

Comments of the Waters Advocacy Coalition (WAC)
on the U.S. Environmental Protection Agency's and U.S. Army Corps of Engineers' Proposed
Revised Definition of "Waters of the United States"

Docket No. EPA-HQ-OW-2021-0602

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Exhibit 10:

**David Sunding, Ph.D., and Gina Waterfield, Ph.D., The Brattle Group, Review of the
Environmental Protection Agency and Department of the Army 2021 Economic Analysis
for the Proposed "Revised Definition of 'Waters of the United States'" Rule (Feb. 7, 2022)**

Review of the Environmental Protection Agency and Department of the Army 2021 Economic Analysis for the Proposed “Revised Definition of ‘Waters of the United States’” Rule

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Executive Summary

On November 17, 2021, the Environmental Protection Agency and Department of the Army (“the agencies”) published their *Economic Analysis for the Proposed “Revised Definition of ‘Waters of the United States’” Rule*. This analysis presents the agencies’ estimates of the potential economic impacts associated with a definitional change to the term “waters of the United States” used throughout Clean Water Act (CWA) programs. The agencies are proposing to repeal the 2020 Navigable Waters Protection Rule (NWPR) and restore the definition of the term “waters of the United States” that was in place prior to 2015. As a preliminary matter, it is unclear whether the agencies are proposing to codify the regulatory framework that they are currently implementing or whether they will expand that framework by, for example, adding a new “other waters” category and/or changing how they interpret the “significant nexus” standard. If the agencies plan to finalize a definition of “waters of the United States” that is broader than the current approach, they will need to reassess the economic impacts relative to both the primary and secondary baselines.

At a minimum, a return to the pre-2015 definition would bring certain categories of waters, such as ephemeral features, certain wetlands, and certain ditches, back under federal jurisdiction on a case-by-case basis. Furthermore, the proposed new “other waters” category, if finalized, would bring various isolated features under federal jurisdiction for the first time. The inclusion of these waters would broaden the scope of the CWA, potentially increasing both the costs and the benefits associated with CWA programs as a result.

The agencies’ Economic Analysis (EA) focuses on the costs and benefits that would accrue under section 404 of the CWA, the program where they anticipate the greatest impact from the definitional change. It is first important to note the contrast in the analyses and conclusions of this EA to that conducted for the NWPR in 2020. While the current EA finds that the benefits of greater CWA jurisdictional scope exceeds the costs, the agencies’ 2020 analysis found the avoided costs of the narrower scope exceeded the foregone benefits. The agencies should explain the differences between the two analyses fully and transparently, given the vastly different results. They should also justify any changes to the technical approach, input values and assumptions, and report the impact of these methodological choices on their overall findings.

The 2021 EA itself is unfortunately limited in its scope and relies on flawed methods and assumptions. First, the agencies' approach to estimating the extent of waters that are jurisdictional under the proposed rule but not under the NWPR is inadequate and systematically underestimates the impact of the definitional changes. Second, the analysis of costs is based on inaccurate input values and omits several significant cost categories entirely. They exclude permittee costs of avoidance and minimization required by the CWA, costs associated with delays and uncertainties, and the implicit costs of foregone economic activity. Third, in contrast to their analysis of costs, their analysis of benefits relies on per-acre estimates of welfare that are likely significantly overstated and inappropriate for the purposes of the EA. Without justification, these benefits are assumed to accrue to all households in the same state as the incremental wetlands preserved or restored under the proposed rule.

The agencies' analyses of non-404 programs, environmental justice, and tribal and business sector impacts are cursory at best. For non-404 programs, the agencies point to substantial uncertainties but nevertheless conclude that impacts are likely to be minimal. Given the importance of the jurisdictional scope of the CWA to many sectors of the US economy, the EA should rely on more than assumptions and conjecture to evaluate the costs of different CWA program elements.

I. Background

A. Overview of Proposed Rule

The U.S. Environmental Protection Agency and Department of the Army (“the agencies”) have conducted an analysis of their proposed change to the term “waters of the United States” used to establish the jurisdictional scope of Clean Water Act (CWA) programs. Specifically, the agencies are proposing to repeal the Navigable Waters Protection Rule (NWPR), promulgated in response to Executive Order 13778 of February 28, 2017 (“Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the “Waters of the United States” Rule”). The repeal purports to reinstate the pre-2015 regulatory regime based on 1986 regulations, with the addition of amendments informed by the agencies’ interpretations of Supreme Court case law. Most notable among the latter is the rule’s incorporation of the “significant nexus” standard – through the phrase “significantly affect” – in defining jurisdictional waters, and the consideration of climate factors, among others, in determining that nexus.

