

C O M M E N T S

Ten Years of the Compensatory Mitigation Rule: Reflections on Progress and Opportunities

by Palmer Hough and Rachel Harrington

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In 2008, the U.S. Army Corps of Engineers (the Corps) and the U.S. Environmental Protection Agency (EPA) overhauled federal policy governing how impacts to wetlands, streams, and other aquatic resources authorized under §404 of the Clean Water Act (CWA)¹ are offset—an action known as compensatory mitigation. The collective efforts of mitigation practitioners, private-sector entrepreneurs, conservation organizations, scientists, and regulators have led to a great deal of progress in improving

Authors' Note: The mitigation improvements summarized in this Comment would not have been possible without the hard work and dedication of mitigation practitioners, particularly mitigation bank and in-lieu fee (ILF) program sponsors who implement wetland and stream restoration and enhancement projects across the country, and the federal and state agency staff who serve on interagency review teams (IRTs) and work closely with practitioners to ensure that their compensation projects provide meaningful offsets and comply with the regulations. Special recognition goes to U.S. Army Corps of Engineers (the Corps) staff, who provide critical leadership on IRTs and in overseeing mitigation bank and ILF program approval and management, and Corps headquarters and the Corps' Institute for Water Resources for supporting essential training efforts and the Regulatory In-lieu Fee and Bank Information Tracking System database, which tracks important data regarding mitigation banks and ILF programs, and makes that data available to the public. This work was supported in part by an appointment to the Research Participation Program at the U.S. Environmental Protection Agency's (EPA's) Office of Water, and administered by the Oak Ridge Institute for Science and Education through an interagency agreement between the U.S. Department of Energy and EPA. The views expressed here are the authors' own and do not necessarily reflect the views or policies of EPA.

1. 33 U.S.C. §§1251-1387, §1344, ELR STAT. FWPCA §§101-607.

the nation's approach to offsetting authorized impacts to wetlands and streams. On the 10-year anniversary of the Corps/EPA Compensatory Mitigation Rule,² it is important to highlight this progress as well as some potential important work that remains to be done.

The primary objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. To help achieve this objective, §404 of the CWA regulates discharges of dredged or fill material into waters of the United States, including wetlands and streams. Wetlands, streams, and other aquatic resources perform critical ecological functions in the landscape, including protecting water quality, regulating water quantity and flood flows, and providing important habitat for fish and wildlife. Section 404 helps to ensure that discharges to these waters proceed without compromising these important aquatic resource functions.

The Corps and EPA share responsibility for the §404 program. The Corps serves as the permitting authority for regulated activities,³ and EPA was tasked with, among other duties, developing the substantive environmental criteria that the Corps uses to make its permit decisions. These are known as the Section 404(b)(1) Guidelines and are codified in regulation at 40 C.F.R. Part 230. The mitigation requirements to avoid, minimize, and compensate for permitted impacts originated in these regulations and have been further clarified through subsequent regulations and guidance. The 2008 Compensatory Mitigation Rule

2. 40 C.F.R. §§230.91-.98 (2018); 33 C.F.R. §332 (2018).

3. Under §404(g) of the CWA, states may receive approval from EPA to administer permit programs for sites in certain waters of the United States in lieu of the program administered by the Corps. To date, two states have been approved by EPA to administer §404 permit programs: Michigan and New Jersey.

focuses on the last step of this mitigation sequence—compensatory mitigation.

For the purposes of CWA §404, compensatory mitigation means the restoration, establishment, enhancement, and/or in certain circumstances the preservation of wetlands, streams, and other aquatic resources to offset unavoidable adverse impacts that remain after all appropriate and practicable avoidance and minimization has been achieved.⁴ Compensation can be provided in three ways: purchasing credits from a mitigation bank, purchasing credits from an in-lieu fee (ILF) program, or completing a permittee-responsible mitigation project.

- A *mitigation bank* is a wetland, stream, and/or other aquatic resource compensation project that has been set up in advance of permitted impacts. Mitigation banks can be sponsored by private, government, or nonprofit organizations; however, most banks are sponsored by private-sector entrepreneurs. When a §404 permittee uses mitigation bank credits to satisfy its compensation requirements, the bank sponsor assumes responsibility for successfully satisfying those requirements.⁵
- With *ILF mitigation*, the permittee provides funds to an ILF sponsor. The ILF sponsor conducts the wetland, stream, and/or other aquatic resource compensation project when it has collected sufficient funds, and therefore projects are not generally initiated in advance of permitted impacts. When a §404 permittee uses ILF credits to satisfy its compensation requirements, the ILF sponsor assumes responsibility for successfully satisfying those requirements. Sponsorship of ILF programs is restricted to qualified government agencies and nonprofit organizations with a conservation mission.⁶
- With *permittee-responsible mitigation*, the permittee completes a wetland, stream, and/or other aquatic resource compensation project (or hires a contractor) to satisfy its compensation requirements. However, responsibility for successfully satisfying these requirements remains with the permittee.⁷ Permittee-responsible mitigation is generally initiated concurrent with or after permitted impacts take place.

There were two primary drivers that prompted the Corps and EPA to develop the 2008 Compensatory Mitigation Rule—concerns about the ecological effectiveness of compensatory mitigation, and concerns about the equivalency of the rule sets governing the three compensatory mitigation

mechanisms.⁸ Regarding the former, the National Research Council (NRC) evaluated the effectiveness of §404 compensatory mitigation in its landmark study published in 2001, and raised substantive concerns regarding whether compensatory mitigation was offsetting permitted losses.⁹ The report also provided the Corps and EPA with more than two dozen recommendations for improving compensation—a blueprint for the kinds of policy changes necessary to improve the ecological outcomes of compensation.

In addition to concerns regarding the effectiveness of compensation, concerns were also being raised regarding whether the agencies were holding all three types of mitigation (i.e., mitigation banks, ILF programs, and permittee-responsible mitigation) to equivalent standards. Mitigation bankers argued that they were consistently held to higher administrative and ecological standards than the other two forms of compensation—creating an unlevel playing field among competing compensation providers. In response to these concerns, in 2003, the U.S. Congress directed the agencies to develop rules that would set equivalent standards for the use of compensation from all three types of compensation providers.¹⁰ In 2008, the Corps and EPA finalized a rule that accomplished these goals.

It has been 10 years since the Corps and EPA issued the Compensatory Mitigation Rule. The purpose of this Comment is threefold: to (1) review the major policy changes that were a part of the 2008 rule; (2) highlight key areas of progress in compensatory mitigation practice documented under the 2008 rule; and (3) note some potential opportunities for further improvement.

I. Major Policy Changes in the 2008 Compensatory Mitigation Rule

The 2008 rule put in place a suite of changes governing how CWA §404 compensatory mitigation is done. These changes were designed to improve the ecological outcomes of compensatory mitigation projects and increase transparency, predictability, and consistency in compensatory mitigation decisionmaking.

A. Equivalent and Effective Standards

One of the most important changes effected by the 2008 rule was the requirement that all compensatory projects—

4. 40 C.F.R. §230.92 (2018); 33 C.F.R. §332.2 (2018).

5. 40 C.F.R. §230.92 (2018); 33 C.F.R. §332.2 (2018).

6. 40 C.F.R. §230.92 (2018); 33 C.F.R. §332.2 (2018).

7. 40 C.F.R. §230.92 (2018); 33 C.F.R. §332.2 (2018).

8. INSTITUTE FOR WATER RESOURCES (IWR), THE CORPS, THE MITIGATION RULE RETROSPECTIVE: A REVIEW OF THE 2008 REGULATIONS GOVERNING COMPENSATORY MITIGATION FOR LOSSES OF AQUATIC RESOURCES (2015) (2015-R-03) [hereinafter The Corps IWR], available at https://www.epa.gov/sites/production/files/2015-11/documents/mitrule_report_october_2015.pdf.

9. NRC, COMPENSATING FOR WETLAND LOSSES UNDER THE CLEAN WATER ACT (2001), available at <https://www.nap.edu/read/10134/chapter/1>.

10. National Defense Authorization Act for Fiscal Year 2004, Pub. L. No. 108-136, 117 Stat. 1392, 1431.

whether a bank, an ILF project, or a permittee-responsible project—must have in place a mitigation plan that addresses the following 12 elements¹¹:

1. Objectives
2. Site selection factors
3. Site protection instrument
4. Baseline information
5. Credit determination
6. Work plan
7. Maintenance plan
8. Performance standards
9. Monitoring requirements
10. Financial assurances
11. Long-term management plan
12. Adaptive management plan

Requiring these items to be covered in mitigation plans means that all compensatory mitigation projects must, for example, have in place appropriate financial assurances, provide for long-term protection, and commit to monitoring. This ensures that there is a level playing field among providers of compensatory mitigation. Addressing these 12 elements was also envisioned to improve effectiveness because failures of compensation projects in the past were often linked to failure to address one or more of these very planning elements. Inclusion of each of these planning elements was based on several decades of lessons learned in the §404 program. For permit applicants who propose to use mitigation bank or ILF program credits to satisfy their compensatory mitigation requirements, most of these planning elements have already been addressed by the bank or ILF program. For permittee-responsible mitigation, the permit applicant must fully develop this plan and obtain approval from the Corps.¹²

B. Watershed Approach to Site Selection and Design

The NRC identified site selection as the most important determinant of whether a project would be ecologically successful, and recommended adopting a new approach to reviewing the appropriateness of proposed compensatory mitigation projects.¹³ While previous CWA §404 policy assumed that siting offset projects as close to the impact site as possible was the best approach,¹⁴ the NRC recom-

mended instead directing compensatory mitigation projects to those places that most effectively address the most pressing ecological needs in a given watershed. The 2008 rule codified this recommendation—termed the “watershed approach.” The rule requires the use of watershed plans to inform compensation site decisionmaking when appropriate plans are available, and when such plans are not available, the rule identifies the kinds of information and data that should be used to inform compensation project site selection.¹⁵

C. Performance Monitoring

Prior to adoption of the rule, performance standards for compensation projects were often absent or unclear, making it difficult to judge whether a project was successful and to enforce against a responsible party when remedial action was necessary. The 2008 rule requires that all projects have objective, measurable, and enforceable ecological performance standards and that those standards be based on the best available science.¹⁶ Monitoring requirements for past projects were often absent or ineffective at supporting evaluation of project success. The 2008 rule made it clear that all projects must have detailed monitoring requirements that lay out the parameters to be measured to determine if the project is meeting its performance standards, who is responsible for conducting the monitoring, and the frequency with which monitoring reports will be submitted.¹⁷

D. Permanence and Durability of Compensation Projects

The impacts to wetlands, streams, and other aquatic resources that require compensatory mitigation are largely permanent; accordingly, the preamble to the 2008 rule states that the goal is the permanent protection of compensation sites.¹⁸ To help achieve this goal, the rule requires that each compensation site be protected with a site protection instrument that prohibits actions that are incompatible with maintaining the restored site.¹⁹ Even after a compensation site meets its performance standards, additional land management tasks generally are needed to ensure that conservation values are maintained. The 2008 rule requires that each compensation project have a long-term management plan that identifies what management tasks must be done on that site each year, who is responsible for completing those tasks, and how implementation of those long-term management tasks will be funded.²⁰

11. 40 C.F.R. §230.94(c)(2)-(14) (2018); 33 C.F.R. §332.4(c)(2)-(14) (2018).

12. In the case of individual permits, the Corps' approval of the final mitigation plan must occur before permit issuance (40 C.F.R. §230.93(k)(2) (2018) and 33 C.F.R. §332.3(k)(2) (2018)); for general permits, the Corps' approval must occur before activities in waters of the United States commence (40 C.F.R. §230.93(k)(3) (2018) and 33 C.F.R. §332.3(k)(3) (2018)).

13. NRC, *supra* note 9, at 3-5, 140-49.

14. Memorandum of Agreement (MOA) 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, 55 Fed. Reg. 9210 (Mar. 12, 1990) (“Compensatory actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands) should be undertaken when practicable, in areas adjacent or contiguous to the discharge site (on-site compensatory mitigation).”), available at <https://www.epa.gov/cwa-404/memorandum-agreement>. The provisions of this MOA

that concern the amount, type, and location of compensatory mitigation were superseded by the 2008 Compensatory Mitigation Rule (40 C.F.R. §230.91(e)(2) (2018) and 33 C.F.R. §332.1(e)(2) (2018)).

