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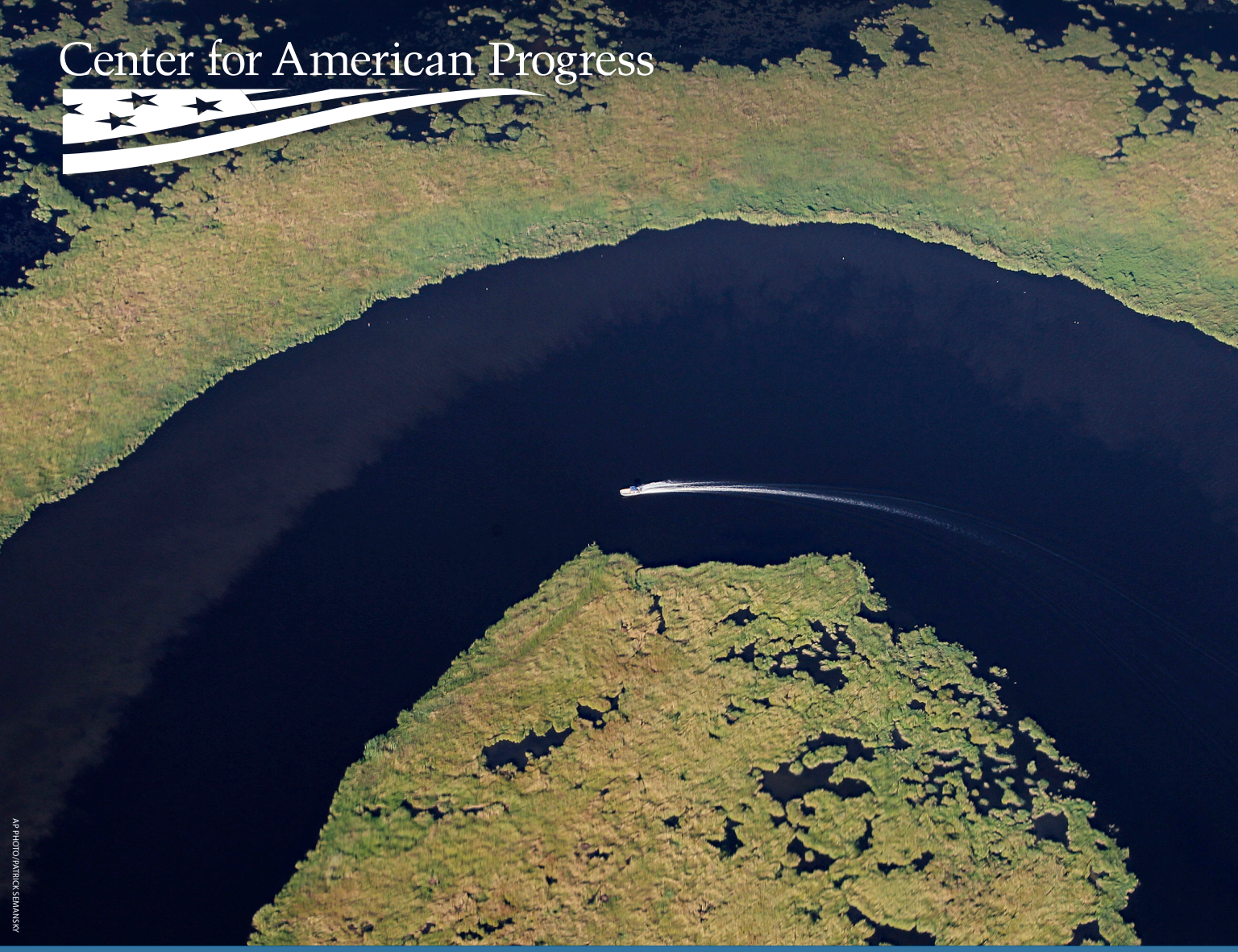

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No Net Loss

How Mitigation Policy Can Spur Private Investment in Land and Wildlife Conservation

By David J. Hayes and Nicole Gentile November 2016

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Introduction and summary

On November 3, 2015, President Barack Obama signed a presidential memorandum that has the potential to tap into billions of dollars of private capital to invest in protecting our natural resources. The visionary memo directs federal agencies to avoid, minimize, and compensate for any environmental harm caused by an agency's development activities. In the memo, the president said, "American ingenuity has provided the tools that we need to avoid damage to the most special places in our Nation and to find new ways to restore areas that have been degraded."[1] For example, private investors worked to restore 23,000 acres of wetlands in northern Minnesota in exchange for credits that can be used to offset future wetland development in the state.[2] At its core, the memorandum lays out a vision in which government sanctioned development is not at the expense of our environment.

