

Clean Water Act: Costs of Compensatory Mitigation Activities for Losses of Aquatic Resources

GAO-24-107493 (Accessible Version)
Q&A Report to Congressional Committees

September 25, 2024

Why This Matters

Wetlands, streams, and other aquatic resources are critical to maintaining healthy ecosystems. Wetlands support a number of valuable functions, including flood controls, improving water quality, and providing wildlife with habitat. To restore and maintain the integrity of these waters, discharging dredged or fill material into waters of the United States—which can include wetlands and streams—is generally prohibited without a permit from the U.S. Army Corps of Engineers (Corps). For a Corps permit to authorize discharge, parties responsible for it must generally avoid and minimize adverse impacts to wetlands, streams, and other aquatic resources to the extent practicable. In fiscal year 2023 alone, the Corps issued permits for permanent and temporary impacts to more than 73,000 acres of aquatic resources.

For unavoidable adverse impacts, compensatory mitigation may be required to replace the loss of wetland or aquatic resource functions to the extent practicable, generally in the same watershed. Compensatory mitigation refers to the restoration, establishment, enhancement, or—in certain circumstances—preservation of wetlands, streams, and other aquatic resources for the purpose of offsetting unavoidable adverse impacts that remain after achieving all appropriate and practicable avoidance and minimization. Compensatory mitigation includes activities such as planting trees and erecting in-stream structures. Permittees may perform the work themselves (known as permittee-responsible mitigation) or pay a third-party mitigator to improve or preserve aquatic resources and assume responsibility for successful completion of the mitigation project. The Corps issues permits for the discharge of dredged or fill material into waters of the United States and as part of the permitting process can require compensatory mitigation under section 404 of the Clean Water Act and its implementing regulations. The Corps' 38 district offices are responsible for issuing these permits.

The Water Resources Development Act of 2022 includes a provision for GAO to review the costs of carrying out compensatory mitigation activities borne by the federal government, a permittee, or any other involved entity. (Pub. L. No. 117-263, div. H, tit. LXXXI, § 8236(d)(2)(B)(iv), 136 Stat. 2395, 3772.) This report discusses the types and amounts of costs for carrying out compensatory mitigation activities borne by the federal government, third-party mitigators, section 404 permittees, and any other involved entities, such as state government agencies.

Key Takeaways

- Certain federal agencies and state environmental agencies incur costs for reviewing and approving third-party mitigation projects and reviewing

monitoring reports for those projects. Federal and state agencies may also incur costs for satisfying compensatory mitigation requirements as section 404 permittees.

- Selected stakeholder groups and third-party mitigators we interviewed explained that the costs incurred by third-party mitigators vary and determine the price that section 404 permittees pay for mitigation credits. Costs are incurred for (1) design and approval, (2) land, (3) site work, (4) maintenance and monitoring, and (5) long-term stewardship.
- The specific costs borne by the federal government or state agencies are not known because federal and state agencies do not track data on the costs they incur for compensatory mitigation activities separately from other agency expenditures. In addition, third-party mitigators and permittees do not always make cost information publicly available.

Background

Compensatory mitigation for section 404 permits may be accomplished through third-party mitigation mechanisms or permittees conducting the mitigation themselves.