15. 40 C.F.R. §230.93(c) (2018); 33 C.F.R. §332.3(c) (2018).

16. 40 C.F.R. §230.95 (2018); 33 C.F.R. §332.5 (2018).

17. 40 C.F.R. §230.96 (2018); 33 C.F.R. §332.6 (2018).

18. 73 Fed. Reg. 19593, 19642, 19646, 19664 (Apr. 10, 2008).

19. 40 C.F.R. §230.97(a) (2018); 33 C.F.R. §332.7(a) (2018).

20. 40 C.F.R. §230.97(d) (2018); 33 C.F.R. §332.7(d) (2018).

E. Structured Interagency Review Process for Mitigation Bank and ILF Proposals

Mitigation bank and ILF proposals often involve complex, large-scale aquatic ecosystem restoration and protection projects. Effectively reviewing such projects requires a multidisciplinary team of federal and state resource and regulatory agencies. The NRC's 2001 report on §404 compensatory mitigation specifically identified the interagency review team process, established by the 1995 Federal Mitigation Banking Guidance²¹ and used to approve mitigation banks, as one of the advantages that banks had over traditional permittee-responsible mitigation in ensuring effective compensatory mitigation.²² Accordingly, the 2008 rule codified in regulation the structure and function of these interagency review teams (IRTs), made them applicable to ILF programs as well, identified the Corps as the chair of these IRTs and the final decisionmaker for projects that generate §404 credits, and established time lines for interagency review during each of the four phases of mitigation bank and ILF proposal development, as well as other key oversight decisions such as credit release requests.²³

There can also be benefits to bank and ILF sponsors in having all the federal and state agencies with project oversight responsibilities working collaboratively. While securing Corps approval is essential for use of a mitigation bank or ILF program in the §404 program, securing buy-in from state agencies and the other federal agencies on the IRT (i.e., EPA, U.S. Fish and Wildlife Service, and National Marine Fisheries Service) provides opportunities for these compensation projects to satisfy §404 mitigation needs²⁴ as well as those of other state and federal programs.²⁵ This kind of buy-in is particularly important if the bank or ILF program is providing credits for impacts regulated by these other agencies (e.g., species credits, nutrient credits) and

doing so concurrently supports more efficient and timely project approval.²⁶

F. Preference Hierarchy for Compensation

Another important policy change introduced in the 2008 rule is the preference hierarchy for compensation options.²⁷ The rule established that credits from mitigation banks and released credits from ILF programs are the preferred option for providing compensation because they were determined to be the least risky compensation options. They are less risky because bank credits and ILF-released credits are based on achievement of performance-based milestones at a compensation site. These milestones include securing a site, securing approval of the mitigation plan, successful construction, hydrologic restoration, and attainment of other ecological standards.

Second on the hierarchy are advance credits from an ILF program. While these credits are not associated with demonstrated performance at a site, they are based on watershed- or landscape-level planning and administered by ILF programs that must meet the more stringent requirements for ILF programs established in the 2008 rule. Last on this risk-based hierarchy is permittee-responsible mitigation, which generally does not benefit from the same level of planning, analysis, and oversight as mitigation banks and ILF programs.

II. Major Trends Over the Past 10 Years Under the Compensatory Mitigation Rule

A. Methods

In order to determine major trends under the Compensatory Mitigation Rule, we used publicly available data from the Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS).²⁸ RIBITS allows users to access information on the types and numbers of mitigation bank and ILF sites proposed and approved nationwide, associated documents, mitigation credit availability, service areas, and information on national and local policies and procedures.²⁹ Specifically, we sought to document trends in the number of approved mitigation banks and ILF programs,

21. Federal Guidance for the Establishment, Use, and Operation of Mitigation Banks, 60 Fed. Reg. 58605 (Nov. 28, 1995), available at <https://www.epa.gov/cwa-404/federal-guidance-establishment-use-and-operation-mitigation-banks>. This guidance was superseded by the 2008 Compensatory Mitigation Rule (40 C.F.R. §230.91(e)(1) (2018) and 33 C.F.R. §332.1(e)(1) (2018)). At the time of the NRC report, the interagency teams reviewing bank proposals were known as Mitigation Bank Review Teams (MBRTs) pursuant to the 1995 Federal Mitigation Banking Guidance.

22. NRC, *supra* note 9, at 9, 82-93, 160-64.

23. 40 C.F.R. §230.98 (2018); 33 C.F.R. §332.8 (2018).

24. Nothing in the 2008 rule limits the ability of IRT agencies, under existing statutes or regulations, to object to the use of mitigation bank or ILF program credits to address the compensation needs of a particular proposed impact (40 C.F.R. §230.98(s) (2018) and 33 C.F.R. §332.8(s) (2018)). Securing the buy-in of IRT agencies on the initial approval of a mitigation bank or ILF program/project helps ensure that these agencies will not object to future credit transactions.

25. CWA §404 mitigation banks and ILF programs may also be used to satisfy the environmental requirements of other programs, such as tribal, state, or local wetlands regulatory programs and other federal programs, consistent with the terms and requirements of these programs (40 C.F.R. §230.93(j) (2018) and 33 C.F.R. §332.3(j) (2018)). Securing the buy-in of IRT agencies on the initial approval of a mitigation bank or ILF program/project helps ensure that the credits they produce can be used to satisfy the environmental requirements of other programs.

26. In cases where a mitigation bank or ILF program is proposed to satisfy the requirements of another federal, tribal, state, or local program, in addition to compensatory mitigation requirements for CWA §404 permits, it may be appropriate for the administering agency to serve as co-chair of the IRT (40 C.F.R. §230.98(b)(1) (2018) and 33 C.F.R. §332.8(b)(1) (2018)).

27. 40 C.F.R. §230.93(b) (2018); 33 C.F.R. §332.3(b) (2018).

28. RIBITS was developed by the Corps with support from EPA, the U.S. Fish and Wildlife Service, the Federal Highway Administration, and the National Marine Fisheries Service, and is available at <https://ribits.usace.army.mil/>.

29. It is important to note that some records and associated data fields in RIBITS are incomplete due to variations in data entry among the 38 Corps district offices and the two states with assumed §404 programs (i.e., Michigan and New Jersey), as well as changes in data entry requirements over time. Further, although data may be continually added and updated in RIBITS, some districts update data periodically; therefore, generated reports may reflect a lag in data entry.

their distribution across the country, and their use in and importance to the §404 regulatory program.

We used data from the interactive “Bank Summary” report to determine the number and distribution of mitigation bank sites.³⁰ The original set of records contained within the Bank Summary report was reduced by selecting for those records identified as previously approved §404 mitigation banks.³¹ This set of records was then screened to remove any demo or testing records, as well as records that reflected transfer credit accounts. With this final set of records, we used the “Bank Approved Date” and “Credit Type List” fields to categorize sites as either pre- or post-2008, by the year they were approved (\leq 1995-2018), and by whether or not they provided stream credits. We used the geographic coordinate data contained within the “Location Centroid” field to plot the geographic location for each of these sites.

We used data from the interactive “ILF Program Summary” report to determine the current number and distribution of ILF programs.³² The original set of records contained within the ILF Program Summary report was reduced by selecting for those programs with an approved status (i.e., “Program Status” field was filtered to “Approved”). After careful review, this set of records was further reduced and modified to ensure that final records were accurate, complete, and reflected current institutional knowledge. The final list of current ILF programs also reflects the elimination of duplicate records for single ILF programs (some ILF programs maintain separate records for each Corps district and/or credit type), as well as the incorporation of two additional ILF programs that were missing from the RIBITS report but known to be in operation.³³ ILF programs were then categorized by those that were established before the 2008 rule was issued (and have since been reapproved) and those that were established after the 2008 rule was issued.³⁴

We used the service area data available in RIBITS to determine the geographic extent of mitigation bank and ILF service areas across the country.³⁵ Service areas were downloaded for all §404 mitigation bank sites and ILF programs with an approved status.

We used data contained within the “Bank & ILF Credit Tracking” report to determine the number of credit with-

drawal transactions from mitigation bank sites.³⁶ The original set of records contained within the Bank & ILF Credit Tracking report was reduced by selecting for those records identified as withdrawal transactions of wetland or stream credits from §404 mitigation banks.³⁷ This set of records was then screened to remove any transaction records from demo or test sites, as well as records of withdrawal transactions for grouped credits that did not include §404 credit types. Using the “Transaction Date” and “Credit Classifications” fields, we categorized transactions by the year in which they occurred (1995-2018), and by §404 credit type (i.e., wetland or stream).

Last, for analyses of average permit processing times and percent use of each compensation mechanism, we relied primarily on permit data presented in the Corps’ Institute for Water Resource’s 2015 *Mitigation Rule Retrospective*.³⁸ These analyses were supplemented with additional years of data obtained from the Corps’ Operation and Maintenance Business Information Link, Regulatory Module (ORM) database, the Corps’ primary national database for tracking §404 permitting data.³⁹

B. Results

I. Growth in Number of Mitigation Banks

One of the most notable trends over the past 10 years has been the continued growth in the mitigation banking industry (see Figure 1). In June 2008, a total of 706 mitigation banks with §404 credits had been approved. Between June 2008 and July 2018, an additional 873 mitigation banks with §404 credits were approved—more than a 120% increase. In the 10 years prior to the 2008 rule, the rate of approvals averaged about 56 banks per year (1998-2007). In the 10 years since the 2008 rule, the rate of approvals has averaged about 86 banks per year (2008-2017), a more than 50% increase from the decade before. This growth happened in spite of the fact that this time included a historic downturn in the commercial and residential development market, a significant driver of permit requests and compensatory mitigation demand.⁴⁰

Growth has been particularly strong in the subset of mitigation banks that provide credits to offset impacts to streams (see Figure 2). While mitigating impacts to wetlands has been a primary focus of the §404 program since its earliest years, over the past two decades, greater

30. Data were accessed and downloaded from RIBITS on July 17, 2018.

31. The following fields were filtered accordingly: “Is 404” = “Yes,” “Is ILF” = “No,” and “Bank Status” = “Approved | Sold-Out | Suspended” OR “Is 404” = “Yes,” “Is ILF” = “No,” “Bank Status” = “Terminated,” and “Bank Approved Date” != “-.”

32. Data were accessed and downloaded from RIBITS on November 14, 2018.

33. Personal Communication with Steve Martin, Environmental Scientist, The Corps IWR (Oct. 2018).

34. Based on a combination of information gathered from ENVIRONMENTAL LAW INSTITUTE (ELI), THE STATUS AND CHARACTER OF IN-LIEU FEE MITIGATION IN THE UNITED STATES (2006), available at https://www.eli.org/sites/default/files/eli-pubs/d16_04.pdf; Personal Communication with Steve Martin, *supra* note 33; and a review of program instruments and other documents uploaded to RIBITS cyber repository.

35. Data for the contiguous United States were accessed and downloaded from RIBITS on July 17, 2018, and data for the states of Alaska and Hawaii were accessed and downloaded from RIBITS on September 12, 2018.

36. Data were accessed and downloaded from RIBITS on July 17, 2018.

37. The following fields were filtered accordingly: “Is the Corps” = “Yes,” “Is ILF” = “No,” “Transaction Type” = “Wdr,” “Jurisdiction” = “Federal,” and “Credit Type” = “Wetland | Stream | Group.” Group credits are credits that bundle one or more credit types together (e.g., §404 wetlands and Endangered Species Act species).

38. The Corps IWR, *supra* note 8, at 51, 57.

39. Supplemental ORM data obtained through Freedom of Information Act requests (2012-2018).

40. There are a number of factors that affect the volume of permit activity and the corresponding demand for compensatory mitigation; for a more complete discussion of recent trends, see The Corps IWR, *supra* note 8, at 25-35.

