

Evaluating the Success of Wetland Mitigation Banks

The authors examine the data available on wetland mitigation banks through the U.S. Army Corps of Engineers' RIBITS database and find that mitigation banks are meeting regulatory requirements in the vast majority of cases. While there have been long-standing concerns with mitigation bank success, the data suggest that banking is successful and future efforts should focus on fine-tuning regulatory requirements.

BY CRAIG DENISOFF AND DAVID URBAN

How many studies evaluating wetland mitigation bank performance evaluate that performance in light of the mitigation's regulatory requirements? The studies that have hit popular press in the last few years typically analyzed mitigation from a set of standards that the individual researcher decided to apply from an ecological perspective. But mitigation is ultimately a regulatory construct, driven by the ecological standards set forth by the enabling agreement between the regulatory agency and the mitigation provider. It seems that the fairest question one can ask about mitigation, then, is how much mitigation is meeting the regulatory standards required of it.

Although we would like to look at all forms of mitigation, the lack of easily accessible data limited us to only one form of mitigation—wetland mitigation banking. Mitigation banking is a form of mitigation where an entity, usually a private company, restores, establishes, enhances, or preserves wetland habitat in advance of impacts to existing wetlands in an area, and sells the credits generated by the additional habitat to entities who need permits for those impacts. Mitigation banking has been identified in the 2008 Mitigation Rule as a preferred form of mitigation (33 C.F.R. §332.3(b)).

To determine whether mitigation banks are meeting the success criteria of regulatory requirements, this article: (1) compiles all of the recent data on mitigation banks; (2) determines how many banks are meeting or have met their success criteria; (3) reviews and discusses the reasons for banks that are not meeting performance standards; (4) compares the reported lack of wetland mitigation bank success to the actual data; and (5) suggests some potential next steps for comprehensive bank reviews and improvements in success criteria.

BACKGROUND

Since the formal establishment of the wetland mitigation banks with the 1995 Guidance on Use, Establishment, and Implementation of Wetland Mitigation Banks, there have been a number of regional studies and media reports on the success, or lack of success, of mitigation banks. Many of the reports have cited individual bank failures (Pittman 2007), regional failings (Ambrose & Lee 2004; Cole & Shaffer 2002; Marck & Micacchion 2006), and even com-

pilations of the various studies (Kihlsinger 2008) to show that wetland mitigation banks may not have been as successful as originally intended. However, no study has looked at all formally approved mitigation banks to see if they are meeting the goals and objectives required by them. The absence of a centralized database has prevented a comprehensive analysis. Even thorough reviews of the various mitigation practices by the Environmental Law Institute in 2002 failed to provide a comprehensive quantitative analysis of wetland mitigation bank success.

In 2001, the National Academy of Sciences (National Research Council 2001) looked at the overall failure of mitigation and found that ecological standards were not the only reason for failure. They determined that the lack of legal protection, long-term stewardship, and good planning, among others, contributed to the failure of mitigation. As a result, in 2008, the U.S. Army Corps of Engineers (the Corps) published a new rule (33 C.F.R. §332) that incorporated most of the National Academy of Science recommendations.

About the same time as the revised rule, the Corps created RIBITS (Regulatory In-Lieu Fee and Bank Information Tracking System) to provide better information on mitigation banks and in-lieu fee (ILF) programs across the country. RIBITS allows users to access information on the types and number of wetland banks, locations of banks, number of credits, monitoring and performance data, regulatory documents, and status of the banks. Prior to this website, researchers had to compile information on bank status from Corps districts, making it difficult to ascertain a comprehensive picture on bank success or failure. Now, any individual can review the data online, which is maintained in real-time fashion by the agency regulators. It is now possible to take a comprehensive look at all wetland mitigation banks to see if they are actually living up to their respective regulatory responsibilities.

