

WETLANDS MITIGATION FOR FARMERS

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I. Wetlands Losses	113
A. A Poor History of Wetlands Preservation	114
B. The Push for Preservation	114
C. Taking Aim at Farmers: Swampbuster.....	115
D. A Renewed Focus: 404 Permitting Through Sequences.....	116
II. On-Site Mitigation.....	120
III. A Better Way Forward: Mitigation Banking	121
A. Brief Introduction	121
B. Benefits to the Parties	122
C. Criticisms of Mitigation Banking	126
D. Strengthening the Public and Private Partnership in Mitigation Banking in the Mold of South Dakota.....	127
IV. Conclusion.....	129

I. WETLANDS LOSSES

Wetlands in the United States have disappeared at an incredible rate over the last 200 years.¹ As defined by the federal government, wetlands are “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.”² In the early 1600s, the contiguous U.S. contained approximately 221 million square miles of wetlands.³ Alaska possessed another 170 million, while Hawaii contained 59,000—bringing the square mileage in the U.S. to approximately 392 million.⁴

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1. See THOMAS E. DAHL ET AL., WETLAND LOSSES IN THE UNITED STATES 1780’S TO 1980’S, at 5 (1990) (states have lost anywhere from a fraction of a percent up to 91% of wetlands in California).

2. 40 C.F.R. § 230.3(O)(3)(iv) (2017).

3. THOMAS E. DAHL & GREGORY J. ALLORD, U.S. GEOLOGICAL SURVEY, HISTORY OF WETLANDS IN THE CONTERMINOUS UNITED STATES 1 (1997).

4. DAHL ET AL., *supra* note 1, at 5.

However, in a report submitted to Congress in 1990, the U.S. Fish and Wildlife Service estimated by the 1980s, the lower forty-eight states experienced an approximate 53% reduction in wetlands square mileage, decreasing its total to 104 million, while Hawaii had lost 12% of its wetlands.⁵ In contrast, Alaska had only lost a fraction of a percent.⁶ One troubling statistic from the Fish and Wildlife Service report showed how quickly wetlands were lost: “[o]n average, this means that the lower forty-eight states has lost over sixty acres of wetlands for every hour between [1780s and 1980s].”⁷ Notably, Iowa, along with five other states, have lost over 85% of their total wetlands.⁸

A. A Poor History of Wetlands Preservation

The reasons and processes that led to this remarkable loss in wetlands are readily apparent. In 1850, during an effort to spur agricultural and commercial development, Congress passed the Swamp Land Act, which turned over federally-owned wetlands to the states to be drained.⁹ The states began to vigorously drain and dredge swamplands. This approach was explained well by the Oregon Supreme Court in 1922: “[t]he interest of the people of this state demands that as far as possible all the swamps, marshes, swales, and wet land that can be successfully and conveniently drained and reclaimed should be permitted so to be treated”¹⁰ In the 1930s, Ducks Unlimited was created to preserve wildlife habitat for migratory birds.¹¹ Congress supported these private organizations through a federal acquisition program aimed at buying back wetlands to provide habitation for migratory birds.¹²

B. The Push for Preservation

By the 1970s, scientists were beginning to understand and appreciate the vital ecological role wetlands play, which extends far beyond simply providing habitat for migratory birds.¹³ Wetlands serve many functions essential to an ecosystem,

5. *Id.*

6. *Id.*

7. *Id.*

8. DAHL & ALLORD, *supra* note 3, at 19 (other states include California, Illinois, Indiana, Missouri, and Ohio).

9. See Robert E. Beck, *The Movement in the United States to Restoration and Creation of Wetlands*, 34 NAT. RESOURCES J. 781, 782 (1994).

10. *Id.* at 781-82 (citing *Harbison v. City of Hillsboro*, 204 P.2d 613, 618 (Or. 1922)).

11. *Id.* at 784-85.

12. *Id.* at 783-84.