Figure 1. Cumulative total of all mitigation banks with 404 credits, approved over time (from 1995 through 2017)

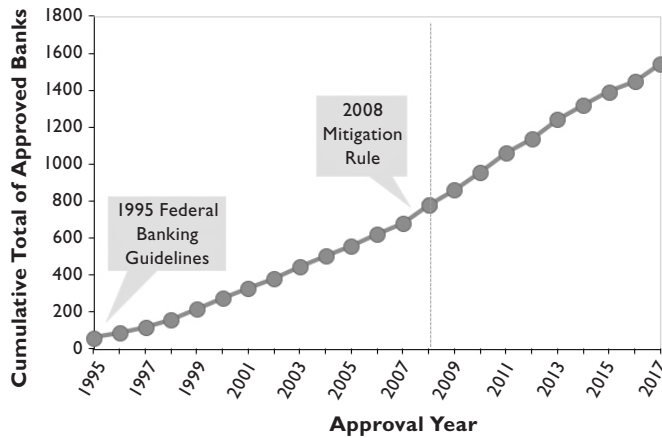


Figure 2. Cumulative total of the subset of mitigation banks with stream credits, approved over time (from 1995 through 2017)

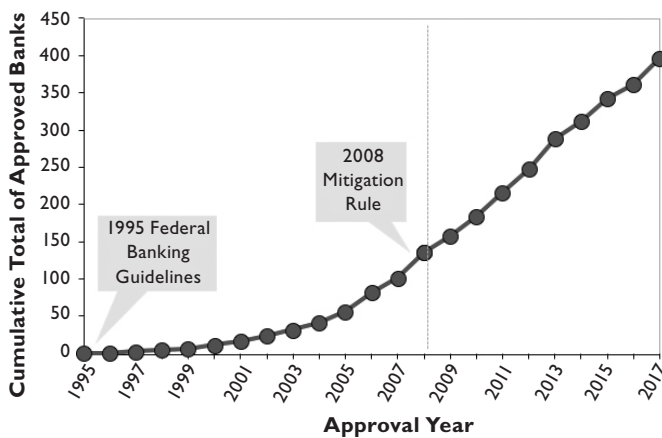
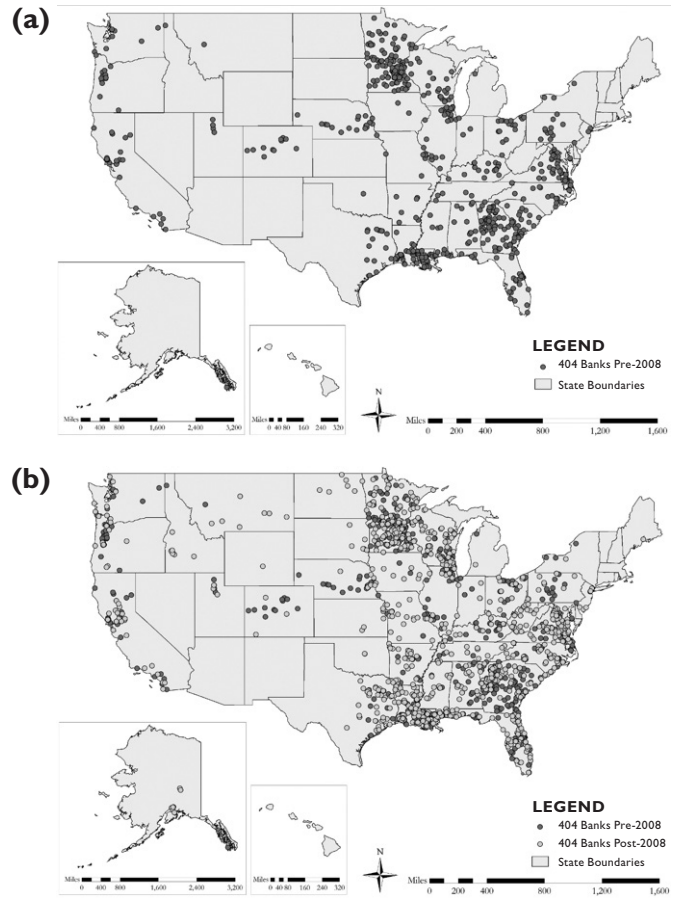


Figure 3. Locations of mitigation banks with 404 credits approved as of (a) June 2008 and (b) July 2018



understanding of the important functions streams play in the landscape, advancements in stream restoration and enhancement techniques, and clearer regulatory policy regarding impacts to streams have fueled an increase in stream mitigation projects, including stream mitigation banks.⁴¹ In June 2008, a total of 115 mitigation banks with stream credits had been approved. Between June 2008 and July 2018, an additional 300 mitigation banks with stream credits were approved—more than a 260% increase. In the 10 years prior to the 2008 rule, the rate of approvals for banks with stream credits averaged 10 banks per year (1998-2007). In the 10 years since the 2008 rule, the rate of approvals has averaged about 30 banks per year (2008-2017), about a 200% increase from the decade before.

2. Expansion in Distribution of Mitigation Banks

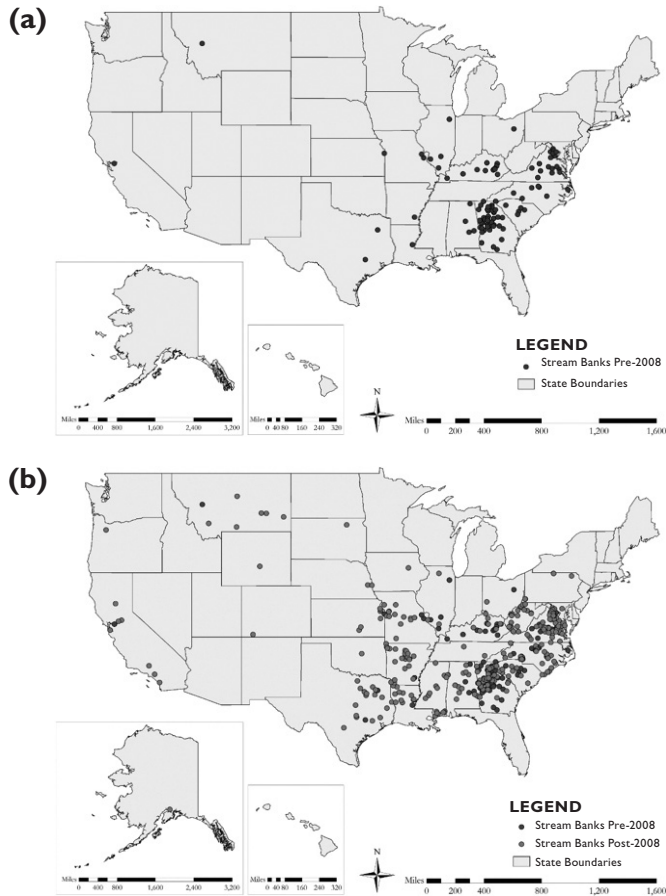
In addition to increases in the number of mitigation banks, their distribution across the country has also expanded. Between June 2008 and July 2018, \$404 mitigation banks expanded into five new states: Maine, North Dakota, South Dakota, West Virginia, and Wyoming (see Figure 3). Mitigation banks with stream credits expanded into 12 new states during the past 10 years: Alaska, Iowa, Maryland, Mississippi, Nebraska, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, West Virginia, and Wyoming (see Figure 4).

3. Status of ILF Programs

In addition to increases in the number of mitigation banks, the number of ILF programs has also increased. According to a report by the Environmental Law Institute, as of May 2006, there were a total of 46 approved ILF programs

41. For a more detailed discussion of the evolution of the \$404 program's approach to streams, see Dave Owen, *Little Streams and Legal Transformations*, 2017 UTAH L. REV. 1 (2017), available at <https://dc.law.utah.edu/cgi/viewcontent.cgi?article=1031&context=ulr>.

Figure 4. Locations of mitigation banks with stream credits approved as of (a) June 2008 and (b) July 2018



operating across 20 different states.⁴² Currently, there are 58 approved ILF programs operating across 31 different states. Of the currently approved ILF programs, a total of 35 have been established since the 2008 rule went into effect. The current geographic distribution of ILF programs reflects the loss of programs in five states—Illinois, Maryland, Pennsylvania, South Carolina, and Texas—as well as the expansion of programs into 12 new states: Alabama, Connecticut, Indiana, Massachusetts, Mississippi, New York, North Dakota, Oklahoma, South Dakota, Vermont, Washington, and Wisconsin.

4. More Compensation Options for Permit Applicants

Currently, all or part of 46 states are covered by the geographic service areas of approved mitigation banks and/or ILF programs (see Figure 5). There are 26 states⁴³ that have both bank and ILF compensation options in at least

some portions of the state, and 20 states⁴⁴ that have either bank or ILF options available in the state. The remaining four states (Hawaii, Nevada, New Mexico, and Rhode Island) have neither bank nor ILF options and must rely solely on permittee-responsible mitigation to satisfy compensation requirements.

Figure 5. Geographic extent of third-party service areas across the country



5. Increase in Credit Transactions at Mitigation Banks

Annual credit transactions at all §404 banks have also increased since adoption of the 2008 rule. In the 10 years prior to the rule, average annual credit withdrawal transactions (including stream and wetland credits) were 1,694 per year (1998-2007). In the 10 years since the rule, average annual credit withdrawals were 2,635 per year (2008-2017), a more than 55% increase from the decade before (see Figure 6). Looking just at the subset of transactions from banks with stream credits, in the 10 years prior to the rule, average annual credit withdrawals (stream credits only) were 110 per year (1998-2007). In the 10 years since the rule, average annual credit withdrawals have increased to 371 per year (2008-2017), a more than 230% increase from the decade before (see Figure 7).⁴⁵

42. ELI, *supra* note 34.

43. This count includes the state of New Jersey, which, using the methods previously described, was identified as one of the 31 states with an approved ILF program. However, records of this ILF program have not been uploaded to the RIBITS database and, therefore, its service area is not depicted in Figure 5.

44. This count includes the state of Delaware, which, using the methods previously described, was identified as having a single approved mitigation bank. Although a record of this mitigation bank has been uploaded to the RIBITS database, information pertaining to its service area has not, and, therefore, its service area is not depicted in Figure 5.

45. Due to gaps in ILF transaction data in RIBITS, we were not able to do a similar analysis for ILF credit withdrawal transactions.

Figure 6. Annual number of 404 credit withdrawal transactions at all mitigation banks (from 1995 to 2017)

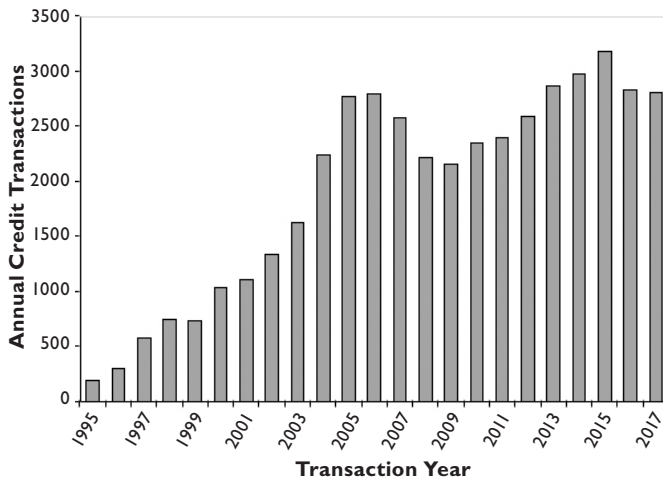
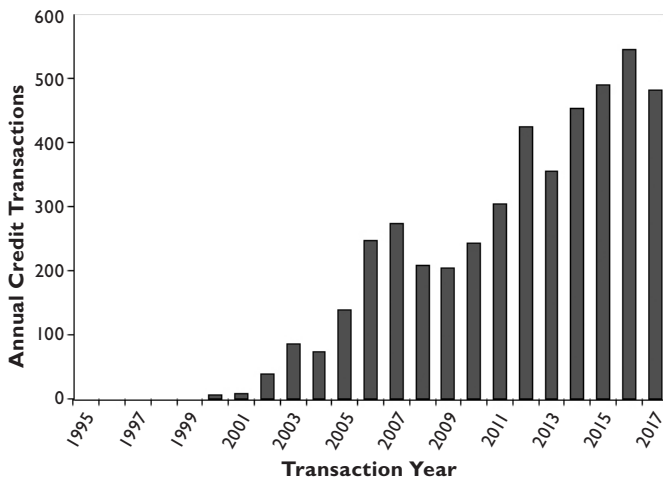


Figure 7. Annual number of stream credit withdrawal transactions at mitigation banks (from 1995 to 2017)



6. Use of Mitigation Banks and ILF Programs Saves Time for Permittees

Another important documented trend since issuance of the 2008 rule is the time savings for permit applicants who use mitigation bank and ILF program credits. Figure 8 shows that permit processing times are approximately 50% less when mitigation bank or ILF program credits are used compared to using traditional off-site permittee-responsible mitigation. Mitigation bank and ILF program sponsors have credits pre-approved for potential use by permit applicants. In contrast, with permittee-responsible mitigation, the permittee must identify a compensation project and secure its approval from the regulatory agencies before securing a permit—this generally takes additional time.

