# NEW MITIGATION RULE PROMISES MORE OF THE SAME: WHY THE NEW CORPS AND EPA MITIGATION RULE WILL FAIL TO PROTECT OUR AQUATIC RESOURCES ADEQUATELY*

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## *I. INTRODUCTION*

Thirty-six years after the enactment of the Clean Water Act (CWA)[1] and its Sections 301 and 404 program regulating the discharge of dredged and fill material into aquatic systems,[2] it has become glaringly apparent that mitigation has been largely unsuccessful at replacing either the extent or functions of the aquatic resources destroyed or degraded by such discharges. By now, it should be obvious that, wherever possible, avoidance of impacts to existing water resources is the wisest environmental protection policy. Yet in practice, avoidance has received far too much lip service and far too little practical application. Recent

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1. 33 U.S.C. § 1342 (2000).

2. 33 U.S.C. § 1311(a) (2000) (prohibiting the discharge of pollutants unless in compliance with certain provisions of the CWA); 33 U.S.C. § 1344 (2000) (allowing for the discharge of dredged and fill material into navigable waters pursuant to permits and requirements to which such permits must adhere).

agency rules issued to govern mitigation activities continue what can only be described as a "cockeyed optimist" approach to aquatic resources permitting—one that is destined to lead to further deterioration of the nation's aquatic resource base.

The role that streams and wetlands play in preserving water quality cannot be overstated. The CWA is designed to protect water quality by placing stringent regulations on activities that impact these resources.[3] However, rather than focusing on aquatic resource protection, the U.S. Army Corps of Engineers (Corps), which administers the CWA Section 404 "dredged and fill" permitting program, has historically concerned itself with issuing permits. The Corps' history of administering the Section 404 program has been laced with poor enforcement, poor monitoring, and poor performance.[4] Compensatory mitigation—the idea that certain projects can compensate for impacts on aquatic resources—has played a large role in the Corps' ability to issue permits that they purport comply with the CWA.[5] Yet as explained below, the reality is that mitigation is seldom fully successful.

In response to a congressional mandate, the Corps and the U.S. Environmental Protection Agency (EPA) have issued a new rule governing mitigation.[6] Unfortunately, the new rule does little beyond codifying a status quo that makes it far too easy for the Corps to continue its history of falling short of its charge to protect aquatic resources. This new rule comes at a time when the need to protect remaining resources has become increasingly urgent, given recent blows to the overall scope of CWA protections. This reduction is due to recent United States Supreme Court decisions that question the broad historical geographical jurisdiction of the CWA over almost all streams, lakes, wetlands, and other surface waters, as well as alarming science detailing the incredi-

3. *See e.g.* 33 U.S.C. §§ 1311(a), 1344 (describing the permitting requirements for activities that impact wetlands).

4. *See* Government Accountability Office, *Wetlands Protection: Corps of Engineers Does Not Have an Effective Oversight Approach to Ensure That Compensatory Mitigation Is Occurring* 17 (Sept. 2005) [hereinafter GAO Report] (providing specific examples of poor enforcement by the Corps).

5. *See id*. at 1 (describing the types of compensatory mitigation).

6. *E.g.* 33 C.F.R. § 325 (2007); 33 C.F.R. § 332 (2008); 40 C.F.R. § 230 (2006); 73 Fed. Reg. 19594 (Apr. 10, 2008). This congressional mandate is Section 314(b) of the National Defense Authorization Act (2004) (Pub. L. 108–136), which called for the development of regulatory standards and criteria for the use of compensatory mitigation.

ble stresses that global warming will place upon our aquatic ecosystems.[7]

This Article discusses the new rule and why it does not serve to properly protect our aquatic resources. Ultimately, this new rule allows for far too much discretion by Corps officials to allow mitigation to occur where avoidance or minimization should instead be required. It also includes too few safeguards to ensure that mitigation serves to successfully compensate for lost functions and values of impacted waters.

After providing a brief background on the new rule, this Article discusses mitigation generally and the overwhelming evidence that demonstrates mitigation is not the best solution to protect our aquatic resources. It then specifically discusses the new rule as follows: (1) the avoidance and minimization requirements of the CWA Section 404(b)(1) guidelines and how these requirements are given short shrift; (2) the inclusion of streams, which was not required by Congress and is premature since adequate science to support such an inclusion does not exist; (3) the unsupported preference for mitigation banking; (4) the reliance on a so-called "watershed approach" that does not include safeguards that it will be used in a scientifically sound manner; (5) monitoring and enforcement provisions; (6) the over-reliance on preservation, which is not compensation; and (7) standards for compensation. Finally, the Article talks briefly about the heightened urgency to protect existing aquatic resources in a warming world and how the new rule is many steps away from addressing that vital need.

7. *Rapanos v. U.S.*, 457 U.S. 715, 757 (2006) (remanding two cases back to lower courts on the question of whether wetlands adjacent to non-navigable tributaries are protected). While the Court was unable to reach a majority standard, the case has cast doubt on the protection of many non-navigable streams and their associated wetlands. *Id*. *See also Solid Waste Agency of Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159, 174 (2001) (finding the geographically isolated, intrastate ponds are not protected under the CWA solely based on their use by migratory birds). See generally N.L. Poff, M.M. Brinson & J.W. Day Jr., *Aquatic Ecosystems and Global Climate Change: Potential impacts on Inland Freshwater and Coastal Wetland Ecosystems in the United States*, 10 (Pew Center on Global Climate Change 2002) (providing scientific information about the impact of global warming on aquatic resources).

## *II. BACKGROUND*

The CWA was enacted in 1972 to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters," including its wetlands.[8] The Act has helped to clean up waters and has greatly slowed the dramatic loss of wetlands taking place in the United States. Between colonial times and the 1980s, over half of the wetland areas in the contiguous United States had been lost.[9] Since the passage of the CWA, wetlands losses have slowed considerably.[10] Administration policies have also stressed the importance of preserving wetlands. Chiefly, in 1989, President George H.W. Bush announced a policy goal of no-net loss of wetlands.[11] President George W. Bush announced a goal of wetland net gain in 2004.[12]

Section 404 of the CWA allows the Corps, or delegated states under an approved program,[13] to permit the discharge of "fill" or "dredged" material into waters and to attach conditions to such permits.[14] Permits must be issued pursuant to guidelines established by the EPA.[15] These guidelines, referred to as the Section 404(b)(1) guidelines, attempt to ensure that permits are issued only when there will not be detriments to water quality and aquatic resources.[16]

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8. 33 U.S.C. § 1251(a) (2000).