The memorandum builds on an often-overlooked area of policy—supported and advanced by Presidents George H.W. Bush, Bill Clinton, and George W. Bush—that guides how developers with federal permits provide compensation for the unavoidable environmental effects of their projects.[3] This policy area is rooted in the longstanding concept of a mitigation hierarchy in which authorities that review proposals to affect priority resources on private and public lands should, as a first step, seek to avoid or minimize any negative environmental impacts. Where harm cannot be avoided, these programs require developers to invest in some form of "compensatory mitigation."[4] The rule of thumb applied in recent years is that developers should invest in a level of mitigation that ensures that their projects will result in no net loss—or net benefit—to ecosystems.

The development of sound and effective federal mitigation policies offers enticing environmental and economic benefits that can appeal to both conservatives and progressives. The notion that permits should require developers—whether they are oil companies or ski resorts—to avoid, minimize, and compensate for unavoidable environmental impacts is a common-sense practice that slows the

loss of natural areas and wildlife across the country. These types of permit requirements in turn enable the application of market-based tools, such as mitigation banks, that attract private-sector investment in conservation projects so that developers can more easily meet their mitigation obligations.

Although the roots of federal mitigation policy stretch back several decades, the rules and requirements vary considerably across and even within federal agencies.[5] Only in the area of wetlands protection does the federal government administer a well-developed, comprehensive, clear, and effective environmental mitigation program. The passage of the Clean Water Act in 1972 spurred the private sector to invest in and create a market for wetlands restoration credits: It is now common for private sector investors, or mitigation bankers, to finance the restoration of wetlands so that they can sell the credits they earn to developers whose projects will damage wetlands elsewhere. According to one estimate, the compensatory mitigation requirements of the Clean Water Act stimulate $2.9 billion per year in private sector investment in the restoration and protection of wetlands.[6]

But how can the government apply compensatory mitigation requirements to other types of impacts beyond wetlands? And how can it do so in ways that drive the creation and expansion of similar market-based conservation solutions? What policies, for example, could spark more private sector investment in wildlife recovery, forest restoration, or abandoned mine cleanups?

This report reviews the prospect and status of a replicable, scalable mitigation policy that extends beyond wetlands to other unavoidable environmental harms. Notwithstanding the issuance of the November presidential memorandum and the subsequent steps land and wildlife agencies have taken, the implementation of clear and effective mitigation policy is being hampered by complex scientific, fiscal, and legal challenges. Mitigation policy at the federal level is largely in an experimentation phase, as policymakers and resource managers seek to develop and test effective mitigation programs.

To help scale up and test a consistent, effective, and broad-based mitigation policy, this report offers the following four policy recommendations:

- Establish a national goal of maintaining or increasing the quantity and health of wetlands, wildlife, and remaining natural areas in the United States.

- Make compensatory mitigation a part of any federal action or permit that will result in unavoidable loss to wetlands, at-risk wildlife, or natural areas.

- Support deployment of mitigation policies through science-based guidelines, transparency tools, and training for decisionmakers.

- Establish pilot programs to expand natural resource restoration markets and attract private sector financing for compensatory mitigation.

Developing clear, consistent guidelines for avoidance, minimization, and mitigation of environmental harms could open the door to significant private investments in America's lands, waters, and wildlife.

Background: Success in wetlands mitigation

"If you take away a wetland here, you have to restore a wetland there so we do not have any loss of wetlands." — Sen. Kit Bond (R-MO)[7]

The most well-known and well-established mitigation policy in the United States has its roots in the Water Pollution Control Act Amendments of 1972, now known as the Clean Water Act. The law's goal was to "restore and maintain the chemical, physical, and biological integrity of our nation's waters" by prohibiting pollution from being dumped into waterways.[8] The law also directed the U.S. Army Corps of Engineers, or ACOE, to administer a permit program to regulate development activities that could adversely affect wetlands, streams, and rivers. If the construction of a road, shopping mall, or copper mine will require the dredging, filling, or other impairment of wetlands, the project's developer must obtain a Section 404 permit—named for the section of the Clean Water Act that established the program—from the ACOE.