Figure 8. Average processing times for permit authorization, from 2010 through 2015, by compensation mechanism

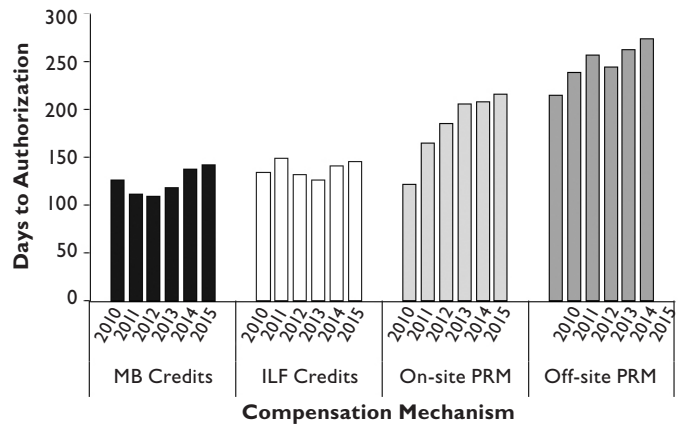
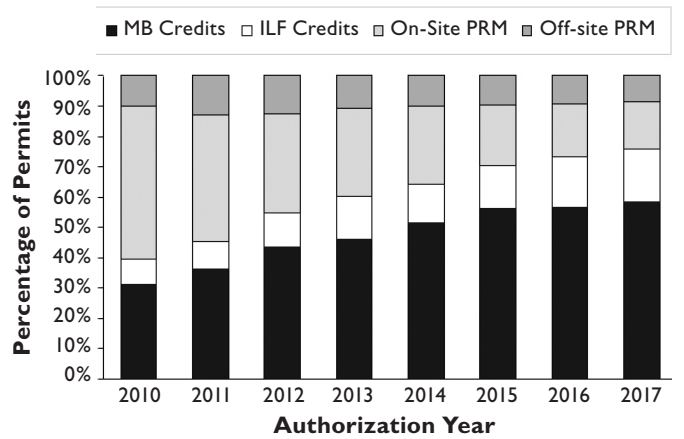


Figure 9. Percent use of compensation mechanisms to satisfy compensation requirements (for years 2010 through 2017)



7. More Permittees Are Using Mitigation Banks and ILF Programs

Use of mitigation bank and ILF program credits, particularly mitigation bank credits, to satisfy compensation needs has increased, while reliance on traditional permittee-responsible mitigation has declined (see Figure 9). In 2017, the percentage of permits using mitigation bank credits and ILF credits was about 60% and 17%, respectively, nearly double the percentage of permits using these mechanisms in 2010 (about 30% and 8%, respectively). In comparison, the use of on-site permittee-responsible mitigation has declined by about two-thirds during this same time period (from about 50% in 2010 to about 15% in 2017). The regulatory preference to use mitigation bank or

ILF program credits over permittee-responsible mitigation, the increased availability of mitigation bank and ILF program credits, and the time savings they provide to permit applicants in the permit review process are all likely contributors to these trends.

III. Potential Opportunities for Improvement

While much progress has been made in a number of areas identified by the NRC and the agencies over the past 10 years under the 2008 rule, other mitigation studies and mitigation stakeholders have highlighted important unanswered questions and suggested opportunities for further improvement. Some of these opportunities include evaluating whether the requirements of the 2008 rule, particularly the 12 components of a mitigation plan, are being adequately addressed; improving the efficiency of regulatory oversight of mitigation banks and ILF programs; and conducting more thorough evaluations of compensation performance.

A. More Effective Implementation of the Requirements in the 2008 Rule

One of the most important policy changes made by the 2008 rule was the requirement that all compensation projects have a mitigation plan in place that addresses the 12 components outlined above (see Section I.A.). Although all compensation projects are required to address each of these components in their mitigation plans, an important question is whether these components are being required by all compensatory mitigation mechanisms and adequately addressed.

Although RIBITS also serves as a repository for mitigation plans and other documents, this information is limited to mitigation banks and ILF programs (no information for permittee-responsible mitigation plans is available), and reviewing the documentation can be time-consuming. We are aware of two different studies that have conducted file reviews of banking instruments to evaluate how different components of the mitigation plan have been addressed and implemented at post-2008 rule mitigation sites.⁴⁶

One study, aimed at assessing how mitigation banks have addressed ecological performance standards, included a file review of mitigation plans and monitoring reports from a random sample of post-2008 rule wetland mitigation banks from four pilot states across the country.⁴⁷ Results from this study indicated that bank mitigation plans did all include performance standards and these standards all shared the

following characteristics: (1) incorporated both hydrological and biological indicators, (2) addressed functional goals and objectives, and (3) objectively measured project outcomes as opposed to project actions. However, results also indicated that many performance standards were too vague to be meaningful and enforceable and, often, the associated monitoring requirements and reporting requirements lacked the details necessary to adequately track project development and/or determine project compliance.

Another study examined how long-term stewardship requirements have been implemented by reviewing instruments from a random sample of post-2008 rule wetland and stream banks from four pilot states across the country.⁴⁸ Results from this research effort indicated that long-term management funding has become a standard consideration in bank development; however, the results also indicated that there are deficiencies in the critical steps of identifying annual long-term management tasks and estimating long-term management costs, raising questions regarding whether long-term management funding provided will be adequate and sustainable.

Both studies suggest that although key elements of mitigation plans are being included in banking instruments (i.e., performance standards, monitoring requirements, and long-term management), critical aspects of their implementation can be improved, suggesting that additional guidance, training, and other technical resources are needed to help ensure that mitigation plans address each of these required elements more effectively.

B. Improving Efficiency of Regulatory Oversight for Mitigation Bank and ILF Programs

Stakeholders have suggested that IRTs are not adhering to the time lines outlined in the 2008 rule,⁴⁹ and feel there are opportunities to improve the efficiency with which IRTs provide review, approval, and oversight of mitigation bank, ILF program, and ILF project establishment and operation. For example, the Ecological Restoration Business Association (ERBA)—which represents many of the nation's mitigation providers—has identified a number of recommendations for improving IRT operation.⁵⁰ These include:

- Establishing Government Performance and Results Act performance metrics that are based on the time lines in the 2008 rule
- Investing in project management training

46. Similar reviews of ILFs were not done in these two studies because of the limited number of ILF sites that have been completed pursuant to the 2008 rule. The rule gave pre-rule ILF programs up to five years (i.e., until June 2013) to come into compliance with the rule (40 C.F.R. §230.98(v)(2) (2018) and 33 C.F.R. §332.8(v)(2) (2018)).

47. Rachel Harrington, A Review of Ecological Performance Standards at Post-2008 Rule Mitigation Banks, Presentation at the National Mitigation and Ecosystem Banking Conference (May 9, 2018).

48. Jenny Thomas, Long-Term Stewardship: Finances, Presentation at the National Mitigation and Ecosystem Banking Conference (May 2017); Jenny Thomas, *Evaluating Long-Term Stewardship of Compensatory Mitigation Sites: Preliminary Findings From California*, NAT'L WETLANDS NEWSL., Mar.-Apr. 2016, at 6.

49. However, there have not been any independent studies that have compared actual IRT time lines for bank or ILF review to the time lines established for IRTs in the rule.

50. Letter from ERBA, to D. Lee Forsgren Jr., Deputy Assistant Administrator, Office of Water, U.S. EPA (Oct. 8, 2018); Letter from ERBA, to James C. Dalton, Director of Civil Works, Corps Headquarters (June 18, 2018).

- Making ORM data available to the public and improving data entry for RIBITS to allow both mitigation providers and IRT members to more efficiently assess credit supply and demand
- Improving coordination between the IRT and bank sponsors by conducting after-action reviews with sponsors following bank approvals to identify specific areas where the process can be improved
- Adopting, at the Corps district level:
 - Workable, science-based crediting/debiting and service area methodologies for wetlands and streams
 - Standard operating procedures that cover the administrative and procedural aspects of bank review
 - Templates for bank instruments, site protection instruments, financial assurances, and long-term management plans

There has been a great deal of progress by certain Corps districts and states in the development of wetland and stream crediting/debiting methodologies, standard operating procedures for bank review, and templates.⁵¹ Although there has not been any empirical research undertaken to determine whether IRTs with these tools in place have shorter project approval time lines, anecdotal evidence and common sense suggest this is the case. Investment in these kinds of resources and tools therefore can help streamline interagency review and serve as models for the development of similar resources and tools in other districts and states.

C. Evaluating Compensation Performance

With the adoption of the more comprehensive mitigation standards associated with the 2008 rule and the greater proportion of permit applicants relying on the performance-based credits provided by mitigation banks, the assumption is that the effectiveness of compensatory mitigation projects has improved over the past 10 years.

However, robust independent evaluations of compensation performance have been on the decline, particularly since issuance of the 2008 rule.⁵²

This critical gap could be addressed through the development of a long-term strategic approach to compensation performance evaluation—one that is customizable to state needs, is sustainable over very long time horizons, and allows for interpretation of national trends. Key steps of such an approach include adopting an appropriate study design, organizing compensatory mitigation project files in a geospatial database, and conducting a baseline evaluation and subsequent evaluations using the study design at regular intervals (e.g., every five to 10 years).⁵³ For the past year, EPA has been working with representatives from state and federal agencies to produce a technical document that will help states and other interested parties implement such a long-term approach to compensation performance evaluation and help ensure more regular and robust independent evaluations of compensation projects.⁵⁴

IV. Conclusion

When asked about the Compensatory Mitigation Rule shortly after its issuance in 2008, Dr. Joy Zedler, the chair of the 2001 NRC Compensatory Mitigation Study Committee, said, “It could be the best of all worlds . . . or it could be the same old same old . . . It’s all in the implementation.”⁵⁵ As the rule largely codified many of the committee’s significant recommendations, the Corps and EPA can take some credit for rising to the first of Dr. Zedler’s challenges.

However, Dr. Zedler underscored that sound implementation of the rule is essential to seeing improvements on the ground. Ten years later, significant progress has been made in the nation’s approach to compensatory mitigation, but work remains to ensure an efficient process for wetland, stream, and other aquatic resource compensatory mitigation decisionmaking and to ensure that compensatory mitigation is providing effective ecological outcomes on the ground.

51. The Corps IWR, *supra* note 8.

52. Joseph A. Morgan & Palmer Hough, *Compensatory Mitigation Performance: The State of the Science*, NAT’L WETLANDS NEWSL., Nov.-Dec. 2015, at 9.

53. Brian Topping, *Compensatory Mitigation Performance Evaluation*, Presentation at the Society of Wetland Scientists Annual Meeting (June 7, 2017).

54. This document is entitled *An Integrated Framework for Evaluating Wetland and Stream Compensatory Mitigation*, and it is currently under development and planned for release in 2019. Following release, it will be made available at <https://www.epa.gov/cwa-404/compensatory-mitigation-evaluations-and-reports>.

55. Alice Kenny, *Environmentalists Sound Off on EPA Wetland Regs*, ECOSYSTEM MARKETPLACE, Apr. 27, 2008, available at <http://staging.ecosystemmarketplace.com/articles/environmentalists-sound-off-on-epa-wetland-regs/>.

Solid Ground: Using Mitigation to Achieve Greater Predictability, Faster Project Approval, and Better Conservation Outcomes

by Jessica Wilkinson, Lynn Scarlett, Philip Tabas, and Brent Keith

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I. Meeting the Needs of Species, People, and Places

A wind developer seeking to build turbines on private lands that will affect the federally listed Indiana bat and bald eagles; a landowner building a new beach house on sand dunes where the listed Alabama beach mouse lives; a natural gas company seeking to develop a new pipeline across both federal and private lands.

