaluations

The existing GIS database was developed, processed, and supplemented by wetland professional review of current high resolution aerial and elevation data. The resulting GIS data set identified waters and wetland features that would be evaluated for potential WOTUS jurisdiction under both current Agency practice and the Proposed Rule. These results were then processed into quantitative summaries to establish the percent change in jurisdictional WOTUS under the Proposed Rule. The process was repeated for each of the three areas.

Criteria for jurisdictional waters and wetlands under current CWA practice included:



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

- All waters which are currently used, 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 (i.e., a traditional navigable water [TNW]).
- All interstate waters, including interstate wetlands.
- The territorial seas.
- All impoundments of a TNW, interstate water, the territorial seas.
- Wetlands adjacent to TNWs, interstate waters, the territorial sea, and impoundments of a TNW, interstate water, the territorial seas or a tributary
- Non-navigable tributaries (i.e., possessing bed, bank, and ordinary high water mark [OHWM]) to TNWs that are relatively permanent where tributaries typically flow year-round or have continuous flow at least seasonally (i.e., three months)
- Wetlands that directly abut such tributaries

In addition to the features listed above, the criteria for waters and wetlands under current CWA practice also included those waters and wetlands over which the Agencies typically assert jurisdiction using either explicit significant nexus evaluations or de facto assumptions of significant nexus:

- For the purposes of this evaluation, waters and wetlands that were included in this category were:
  - Ephemeral (i.e., flowing less than seasonally) tributaries to TNWs that have continuous bed, bank, and OHWM connections to TNWs.
  - Waters and wetlands that have a continuous confined surface hydrologic connection (e.g., wetland or upland ditches/swales) to a tributary to one of the above defined features.

Criteria for jurisdictional waters and wetlands under the Proposed Rule included:

- All waters which are currently used, 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 (i.e., a TNW).
- All interstate waters, including interstate wetlands.
- The territorial seas.
- All impoundments of a TNW, interstate water, the territorial seas or a tributary.
- All tributaries (i.e., features with a bed, bank, and ordinary high water mark [OHWM]) of a TNW, interstate water, the territorial seas or impoundment.
  - For the purposes of this evaluation, and in keeping with the Proposed Rule's tributary definition, this includes wetlands that abut tributaries.
- All waters, including wetlands, adjacent to a traditional navigable water, interstate water, the territorial seas, impoundment or tributary.
  - For the purposes of this evaluation, adjacency was defined as those waters or wetlands within the 100 year floodplain of a tributary to a TNW. While it is unknown if this will be the final definition in the Proposed Rule, the discussions held by the Scientific Advisory Board imply that this will be the flood frequency selected.
- On a case-specific basis, other waters, including wetlands, provided that those waters alone, or in combination with other similarly situated waters, including wetlands, located in the same region, have a significant nexus to a traditional navigable water, interstate water or the territorial seas.
  - For the purposes of this evaluation, this includes waters and wetlands that have a continuous confined surface hydrologic connection (e.g., wetland or upland ditches/swales) to a tributary to one of the above defined features.
  - For the purposes of this evaluation, this includes physically isolated waters and wetlands (i.e., no continuous surface flow connection) that are in a single



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

contiguous land form and hydrologically connected (i.e., similarly situated) in a single point of entry watershed for a TNW (i.e., in the same region).

The above criteria did not consider site-specific significant nexus evaluations through which the Agencies may assert jurisdiction over isolated waters or wetlands or discontinuous ephemeral streams. However, the criteria do consider the typical approach to significant nexus determinations for isolated/discontinuous features taken by the Agencies under current practices, based on the experience of the wetland professionals involved in this analysis.

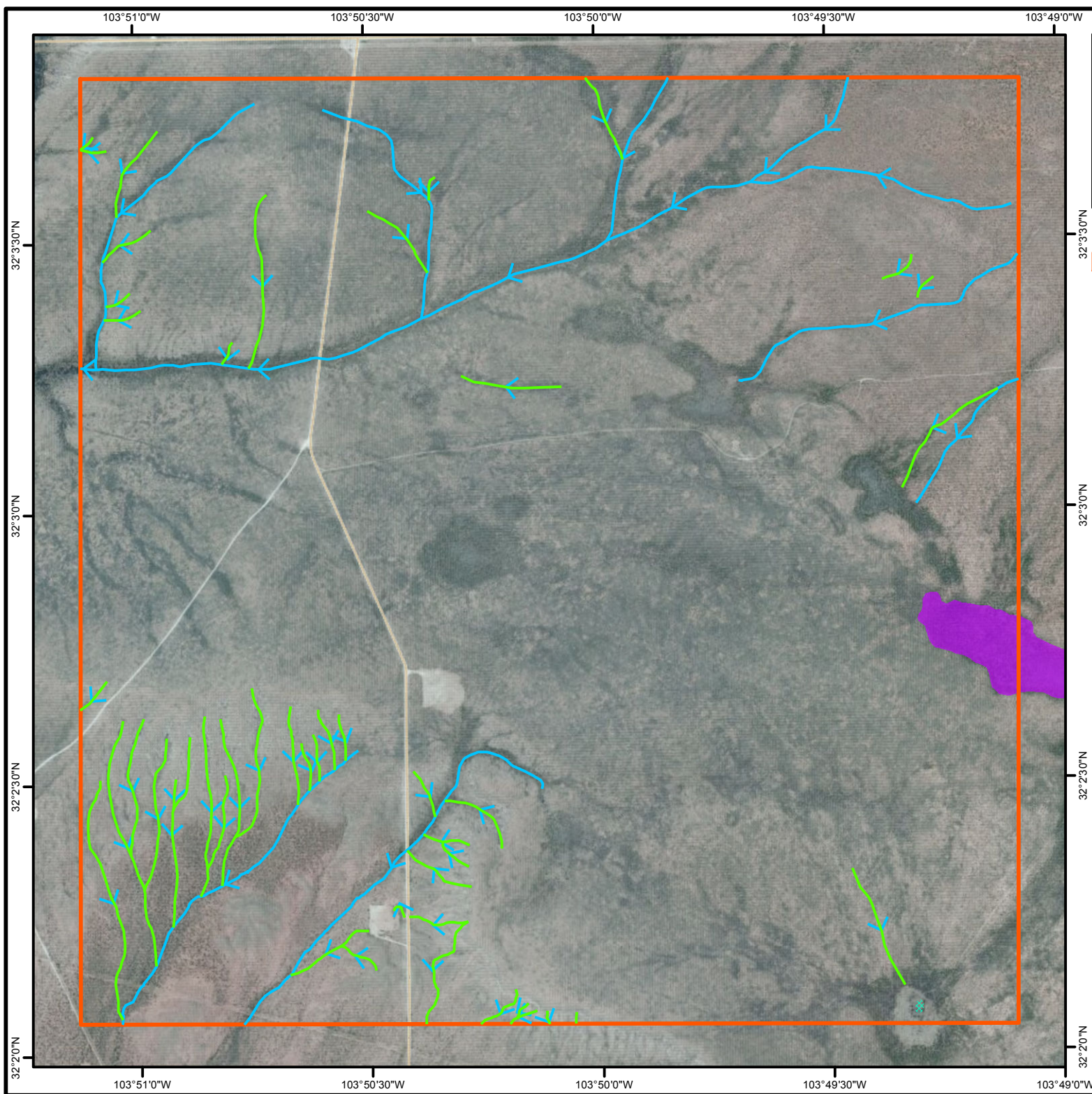
#### 4.1.1.5 Data Uncertainty

Professional experience regarding the Agencies' typical use of significant nexus for CWA jurisdiction was used to identify certain features as jurisdictional (e.g., continuously connected ephemeral tributaries and wetlands not directly abutting tributaries to TNWs) or non-jurisdictional (e.g., ephemeral tributaries without continuous connections to TNWs and physically isolated wetlands).

In short, the WOTUS jurisdictional estimates herein are only as accurate as can be obtained from desktop evaluations and therefore contain an inherent margin of error. However, these methods are expected to provide a reasonable estimation of WOTUS under both current practices and the Proposed Rule.

#### 4.1.2 Results

The results for each test area are summarized below and accompanied by three figures each (Figures 4-2 through 4-10). **In each case, applying the Proposed Rule increased jurisdictional areas.** The New Mexico site demonstrated a relatively substantial increase in tributary jurisdiction by approximately 204 percent, whereas the Utah site illustrated a more modest increase of around 8 percent. The North Dakota site showed an increase in jurisdictional tributaries and featured an increase in jurisdiction over isolated wetlands by 559 percent. The findings from each test area are described below in greater detail.

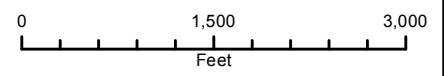


**Legend**

- Test Site
- Stream/River**
- Stream/River - NHD Dataset
- Stream/River - Delineated from Aerial/Elevation
- > Flow Direction
- NWI Wetlands**
- Freshwater Pond
- FEMA Floodplain**
- 

NOTE: Mapping is provided to facilitate visual examples of potential changes in jurisdiction. This information is based on available digital layers and aerial photo review by wetland delineation practitioners. No fieldwork was conducted to support this figure. Please see text for further detail.

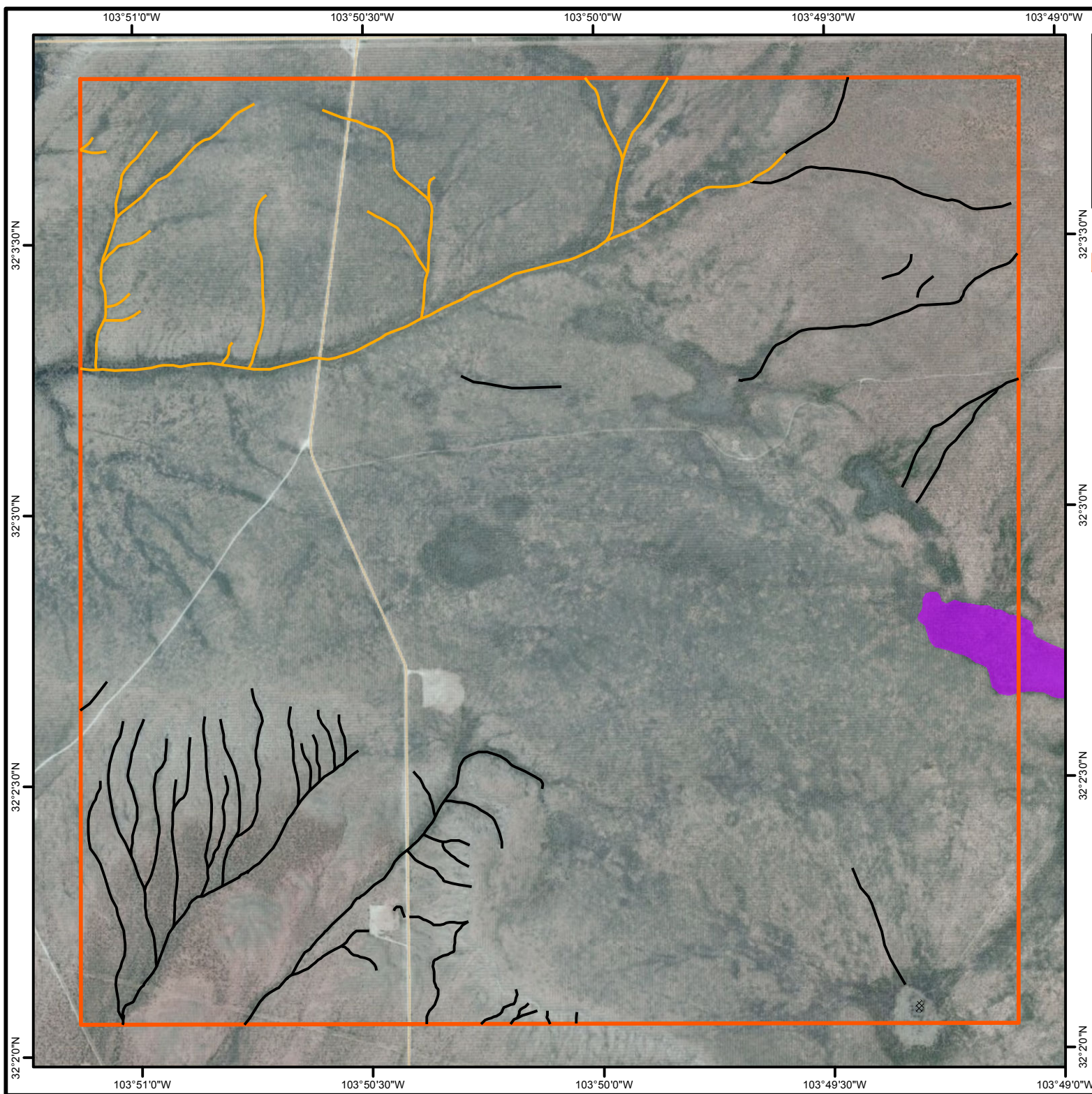
Service Layer Credits: WWF, USGS, EPA, Esri  
 Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community  
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**TEST SITE 1  
(NEW MEXICO EXAMPLE)  
EXISTING DATA MAP**

**FIGURE: 4-2** | Definitions of Water of the U.S. in the Proposed Rule

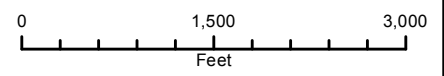


**Legend**

- Test Site
- Stream/River**
- Jurisdictional WOTUS - 2008 Guidance
- Non-Jurisdictional
- NWI Wetlands**
- Non-Jurisdictional
- FEMA Floodplain**
- 

NOTE: Mapping is provided to facilitate visual examples of potential changes in jurisdiction. This information is based on available digital layers and aerial photo review by wetland delineation practitioners. No fieldwork was conducted to support this figure. Please see text for further detail.

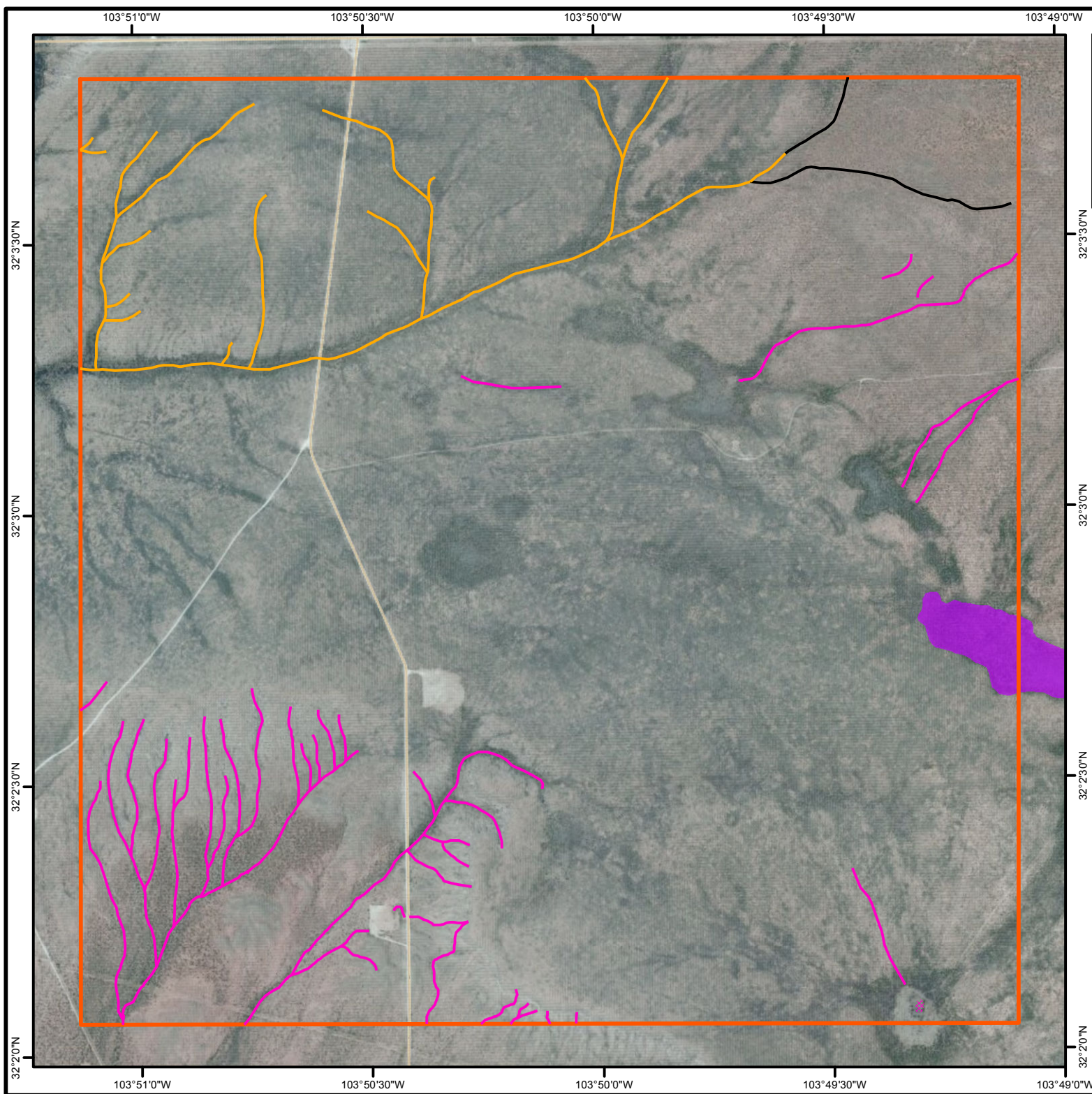
Service Layer Credits: WWF, USGS, EPA, Esri  
 Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community  
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**TEST SITE 1 (NEW MEXICO EXAMPLE) JURISDICTIONAL WATERS PER CURRENT GUIDANCE**

**FIGURE: 4-3** Definitions of Water of the U.S. in the Proposed Rule

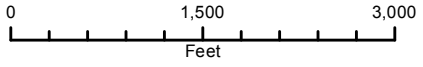


**Legend**

- Test Site
- Stream/River**
- Jurisdictional WOTUS - 2008 Guidance
- Jurisdictional WOTUS - Proposed Rule
- Non-Jurisdictional
- NWI Wetlands**
- Jurisdictional WOTUS - Proposed Rule
- FEMA Floodplain**
- 

NOTE: Mapping is provided to facilitate visual examples of potential changes in jurisdiction. This information is based on available digital layers and aerial photo review by wetland delineation practitioners. No fieldwork was conducted to support this figure. Please see text for further detail.