According to the 2021 Economic analysis (EA), the proposed rule codifies a regulatory regime that is essentially the same as the pre-2015 regulatory regime they are currently implementing (i.e., the “primary baseline”). Yet there are discussions throughout the proposed rule that suggest that the agencies plan to implement the “significant nexus” standard in a much broader way than they currently are. For example, the agencies acknowledge that they are not currently asserting jurisdiction using the “other waters” category in the 1986 regulations, but the proposed rule would codify an “other waters” category that makes such waters jurisdictional if they satisfy either the “relatively permanent” standard or the “significant nexus” standard.

The proposed rule suggests that more waters would be jurisdictional, not just relative to the NWPR (i.e., the secondary baseline), but also relative to their present-day approach (i.e., the primary baseline). If that is indeed the case, the agencies must conduct an entirely new economic analysis. The 2021 EA starts from the premise that the proposed rule is merely a codification of present-day practice. If that premise is false, then the 2021 EA is rendered irrelevant. For purposes of this review, however, we assume that the proposed rule does nothing more than codify the pre-2015 regulatory regime, which the 2021 EA defines as “the 1986 ‘waters of the United States’ regulation (33 CFR 328.3), as informed by the 2003 SWANCC

and 2008 *Rapanos* Guidance documents.” Thus, we will focus our review on the agencies’ analysis of the proposed rule relative to the secondary baseline of the NWPR.

Relative to the NWPR, the pre-2015 regulatory regime brings certain types of waters under the jurisdictional scope of the CWA and subject to its various programs, often without clarity. The NWPR included four categories of waters in its definition of “waters” of the United States: territorial seas and traditional navigable waters; tributaries; lakes and ponds, and impoundments of jurisdictional waters; and adjacent wetlands. It also categorically excluded 12 categories of non-jurisdictional waters, including groundwater, ephemeral features, diffuse stormwater runoff, and certain ditches. Under the proposed rule, as a result of broader definitions, more tributaries and adjacent wetlands, as well as certain isolated aquatic resources, would also become jurisdictional.

B. Overall Approach to Estimating Economic Impacts

In their economic analysis (EA) of the proposed rule change, the agencies assess the costs and benefits of expanded CWA jurisdiction. They provide quantitative estimates of certain costs and benefits for the section 404 program, as they determined it to be the program most likely to be affected. They provide qualitative assessments for other CWA programs that depend on the definition of “waters of the United States”, stating either that impacts are *de minimis* or that they lack the data for a quantitative analysis. The EA also includes limited analyses of environmental justice implications, tribal impacts and impacts by sector of the US economy.

According to the agencies’ analysis, the total national annualized social costs of the proposed rule ranged from \$109 million to \$276 million, assuming a 3 percent discount rate. The agencies estimate the annualized national benefits as ranging between \$376 million and \$590 million, assuming a 3 percent discount rate. The 23 states that regulate their waters more broadly than required under the proposed rule are excluded from the analysis of both costs and benefits.

The agencies thus conclude that the net benefits of repeal of the NWPR would range from \$100 million to \$482 million, subtracting the high end of costs from the low end of benefits for the lower bound and subtracting the low end of costs from the high end of benefits for the upper bound. They note, however, that there are unquantified costs and benefits that are not reflected in this estimate of net benefits. Without support, the agencies state that these unquantified costs and benefits are “not expected to negate the positive net benefits” that they estimate. The EA does not contain any analysis to justify this conclusion.

C. Comparison to Economic Analysis of the NWPR

In 2020, the agencies published an economic analysis for the NWPR relative to a 2019 rule that recodified pre-2015 regulations. In that analysis, the agencies estimated the national annual foregone benefits of narrower CWA jurisdictional scope at \$55 million to \$173 million. They estimated avoided costs of \$109 million to \$513 million. As such, they concluded that “cost savings from avoided permit applications and mitigation generally exceed forgone benefits of wetlands.” The agencies’ 2020 analysis also included several case studies for regions with better data availability, and found that avoided costs likely exceeded foregone benefits in each geography.