9. National Research Council, *Compensating for Wetlands Losses under the Clean Water Act* 1 (Natl. Acad. Press, 2001) [hereinafter NRC Report].

10. GAO Report, *supra* n. 4, at 9 (citing United States Fish and Wildlife Service data).

11. NRC Report, *supra* n. 9, at 2.

12. White H. Council of Envtl. Quality, *Conserving America's Wetlands 2006: Two Years of Progress Implementing the President's Goal*, Executive Summary 1 (Apr. 2006).

13. Unlike the National Pollutant Discharge Elimination System program under Section 402 of the Act, 33 U.S.C. § 1342 (2000), which has been assumed by most states, only two states—Michigan and New Jersey—have assumed Section 404 responsibilities. Mich. Comp. Laws Ann. § 324.30311 (West 1999); N.J. Stat. Ann. § 13:9B–18 (West 2003). In all other states, Section 404 permitting is administered by the Corps.

14. 33 U.S.C. § 1344(a).

15. *Id*. at § 1344(b)(1); 40 C.F.R. § 230.10.

16. U.S. Envtl. Protec. Agency & Dept. of the Army, *Memorandum of Agreement between the Department of the Army and the Environmental Protection Agency Concerning the Determination of Mitigation under the Clean Water Act Section 404(b)(1) Guidelines*, Section II(C) (Feb. 6, 1990) [hereinafter 1990 M.O.A.] (signed Feb. 6, 1990) (available at http://www.usace.army.mil/cw/cecwo/reg/mou/mitigate.htm) (stating that "The Corps, except as indicated below, first makes a determination that potential impact have been avoided to the maximum extent practicable; remaining unavoidable impacts will then be mitigated to the extent appropriate and practicable by requiring steps to minimize im-

The Section 404(b)(1) guidelines and informal agency guidance set up a process referred to as "sequencing" where, in considering permit applications to impact aquatic resources, applicants and the Corps must first avoid impacts, then minimize impacts that cannot be avoided, and, lastly, compensate for impacts that can neither be avoided nor minimized.[17] Specifically, for non-water-dependent projects the guidelines do not allow a permit to be issued if a practicable alternative to the discharge exists that would have less impact on the aquatic resource.[18] In other words, if a practicable alternative exists, impacts to the resource must be avoided. If they cannot be avoided, they must be minimized. The Corps can permit the impacts using compensatory mitigation only when practicable alternatives of avoidance or minimization do not exist.

As such, mitigation is supposed to be a last resort to be used only to compensate for remaining impacts that could not be practicably avoided or minimized. However, in practice there is far too little fidelity paid to this sequencing requirement. The Corps typically denies less than one percent of permits applied for and grants the overwhelming majority of permits under an expedited general permit process.[19]

Compensatory mitigation for the impacts to wetlands, streams, and others waters allowed by Section 404 permits typically involves restoration, creation, or enhancement of aquatic

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pacts, and, finally, compensate for aquatic resource values").

17. *Id.*

18. 40 C.F.R. § 230.10(a). Except as provided by Section 404(b)(2) of the CWA (concerning certain instances where there exists an impact on navigation and anchorage), the guidelines also prohibit discharges that will provide the following: (1) cause or contribute to violations of any applicable State water quality standard; (2) violate any applicable toxic effluent standard or prohibition under the Act; (3) jeopardize the continued existence of species listed as endangered or threatened under the Endangered Species Act or result in likelihood of the destruction or adverse modification of a critical habitat under the Endangered Species Act; (4) violate any requirement imposed by the Secretary of Commerce to protect any marine sanctuary designated under title III of the Marine Protection, Research, and Sanctuaries Act of 1972; or (5) cause or contribute to significant degradation of the waters of the United States. *Id.* § 230.10(b)–(c).

19. *See e.g.* U.S. Army Corps Regulatory Program, *All Permit Decisions* FY 2003, http://www.usace.army.mil/cw/cecwo/reg/2003webcharts.pdf (accessed Apr. 16, 2009) (showing that less than 1 percent of permit applications in Corps fiscal year 2003 were denied, and that 88 percent of permit applications were granted pursuant to general permits).

resources.[20] Though supposedly to be used only in exceptional circumstances, preservation of existing aquatic areas, or even upland buffer areas, is also used as mitigation.[21] Mitigation takes two general forms. The first is permittee-responsible mitigation where the permit holder is responsible for the mitigation project. The second is third-party mitigation, such as a mitigation bank or in-lieu-fee program, where a payment is made by the permittee to a third party who then carries out a mitigation project. This often takes the shape of one large project to compensate for several permittees and their various impacts.[22]

Until this year, mitigation was not governed by formally promulgated regulations. Instead, the Corps relied on informal agency guidance and memoranda. Some courts have insisted mitigation occur based on evidence supporting the mitigation's efficacy,[23] but guidance from the courts has generally been scarce.

Compensatory mitigation has been heavily criticized for several years. A 2001 National Research Council (NRC) report concluded mitigation was failing to compensate for aquatic resource losses.[24] One group of scientists noted "the actual amount of wetland impacts offset is only about twenty percent, meaning that the Section 404 permitting program has been fostering an eighty percent net loss of wetlands."[25] A 2005 Government Accountability Office report detailed poor enforcement and monitoring of permit conditions by the Corps.[26] Such information has led many to conclude that the CWA Section 404 permitting scheme and its

20. GAO Report, *supra* n. 4, at 1.

21. 1990 M.O.A., *supra* n. 16, at II(C) (stating that "[s]imple purchase or 'preservation' of existing wetlands resources may in only exceptional circumstances be accepted as compensatory mitigation").

22. GAO Report, *supra* n. 4, at 1–2.

23. *See e.g. Wyo. Outdoor Council et al. v. U.S. Army Corps of Engrs.*, 351 F. Supp. 2d 1232, 1251, 1256 (D. Wyo. 2005) (finding under both the National Environmental Policy Act and the CWA that mitigation pursuant to a CWA general permit for certain impacts from coalbed methane extraction was illegal because "[r]ather than being detailed and justified by some evidence in the record that would support their efficacy, the mitigation measures . . . are vague and speculative" and "the Corps . . . relied on mitigation measures that are unsupported by substantial evidence in the record . . . to find that the effects of the permit would be minimal").

24. NRC Report, *supra* n. 9, at 2.

25. R. Eugene Turner, Ann M. Redmond & Joy B. Zedler, *Count It by Acre or Function: Mitigation Adds Up to Net Loss of Wetlands*, 23-6 Natl. Wetlands Newsltr. 5, 15 (2001).