Service Layer Credits: WWF, USGS, EPA, Esri  
 Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community  
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**TEST SITE 1 (NEW MEXICO EXAMPLE) JURISDICTIONAL WATERS PER PROPOSED RULE**

**FIGURE: 4-4** Definitions of Water of the U.S. in the Proposed Rule



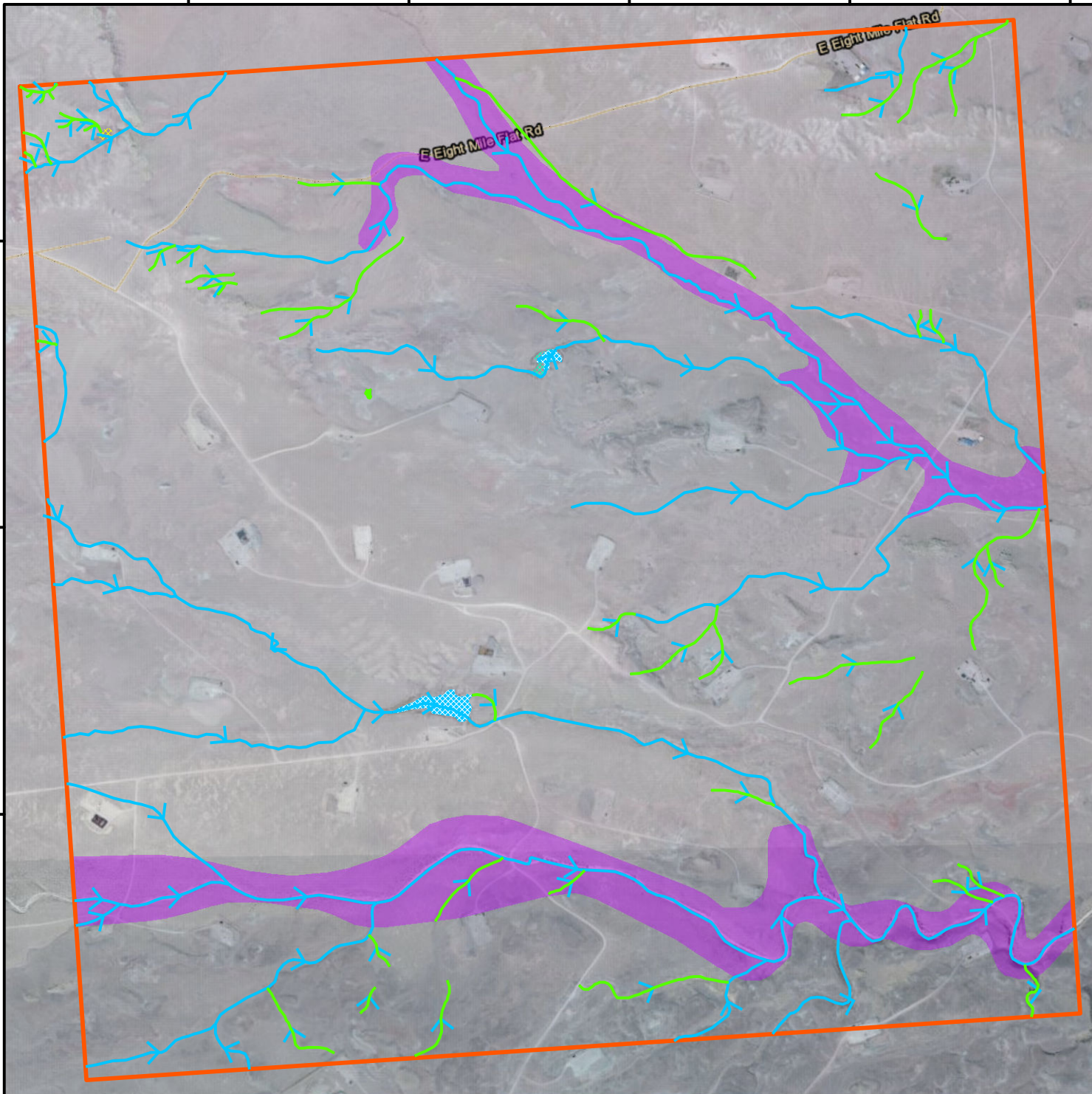
109°51'0"W 109°50'30"W 109°50'0"W 109°49'30"W 109°49'0"W



40°10'N

40°03'0"N

40°00'N

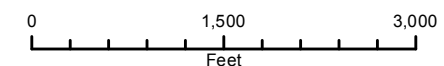


**Legend**

- Test Site
- Stream/River**
  - Stream/River - NHD Dataset
  - Stream/River - Delineated from Aerial/Elevation
  - Flow Direction
- Waterbody**
  - Lake/Pond: Intermittent - NHD Dataset
  - Lake/Pond: Intermittent - Delineated from Aerial/Elevation
- NWI Wetlands**
  - Freshwater Emergent Wetland
  - Freshwater Pond
- FEMA Floodplain**
  -

NOTE: Mapping is provided to facilitate visual examples of potential changes in jurisdiction. This information is based on available digital layers and aerial photo review by wetland delineation practitioners. No fieldwork was conducted to support this figure. Please see text for further detail.

Service Layer Credits: WWF, USGS, EPA, Esri Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the



**API CLEAN WATER ACT REVISIONS**

**TEST SITE 2 (UTAH EXAMPLE) EXISTING DATA MAP**

**FIGURE: 4-5** Definitions of Water of the U.S. in the Proposed Rule

109°51'0"W 109°50'30"W 109°50'0"W 109°49'30"W 109°49'0"W

109°51'0"W 109°50'30"W 109°50'0"W 109°49'30"W 109°49'0"W



40°10'N  
40°03'0"N  
40°00'N

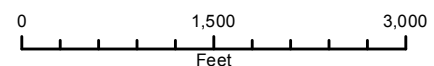


**Legend**

- Test Site
- Stream/River**
  - Jurisdictional WOTUS - 2008 Guidance
  - Non-Jurisdictional
- Waterbody**
  - Jurisdictional WOTUS - 2008 Guidance
  - Non-Jurisdictional
- NWI Wetlands**
  - Jurisdictional WOTUS - 2008 Guidance
- FEMA Floodplain**
  -

NOTE: Mapping is provided to facilitate visual examples of potential changes in jurisdiction. This information is based on available digital layers and aerial photo review by wetland delineation practitioners. No fieldwork was conducted to support this figure. Please see text for further detail.

Service Layer Credits: WWF, USGS, EPA, Esri  
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community  
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**TEST SITE 2 (UTAH EXAMPLE) JURISDICTIONAL WATERS PER CURRENT GUIDANCE**

**FIGURE: 4-6** | Definitions of Water of the U.S. in the Proposed Rule

109°51'0"W 109°50'30"W 109°50'0"W 109°49'30"W 109°49'0"W

109°51'0"W 109°50'30"W 109°50'0"W 109°49'30"W 109°49'0"W



40°10'N

40°03'0"N

40°00'N

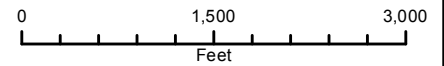


**Legend**

- Test Site
- Stream/River**
- Jurisdictional WOTUS - 2008 Guidance
- Jurisdictional WOTUS - Proposed Rule
- Waterbody**
- Jurisdictional WOTUS - 2008 Guidance
- Non-Jurisdictional
- NWI Wetlands**
- Jurisdictional WOTUS - 2008 Guidance
- FEMA Floodplain**
- 

NOTE: Mapping is provided to facilitate visual examples of potential changes in jurisdiction. This information is based on available digital layers and aerial photo review by wetland delineation practitioners. No fieldwork was conducted to support this figure. Please see text for further detail.

Service Layer Credits: WWF, USGS, EPA, Esri  
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community  
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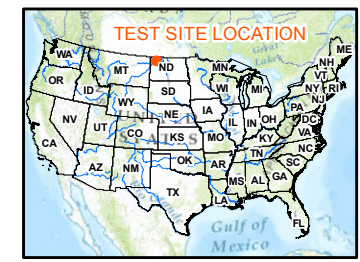
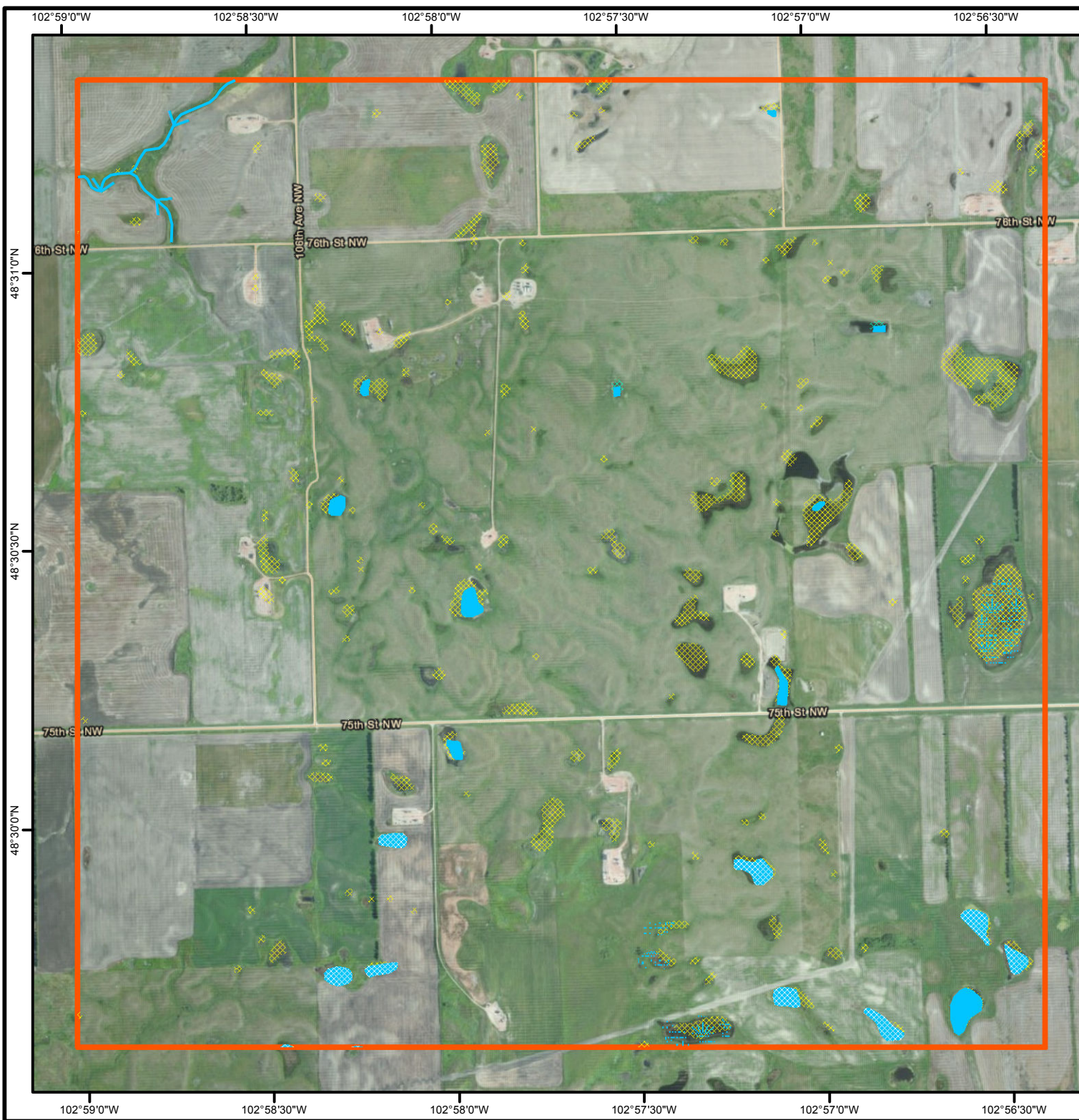


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**TEST SITE 2 (UTAH EXAMPLE) JURISDICTIONAL WATERS PER PROPOSED RULE**

**FIGURE: 4-7** | Definitions of Water of the U.S. in the Proposed Rule

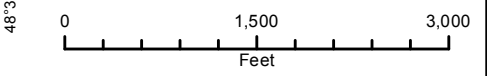
109°51'0"W 109°50'30"W 109°50'0"W 109°49'30"W 109°49'0"W



- Legend**
- Test Site
  - Stream/River**
    - Stream/River - NHD Dataset
    - > Flow Direction
  - Waterbody**
    - Lake/Pond: Perennial
    - Lake/Pond: Intermittent
    - Swamp/Marsh
  - NWI Wetlands**
    - Freshwater Emergent Wetland
    - Freshwater Pond

NOTE: Mapping is provided to facilitate visual examples of potential changes in jurisdiction. This information is based on available digital layers and aerial photo review by wetland delineation practitioners. No fieldwork was conducted to support this figure. Please see text for further detail.

Service Layer Credits: WWF, USGS, EPA, Esri  
 Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community  
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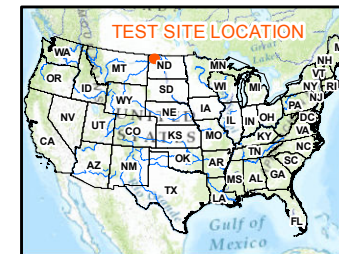
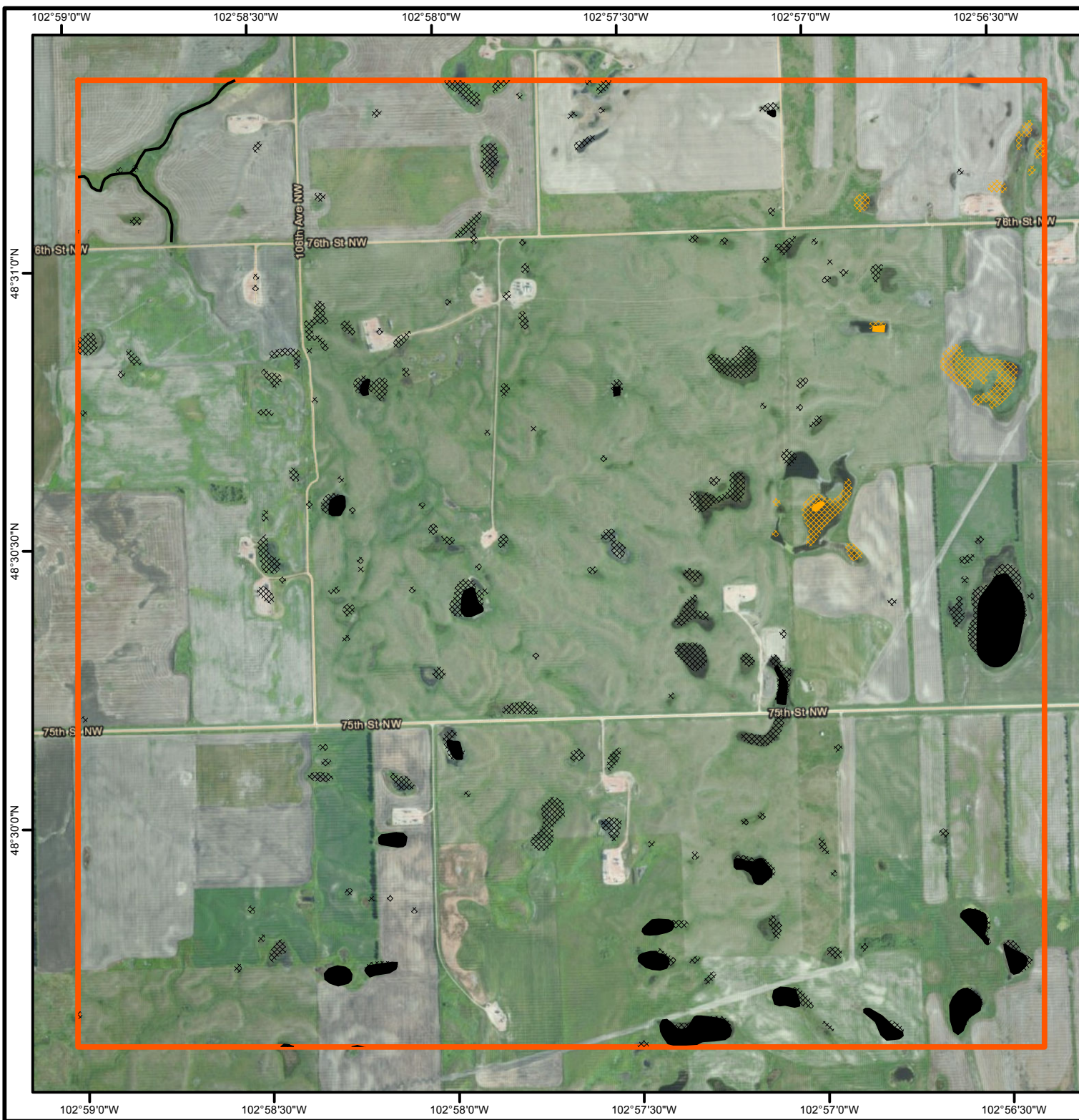
**TEST SITE 3  
(NORTH DAKOTA EXAMPLE)  
EXISTING DATA MAP**

**FIGURE: 4-8**

Definitions of Water of the U.S. in the Proposed Rule

48°31'0"N  
48°30'30"N  
48°30'0"N  
48°29'30"N

102°59'0"W  
102°58'30"W  
102°58'0"W  
102°57'30"W  
102°57'0"W  
102°56'30"W

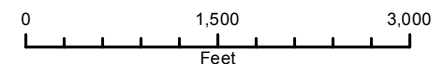


**Legend**

- Test Site
- Stream/River**
- Non-Jurisdictional
- Waterbody**
- Jurisdictional WOTUS - 2008 Guidance
- Non-Jurisdictional
- NWI Wetlands**
- Jurisdictional WOTUS - 2008 Guidance
- Non-Jurisdictional

NOTE: Mapping is provided to facilitate visual examples of potential changes in jurisdiction. This information is based on available digital layers and aerial photo review by wetland delineation practitioners. No fieldwork was conducted to support this figure. Please see text for further detail.