DETERMINING SUCCESS CRITERIA

What constitutes success is one of the most challenging aspects of all wetland studies. While there are many different valuation methodologies that researchers, academics, and lay people in the field apply, the formal determination of success to a wetland mitigation banker

and the regulators rests on one item: the bank performance standards. Thus, regardless of the mitigation banker's personal or professional opinion, the biological, legal, and financial performance standard assurances that are listed in the mitigation bank instrument are what define the bank's success. If the mitigation banker does not satisfy these success criteria set by the regulatory agencies, then the banker would be prohibited from selling credits. In addition, before any mitigation credits are released, documentation and, often, field visits are performed to ensure that the performance standards are being implemented.

The performance standards set by the regulatory agencies not only include ecological standards, but also legal, financial, long-term management, and accounting standards. Often, the ecological standards, such as the time, presence, and depth of hydrology on a site, the amount of specific types of vegetation and density of cover, and a limit or removal of non-native, invasive plant species are the issues on which most scientific studies focus. The debate surrounding wetland mitigation bank success or failure typically revolves around the appropriateness or rigor of these specific standards, which are often subjective in nature. However, these biological standards are typically determined by a consortium of regulatory agency scientists and are not driven by the mitigation bankers.

The legal and financial assurances are much easier for determining the adequacy of performance standard attainment, since they are based on documents, such as a conservation easement or deed restriction being recorded on the property, letters of credit, surety bonds, or insurance policies being posted to the project during implementation, and, in some cases, nonwasting endowment accounts being created to fund the long-term management of the site.

Thus, to determine whether a wetland mitigation bank is successful in meeting its agency-approved performance standards, one needs to examine those banks that have either sold all of their credits (because they fully met all of their performance standards and all their credits were released) or are approved to sell credits (because they are meeting their performance standards currently).

DATA-GATHERING METHODS

In this study, we reviewed all the Corps districts' reports on mitigation banks within the RIBITS database to determine if they are meeting their performance standards. As of February 26, 2012, the RIBITS database contains information from 37 of 38 districts showing 757 banks listed in RIBITS. One of the challenges to assessing data is that RIBITS is updated on an ad-hoc basis. For example, we downloaded data from May 23, 2012, and found that a total of 1,160 banks were listed on the site. At the recent National Mitigation and Ecosystems Banking Conference, we discovered that not all data are available to the public, although database managers are working to make everything publically available.

The study compiled the data by its definitions related to Approved, Sold Out, Suspended, Terminated/Withdrawn banks. The definitions for the various designations are typically defined as:

- *Approved:* Meeting or having met the required mitigation bank instrument's performance standards and are in good standing

with the agencies and approved to sell credits;

- *Sold Out:* Banks that have fully met all their performance standards and have allocated all of their credits (although monitoring may continue for an additional agreed-upon time);
- *Suspended:* Banks that have had their credit sales suspended by an interagency review team (IRT) for noncompliance with the mitigation bank instrument or at the request of the bank sponsor; or
- *Terminated/Withdrawn:* Banks that did not complete their bank permitting process (oftentimes this is during the prospectus stage) or were withdrawn for further consideration by the IRT. The use of this designation varies by district.

“[R]egardless of the mitigation banker's personal or professional opinion, the biological, legal, and financial performance standard assurances that are listed in the mitigation bank instrument are what define the bank's success.”

Once we compiled all of the data from RIBITS, we then totaled the figures by category and applied percentages to aggregate programs and by individual category. We also looked at ranges related to the categories and made note of the amount of categories by district.

For all banks listed as “Suspended,” we conducted a phone and e-mail survey with set questions to determine the reason for the suspension, e.g., noncompliance for biological, financial, or legal reasons or requested by bank sponsor, the status in relation to reinstatement to sell credits, and a determination of the status of the land, e.g., was a permanent land restriction placed on the property. We compiled the data related to the phone survey by category and response, and some of the individual comments were noted, but not attributed to the individual bank or staff person.