26. GAO Report, *supra* n. 4, at 26–27.

overemphasis on compensation is a fatally flawed system in need of massive overhaul.

Yet the genesis of the compensatory mitigation rulemaking was not an internal effort by the agencies to fix a badly broken system but a last-minute provision attached to a defense authorization bill at the request of the for-profit mitigation banking industry. Since the 1990s, there has been a shift in how mitigation banking, a form of third-party mitigation, has been structured. In the early 1990s, most mitigation banks were sponsored by public entities, like state highway departments. Today, most mitigation banks are sponsored by for-profit private entities.[27] Mitigation banks buy land in inexpensive areas where they believe they can successfully restore, enhance, create, or protect aquatic habitats. Permittees required to perform mitigation pay the bankers a fee to fulfill their mitigation requirements rather than doing the mitigation themselves.[28]

In the minds of many decisionmakers, mitigation banking tees up a classic free market, entrepreneurial "win-win" scenario—permit applicants get to move their projects forward, and bankers are able to profit from the impacts while helping the environment. Yet like most things that sound too good to be true, the reality of mitigation banking has not lived up to the ideal. For one, although the original definition of mitigation banking was that wetlands would be successfully restored in advance of their sale for use as compensation for wetlands losses—thus ensuring successful compensation—in practice, nearly all credits are sold before restoration is considered complete and successful, and many are sold before restoration even begins. As explained later in this Article, mitigation banking, like all mitigation, is prone to high rates of failure; the wetlands lost may be inadequately compensated for or not compensated for at all.

Another issue is created by placing compensation for several projects in one centrally located site. Functions lost throughout watersheds are often compensated for through large projects that may not even include the same type of wetlands or replace the

27. *See id.* at 2 n. 1 (referencing a study by the Environmental Law Institute).

28. *Id.* at 1–2. This mechanism is different from in-lieu-fee programs where permittees pay money to a fund that uses the money to perform mitigation at a later time, but unlike mitigation banks, do not already have land purchased for the purpose of mitigation. *Id.* at 2.

same functions as those lost to development. Furthermore, the mitigation site may be miles from the impacted resources, and in a different watershed or region. Nonetheless, the myth of mitigation banking has continued and support among some in Congress and the agencies is high. One Congressional advocate managed to attach a last-minute provision to the National Defense Authorization Act for Fiscal Year 2004 requiring the Secretary of the Army to issue regulations governing compensatory mitigation for lost wetlands functions.[29] The provision was so well hidden that even the agencies did not find out about it for several months after it was passed.

The Corps, along with the EPA, pursuant to the legislative provision, proposed a draft rule on mitigation in 2006.[30] Concerned groups and individuals weighed in on the proposed rule, with many environmentalists and scientists deeply concerned with several provisions. In particular, comments were critical of the almost unfettered discretion granted to district engineers to determine what was adequate mitigation; it was described by critics as an "anything goes" approach.[31]

The rule was finalized in 2008.[32] It has modest improvements over the originally proposed rule. There has been some narrowing of the virtually boundless discretion afforded district engineers in the proposed rule. The new rule explicitly acknowledges the regulatory requirements of the Section 404(b)(1) guidelines, including avoidance first. It also adds a measure of objectivity to the ecological performance standard requirements that must be included in mitigation plans, requiring they be based on "the best available science that can be measured or assessed in a practicable manner," though the term "practicable" suggests a troubling degree of leeway.[33] The new rule abandons a proposed phase-out of in-lieu-fee programs. It also provides some additional guidance on the

29. Pub. L. No. 108–136, 117 Stat. 1430 § 314 (2003).

30. 71 Fed. Reg. 15520 (Mar. 28, 2006).

31. *E.g.* Natl. Wildlife Fedn., Sierra Club, Am. Rivers, Earthjustice, Citizens to Complete the Refuge, Waterkeeper Alliance, Vt. L. Sch. Envtl. & Nat. Resources Ls. Clinic, Audubon Wash., Wash. Wetlands Network, Nat. Resources Def. Council, Gulf Restoration Network & Appalachian Ctr. for the Econ. & the Env., *Comments on the Proposed Rule on "Compensatory Mitigation for Losses of Aquatic Resources*" EPA-HQ-OW-2006-0020 -024803, 2 (U.S. Envtl. Protec. Agency & Dept. of the Army July 6, 2006).

32. 73 Fed. Reg. 19594 (Apr. 10, 2008).

33. 33 C.F.R. at § 332.5(b).

use of the "watershed approach," adding minor, though wholly inadequate, assurances that the approach will be based on meaningful information.[34]

Still, despite these modest improvements, and while the new rule offers some much-needed new provisions—such as enforceable permit conditions and standards for compensatory mitigation—it is largely a misguided rule that makes it far too easy to impact aquatic resources without adequate safeguards to ensure that full compensation will occur. Many of the improvements mentioned, as explained below, do not go far enough. While the rule must be viewed in the context of the severe deficiencies apparent in mitigation efforts over the years, overall the rule makes it far too easy to destroy wetlands and streams by relying on compensation that has been shown to be inadequate in study after study. In the end, it will perpetuate the Corps' approach that has over the years led to far too many unacceptable aquatic resource losses.

## *III. MITIGATION: A FAILED PROMISE IN NEED OF RECONSIDERATION*

Long-standing criticisms of mitigation were validated by recent reports examining the success of aquatic resource mitigation.[35] These reports detailed a lack of enforcement and monitoring of mitigation projects, along with high failure rates in creating, restoring, or enhancing resources that adequately replace long-established natural systems.[36]

Chief among these reports is a 2001 study published by the NRC. The NRC report looked specifically at whether "compensatory mitigation required under Section 404 is contributing toward satisfying the overall objective of restoring and maintaining the quality of the nation's waters."[37] The report came out with several revealing, though not surprising, conclusions, as well as a host of recommendations. Foremost, the NRC concluded the goal of no-net loss is not being met for wetlands functions by the mitigation

34. 33 C.F.R. at § 332.3(c)(1); 40 C.F.R. § 230.93(c)(1).
35. NRC Report, *supra* n. 9, at 2 (discussing the findings of these recent reports).
36. *Id*. at 2–10.
37. *Id*. at 2.