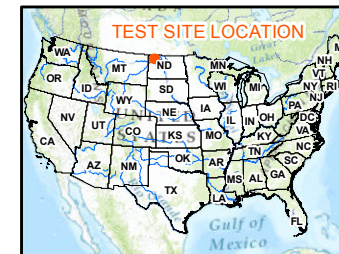
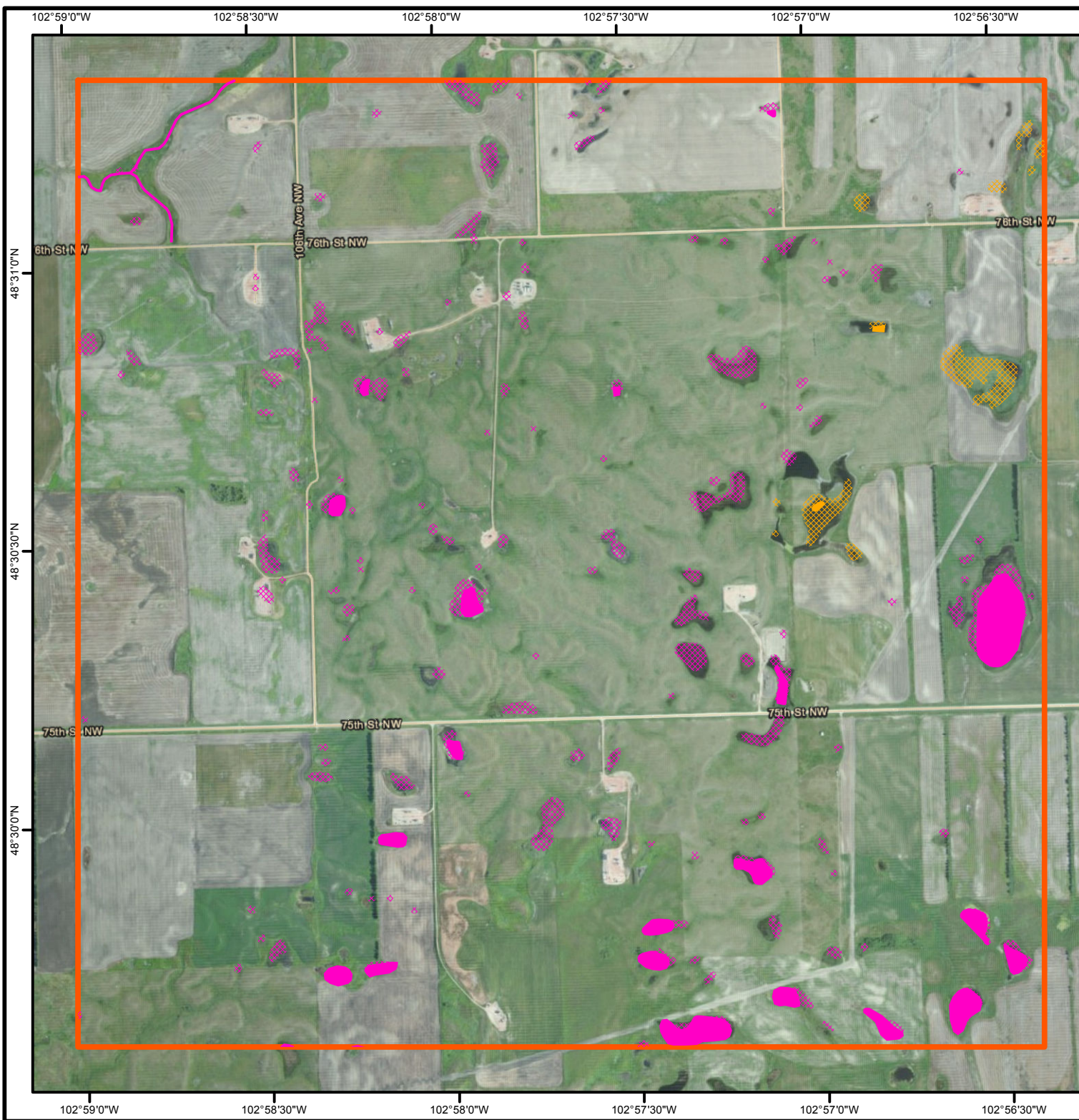
Service Layer Credits: WWF, USGS, EPA, Esri  
 Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community  
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**TEST SITE 3 (NORTH DAKOTA EXAMPLE) JURISDICTIONAL WATERS PER CURRENT GUIDANCE**

**FIGURE: 4-9** Definitions of Water of the U.S. in the Proposed Rule

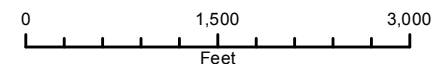


**Legend**

- Test Site
- Stream/River**
- Jurisdictional WOTUS - Proposed Rule
- Waterbody**
- Jurisdictional WOTUS - 2008 Guidance
- Jurisdictional WOTUS - Proposed Rule
- NWI Wetlands**
- Jurisdictional WOTUS - 2008 Guidance
- Jurisdictional WOTUS - Proposed Rule

NOTE: Mapping is provided to facilitate visual examples of potential changes in jurisdiction. This information is based on available digital layers and aerial photo review by wetland delineation practitioners. No fieldwork was conducted to support this figure. Please see text for further detail.

Service Layer Credits: WWF, USGS, EPA, Esri  
 Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community  
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**API CLEAN WATER ACT REVISIONS**

**TEST SITE 3 (NORTH DAKOTA EXAMPLE) JURISDICTIONAL WATERS PER PROPOSED RULE**

**FIGURE: 4-10** Definitions of Water of the U.S. in the Proposed Rule



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

### 4.1.2.1 Test Area 1 New Mexico

With a landscape characteristic of dry regions, results in New Mexico found an increase of approximately 204 percent to the linear feet of jurisdictional features under the Proposed Rule due to the inclusion of discontinuous ephemeral streams. Test area 1 is located in the Permian Basin approximately 21 miles southeast of Loving, New Mexico. The area is located approximately 6.5 miles northeast of the Pecos River, which is the closest traditional navigable water (TNW). The area has numerous ephemeral drainages and isolated wetlands are commonly encountered. In the southern portion of the site, some of the ephemeral drainages are discontinuous. It is unclear if the ephemeral drainages in the northern portion of the area have a continuous bed, bank, and ordinary high water mark (OHWM) connection to the Pecos River – aerial imagery indicates a possible loss of bed, bank, and OHWM connection approximately 2.5 miles northeast of the Pecos River adjacent to where the drainage is crossed by State Line Road.

**Table 4-1 Test Area1 New Mexico**

WOTUS – Current Practice/2008 Guidance	Linear Feet	National Hydrography Dataset (NHD) Acres	National Wetland Inventory (NWI) Acres
Non-Jurisdictional	55,047	0.00	0.25
Jurisdictional	24,945	0.00	0.00
<b>TOTAL JURISDICTIONAL:</b>	24,945	<b>0.00</b>	<b>0.00</b>
WOTUS – Proposed Rule Imposed	Linear Feet	NHD Acres	NWI Acres
Non-Jurisdictional	4,224	0.00	0.00
Jurisdictional – 2008	24,945	0.00	0.00
Added Jurisdictional - Proposed Rule	50,823	0.00	0.25
<b>TOTAL JURISDICTIONAL:</b>	<b>75,769</b>	<b>0.00</b>	<b>0.25</b>
<b>PERCENT INCREASE:</b>	<b>204%</b>	<b>0.00%</b>	<b>0.00%</b>



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

Streams and wetlands in the southern portion of the New Mexico test area are isolated from a TNW, as are tributaries in the northeast. Therefore, these features are classified as non-jurisdictional under current practice. Streams in the northeast portion of the area are either discontinuous or likely do not have OHWM, and are classified as non-jurisdictional under current practice. Tributaries on the north and northwest of the New Mexico test area potentially have a continuous bed, bank, and OHWM connection drain to the Pecos River, and are classified as jurisdictional under current practice. All features on the area would be jurisdictional under the Proposed Rule, except the drainages in the northeast portion of the area that are unlikely to have OHWM, because they would meet the tributary definition or are fed directly by features that would be defined as tributaries.

The northern drainage may lose bed, bank, and OHWM connectivity approximately two miles away from the Pecos River near State Line Road. If this drainage is discontinuous and would not be jurisdictional under current practice, then the percent increase in jurisdictional streams under the Proposed Rule would increase significantly from 204 percent as all features on the site would shift from non-jurisdictional to jurisdictional.

### 4.1.2.2 Test Area 2: Utah

Examination of conditions in Utah reveals similar additions to jurisdictional waters as New Mexico per the identification and delineation of ephemeral isolated tributaries, though to a lesser degree. While this area had a smaller increase than the New Mexico area, the increase is more than double the 2.7 percent increase identified by the Agencies. Test Area 2 is located in the Uinta Basin, approximately 34 miles southwest of Vernal Utah. The area is located approximately one mile northwest of the Green River, which is the closest TNW. The test area has numerous ephemeral drainages and 2 isolated wetland areas. Moreover, it is located in the arid west where ephemeral drainages and isolated wetlands are common features. Some of the smaller ephemeral drainages are discontinuous. It is unclear if the other ephemeral drainages have a continuous bed, bank, and OHWM connection to the Green River – aerial imagery indicates possible loss of a bed, bank, and OHWM connection approximately 100 meters north of the Green River Flood Plain.





## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

**Table 4-2 Test Area 2 Utah**

<b>WOTUS – 2008 Guidance</b>	<b>Linear Feet</b>	<b>NHD Acres</b>	<b>NWI Acres</b>
Non-Jurisdictional	8,505	0.16	0.00
Jurisdictional	106,612	3.79	1.34
<b>TOTAL JURISDICTIONAL:</b>	<b>106,612</b>	<b>3.79</b>	<b>1.34</b>
<b>WOTUS – Proposed Rule Imposed</b>	<b>Linear Feet</b>	<b>NHD Acres</b>	<b>NWI Acres</b>
Non-Jurisdictional	0.00	0.16	0.00
Jurisdictional – 2008	106,612	3.79	1.34
Added Jurisdictional - Proposed Rule	8,505	0.00	0.00
<b>TOTAL JURISDICTIONAL:</b>	<b>115,118</b>	<b>3.79</b>	<b>1.34</b>
<b>PERCENT INCREASE:</b>	<b>8%</b>	<b>0.00%</b>	<b>0.00%</b>

Only the isolated stream and wetland features within the Utah test area would be classified as non-jurisdictional under current guidance as the remaining drainages demonstrate continuous bed, bank, and OHWM connection with the nearby Green River; this accounts for the relatively modest increase percentage in jurisdictional areas. After the Proposed Rule, all isolated features would be classified as jurisdictional with the exception of the small ponded feature which fails to demonstrate any connectivity.

The northern drainage may lose bed, bank, and OHWM connectivity approximately 100 meters upgradient of the Green River floodplain. If this drainage is discontinuous and would therefore not be jurisdictional under current practice, then the percent increase in jurisdictional streams under the Proposed Rule would increase from 8 percent to approximately 135 percent.

### 4.1.2.3 Test Area 3: North Dakota

The increased jurisdictional features in North Dakota differed from previous test area with a 559 percent increase associated with isolated water bodies and wetland features as well as an increase in linear tributary features. Test Area 3 is located in the Williston Basin, approximately 5 miles southwest of McGregor, North Dakota. The area is located approximately 22 miles north of the Missouri River, which is the closest TNW.



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

The area has numerous isolated drainages, waters, and wetlands – the majority of these do not have surface water connections to a TNW. A few of the features in the Northeast portion of the area have continuous confined surface hydrologic connection (e.g., wetland or upland ditches/swales) connecting to the White Earth River (a tributary of the Missouri River). The area is located in the Northwestern Glaciated Plains ecoregion – a region named by the Agencies for consideration of *de facto* significant nexus jurisdiction of all “other waters” within an ecoregion.

**Table 4-3 Test Area 3 North Dakota**

<b>WOTUS – 2008 Guidance</b>	<b>Linear Feet</b>	<b>NHD Acres</b>	<b>NWI Acres</b>
Non-Jurisdictional	3,306.57	34.27	82.44
Jurisdictional	0.00	0.44	14.76
<b>TOTAL JURISDICTIONAL:</b>	<b>0.00</b>	<b>0.44</b>	<b>14.76</b>
<b>WOTUS – Proposed Rule Imposed</b>	<b>Linear Feet</b>	<b>NHD Acres</b>	<b>NWI Acres</b>
Non-Jurisdictional	0.00	0.00	0.00
Jurisdictional – 2008	0.00	0.44	14.76
Added Jurisdictional - Proposed Rule	3,306.57	34.27	82.44
<b>TOTAL JURISDICTIONAL:</b>	<b>3,306.57</b>	<b>34.71</b>	<b>97.19</b>
<b>PERCENT INCREASE:</b>	<b>0.00%*</b>	<b>99%</b>	<b>559%</b>
* A percent increase from zero cannot be calculated mathematically; however, assuming even a small baseline of .01 acres, this could be reported as a 3300% increase.			

Wetland features in the northeastern portion of the North Dakota test area, north of 76th St NW, appear to have a continuous confined surface hydrologic connection, as captured through upland or wetland swales, to the White Earth River which eventually connects to the Missouri River. Therefore, these features may be considered jurisdictional WOTUS under current practice. The remaining streams, swales, and wetlands on the North Dakota test area are either themselves isolated or flow into insolated features that are not named as nor connected to a TNW. Therefore, these features would be non-jurisdictional under current practice. All wetland and NHD features on the North Dakota test area would be jurisdictional under the Proposed

Rule, using the assumption that the Agencies will extend significant nexus to all waters and wetland features in the Northwestern Glaciated Plains ecoregion watersheds.

#### 4.1.2.4 Conclusions

Quantitative analysis of the application of the Proposed Rule conducted at the three test areas found increases ranging from 8 percent to over 200 percent for linear tributary features and increases including 559 percent for isolated wetland features and an additional 3300 linear feet of tributaries. The three test areas clearly demonstrate that the Agencies' estimate of a 2.7 percent increase in jurisdiction is likely a gross underestimate. Each area demonstrated a substantial increase in jurisdictional status when considering area-specific significant nexus evaluations over isolated waters or wetlands or discontinuous ephemeral streams. These increases range from a minimum of approximately 8 percent to as much as approximately 550 percent or higher. While these test cases are not intended to be directly extrapolated to represent the amount of increase in jurisdictional waters that would occur nationwide under the Proposed Rule, they serve to highlight that even with fairly conservative assumptions regarding jurisdiction under current practice, the increase in jurisdictional features under the Proposed Rule is likely significantly higher than the 2.7 percent estimated by the Agencies, especially in regions important to oil and gas development.