- **Mitigation banking.** Mitigation banks are typically private, for-profit entities—but may be established by public organizations like state agencies—with land in areas where they believe that they can successfully improve or preserve aquatic resources. Mitigation bankers enter into agreements with the Corps, known as a mitigation banking instrument. The instrument documents how the bank will be established, operated, and managed, among other things. After finalizing a mitigation banking instrument with the Corps and securing the land, bank administrators conduct site work to improve or preserve ecological functions of aquatic resources at the site. Completing this work and generating ecological uplift creates “credits” that section 404 permittees may purchase from mitigation banks to fulfill their compensatory mitigation requirements. Once a permittee purchases credits, the mitigation bank assumes responsibility from the permittee for implementing successful compensatory mitigation.
- **In-lieu fee program.** Similar to mitigation banks, in-lieu fee programs conduct site work to improve or preserve aquatic resources at a site. In contrast to mitigation banks, in-lieu fee programs are often administered by public entities (such as state agencies) or nongovernmental organizations. Under agreements with the Corps, in-lieu fee program administrators sell credits to section 404 permittees to meet their compensatory mitigation requirements. At a later date, after collecting sufficient funds from multiple permittees, the administrators use them to restore wetlands, streams, or other aquatic resources. Once a section 404 permittee purchases in-lieu fee credits, the in-lieu fee program administrator assumes responsibility for implementing successful compensatory mitigation. In-lieu fee programs are also governed by an agreement with the Corps known as the in-lieu fee instrument.
- **Permittee-responsible mitigation.** Permittee-responsible mitigation refers to compensatory mitigation undertaken by the permittee to fulfill section 404 permit requirements. The permittee performs the mitigation after the Corps issues the permit and retains responsibility for the successful implementation of the project.

In 2008, the Corps and the U.S. Environmental Protection Agency (EPA) issued regulations clarifying compensatory mitigation requirements for section 404

permits.¹ Among other requirements, the rule made changes to the review and approval process for mitigation banks and in-lieu fee programs led by the Corps district engineer for the area where they will operate. As part of this process, the district engineer establishes and chairs an interagency review team that consists of other relevant federal agencies (such as EPA, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service, and the Department of the Interior's U.S. Fish and Wildlife Service) and non-federal entities (such as a state's department of natural resources). Interagency review team members review documentation for proposed mitigation banks and in-lieu fee programs, such as the bank or in-lieu fee instrument, and advises the district engineer on approval decisions.

What types of mitigation costs does the federal government incur?

Federal agencies incur costs for carrying out a range of activities related to compensatory mitigation under the section 404 program.

Federal agencies as section 404 program administrators

As the federal agency tasked with issuing section 404 permits, approval and oversight of permittee-responsible mitigation is generally the responsibility of the Corps district containing the location of the project site.² In this role, the Corps incurs costs for time that district staff spend reviewing permit applications to determine whether and how much compensatory mitigation should be required, evaluating proposed permittee-responsible compensatory mitigation, and monitoring the implementation of such mitigation, according to Corps officials. The Corps and EPA also incur costs for activities such as developing compensatory mitigation policy and guidance documents.

Federal agencies—primarily the Corps, EPA, the National Marine Fisheries Service, and the Fish and Wildlife Service—incur costs for participating on interagency review teams for proposed and approved mitigation banks and in-lieu fee programs.³ Officials from the agencies provided the following examples about the types of costs they incur for participating in interagency review teams:

- **Proposed mitigation bank and in-lieu fee program review and approval.** The Corps and other federal agencies serving on the interagency review team incur costs for staff time expended reviewing and commenting on documentation submitted in support of proposed mitigation banks and in-lieu fee program approval. These documents include, for example, the draft mitigation bank or in-lieu fee instrument. The Corps and other federal agency interagency review team members also incur costs for staff time spent visiting the site of a proposed mitigation bank or in-lieu fee program project.⁴
- **Mitigation bank and in-lieu fee program monitoring.** The Corps and federal agency interagency review team members incur costs for staff time spent reviewing monitoring reports submitted by mitigation bank and in-lieu fee program administrators and for conducting site visits to verify the meeting of performance standards.⁵

While federal agencies may be invited by the Corps to participate on interagency review teams, officials from the Fish and Wildlife Service and National Marine Fisheries Service told us that they do not always have the resources or available staff to participate. Further, according to a National Marine Fisheries Service official, the agency is typically responsible for marine and estuarine resources. Because of this, according to the official, it is common for the agency to join the interagency review team when a mitigation bank or in-lieu fee program is proposed in an area with estuarine or marine aquatic resources or habitat for migratory marine species such as salmon. However, if the proposed bank or in-

lieu fee program is located in an inland area involving freshwater only, the agency generally will not participate in the interagency review team.