program. On a purely acreage basis, the report pointed out that, according to the National Wetlands Inventory, the annual rate of wetland loss for the period from 1986 to 1997 was 58,545 acres per year, which was twenty-three percent of that of the previous decade.[38] The NRC also found that "the literature on compensatory mitigation suggests that required mitigation projects often are not undertaken or fail to meet permit conditions."[39] However, the report stated that "[t]he magnitude of the shortfall is not precisely known and cannot be determined from current data."[40]

NRC also concluded a "watershed approach" would improve permit decisionmaking. NRC promoted a science-driven watershed approach, stating that given the requirements for proper placement and hydrologic conditions, "a preference for on-site and in-kind mitigation should not be automatic, but should follow from an analytically based assessment of the wetlands needs in the watershed and the potential for compensatory wetlands to persist over time."[41] In this context, the report stated that certain wetland types, like fens and bogs, "cannot be effectively restored with present knowledge" and "strongly recommended" avoidance of any impacts to such resources.[42] The report made other specific recommendations for implementing a watershed approach, such as the following: maintenance of wetland diversity, connectivity, and upland-to-wetland system proportions to enhance long-term stability of wetland and riparian systems; mitigation wetlands that become self-sustaining; biological dynamics that meet the needs of the present populations of species; science and technology underpinning restoration and creation efforts that are based on a broader range of studies; and special protection for riparian wetlands.[43]

While the NRC report declined to estimate the percentage of mitigation that fails to become fully functional, key NRC scientists, including NRC panel Chair Dr. Joy Zedler, took a more in-depth look at mitigation studies to date and came to a sobering

38. *Id*. at 3.
39. *Id*.
40. *Id*.
41. *See id*. at 4 (explaining that compensatory wetlands should be sited based upon ecological factors using a "watershed approach").
42. *Id*.
43. *Id*. at 4–5.

conclusion. In a 2001 article, they stated that the mitigation program had been fostering a net loss of approximately eighty percent of wetlands.[44]

The NRC report also concluded that mitigation requirements in Section 404 permits have suffered from a lack of clarity and that compliance has often been neither assured nor attained. The report found that, "[m]onitoring [of mitigation sites] is seldom required for more than 5 years, and the description of ecosystem functions in many monitoring reports is superficial."[45] It further concluded, "[l]egal and financial mechanisms for assuring long-term protection of sites are often absent, especially for permittee-responsible mitigation."[46] The NRC made several recommendations, such as clear mitigation goals and performance standards as well as effective legal and financial assurances for long-term site sustainability and monitoring of all compensatory projects.[47] The report further found support and tools for regulatory decisionmaking were lacking.[48] Finally, it stated that in some circumstances third-party mitigation can have advantages over on-site mitigation, primarily because it provides more options that may achieve better compensation than those limited to on-site mitigation (though the report did not generally endorse one form over the other).[49]

Mitigation was further found lacking by a Government Accountability Office (GAO) report in 2005 with a title that spoke to its conclusion: *Wetlands Protection: Corps of Engineers Does Not Have an Effective Oversight Approach to Ensure That Compensatory Mitigation Is Occurring*.[50] As its title suggests, the GAO found both monitoring and enforcement of mitigation to be poor.[51] Of 152 permit files investigated in which the permittee was responsible for mitigation, only 89 files required any monitoring at all, and of those files, only 21 contained evidence any monitoring

44. Turner et al., *supra* n. 25, at 15.

45. *See* NRC Report, *supra* n. 9, at 6 (explaining that compliance with permit requirements is hampered by a lack of comprehensive, long-term oversight).

46. *Id*. at 6.

47. *Id*. at 7.

48. *Id*. at 8.

49. *Id*. at 9.

50. GAO Report, *supra* n. 4, at 26.

51. *Id*. at inside cover.

reports had actually been received by the Corps.[52] Only fifteen percent of these files contained evidence the Corps had received a compliance inspection.[53] The GAO found that monitoring requirements and inspections were higher for mitigation banks and in-lieu-fee programs, but some of those numbers—such as GAO's finding that only 36 percent of the mitigation bank files GAO received contained evidence the Corps had conducted an inspection—are troubling.[54] The GAO also found enforcement to be weak and that in some cases poorly structured mitigation agreements left no legal recourse for enforcement at all.[55]

The GAO blamed these failures on several factors. It found the Corps' then-existing guidance to be sometimes vague and internally inconsistent.[56] It also cited the Corps' failures to perform oversight of mitigation required, with some Corps districts not mandating monitoring reports in any of the files inspected.[57] The report also quoted Corps officials who pointed to resource constraints as the reason "little time is spent on compliance activities."[58]

The conclusions and recommendations of these reports serve as a context for the new rule. As explained below, the new rule falls far short of addressing the systemic problems in the Corps' Section 404 permitting program.

## *IV. THE NEW MITIGATION RULE*

### A. Avoidance Avoided: How the New Rule Fails to Adequately Promote Avoidance and Places Difficult-to-Replace Systems at Risk

The 404(b)(1) guidelines and a 1990 Memorandum of Agreement (1990 M.O.A.) between the Corps and EPA make clear that less-damaging upland alternatives are assumed to be available for all non-water dependent activities.[59] Both the Section

52. *Id.*
53. *Id.*
54. *Id.*
55. *Id.*
56. *Id.* at 14.
57. *Id.* at 17.
58. *Id.* at 15.
59. 40 C.F.R. § 230.10(a)(3) (stating that "[w]here the activity associated with a dis-

404(b)(1) guidelines and the 1990 M.O.A. prohibit permit issuance where a less environmentally damaging practicable alternative exists for the discharge site.[60] Additionally, the Section 404(b)(1) guidelines and the 1990 M.O.A. recognize that in certain circumstances permits should not be issued, regardless of the existence of alternatives. For example, the Section 404(b)(1) guidelines prohibit permit issuance for activities associated with a proposed discharge that will cause or contribute, either individually or cumulatively, to significant degradation of waters of the United States.[61] Additionally, Corps' regulations prohibit the issuance of permits that are not in the public interest.[62] The 1990 M.O.A. also states,

> [i]t is important to recognize that there are circumstances where the impacts of the project are so significant that even if alternatives are not available, the discharge may not be permitted regardless of the compensatory mitigation proposed.[63]

The new rule pays lip service to the concept of avoidance but does far too little to guarantee adherence. The result is an all-too-weak standard that fails to provide adequate assurance that avoidance will take place. In terms of difficult-to-replace resources, the discretion provided district engineers is similarly too broad, and the requirements are not strong enough to ensure impacts to these invaluable sources will be avoided.