Notwithstanding methodological issues in either of the agencies’ 2020 or 2021 analyses, it is troubling that they produce such conflicting estimates and lead to opposite conclusions regarding the net benefits to society. While the 2021 EA notes some methodological differences relative to the prior analysis, it is not transparent in describing the relative effect of these changes. Moreover, the agencies do not provide adequate justification for the changes to their approach, despite the fact that the two analyses address much the same question and were conducted less than two years apart. Further, the agencies do not test the validity of their new approach by revisiting the case study geographies for which better data exists to conduct a more robust analysis. Given that the 2021 EA is so constrained by a lack of available information, the case study approach is much needed.

II. Estimation of Changes to CWA Jurisdiction

To estimate the number and characteristics of section 404 permits that would be required under the proposed rule but not the NWPR, the agencies rely on Corps permit data for the period 2010 to 2019, excluding certain permits filed under the Clean Water Rule in certain jurisdictions between 2015 and 2019. They use this universe of 225,144 permits to generate average estimates of permit types, amounts, and locations annually, along with the water features affected by dredged or fill activities and the extent of required compensatory mitigation.¹

¹ The agencies note that there is one year’s worth of permit data observed from the period during which the NWPR was in effect. While data from the first year following promulgation of a rule cannot be extrapolated to represent future years after a likely period of adjustment, a comparison of the permit amounts and characteristics between pre-2015 and NWPR regulatory regimes would be instructive.

To identify the permits that would have been required under the proposed rule but not under the NWPR, the agencies rely on the Cowardin codes included in the Corps ORM2 database. Cowardin codes do not, however, align with the NWPR's jurisdictional categories. The ORM2 records are categorized according to "aquatic resource types" based on EPA and Corps guidance from 2008 on *Clean Water Act Jurisdiction Following the Supreme Court Decision in Rapanos v. United States & Carabell v. United States*. The NWPR introduced new definitions of jurisdictional waters and a set of categorically excluded waters. The ORM2 database does not track information on these terms and categories of jurisdiction. Of particular importance, the NWPR categorically excluded ephemeral features, whereas the proposed rule does not. The EA should provide a clear assessment of how many such features will be brought under CWA jurisdiction.

The ORM2 data also does not capture the entire universe of jurisdictional areas under the current CWA framework. First, the Corps records account only for situations in which regulated entities seek a section 404 permit, approved jurisdictional determination (AJD), or wetland delineation. The ORM2 database does not include records for preliminary jurisdictional determinations (PJDs), which allow for a party to voluntarily waive or set aside questions regarding CWA jurisdiction over a particular site, usually in the interest of allowing the landowner to move ahead expeditiously to obtain a Corps permit. With a PJD, the landowner agrees to treat all waters and wetlands that would be affected in any way by the permitted activity on the site as if they are jurisdictional waters of the U.S. The EA thus fails to account for large numbers of acres across the country that may be impacted by the regulations. Indeed, most regulated entities in the 404 program have relied on PJDs after 2008 due to the uncertainty of jurisdiction stemming from inconsistency across agency policies. Waters for which jurisdiction is unclear or marginal is precisely the group of waters likely to become jurisdictional under the proposed rule.

Even for instances where landowners have sought permits or AJDs, the ORM2 database does not capture all aquatic resources on the subject parcel. Rather, the Corps records focus on impacted areas and mitigation sites. For example, if an applicant seeks a permit to impact .25 acres on a 5-acre parcel of land, only the aquatic resources on the .25 acres that would be impacted are captured in the ORM2 database. Aquatic resources on the remainder of the parcel would not be captured.

Overall, these deficiencies have the effect of significantly understating the impact of the proposed rule change. The remainder of the EA depends fundamentally on this analysis, and is flawed as a result. Moreover, the agencies note "various layers of uncertainty regarding the

potential implications of the change in CWA jurisdiction as well as data limitations” but they do not present sensitivity analyses or provide adequate characterization of the impact of these uncertainties on their estimates and conclusions.

III. Analysis of Additional Section 404 Costs

A. Agencies Consider Only a Limited Set of Costs

Since many 404 permits are issued for development near wetlands and small streams, the inclusion of more of these waters under CWA jurisdiction is expected to increase costs to developers and administrative entities. In the EA, the agencies note that the proposed rule could increase costs in two broad categories: permit costs and compensatory mitigation costs. Permit costs include application costs, permitting time costs, and impact avoidance and minimization costs. Compensatory mitigation costs are those associated with requirements to replace or substitute for aquatic resources that are impacted despite avoidance and minimization.