13. Travis E. Booth, *Compensatory Mitigation: What Is the Best Approach?*, 11 U. BALT. J. ENVTL. L. 205, 205 (2004).

such as conveyance and storage of excess water, sediment control, water quality and maintenance, in addition to aesthetic beauty.¹⁴ Furthermore, almost 35% of all rare and endangered species live or rely on wetlands.¹⁵ As science unveiled the essential nature of wetlands to the environment, Congress was swift to take action. Section 404 of the Clean Water Act requires landowners and developers to obtain a permit before undertaking any action to fill in or drain the navigable waters of the United States.¹⁶ Section 404 places the Army Corps of Engineers in charge of the permitting process.¹⁷ It would not be until 1990 that the Army Corp of Engineers would partner with the Environmental Protection Agency (EPA) to fully address the loss of wetlands in the United States.¹⁸

C. Taking Aim at Farmers: Swampbuster

The 1985 Farm Bill first addressed wetlands being converted into farmland in what is currently called “Swampbuster.”¹⁹ These provisions sought to deter wetland drainage by denying United States Department of Agriculture (USDA) benefits to farmers who planted commodity crops in wetlands after December 23, 1985.²⁰ The 1985 version of these provisions allowed farmers to convert wetlands without penalty in several ways.²¹ As the law only applied to commodity crops, farmers could afford to drain and plant crops in years when commodity prices were high and the need for USDA benefits were low.²² In years when commodity prices dropped, farmers could plant perennial crops or hay and still be eligible for government subsidies.²³

In 1987, the Secretary of Agriculture promulgated final regulations for implementing Swampbuster.²⁴ The Agricultural Stability and Conservation Service (ASCS) and the Soil Conservation Service (SCS) administer and enforce Swampbuster.²⁵ The ASCS was replaced with the Farm Service Agency (FSA) and the SCS

14. *Id.* at 205-06.

15. *Id.* at 206.

16. *Hawkes Co. v. U.S. Army Corps of Eng'rs*, 782 F.3d 994, 996 (8th Cir. 2015).

17. 33 U.S.C. § 1344(a) (2012).

18. Memorandums of Agreement (MOA) for Clean Water Act Section 404(b)(1) Guidelines, 55 Fed. Reg. 9210, 9210 (Mar. 12, 1990); Booth, *supra* note 13, at 207.

19. *See* Food Security Act of 1985, Pub. L. No. 99-198, § 1221, 99 Stat. 1354 (codified as amended at 16 U.S.C. § 3821(a) (2012)).

20. Anthony N. Turrini, *Swampbuster: A Report from the Front*, 24 IND. L. REV. 1507, 1507 (1991).

21. *Id.* at 1510.

22. *Id.*

23. *Id.*

24. 7 C.F.R. § 12.6(b)-(c) (1990).

25. Turrini, *supra* note 20, at 1508.

is now known as the Natural Resource Conservation Service (NRCS). The regulatory framework places administrative and enforcement responsibilities with the FSA and leaves technical determinations to the NRCS.²⁶ FSA is primarily responsible for the day-to-day operations of administering the program, including eligibility decisions and conducting spot checks to ensure compliance.²⁷ NRCS's technical duties include determination of wetlands that are subject to the provision and granting "minimal effects" exceptions.²⁸ Various ag-related agencies perform lesser administrative tasks.²⁹

Conservationists did not think the provisions went far enough and were quick to criticize the statutory and regulatory framework and the USDA's enforcement of it.³⁰ Statistics show the FSA withheld subsidies to just twenty-six farmers in the United States, resulting in a total of only \$124,000 in subsidies forfeited.³¹ In response, Congress closed these loopholes in the 1990 Farm Bill, forcing farmers to confront the regulations directly.³² By removing the commodity crop provision, regulators changed their focus to penalizing actual conversion of wetlands, i.e., draining or filling. It also incentivized restoration by requiring farmers to restore wetlands before they could again be eligible for USDA subsidies.³³

D. A Renewed Focus: 404 Permitting Through Sequences

The 1990 Memorandum of Agreement (MOA) signed by the Army Corp of Engineers and the EPA is evidence of a growing interest in protecting the nation's wetlands.³⁴ Declaring the goal of Section 404 of the Clean Water Act to be "no net loss of wetlands,"³⁵ the MOA established a three-part permitting process.³⁶ The EPA was responsible for promulgating the actual regulatory framework of the permit process, while the Army Corps of Engineers held the responsibility of actually reviewing permit applications and making compliance determinations.³⁷ Under the

26. 7 C.F.R. § 12.6(b)-(c) (2018).