The new rule states that

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charge which is proposed for a special aquatic site . . . does not require access or proximity to or sitting within the special aquatic site in question . . . practicable alternatives that do not involve special aquatic sites are presumed to be available . . . . In addition, . . . all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem . . . ."); 1990 M.O.A., *supra* n. 16, at II(C)(1) (referencing the presumptions from 40 C.F.R. § 230.10(a)(3)).

60. 40 C.F.R. § 230.10(a) (stating that "[e]xcept as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem"); 1990 M.O.A., *supra* n. 16, at II(C)(1) (stating that "[C.F.R.] Section 230.10(a) allows permit issuance for only the least environmentally damaging practicable alternative").

61. 40 C.F.R. § 230.10(c).

62. 33 C.F.R. § 320.4(a); 33 C.F.R. § 323.6(a).

63. 1990 M.O.A., *supra* n. 16, at n. 5.

> the district engineer will issue an individual section 404 permit only upon a determination that the proposed discharge complies with applicable provisions of 40 C.F.R. part 230, including those which require the permit applicant to take all appropriate and practicable steps to avoid and minimize adverse impacts to waters of the United States.[64]

The new rule additionally provides that "[d]uring the 404(b)(1) Guidelines compliance analysis, the district engineer may determine that a [Department of the Army] (DA) permit for the proposed activity cannot be issued because of the lack of appropriate and practicable compensatory mitigation options."[65] The new rule elaborates a bit further regarding avoidance to "difficult-to-replace" resources. It states,

> [f]or difficult-to-replace resources (e.g.[,] bogs, fens, springs, streams, Atlantic white cedar swamps) if further avoidance and minimization is not practicable, the required compensation should be provided, if practicable, through in-kind rehabilitation, enhancement, or preservation since there is greater certainty that these methods of compensation will successfully offset permitted impacts.[66]

The primary problem with the new rule is that, even though it contains a provision expressly preserving the more forceful avoidance requirements of the Section 404(b)(1) guidelines,[67] it uses language that is soft in comparison to those more forceful avoidance requirements. For instance, under the new rule, with difficult-to-replace resources, compensation can be allowed if avoidance or minimization "is not practicable."[68] Also, when a district engineer determines it is not practicable to avoid or minimize impacts to these difficult-to-replace resources, he or she "should" only provide the types of compensation listed "if practicable."[69] This could be interpreted to give the district engineer latitude to allow for a different type of compensation than the types suggested. Thus, it is plausible that a district engineer

64. 33 C.F.R. § 332.1(c)(2); 40 C.F.R. § 230.91(c)(2).
65. 33 C.F.R. § 332.1(c)(3); 40 C.F.R. § 230.91(c)(3).
66. 33 C.F.R. § 332.3(e)(3); 40 C.F.R. § 230.93(e)(3).
67. 33 C.F.R. § 332.1(c); 40 C.F.R. § 230.91(c).
68. 33 C.F.R. § 332.3(e)(3); 40 C.F.R. § 230.93(e)(3).
69. 33 C.F.R. § 332.3(e)(3).

could determine that impacts to a fen or bog cannot be "practicably" avoided and that in-kind compensation cannot be "practicably" performed; the district engineer could then allow a permit to issue with a payment to a mitigation bank that results in creation of a marsh several watersheds away. Such a result would fail to mitigate impacts and be contrary to the Act and the Section 404(b)(1) guidelines.

Similarly, the new rule fails to unequivocally state that permits may not be issued when there is lack of appropriate compensatory mitigation.[70] The preamble to the new rule states,

> [e]ffective implementation of this rule, including the ecological performance of compensatory mitigation projects, is dependent upon critical thinking by decision-makers to determine whether a particular compensatory mitigation proposal at a specific site is technically feasible and capable of providing the desired aquatic resource functions and services.[71]

This language appears to grant more discretion to district engineers' decisions about avoidance than the 404(b)(1) guidelines and the Act allow.

Also notable is the inclusion of streams in this rule. The legislative provision requiring a rule-making did not mention streams, only wetlands.[72] Nevertheless, the Corps and EPA decided to include streams in the rule. Yet, as many groups pointed out in comments on the draft rule, current science simply does not provide adequate support for formalizing rules related to stream mitigation.[73] Where compensation has proven extremely difficult to achieve for wetlands, science has thus far suggested it is close to impossible to successfully achieve compensation for streams.[74]

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70. 33 C.F.R. § 332.1(c)(3); 40 C.F.R. § 230.91(c)(3). Both rules state that "the district engineer may determine that a DA permit for the proposed activity cannot be issued because of the lack of appropriate and practicable compensatory mitigation options." *Id*.

71. 73 Fed. Reg. at 19618.

72. 117 Stat. at 1430–1431 (authorizing the Department of Defense to participate in activities relating only to "wetlands").

73. *See e.g.* Ltr. from Nancy B. Grimm, Pres., Ecological Soc. of Am., to Docket EPA-HQ-OW-2006-0020, *Compensatory Mitigation for Losses of Aquatic Resources* (June 20, 2006) (stating the position that it would be premature to include rivers and streams in the proposed rule and suggesting that independent scientific assessments of stream mitigation practices be performed first).

74. *See e.g. Ohio Valley Envtl. Coalition v. U.S. Army Corps of Engrs.*, Expert Rpt. of Margaret A. Palmer, 2006 WL 4869191, at *7 (S.D.W. Va. May 16, 2006) (indicating an

This is especially true for stream creation, where the science strongly indicates streams simply cannot be created to replace ones that are destroyed.[75] It would have been wiser for the agencies to further develop the science on stream mitigation prior to formalizing any rules so as to be able to adequately evaluate whether, when, and how stream mitigation could occur.

The Corps and EPA responded to this criticism by including streams as "difficult-to-replace" resources. Yet, given the discretion ultimately afforded district engineers in determining when mitigation is appropriate for difficult-to-replace resources, it is doubtful this inclusion will result in much substantive protection for streams from destruction. As with all permit applications, district engineers will likely face immense pressure to allow activities like residential and commercial development and mining to proceed in a manner that impacts streams by issuing permits that provide "compensation" for those stream losses. Absent strong provisions preventing such permits from being issued, protection of such resources will depend far too much on the willingness of district engineers to resist this pressure.

### B. Mitigation Banking: A False Panacea

The new rule shows a strong bias in favor of one type of mitigation—mitigation banking. The rule allows that

> [w]hen permitted impacts are located within the service area of an approved mitigation bank, and the bank has the appropriate number and resource type of credits available, the permittee's compensatory mitigation requirements may be met by securing those credits from the sponsor.[76]

As justification, the rule reads as follows:

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expert's opinion that "*[t]he very concept of creating a stream that has comparable levels of ecological functioning to natural channels remains untested and is scientifically implausible*").