Federal agencies as section 404 program permittees

Like nonfederal entities, federal agencies other than the Corps are subject to section 404 requirements and can incur costs as section 404 permittees.⁶ For example, officials from two federal agencies we interviewed identified the Department of Transportation as a federal agency that incurs costs to satisfy compensatory mitigation requirements as a section 404 program permittee.⁷ According to officials from the department's Federal Highway Administration, the administration's Office of Federal Lands Highway is frequently a permittee that incurs compensatory mitigation costs for projects on federal and tribal lands.⁸

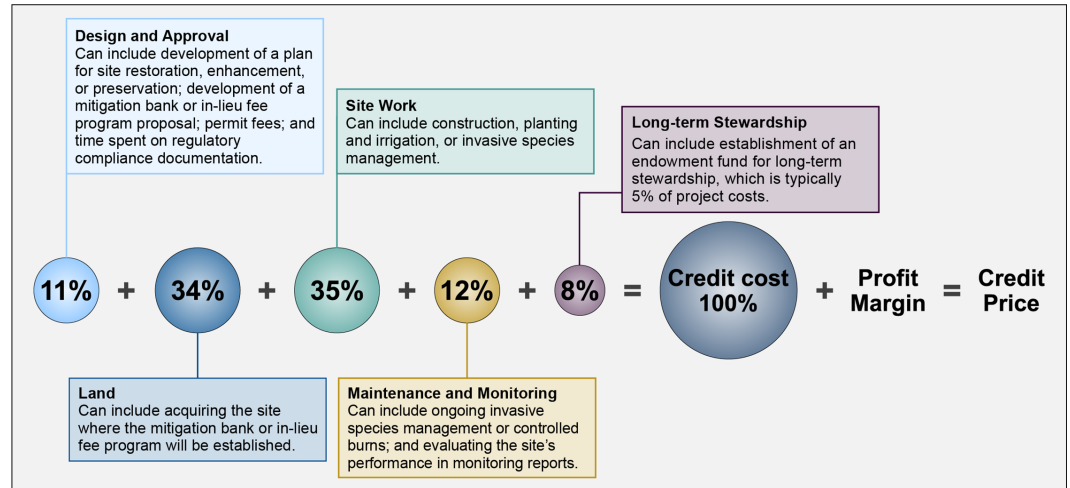
Officials from the Federal Highway Administration explained that the Office of Federal Lands Highway will purchase mitigation bank credits to satisfy compensatory mitigation requirements for projects when credits are available in the project's area. For example, the office purchased 0.03 credits for \$1,350 from a wetland mitigation bank in 2024 to satisfy compensatory mitigation requirements for a road repair project in Yellowstone National Park.

In many instances, however, the Office of Federal Lands Highway's projects are in locations that do not have approved mitigation banks so the agency may complete the compensatory mitigation through permittee-responsible mitigation projects, according to an office official. For example, to compensate for 0.036 acres of wetland impacts resulting from a road and bridge improvement project near Olympic National Park, the office incurred about \$205,000 in costs for creating 0.083 acres of wetland in 2023, according to agency officials and documents we reviewed. In addition, to provide compensatory mitigation for 1.35 acres of unavoidable stream impacts resulting from the improvement project, the office will incur an estimated \$3,000,000 in costs for the construction of a fish passage at the project's site with completion in 2026, according to officials.

What types of mitigation costs do mitigation banks, in-lieu fee programs, or permittees incur?

The types of costs for carrying out compensatory mitigation activities incurred by mitigation banks and in-lieu fee programs fall into five overall categories. These categories determine the price that section 404 permittees pay for mitigation credits according to literature we reviewed and interviews with federal officials and other stakeholders. The five categories are (1) design and approval, (2) land, (3) site work, (4) maintenance and monitoring, and (5) long-term stewardship (see fig. 1).⁹ Permittees that perform the mitigation themselves are subject to a number of the same requirements as mitigation banks and in-lieu fee programs and retain responsibility for the success of the compensatory mitigation project. These permittees are also responsible for any costs associated with the activities necessary to meet the permit's compensatory mitigation requirements.¹⁰

Figure 1: An Illustrative Example of the Five Types of Costs That Determine Mitigation Bank and In-Lieu Fee Program Credit Prices



Source: GAO depiction of Forest Trends information. | GAO-24-107493

Note: In the study by the environmental nonprofit Forest Trends, the authors collected detailed project cost data from administrators of 12 mitigation banks and in-lieu fee programs in the United States to develop this figure. The percentages associated with each of the five types of costs identified are illustrative and should not be considered representative of the costs incurred by mitigation banks and in-lieu fee programs not included in the Forest Trends study.