Due to a lack of data, the agencies include only permit costs and compensatory mitigation costs in their analysis. As described in more detail below, they do not attempt to quantify a number of other important categories of costs, including:

- Costs of avoidance measures
- Costs of minimization measures
- Costs of transfers
- Costs of delay and uncertainty
- Costs of jurisdictional determinations

Avoidance measures entail selection of the least-damaging project type, location, and extent compatible with the purpose of the project, and analysis of appropriate and practicable alternatives to minimize the impact footprint. Minimization requires the incorporation of appropriate and practicable design and risk avoidance measures. The agencies note that they are unable to produce monetized estimates of the benefits of these activities because of their complexity and variability. This should not, however, preclude them from assessing the costs associated with these steps of the mitigation sequence. Given the additional requirements placed on permittees, the costs of avoidance and minimization are significant – they likely

exceed permitting costs – and the agencies should provide some reasonably accurate estimate of their extent.

In addition to these direct fiscal costs, an increase in the jurisdictional scope of the CWA would result in a number of implicit costs that are omitted from the agencies' analysis. While the agencies note that there would likely be transfers of projects from newly jurisdictional areas to non-jurisdictional areas, they do not estimate the scale or costs of these transfers due to lack of data. Under the assumption that firms are profit-maximizing entities, a relocation of projects from a first-best option is likely associated with either an increase in costs or a decrease in revenues.

The agencies do not consider at all additional categories of implicit costs, notably those associated with project delays and additional uncertainty. The delays associated with permitting requirements can be substantial. A 2002 Study by Sunding and Zilberman suggests that general permits take an average of 313 days to complete, and individual permits take an average of 788 days to complete.² These delays are likely to be larger if an influx of new permits is not offset by additional staff and infrastructure for processing. The likelihood of delays may also increase considerably, given the subjectivity of the proposed rule in identifying jurisdictional waters compared to the relatively clear standards of the NWPR. Delays and forced design changes hinder economic output and may prevent businesses from functioning at their full potential. The permitting process also introduces additional uncertainties into project development, and can stall progress. Where projects are not undertaken at all due to increased costs, time delays, and/or uncertainties, there is further an implicit cost of foregone economic activity.

In addition to the cost of delays and uncertainty to permittees, the regulatory authority will also incur costs associated with an increased number of case-by-case reviews and jurisdictional determinations. The NWPR does not rely upon the "significant nexus" standard to establish jurisdiction for any of its categories of waters. The proposed rule, however, does rely upon the determination of significant nexus to establish jurisdiction of other waters, certain tributaries, and certain wetlands. This increase in case-by-case jurisdictional determinations, and the potential for disagreements between permittee and permitting authority, will increase resource costs (e.g., labor) for regulatory authorities.

² 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.

Overall, the costs of avoidance and minimization, as well as the implicit costs of transfers, delays, uncertainty, and foregone activity may well dominate the out-of-pocket expenses for permit application and mitigation. The agencies should be more transparent about the full range of associated costs, and refer to the best available evidence to provide a more complete assessment.

B. Permit Cost Estimates are Flawed

Section 404 permit application costs are calculated based on the number of permits observed in the 2010 to 2019 period that would not have been jurisdictional under the NWPR, as described above. These additional permits are multiplied by the average geographic impact per permit to determine how many additional acres would be impacted under the revised definition. This incremental acreage of waters brought back under jurisdiction with the proposed rule change is multiplied by ranges of estimates of per-acre costs drawn from a 2000 Corps review of permitting costs for “typical” projects up to three acres in size. Estimated costs for individual permits range from \$10,000 to \$24,000 and for general permits range from \$3,000 to \$10,000 in 1999 dollars. The agencies adjust the Corps unit cost estimates to 2020 dollars using the CPI-U, amounting to \$15,500 to \$37,300 per individual permit and \$4,700 to \$15,500 per general permit. Note that these ranges are based only on the range of per-permit costs, and thus fail to account for any uncertainty in the estimate of additional acreage brought under CWA jurisdiction by the proposed rule.