27. 7 C.F.R. § 12.6(b) (2018).

28. 7 C.F.R. § 12.6(c) (2018).

29. Turrini, *supra* note 20, at 1508-09.

30. *Id.*

31. *Id.* at 1512-13.

32. *Id.* at 1511.

33. *Id.*

34. See Jonathan Silverstein, Comment, *Taking Wetlands to the Bank: The Role of Wetland Mitigation Banking in a Comprehensive Approach to Wetlands Protection*, 22 B.C. ENVTL. AFF. L. REV. 129, 132 (1994).

35. *Id.*

36. 40 C.F.R. § 230.10(a), (c)-(d) (2017); Silverstein, *supra* note 34, at 132.

37. 33 U.S.C. § 1344(b) (2012).

framework, permits are only required when a discharge of dredged or fill material happens and that discharge enters the waters of the United States.³⁸ The permit “process consists of (1) avoidance, (2) minimization, and (3) compensation.”³⁹

The first sequence requires permit applicants to avoid wetland destruction or demonstrate that any adverse impact to the wetland is unavoidable.⁴⁰ To demonstrate that adverse impact is unavoidable, the permit applicant must show there are no “practicable alternatives” to the proposed project that would have a lesser adverse impact to the wetlands.⁴¹ The applicant must prove that an alternative is not practicable.⁴² The Army Corps of Engineers “considers the costs (economics), technology, and the project’s logistics in making its determination.”⁴³ According to the regulation, practicable alternatives include plans that “do not involve a discharge of dredge or fill materials into wetlands; discharges of dredged or filled material at other locations in waters of the United States or ocean waters.”⁴⁴ The regulation provides this further guidance:

An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered.⁴⁵

This effectively requires developers to look at other parcels of land that do not contain wetlands.⁴⁶ As one can see from the vague nature of the regulation, there is no bright-line rule in determining whether a permit application has demonstrated that no practicable alternatives exist. Even if the applicant has met the burden of proving no practicable alternatives, the application may still be denied if it violates other federal law or contributes to the “significant degradation of the waters of the United States.”⁴⁷ This may include harmful effects on “human health or welfare,

38. Booth, *supra* note 13, at 208.

39. S. Scott Burkhalter, Comment, *Oversimplification: Value and Function: Wetland Mitigation Banking*, 2 CHAP. L. REV. 261, 274 (1999).

40. Silverstein, *supra* note 34, at 132.

41. *Id.*; see also 40 C.F.R. § 230.10(a) (2017).

42. Burkhalter, *supra* note 39, at 274.

43. *Id.* at 274-75.

44. 40 C.F.R. § 230.10(a)(2) (2017).

45. *Id.*

46. Booth, *supra* note 13, at 207.

47. 40 C.F.R. § 230.10(c) (2017).

ecosystems, biodiversity, recreation, aesthetics, and economic values.”⁴⁸ This flexible approach allows the Army Corps of Engineers great discretion when ruling on permit applications—while necessary for applications that present unique challenges—this also creates uncertainty when determining basic steps such as whether a permit is even required.⁴⁹

After a determination that the adverse impact is unavoidable and no practicable alternatives exist, the application moves on to minimization, the second step in the sequence.⁵⁰ At this stage, the applicant must formulate a plan to reduce the adverse impact to the wetland, as “no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem.”⁵¹ There are many ways potential adverse impacts can be minimized, ranging from using different materials and disposal sites to maintaining the aesthetic quality of the wetland affected.⁵²

These plans often include scaling back the initial size of the proposed site. In one illuminating case from 1996, the Eleventh Circuit found a developer had minimized the adverse impact of the proposed development by reducing the total acreage affected by the development from 120 acres to 74 acres.⁵³ Critics of this sequence often claim that it can be bypassed simply by submitting a compensatory mitigation plan (virtually a move right from the first sequence to the third sequence) and not seriously dealing with the requirement to minimize the adverse impacts to wetlands onsite.⁵⁴ However, this critique stems from a lack of enforcement, which exists because the Army Corps of Engineers and other relevant agencies do not have the resources to adequately police this sequence.⁵⁵

The third step in the sequence, compensation, is the most important. It is here where applicants must demonstrate how they plan to offset their proposed destruction of wetlands so that the net impact of development will be neutral.⁵⁶ In other words, this step requires proposals to fulfill the goal of Section 404 of the Clean

48. Burkhalter, *supra* note 39, at 274.

49. J. B. Ruhl & R. Juge Gregg, *Integrating Ecosystem Services into Environmental Law: A Case Study of Wetlands Mitigation Banking*, 20 STAN. ENVTL. L.J. 365, 368-69 (2001).