Over the past four decades, Congress and federal agencies have updated and refined the Section 404 program to better meet environmental and economic objectives. Most notably, in 1989, President George H.W. Bush delivered on a campaign promise when the ACOE and the Environmental Protection Agency, or EPA, issued a Memorandum of Agreement establishing that the goal of the United States is to achieve "no net loss" of wetlands.[9] Following this directive, the ACOE and the EPA began to explicitly require developers to conduct so-called compensatory mitigation. In other words, to obtain a 404 permit for a project, after avoiding and minimizing impacts, a developer must restore or create at least as many wetlands as the project would disrupt.

Initially, the ACOE and the EPA prioritized compensatory mitigation that occurred on the site of a project. However, following recognition from the agencies that on-site mitigation was not working effectively, as well as pushback from both development interests and environmental advocates, the program shifted to favor off-site mitigation.[10] This opened the door to a market-based approach and sparked rapid growth in mitigation banks beginning in the early 1990s.

Glossary of important terms

A **mitigation bank** is a marketplace to buy and sell environmental restoration credits. An environmental restoration firm, for example, might purchase a plot of environmentally degraded land, establish a healthy marshland on the property, and then sell credits earned from the wetlands that it established. A housing developer can purchase these credits at a mitigation bank to offset the damage its own project might do to wetlands elsewhere. Mitigation banking is essentially a commodity market where both entities benefit from the transaction: The environmental restoration firm and its investors, called mitigation bankers, make a profit from the sale of the credits, and the housing developer has a straightforward means of complying with Section 404 of the Clean Water Act.

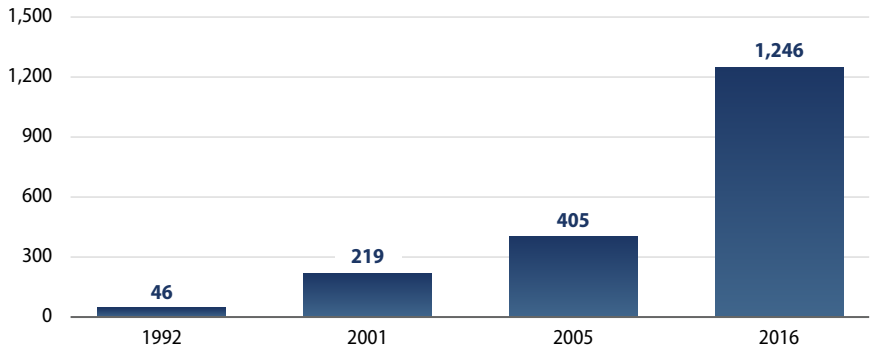
Compensatory mitigation, a concept first designed for aquatic resources, is the restoration, creation, or preservation of a resource to make up for unavoidable environmental harm that results from development or other actions that affect the environment.[11]

Currency adequacy is the use of science-based metrics in mitigation to ensure that the value of a natural area that is lost is compensated for in the value of the natural area that is restored.[12] Site location is a key component of ensuring that there is a rough equivalency between those areas that are lost and those that are restored.

By 1995, the ACOE and the EPA had officially affirmed this market-based approach in guidance documents that outlined a review process for establishing and using wetlands banks.[13] This approach was widely supported by federal agencies, academics, environmental groups, and development firms, and mitigation banks have proliferated as a highly effective market-based conservation tool.[14] In 1990, there were fewer than 10 stream and wetland mitigation banks across the country. Today, the mitigation banking database shows 1,049 approved banks are selling credits.[15] According to one study, the compensatory mitigation industry is achieving the restoration or enhancement of roughly 73 kilometers of streams and between 16,000 and 24,000 hectares of wetlands each year, which is about the size of 30,000 to 45,000 football fields.[16] Overall, mitigation banks have helped protect and restore about 1 million acres of wetlands.[17] These investments not only yield value through ecological services, such as clean drinking water and more abundant wildlife, but the restoration projects themselves create and support 220,000 jobs, including jobs in engineering, construction, and scientific fields.[18] Overall, the restoration and management of wetlands, riparian areas, and marine areas account for more than one-third of all ecological restoration work done in the United States each year.[19] Wetlands mitigation has become a pillar of what is now a $25 billion per year ecological restoration economy.[20]

FIGURE 1

Number of mitigation banks in operation in the United States



Note: Operational banks include those banks that are actively selling credits and those that have sold all credits and are being managed to fulfill the terms of mitigation agreements.