In all of these cases, mitigation—shorthand for avoiding impacts to important species and habitat, minimizing impacts, and then providing offsets for the remaining, residual impacts—is a valuable tool for developers and federal agencies to comply with the requirements of the National Environmental Policy Act (NEPA), a variety of federal statutes that regulate impacts to important wildlife species and habitat, and/or public land management statutes requiring that uses of public lands are balanced with protection and conservation.¹

Mitigation makes practical sense for companies with a long view of their future—those that are part of the fabric of local communities and those that want to be good neighbors. For such companies, it makes practical sense to clean up after themselves, to demonstrate accountability for their actions, and to give back.

Mitigation can also significantly accelerate project delivery and reduce overall project costs. Building mitigation measures into a project's design facilitates a faster project review process because it can lead to fewer conflicts with regulators and the public, opens up greater opportunities for synchronized permitting and environmental review, and diminishes the likelihood of litigation (see Figure 1). Including mitigation in projects also gives developers greater certainty and peace of mind, as it ensures there will be fewer surprises that can delay project delivery and imperil financing. Indeed, the current Administration has recognized these benefits.²

Significantly, mitigation can also help advance conservation of habitats and species. This can result in fewer regulatory burdens and constraints in the future—fewer species listed as threatened and endangered under the Endangered Species Act (ESA),³ fewer and less expansive designated critical habitats, and fewer species and habitats identified as sensitive in federal land use plans.

The benefits afforded by commonsense mitigation policy, however, are now less available to developers due to the actions of the U.S. Department of the Interior (DOI) under the Donald Trump Administration. Below, we outline the authorities to utilize mitigation provided by the DOI's existing statutes and policies, describe how mitigation supports the benefits outlined above, outline the current state of play in mitigation policy, and, finally, describe why we need to return to a balanced policy framework that

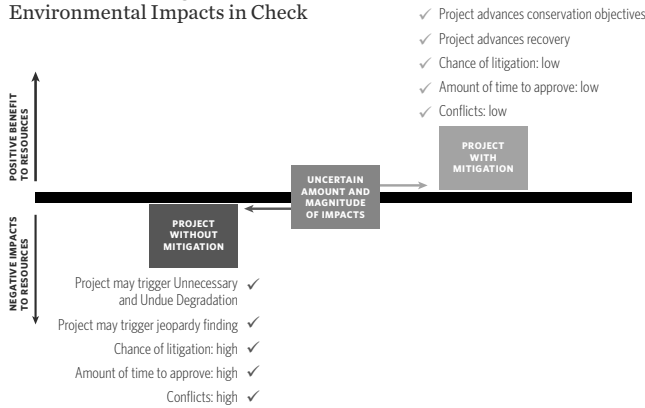
1. 42 U.S.C. §§4321-4370h, ELR STAT. NEPA §§2-209. Throughout, we use the term "mitigation" to denote the full range of actions that can be taken to address project impacts. These actions are outlined in NEPA regulations as avoidance, minimization, rectification, reduction or elimination, and compensation. In the Clean Water Act §404 context, "mitigation" is used as shorthand for a three-step process (avoidance, minimization, and compensatory mitigation), and these steps are carried out sequentially. In the Endangered Species Act context, "mitigation" is used synonymously with the term "compensatory mitigation." Because of this confusing terminology, we use "mitigation" to mean the full range of methods to address impacts (i.e., NEPA) and use "compensatory mitigation" when we mean efforts to offset impacts through restoration and protection efforts.

2. Secretarial Order No. 3360, Rescinding Authorities Inconsistent With Secretary's Order 3349 (Dec. 22, 2017), https://www.eenews.net/assets/2018/01/05/document_gw_04.pdf; U.S. DEPARTMENT OF THE INTERIOR, FINAL REPORT: REVIEW OF THE DEPARTMENT OF THE INTERIOR ACTIONS THAT POTENTIALLY BURDEN DOMESTIC ENERGY (2017) [hereinafter BURDENS REPORT], https://www.doi.gov/sites/doi.gov/files/uploads/interior_energy_actions_report_final.pdf.
3. 16 U.S.C. §§1531-1544, ELR STAT. ESA §§2-18.

Figure 1

Mitigation

A Guide for Keeping Environmental Impacts in Check



is a foundation for advancing positive outcomes for businesses, communities, and the environment.

II. The Authority and Directive to Mitigate

Mitigation makes good sense for the reasons outlined above. In addition, the U.S. Fish and Wildlife Service (FWS) has the authority to require compensatory mitigation in some cases. And both FWS and the Bureau of Land Management (BLM) have clear and indisputable discretion to meet their statutory obligations by utilizing avoidance, minimization, and compensatory mitigation.

Even where statutory guidance is unclear or ambiguous as to the authority to require or recommend compensatory mitigation, agencies have wide latitude to adopt policies and rules to carry out the U.S. Congress' statutory intent.⁴ Further, the Administrative Procedure Act requires courts to compel agencies to take action when they have unlawfully failed to do so or unreasonably delayed doing so.⁵ In the landmark *Chevron* case, the U.S. Supreme Court established that federal agencies have broad discretion in interpreting the authority granted to them by Congress.⁶

4. J.B. Ruhl & Kyle Robisch, *Agencies Running From Agency Discretion*, 58 WM. & MARY L. REV. 97 (2016), available at <http://scholarship.law.wm.edu/wmlr/vol58/iss1/4>.
 5. 5 U.S.C. §706(1); Daniel T. Shedd, Congressional Research Service, *Administrative Agencies and Claims of Unreasonable Delay: Analysis of Court Treatment* (2013).
 6. *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 14 ELR 20507 (1984).

A. The Origins of Mitigation: NEPA

Mitigation was first defined and identified as an important tool to support environmental decisionmaking in NEPA in 1969.⁷ NEPA was enacted to ensure that federal actions balance use of natural resources with protection and advance efforts to “prevent or eliminate damage to the environment.”⁸

NEPA obligates all federal agencies to evaluate the environmental consequences of their proposed actions to support more informed decisionmaking. It dictates that when a federal agency (the “action agency”) is proposing a “major federal action”⁹ that will significantly¹⁰ affect the quality of the human environment, an environmental impact statement (EIS) must be prepared.¹¹ The EIS must outline the project impacts and alternatives to the proposal, including ways the impacts can be mitigated, and provide the public with an opportunity to share input on the project.

Regulations adopted to implement NEPA define mitigation to encompass five types of activities:

1. Avoiding the impact altogether by not taking a certain action or parts of an action;
2. Minimizing the impact by limiting the degree or magnitude of the action and its implementation;
3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
5. Compensating for the impact by replacing or providing substitute resources or environments.¹²

The courts have established that mitigation must be discussed “in sufficient detail to ensure that environmental consequences have been fairly evaluated.”¹³ The Act does not, however, impose upon agencies a substantive obligation to achieve a particular outcome (such as no net loss) or to commit to particular mitigation measures (avoidance, minimization, or compensatory mitigation actions).¹⁴

7. 42 U.S.C. §§4321 et seq. For a description of the NEPA process, see COUNCIL ON ENVIRONMENTAL QUALITY, *A CITIZEN'S GUIDE TO THE NEPA* (2007), available at https://ceq.doe.gov/docs/get-involved/Citizens_Guide_Dec07.pdf.
 8. 42 U.S.C. §4321.
 9. 40 C.F.R. §1508.18 (2018).
 10. *Id.* §1508.27. Determining whether impacts are “significant” requires consideration of both context and intensity.
 11. *Id.* §1502.4.
 12. *Id.* §1508.20.
 13. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 19 ELR 20743 (1989) (companion case to *Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 19 ELR 20749 (1989)).
 14. “NEPA itself does not create a general substantive duty on Federal agencies to mitigate adverse environmental effects.” Final Guidance for Federal Departments and Agencies on the Appropriate Use of Mitigation and Mon-

When a proposed project is not likely to be significant or the significance of impacts is unclear, the action agency may instead develop an environmental assessment (EA), the purpose of which is to determine the significance of the environmental effects and to evaluate alternative means for carrying out the project.¹⁵ An EA is more concise than an EIS and should take considerably less time than does the EIS process because, among other things, unlike with an EIS, most federal agencies do not provide a draft EA to the public for review.¹⁶ The EA process concludes with either a “finding of no significant impact” (FONSI) or a determination that impacts are in fact significant and an EIS must be developed.¹⁷

B. How Mitigation Becomes Required Under NEPA and Supports Permitting Efficiencies

Although NEPA is primarily a procedural statute, mitigation does have an important role to play in advancing permitting efficiencies and, at times, does result in substantive requirements to offset impacts.

When developing a full EIS, if adequate mitigation measures are not already included in the proposed action or alternatives, they must be developed.¹⁸ In other words, significant time can be saved by including adequate mitigation measures (avoidance, minimization, and compensation) in the project design, making it unnecessary to identify additional measures as part of the alternatives analysis or to develop a supplemental EIS to outline such activities.

Mitigation can also be used to make a project eligible for the EA process, rather than the EIS process. As discussed above, development of an EIS rather than an EA is triggered by a determination that the proposed project will have significant impacts. Projects with impacts that

are below the threshold of significance require the shorter, less involved, and less expensive EA process. Agencies may choose to include mitigation measures in the project design to reduce what would otherwise be significant impacts requiring an EIS to the point where only an EA is needed. When mitigation is utilized to support a determination that impacts are not significant, and the agency can conclude the process with a FONSI, that FONSI is termed a “mitigated FONSI.” Extensive guidance on the use of and requirements for mitigated FONSI was issued in January 2011.¹⁹

When mitigation measures are included as part of the project design or are used to get to a mitigated FONSI, they are no longer just a procedural consideration, but are required. They become a part of the project that undergoes NEPA review. In this way, mitigation measures developed through the NEPA process can become a substantive requirement.

C. Recommending and Requiring Mitigation Under FWS Authorities

FWS is charged with protecting wildlife and habitat under a wide range of statutes and related implementing regulations, including, but not limited to, the ESA. In some cases, FWS has the authority to require minimization and compensatory mitigation. In other cases, FWS has the authority to recommend avoidance, minimization, and compensatory mitigation measures. Finally, other authorities require federal agencies to consult with FWS to identify measures for mitigating impacts to wildlife resources. FWS first outlined the role of mitigation across a range of its authorities in its 1981 “Mitigation Policy,”²⁰ although for a variety of reasons²¹ this policy did not address the role of mitigation under the ESA.

The ESA²² imposes a variety of obligations upon federal agencies, state and local governments, and private parties in order to meet the purposes of the Act, which include the conservation of endangered and threatened species and the ecosystems upon which they depend.²³ The terms “conserve,” “conserving,” and “conservation” under the Act are defined as the use of “all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided

iting and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact, 76 Fed. Reg. 3843 (Jan. 21, 2011) (citing *Robertson*, 490 U.S. at 352).

15. 40 C.F.R. §1508.9 (2018).

16. Council on Environmental Quality, *supra* note 7, at 21. See also U.S. Government Accountability Office (GAO), National Environmental Policy Act: Little Information Exists on NEPA Analyses (2014) (GAO-14-370). Few government agencies track the costs of performing EISs or EAs, nor do they track the amount of time it takes to perform either. One exception is the U.S. Department of Energy (DOE). DOE reported that in calendar year 2013, the median cost of preparing an EIS was \$1.7 million and the average cost was \$2.9 million. For EAs carried out in the same calendar year, the median cost for preparing an EA was \$73,000 and the average cost was \$301,000. DOE reported that for the 12 months that ended March 31, 2013, the average completion time for EAs was 13 months (with a median of 11 months). DOI’s Office of Surface Mining estimated that EAs took approximately four months to complete, and the U.S. Forest Service reported an average of 18 months to complete EAs. In contrast, the National Association of Environmental Professionals reported that the average preparation time for the final EISs issued in 2016 was 5.1 years. See National Association of Environmental Professionals, *Home Page*, <https://www.naep.org/> (last visited Nov. 5, 2018).

17. COUNCIL ON ENVIRONMENTAL QUALITY, *supra* note 7, at 12.

18. NEPA regulations state that the alternatives section of the EIS must include “appropriate mitigation measures not already included in the proposed action or alternatives.” 40 C.F.R. §1502.14(f) (2018). See also *Robertson*, 490 U.S. 332 (companion case to *Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 19 ELR 20749 (1989)).

19. Memorandum From Nancy H. Sutley, Chair, Council on Environmental Quality, to Heads of Federal Departments and Agencies, Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact (Jan. 14, 2011), https://ceq.doe.gov/docs/ceq-regulations-and-guidance/Mitigation_and_Monitoring_Guidance_14Jan2011.pdf.