#### **4.2 An individual analysis conducted by an API member company indicated that the Agencies' estimate of increased permitting may be low by a factor of 10 or more for upstream oil and natural gas well sites.**

To better understand the impacts of the Proposed Rule on oil and natural gas activity, one of API's member companies analyzed their own well sites using detailed aquatic resource data available from actual, recent jurisdictional determinations with Agency field offices. This estimation was carried out independent of API's geospatial mapping exercise described in the previous section, and will be referred to as the "API Regional Project Impact Analysis."

A realistic baseline for current regulatory practice was established because all sites in this data set had received permits.<sup>53</sup> Completing a "bottom-up" site-by-site analysis,

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<sup>53</sup> Moreover, the data set provides a robust way to assess possible jurisdictional changes introduced by the Proposed Rule. For example, the Agencies may establish that an aquatic resource (water feature) exhibits bed, bank and high water mark, but has ephemeral flow and, if it fails a test for significant nexus, is thus non-jurisdictional. It can be reliably projected that the water feature in question will change in status to become jurisdictional under the Proposed Rule



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

environmental experts compared the amount of impacted jurisdictional waters (in stream-feet or acres of wetlands) that were permitted under current regulations with amounts projected to be impacted under the Proposed Rule, and identified the concomitant changes to the type of permit needed or its requirements.

Determining the requirements for Section 404 “dredge and fill” permitting is complex. If the project proponent can demonstrate only minimal amounts of jurisdictional waters are affected, work generally may begin upon notice to the Agencies. However, if impacts exceed certain threshold levels, the permit requirements also increase. These threshold “trigger” levels vary depending on the type of economic activity (i.e., does the project qualify under a Nationwide General Permit) or on the region or State in which the work takes place (i.e., does the project qualify for a Regional General Permit).

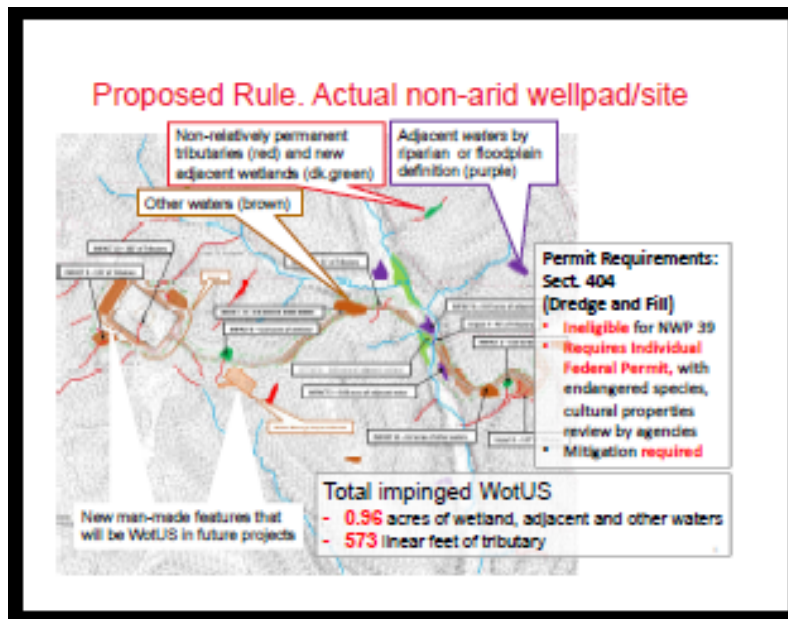
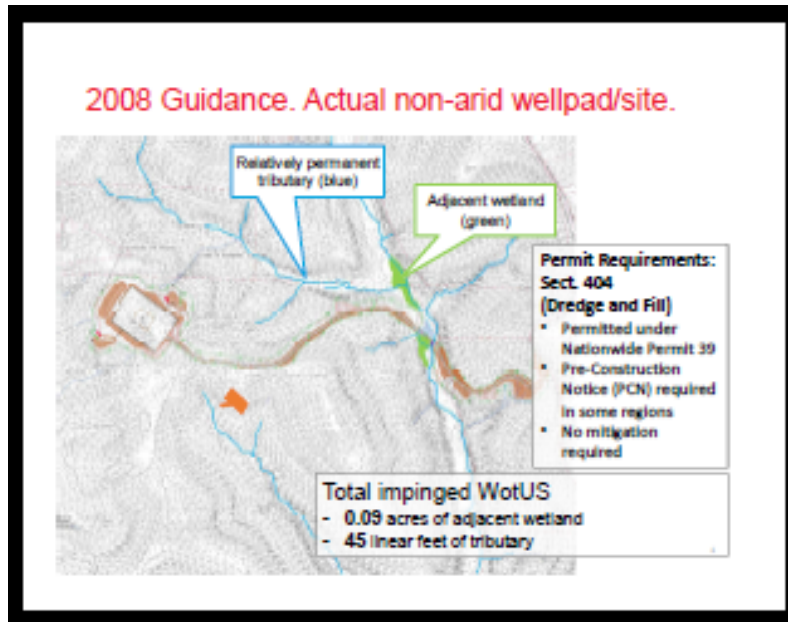
Figure 4-11 demonstrates that, for this well site, jurisdictional features from the 2008 Guidance to the Proposed Rule will increase by more than a factor of ten. Two different diagrams are shown together on the next page as Figure 4-11, then enhanced separately on the following pages.

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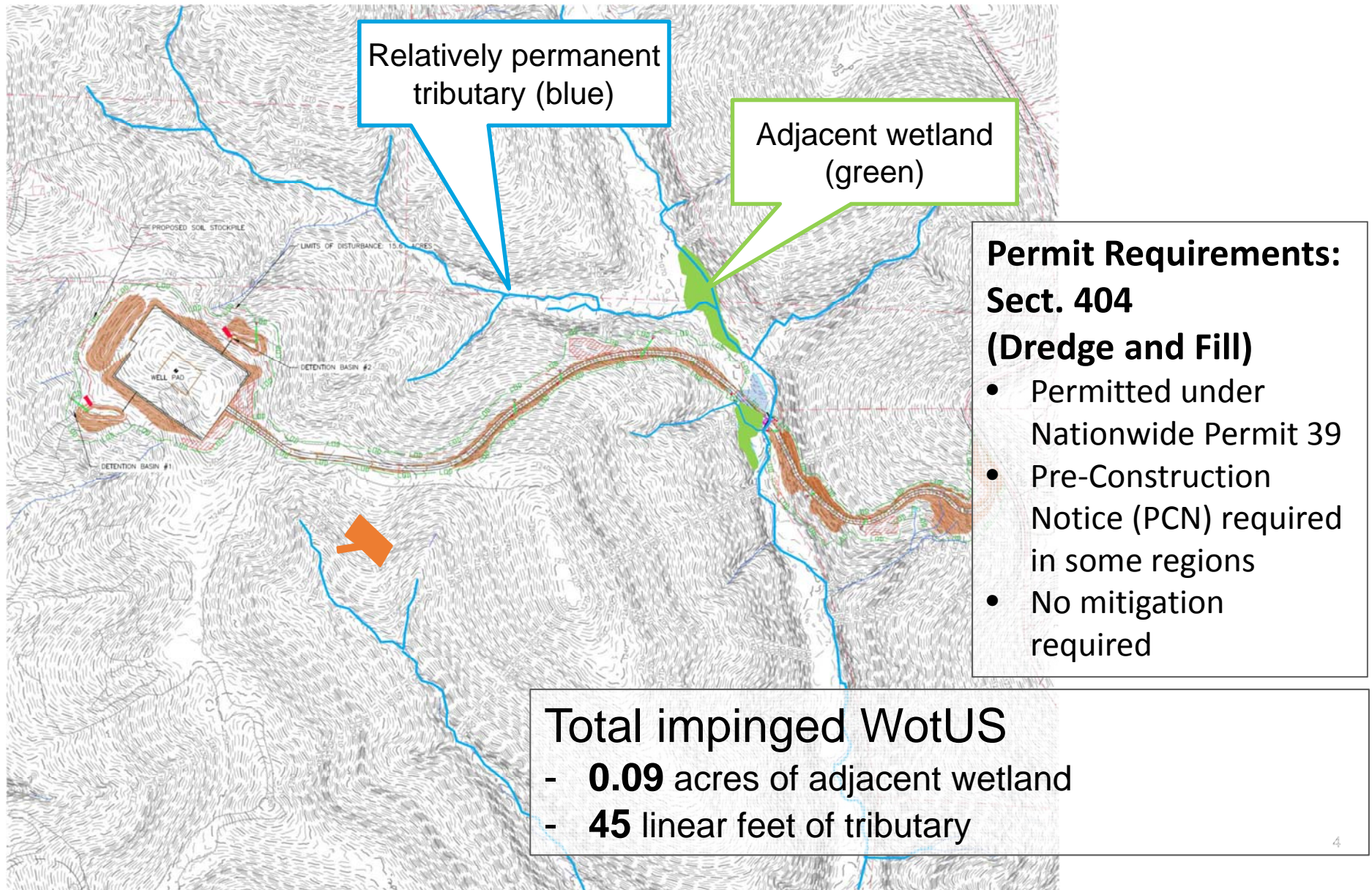
as such features without regard to frequency of flow or significant nexus are defined as tributaries and categorically jurisdictional.

## Quantifying Cost Impacts

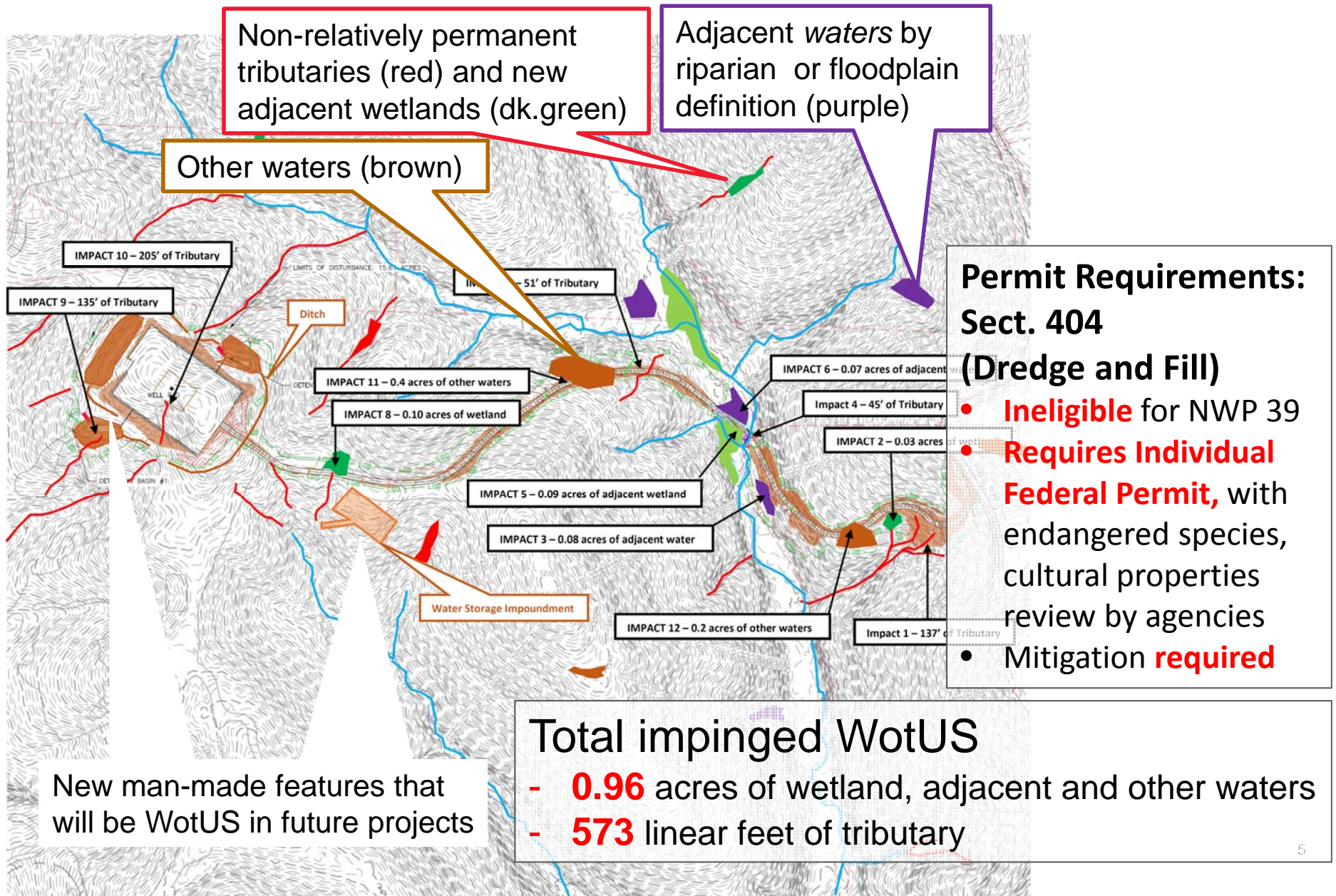
Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry



# 2008 Guidance. Actual non-arid wellpad/site.



# Proposed Rule. Actual non-arid wellpad/site



Non-relatively permanent tributaries (red) and new adjacent wetlands (dk.green)

Adjacent waters by riparian or floodplain definition (purple)

Other waters (brown)

**Permit Requirements: Sect. 404 (Dredge and Fill)**

- **Ineligible** for NWP 39
- **Requires Individual Federal Permit**, with endangered species, cultural properties review by agencies
- Mitigation **required**

New man-made features that will be WotUS in future projects

**Total impinged WotUS**

- **0.96** acres of wetland, adjacent and other waters
- **573** linear feet of tributary

**Figure 4-11 Well Site Comparison Between 2008 Guidance and Proposed Rule.**

A sample well site, analyzed for impacts to waters considered jurisdictional under the current regulatory practice (light blue are relatively permanent tributaries, green are adjacent wetlands), and including waters considered newly jurisdictional under the Proposed Rule (red are non-relatively permanent tributaries and dark green their associated adjacent wetlands, purple are adjacent waters under riparian or floodplain definitions, and brown are 'other' waters, under assumptions that establish a significant nexus to jurisdictional waters).

In the example above, as currently permitted, the project intersects 45 linear feet of relatively permanent tributary and less than a tenth of an acre of adjacent wetland – it is therefore eligible to be permitted in this State under Nationwide Permit 39 for oil and gas facilities. Pre-Construction Notice (PCN) is required in this case, which means the project developer must provide advance notice to the Agencies of the project and wait up to six weeks for their acknowledgement to proceed. No mitigation is required (i.e., no need to pay money into a fund to create or restore wetlands in some other location as compensation).

The situation changes dramatically under the Proposed Rule (see Fig.4-11). Including new classes of water increased the stream length (or acreage) of jurisdictional waters for this well site by over a factor of ten, pushing the project far beyond the threshold levels under Nationwide Permit 39. (See Figures 5-1 and 5-2 for example photographs of some of the actual features from this analysis that are projected to be jurisdictional and thus federally-protected under the Proposed Rule.)

This project now requires:

- An Individual Federal Permit (which has been estimated to take six months to two years and cost ten times more than a General Permit);<sup>54</sup>
- Mitigation;
- Detailed review material for approval in handling threatened and endangered species issues, including but not limited to:
  - Consultation with the U.S. Fish and Wildlife Service;

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<sup>54</sup> D. Sunding and D. Zilberman. 2000. *Analysis of the Army Corps of Engineers' NWP 26 Replacement Permit Proposal*. Prepared for the National Association of Counties and the Foundation for Environmental and Economic Progress. (January).





## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

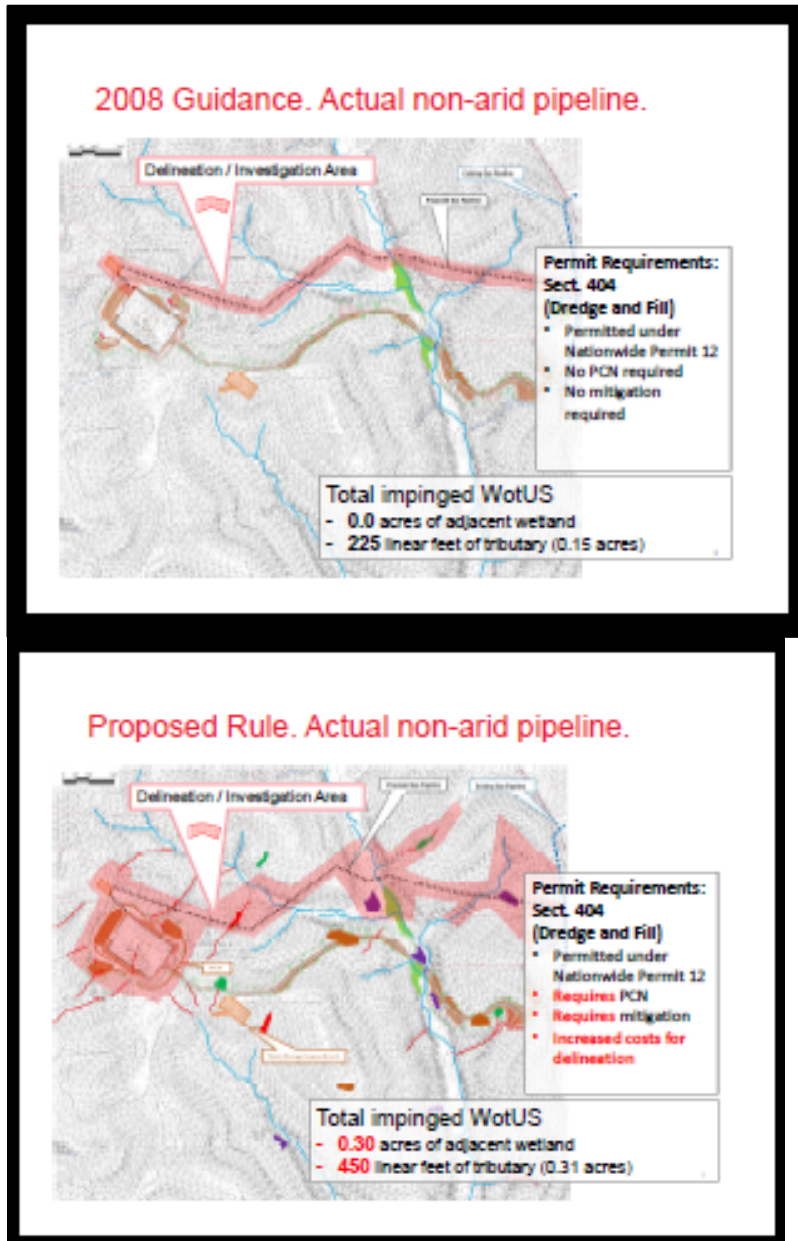
- Coordination with State Historical Preservation Office and tribes for protecting cultural resources; and
- A possible further Environmental Impact Assessment or Statement; and
- A potential public comment period.

Note that all these issues must be addressed to some extent under a General Permit as well, but the level of formal confirmation and documentation is significantly higher under the Individual Permit regime.

To maintain consistency with the simplified treatment of permits in the Agencies' Economic Analysis, this analysis considered only two types of permits: 1) programmatic general permits with pre-construction notice (including both Regional General Permits and Nationwide Permits), which are considered the minimum permit requiring Agency action; and 2) the more effort-intensive Individual Federal Permit.

However, regional differences in permit requirements can challenge this simplification. For example, East Texas has a Regional General Permit system, with heightened protection for certain local threatened and endangered species, which may approach Individual Federal Permits in terms of acquisition difficulty. This factor should be borne in mind when looking at the regional differences in permitting.

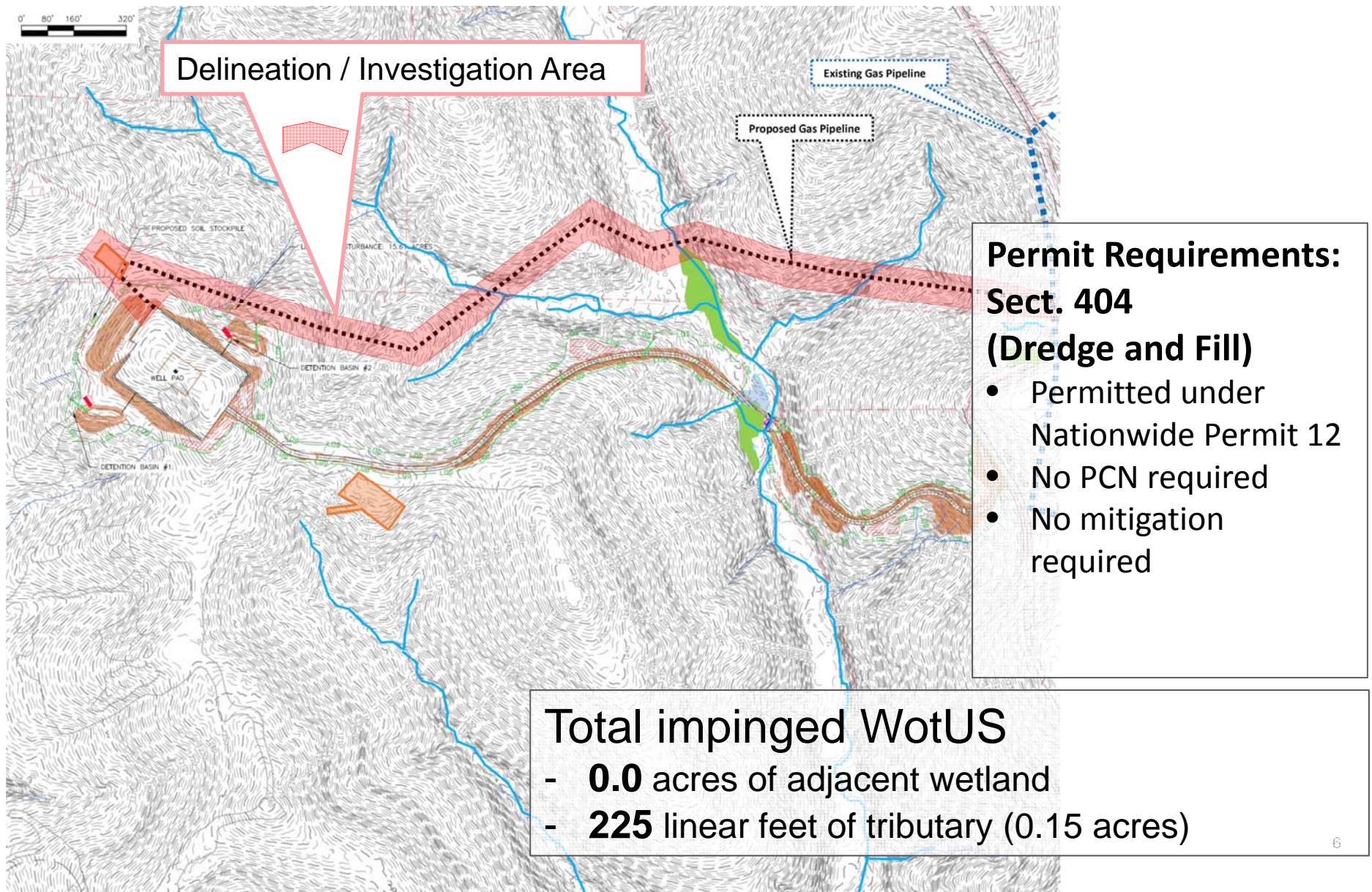
Transporting production is an essential part of oil and natural gas facilities. Figure 4-12 demonstrates a similar analysis conducted for a small buried pipeline, a class of oil and gas facilities known as "linear infrastructure," (and generally covered under a separate Nationwide Permit, #12). One impact that should not be overlooked here is the increase in costs for "delineation," which is the practice of having environmental specialists cover on foot the area surrounding a proposed disturbance area (for pipelines, generally twice the width of the proposed right-of-way) in order to identify all jurisdictional waters that may be impacted. It is no longer enough to simply find where the water starts in this area. The new tributary definition under the Proposed Rule includes man-made or natural breaks of any length. So a search will need go further up-gradient, beyond any potential breaks, looking for evidence of bed, bank and ordinary high-water marks. In connection with the new definition of adjacent waters in terms of floodplain and riparian areas, these too will need to be scouted for any isolated waters they may contain. Two different diagrams are shown together on the next page as Figure 4-11, then enhanced separately on the following pages.



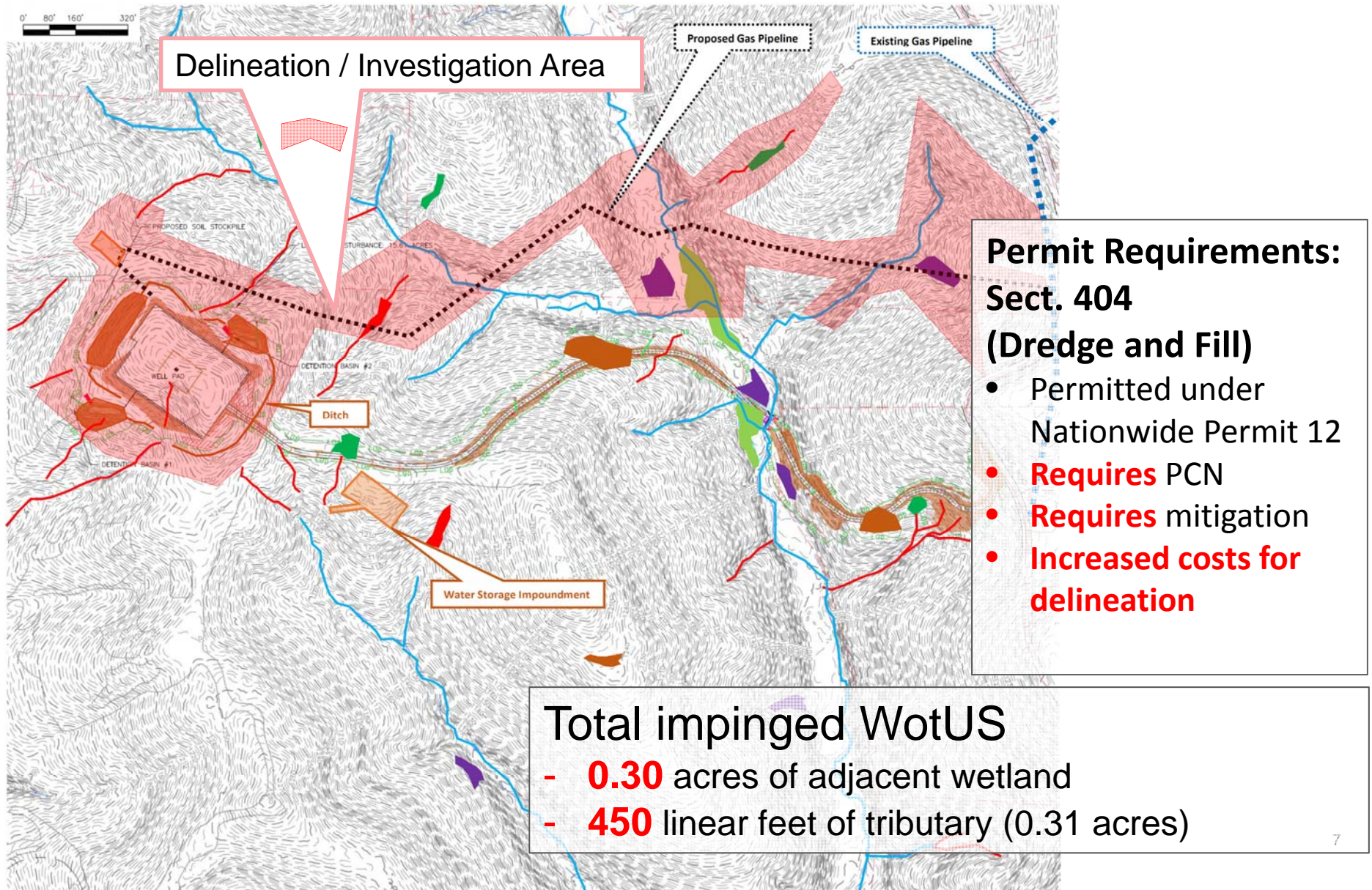
**Figure 4-12 Pipeline Site Comparison Between 2008 Guidance and Proposed Rule.**

A sample pipeline site, analyzed for impacts to waters considered jurisdictional under the current regulatory practice (light blue are relatively permanent tributaries, green are adjacent wetlands), and including waters considered newly jurisdictional under the Proposed Rule (red are non-relatively permanent tributaries and dark green their associated adjacent wetlands, purple are adjacent waters under riparian or floodplain definitions, and brown are 'other' waters, under assumptions that establish a significant nexus to jurisdictional waters). The pink area is the area of delineation, which in the 2008 case is approximately double the width of the proposed disturbance area. Experts must cover the delineation area on foot to identify all WOTUS.

# 2008 Guidance. Actual non-arid pipeline.



# Proposed Rule. Actual non-arid pipeline.





## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

Under the 2008 guidance, the pipeline shown above would impact relatively permanent tributaries at only three points and be eligible for a special Linear Infrastructure Nationwide Permit (#12). In some but not all regions, a pre-construction notice might be required.

However, under the Proposed Rule, the impinged jurisdictional waters double. In this case, the pipeline is still eligible for a Nationwide Permit; however, it does now require a Pre-Construction Notification (PCN).

The increased delineation area (pink) also represents a significant new cost of compliance, which does not appear to be fully reflected in the Economic Analysis.

Summing up these analyses for 247 such sites in two regions (East Texas and Appalachia), we learn that in both regions the number of sites containing newly-jurisdictional aquatic resources increases by roughly the same amount, between 40 and 60 percent. The change in Section 404 “Dredge and Fill” permitting for the oil and gas industry is shown in the following Table.

**Table 4-4 API Member Example Jurisdictional Change Between Current Guidance and Proposed Rule**

	Current Guidance	Proposed Rule
Percentage of all sites in Appalachia portfolio (100 sites total) requiring a 404 General permit or equivalent with Pre-Construction Notice (a minimum permit requiring Agency action)	6%	12%
Same, requiring a 404 Individual Permit	2%	5%
Percentage of all sites in E.Texas portfolio (147 sites total) requiring a 404 General permit or equivalent with Pre-Construction Notice (a minimum permit requiring Agency action)	19%	34%
Same, requiring a 404 Individual Permit	2%	3%

It may be concluded from this analysis that:

- The change in definition of jurisdictional waters under the Proposed Rule leads to a consistent increase in the number of jurisdictional aquatic features found within the well sites and an attendant increase in the amount (stream-feet or acres of wetlands) of total disturbance arising from impact to these newly-jurisdictional waters.
- The increase in disturbance leads to a consistent increase in permit requirements. The number of sites needing a 404 “General” permit with PCN will double or nearly double. Well sites now requiring the more time-intensive Individual Permit can more than double.

The API Regional Project Impact Analysis focused on upstream oil and gas projects for only one company in two regions (portions of four states) over recent periods of time in which activity has been high. In contrast, the Agencies’ analysis purports to cover all types of economic activity over 30 states, during a period of time which represented a historic low in economic activity.

Thus, although the sample sizes and level of detail are comparable, one should be careful about extrapolating the Regional Project Analysis impact study results to general economic activity. Conversely, the API Regional Project Impact Analysis is likely a more accurate representation of the potential regulatory impacts to energy industry activities that, like oil and gas exploration and production, are built and operated in remote areas, than the more general results of the Agencies’ study.

That said, some general conclusions may be drawn from the fact that the results of the API analysis differ sharply, qualitatively and quantitatively, from the Agencies’ analysis.

- API’s analysis casts doubt on the Agencies’ central assumption that little or no impact will arise from definitional changes to tributaries and adjacent waters.
- By contrast, API’s analysis found that the number of sites containing newly-jurisdictional aquatic resources increases by between 40 and 60 percent, consistently in both regions. **This is an order of magnitude higher than the 2.7 percent estimated by the Agencies.**
- API’s more detailed analysis of 404 permitting requirements found that the number of sites requiring increased permits nearly doubled or more than doubled. **This is**

**roughly two orders of magnitude higher than the 2.7 percent estimated by the Agencies.** This casts doubt on the Agencies' simplified approach of assuming the increase in permits is directly proportional to the increase in jurisdictional cases, and may be an artifact of the non-linear 'impact threshold' nature of 404 permit requirements.

To extrapolate the results of the API study for a single company's portfolio to the oil and gas industry as a whole, we multiply these portfolio percentages by the number of oil and gas wells drilled in the US each year (30-40,000, according to the Energy Information Administration of the US Department of Energy), assuming a conservative value for the number of multi-well sites. In a rough order-of-magnitude estimate, the number of Individual Permits per year could increase by a number in the mid-hundreds, concentrated in oil and gas regions. The increase in less time-intensive General permits will be in the mid-thousands.

For perspective, the Fort Worth district office of the Corps handles 500 cases a year, from all industries, with 6-8 key staff and one archaeologist. Other agencies (Fish and Wildlife Service, etc.) are similarly burdened. This simple comparison raises concerns that overworked field offices could begin to fall behind in permits, or require more resources on an unplanned basis, at a time when government budgets are uncertain or being cut back.

Delay is the most serious potential consequence arising from increased permitting – and one which **the Agencies have failed to consider in its cost-benefit analysis.** API's Regional Project Impact Analysis reports that Individual Permits already require 6 to 24 months processing time - which agrees well with the data point from a key study on permitting costs and time requirements, cited by the Agencies (788 days on average).<sup>55</sup> Any delay of months complicates scheduling of drill rigs and timing of operations. Considering that a typical drilling lease is three years, this magnitude of delay can easily put a well pad in jeopardy, entailing enormous impact on net present value and eventual resource recovery. It would be reasonable to expect a perceptible drop in U.S. oil and gas production, production revenues and job loss. Private land owners will also experience loss of royalty revenues. The federal government and state governments will also experience loss of tax revenues.

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<sup>55</sup> D. Sunding and D. Zilberman. 2000. *Analysis of the Army Corps of Engineers' NWP 26 Replacement Permit Proposal*. Prepared for the National Association of Counties and the Foundation for Environmental and Economic Progress. (January).