Sources: Jessica Wilkinson and Jared Thompson, "2005 Status Report on Compensatory Mitigation in the United States" (Washington: Environmental Law Institute, 2006), available at https://www.eli.org/sites/default/files/eli-pubs/d16_03.pdf; U.S. Army Corps of Engineers, "RIBITS: Regulatory In-lieu Fee and Bank Information Tracking System," available at https://ribits.usace.army.mil/ (last accessed October 2016).

While compensatory mitigation rules provide important certainty for the industry, some experts have argued that, in the wetlands arena, there is too little emphasis on adherence to the mitigation hierarchy. The hierarchy, as noted above, emphasizes avoidance and minimization as mandatory steps that must be taken before addressing unavoidable environmental harms through compensatory mitigation mechanisms.[21] Additionally, some studies have found that mitigation sites cannot replace the original ecological function of an affected ecosystem.[22]

It is crucial that the trading market for mitigation credits ensure currency adequacy, in the form of science-based metrics, in order to ensure that the value of wetlands lost is compensated for in the value of wetlands restored.[23] Site location and the extent of compliance monitoring can also limit mitigation's success. Accordingly, monitoring and enforcement mechanisms are important components of effective mitigation policy to ensure that ecosystem value is not lost over time.[24]

Despite these criticisms, the Section 404 program has created a solid foundation on which to develop even stronger policies. As outlined above, wetlands mitigation has blossomed since the early 1990s and has seen many successes. These successes should be replicated, and they can also offer insight into how to avoid a lack of clarity and consistency, as discussed below.

Mitigation policy landscape

The expanded participation in mitigation policy that was developed in response to Section 404 of the Clean Water Act has spurred policymakers to explore the application of mitigation strategies to other areas of federal natural resource policy. Policymakers also have been influenced by complaints that mitigation obligations are not always applied effectively outside the wetlands arena, where the rules are well-known and applied in a consistent manner. Advocates, developers, and mitigation bankers are all dissatisfied with this state of affairs. Environmental advocates object to small-scale, site-specific, and/or patchwork mitigation obligations that produce limited environmental gains. And developers who would like to see their mitigation dollars being leveraged and generating visible environmental benefits are equally dissatisfied. Furthermore, mitigation bankers and private investors do not have the regulatory certainty and transparency they need to invest in restoration.

The U.S. Department of the Interior's Bureau of Land Management, or BLM, has taken initial steps toward implementing a mitigation policy that emulates the Clean Water Act's successful model. The BLM pioneered the concept of undertaking advanced regional mitigation planning exercises and identifying mitigation opportunities available in a region where projects are undergoing permitting. The BLM's Record of Decision in its *Western Solar Plan*, for example, called on the agency to accompany the identification of solar energy zones—where renewable energy projects should be preferentially sited—with the identification of regional mitigation opportunities that could be matched with such projects. By identifying priority areas for avoidance and compensatory mitigation needs ahead of time, permitting can proceed in a more efficient and environmentally effective manner.[25]

Interior Secretary Sally Jewell incorporated this concept into one of her secretarial orders.[26] This was followed by BLM manual revisions and a Planning 2.0 policy proposal—both of which seek to institutionalize similar mitigation reforms.[27]

Other agencies have also launched fledgling compensatory mitigation programs. The BLM and the U.S. Fish and Wildlife Service, or FWS, have teamed up to identify compensatory mitigation strategies associated with their evaluation of sage grouse habitat needs across 11 western states. FWS is also administering a growing number of mitigation banks that aim to protect and restore habitat for threatened and endangered species. In addition, the agency has drafted an umbrella mitigation policy in response to President Obama's recent memorandum

that applies to all of the Service's authorities. This policy requires them to recommend or require mitigation. The agency has also drafted an Endangered Species Act Compensatory Mitigation Policy, or CMP.[28]

Despite these encouraging developments, a range of issues still limits consistent development and implementation of federal mitigation policy. In a March 2016 congressional hearing, Sen. Maria Cantwell (D-WA) observed that federal mitigation policy amounts to "a patchwork of ad hoc mitigation that neither matches cumulative effects of development nor provides any predictability. We can do better."[29]