The costs incurred by mitigation bank and in-lieu fee program administrators for each of the categories vary, and as a result the credit prices that permittees pay third-party mitigators to fulfill their compensatory mitigation requirements also vary. Specifically:

Design and approval

There are costs associated with designing site work and receiving approval from the Corps for mitigation banks and in-lieu fee programs to sell credits, according to representatives of compensatory mitigation entities we spoke with and reports we reviewed. Design costs can include the costs of developing a mitigation plan for the site to show how the proposed compensatory mitigation project is intended to be accomplished. Costs associated with Corps approval include staff time preparing and revising required documents according to a stakeholder group and an administrator of mitigation banks and in-lieu fee programs.

In addition, according to the group and the administrator, there are also costs incurred while waiting for the Corps and interagency review team to complete their review of the documentation. According to the administrator, these costs include those related to the upkeep of purchased land while navigating the review process. In-lieu fee program administrators also incur costs for developing a compensation planning framework to demonstrate how the proposed in-lieu fee program will select, secure, and implement compensatory mitigation once sufficient funds are collected. Mitigation banks do not incur these costs because the specific mitigation project proposed by bank administrators is identified in the pre-approval documents submitted to the Corps. In-lieu fee program administrators identify the specific project after the Corps approves the program.

A stakeholder group told us that the federal review and approval process typically takes years and can cost mitigation banks or in-lieu fee programs hundreds of thousands of dollars.¹¹ An administrator of mitigation banks and in-lieu fee programs we spoke with explained that it can take 6 months to a year to receive feedback from an interagency review team on the design documentation they submit. The administrator also explained that there can be two-to-three rounds of

interagency review team review before the mitigation bank or in-lieu fee program is approved.

Other factors related to design and approval that can impact the costs incurred by mitigation banks and in-lieu fee programs can include those associated with acquiring state and local permits, actions to comply with any state and local requirements (such as those concerning wetlands and species of concern), and technical services associated with engineering designs, according to a stakeholder group.

Land

According to mitigation bank and in-lieu fee program administrators we spoke with, the cost to acquire the land where the mitigation will be performed is one of the most significant drivers of mitigation bank and in-lieu fee credit prices, but these costs can be highly variable.

An administrator of mitigation banks and in-lieu fee programs explained that the cost to purchase land can be the single biggest driver of their credit prices. For example, prices for credits they sell can range from under \$100,000 for credits sold for mitigation in rural regions to over \$3 million for those in metropolitan and coastal regions. According to this administrator, the disparity is primarily due to differences in the costs they incur to acquire land, which is generally higher in metropolitan and coastal regions than in rural regions. By contrast, in-lieu fee programs may not incur any land acquisition costs in certain circumstances, such as in instances where the program is administered by a state agency on land owned by the state or in instances where the program receives donated land. For example, an official from a selected state agency that administers in-lieu fee programs within the state explained that land acquisition costs can range from 0 percent of project costs if the state owns the land and up to 50 percent of project costs if the state must acquire land for a project.

Other factors that impact land costs for mitigation banks and in-lieu fee programs can include costs related to searching for land suitable for mitigation work, acquiring rights to real estate surrounding the mitigation site for maintenance activities and access, and incurring real estate transaction fees (i.e., closing fees and real estate and transfer taxes), according to a stakeholder group. The group also told us that if there are few properties in an area that are suitable for restoration or conservation work to generate credits, then the limited supply may drive up land acquisition costs. They explained that acquiring land in areas with limited supply can involve a competitive and protracted negotiation process, and the costs associated with this process can in some cases match or exceed the underlying purchase cost of the land.