The distinction between individual and general permits is important for the purpose of evaluating the cost of the proposed definitional change. Individual permits are required for activities that are expected to have significant impacts on a nearby water body. General permits are issued for projects that will have minimally adverse effects and fit within specific categories (i.e., bank stabilization projects, hydropower projects, etc.). The EA ignores any potential changes to the distribution of individual and general permits. The increase in the scope of waters under CWA jurisdiction could force a restructuring in the permitting system where projects that were previously eligible for general permits must apply for individual permits. These changes would have notable implications to the overall cost of the definitional change, but they are omitted from the analysis. The EA also ignores the heterogeneity in impacted acreage within these two categories. Instead, they calculate an average for each type of permit that provides a single estimate of project size.

The agencies' analysis of section 404 permit application costs suffers from several additional deficiencies. They rely on the per-permit cost estimates described above, even though they were on the lower end of available estimates at the time they were produced. For example, the 2002 study by Sunding and Zilberman also synthesized internal estimates of permitting costs from a sample of public and private developers. Their estimates range from \$3,100 to \$217,600 for general permits and from \$10,900 to \$2,376,800 for individual permits in 2020 dollars.³

The data on permitting costs are also over 20 years old and are not adjusted for any changes in the permit system. As the EA considers the period out to 2042, this assumes no real change in permitting costs over a period of more than four decades. The adjustment for inflation to 2020 uses the CPI for urban consumers, which is unlikely to be an accurate reflection of how costs associated with permitting have changed in the past 20 years. The assumed per-permit costs are thus likely to underestimate the present and future cost of the permitting process.

C. Compensatory Mitigation Cost Estimates are Flawed

The incremental costs of compensatory mitigation were estimated in a similar manner as the additional costs of permitting as described above. Based on ORM2 data for the period 2010 to 2019, the agencies inferred the amount of compensatory mitigation that would be required under the proposed rule but not the NWPR. They estimated that the proposed rule would result in an additional 770 acres and 143,740 linear feet of compensatory mitigation per year. This incremental mitigation requirement is multiplied by state-specific average costs per linear foot and acre of mitigation to yield an estimate of the national annual costs of compensatory mitigation.

The unit cost estimates are drawn from the same study conducted by the Corps in 2000 relied on for permit cost estimates, and thus concerns about relevance and inflation are further applicable here. In that study, the Corps estimated state-specific per-acre costs of wetland mitigation and per-linear foot estimates of stream mitigation “by examining published studies and survey results, making phone inquiries to Corps Districts and mitigation banks, and researching web sites ([as described in] U.S. EPA and Department of the Army, 2015). A team of

³ Estimates are inflation adjusted using the agencies' approach, as reported in the EA, p.85.

Corps experts developed a range of values for each state.”⁴ In addition to being outdated, the process for generating these estimates is not transparent or adequately supported.

IV. Analysis of Additional Section 404 Benefits

The agencies note several section 404 benefits that will result from the proposed change in the definition of the term “waters of the United States”. These include ecosystem benefits associated with the avoidance and minimization requirements of incremental permits, which result from improved clarity in the CWA, as well as those associated with additional compensatory mitigation that will now be required. Since quantifying the former is difficult, the agencies focus on benefits from incremental compensatory mitigation requirements.⁵

To do so, they use a benefits transfer approach and adopt estimates of the value of wetland mitigation from previous studies. Specifically, they rely on a meta-analysis of 17 contingent valuation studies that provide willingness to pay (WTP) estimates for wetland preservation, alongside two additional Canadian studies. Those studies span a number of states and regions, and yield estimates for wetlands “that support a variety of ecosystem services including wildlife support, recreational uses (such as water fowl hunting), flood risk, and nonuse values”.⁶ It is important to note that all of the studies the EA relies on take a contingent valuation approach, i.e. they are based on hypothetical survey questions rather than observed behavior to estimate individuals’ WTP. Contingent valuation is generally regarded as a second-best approach, given the tendency of survey respondents to provide inaccurate and inconsistent answers. The agencies do not discuss these important shortcomings of the studies that form the basis of their benefits estimate, or the likely bias as a result.

Even aside from the general concerns with contingent valuation, the agencies’ application of these studies is subject to a number of important shortcomings, described below.

⁴ EA, p.78.

⁵ The EA only estimates benefits associated with wetland mitigation and omits benefits from stream mitigation.