The lack of a structured, rational, and transparent framework in federal mitigation policies has opened agencies up to criticism from all sides and impeded stakeholder satisfaction. When the Department of the Interior, for example, required ConocoPhillips to pay $8 million in compensation for the environmental and subsistence effects of its Greater Mooses Tooth oil project in the National Petroleum Reserve—Alaska, Sen. Lisa Murkowski (R-AK) argued that the fee amount was chosen arbitrarily, not unlike "throwing a dart at the board and seeing where it lands at this point in time."[30] That same compensation payment agreement, however, also took fire from conservationists, who argued that the BLM was allowing the company to move ahead with a development plan that was more environmentally damaging than it needed to be. According to Cindy Shogan, the executive director of the Alaska Wilderness League, her organization "was very disappointed that BLM's final decision fails to prioritize proceeding in the most environmentally sensitive way possible."[31]

More generally, the mitigation banking industry complains that outside the Section 404 wetlands mitigation rules, there is too little regulatory certainty and predictability to enable the widespread deployment of mitigation banks in other areas.

Policy recommendations

Wetlands mitigation activity in the United States is growing in large measure because it is focused on solving a clearly articulated problem: halting and reversing the loss of wetlands across the country. The loss of U.S. wetlands, however, is only one of several national environmental challenges that would benefit from the creation or expansion of environmental restoration markets through mitigation policy.

U.S. wildlife populations, for example, are in perilous decline. According to a 2015 Center for American Progress review, one in five plant and animal species in the United States is at risk of extinction—nearly 1,300 total species. Among mammals—from the polar bear to the wolverine—more than two-thirds of all imperiled species have declining populations.[32]

The decline in U.S. wildlife is due, in part, to the loss of adequate habitat across the country. The American West, for example, lost a football field worth of natural area every 2.5 minutes between 2001 and 2011. In other words, a Los Angeles-sized area of land in the West is being lost each year to new roads, sprawl, energy infrastructure, mining, logging, and other development. This rapid growth of the human footprint in the West and elsewhere fragments wildlife habitat and disrupts migration corridors.[33]

It is also worth noting that despite the progress being made through wetlands mitigation policy, U.S. wetlands, streams, and rivers are still highly impaired. The most recent National Wetland Inventory in 2009 found continued declines in the overall area of wetlands nationally, with some of the steepest losses in the Mississippi River Delta and the Prairie Potholes area of the Upper Midwest. "In a five year period, we lost over 630,000 acres of forested wetlands, mostly in the Southeast—an area equal to half a million football fields each year," said Fish and Wildlife Service Director Dan Ashe upon the report's release.[34]

These ongoing declines of U.S. wildlife, land, and water resources are troubling, but they can be reversed through wise stewardship practices and through the expansion and improvement of U.S. mitigation policy. This includes clear standards for avoiding and minimizing impacts to protect irreplaceable resources, as well as guidelines on compensatory mitigation to create enabling conditions for environmental restoration markets. Below are four recommendations for policymakers.

Establish a national goal of maintaining or increasing the quantity and health of wetlands, wildlife, and remaining natural areas in the United States

By setting a national goal of achieving "no net loss" of wetlands, President George H.W. Bush inspired and empowered subsequent administrations, mitigation bankers, developers, and agency professionals to build and improve upon the mitigation framework established under Section 404 of the Clean Water Act. President Bush's use of his pen and podium has saved thousands of square miles of marshland, estuaries, and river systems in the past quarter century. President Obama took an important step toward advancing the mitigation concept with his presidential memorandum directing agencies to develop clear, consistent standards and guidelines to mitigate the harmful environmental effects of their actions. But more can be done to provide certainty for mitigation bank developers and private investors who have the power to grow the mitigation economy.

The next president should follow President Obama's example by setting clear and ambitious goals that help restore the health and abundance of the United States' natural resources. Specifically, the president should issue an executive order establishing a national goal of halting and reversing losses to wetlands, at-risk wildlife, and remaining natural areas in the United States. To achieve this goal, the president should simultaneously direct federal agencies to ensure that federal actions or decisions result in no net loss or a net gain to these resources. The executive order should also establish guidelines to ensure that "no net loss" does not just count acres but also preserves ecosystem values and habitat quality for the long term.

Make compensatory mitigation a part of any federal action or permit that will result in unavoidable loss to wetlands, at-risk wildlife, or remaining natural areas

The 404 program is effective because it is binding and conditional. Any developer whose project will unavoidably destroy or impair wetlands must offset those losses through compensatory mitigation as a condition of receiving approval for development activities. This regulatory requirement provides the certainty that the private sector needs to establish mitigation banks and a thriving wetlands restoration market.