20. FWS Mitigation Policy, 46 Fed. Reg. 7644-63 (Jan. 23, 1981).

21. FWS Mitigation Policy, 81 Fed. Reg. 83440-92 (Nov. 21, 2016) [hereinafter 2016 Mitigation Policy]. This policy was rescinded by FWS Mitigation Policy, 83 Fed. Reg. 36472-75 (July 30, 2018).

22. 16 U.S.C. §§1531 et seq. The ESA is administered by both DOI’s FWS and the U.S. Department of Commerce’s National Marine Fisheries Service. Here, we discuss implementation of the Act solely from the perspective of FWS.

23. *Id.* §1531(b).

pursuant to this chapter are no longer necessary”²⁴—in other words, to support recovery of species listed as threatened or endangered.

□ *ESA §9.* Section 9 of the ESA applies to both federal and nonfederal actions. The section prohibits a wide variety of activities, including the take of individual listed species.²⁵ “Take” is defined under the statute as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”²⁶ Later amendments to the Act provided a means by which project proponents could be exempt from this absolute prohibition on take when the take is incidental to the action and is not the sole purpose of the activity.

□ *ESA §10.* Section 10 of the Act governs impacts to species and their habitat from nonfederal actions. Under §10(a)(1)(B), FWS may allow project proponents to secure a permit—an incidental take permit (ITP)—to take a listed species if such take is “incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.”²⁷ Project proponents are not required to seek an ITP, but doing so gives them an exemption from the §9 take prohibition. In order to secure an ITP, the applicant must prepare a habitat conservation plan (HCP) for the listed species.²⁸

HCPs must outline, among other things, “the impact which will likely result from such taking”²⁹ and the “steps the applicant will take to *minimize and mitigate* such impacts.”³⁰ Before an ITP can be issued, FWS must find that “the applicant will, *to the maximum extent practicable, minimize and mitigate the impacts of such taking.*”³¹ So, while project proponents are free to secure an ITP or not, should they choose to do so, FWS has the clear authority to require mitigation—including compensatory mitigation—to offset impacts from the project.

□ *ESA §7.* Section 7 of the ESA applies to actions carried out by federal agencies themselves (the action agency), as well as those carried out by the private sector that federal agencies authorize, fund, or permit (the permittee).

Section 7(a)(1) of the ESA states that federal agencies must work with FWS to “utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and

threatened species.”³² The federal agencies have substantial discretion in devising programs to carry out this provision of the statute, but they cannot ignore it altogether.³³

Under §7(a)(2) of the Act,³⁴ action agencies and permittees must consult with FWS to ensure the proposed activity “is not likely to jeopardize the continued existence”³⁵ of a listed species, or “result in the destruction or adverse modification”³⁶ of designated “critical habitat.”³⁷ Applicants may choose to begin with an informal consultation or move directly to a formal consultation.

□ *Informal consultation.* Informal consultation³⁸ is an optional process that is meant to speed up and simplify review of federal actions under §7(a)(2). Although the statute makes no mention of it, the process was designed to help the applicant and the action agency determine whether formal consultation is needed.

During informal consultation, FWS determines the likelihood of adverse effects on a listed species or critical habitat from the proposed action and works with the applicant to modify the project to reduce or remove the effects.³⁹ A biological assessment⁴⁰ may be developed as part of informal consultation, depending on a range of factors, such as whether the proposed project is deemed a “major construc-

24. *Id.* §1532(3).

25. *Id.* §1538(a)(1)(A)-(G).

26. *Id.* §1532(19).

27. *Id.* §1539(a)(1)(B).

28. *Id.* §1539(a)(2)(A). “No permit may be issued by the Secretary authorizing any taking . . . unless the applicant therefor submits to the Secretary a conservation plan. . . .”

29. *Id.* §1539(a)(2)(A)(i).

30. *Id.* §1539(a)(2)(A)(ii) (emphasis added).

31. *Id.* §1539(a)(2)(B)(ii) (emphasis added). As part of the granting of an ITP, FWS will provide an applicant with the “No Surprises” assurance that no additional land use restrictions and no further compensation will be required in the event of unforeseen circumstances. 63 Fed. Reg. 8859 (Feb. 23, 1998). Note that in the ESA context, “mitigation” is used synonymously with “compensatory mitigation.”

32. 16 U.S.C. §1536(a)(1).

33. *Sierra Club v. Glickman*, 156 F.3d 606, 29 ELR 20159 (5th Cir. 1998); *Pyramid Lake Paiute Tribe of Indians v. U.S. Dept. of the Navy*, 898 F.2d 1410, 20 ELR 20572 (9th Cir. 1990); *Defenders of Wildlife v. Babbitt*, 130 F. Supp. 2d 121, 31 ELR 20477 (D.D.C. 2001).

34. 16 U.S.C. §1536(a)(2).

35. “Jeopardy” is defined as an action that “reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.” 50 C.F.R. §402.02 (2017).

36. “Destruction or adverse modification” is defined as:
a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such features.

Id.

37. “Critical habitat” is defined as:

(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 1533 of this title, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and

(ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 1533 of this title, upon a determination by the Secretary that such areas are essential for the conservation of the species.

16 U.S.C. §1532(5)(A).

38. “Informal consultation” is defined as “an optional process that includes all discussions, correspondence, etc., between the Service and the Federal agency or the designated non-Federal representative prior to formal consultation, if required.” 50 C.F.R. §402.02 (2017).

39. FWS & NMFS, *Endangered Species Consultation Handbook: Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act 3-1, 3-6* (1998) [hereinafter *Section 7 Handbook*].

40. “Biological assessment” is defined as “the information prepared by or under the direction of the Federal agency concerning listed and proposed species and designated and proposed critical habitat that may be present in the action area and the evaluation potential effects of the action on such species and habitat.” 50 C.F.R. §402.02 (2017).

tion activity⁴⁴¹ or if a listed species or critical habitat may be present in the action area.

After reviewing the biological assessment or other relevant information, FWS works with the applicant to modify the project to the point where it does not have a net overall impact on listed species or critical habitat, eliminating the need for formal consultation.⁴² Informal consultation is far more iterative than formal consultation and can result in a project design that includes conservation measures,⁴³ including compensatory mitigation, that satisfy the consultation process without having to proceed to formal consultation, saving the applicant significant time. Using mitigation in this way is similar to a mitigated FONSI in the NEPA context. Mitigation—including compensatory mitigation—may bring a project's impacts safely under a threshold that, without the measures, would trigger a longer and more involved review process.

If, at the end of informal consultation, it is determined that the proposed project may adversely affect listed species, formal consultation is required.⁴⁴

□ *Formal consultation.* When it appears likely that a proposed action will adversely affect listed species or their critical habitat, or an informal consultation results in a determination that there will be adverse effects, the action agency or permittee must engage in formal consultation with FWS. At the end of the consultation period, FWS issues a biological opinion (BO) that outlines FWS' analysis of whether the federal action is likely to jeopardize the continued existence of a listed species or result in adverse modification of critical habitat.⁴⁵

If FWS concludes that jeopardy or adverse modification is not likely to occur (a “no jeopardy opinion”) but the federal action is reasonably certain to result in the take of a listed species,⁴⁶ FWS issues an incidental take statement (ITS). The ITS authorizes a specified level of take and imposes “reasonable and prudent measures” (RPMs)⁴⁷ that FWS considers “necessary or appropriate to minimize such

impact.”⁴⁸ RPMs are not discretionary, and their development can be time-consuming.

If FWS concludes in the BO that the action will likely cause jeopardy or adverse modification (a “jeopardy opinion”), the BO outlines “reasonable and prudent alternatives”⁴⁹—alternative ways to implement the project that would avoid the likelihood of jeopardy or adverse modification.

Beneficial actions, including mitigation measures, can be included in a BO, and FWS must give “appropriate consideration”⁵⁰ to the actions in its determination of whether the federal action is likely to result in jeopardy⁵¹ or adverse modification.⁵² Thus, when the federal agency or permittee has some uncertainty about whether an action will cause jeopardy or adverse modification, compensatory mitigation or other conservation measures can be included in the project description as additional insurance against triggering a jeopardy or adverse modification finding or a violation of the Act. Agency guidance⁵³ and case law⁵⁴ support this position.

Finally, the consultation package includes conservation recommendations. Conservation recommendations are discretionary measures that action agencies can use to further avoid or minimize impacts on listed species and designated critical habitat.⁵⁵ They are not included in the BO or ITS, and cannot be relied upon to support a “no jeopardy” finding or to reduce the impacts of anticipated incidental take.⁵⁶

□ *How Mitigation Becomes Required Under ESA and Supports Permitting Efficiencies.* As outlined above, FWS clearly has the authority to require mitigation, including

41. NEPA, 42 U.S.C. §4332(2)(C).

42. Section 7 Handbook, *supra* note 39, at 3-12.

43. “Conservation measures” are defined as:

actions to benefit or promote the recovery of listed species that are included by the Federal agency as an integral part of the proposed action. These actions will be taken by the Federal agency or applicant, and serve to *minimize or compensate* for, project effects on the species under review. These may include actions taken prior to the initiation of consultation, or actions which the Federal agency or applicant have committed to complete in a biological assessment or similar document.

Section 7 Handbook, *supra* note 39, at xii (emphasis added).

44. FWS, *Consultations: Frequently Asked Questions*, <https://www.fws.gov/endangered/what-we-do/faq.html> (last updated Nov. 1, 2017); Section 7 Handbook, *supra* note 39, at 3-12.

45. 50 C.F.R. §402.14(h) (2017).

46. *Arizona Cattle Growers Ass'n v. U.S. Fish & Wildlife Serv.*, 273 F.3d 1229, 1244, 32 ELR 20392 (9th Cir. 2001).

47. “Reasonable and prudent measures” are defined as “those actions the Director believes necessary or appropriate to minimize the impacts, i.e., amount or extent, of incidental take.” 50 C.F.R. §402.02 (2017).

48. *Id.* §402.14(i)(1)(ii) (emphasis added).

49. “Reasonable and prudent alternatives” are defined as:

alternative actions identified during formal consultation that can be implemented in a manner consistent with the intended purpose of the action, that can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction, that is economically and technologically feasible, and that the Director believes would avoid the likelihood of jeopardizing the continued existence of listed species or resulting in the destruction or adverse modification of critical habitat.

Id. §402.02.

50. *Id.* §402.14(g)(8).

51. *See Center for Biological Diversity v. U.S. Bureau of Land Mgmt.*, 698 F.3d 1101, 1113-19, 42 ELR 20211 (9th Cir. 2012) (requiring conservation plan to be included in project description in order to support a “no jeopardy” opinion).

52. *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059, 1075-76, 34 ELR 20068 (9th Cir. 2004) (mitigation can be used to support an opinion of “no adverse modification,” but mitigation must occur within critical habitat).

53. Memorandum From Director, FWS, to Regional Directors, Regions 1-7 and Manager, California Nevada Operations, Guidance for the Establishment, Use, and Operation of Conservation Banks 3-4 (May 2, 2003).

54. *See Center for Biological Diversity*, 698 F.3d at 1113-19 (requiring conservation plan to be included in project description in order to support a “no jeopardy” opinion); *Gifford Pinchot Task Force*, 378 F.3d at 1075-76 (mitigation can be used to support an opinion of “no adverse modification,” but mitigation must occur within critical habitat).

55. “Conservation recommendations” are defined as “suggestions of the Service regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information.” 50 C.F.R. §402.02 (2017).

56. Section 7 Handbook, *supra* note 39, at 4-62 to 4-63.

compensatory mitigation, under §10 of the Act. As with NEPA, including mitigation measures (including compensatory mitigation) in the project design can support significant permitting efficiencies. It can bring project impacts below the “likely to adversely affect species or critical habitat” threshold, allowing the action agency to use the faster informal consultation process. Mitigation measures can also safely bring a project below the threshold of triggering a jeopardy or adverse modification finding, saving considerable time and avoiding conflict.