⁶ Moeltner, K., Balukas, J. A., Besedin, E., & Holland, B. (2019). Waters of the United States: Upgrading wetland valuation via benefit transfer. *Ecological Economics*, 164, 106336.

A. Studies Used to Estimate Benefits are Not Appropriate Points of Comparison

The agencies' analysis of section 404 benefits builds on a model estimated in a 2019 meta-analytical study, augmented to include two further Canadian-based studies. Given that benefits transfer relies on the similarity of the original study context and population to the context and population to which it is being applied, the inclusion of these Canadian studies is inappropriate. Canadian citizens likely have very different preferences, and constraints, from American citizens.

The 2019 meta-analysis pulls together estimates from 17 previous U.S.-based studies. Unfortunately, those studies are also largely irrelevant and do not provide accurate estimates of benefits for the types of wetlands likely to be preserved or restored by incremental compensatory mitigation requirements under the proposed rule but not the NWPR. The majority of the studies were conducted more than a decade ago, with the earliest conducted in 1991. The agencies have not attempted to adjust for changes in recreational patterns and preferences over ecosystem services over time. Several of the studies were not published in peer-reviewed journals. Given these shortcomings, it is reasonable to suspect that these WTP estimates may not reflect the actual preferences of individuals for expanding jurisdiction over various types of waters.

While the agencies attempt to value ecological services provided by wetland mitigation, their analysis assumes that the wetlands included in the 19 studies on average have identical functions, and offer identical benefits, as the wetlands that are relevant to the EA. This oversimplification comes at the expense of accuracy. For example, the Loomis et al. study used in the meta-analysis examines WTP to reduce contamination from agricultural drainage in wetlands in California. The Petrolia et al. study estimates WTP for restoration of Louisiana's coastal wetlands. While these services have considerable value, the contexts and ecosystem services provided are vastly different. While the functional transfer approach attempts to capture some of these idiosyncrasies, it is unclear that these studies are appropriate points of comparison to the types of wetlands that would be protected by the proposed rule change at all.

As a further example of these issues, it is important to note the wide variation in the per-household per-acre WTP estimates implied by the studies. Moeltner et al. (2019) note that the highest estimate included in their sample of studies ranges from \$25-\$78 per acre of coastal marsh, whereas all other estimates are below \$1. Despite the inapplicability of the coastal

marsh estimate, the authors keep it in their study “to avoid a further reduction in our already modest sample size.” The agencies should more fully and transparently describe the 19 studies that form the basis of their WTP estimate, and carefully consider how relevant, if at all, the study contexts are to the wetlands at issue in the EA.

More generally, despite the significant uncertainties involved in their benefits transfer analysis, originating from both the agencies’ analysis itself as well as from the error bounds in the original studies, the agencies do little to characterize the imprecision of their estimates. Low and high benefit estimates are based only on different regional assignments for the states of Alaska and Texas in their regression model, and so do not at all capture the inherent uncertainty in the modeling approach employed. Since each study and the meta-regression have associated statistical measures of imprecision, the agencies should follow standard scientific practice in reporting these.

B. Scaling Benefits to All Households in Given State is Unjustified

To estimate the total benefits associated with the incremental compensatory mitigation that would result from the repeal of the NWPR, in their primary analysis the agencies simply assume that estimated per-household benefits would accrue to all households in the same state as a given acre of wetland. They further assume that all households benefit equally, regardless of how far they are from the wetland. These assumptions are unsupported and implausible, and in some instances actually falsifiable,⁷ given the types of wetlands at issue.

In an attempt to address this vast oversimplification, the agencies also conduct a “radius-based” approach wherein they assume that benefits accrue to households within a certain radius around each incremental wetland. They divide the radius into a local zone and an outer zone, to account for the issue of distance decay. This approach is potentially an improvement over the primary approach reported in the body of the EA, but it is subject to arbitrary selection of radii. Nevertheless, the radius-based approach indicates the sensitivity of the resulting benefit estimates to this critical assumption and should be presented more fully. The agencies should undertake complementary analyses to inform an appropriate choice of radii for the

⁷ Even the 2019 meta-analysis that forms the basis of the EA’s benefits calculation addresses the idea of “distance decay” of WTP. Moeltner et al., 2019, and cites therein.

wetlands likely to be preserved or restored due to incremental compensatory mitigation under the proposed rule change.