Agencies that are seeking to safeguard at-risk resources through mitigation policy should establish clear, mandatory compensatory mitigation standards that are consistent with their statutory mandates. It is neither efficient nor fair to developers to set mitigation requirements on a project-by-project basis. All solar, oil, wind, and gas companies that wish to build projects on public lands, for example, should know that they will be required to engage in compensatory mitigation if impacts to sensitive resources cannot be avoided; national policy guidelines should provide the framework for how this compensatory mitigation would be completed and monitored. Policy guidelines should also ensure that strategies to avoid or minimize impacts are employed before mitigation is used.

Compensatory mitigation guidelines can and should be effectuated through strategies that are developed on a regional level. The BLM, for example, has begun to develop regional mitigation plans that identify the most sensitive resources in a particular area and that should therefore be avoided where possible and, if necessary, be subject to mitigation.[35] In certain western states, for example, a development project on BLM lands that has unavoidable impacts on sage grouse habitat would need to restore or protect similar sage grouse habitat nearby.[36]

As natural resource agencies develop and deploy their mitigation policies, they will face a challenge in aligning and balancing national mitigation guidelines with regionally focused mitigation strategies that address the environmental challenges of particular landscapes. In addition, because large projects can trigger permitting and reviews by several resource agencies, agencies will need to work together to identify joint mitigation strategies, rather than proceeding in a piecemeal, agency-by-agency manner.

To strike this balance and ensure coordination of national and regional mitigation policies, as well as coordination across agencies, mitigation responsibilities should be addressed as an integral part of federal permitting and review processes. Building off of the Obama administration's permitting reforms, Congress has established a new structure to facilitate cross-agency coordination of permitting processes.[37] Permit- and review-related mitigation requirements should be integrated into this new permitting coordination effort.

Special attention should also be devoted to attracting new private-sector investment to the protection and restoration of natural systems. Testifying before a Senate committee in March, Doug Lashley, the CEO of mitigation banking firm Greenvest, said that, "An increasing flow of private capital, incentivized by a consistent regulatory environment, means more, and increasingly large-scale projects."[38]

Support deployment of mitigation policies through science-based guidelines, transparency tools, and training for decisionmakers

Wetlands mitigation policy is more advanced than other types of mitigation because of the regulatory certainty that flows from the 404 program. However, wetlands characteristics are far from homogenous, and therefore, science is key to deploying adequate mitigation actions to counterbalance unavoidable harms. Heterogeneity of natural systems should not be an excuse for identifying an arbitrary and unprincipled level of mitigation compensation.

The recently established Natural Resource Investment Center at the Department of the Interior, which is charged with spurring public-private partnerships in the natural resources field, should convene a group of distinguished and experienced land managers and scientists, including representatives of the private conservation banking community, and charge them with developing guidelines that can be used to characterize and quantify the nature and scope of unavoidable impacts that proposed projects may have on natural areas.[39] The exercise should focus on broad measures of landscape health that provide a basis for establishing rough equivalence between unavoidable harms and appropriate investments in protecting and/or restoring other lands. For example, the EPA's Final Ecosystem Goods and Services Classification System provides a helpful starting point for developing such guidelines.[40]

The touchstone for guidelines should be the "no net loss" standard, flexibly applied, with consideration for factors that affect the potential outcomes of mitigation, such as site selection. Guidelines should also consider taking advantage of conservation benefits made available through private conservation banks and other regional opportunities. The Fish and Wildlife Service draft Compensatory Migration Policy already proposes restricting compensatory mitigation credits to the same landscape or type of habitat within a Habitat Conservation Plan. Such guidelines facilitate the definition of equivalent mitigation actions and ensure proper monitoring. The guidelines must be clear and easy to use for permitting authorities, developers, and the private conservation banking community, and they could even include a science-based quantification tool that simplifies compliance. These guidelines should be supported by providing training and technical assistance for federal decisionmakers tasked with implementing mitigation policies.

Furthermore, tools to support transparency for mitigation decisions would provide more certainty for investors and attract private capital into conservation. In general, making more information available would also support citizen monitoring of program performance.