MITIGATION BANK PERFORMANCE RESULTS

As of February 26, 2012, the study reviewed a total of 757 current and previous banks in the United States listed in RIBITS or reported to us by the one district not on RIBITS. Of these banks, 646 mitigation banks were, as of the date of the review, meeting performance standards and were approved to sell credits. Another 62 banks had sold out all of their credits and thus had satisfied the mitigation bank instruments' performance standards (although many had ongoing monitoring requirements). The Terminated (23) and Withdrawn (1) banks were never approved to sell credits and should not be considered in the statistics. The two blank listings are for proposed banks. Therefore, adjusting for those banks listed under the three nonapproved or implemented bank categories, as of February 26, 2012, 722 (757 minus 35) banks are shown on the RIBITS

database as having been approved to sell credits. Based upon the regulatory requirements, wetland mitigation banks that have been approved to sell credits have met or are meeting their performance standards at a rate of 98.3%. As of May 23, 2012, a total of 1,160 current and previous banks were listed in RIBITS, of which 953 were approved to sell credits, were sold out, or suspended. Based on the same criteria above, adjusting for terminated and withdrawn banks, over 98.7% of banks are successful. The district with the greatest number of approved mitigation banks, as of February 2012, were: Norfolk (85), Savannah (83), Jacksonville (63), New Orleans (48), and Vicksburg (35). The Albuquerque and Detroit Districts had the fewest banks, with no banks listed. The districts with the greatest number of Sold-Out banks were: New Orleans (13), Norfolk (12), Savannah (7), Chicago (6), and Nashville (3). Twenty-one Corps districts showed no Sold-Out banks.

“Based upon the regulatory requirements, wetland mitigation banks that have been approved to sell credits have met or are meeting their performance standards at a rate of 98.3%.”

Of the Suspended banks, as of February 2012, five were in the Norfolk District, two were in the Sacramento District, and five different districts each listed one (Chicago, Galveston, Mobile, New Orleans, and Omaha). We further examined the category of banks listed as “Suspended,” which is described as having been approved to sell credits, but listed as having not met their performance standards. Two of the banks (one in Norfolk and one in Sacramento) never had any credits and had no sales assigned to them before they were suspended. One bank in the Norfolk District had no credits sold prior to suspension. That leaves just nine banks that are suspended, but had sold credits prior to suspension. Of these nine banks, the total acreage of land in the banks was 8,460 acres. We were only able to confirm that 3,791 acres were permanently protected. It was unclear as to the protection status of the remaining acreage, as Corps districts were unable to provide us with that documentation.

Four of the banks (including three that did not sell any credits) were suspended at the sponsor’s request. Five of the banks were suspended due to ecological performance issues. At least one of these banks had the withdrawn credits replaced at another mitigation bank. The other five banks had some sort of legal issue. Of the Suspended banks, all but two were eligible to be reinstated if they applied to the IRT for a change in status and provided the required information and met their assurances.

STUDY FINDINGS

The findings from this review of the RIBITS database and the follow-up survey of nonperforming banks (Suspended) were relatively straightforward. Wetland mitigation banks are shown as successful

over 98% of the time when adjusted for nonapproved or nonimplemented banks. The data also show that, of the nonperforming banks, more wetland habitat has been placed in permanent protection than credits sold. However, it is troubling that more detailed information related to some of the suspended banks (3) was not readily available by the district with oversight. In addition, it was clear in doing the research that some of the districts treat some RIBITS categories differently, thus potentially resulting in variations in the data. We also found it troubling that districts varied in the amount of background documentation posted to the RIBITS website. Some districts provide all enabling documentation and monitoring reports, while other districts do not.