Site work

According to a stakeholder group and mitigation bank and in-lieu fee program administrators, the costs associated with work to improve ecological functions at a site can be one of the largest sources of costs.

According to one stakeholder group, site work costs can include those related to earthwork (excavation and building structures), moving equipment to the site, tree planting, invasive species management, and costs incurred for engineers overseeing construction. Prior to beginning the site work, mitigation bank and in-lieu fee program administrators also incur costs for funds set aside for required financial assurances to cover the total cost of providing replacement mitigation if the administrator fails to implement the mitigation project.¹²

In addition, an in-lieu fee program administrator said that site work costs for stream mitigation projects are generally more expensive than those for wetlands, in large part because purchasing the stone required to direct stream flow and erect in-stream structures is expensive. A stakeholder group also explained that there can be substantial costs associated with transporting stone and wood to the project site.

Maintenance and monitoring

Maintenance and monitoring costs include the costs for activities necessary to achieve performance standards at mitigation project sites. For example, maintenance activities that may incur costs include activities to control invasive species at a site, such as purchase of chemical products or labor costs to remove invasive plant species by hand or through use of equipment, according to a stakeholder group and a Corps official. Monitoring costs generally comprise staff time collecting project performance information and preparing required monitoring reports. An in-lieu fee program administrator told us that their Corps district requires monitoring reports for 10 years, with reporting required in years one, two, three, five, seven, and 10.

Other sources of costs related to maintenance and monitoring that are incurred by mitigation banks and in-lieu fee programs include contingency fund costs to account for unforeseen project expenses, such as site repairs following storms and other weather events. According to documentation provided to us by an in-lieu fee program administrator, 5 percent of the program's credit prices in 2023 are due to the cost of maintaining the in-lieu fee program's contingency fund.

Long-term stewardship

Following the Corps district's determination that a mitigation bank or in-lieu fee program has met its performance standards, administrators incur varying costs to facilitate long-term stewardship of project sites.

According to a stakeholder group, long-term stewardship costs for mitigation banks are often incurred in the form of an endowment fund held by a third-party organization. Responsibility for carrying out long-term stewardship activities may be transferred from the mitigation bank or in-lieu fee program to a land stewardship entity, such as a public agency or non-governmental organization. One in-lieu fee program administrator estimated that 10 percent of project costs can be due to the stewardship endowment fund.

In addition, an administrator of mitigation banks and in-lieu fee programs stated that a typical long-term stewardship endowment fund is about \$150,000 but can be higher. According to this administrator, the level of funding in the long-term stewardship endowment varies according to the anticipated annual costs of ensuring basic stewardship.¹³ These anticipated costs can include those associated with protection from encroachment and invasive species control. Mitigation bank and in-lieu fee program administrators can also incur costs for the continued legal protection of project sites.

What types of mitigation costs do other involved entities, such as state government, incur?

State government environmental agencies participate in interagency review teams for mitigation banks and in-lieu fee programs because of their regulatory role, and this participation incurs costs.¹⁴ The specific state agencies that may be invited by the Corps to co-chair an interagency review team or participate in reviews can depend on the types of mitigation projects proposed by mitigation bank and in-lieu fee program administrators.

For example, an official from a state's Department of Environmental Quality told us the department always participates in reviews for mitigation banks and in-lieu fee programs. Further, if the site of a bank or in-lieu fee program may affect species with legal protections in the state, the Department of Wildlife Resources will make comments as a standing member of the interagency review team. If the project may affect tidal water resources, the agency that manages the state's marine resources will make comments as a standing member of the interagency review team, according to this official.¹⁵ In contrast, an official from the Wisconsin Department of Natural Resources explained that the department is the state's sole participant on interagency review teams for proposed mitigation banks in the state.¹⁶

Officials from a state's Department of Environmental Quality and Wisconsin's Department of Natural Resources described the types of costs they incur associated with interagency review team participation. Officials from both state agencies said that the biggest cost they incur related to interagency review team participation is staff time reviewing and commenting on proposed mitigation bank documents. In addition, these agencies incur staff time costs for participating in meetings with proposed bank administrators or consultants. Once a mitigation bank is approved and in operation, state agency staff serving on the bank's interagency review team incur costs for time spent verifying that activities undertaken by the bank align with their documentation, such as reviewing monitoring reports and conducting site visits.