Establish pilot programs to expand natural resource restoration markets and attract private-sector financing for compensatory mitigation

In addition to establishing national compensatory mitigation guidelines and regionally tailored mitigation approaches, federal natural resource agencies should hone the implementation of mitigation policies through pilot projects. Pilot projects can help agency professionals experiment with the efficacy of various mitigation tools; establish effective monitoring protocols for restoration projects; and gather feedback from developers, private investors, and the public on how to improve implementation.

The Natural Resource Investment Center should work with agencies to develop these pilot projects, assess the results, and share best practices across federal agencies. We suggest five potential pilot projects for consideration.

Potential pilot projects

A mitigation banking program that incentivizes the cleanup of abandoned mines. The Gold King Mine disaster in 2015 dumped 3 million gallons of polluted water into the Las Animas River in southwest Colorado. It was a stark reminder that western states are littered with abandoned and dangerous hard rock mines.[41] According to the Government Accountability Office, 12 western states and Alaska are marred with approximately 161,000 abandoned mines, 33,000 of which have already caused significant environmental degradation.[42]

Even as western states struggle with the costs and legacies of abandoned mines, the federal government is approving new mines on public lands, and each of these will have unavoidable impacts on land, water, and wildlife. As part of its compensatory mitigation program, the Bureau of Land Management should consider allowing environmental remediation firms that clean up abandoned mines to gain mitigation credits. These firms could then sell the credits to mining companies, which must invest in mitigation to compensate for unavoidable impacts associated with their mining activity. The federal funding that is available for abandoned mine reclamation could also help spur private investment.[43]

Oil and gas project mitigation. Despite the undeniable impacts that oil and gas operations have on public lands, the BLM has never systematically evaluated the nature and scope of oil and gas-related impacts on public landscapes or developed a menu of appropriate compensatory mitigation investments that are proportional to the harms associated with such activities. The BLM should undertake a programmatic review of typical impacts associated with oil and gas operations on public lands and develop appropriate sector-based mitigation guidelines associated with such impacts, consistent with the general approach set forth under this report's third recommendation. It should consider mitigation actions that may have regional benefits, that may be leveraged through ongoing restoration initiatives, and that may be amenable to private conservation banking investments.

Coal mitigation. In January, the Department of the Interior launched the first comprehensive reforms of the federal coal program in more than 30 years to help reduce environmental and climate impacts, deliver a fair return to taxpayers, and improve transparency. As part of these reforms, the BLM should consider establishing clear compensatory mitigation requirements on any new coal leasing and mining activity on federal lands. These compensatory mitigation requirements could include a climate mitigation fee, as Michael Burger, executive director of the Sabin Center for Climate Change Law at Columbia University, proposed in a recent report.[44] Requiring mitigation would create much-needed jobs in communities that have been hit hard by the decline of the coal industry.

Dam removal. Nearly 4,000 of the nation's dams are considered deficient, and many more no longer serve their intended purpose.[45] Because most dam owners are not required to set aside funds for reclamation, thousands of dams are simply left standing when they are no longer used. With numerous ecological benefits, dam removal can be an effective way to restore rivers and aquatic ecosystems. To help attract private capital to finance the decommissioning of unneeded dams, ACOE should make it easier for mitigation bankers to get wetlands restoration credits under Section 404 of the Clean Water Act.

Right now, getting credits for dam removal under 404 can be a slow and difficult process that includes extra requirements.[46] Because dam removal is not as streamlined or predictable as typical 404 wetlands restoration projects, the process of generating credits is not straightforward and regulations as they apply to dams are not clear.[47] To make the 404 program more inviting to dam removal, policymakers who are developing the guidelines described in the third recommendation should address the ecosystem services that come from free-flowing rivers. This would enable dam removal to expand as a mitigation option under the 404 program and, potentially, a compensatory mitigation option for other types of unavoidable environmental harms.

Renewables siting. The Secretary of Interior recently announced the first three solar energy projects that will benefit from the agency's streamlined permitting process stemming from the Western Solar Plan: Invenergy's Harry Allen Solar Energy Center, First Solar's Playa Solar Project, and NV Energy's Dry Lake Solar Energy Center.[48] The Western Solar Plan allows for a more efficient and predictable permitting process by focusing development in solar energy zones with the highest resource potential and the fewest conflicts. It also creates regional mitigation strategies for solar energy zone projects.[49] Linking renewable energy zones with regional mitigation opportunities provides a clear pathway for developers to cost-effectively address unavoidable impacts and ensure that mitigation dollars are used for regional priorities.[50] This approach could be used more broadly for renewable energy siting on public lands, specifically in regards to the development of regional strategies through outreach to diverse stakeholders that represent various interests, including those of tribes, local communities, industry, state and local governments, and outdoor user groups.