FWS cannot require compensatory mitigation under §7 or require that project proponents include mitigation measures as part of their project design. However, when an action agency or permit applicant voluntarily chooses to incorporate conservation measures, including compensatory mitigation, in the project design, that compensatory mitigation is as much a part of the project as the steel in the pipe or the concrete in the road—the agency or permittee is required to carry out the conservation measures it has included in the project design for the consultation to be valid.⁵⁷

□ *FWS Authorities to Recommend Mitigation.* Under a variety of other statutes, FWS also has the authority to recommend mitigation measures. The Fish and Wildlife Coordination Act⁵⁸ (FWCA) requires federal agencies developing water-related projects to consult with FWS and other agencies to solicit recommendations on specific “measures proposed for *mitigating or compensating* for” damage to “wildlife resources.”⁵⁹ Although federal action agencies are not bound by the FWCA to implement FWS recommendations, they are required to give full and equal consideration to FWS’ recommendations, and the project plan must include “justifiable means and measures for wildlife purposes” to support “overall project benefits.”⁶⁰

One of the central federal authorities under which significant water-related projects are carried out, and therefore under which FWS makes recommendations on such projects, is the Water Resources Development Act (WRDA). Amendments to the WRDA made in 1990 established a goal for the U.S. Army Corps of Engineers (the Corps) water resources development program to achieve “an interim goal of no overall net loss of the Nation’s remaining wetlands base, as defined by acreage and function, and a long-term goal to increase the quality and quantity of the Nation’s wetlands, as defined by acreage and function.”⁶¹ Therefore it would be appropriate, in circumstances where FWS is providing comments to the Corps on WRDA-

related projects, to provide recommendations for what actions the Corps can take to achieve its goal of increasing the quality and quantity of wetlands, including through compensatory mitigation.

The Federal Power Act,⁶² which provides the Federal Energy Regulatory Commission (FERC) with the authority to license nonfederal hydroelectric dam projects, requires FERC to solicit recommendations on license conditions from FWS “in order to adequately and equitably protect, *mitigate damages* to, and enhance, fish and wildlife (including related spawning grounds and habitat) affected by the development, operation, and management of” hydropower projects.⁶³ Each license issued by FERC must “include conditions for such protection, *mitigation*, and enhancement,”⁶⁴ and FERC must give deference to the conditions recommended by FWS.

In addition, under the Clean Water Act, FWS has the opportunity to review proposed permits that may affect wetlands and streams and to provide the Corps with recommendations for how those impacts can be avoided, minimized, or offset.⁶⁵

Under these authorities, FWS has clear authority to recommend mitigation measures that can reduce impacts on species and their habitat. FWS itself does not make these measures mandatory, but if the agencies or parties discussed above incorporate the measures as terms of permits or licenses, those measures can become required.

D. BLM and Mitigation Authorities

BLM has ample authority to use mitigation, including compensatory mitigation, to meet its statutory obligations and has a long history of relying upon mitigation—avoidance and minimization in particular—in doing so.

The Federal Land Policy and Management Act (FLPMA) of 1976⁶⁶ is the organic act directing BLM’s administration of public lands.⁶⁷ FLPMA directs public lands to be managed in a manner to ensure the protection of ecological and environmental values, the preservation and protection of certain public lands in their natural condition, and the provision of food and habitat for wildlife.⁶⁸ This direction guides every significant aspect of the management of public lands under FLPMA, including the development of land management plans⁶⁹; project-specific authorizations for the use, occupancy, and development of public lands⁷⁰; the granting of rights-of-way on public lands⁷¹; and the promulgation of regulations to implement

57. “Since conservation measures are part of the proposed action, their implementation is required under the terms of the consultation.” *Id.* at 4-19.

58. Fish and Wildlife Coordination Act, as amended, 16 U.S.C. §§661-667(e); Agreement Between the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers for Conducting Fish and Wildlife Coordination Act Activities (Jan. 22, 2003).

59. 16 U.S.C. §662(b) (emphasis added). “Wildlife resources” are defined as “birds, fishes, mammals, and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent.” *Id.* §662(b).

60. *Id.* §662(b).

61. Pub. L. No. 101-640, §307(a)(1), 104 Stat. 4604.

62. 16 U.S.C. §§791a-828c.

63. *Id.* §803(j)(1) (emphasis added).

64. *Id.* (emphasis added).

65. 33 U.S.C. §§1251-1387, 1344(m), ELR STAT. FWPCA §§101-607.

66. 43 U.S.C. §1701 et seq., ELR STAT. FLPMA §§102-603.

67. *Sierra Club v. Watt*, 659 F.2d 203, 11 ELR 20880 (D.C. Cir. 1981).

68. 43 U.S.C. §1701(a)(8). Among other things, public resources should be managed to “protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values” and “provide food and habitat for fish and wildlife.”

69. *Id.* §1712(a).

70. *Id.* §1732(b).

71. *Id.* §1765(a)(i).

each of these authorities.⁷² While FLPMA does not elevate certain uses over others, it does delegate discretion to BLM to determine whether and how to develop or conserve resources, as well as whether to require enhancement of resources and values.⁷³

FLPMA also directs the Secretary of the Interior to “manage the public lands under principles of multiple use and sustained yield.”⁷⁴ The principles of multiple use and sustained yield pervade and underpin each of BLM’s authorities under FLPMA, including the principles governing the Act,⁷⁵ the development of land use plans,⁷⁶ the authorization of specific projects,⁷⁷ and the granting of rights-of-way.⁷⁸ “Multiple use” is defined as, among other things:

the management of public lands . . . so that they are utilized in the combinations that will best meet the present and future needs of the American people; . . . a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including . . . range, . . . watershed, wildlife and fish . . . ; and harmonious and coordinated management of the various resources without permanent impairment of . . . the quality of the environment⁷⁹

“Sustained yield” is defined as “the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the public lands.”⁸⁰ Mitigation, including compensatory mitigation, can be used to ensure that BLM actions that would otherwise be imbalanced toward development or impair sustained yield can proceed without violating the multiple use and sustained yield provisions of FLPMA.

Other provisions of the Act confer additional authority on BLM to utilize avoidance, minimization, and compensatory mitigation. When developing land use plans, BLM must “consider the relative scarcity of the values involved and the availability of alternative means . . . and sites for realization of those values.”⁸¹ This language gives BLM ample latitude to avoid sensitive resources by identifying “alternative sites,” and to require minimization and compensatory mitigation measures as “alternative means” for protecting scarce resources.

Similar additional authority exists for the use of mitigation in issuing project-specific authorizations. For example, project-specific authorizations must be “in accordance with

the land use plans,”⁸² and BLM may attach “such terms and conditions” to easements, permits, leases, licenses, or other instruments that are necessary to ensure that the use, occupancy, and development of public lands is consistent with land use plans.⁸³ If, for example, a specific species or habitat type is identified in a land use plan as sensitive, BLM can include mitigation measures, including compensatory mitigation, as a term or condition of a use authorization to ensure that the activity supports the objectives of the land use plan to maintain or preserve the sensitive habitat or species.⁸⁴

Finally, FLPMA obliges BLM to ensure that project-specific authorizations do not result in “undue or unnecessary degradation.”⁸⁵ BLM may protect against this standard being surpassed through the issuance of regulation or “any action necessary.”⁸⁶ This language gives BLM significant leeway in determining how to prevent unnecessary or undue degradation,⁸⁷ including relying upon compensatory mitigation.

In one Wyoming case, for example, the U.S. Court of Appeals for the District of Columbia (D.C.) Circuit found that BLM’s decision to authorize up to 4,399 natural gas wells from 600 drilling pads did not result in “unnecessary or undue degradation” of habitat for sage-grouse and other species in light of substantial mitigation required from permittees. The mitigation measures included a prohibition on new development outside core areas (avoidance) until comparable acreage in the core was fully restored, and included establishment of a fund to support monitoring and compensatory mitigation activities. The fund required operators to contribute at least \$4.2 million at the start of project development and then to pay into the fund for each well drilled, up to a total of \$36 million.⁸⁸

Courts have upheld BLM’s use of mitigation, including compensatory mitigation, as an appropriate measure to meet a conservation goal outlined in a land use management plan. In the sage-grouse context, a 2017 decision found that it was appropriate for BLM to rely upon com-

72. *Id.* §1740.

73. Pub. L. No. 94-579, 90 Stat. 2743 (1976) (stating an intent “[t]o establish public land policy; to establish guidelines for its administration; to provide for the management, protection, development, and enhancement of the public lands; and for other purposes” (emphasis added)).

74. 43 U.S.C. §1732(a).

75. *Id.* §1701(a)(7).

76. *Id.* §1712(c)(1).

77. *Id.* §1732(a).

78. *Id.* §1765(a)(i).

79. *Id.* §1702(c).

80. *Id.* §1702(h).

81. *Id.* §1712(c)(6).

82. *Id.* §1732(a).

83. *Id.* §1732(b).

84. BLM also has authority and/or obligations to ensure that all its operations protect natural resources and environmental quality, through statutes such as the Mineral Leasing Act of 1920, 30 U.S.C. §§181 et seq.; see also Independent Petroleum Ass’n of Am. v. DeWitt, 279 F.3d 1036 (D.C. Cir. 2002) (Act grants “rather sweeping authority” to BLM, or NEPA, 42 U.S.C. §4321); see also 40 C.F.R. §1505.2(c) (2018), which requires consideration of mitigation alternatives where appropriate. In addition, BLM’s authority under FLPMA is broader than that exercised by purely land use or regulatory agencies such as the U.S. Environmental Protection Agency or zoning boards, because BLM has the authority to act as both a regulator and as a proprietor. Accordingly, BLM can take action using all the tools provided by FLPMA for managing the public lands, including issuing regulations, developing land use plans, implementing land use plans, or in permitting decisions. 43 U.S.C. §§1712(a), 1732(a), 1732(b).

85. 43 U.S.C. §1732(b).

86. *Id.*

87. See Gardner v. Bureau of Land Mgmt., 638 F.3d 1217, 1222, 41 ELR 20139 (9th Cir. 2011) (FLPMA provides BLM “with a great deal of discretion in deciding how to achieve the objectives” of preventing “unnecessary or undue degradation of public lands”).

88. See, e.g., Theodore Roosevelt Conservation P’ship v. Salazar, 616 F.3d 497, 518, 40 ELR 20199 (D.C. Cir. 2010).

pensatory mitigation to “enhance, conserve, and restore sage-grouse habitat and to increase the abundance and distribution of the species” while also allowing some degradation of sage-grouse habitat.⁸⁹

As explained above, BLM has numerous authorities supporting its use of mitigation, including the principles underlying FLPMA; the foundational multiple use, sustained yield standard; the authority to promulgate regulations; and the specific authorities applicable to land use plans and project-specific authorizations. This authority has also been recognized by BLM in a 2008 Instruction Memorandum⁹⁰ (IM) and a now-rescinded Solicitor’s Opinion.⁹¹ Both FLPMA and case law thus establish that BLM has ample discretion to go beyond the prevention of unnecessary or undue degradation to seek compensatory mitigation that will meet “the long-term needs of future generations for renewable and non-renewable resources, including, but not limited to, . . . wildlife and . . . natural scenic, scientific and historical values.”⁹²

III. Moving Toward Uncertainty: The Fallout of the Trump Administration’s Departure From Mitigation

DOI in the Trump Administration expressed a negative interpretation of mitigation⁹³ that departs significantly from actions by the Administrations of Presidents Ronald Reagan, George H.W. Bush, William Clinton, George W. Bush, and Barack Obama. Previous administrations advanced the long-standing view of mitigation as a valuable tool to maintain public resources for future generations while facilitating economic progress.⁹⁴ At other times, however, DOI under the Trump Administration has demonstrated a more mainstream and nuanced understanding of the practice.

In an October 2017 report on DOI policies that affect energy development, for example, the Department seemed to recognize the value of such policies: “Interior seeks to establish consistent, effective and transparent mitigation principles and standards across all its Agencies. Interior and its bureaus and offices intend to develop consistent terminology, reduce redundancies, and simplify frameworks so that the Federal mitigation programs and stepped down programs are more predictable and consistent.”⁹⁵

However, beginning in early 2017, and inconsistent with this statement, DOI began dismantling the mitigation policies put in place by its predecessors, including those adopted under the George W. Bush Administration.⁹⁶ Not only has the Department’s position on mitigation been internally inconsistent, it has also taken great liberties with the interpretation of well-established practice and legal interpretation of its authorities.