C. Benefits Estimated for All Waters Brought Under Jurisdiction

The EA rests on the assumption that all of the incremental wetlands affected by the definitional change would be compromised if federal jurisdiction were not expanded. Conversely, it also assumes that all would be preserved or mitigated if federal jurisdiction is extended. The reality is likely to be quite different. Tribal, state and local regulatory programs frequently protect wetlands even in the absence of federal jurisdiction. While the agencies exclude states with generally broader protections than the proposed rule from their analysis entirely, there may still be protections for certain relevant waters even within the remaining states. State- and local-level planning, monitoring, and enforcement activities can be carried out with more specific concerns in mind, and may be better-suited to effectively preserve wetland resources. Thus, the benefits associated with expanding federal jurisdiction over wetlands could be partially offset by programmatic changes that pass control from tribes, states and municipalities to federal agencies.

V. Analysis of Impact on Other CWA Programs

The agencies state that “[t]he definition of the term “waters of the United States” has a substantial effect on the implementation of [non-section 404] CWA programs, including the section 303(c) water quality standards program, the section 311 oil spill prevention program, the section 401 water quality certification program, and the section 402 NPDES permit program.” However, their assessment of the effect of the proposed rule change on non-404 programs is cursory and limited to entirely qualitative discussion. The EA omits costs to some programs that may be affected due to lack of data. The agencies assert that impacts to other programs are likely to be minimal without providing an analysis to support this conclusion.

A. Section 401 State Certification

Section 401 of the CWA requires any applicant for a federal license or permit to conduct any activity that will result in a discharge to waters of the United States to obtain a state water

quality certification from the state where the discharge will occur. 33 U.S.C. § 1341(a)(1). With the proposed rule's expanded definition of "waters of the United States," more activities that require federal licenses (in particular, activities requiring section 404 permits) are likely to discharge into "waters of the United States" and will therefore require section 401 certification.

The agencies note that "[a]n increase in CWA section 404 permits could result in costs to states and authorized tribes by increasing the number of section 401 reviews and required staff time." However, the agencies do not acknowledge the increased costs to applicants that must now obtain 401 state certification. The agencies recognize that there will be additional section 404 permits required under the proposed rule, but do not account for the increased costs of obtaining 401 certification that are triggered by those additional section 404 permits. Further, the EA does not address the cost of delay caused by increased Section 401 certification requirements. These costs to states and tribes, as well as those to permittees, should be assessed as fully as possible.

By comparison, when the agencies prepared an EA for their 2014 proposed rule, they predicted that jurisdiction would increase by 2.7% and that this would correspond to increased annual costs of \$737,000 to administer the 401 program.⁸ Although the agencies do not quantify the expected percentage increase in jurisdiction from moving from the NWPR back to the pre-2015 regime, the agencies suggest that it will be significant. The proposed rule emphasizes that "the NWPR also significantly reduced the number of Clean Water Act section 404 permits required for dredging and filling activity nationwide."⁹ Since the agencies are estimating a significant increase in 404 permits, they must account for the corresponding increase in section 401 review and related costs.

B. Section 402 NPDES Permits

CWA section 402 National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into "waters of the United States." The agencies state that while EPA does not have information to suggest that a significant number of permittees requested permit modifications when the NWPR went into effect, the time period to make this information may have been too limited. They acknowledge

⁸ Those figures underestimated the impacts of the 2014 rule because, for example, EPA did not account for the increased costs to applicants that would have to obtain 401 state certification and because EPA did not account for the cost of delay caused by increased certification requirements.

⁹ 86 Fed. Reg. at 69,414.

that “if the NWPR were in effect for an extended period of time, these types of inquiries could become more common in certain areas where the NWPR had a significant effect on the number of jurisdictional water features.” Nonetheless, the agencies conclude that the proposed rule would not result in a significantly larger number of NPDES permits or permit requirements relative to the NWPR. Accordingly they assume only minor changes, if any, in costs and benefits resulting from additional requirements placed on the different categories of permit holders. This assumption is inconsistent, however, with the agencies’ contention that the NWPR significantly reduced CWA protection of waters, including under the 402 program.¹⁰

The agencies do note, however, that “[t]here are multiple sources of uncertainty inherent in the analysis of the potential impacts of the revised definition of “waters of the United States” on the CWA section 402 program.” There is uncertainty around which entities would be affected by the change in jurisdictional scope. There is uncertainty concerning implementation of the waste treatment exclusion, and concerning the jurisdictional status of lagoons and ponds constructed to comply with environmental statutes other than the CWA. There is also uncertainty around permittee response to changes in requirements, given the fixed costs associated with NPDES compliance.