Exploring a pay-for-performance approach to environmental mitigation and restoration

Effective engagement of the private sector in conservation activities is a key element in the success of mitigation and restoration activities. As noted above, the private conservation banking industry has played a key role in providing compensatory mitigation options to address wetlands losses. It is also well-positioned to provide mitigation options for other types of environmental harms, particularly once experts develop measures of landscape health that provide a basis for establishing rough equivalence between unavoidable harms and appropriate investments in protecting and/or restoring other lands, as described in the third recommendation.

As mitigation and restoration needs move beyond the highly prescriptive wetlands context, new tools should be tested to ensure that mitigation options deliver the promised-for quantum of environmental benefits that match up with environmental harms under guidelines developed under the third recommendation. The pay-for-performance concept, which has been applied successfully in social services contexts, could provide an additional option for addressing mitigation and restoration needs in a results-oriented fashion. The 2015 presidential memorandum on mitigation made this point when it noted that the government may be able to attract new private-sector investment in environmental restoration by restructuring procurement contracts: "Performance contracts and other Pay for Success approaches offer innovative ways to finance the procurement of measurable environmental benefits that meet high government standards by paying only for demonstrated outcomes."[51]

According to a 2014 CAP report, under a pay-for-performance agreement, "private investors pay the upfront costs for providing social services, and government agencies repay the investors with a return—if and only if a third-party evaluator determines that the services achieve agreed-upon outcomes."[52] Some local government agencies have deployed pay-for-performance—also called Pay for Success or social impact bonds—for social programs, such as those for childhood education in Salt Lake City or to reduce recidivism among former inmates in New York state.[53]

Pay-for-performance agreements are only just starting to be explored in the United States for environmental restoration projects.[54] To experiment with such a model, an agency could restructure a procurement contract for an environmental restoration project. Instead of paying a contractor to solve an environmental problem through a prescribed engineering solution, the agency would pay a contractor to deliver the desired environmental outcomes. A contract to restore a degraded stream, for example, could be structured to pay the contractor if it achieves a certain improvement to water quality or the return of fish native to the habitat, as opposed to simply paying for the planting of a certain number of trees and prescribed changes to the stream's banks. Advocates for this procurement model argue that this approach could reduce risk for government agencies and enable the private sector to play a more active role in optimizing environmental outcomes.[55] This would also incentivize the private sector to develop new and efficient technologies and techniques for mitigation and restoration.

To determine the feasibility, benefits, and challenges of a pay-for-performance model, a federal agency could pursue two similar environmental restoration projects in parallel–one conducted under a traditional procurement process and the other through a pay-for-performance model—and then carefully monitor costs, outcomes, risks, and implementation challenges. Restoration projects on the Gulf Coast, funded through the BP Deepwater Horizon settlement, offer a potential opportunity to test this approach.[56]

The outcome of a side-by-side comparison between pay-for-performance and traditional procurement could offer insights into the most effective ways to undertake mitigation. Pay-for-performance may be able to unlock more efficient and environmentally sound approaches, and it should be explored at this early stage of development.

Conclusion

U.S. mitigation policy is largely underdeveloped and full of opportunity. There are many lessons to be drawn from the Section 404 program and wetland mitigation, in terms of both successes and pitfalls. But wetland mitigation is a strong example of how regulatory certainty allows the federal government to tap into private capital and drive new, efficient technologies to ensure the protection of natural areas, wildlife, and sensitive ecosystems. By articulating a clear goal of no net loss of natural areas, wildlife, and wetlands, and by providing the regulatory framework to support it, the next administration could cultivate better environmental stewardship and a booming mitigation industry. And by establishing pilot programs to expand natural resource restoration markets, the largely untapped private sector could help finance the restoration of ecosystems across the country.

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Acknowledgments

The authors would like to thank Matt Lee-Ashley, Ryan Richards, Mary Ellen Kustin, Jenny Rowland, Meghan Miller, Lauren Vicary, Jason Fernandes, Erin Whalen, Emily Haynes, and Pete Morelewicz for their contributions to this report.

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