In June 2018, BLM issued an IM stating that the agency “*must* not require compensatory mitigation from public land users.”⁹⁷ While earlier BLM mitigation policies were predicated on long-standing practice, regulation,⁹⁸ court decisions,⁹⁹ and well-reasoned legal opinions,¹⁰⁰ the 2018 policy rested its justification on a 22-year-old BLM-Wyoming State Office policy¹⁰¹ that merely “raised serious concerns” about compensatory mitigation.¹⁰²

89. Order on Motions for Summary Judgment, *Western Exploration, LLC v. U.S. Dep’t of the Interior*, No. 3:15-cv-00491-MMD-VPC, 47 ELR 20055 (D. Nev. 2017). BLM cited this case in its determination to issue its notice of intent opening this rulemaking process. See Notice of Intent to Amend Land Use Plans Regarding Greater Sage-Grouse Conservation and Prepare Associated Environmental Impact Statements or Environmental Assessments, 82 Fed. Reg. 47248 (Oct. 11, 2017).

90. BLM, IM No. 2008-204, *Offsite Mitigation* (Sept. 30, 2008) [hereinafter IM No. 2008-204]. “The BLM’s authority to address the mitigation of impacts on public lands associated with a use authorization issued by the BLM derives from the Federal Land Policy and Management Act (FLPMA).”

91. Solicitor’s Opinion M-37039, *The Bureau of Land Management’s Authority to Address Impacts of Its Land Use Authorizations Through Mitigation* (Dec. 21, 2016) [hereinafter Solicitor’s Opinion M-37039]. “FLPMA provides the Secretary and the BLM with authority to identify and require appropriate mitigation . . . Such mitigation may also consist of compensatory mitigation . . .”

92. 43 U.S.C. §1702(c).

93. At a meeting of the Western Governors’ Association in June 2017, Secretary of the Interior Ryan Zinke referred to compensatory mitigation as “extortion” and “un-American.” See Juliet Eilperin, *Interior Rescinds Climate, Conservation Policies Because They’re ‘Inconsistent’ With Trump’s Energy Goals*, WASH. POST, Jan. 5, 2018.

94. Dave Owen, *The Conservative Turn Against Compensatory Mitigation*, 48 ENVTL. L. 265-90 (2018).

95. Burdens Report, *supra* note 2.

96. The following policies have been rescinded or replaced: (1) IM No. 2008-204, *supra* note 90; (2) Secretarial Order No. 3330, *Improving Mitigation Policies and Practices of the Department of Interior* (Oct. 31, 2013); (3) U.S. DEPARTMENT OF THE INTERIOR, DEPARTMENTAL MANUAL, PUBLIC LAND POLICY ch. 6 (2015); (4) Presidential Memorandum, *Mitigating Impacts on Natural Resources From Development and Encouraging Related Private Investment*, 80 Fed. Reg. 68743 (Nov. 6, 2015); (5) 2016 Mitigation Policy, *supra* note 21; (6) Solicitor’s Opinion M-37039, *supra* note 91; (7) BLM MITIGATION MANUAL ch. MS-1794 (2016); (8) BLM MITIGATION HANDBOOK (2016) (H-1794-1); and (9) Endangered Species Act Compensatory Mitigation Policy, 81 Fed. Reg. 95316 (Dec. 27, 2016).

97. BLM, IM No. 2018-093, *Compensatory Mitigation* (July 24, 2018) (emphasis added), <https://www.blm.gov/policy/im-2018-093>.

98. BLM regulations related to surface management of hard-rock mining operations on public lands have consistently acknowledged the appropriate use of mitigation as a requirement for preventing unnecessary or undue degradation. See 43 C.F.R. subpt. 3809 (1980); Final Rule: Mining Claims Under the General Mining Laws, 66 Fed. Reg. 54834-62 (Oct. 30, 2001), which states that among “these general performance standards” is the requirement to “take mitigation measures specified by BLM to protect public lands”; Final Rule: Mining Claims Under the General Mining Laws, 65 Fed. Reg. 69998-70132 (Nov. 21, 2000), which notes “Section 302(b) and 303(a) of FLPMA, 43 U.S.C. 1732(b) and 1733(a), and the mining laws, 30 U.S.C. 22, provide BLM the authority for requiring mitigation. Mitigation measures fall squarely within the actions the Secretary can direct to prevent undue or unnecessary degradation of the public lands.”

99. See, e.g., *Gardner v. Bureau of Land Mgmt.*, 638 F.3d 1217, 1222, 41 ELR 20139 (9th Cir. 2011); *Theodore Roosevelt Conservation P’ship v. Salazar*, 661 F.3d 66, 40 ELR 20199 (D.C. Cir. 2011).

100. See Solicitor’s Opinion M-37039, *supra* note 91. The Solicitor’s Opinion was rescinded in June 2017 by Solicitor’s Opinion M-37046, *Withdrawal of M-37039, ‘The Bureau of Land Management’s Authority to Address Impacts of Its Land Use Authorizations Through Mitigation’* (June 30, 2017), <https://www.doi.gov/sites/doi.gov/files/uploads/m-37046.pdf>.

101. BLM-Wyoming State Office, IM No. 96-21, *Statement of Policy Regarding Compensatory Mitigation* (1996).

102. See also Office of the Solicitor, Rocky Mountain Division, U.S. Department of the Interior, *Draft Memorandum on Conditions of Approval for Applications for Permission to Drill* (1991).

In withdrawing two FWS mitigation policies in July 2018, FWS stated that compensatory mitigation “raises serious questions of whether there is a sufficient nexus between the potential harm and the proposed remedy to satisfy Constitutional muster.”¹⁰³ This argument was based on the outcomes of several Supreme Court takings cases, including *Koontz v. St. Johns River Water Management District*.¹⁰⁴ The *Koontz* decision, however, did not call into question off-site mitigation or address the constitutionality of the mitigation ratio used in the case. To the contrary, it *affirmed* that regulators can require developers to “internalize the negative externalities of their conduct” and “bear the full cost of their proposals.” The cases merely asserted that there must be a nexus¹⁰⁵ between the impact and the compensatory mitigation, and the amount of compensation required must be roughly proportional¹⁰⁶ to the resources lost.

This march toward dismantling mitigation policy at the Department is at odds with the broader goals of the Trump Administration on advancing infrastructure investment and efficient project review processes.¹⁰⁷ These steps also eliminate or weaken tools to advance the Department’s conservation mission and to balance that mission with the Department’s other responsibilities.

IV. The Case for National-Level Mitigation Policy

Federal agencies have clear authority to require mitigation, including compensatory mitigation, under a variety of authorities. Under others, they have the discretion to recommend mitigation as a means to meet procedural requirements, comply with federal statutes that mandate the protection of important species and habitat, and/or meet public land management directives to balance use with protection and conservation. Compensatory mitigation can also be used in a variety of ways to reduce the severity of impacts from a proposed project and allow the project proponent to take advantage of significant per-

mitting and review efficiencies and, in some cases, it can reduce overall project costs.

Mitigation has, at times and in particular instances, been applied in ways that appear arbitrary, lack transparency, or are seemingly uncoupled from the amount or type of impacts. But these are fundamentally implementation issues and mitigation “design” challenges, rather than any inherent problem with the basic concept or legal underpinnings of mitigation.

Without national policies, mitigation decisions will be made on a project-by-project, ad hoc basis, which invites arbitrary decisionmaking. Ad hoc approaches are also time-consuming for both the oversight agencies and developers, and add significant unpredictability for developers. Without clear mitigation policy, developers also lack clear direction on how they can use mitigation to take advantage of routes that shorten project review times, such as mitigated FONSI and informal consultation under §7 of the ESA, and that avoid jeopardy findings under §10 of the ESA.

At times, compensatory mitigation may provide the only path forward for some projects, such as nonfederal actions that affect listed species or some development activities on BLM lands. Failing to undertake compensatory mitigation in these cases will leave private developers, landowners, and public land management agencies vulnerable to litigation. Finally, constraining the flexibility provided by compensatory mitigation can also drive up costs for developers.¹⁰⁸

An unclear mitigation policy landscape also inhibits private investment in compensatory mitigation solutions. Development projects often have two types of options for meeting their compensatory mitigation needs: permittee-responsible (do-it-yourself) or third-party miti-

103. Policy Withdrawal: FWS Mitigation Policy, 83 Fed. Reg. 36472 (July 30, 2018); Policy Withdrawal: Endangered Species Act Compensatory Mitigation Policy, 83 Fed. Reg. 36469 (July 30, 2018).

104. *Nollan v. California Coastal Comm’n*, 483 U.S. 825, 17 ELR 20918 (1987); *Dolan v. City of Tigard*, 512 U.S. 374, 24 ELR 21083 (1994); *Koontz v. St. Johns River Water Mgmt. Dist.*, 570 U.S. 595, 43 ELR 20140 (2013).

105. The nexus test asserts that there must be a logical connection between the effects of the proposed land use and the permit condition requiring mitigation. In other words, there must be a connection between the values or objectives the government is trying to achieve with the exaction and the impacts to the same or related values or objectives that would result from granting the permit.

106. The rough proportionality test asserts that there must be a roughly proportional relationship between the impacts of the development and the offsetting impacts of the condition—both in nature and extent.

107. Exec. Order No. 13766, Expediting Environmental Reviews and Approvals for High Priority Infrastructure Projects, 82 Fed. Reg. 8657 (Jan. 30, 2017); Exec. Order No. 13807, Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects, 82 Fed. Reg. 40463 (Aug. 24, 2017).

108. In the 2016 case *Union Neighbors United v. Jewell*, a company, Buckeye Wind, LLC, was seeking to develop a 250-megawatt wind farm in Ohio. Because the proposed wind farm would be located within the range of the endangered Indiana bat (listed under the ESA), the company sought to secure an ITP for anticipated take of the bat and develop an HCP. FWS considered several alternatives in its NEPA analysis, including one alternative that would have required Buckeye Wind to adopt operational measures (i.e., turning off the turbines at night from April to October) that would have eliminated the take of bats altogether and nullified the need for an ITP and development of an HCP. The company determined that this option would have meant a significant loss of revenue: \$8.65 million every year and \$216.5 million over the term of the ITP term.

Alternatively, Buckeye proposed adopting less restrictive operational measures (feathering turbines and increasing cut-in speeds). This option would lead to the take of an estimated 5.2 bats a year and 26 bats over a five-year period. It would also necessitate that the company develop an HCP, secure an ITP, and commit to minimization and compensatory mitigation measures. Under this scenario, the company would protect 217 acres of Indiana bat habitat, enhance and restore habitat, and contribute \$200,000 to research related to Indiana bats and wind power. It was estimated that this approach—some take with commitments to undertake operational measures and carry out compensatory mitigation—would have led to a lower amount of lost revenue: \$980,000 annually and \$24.5 million over the term of the ITP—a savings of \$192 million over the life of the ITP. See *Union Neighbors United, Inc. v. Jewell*, 831 F.3d 564, 46 ELR 20133 (D.C. Cir. 2016); Response Brief for the Federal Appellees, *Union Neighbors United, Inc. v. Jewell*, 831 F.3d 564 (D.C. Cir. 2016) (No. 15-5147), 2015 WL 6807523.

gation (banks or in-lieu fee programs).¹⁰⁹ When project proponents buy credits from third parties, their project approval times are cut in half.¹¹⁰ This is because third-party options have credits available for sale when permittees need them—at the front end—eliminating the need for the project sponsors themselves to go through a lengthy process to get each individual mitigation plan approved. Having in place a clear and consistent mitigation rule set gives private mitigation providers the confidence they need to make investments in these markets. Without these conditions, fewer third-party options will be available, leaving

project proponents with only the more time-consuming do-it-yourself option.

Mitigation done right can support efficient and defensible government decisions, predictability for project proponents, and positive outcomes for communities and the environment. But to achieve these benefits, we need clear national mitigation policies that provide direction on how to meet the obligations of existing legal authorities, and that establish a framework that can be applied consistently at the local level.

109. For a more detailed discussion of compensatory mitigation options, see Genevieve Bennett & Melissa Gallant, *Ecosystem Marketplace, State of Biodiversity Mitigation 2017: Markets and Compensation for Global Infrastructure Development* (2017).

110. Institute for Water Resources, U.S. Army Corps of Engineers, *The Mitigation Rule Retrospective: A Review of the 2008 Regulations Governing Compensatory Mitigation for Losses of Aquatic Resources* (2015-R-03).