In certain instances, state agencies may need to obtain a Corps-issued section 404 permit for an activity that results in the discharge of dredge or fill material into waters of the United States and may incur costs for any required compensatory mitigation. Officials we spoke with from two state departments of transportation explained that state projects—such as constructing a new highway, widening a road, or reconstructing existing roadways—could require section 404 permits that frequently have compensatory mitigation requirements.

To satisfy compensatory mitigation requirements, state departments of transportation may incur costs for mitigation credits purchased from an existing mitigation bank or in-lieu fee program, establishing their own mitigation bank or in-lieu fee program that provides credits to mitigate state department project impacts, or for performing the compensatory mitigation themselves. For example, officials from a state's Department of Transportation explained that they purchased 0.11 wetland credits for \$8,250 from a private mitigation bank in 2024 to offset 0.04 acres of unavoidable wetland impacts resulting from a small road-widening project. In addition, officials from the department also noted that they currently manage four active mitigation banks in the state with available credits that can be used to satisfy compensatory mitigation requirements for their projects.

What are the mitigation costs borne by the federal government and other entities?

The following describes the types of costs incurred by the federal government and other involved entities for compensatory mitigation activities under the section 404 program. The specific costs borne by the federal government or state agencies are not known because agencies do not track expenditures for their compensatory mitigation activities separately. In addition, third-party mitigators and permittees do not share cost information.

Agency expenditure tracking for federal and state agencies

Federal officials from relevant agencies we spoke with told us that compensatory mitigation activities are included as part of the agency's general expenditures

and are not tracked separately. As one Corps official explained, the overall yearly budget includes funding for activities related to the Corps' review, approval, and monitoring process for compensatory mitigation projects and is not separated from other budget line items. The Corps is not required to separately track the costs that the agency incurs for compensatory mitigation activities, and the agency's activities vary greatly, making separately tracking activities difficult, according to a Corps official.

Officials from each of the other federal agencies we spoke with also confirmed that they do not track expenditures for compensatory mitigation activities separately from other agency expenditures. Officials from state agencies we spoke with made similar comments. Specifically, officials from two Wisconsin state agencies and two agencies in another state explained that they do not track the costs they incur for compensatory mitigation activities separately from other agency expenditures.

Availability of cost information for third-party mitigators and permittees

Mitigation banks do not generally share information regarding costs or credit pricing publicly, as they are typically private, for-profit entities. Further, according to Corps officials, in-lieu fee program administrators are not required to publicly disclose their costs or the prices of the credits they sell.¹⁷ Finally, Corps officials also told us that the agency does not collect data on the costs of permittee-responsible mitigation projects and, therefore, does not have data to publicly release on the costs of such projects.

Agency Comments

We provided a draft of this report to the Department of Defense for review and comment. The Department of Defense provided only technical comments, which we incorporated as appropriate.

How GAO Did This Study

To learn about the costs incurred by the federal government and other entities, we interviewed agency officials and representatives from a range of groups. Specifically, we interviewed:

- Officials from six federal agencies—the Corps, EPA, Fish and Wildlife Service, National Marine Fisheries Service, the U.S. Department of Agriculture's Natural Resources Conservation Service, and Federal Highway Administration;
- Representatives from two organizations that administer mitigation banks and in-lieu fee programs, four stakeholder groups (one representing the mitigation banking industry and three organizations that conduct research on environmental issues), and one academic researcher; and
- Officials from agencies in two selected states.

We selected these entities because they were most frequently mentioned during interviews as other entities that could discuss the costs for carrying out compensatory mitigation activities. When selecting the entities we considered other factors, such as federal agencies commonly participating on interagency review teams for proposed and approved mitigation banks and in-lieu fee programs, and stakeholder groups that wrote reports on compensatory mitigation.