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

Table 4-5 contrasts the API Regional Project Impact Analysis with the analysis done by the Agencies in the Economic Analysis for the Proposed Rule.

**Table 4-5 Comparison of Agencies Economic Analysis and API Regional Project Impact Analyses (East Texas and Appalachia Sites)**

	The Agencies' Analysis	E.Texas Analysis (API)	Appalachia Analysis (API)
<b>Description of case analysis</b>	<ul style="list-style-type: none"> <li>262 sample "project files" from all sectors, over 30 states for which detailed data from a Jurisdictional Determination (JD), 404 permit, or wetlands delineation is available.</li> </ul>	<ul style="list-style-type: none"> <li>147 "project files" from representative oil and gas sites belonging to a company in an area covering two States, for which detailed data from a JD, 404 permit, or wetlands delineation is available.</li> <li>Excluded some ponds that would require IPs and so likely not be built.</li> </ul>	<ul style="list-style-type: none"> <li>100 "project files" for ALL oil and gas sites belonging to a company in an area covering two States, plus select sites of other companies in this area where comparably detailed data from a JD, 404 permit, or wetlands delineation is available.</li> </ul>
<b>Scope</b>	<ul style="list-style-type: none"> <li>By previous analysis, jurisdictional tributaries and wetlands had been shown to increase insignificantly.</li> <li>Therefore, the Agencies analyzed only the change in these project files for the 'other waters' category in impact areas (not identical to "Other Waters" defined in the Proposed Rule.)</li> </ul>	<ul style="list-style-type: none"> <li>Analyzed changes to all water categories per 2008 and Proposed Rule over entire parcels.</li> </ul>	<ul style="list-style-type: none"> <li>Same.</li> </ul>
<b>Age of project file data</b>	<ul style="list-style-type: none"> <li>4-6 years (June 2008-January 2011)</li> </ul>	<ul style="list-style-type: none"> <li>1-5 years</li> </ul>	<ul style="list-style-type: none"> <li>2 years</li> </ul>
<b>Analysis of permitting increase</b>	<ul style="list-style-type: none"> <li>Estimates over all sectors by assuming the increase is the same as the estimated percentage increase in jurisdictional cases (2.7%) and multiplying by the number of 404 permits (IP and GP) issued in FY2010.</li> <li>Note that 2010 was a historic low in permitting activity.</li> </ul>	<ul style="list-style-type: none"> <li>Compared impacts from newly jurisdictional waters in linear feet or acres to permit threshold conditions to estimate increase in number and type of permits needed for the specific 147 oil and gas sites in this portfolio.</li> <li>Roughly extrapolates this increase for the oil and gas industry as a whole using recent EIA data on total number of wells drilled each year.</li> </ul>	<ul style="list-style-type: none"> <li>Same, for 100 sites in this portfolio.</li> </ul>
<b>Analysis of permitting impacts</b>	<ul style="list-style-type: none"> <li>Ignores delay impacts and impact avoidance costs.</li> <li>Uses Sunding Zilberman (2000)<sup>56</sup> and in-house estimates to quantify increase permit application costs over all sectors for 2.7% increase.</li> <li>Estimates compensatory mitigation costs.</li> </ul>	<ul style="list-style-type: none"> <li>Roughly compares increased permits to agency processing capacity to argue that delays are likely.</li> <li>Qualitative discussion of severe delay impacts for oil and gas projects.</li> <li>Uses Sunding Zilberman (2000) estimates to describe increased permit application costs.</li> </ul>	<ul style="list-style-type: none"> <li>Same.</li> </ul>

[1] The Agencies' analysis looked at 141,965 "aquatic resources" recorded within impact areas in the Army Corps of Engineers 2009-2010 ORM2 database. This number would not include cases

<sup>56</sup> D. Sunding and D. Zilberman. 2000. *Analysis of the Army Corps of Engineers' NWP 26 Replacement Permit Proposal*. Prepared for the National Association of Counties and the Foundation for Environmental and Economic Progress. (January).





## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

in which the proponent chooses not to question jurisdiction, or does not realize jurisdiction is possible. It also excludes 18.4 percent of records that did not have any aquatic resource entered in ORM2. Of the remaining records, the Agencies claimed 67 percent are streams and 98 percent were jurisdictional; 27 percent are wetlands and 98.5 percent were jurisdictional; 6 percent are 'other waters' and none were jurisdictional. Increase of streams and wetlands to 100 percent jurisdictional was assumed, leading to this assumption of insignificant increase (98 percent and 98.5 percent to 100 percent). Thus the detailed analysis focused on 262 select cases to estimate an increase to 17 percent jurisdictional in the 'other waters' category (which differs in key regards from the Other Waters category in the Proposed Rule, e.g., increases due to "aggregation" were excluded.) Total increase in jurisdictional aquatic resource records was estimated at 2.7 percent.

### **4.3 A desktop study by another API member company in the mid-Continent demonstrated considerably increased infrastructure impacts under the Proposed Rule.**

Another API member company independently conducted a desktop study to evaluate potential WOTUS under the Proposed Rule using infrastructure intersections with 1) the high resolution National Hydrography Dataset ("NHD", 1:24,000 scale) representing what most District Corps offices currently use and 2) high-resolution Digital Elevation Models or Lidar (5m resolution) that identifies a greater number of ephemeral streams relative to the high-resolution NHD.

The first study concerned an area in the Mid-Continent with 379 miles of pipelines and 63 well pads. Under the 2008 Guidance, pipelines intersected with mapped streams from the NHD data set at 418 locations (applicable NWP's applied).

Under the Proposed Rule, pipelines would intersect Lidar-mapped features at 2,043 locations – nearly a 400 percent increase, and 5 times as much as under the 2008 Guidance; however, approximately 35 percent of the Lidar mapped features fell within cultivated fields and likely would not be jurisdictional under the new rule leaving 1,327 locations. Of those, 43 well pad site locations were within cultivated fields and likely non-jurisdictional. No mapped streams appeared to have been located within well pad site locations. In short, under the Proposed Rule as written, over 1284 sites would be jurisdictional – over three times as many as under the 2008 Guidance.

A second study in the Delaware Basin in the Southwest U.S. consisted of mapping three individual study areas consisting of 113 miles of pipelines and 222 well pad sites. Under the 2008 Guidance, pipelines intersected NHD dataset mapped streams at five locations that would likely be jurisdictional and fall within applicable NWP's.

The Proposed Rule would feature a considerable increase:



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

- Pipelines would intersect a high-resolution DEM mapped features at 312 locations;
  - Based on aerial photographs relying on vegetation indicators, etc., 226 of the high-resolution mapped crossings did not appear to meet the definition of a tributary and would likely not be jurisdictional under the new rule leaving 86 locations;
  - High-resolution features were depicted to encroach within or cross 79 well pad sites; however, based on aerial photographs, 54 of the features did not appear to meet the definition of a tributary and would likely not be jurisdictional under the new rule;
  - No mapped streams appears to have been located within well pad locations; and
  - No National Wetland Inventory wetlands were crossed by any pipelines or within the boundaries of pad sites.
  - In each of these two studies, the high-resolution imagery picked up very subtle changes in topography including vegetation patterns, topographic gradients and indications of channelization. Upon closer examination of the corresponding aerial photos and topographic maps looking both upstream and downstream of the channel crossings, the highly trained wetlands consultant eliminated many of the high-resolution mapped features if they did not exhibit any indications of being a tributary.
  - These two desktop studies indicate that, even under relatively conservative estimates, the Proposed Rule and its overly broad criteria for ephemeral streams would result in infrastructure intersecting with an increasing number of potential WOTUS, and likely requiring increased permits.
- 5. The Proposed Rule will cost the oil and natural gas industry at least several hundred million dollars annually and the costs could easily approach billions depending upon how the rule is implemented.**

The Proposed Rule will have a significant impact on the oil and natural gas industry.

**5.1 Every sector of the oil and natural gas industry will be affected by this Proposed Rule.**

Every sector of the oil and natural gas industry will be affected by the Proposed Rule, and the increased costs and schedule delays associated with the new regulatory requirements would impact both new capital projects and ongoing operations and maintenance projects for existing facilities. These impacts would not be limited to the oil and gas industry as they would extend across the U.S. national economy.

5.1.1 The Upstream sector may bear the most significant costs due to sheer volume of permitting accompanying each oil or natural gas well site, and the increasing amount of onshore development.

It is anticipated that the upstream sector of the oil and natural gas industry would experience the most significant effects. The upstream sector includes the exploration and production of crude oil and natural gas. In contrast to stationary facilities such as refineries, which may have been sited decades earlier near major waterways and have had many years to conduct detailed environmental studies around them, upstream work is often conducted in remote headwater areas or arid regions, and on shorter timelines. The work generally entails the drilling of exploratory wells, as well as subsequently drilling and operating the wells that bring the crude oil and/or natural gas to the surface. Upstream activities include the design and construction of exploratory and production areas – including access roads, well pads, pipelines, and temporary storage areas. In addition to direct impacts such as cost increases and schedule delays associated with project permitting, indirect impacts include more difficult access and production design over time as production areas develop. While the avoidance of jurisdictional areas initially may be practical, the increased density of development through time coupled with the increased extent of jurisdictional waters will result in increasingly difficult scenarios for avoidance of WOTUS. Alternative surface right acquisitions or other cooperative land use agreements may be required to avoid impacts to jurisdictional areas.

The direct cost impact is expected to be hundreds of millions of dollars and the indirect costs associated with lost production, lost jobs, and lost land/lease value, from permitting delays and litigation are expected to reach billions of dollars affecting major elements of the U.S. economy.

5.1.2 The Proposed Rule will also increase costs for midstream and downstream infrastructure and facilities.

Portions of the midstream sector will also be significantly affected by the Proposed Rule. Midstream activities involve transportation, storage, and wholesale marketing of crude oil. In particular, pipeline construction for distribution would be impacted by the increased jurisdictional area under the Proposed Rule, resulting in permit delays and/or possible nullification of the utility of nationwide permits for pipeline construction. Individual permit costs for pipelines would be extraordinarily high. Midstream facilities may also be significantly impacted economically if man-made ditches and surface impoundments used at their plant sites are determined to be WOTUS. Future plans for expansion, maintenance, or site remediation may be restricted due to application of jurisdiction over artificial impoundments, ditches, and canals.

The downstream sector involves the refining of crude oil and the processing of natural gas, as well as marketing and distribution of finished products such as gasoline and diesel. These facilities would be affected by the need for increased SPCC plans and associated facility changes to address containment structure construction and maintenance, as well as uncertainty concerning the extent and constraints of the Proposed Rule's exemptions for ponds and lagoons. If the Agencies classify man-made ditches and impoundments used at refineries and chemical plants as WOTUS (which is currently unclear because of ambiguities in the defined exclusions), then such facilities could incur significant capital and operating costs and/or lose the utility of units such as ponds and lagoons owing to the necessity of meeting ambient water quality standards within them. The continued exemption of waste treatment and wastewater facilities is critical to minimizing the impact of the Proposed Rule to both downstream facilities and oil and gas sector as a whole.

**5.2 The costs of the Proposed Rule to the oil and natural gas industry will be magnified due to recently increased growth in production and infrastructure.**

The Proposed Rule underestimates economic impacts to the oil and natural gas industry by relying on permitting data from a time predating significant growth in U.S. onshore energy production and associated infrastructure as well as data collected during the recession.

5.2.1 Current U.S. onshore production data indicates far greater impacts to the oil and natural gas industry than estimated by the Agencies due to the recent dramatic growth in domestic onshore development.

The time period from fiscal year 2009 to 2010 selected by the Agencies for analysis leads to dramatic underestimates of the impact of the Proposed Rule on the oil and natural gas industry. From 2008 to 2012, unconventional resource development allowed the U.S. to add nearly 1.2 million barrels per day in crude oil production capacity.<sup>57</sup> Similarly, since 2008, the U.S. has added over 50,000 barrels of oil equivalent (boe) per day of natural gas liquids (NGL) production.<sup>58</sup> By 2012, the U.S. was the world's second largest oil producer and the largest producer of natural gas, producing a total of 24.1 trillion cubic feet of dry natural gas.<sup>59</sup> The U.S. is projected to overtake Saudi Arabia as the world's largest oil producer around 2020.<sup>60</sup> The cost impact should be re-estimated to rely on more representative values that reflect current production.

5.2.2 Infrastructure investments accompanying the additional growth in domestic energy production will also require additional permits that were not considered by the Agencies' economic estimates.

To manage this growth, between 2010 and 2013, Information Handling Services, Incorporated (IHS) estimates that the capital spending in oil and natural gas midstream and downstream infrastructure has increased by 60 percent, from \$56.3 billion in 2010 to \$89.6 billion in 2013.<sup>61</sup> As IHS noted, "Many of the major oil and gas infrastructure investments made for the past 30 years have been premised under the assumption of decreasing domestic production, increasing energy imports, and the need to move imported energy from coastal receiving ports to inland demand centers. A large portion of the projects developed during this sustained infrastructure investment from coastal receiving ports to inland demand centers. A large portion of the projects being developed during this sustained infrastructure investment period will shift the U.S.

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<sup>57</sup> Energy Information Administration (EIA) – Monthly Energy Review available at [https://www.eia.gov/totalenergy/data/monthly/pdf/sec3\\_3.pdf](https://www.eia.gov/totalenergy/data/monthly/pdf/sec3_3.pdf)

<sup>58</sup> EIA - Monthly Energy Review available at [https://www.eia.gov/totalenergy/data/monthly/pdf/sec3\\_3.pdf](https://www.eia.gov/totalenergy/data/monthly/pdf/sec3_3.pdf)

<sup>59</sup> EIA - Monthly Energy Review available at [https://www.eia.gov/totalenergy/data/monthly/pdf/sec3\\_3.pdf](https://www.eia.gov/totalenergy/data/monthly/pdf/sec3_3.pdf)

<sup>60</sup> International Energy Agency (IEA), November 2013.

<sup>61</sup> IHS, "Oil and Natural Gas Transportation & Storage Infrastructure: Status, Trends, & Economic Benefits," 2013.

toward being energy trade balanced and add key infrastructure segments that will enable growing energy production in the Midcontinent region to reach demand centers on the US Gulf Coast and Eastern Seaboard.”<sup>62</sup>

IHS estimates that \$85 – 90 billion of direct capital will be allocated toward oil and natural gas infrastructure in 2014, and that by 2025, cumulative spending could range from \$890 billion in the base case to \$1.15 trillion in the high production case.<sup>63</sup> It should be noted that the base case does not assume restrictive development policies that enhance uncertainty. Permitting according to the Proposed Rule on Waters of the U.S. could jeopardize these developments by creating the delays and uncertainties that discourage investors.

**5.3 The Proposed Rule effectively will further restrict access to state and private lands essential for growth in domestic onshore U.S. energy production, and may even further restrict offshore production.**

Oil and natural gas development on state and private lands has been essential to offsetting decreased development on federal lands. Between fiscal year 2009 and 2012, U.S. oil production increased 19 percent overall, with a 6 percent decrease in federal oil production offset by a 31 percent increase in production on state and private lands.<sup>64</sup> U.S. natural gas production increased 13 percent overall, with a 21 percent decrease in federal natural gas production offset by a 25 percent increase in production on state and private lands.<sup>65</sup> In fact, 100 percent of the increase in U.S. oil production between 2007 and 2011 has occurred on non-federal lands.<sup>66</sup>

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<sup>62</sup> IHS, “Oil and Natural Gas Transportation & Storage Infrastructure: Status, Trends, & Economic Benefits,” 2013, p. 3.

<sup>63</sup> IHS, “Oil and Natural Gas Transportation & Storage Infrastructure: Status, Trends, & Economic Benefits,” 2013.

<sup>64</sup> See <http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/20130228CRSreport.pdf>

<sup>65</sup> See <http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/20130228CRSreport.pdf>

<sup>66</sup> See <http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/20130228CRSreport.pdf>



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

Onshore production is especially important considering that, offshore, over 87 percent of federal acreage remains effectively off limits to oil and natural gas development. The Proposed Rule has the potential to further increase that number because the redefinition of WOTUS could extend the reach of the Coastal Zone Management Act (CZMA) inland.

The CZMA provides for the management of the nation's coastal resources, including the Great Lakes. The CZMA is intended to balance competing land and water issues through state and territorial coastal management programs and was passed to encourage coastal states to develop and implement coastal zone management plans. Consistency determinations are required for issuance of CWA permits in coastal zones and include requirements that the activities being permitted under the CWA also demonstrate compliance with applicable state laws. These include state environmental protection acts, state endangered species acts, state air protection policies, and many others. The cost assessment for CWA permits in coastal states should be separately assessed to ensure that the costs of compliance with the CZMA are fully represented in the Agencies' cost impact analysis. For instance Coastal development Permits in California can cost between approximately \$50,000 and \$200,000 to obtain, and are costs in addition to the costs associated with the necessary Section 404 and 401 permits.