75. *See id.* at *5 (stating an expert opinion that "the basic premise that enhancing or restoring impacted streams will fully replace streams that are lost to valley fills is not based on any scientifically credible evidence").

76. 33 C.F.R. § 332.3(b)(2); 40 C.F.R. § 230.93(b)(2).

> use of a mitigation bank can help reduce risk and uncertainty, as well as temporal loss of resource functions and services. . . . Mitigation banks typically involve larger, more ecologically valuable parcels, and more rigorous scientific and technical analysis, planning and implementation than permittee-responsible mitigation. Also, development of a mitigation bank requires site identification in advance, project-specific planning, and significant investment of financial resources that is often not practicable for many in-lieu fee programs.[77]

As such, the rule concludes that "the district engineer should give preference to the use of mitigation bank credits when these considerations are applicable."[78]

The rule's preference for mitigation banking is contradicted, however, by the available science. The available science fails to suggest that mitigation banking is any more successful than project-specific mitigation and indicates that it is far from the "win-win" panacea it has been billed to be. A recent Ohio study of mitigation banks found that for completed bank areas assessed, approximately 25 percent of the area was not wetland at all, but shallow, unvegetated pond; another 25 percent was poor-quality wetland; 58 percent was fair-quality wetland; and only eighteen percent was high-quality wetland.[79] And this disappointing showing did not even account for whether it is wise policy to compensate impacts throughout the watershed with a few large wetland projects some critics have referred to as "wetland zoos."[80]

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77. 33 C.F.R. § 332.3(b)(2).

78. *Id*. The rule also provides latitude for the district engineer to use other forms of mitigation, stating

> these same considerations may also be used to override this preference, where appropriate, as, for example, where an in-lieu fee program has released credits available from a specific approved in-lieu fee project, or a permittee responsible project will restore an outstanding resource based on rigorous scientific and technical analysis.

*Id*.

79. J.J. Mack & M. Micacchion, *An Ecological Assessment of Ohio Mitigation Banks: Vegetation, Amphibians, and Soils*, Ohio EPA Technical Rpt. WET/2006-1, 17 (2006) (available at http://www.epa.state.oh.us/dsw/wetlands/WetlandEcologySection/html).

80. *See generally* Jennifer Neal, *Paving the Road to Wetlands Mitigation Banking*, 27 B.C. Envtl. Aff. L. Rev. 161, 180 (1999) (noting that mitigation banking may be a "cheap trick" that enables the degradation of original wetlands in exchange for an insufficient compensatory mitigation).

These results should not be a surprise. As a 2006 paper noted, "[t]he whole point of wetlands mitigation banking—what makes its economic incentives work—is that developers get to wipe out wetland patches in higher-priced land market and bankers get to establish mitigation banks in less-pricey markets."[81] Thus, it is largely economics—not ecology—that drives mitigation banking. Marry this economic reality with lax monitoring and enforcement, and less-than-adequate environmental results become predictable.

### C. The Watershed Approach Watered Down

The 2001 NRC report found that a "watershed approach" to compensation could improve the success of mitigation for wetlands.[82] However, the NRC clearly contemplated that such an approach be guided by a substantial and scientifically supported watershed plan. Key NRC members summarized their concept of a watershed approach in a 2001 article:

> If watershed-management plans were accomplished in advance of permitted damages to wetlands, and if such plans laid out a suite of promising wetland restoration sites, the selection of mitigation sites could facilitate the retention of wetland functions. Then, if mitigation requirements were based on ecological criteria (described attributes of community structure and ecosystem functioning), the likelihood of sustaining wetland functions within sites and watersheds should improve greatly.[83]

Or, as more pithily stated by NRC panel chair Dr. Joy Zedler: "Without a watershed plan, there is no watershed approach."[84]

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81. J.B. Ruhl & James Salzman, *The Effects of Wetland Mitigation Banking on People*, Natl. Wetlands Newsletter 28(2) (2006).

82. NRC Report, *supra* n. 9, at 46–59.

83. Turner et al., *supra* n. 25 at 16.

84. Jan Goldman-Carter, *Comments Template for Proposed Mitigation Rule*, http://www.cleanwaternetwork.org/files/Comments%20Template%20for%20Proposed%20Mitigation%20Rule%20final%206%2021%20rev.doc (accessed Apr. 16, 2009). Similarly, the NRC report itself states as follows:

> Making mitigation decisions from a watershed perspective would explicitly recognize the need for and the desired locations of wetlands of all sizes and types and then proactively assure that these sites are protected and restored. A watershed perspective could help to focus on how the water-quality functions might be replaced and

The new rule purports to adopt the watershed approach, but faced with the reality that few such watershed plans exist and that few communities will have the resources to develop such plans, the new rule simply requires that "district engineers must use a watershed approach . . . to the extent appropriate and practicable."[85] The new rule then states that "[w]here a watershed plan is available, the district engineer will determine whether the plan is appropriate for use in the watershed approach for compensatory mitigation."[86] However, where a plan is not available, the district engineer is allowed to base the watershed approach "on information provided by the project sponsor [the applicant] or available from other sources."[87] Thus, in the vast majority of watersheds where no watershed plan exists, it would appear that the rule allows for the judgment of developers, mining companies, and others focused on their own bottom line to suffice.

The guidance for determining what is a suitable watershed approach—whether a plan exists or not—provides too much latitude to district engineers. The new rule provides broad, nonspecific, and discretionary guidelines such as "[c]ompensatory mitigation requirements determined through the watershed approach should not focus exclusively on specific functions . . . but should provide, where practicable, the suite of functions typically provided by the affected aquatic resource" and "[a] watershed approach may include on-site compensatory mitigation, off-site compensatory mitigation (including mitigation banks or in-lieu fee programs), or a combination of on-site and off-site compensatory mitigation."[88] Where a plan is not present, district engineers are granted wide latitude to rely on scant information, most likely provided by the applicant itself, in making compensatory decisions under the "watershed approach." The new rule lays out in-

> would direct attention to the base of the food web. Watershed-scale assessment could consider the long-term connectivity of wetland and upland habitats. The individual projects that would implement a watershed approach would occur on parcels of varying size, so that while mitigation would often be located off-site, it would be located where it would be likely to secure defined watershed goals.

NRC Report., *supra* n. 9, at 144.