50. See 40 C.F.R. § 230.10(a)(2), (d) (2017).

51. 40 C.F.R. § 230.10(d) (2017).

52. 40 C.F.R. §§ 230.70-77 (2017).

53. *Fund for Animals, Inc. v. Rice*, 85 F.3d 535, 544 (11th Cir. 1996).

54. See Silverstein, *supra* note 34, at 133.

55. *Id.*

56. *Id.* at 132.

Water Act's "no net loss of wetlands."⁵⁷ Here, applicants must compensate for any of the unavoidable adverse impacts that remain—after all minimization efforts have been exhausted⁵⁸—through the creation, enhancement, or restoration of wetlands.⁵⁹ It is important to note that after the sequencing process is done, the EPA retains the power to veto any proposal.⁶⁰ However, it will generally only step in when the permit will have unacceptable effects on water quality.⁶¹

The main environmentalist critique of the overall sequencing scheme is that it has been ineffective at stemming the alarming rate of wetlands destruction, despite the goal of no net loss.⁶² There are several reasons why this may be the case. Institutional flaws may play a role in this problem. The Army Corps of Engineers and the EPA often do not have the resources to adequately police the mitigation efforts.⁶³ Once developers have had their compensation proposal approved, there exists insufficient will or resources for the Army Corps of Engineers to ensure they are carried out as detailed in the proposal.⁶⁴ Further problems exist even if there is sufficient oversight by the Army Corps of Engineers, as there is usually no party designated by the plan that is responsible for rectifying non-compliance issues.⁶⁵ Environmentalists are also concerned the new or restored wetlands are not of the same quality as the existing one.⁶⁶ New or restored wetlands are often a fragmented, isolated, and degraded version of the wetland that already existed and do not have the same ecological value.⁶⁷ To explore how compensation may be improved, one must take a deep look at the three existing forms of compensatory mitigation. Compensation is usually achieved through one of three different ways: (1) on-site mitigation, (2) off-site mitigation, and (3) mitigation banking.⁶⁸ The remainder of this Note will focus on these compensatory mitigation efforts, analyzing on-site compared to off-site and then emphasizing mitigation banking, which may provide the best method of wetland protection.

57. See Memorandums of Agreement (MOA) for Clean Water Act Section 404(b)(1) Guidelines, 55 Fed. Reg. 9210, 9211 (Mar. 12, 1990).

58. Burkhalter, *supra* note 39, at 274-75.

59. *Id.* at 275.

60. Booth, *supra* note 13, at 208.

61. *Id.*

62. Silverstein, *supra* note 34, at 133.

63. *Id.*

64. *Id.*

65. *Id.*

66. *Id.* at 141.

67. *Id.* at 133.

68. Burkhalter, *supra* note 39, at 275.

II. ON-SITE MITIGATION

When the EPA and the Army Corps of Engineers entered into their MOA in 1990, they expressed a strong preference for on-site mitigation, especially as compared to off-site.⁶⁹ “[On-site] mitigation refers to the ‘creation, restoration, or enhancement of wetlands adjacent to the wetlands being developed.’”⁷⁰ This means wetlands are either created or restored at the same site as the development, as compared to off-site mitigation where the efforts would be focused on a different parcel of land that could be anywhere in the country.⁷¹ One commentator provides a helpful illustration: “if compensatory mitigation is deemed appropriate for a project involving fill of mangrove swamp wetlands in Florida, on-site restoration of an area of prior mangrove swamp wetlands would be a favored mitigation strategy, whereas off-site preservation of existing cranberry bog wetlands in Maine would be least favored.”⁷²