We interviewed two states, Wisconsin and an unnamed state—unnamed due to a request for anonymity by the state agency we interviewed—selected based on accessibility of credit price information for the in-lieu fee programs administered

by these states and the availability of officials from relevant state agencies to speak with us, among other factors. For the unnamed state, we interviewed the Department of Environmental Quality and the Department of Transportation; for Wisconsin, we interviewed the Department of Natural Resources and the Department of Transportation. Information from interviews with individuals from federal agencies, selected state agencies, and other organizations cannot be generalized.

We also conducted literature searches to identify studies that discuss issues related to compensatory mitigation activities and articles that discuss any costs related to these activities. We searched various databases such as ProQuest, EBSCO, Westlaw Edge, and Harvard Think Tank using search terms such as, “Army Corps of Engineers,” “compensatory,” “wetland,” “mitigation,” “cost,” “bank,” and “market.” The literature searches resulted in 53 studies; we cite two that had relevant information to answer our questions and used the remainder for background and context. In addition, we reviewed documentation on credit pricing and compensatory mitigation costs and activities provided by federal officials, in-lieu fee program administrators, and others we interviewed to learn about the costs they incur.

We conducted this performance audit from May 2023 to September 2024 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

List of Addressees

The Honorable Tom Carper
Chairman

The Honorable Shelley Moore Capito
Ranking Member
Committee on Environment and Public Works
United States Senate

The Honorable Sam Graves
Chairman

The Honorable Rick Larsen
Ranking Member
Committee on Transportation and Infrastructure
House of Representatives

We are sending copies of this report to the appropriate congressional committees, the Secretary of Defense, the Assistant Secretary of the Army for Civil Works, the Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers, and other interested parties. In addition, the report is available at no charge on the GAO website at <https://www.gao.gov>.

GAO Contact Information

For more information, contact: Cardell D. Johnson, Director, Natural Resources and Environment, JohnsonCD1@gao.gov, (202) 512-3841.

Sarah Kaczmarek, Managing Director, Public Affairs, KaczmarekS@gao.gov, (202) 512-4800.

A. Nicole Clowers, Managing Director, Congressional Relations, ClowersA@gao.gov, (202) 512-4400.

Staff Acknowledgments: Vondalee R. Hunt (Assistant Director), Lisa Vojta (Analyst in Charge), Adrian Apodaca, Xiang Bi, Jieun Chang, Andrew Edkins, Cindy Gilbert, Jocelyn Kuo, Matt McLaughlin, and Jeanette Soares.

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Endnotes

¹73 Fed. Reg. 19594 (Apr. 10, 2008) (codified at 33 C.F.R. pts. 325, 332; 40 C.F.R. pt. 230). Section 314(b) of the National Defense Authorization Act for Fiscal Year 2004 required the Corps to issue regulations establishing performance standards and criteria for the use of on-site, off-site, and in-lieu fee mitigation and mitigation banking as compensation for lost wetlands functions in permits issued by the Corps under section 404 of the Clean Water Act, as amended. Pub. L. No. 108-136, div. A, tit. III, § 314(b), 117 Stat. 1392, 1431 (2003). The Corps and EPA jointly issued the regulation because the Corps administers the section 404 permit program and EPA issues the regulations establishing the environmental criteria for evaluating applications for section 404 permits.

²District engineers may coordinate draft mitigation plans for individual permits with other agencies during the permit application evaluation process.

³The compensatory mitigation regulations, officials from two federal agencies, and an administrator of mitigation banks and in-lieu fee programs identified the U.S. Department of Agriculture's Natural Resources Conservation Service as one of the federal agencies that may participate in interagency review teams. However, officials from the Natural Resources Conservation Service said that the agency's involvement in interagency review teams is minimal. As a result, they did not provide comments on our questions regarding the costs that the agency incurs for participating in interagency review teams.

⁴Unlike mitigation banks, the review of in-lieu fee program mitigation project sites occurs after the instrument has been approved and the administrator has proposed a project to fulfill obligations incurred through the sale of advance in-lieu fee program credits to permittees, according to a Corps official. In addition, unlike mitigation banks and in-lieu fee programs, permittee-responsible mitigation projects do not require review by an interagency review team.