85. 33 C.F.R. § 332.3(c)(1); 40 C.F.R. § 230.93(c)(1).

86. 33 C.F.R. § 332.3(c)(1).

87. *Id*.

88. 33 C.F.R. § 332.3(c)(2)(i), (iii); *see* 40 C.F.R. § 230.93(c)(2) (i), (iii) (describing the watershed approach to wetland mitigation decisions).

formation on which the district engineer will base his or her analysis,[89] but these requirements are general and do not require detail. In fact, the new rule provides that "[t]he level of information and analysis needed to support a watershed approach must be commensurate with the scope and scale of the proposed impacts requiring a DA permit."[90]

Thus, the new rule does not lay out a "watershed approach." Nowhere is there a strict requirement that permitting decisions be based on a comprehensive watershed-wide plan that is scientifically undertaken and supported. Instead, it allows for a project-by-project analysis of mitigation that need not look at the entire watershed and its needs. The fact that the information is likely to be provided by the applicant and that "applicants are not required to incur substantial costs to provide information for the watershed approach"[91] almost certainly guarantees a great number of mitigation decisions purported to be based on the "watershed approach" will in practice be based on nothing approaching the rigorous, comprehensive, and scientifically supported plans envisioned by the NRC. It cannot be concluded that this new rule meaningfully adopts the watershed approach.

### D. Monitoring and Enforcement: Who's Watching?

Despite the GAO's report strongly criticizing the Corps' lack of monitoring and enforcement, the new rule does little to address these concerns. Language in the preamble to the rule seems to indicate that the Corps and EPA do not see a problem with monitoring and enforcement. The preamble explains that "[t]his rule will not place a large incremental burden on Corps staff" and "[t]he Corps already conducts compliance inspections on compensatory mitigation projects . . . as its resources allow and will continue to do so."[92] The preamble further states that "[t]he agencies agree that vigorous enforcement and compliance activities are necessary for the success of the regulatory program, including compensatory mitigation. The Corps believes that it has adequate

89. 33 C.F.R. § 332.3(c)(3)(i); 40 C.F.R. § 230.93(c)(3)(i).
90. 33 C.F.R. § 332.3(c)(3)(iii); 40 C.F.R. § 230.93(c)(2) (iii).
91. 73 Fed. Reg. at 19631.
92. *Id*. at 19609.

resources in these areas."[93] Such statements belie what both the NRC and the GAO found to be the case.

The new rule does mandate permits to include clearly stated mitigation requirements set forth in special conditions and that the special conditions be enforceable.[94] This is a welcome step in the right direction. Another needed provision is the requirement that "[f]or permittee-responsible mitigation, the special conditions of the DA permit must clearly indicate the party or parties responsible for the implementation, performance, and long-term management of the compensatory mitigation project."[95]

The new rule provides that for mitigation banks and in-lieu-fee programs "the instrument [creating such program] must clearly indicate the party or parties responsible for the implementation, performance, and long-term management of the compensatory mitigation project[s]."[96] Where a permittee is allowed to use third-party mitigation, that permittee will retain responsibility for the mitigation

> until the appropriate number and resource type of credits have been secured from a sponsor and the district engineer has received documentation that confirms that the sponsor has accepted the responsibility for providing the required compensatory mitigation.[97]

The new rule also makes clear that the district engineer may pursue measures against the sponsor to ensure compliance.[98]

The new rule further discusses monitoring and public review. During the application process, the public notice must contain a statement explaining how impacts associated with the proposed activity are to be avoided, minimized, and compensated for, including whether third-party mitigation will be used.[99] Once a permit is issued, monitoring reports must be submitted by the

93. *Id*.

94. 33 C.F.R. § 332.3(k)(1); *see* 40 C.F.R. § 230.93(k)(1) (specifying that permit conditions should be clear and enforceable, with adequate monitoring and provisions for long-term management).

95. 33 C.F.R. § 332.3(l)(1); 40 C.F.R. § 230.93(l)(1).

96. 33 C.F.R. § 332.3(l)(2); 40 C.F.R. § 230.93(l)(2).

97. 33 C.F.R. § 332.3(l)(3); 40 C.F.R. § 230.93(l)(3).

98. *Id*.

99. 33 C.F.R. § 332.4(b)(1); 40 C.F.R. § 230.94(b)(1).

permittee or sponsor in accordance with special conditions of the DA permit (permittee) or the terms of the instrument (third-party mitigation).[100]

While the increased clarity regarding responsibility for enforcement and monitoring is encouraging, the increased reliance on third-parties to carry out mitigation and be responsible for such mitigation continues to raise concerns. Individual parties relying on third parties will eventually be absolved of responsibility for the successful implementation of that mitigation. While the third-party sponsors will be responsible, third-parties often take on obligations for several permittees, meaning that a failed or delinquent third-party can mean failed mitigation for many projects. Such enforcement measures, even when initiated, will often only be as good as the third-party's ability and willingness to comply with enforcement. One bad, insolvent, or extremely litigious actor could jeopardize the adequate success of many compensation projects with no recourse back to the permittee to ensure compliance.

### E. Over-Reliance on Preservation

The new rule abandons the long-held concept that simply preserving an existing wetland should be counted as compensation "in only exceptional circumstances."[101] In contrast, the new rule now allows preservation—which does not create, enhance, or restore any resource in exchange for the resource that is impacted—to be used as compensation when the preserved resource provides "important" functions, "contribute[s] significantly to ecological sustainability of the watershed," the preserved resource is "under threat," and the preserved resource will be "permanently protected through an appropriate real estate or other legal instrument."[102]

The new rule thus sets up situations in which district engineers will likely be under pressure to cave to development interests when the developer is willing to offer up as compensation preservation of large tracts of an existing resource. While preserv-

100. 33 C.F.R. § 332.6(c)(2); 40 C.F.R. § 230.96(c)(2).
101. 1990 M.O.A., *supra* n. 16, at II (C)(3).
102. 33 C.F.R. §§ 332.3(h)(1) (i)–(v); 40 C.F.R. §§ 230.93(h)(i)–(v).

ing valuable resources is important, it is not compensation. The preservation of one resource at the expense of another is an unquestionable net loss of resources. Its use as mitigation should be far more guarded than the new rule provides.