### **5.4 The Proposed Rule will increase the costs of assessing and complying with virtually every type of permit available under the Clean Water Act and associated regulations that rely on the CWA definition of WOTUS.**

It has been argued in Section 3 that the PEA severely underestimates the regulatory costs associated with the Proposed Rule, if finalized in its current form. In this section we will identify and qualitatively describe multiple areas of these increased costs for the oil and natural gas industry, and will adduce a detailed permitting cost breakdown for Section 404 dredge and fill permits that we believe better represents the regulatory costs likely to be borne by project proponents for that one type of permit under the Proposed Rule's regime. .

5.4.1 The site selection process will become more time-consuming and expensive – regardless of whether or not a permit is ultimately necessary.

As the scope of jurisdictional features expands under the Proposed Rule, oil and natural gas operations will need to commit more time and money to identifying those features. This process will also become more technologically difficult, since many dry

land features may be deemed jurisdictional waters under the Proposed Rule. This cost will be particularly pronounced in the upstream segment, because well sites are carefully selected based on factors which often include a desire to avoid potential impacts to WOTUS. Continuing to avoid WOTUS under the Proposed Rule will require expert guidance for both primary and secondary screening – costing additional money and time. It can also be expected to impact gathering lines, as well as midstream and downstream activities such as refining. Impacts will be especially pronounced in the arid west, where longer desk reviews and more actual field surveys will be necessary to assess jurisdictional features such as ephemeral and non-perennial streams that may change over time.

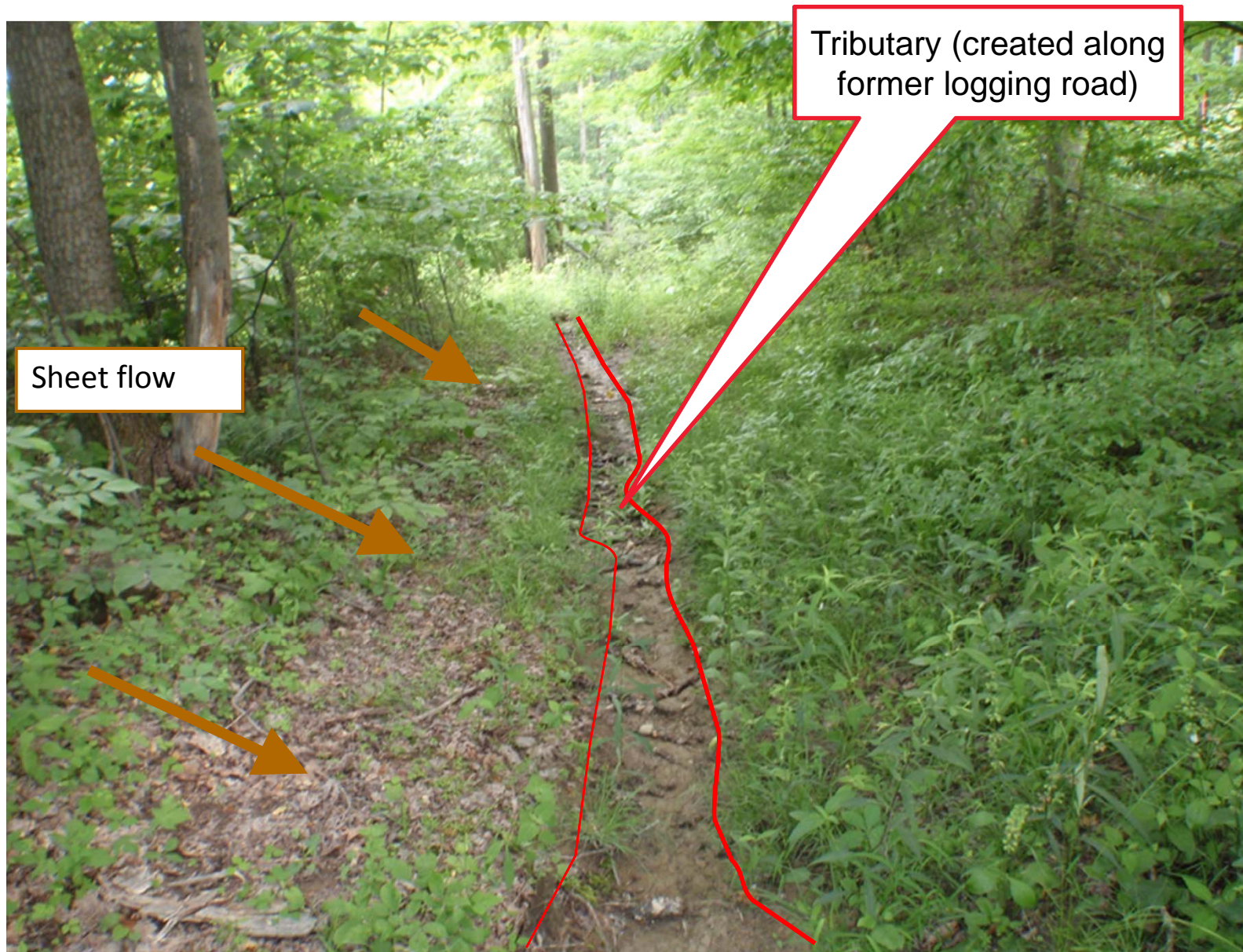
To illustrate the complexity, Figures 5-1 to 5-4 show examples of features that would likely be jurisdictional under the Proposed Rule as currently written.

Descriptions of the figures are as follows:

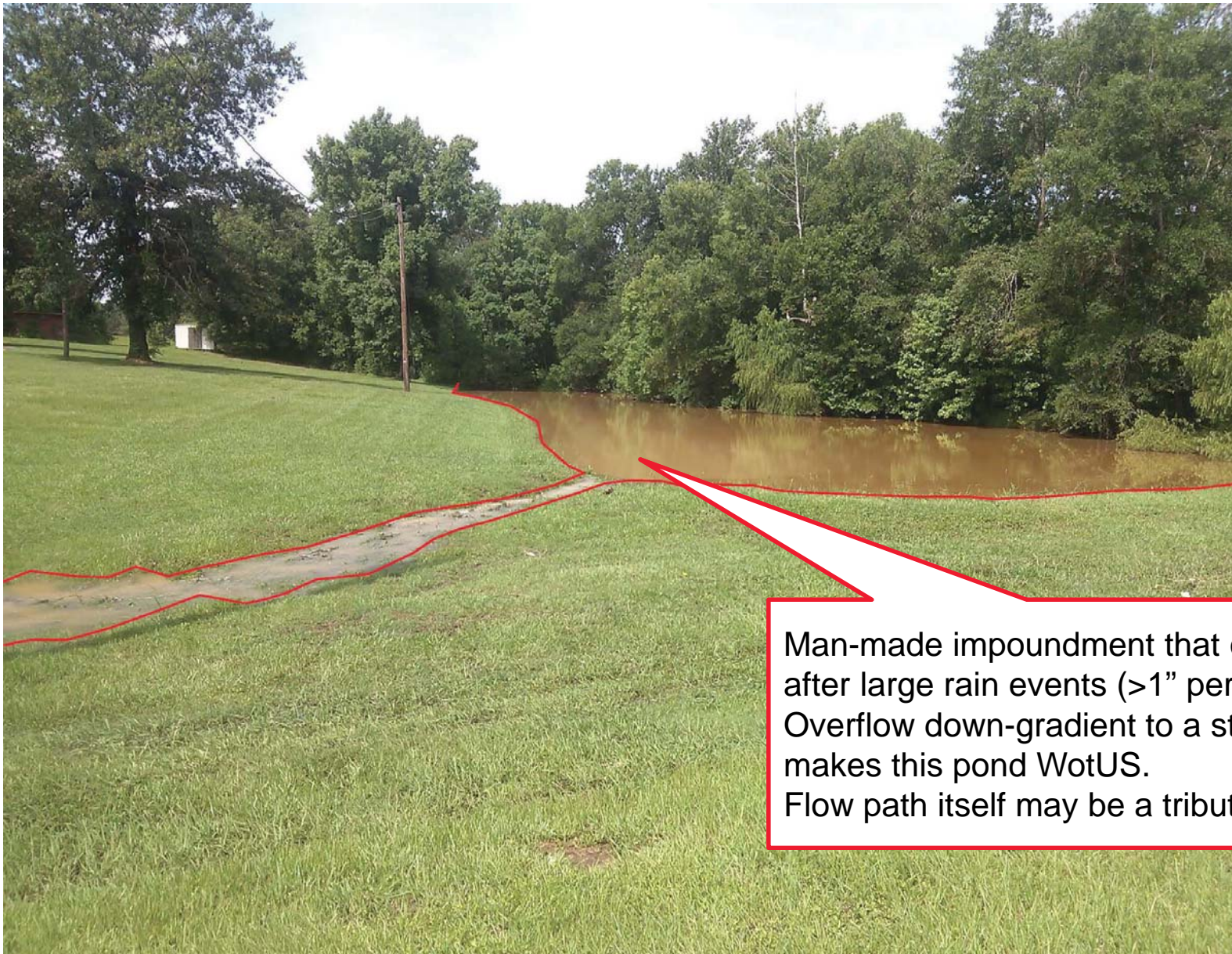
- **Figure 5-1 Old Logging Road Potentially Jurisdictional.** The old logging road in this picture was categorized by Agency field personnel in a jurisdictional determination as a non-relatively permanent tributary with bed, bank, and high water mark, but one which failed the test for a significant nexus due to minimal sheet flows into its channel, and so was considered non-jurisdictional under current guidance. Under the Proposed Rule, which defines *per se* any feature with bed, bank and ordinary high water mark as a tributary without regard to frequency, this would be a Federally-protected jurisdictional water.
- **Figure 5-2 Path Possibly a Tributary.** Another example from a recent jurisdictional determination. Under current guidance, the overtopping of this pond due to heavy rain and flow to down-gradient waters was insufficiently frequent to classify the flow as a tributary. Under the Proposed Rule, however, frequency no longer matters. The flow path may be a tributary, and if so, would make the otherwise isolated pond itself jurisdictional.
- **Figure 5-3 Arroyo Potentially Jurisdictional.** The arroyo would be jurisdictional (a Federally-protected “Water of the U.S.”), even though it flows about 10 days a year. This location is roughly 130 miles from the nearest Traditional Navigable Water.
- **Figure 5-4 Combining Jurisdictional and Non-Jurisdictional Ditches.** The yellow ditch is likely not jurisdictional as it drains only uplands and has only intermittent flow, qualifying it for one of two exclusions for ditches. However, just downstream, the red ditch is likely jurisdictional, due to the fact the road cut has intersected shallow groundwater that keeps the ditch full (perennial flow). The flow from the red ditch passes through an erosional feature (nominally non-jurisdictional) as it is re-absorbed into the arid soil. It is not clear from the Proposed Rule ditch exclusions under what conditions or connections the red ditch (downstream) might impact the jurisdictional status of the yellow ditch (upstream), nor how perennial flow at the inlet to the erosional feature might affect its excluded status. If the red ditch is WOTUS, it may require permits for any subsequent work, such as ditch cleanout and road maintenance.



# Proposed Rule. Tributary.



# Proposed Rule. Tributary and Impoundment.



Man-made impoundment that overflows after large rain events (>1" per hour). Overflow down-gradient to a stream makes this pond WotUS. Flow path itself may be a tributary

# Proposed Rule: Tributary



# Proposed Rule. Tributary / Ditch



5.4.2 Permitting will become more time-consuming and expensive due to both increased jurisdictional features and their lack of clarity.

As the number of jurisdictional features increase, so increases the probability that any given project will impact one or another jurisdictional feature, thus increasing its nominal 'impact' as defined under the Proposed Rule and thus the need for additional permits (particularly Section 404 permits for well sites). Nationwide Permits (including NWP 12 for linear transportation projects like roads and well pads) will continue to offer efficiencies over individual permits. However, as shown in the Section 4, the Proposed Rule will likely require operators to obtain many more permits than before. Projects that earlier qualified for a general permit may now require an individual permit; those that did not require a permit at all may now have to apply for prior construction notice under a general permit program. This gradual shifting in permit structure means an overall increase in time spent seeking permits, as well as costs for desktop and field work for site reviews, preparation of documentation, compensatory mitigation and other costs, as detailed in this document. The impacts are likely to be greater—and less predictable—for upstream exploration and production activities in remote areas far from traditional navigable waters.

This is true not only of federal dredge-and-fill (CWA §404) permits. Since a greater proportion of conveyances and wetlands are drawn into the Proposed Rule, the scope and number of, National Pollutant Discharge Elimination System (CWA §402) and other requirements and restrictions under water quality standards and total maximum daily load programs (CWA §303) could also increase significantly.

5.4.3 Mitigation requirements will increase due to increased jurisdictional features.

An increase in jurisdictional wetlands will also require an increase in compensatory mitigation for wetland impacts pursuant to a general permit or individual permit. Particularly for resource-dependent facilities such as upstream oil and gas operations that must be located over the target oil zone, the opportunity to avoid WOTUS is limited. The increased area of WOTUS will further restrict design and access opportunities and mitigation will be required where impacts are unavoidable. These costs are described in Section 3.1.2.2.

5.4.4 Costs for the Spill Prevention, Control, and Countermeasure Rule will increase – possibly without providing any additional environmental protection.

Under Section 311 of the Clean Water Act and EPA regulations, non-transportation-related petroleum storage facilities are subject to spill prevention requirements if the facility exceeds minimal storage thresholds and there is a reasonable expectation that a spill could reach a jurisdictional water under the CWA. With more geographic features being deemed jurisdictional waters, the number of facilities subject to SPCC requirements will increase – particularly in the arid west. Facilities on lands draining to basins previously considered closed now may require cost-prohibitive significant nexus evaluations to determine whether they are jurisdictional, and receiving water bodies may be extended significantly by the inclusion of tenuous ephemeral streams.

5.4.5 Impoundment costs will increase.

The Proposed Rule would include all impoundments of a traditional navigable water, interstate water, the territorial seas or a tributary as WOTUS. The addition of tributaries upstream of irrigation diversion, dams, reservoirs and other impoundments as WOTUS will create additional jurisdictional areas that previously did not exist, particularly in western states where water is redistributed from its source watershed across vast upland areas to support farming and other activities. These newly created WOTUS are expected to occur in oil and gas producing areas such as California's central valley where significant oil and gas production occurs in close proximity to intense agricultural production.

5.4.6 Expanded remediation considerations are also likely to yield increased expenditures.

A significantly expanded WOTUS definition would result in a greater number of features requiring more stringent remediation and restoration. If remediation is required in an area supporting a jurisdictional water that previously would not have been considered jurisdictional, the regulatory requirements would increase significantly, though the change in the regulatory status of the feature would not be expected to change the cleanup goals. As such, the increase in regulatory oversight would increase the cost and time required to complete the remediation without providing any significant additional benefit to the environment.

5.4.7 Lack of clarity in jurisdictional features will increase the risk of permit denials, effectively increasing costs for appeals and potentially deterring investors.

The regulated community requires clear measurable parameters that define regulated resources to facilitate effective project planning and to make decisions regarding resource avoidance and costs for permitting and mitigation of impacts. If the required data are not well defined and the jurisdictional determination for these features is left to the Corps to be determined on a case-by-case basis using criteria that are not quantifiable or that are yet to be established, the regulated public is unable to effectively plan proactively to protect WOTUS through project design measures. The more subtle landscape features swept into jurisdiction (categorically and without appeal) by the Proposed Rule are characterized by, e.g., elevation differences of inches and determinations of flow based on leaf litter, making them impossible to define under a desk review or Lidar study. “Boots on the ground” are necessary (and even that may not be sufficient to spot all features). Moreover, it is difficult to properly evaluate project alternatives when significant time and effort must be expended to determine jurisdiction and when the findings are uncertain due to poorly defined criteria. This increases direct and indirect costs for the regulated community, reduces protection of WOTUS by precluding effective advanced avoidance planning, and is likely to result in more frequent appeals and repetitive assessments and design changes. It is difficult for the regulated community to work within this realm of uncertainty regarding jurisdiction and to be subject to extended schedules due to delays in obtaining jurisdictional decisions and permits. This may dissuade capital investment or result in other lost opportunity costs.

As previously stated, more definitive measurable criteria to determine jurisdiction are necessary to allow the regulated community evaluate potential resource impacts in a more accurate and timely manner and would allow for more proactive resource protection during the project design phase. The Agencies need to develop these criteria and better define the data requirements to document these criteria, to enable the regulated community to assess jurisdiction during project planning.

5.4.8 Increased enforcement risks resulting from the lack of clarity in jurisdictional features will increase costs for contesting or settling enforcement actions and may potentially deter investors.

As more geographic features are deemed to be jurisdictional, there is an increased risk of enforcement actions by EPA and an increased risk of third-party citizen suit challenges by environmental groups. Two recent examples of settlements between



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

operators and the EPA highlight this risk. For example, the subsidiary of one operator recently agreed to pay a \$3.2 million civil penalty and pay an additional \$6.5 million in compensatory mitigation costs for filling geographic features without a permit at natural gas drilling sites in West Virginia that EPA claimed were jurisdictional streams and wetlands.<sup>67</sup> Another operator agreed to pay a \$110,000 civil penalty as well as to abandon three natural gas wells that had been drilled in dry land near the Green River in Colorado. EPA *thereafter* determined that the land was in the within the floodplain of the Green River, and therefore alleged that the operator should have obtained a Section 404 permit *before* constructing the roads and the well pads.<sup>68</sup> The potential for retroactive changes in jurisdictional status like this raises the specter that large numbers of projects across the U.S., fully permitted in good faith by conscientious project proponents, could with the stroke of a pen be placed in jeopardy of enforcement action or civil suit. This may have a chilling effect not only on new investment projects, but may also raise unforeseen risks on projects already under construction or in operation.