Because mitigation usually follows after the development and resulting wetlands destruction, developers essentially receive their permit solely for the promise to mitigate after the development is finished.⁷³ The resulting mitigation must be at a one-to-one ratio in terms of acreage: for every one acre destroyed, one acre must be created, enhanced, or restored.⁷⁴ Although in the late 1980s and early 1990s this form of mitigation was favored, the drawbacks of such a piecemeal approach have become readily apparent.⁷⁵ As was briefly mentioned above, this type of mitigation suffers from functional and administrative flaws.⁷⁶ One such administrative flaw is that mitigation plans often are not carried out or complied with fully.⁷⁷ According to one study conducted by the Florida Department of Environmental Regulation, 34% of developers who received a permit never began compensatory mitigation efforts, and only 6% fully complied.⁷⁸ This study calculated only a 27% mitigation success rate, and two other studies came up with even lower percentages.⁷⁹ Due to

69. Ruhl & Gregg, *supra* note 49, at 369-70.

70. Booth, *supra* note 13, at 210 (citing Michael G. Le Desma, Note, *A Sound of Thunder: Problems and Prospects in Wetland Mitigation Banking*, 19 COLUM. J. ENVTL. L. 497, 498 n.68 (1994)).

71. *Id.*

72. Ruhl & Gregg, *supra* note 49, at 370.

73. Booth, *supra* note 13, at 211.

74. *Id.* at 210.

75. See Ruhl & Gregg, *supra* note 49, at 370.

76. Booth, *supra* note 13, at 212.

77. Jennifer Neal, Comment, *Paving the Road to Wetlands Mitigation Banking*, 27 B.C. ENVTL. AFF. L. REV. 161, 174 (1999).

78. *Id.*

79. *Id.*

the Army Corps of Engineers' lack of resources and oversight, market-motivated developers have an incentive not to implement or comply with mitigation plans or to allow initiated wetlands mitigation to fail.⁸⁰ On-site mitigation is expensive and time consuming; why would a financially sensitive developer spend the money if they know the plan will not be enforced and they will not face sanctions? Research indicates that mitigation success is directly tied to the financial commitment of the developer.⁸¹ Given the financial incentive not to mitigate, one can easily see why the United States continues to see net wetlands loss.

On-site mitigation also leads to small, isolated, and fragmented wetlands—often referred to as patch wetlands that do not have the same ecological value and function pre-existing wetlands do.⁸² As patch wetlands are isolated, they do not have a buffer of adjacent uses because “they are created at an actual project site to compensate only for a particular project’s wetland losses,” which severely cuts down on the site’s ecological value.⁸³ As one author states, “current regulations engendered numerous isolated wetlands which provide no filtering function or flood control, and rarely provide even limited habitat value, created, say, in the middle of a parking lot or behind a grocery store or shopping center. Such wetlands are essentially useless.”⁸⁴ Patch wetlands will almost always fail due their location and size and because their ecological value is limited by separation from broader wetlands ecosystems.⁸⁵ Thus, “many opponents state that ‘on-site’ mitigation results in far less functionally effective wetlands.”⁸⁶

III. A BETTER WAY FORWARD: MITIGATION BANKING

A. Brief Introduction

Mitigation banking may hold the answer to government inefficiency in addressing wetlands losses in the United States.⁸⁷ Mitigation banking is the third approach to mitigation that is allowed under the Army Corps of Engineers’ 404(b) sequencing program, and is a form of off-site mitigation.⁸⁸ Mitigation bankers are awarded credits for the creation, restoration, or enhancement of wetlands habitat, which they in turn are allowed to sell on the open market to developers seeking to

80. *Id.*

81. *Id.* at 176.

82. Booth, *supra* note 13, at 212.

83. *Id.*

84. *Id.*

85. *Id.*

86. Booth, *supra* note 13, at 211.

87. Silverstein, *supra* note 34, at 133-34.

88. Neal, *supra* note 77, at 176.

offset unavoidable wetlands destruction in their projects.⁸⁹ “Generally, the number of credits available at a mitigation bank will be based on ‘standards tailored to the specific restoration, creation, or enhancement activity at the bank site or through the use of an appropriate functional assessment methodology.’”⁹⁰ Mitigation banking provides advantages to other forms of mitigation, and these benefits extend to all parties involved: the developer, the bank, and the regulatory agency itself.⁹¹