C. Section 311 Oil Spill Prevention Plans

Under section 311, inland non-transportation oil facilities of a certain size that have potential to discharge to “waters of the United States” must prepare and implement a Spill Prevention, Control, and Countermeasures (SPCC) and Facility Response Plan (FRP). The expansion of the “waters of the United States” definition under the proposed rule would mean a significant increase in the number of facilities that could “reasonably be expected” to discharge oil to jurisdictional waters. As a result, many facilities not subject to SPCC and FRP program requirements under the NWPR (because they did not have potential to discharge to “waters of the United States”) would be required to develop and implement an SPCC and FRP under the proposed rule, install secondary containment, implement testing and spill response programs, and ensure compliance with all SPCC and FRP rule provisions.

The agencies also state that, as with section 402, there is significant uncertainty regarding the universe of facilities that would be affected by the rule change under section 311. However, they again conclude that impacts would likely be small as facilities are subject to more stringent

¹⁰ 86 Fed. Reg. at 69,413.

state rules and/or may choose to implement such measures voluntarily “in accordance with recommended industry practices”. This claim contrasts with the proposed rule’s statement that the significant reductions in Clean Water Act protections under the NWPR “have had real world consequences.” Also, regulatory compliance subject to CWA strict liability provisions may entail costs not associated with voluntary measures.

D. Section 303 Water Quality Standards

Section 303 of the CWA requires states and tribes to develop water quality standards, assess water quality, and develop of total maximum daily loads (TMDLs) for impaired waters. As the agencies recognize, the proposed change in jurisdictional scope of the CWA would increase the number of waters to be assessed and for which TMDL restoration plans would be required. While these changes may be associated with significant costs for states and regulated entities, the agencies simply abstain from conducting any assessment of them. Instead, they note that they are unaware of TMDL revisions that resulted from promulgation of the NWPR. As noted above, the long-term implications of a change in the definition of the term “Waters of the United States” cannot be extrapolated from observations made over a one-year period.

While the agencies suggest in the EA that the development and revision of water quality standards operates independent of changes to the definition of “waters of the United States” because states and tribes can still choose to apply water quality standards to non-federal waters, the agencies state in the preamble to the proposed rule that the NWPR significantly reduced CWA protections. They point to the section 303(c) and 303(d) programs, among others, to demonstrate that this reduction has “had real-world consequences.” If the NWPR did reduce protections under the 303 programs, then a return to the pre-2015 regime would expand protections. States would have to designate uses and set water quality criteria for waters and features that were not jurisdictional under the NWPR but are under the proposed rule. The agencies should account for this additional cost burden placed on states and tribes.

VI. Conclusion

The EA purports to be an assessment of “the potential impacts of the proposed changes to the definition of “waters of the United States” based on the potential effects to CWA programs that

rely on that definition.”¹¹ The quantitative estimates of benefits and costs, however, are limited to a subset of each associated with section 404 permitting and compensatory wetland mitigation only. The analyses relied on to produce these estimates are significantly flawed. Assessments of economic impacts to other programs are qualitative and inadequate. Nevertheless, on the basis of the EA, the agencies conclude that “under E.O. 13563, the agencies would interpret the benefits of the proposed rule as justifying its costs, as compared to the secondary baseline of the NWPR.”¹² The EA in no way provides sufficient support for this conclusion.

In addition to the methodological errors discussed above, the agencies’ analysis suffers from a lack of transparency. It does not, for example, include the regional case studies of the 2020 EA for the NWPR that allowed a more robust assessment where data allowed. Explanations of calculations, basic assumptions, and discrepancies between various related analyses conducted by the agencies are rarely provided. This is particularly troubling given that the analysis hinges on records from the Corps’ internal ORM2 database, which is unavailable to outside entities. Any errors or inconsistencies in documentation, sample selection, or data extraction are necessarily overlooked. Certain incremental benefits and costs under the section 404 program, and all benefits and costs of other programs, are deprioritized because they are challenging to estimate and monetize. These shortcomings indicate that a more thorough analysis is required to properly assess the economic impacts of a definitional change.

¹¹ EA, p.ix.

¹² EA, p.xiv.