F. Standards for Compensation and Long-Term Protection

The new rule does provide some bright spots in including standards for compensation and providing for long-term protection and management of compensation sites.[103] However, as with other portions of the new rule, much of the language is qualified with discretionary terms such as "where practicable." As is true throughout the new rule, such language will likely serve to make it difficult for district engineers to say "no" to project impacts by providing them too much latitude to allow destructive projects to proceed without adequate compensation. For instance, the new rule states "the amount of required compensatory mitigation must be, *to the extent practicable*, sufficient to replace lost aquatic functions."[104] Similarly, regarding long-term protection, the new rule provides

> "the overall compensatory mitigation project must be provided long-term protection . . . *as appropriate*," and "long-term protection of the compensatory mitigation site must, *to the extent appropriate and practicable*, prohibit incompatible uses . . . that might otherwise jeopardize the objectives of the compensatory mitigation project."[105]

The new rule also establishes a default ratio of one-to-one mitigation for wetland acreage or stream linear foot in cases where "a functional or condition assessment or other suitable

103. For example, a final mitigation plan must include "ecologically-based" performance standards. 33 C.F.R. §§ 332.4(c)(1)(9); 40 C.F.R. §§ 332.4(c)(1),(9). Such standards "must be based on attributes that are objective and verifiable. Ecological performance standards must be based on the best available science that can be measured or assessed in a practicable manner." 33 C.F.R. § 332.5(b); 40 C.F.R. § 230.95(b); *see also* 33 C.F.R. §§ 332.7(d)(1, 2); 40 C.F.R. § 230.97(d)(1, 2) (requiring "permit conditions or instrument must identify the party responsible for ownership and *all long-term management* of the compensatory mitigation project" and that the long-term management plan should "identify to the funding mechanism that will be used to meet those [long-term management] needs" (emphasis added)).

104. 33 C.F.R. § 332.3(f)(1); 40 C.F.R. § 230.93(f)(1) (emphasis added).

105. 33 C.F.R. § 332.7(a)(1, 2); 40 C.F.R. § 230.97(a)(1, 2) (emphasis added).

metric is not used" to determine the necessary amount of mitigation.[106] While it provides some instances (such as use of preservation) where one-to-one ratios should not be used and requires documentation of the rationale for a ratio used,[107] the one-to-one default is unacceptable. With a history of high failure rates, poor monitoring, and poor enforcement, a one-to-one mitigation ratio falls far short of any realistic ratio needed to achieve no-net loss of wetlands or streams.

## *V. MITIGATION IN A WARMING WORLD*

The failure of the new rule to stringently require avoidance and minimization and provide steadfast assurance that mitigation, when allowed, will adequately compensate for losses of aquatic resources is all the more troubling in the face of global warming and the challenges it presents our nation's waters. In September 2008, the EPA issued a document entitled *National Water Program Strategy: Responses to Climate Change* (*NWP Strategy*).[108] The *NWP Strategy* appropriately seeks to use existing regulatory programs as critical tools in addressing the challenges confronting our nation's water resources as a result of global warming.

The *NWP Strategy* paints a dire picture for the future of water resources. For instance, it states that warmer temperatures will lead to warmer water, which holds less oxygen, and can foster harmful algal blooms and increase the toxicity of some pollutants.[109] Similarly, it states that more extreme water-related events, such as increased and more intense storms, will have negative water quality impacts by causing more intense flooding and other events that result in high flows, increased sediment and erosion, and a resulting increase in nutrients, pathogens, and toxins entering waterbodies.[110] The *NWP Strategy* additionally

106. 33 C.F.R. § 332.3(f)(1); 40 C.F.R. § 230.93(f)(1).

107. 33 C.F.R. § 332.3(f)(2); 40 C.F.R. § 230.93(f)(2).

108. EPA, *National Water Program Strategy—Responses to Climate Change* (Pre-Publication Copy) (Sept. 2008) (available at http://www.epa.gov/ow/climatechange/).

109. *Id*. at ii., 8.

110. *Id.* at ii, 14. Hurricanes and tropical storms are "likely" to become more intense due to increased sea surface temperatures in some areas. *Id.* at 13. However, the relationship between sea surface temperature and storm frequency "is less clear." *Id.*

notes that temperature increases will change aquatic biology, disrupting aquatic system health and often resulting in the establishment of invasive and non-indigenous species in certain waters at the expense of existing species.[111] The *NWP Strategy* concludes, "[t]he number of waters recognized as 'impaired' is likely to increase, even if pollution levels are stable."[112] Given these threats, the *NWP Strategy* puts forth a goal to "adapt implementation of core water programs to maintain and improve program effectiveness in the context of a changing climate."[113]

Such conclusions point to the need for stringent water resource protection under existing laws, primarily the CWA. The perfect storm posed by the threat of global warming means that protecting and restoring resources like wetlands and small streams—which control flooding; recharge and moderate flow rates; recharge groundwater; provide habitat to species; provide colder supplies of waters to warmer streams; and filter pollutants such as nutrients, pathogens, and sediments—will be more crucial than ever. With the threat of global warming making the functions and services that wetlands, streams, and other waters perform even more critical to preserving the integrity of our Nation's waters, permitting requirements under the CWA must ensure that important resources are protected.

For the reasons discussed above—a failure to meaningfully ensure that avoidance and minimization occurs, a "watershed approach" that belies the name, too much discretion for district engineers to allow impacts to occur without adequate compensation, and an overall permitting structure almost certain to perpetuate wetland losses—the new mitigation rule is a step in the wrong direction. The solid and overwhelming science behind global warming strongly cautions us to do all we can to protect what we have and to ensure our regulatory programs are set up to accommodate the incredible strains climate change will place on our aquatic resources. The new rule does not come close to meeting this important challenge.

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111. *Id.* at ii–iii, 7, 8.

112. *Id.* at ii. That is, even if pollution levels remain unchanged, warmer waters (which result from warmer air temperatures) hold less dissolved oxygen and may foster harmful algal blooms that can alter the toxicity of some pollutants. *Id.* Warmer waters can reach the point of "hypoxia," in which aquatic species cannot survive. *Id.*

113. *Id.* at 35.

## *VI. CONCLUSION*

The more things change, the more they stay the same. So it is with the new mitigation rule. Although the new rule contains some welcome provisions, these are largely undermined by provisions that serve essentially to reinforce the Corps' historic record of putting permit issuance over resource protection. In sum, the new rule simply provides the Corps with far too many ways to bypass adequate safeguards that ensure losses to aquatic resources are avoided, minimized, or properly compensated. Aquatic resources will lose as a result, at a time when global warming, development pressures, and other threats mean we can ill-afford such losses. Our waters require much stronger protections than the new rule provides them, and they need those protections now.