⁵Mitigation bank and in-lieu fee program administrators are required to provide monitoring reports to demonstrate that compensatory mitigation projects have met performance standards for a minimum of 5 years. 33 C.F.R. § 332.8(q)(2). In most cases, these reports are submitted annually. The information contained in monitoring reports must be sufficient for the district engineer to determine how the mitigation project is progressing toward meeting performance standards.

⁶States can assume responsibility from the Corps for issuing section 404 permits for certain waters of the United States. 33 U.S.C. § 1344(h)(2)(A). As of August 2024, only Michigan and New Jersey have assumed such responsibility. EPA transferred responsibility for section 404 permitting to Florida in December 2020, but a federal court vacated that decision in February 2024. *Ctr. For Biological Diversity v. Regan*, No. 21-cv-0119 (D.D.C. Feb. 15, 2024).

⁷In addition, the Federal Highway Administration administers the federal-aid highway program—a collection of programs that provide grants to states to build, improve, and preserve the nation's roadway and bridge infrastructure. When state departments of transportation use these grants for projects that discharge dredge or fill material into waters of the United States, they need to obtain a section 404 permit, which may include compensatory mitigation requirements.

⁸The Office of Federal Lands Highway assists federal land management agencies with activities such as the original planning, design, and construction of many roads within national parks and national forests, and administers the Tribal Transportation Program.

⁹Forest Trends' Ecosystem Marketplace, *State of Biodiversity Mitigation 2017: Markets and Compensation for Global Infrastructure Development* (Washington, D.C.: Oct. 2017).

¹⁰We did not talk with individual permittees to understand the types of costs incurred for their compensatory mitigation activities.

¹¹According to a recent study of mitigation banks and in-lieu fee programs that were approved by the Corps in fiscal years 2014—2021, the average processing time for approval of mitigation banks was about 3 years (1,099 days), and about 3.2 years (1,174 days) for in-lieu fee program approval. Their analysis was based on 496 mitigation banks and 32 in-lieu fee programs. Environmental Policy Innovation Center and Ecological Restoration Business Association, *The Time it Takes for Restoration: An Analysis of Mitigation Banking Instrument Timelines* (Washington, D.C.: 2023).

¹²The Corps district may determine that financial assurances are not necessary when an alternative mechanism is available to ensure a high level of confidence that the compensatory mitigation will be provided and maintained, such as in instances where there is a formal, documented commitment from a government agency or public authority to complete the compensatory mitigation project. 33 C.F.R. § 230.93(n)(1).

¹³A stakeholder group explained that stewardship accounts are designed to have a level of funding which generates enough interest to fund annual long-term stewardship activities.

¹⁴Other entities outside those we have identified could incur costs. In certain states, including one we interviewed (Wisconsin), a state environmental agency may be the administrator of in-lieu fee programs within the state. We consider the costs incurred in instances where a state agency is the administrator of an in-lieu fee program to be costs borne by the program and described these costs

earlier in the report. State agencies may also require their own permits for impacts to aquatic resources. We did not include costs associated with these permits in our review.

¹⁵According to this official, other state agencies in this state that participate in interagency review teams include the state agency responsible for protecting forestry resources. In addition, an administrator of mitigation banks and in-lieu fee programs noted that state gaming and fishing agencies, environmental conservation and quality departments, and water resource agencies are also examples of state agencies that may participate in interagency review teams.

¹⁶According to the official, the Wisconsin Department of Natural Resources administers all wetland in-lieu fee programs in the state but does not participate in the interagency review team for these programs due to a perceived conflict of interest. Therefore, the interagency review team for wetland in-lieu fee programs in the state consists of Corps district and EPA officials. Credits for stream mitigation projects are generated by mitigation banks; there are no in-lieu fee programs that generate stream mitigation credits in this state.

¹⁷According to Corps officials, in-lieu fee programs may choose to make this information available to the public. However, we did not assess all publicly available cost and credit information for currently active in-lieu fee programs.