COMPARING BANKING DATA AGAINST PERCEPTIONS

From the authors’ review of the media and regional reports on the success of mitigation banks, a commonly held assumption in the no-net-loss context is that all wetland impacts occur to fully functioning wetlands. Almost all of the wetland studies we reviewed spent a great deal of effort exploring the functional assessments of the restored and preserved bank habitat, and often provided percentage valuations to determine if no net loss is being met. Most studies compare mitigation sites to “reference wetlands,” e.g., wetlands in their most pristine state. Yet, on the impact side of the equation, the value of the impacted wetlands are almost always given a value of one, meaning that the one acre of wetland impact is a fully functioning unit. This assumption is troubling, given that in many instances the impacted habitat has no permanent protections, may be fragmented, and is often lacking one of the key wetland functions, e.g., hydrology, vegetation, etc. It is well known that these approaches vary throughout the country and by Corps districts, but the idea that all wetland impacted acres are high-quality, fully functional wetlands is definitely unsupported. Thus, greater documentation and quantification of the function and values of impacted wetlands in relation to their wetland mitigation would result in a more defensible determination of whether no net loss of wetlands is being met and may allow for future variations in ratios to address any shortcomings to meet our national goal. Thus, the differences in viewpoints related to the relative success or failures of wetland mitigation banks seem to revolve around the following issues, and the authors suggest some approaches to address these in the future.

Adequacy of Performance Standards

The authors’ personal experience working on wetland mitigation banks has often highlighted that the performance standards set by the regulatory agencies may not always represent the best or most updated wetland restoration approaches. Many times, the performance standards are related to smaller wetland mitigation sites that require prescriptive standards, e.g., coverage of water, planting density percentages, etc., rather than ecosystem function standards, such as habitat diversity and spatial patch dynamics. This can result in mitigation bankers overbuilding (increased ponding) or overplanting (thickets of vegetation), which result in lower functioning habitats. Thus, providing a more long-term res-

toration plan that allows for more gradual phasing of the habitat, along with site development and adaptive management, supported through financial assurances, may provide greater habitat function than highly prescribed projects. These types of performance standards are harder to quantify and rely more on best professional judgments, but do reflect the more recent literature regarding habitat quality and diversity.

Agency Follow-Up and Enforcement

One of the areas for concern is the perception and/or lack of actual site review and, in cases of nonperformance, enforcement. It is much harder to quantify if there truly is an issue with mitigation bank follow-up, and it is widely acknowledged that mitigation banks get a much more thorough review than do permittee-responsible mitigation, but it is important for the overseeing agency to ensure compliance with the existing standards and to let the public know about their activities. In addition, most reputable bankers welcome this level of review and enforcement to ensure compliance, provide more certainty related to their mitigation bank, and create a level playing field related to other mitigation banks and projects.

Lack of Data Consistency and Availability

RIBITS has greatly improved the data-gathering and reporting systems at the Corps district offices. However, the districts are inconsistent in posting all documentation for the banks. Ensuring that all bank documents and their files are complete and accessible will ensure that the program is operating appropriately.

Wetland Mitigation Banks Versus Other Forms of Mitigation

Mitigation banks are subject to greater scrutiny compared to other forms of mitigation because of greater data access. We would like to be able to compare the success of mitigation banks to other forms of mitigation, and are aware of a proposal by the Environmental Law Institute to the U.S. Environmental Protection Agency to conduct that study. We welcome such a study and look forward to its results.

CONCLUSION

Given the extremely high percentage of wetland mitigation banks meeting their performance standards, and hence mitigation success, the focus should now be on making improvements to the existing system, rather than questioning the overall success of wetland mitigation banks. Mitigation bankers and their regulatory counterparts have dealt with negative comments directed at the practice of mitigation banking, as well as attempts to paint the whole practice as a failure based upon a failed project or concerns over a type of performance standard or mitigation practice. Comparing earlier studies on wetland mitigation failures in the mid-1990s, which showed wetland mitigation and restoration failure rates in the 40-70% range depending upon habitat types (DeWeese 1994; Holland 1992; Josselyn 1993), to the documented performance standard compliance in over 90% of all wetland mitigation banks, it is clear that mitigation banking has become suc-

cessful. It is time to now take wetland mitigation banking to the next level. Efforts should be taken to improve upon the methods and approaches to determine more appropriate performance standards reflecting regional ecosystem priorities and goals. Greater efforts should be made to increase the reporting and transparency related to all forms of mitigation and questioning some of our long-held assumptions needs to be undertaken. The focus should hence move from "does it work" to "how to make it better." ■

REFERENCES:

- Ambrose, Richard F. et al., Los Angeles Regional Water Quality Control Board, California, An Evaluation of Compensatory Mitigation Projects Permitted Under Clean Water Act Section 401 by the California State Water Quality Control Board, 1991-2002 (2007), *available at* http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/mitigation_finalreport_execsum081307.pdf.
- Cole, Charles A. & Deborah Shaffer, *Section 404 Wetland Mitigation and Permit Success Criteria in Pennsylvania, USA*, 30 ENVTL. MGMT. 508-15 (2002).
- Compensatory Mitigation for Losses of Aquatic Resources, 33 C.F.R. pt. 332 (Apr. 10, 2008).
- DEWEESE, JUNE, U.S. FISH AND WILDLIFE SERVICE, AN EVALUATION OF SELECTED WETLAND CREATION PROJECTS AUTHORIZED THROUGH THE CORPS OF ENGINEERS SECTION 404 PROGRAM (1994).
- ENVIRONMENTAL LAW INSTITUTE, BANKS AND FEES: THE STATUS OF OFF-SITE WETLAND MITIGATION IN THE UNITED STATES (2002).
- Holland, C.C. & Mary E. Kentula, *Impacts of Section 404 Permits Requiring Compensatory Mitigation on Wetlands in California*, 2 WETLANDS ECOLOGY MGMT. 157-69 (1992).
- JOSSLYN, MICHAEL ET AL., CALIFORNIA STATE COASTAL CONSERVANCY, EVALUATION OF COASTAL CONSERVANCY ENHANCEMENT PROJECTS 1978-1992 (1993).
- Kihlsinger, Rebecca L., *Success of Wetland Mitigation Projects*, 30 NAT'L WETLANDS NEWSL. (Mar.-Apr. 2008).
- MACK, JOHN J. & MICK MICACCHION, OHIO ENVIRONMENTAL PROTECTION AGENCY, DIVISION OF SURFACE WATER, WETLAND ECOLOGY GROUP, TECHNICAL REPORT WET/2006-1, AN ECOLOGICAL ASSESSMENT OF OHIO MITIGATION BANKS: VEGETATION, AMPHIBIANS, HYDROLOGY, AND SOILS (2006).
- NATIONAL RESEARCH COUNCIL, COMPENSATING FOR WETLAND LOSSES UNDER THE CLEAN WATER ACT (2001).
- Pittman, Craig, *Banking on a Loss*, PLANNING (Dec. 2007).
- Regulatory In-Lieu Fee and Bank Information Tracking System website (last visited May 29, 2012), <https://tsgis.crrel.usace.army.mil/ribits/?p=107:2:4103758412063145>.
- Zentner, J.J., *Wetland Restoration Success in Coastal California: 1975-1985*, Eighth Annual Meeting of the Society of Wetland Scientists 122-24 (K.M. Mutz, and L.C. Lee eds. 1987).
-

Kihlsinger, from page 7

REFERENCES

- Compensatory Mitigation for Losses of Aquatic Resources, 33 C.F.R. pt. 332.3 (Apr. 10, 2008).
- ENVIRONMENTAL LAW INSTITUTE, MITIGATION OF IMPACTS TO FISH AND WILDLIFE HABITAT: ESTIMATING COSTS AND IDENTIFYING OPPORTUNITIES (2007).
- Environmental Protection Agency, Potential Indirect Economic Impacts and Benefits Associated With Guidance Clarifying the Scope of Clean Water Act Jurisdiction (2011).
- Kihlsinger, Rebecca L., *Success of Wetland Mitigation Projects*, 30 NAT'L WETLANDS NEWSL. 14-16 (Mar.-Apr. 2008).
- NATIONAL RESEARCH COUNCIL, COMPENSATING FOR WETLAND LOSSES UNDER THE CLEAN WATER ACT (National Academy of Sciences 2001).
- Turner, R. Eugene et al., *Count It by Acre or Function—Mitigation Adds Up to Net Loss of Wetlands*, 23 NAT'L WETLANDS NEWSL. (Nov.-Dec. 2001).