5.4.9 Other costs including maintaining created WOTUS, conflicts between state and federal regulations, and grandfathering should also be considered.

Under the Proposed Rule, developers may build dikes, impoundments, drainage or other water-control features, that may subsequently (after the completion of the initial construction project) be classified as WOTUS that need to be protected. This in turn may increase the permit requirements and complexity of post-construction activities, such as maintenance, expansion, or decommissioning and remediation. In effect, this “created WOTUS can effectively “paint developers into a corner.”

Additionally, development could foreseeably be impacted by potential conflicts between State and Federal regulation. For example, the need to obtain Section 404 permits may delay ditch maintenance, decommissioning and restoration work required (on a certain schedule) by State permits.

Finally, the Proposed Rule as currently written contains no “grandfathering” or “grace period.” Under the Proposed Rule, all current jurisdictional determinations would become invalid the moment the Proposed Rule goes into effect. These could substantially effect existing and planned operations.

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<sup>67</sup> See <http://www2.epa.gov/enforcement/chesapeake-appalachia-llc-clean-water-settlement>

<sup>68</sup> See <http://www2.epa.gov/enforcement/gasco-energy-inc-clean-water-act-settlement>.





## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

### 5.5 Permitting Cost Breakdown

As discussed in Section 4, additional costs for any sort of new construction – be it roads, wells, pads, pipelines, tanks, facilities, crossings, discharges, intakes, flood control, etc. – are expected to be significantly higher than the estimates in the Economic Analysis for the Proposed Rule.

The original Economic Analysis for the Proposed Rule is largely constrained to Section 404 permitting and mitigation costs; consequently, it fails to recognize the myriad of related costs necessary to support that permitting. For example, biological surveys, Endangered Species Act (ESA) Section 7 documentation preparation, cultural resource studies, Section 106 review, and state permitting fees for Section 401 Water Quality Certification add significant cost to Section 404 permitting.

Similarly, the habitat restoration costs appear to have excluded a number of required elements associated with high quality mitigation including the cost and time required to 1) identify and assess potential mitigation sites, 2) prepare site specific restoration plans, and 3) conduct long-term maintenance, monitoring, and reporting. The Agencies' identified costs appear to be primarily based on installation costs with minimal maintenance, monitoring and reporting. Maintenance, monitoring, and reporting costs are all significant. In fact, a lack of maintenance is widely recognized as the primary cause of failed mitigation restoration.

The discussion below provides typical costs for a reasonable cost scenario to acquire and comply with a Section 404 permit where both listed species and cultural resources issues are involved and where mitigation requires a site-specific restoration plan.



**Quantifying Cost Impacts**

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

**Table 5-1 One-Acre Site Section 404 Permit Compliance Costs Under Proposed Rule**

Item	Cost
<b>Section 404 Wetland Delineation and Technical Report</b> <ul style="list-style-type: none"> <li>• Delineation</li> <li>• Significant Nexus Assessment</li> <li>• Biological Survey (botanical and wildlife)</li> <li>• Functional Assessment</li> </ul>	\$35,000
<b>Section 404 Wetland Mitigation Plan</b>	\$15,000
<b>Section 404 Section 7 – Endangered Species Act Compliance</b> <ul style="list-style-type: none"> <li>• Biological Assessment Preparation</li> <li>• Agency Interaction</li> </ul>	\$50,000
<b>Section 106 – Historic Resources Assessment</b> <ul style="list-style-type: none"> <li>• Cultural resources &amp; survey report</li> <li>• Agency interaction</li> </ul>	\$25,000
<b>Section 404 Permitting (Individual Permit)</b> <ul style="list-style-type: none"> <li>• Application preparation</li> <li>• Agency interaction</li> <li>• Public Hearing Support</li> </ul>	\$115,000
<b>Section 401 – Water Quality Certification</b> <ul style="list-style-type: none"> <li>• Application preparation</li> <li>• Agency interaction</li> <li>• Permit fees</li> </ul>	\$15,000
<b>Wetland Mitigation – Per Acre Cost – Reasonable case including 5 years of maintenance, monitoring, and reporting</b> <ul style="list-style-type: none"> <li>• Site selection (not including land acquisition costs)</li> <li>• Plant materials (cuttings, seeds, container plants)</li> <li>• Irrigation (restoring ephemeral systems will require irrigation to gets plants established)</li> <li>• Maintenance (3 years) – weed abatement</li> <li>• Monitoring (5 years)</li> <li>• Reporting (5 years)</li> </ul>	\$150,000
<b>TOTAL Project Cost with One Acre of Restoration:</b>	<b>\$405,000</b>

**6. Even a conservative estimate of financial and temporal costs associated with the Proposed Rule indicate over \$8 billion in GDP impacts to the U.S. economy.**

For the oil and natural gas industry, one of the most significant impacts is delay and these costs are entirely omitted from the Agencies’ economic analysis.

Sunding and Zilberman state that the average time to prepare and obtain a general permit is 313 days, and an individual permit 788 days or a little over two years.<sup>69</sup> For optimum rig scheduling and minimal imposition on the local community, it is desirable that all wellpads in an oil and gas field development project be drilled in sequence at about the same time. From the values above it is clear that will not be possible for wellpads requiring additional permits. In addition to the costs due to time-value of idle investment and inefficiencies in scheduling of operations, it should be noted that typical lease terms from the owners of mineral rights are on the order of three years. Individual permits, therefore, may have the practical effect of rendering a wellpad undevelopable, with concomitant reduction in total production, and foregone revenue for the landowner.

At a cumulative level, these potential delays will cost significantly in terms of reductions in the investment of drilling of oil and gas wells, domestic US oil and natural gas production, employment, gross domestic product and government revenues; especially in the initial phases of the rules implementation.

This document adduces detailed permitting analysis by API member companies, indicating that the proposed rule could *more than double* the number of general and individual permits required for oil and gas field developments, far more than the Agencies' estimate of a 2.7 percent increase (equivalent to their estimate of increased jurisdiction). However, for the sake of argument, let us provisionally accept the Agencies' low estimate; the opportunity costs of delay are conservatively estimated to run into the billions of dollars, an order of magnitude higher than the Agencies' upper-bound estimate of all other costs combined. (This fact may explain why costs of delay were conveniently excluded from the cost-benefit analysis supporting this rulemaking.)

To estimate the opportunity cost of the initial year of implementation, this calculation assumes that 2.7 percent of potential onshore wells will not be drilled that otherwise would have, due to permitting delay. The Agencies' cost benefit study estimates 1327 additional general permits (average delay 313 days) and 75 additional Individual permits (average delay 788 days) will be required, by multiplying the actual number of such permits issued in 2010 by the 2.7 percent increase. Using this same proportion, 94.7 percent of these wells would be delayed for nearly a year, and only about 5.3 percent will be delayed for over two years. Since this calculation looks at only the first year, 100 percent delayed for one year is reasonable conservative approximation. Note that the evaluation provided below is a high level assessment of potential impacts that were ignored in the Agencies' analysis. Nevertheless, it shows that there are significant impacts that need to be considered in order to provide a meaningful cost-benefit analysis.

The number of wells delayed is estimated to be 1,215 wells assuming number of wells in the future will be similar to the 44,992 wells drilled in 2013.<sup>70</sup>

<sup>69</sup> Sunding and Zilberman, 2002. The Economics of Environmental Regulation by Licensing: An Assessment of Recent Changes to the Wetland Permitting Process, 42 Natural Resources Journal 59, pp 74-76.

<sup>70</sup> American Petroleum Institute, "Quarterly Well Completion Report", October 2014.



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

The average cost of a well will be \$5 million per well, assuming 2013 average well costs. This is investment not spent due to permitting delays.<sup>71</sup> The drilling and other related expenditures not spent equal \$6.1 billion.<sup>72</sup>

Total employment not supported due to drilling delays is estimated at 67,200 jobs. This number is estimated using the IMPLAN modeling system based on \$6.1 billion not spent and includes direct, indirect and induced employment in the economy.<sup>73</sup> Total loss of labor income is estimated at \$4.5 billion based on IMPLAN modeling.

Total Gross Domestic Product loss throughout the economy is estimated to be \$8.0 billion based on IMPLAN modeling.

In addition, there are production impacts that need to be included in the assessment. Average production lost for the first year of rule implementation is estimated to be 229,000 barrels per day of oil and 1.37 Billion cubic feet per day of natural gas. This is based on EIA initial production estimates and typical 2013 decline curves.<sup>74</sup> The first year value of production lost is estimated to be \$9.9 billion based on projected 2015 commodity prices.<sup>75</sup>

Based on historical relationships between revenue and taxes, total government revenue loss is estimated at \$415,000,000 in corporate federal Income taxes<sup>76</sup> (10) and \$534,000,000 in production taxes; mostly state severance taxes. Lost personal income taxes based on IMPLAN modeling is estimated at 307,000 (11).<sup>77</sup> These identified government revenue losses total approximately \$1.3 billion; however, they exclude such items as local and state property taxes, state corporate income tax, and

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<sup>71</sup> Xu, Conglin, "E&P Spending to Rebound in North America", Oil & Gas Journal, March 3, 2014. Table 1. \$229 billion spent for Drilling Exploration in 2013 / 44,992 wells drilled in 2013 equals \$5.0 million per well.

<sup>72</sup> \$5.0 million per well times 1,213 wells

<sup>73</sup> Employment, GDP, and Labor Income impacts per well were estimated using the IMPLAN 3 database version 3.1001.12 assuming \$5 million investment per well - \$2.5 million Drilling oil and gas wells. \$2.5 million Support activities for oil and gas operations.

<sup>74</sup> Energy Information Administration, "Drilling Productivity Report", October 14, 2014. Based on first month average production for the most active basins in the U.S. and Drilling Info, DI Desktop database (formally HPDI). Decline curves and average first year production is based on 22,422 wells with initial production between October 1, 2012 and August 2013 with 13 months of reported historical production data.

<sup>75</sup> Energy Information Administration, "Short-term Energy Outlook", October 7, 2014. Estimated commodity prices for 2015.

<sup>76</sup> Energy Information Administration, "Performance Profiles of Major Energy Producers 2009", Table T-5 February 25, 2011. Relationship of revenue from sales in the Production segment to income tax expense.

<sup>77</sup> Energy Information Administration, "Performance Profiles of Major Energy Producers 2009", Table T-13 February 25, 2011.

labor taxes such as Social Security and Medicare. The government revenue also does not include any royalties if future development takes place on federal or state owned land.

While it may be argued that a certain amount of substitution will take place (other wells not requiring permits will be drilled in the first year, instead of the delayed wells), this substitution is constrained by the availability and quality of the oil and gas in a company's undeveloped portfolio, and by the fact that, due to the sweep and lack of clarity in jurisdictional definitions, it is likely the permit requirements will become clear only in the course of detailed development planning. Moreover, any substitution is likely more than balanced out in that wells may never be drilled if permit delays approach the term of the land lease, or if needed drilling infrastructure has been moved to a different development area; and that lost efficiencies from the staggering of drilling programs will never be recouped. Consequently, the approximation here is a reasonable and very conservative one.

## **7. Conclusions**

The Proposed Rule should be reworked substantially to achieve the reported justification for the rulemaking. While seeking to clarify definitions of WOTUS, the Agencies have used vague unmeasured terms, excluded criteria for assessing conditions driving jurisdiction, and broadened the extent of jurisdiction over water bodies and wetlands beyond the limits of jurisdiction defined in the CWA as currently practiced. The basis and methodology of the Agencies analyses are flawed and incomplete. This extension of jurisdiction will have significant direct and indirect financial and developmental impacts on the regulated community costing billions of dollars, jeopardizing significant elements of the national economy and costing jobs and slowing attainment of national energy independence.

Developing a comprehensive economic impact analysis of the Proposed Rule is virtually impossible until the Agencies define and justify with supporting literature the measurable, quantifiable criteria that they are planning to use to determine jurisdiction. Once identified, these criteria need to be clearly presented in the Proposed Rule. Once defined, the economic impact can be quantified, using some of the methods demonstrated in this document.

Moreover, the Agencies' approach in quantifying the potential increase in jurisdictional waters in the 2014 Economic Analysis significantly underestimates the potential increase in jurisdictional waters by relying solely on data records contained in a single government database, assuming the Proposed Rule would not impact the number of permit filings, and using data from 2009 to 2010 (which are not relevant to current



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

stronger economic conditions). API case studies evaluated in preparation of this comment letter found a range of increased jurisdiction from 8 percent to greater than 559 percent in three active oil production areas following the Proposed Rule (See Section 4). Although these case studies should not be extrapolated to definitively represent the entire nation, the discrepancy between these independent estimates and the Agencies' estimates are significant enough to call into question the 2.7 percent value cited by the Agencies – particularly in light of the assumptions applied and procedural weaknesses discussed above. In order to develop a more representative nationwide cost estimate, the Agencies should conduct a comparable nationwide assessment employing the approach used for these case studies.

With respect to permitting costs, the Agencies' Economic Analysis noted the four types of CWA permitting costs: 1) permit application costs; 2) compensatory mitigation costs; 3) permitting time costs; and 4) impact avoidance and minimization costs. It estimated only the first two of these.

Errors in the Agencies methodology resulted in the underestimation of the following: 1) the number of additional permits required under the Proposed Rule; 2) the increase in administrative costs for permit processing; 3) the average cost for permit application preparation; 4) the average cost for mitigation; and 5) the costs of other regulatory programs affected by the definition of WOTUS. In fact, the actual increase in costs resulting from permit application fees, compensatory mitigation, SPCC, and NPDES alone would be approximately three times greater than the Agencies' proposed \$133.7 - \$231 million.

The Agencies' Economic Analysis also overestimated the public benefits of the Proposed Rule. The Proposed Rule will produce almost no public benefit in states that already protect "isolated waters" that are not currently WOTUS. Even in states that do not currently protect the waters that would be covered under the Proposed Rule, the benefits transferred in the Economic Analysis are largely speculative as they do not meet EPA's own Guidelines for benefit transfer. The Agencies therefore should have conducted an original wetlands valuation study for the different regions of the country, as required by EPA's Guidelines.

Even if the ten wetland valuation studies utilized met EPA's Guidelines for benefit transfer, the Agencies' estimate of benefit would be reduced by more than \$100 million (roughly 40 percent) by excluding just one of the studies, which is a clear outlier from the rest. Similarly, the benefits estimate from avoiding oil spills under CWA 311 is



## Quantifying Cost Impacts

Proposed Rule to Define Waters of the United States for Oil and Natural Gas Industry

highly speculative, completely lacking in proper support from realistic data, and substantially overstates the benefits of the Proposed Rule.

The potential increase in jurisdictional waters under the Proposed Rule was also independently evaluated analyzing actual jurisdictional determinations at various locations in the U.S. ARCADIS evaluated the potential increase in jurisdictional waters using 3 test areas in the U.S. and utilizing geographical information system (GIS) mapping (see Section 4). The scenarios demonstrated a range of jurisdictional increases from 8 percent to over 550 percent. All of these studies show increased jurisdiction significantly larger than the 2.7 percent nationwide increase reported in the Agencies' report.

The stakes for the Proposed Rule are incredibly high. Even using the Agencies' likely low estimate of a 2.7 percent increase in permitting, the Proposed Rule will likely cost industry, the states, local governments and home owners billions of dollars. Assuming that 2.7 percent of onshore wells are not drilled due to onerous permitting requirements, in the first year alone the U.S. will lose \$8 billion in GDP, including 67,200 jobs, \$34.5 billion in labor income, and \$1.3 billion in government revenue. Production of oil could be expected to decrease by 229,000 barrels/day and natural gas production would decrease by 1.37 billion cubic feet per day.

The Proposed Rule should be suspended and reworked until the identified deficiencies in the ambiguous language of the rule and the methodologies employed to assess the impacts of the rule are thoroughly redeveloped to concisely and accurately represent the regulatory and cost impacts on the regulated community. Quantitative, measureable criteria must be provided such that the regulated public can effectively delineate WOTUS when planning and designing upcoming projects. This benefits both the environment as well as the regulatory agencies by facilitating proactive avoidance of impacts to WOTUS. When their criteria have been developed for all areas of the U.S., then a comprehensive economic analysis must be conducted. The analysis must start with a defensible study of the anticipated increase in jurisdictional waters nationwide. This should be based on analysis of actual surface features rather than extrapolated from historic jurisdictional determinations in the ORM2 database. The increase is expected to be significantly higher than 2.7 percent.

Once a more accurate value for the increase in WOTUS has been developed, then a comprehensive economic analysis is appropriate to allow the public and the decision makers to fully understand the significant economic impacts the Proposed Rule would have on the U.S. economy.