B. Benefits to the Parties

There are numerous benefits that mitigation banking can offer a farmer over both on-site mitigation and an individual farmer participating in off-site mitigation. First, mitigation banking introduces economies of scale to wetlands conservation, making it much more cost effective.⁹² For a single farmer to design, create, and maintain a small wetland that offsets the destruction of wetlands on their property is an incredibly expensive process.⁹³ Mitigation banks provide a much more cost-effective alternative.⁹⁴

One common complaint from developers and farmers alike is the inordinate amount of time it takes to complete the permit process.⁹⁵ In fact, one industry expert listed the lengthy process as the greatest hurdle facing farmers and developers outside of cost.⁹⁶ Mitigation banks provide a solution to this problem, as they “more easily assemble planning, financial resources, and scientific expertise that would otherwise be unavailable to many permittees.”⁹⁷ Mitigation banks are experienced when it comes to negotiating with the EPA, and allowing farmers to rely on the expertise provided by banks is a great benefit in saving time.⁹⁸ A further element of

89. *Id.*

90. Burkhalter, *supra* note 39, at 289 (quoting MARK S. DENNISON, WETLAND MITIGATION: MITIGATION BANKING AND OTHER STRATEGIES FOR DEVELOPMENT AND COMPLIANCE 132 (1997)).

91. William W. Sapp, *The Supply-Side and Demand-Side of Wetlands Mitigation Banking*, 74 OR. L. REV. 951, 973 (1995).

92. Matthew H. Bonds & Jeffrey J. Pompe, *Calculating Wetland Mitigation Banking Credits: Adjusting for Wetland Function and Location*, 43 NAT. RESOURCES J. 961, 975 (2003).

93. *Id.*

94. *Id.*

95. See Telephone Interview with Brian Top, Env'tl. Consultant, Dakota Wetland Partners, LLC (Nov. 1, 2016).

96. See *id.*

97. Kellie E. Billings-Ray, *Out of the Marsh and into the Mitigation Bank: A Primer on Mitigation Banking*, 61 ADVOC. 22, 24 (2012).

98. *Id.*; see Telephone Interview with Brian Top, *supra* note 95.

time efficiency a mitigation bank can offer to a farmer or developer is that it reduces the number of delays.⁹⁹ As the mitigation bank will generally have institutional experience with the various governmental agencies, it is in a better position to ward off delays.¹⁰⁰ For example, mitigation banks are waived from the requirement of obtaining a performance bond for certain projects, meaning that developers do not have to wait for their performance bond to be approved.¹⁰¹

Perhaps the greatest benefit that a mitigation bank provides to a farmer or developer is that it shifts the burden of monitoring and restoring the wetland when required.¹⁰² This also happens to be of great ecological benefit, as one of the main problems of other compensatory mitigation efforts is that it is often unclear who is responsible for the maintenance of the wetland.¹⁰³ Mitigation banking ensures that proper funding will be available to enhance the wetland and restore it if necessary.¹⁰⁴ Further, these responsibilities that traditionally fell on the farmer or developer can be accomplished at a much lower cost by utilizing the economies of scale inherent to mitigation banking.¹⁰⁵

The economies of scale in mitigation banking provide several advantages to the banker who funds the program as well.¹⁰⁶ One of the greatest advantages provided to bankers is that they can focus on finding one large promising site, which translates into cost savings in several areas that are passed on to the farmer or developer.¹⁰⁷ For example, the bank only has to conduct one site analysis, rather than analyzing several smaller sites.¹⁰⁸ The economies of scale apply to every transaction cost including a banker only having to send landscaping equipment and crew to one site, cutting down on fuel and labor costs.¹⁰⁹ Due to their size, banks also have easier access to favorable financing, the newest technology, and can purchase a higher quality of plant life.¹¹⁰ These advantages translate into healthier plant and wildlife all while making them more hydrologically and biologically viable.¹¹¹

99. Sapp, *supra* note 91, at 976-77.

100. *Id.*

101. *Id.* at 977.

102. *Id.*

103. See U.S. GEN. ACCOUNTING OFFICE, WETLANDS PROTECTION: ASSESSMENTS NEEDED TO DETERMINE EFFECTIVENESS OF IN-LIEU-FEE MITIGATION 7 (May 2001).

104. Billings-Ray, *supra* note 97, at 24; Sapp, *supra* note 91, at 976.

105. Sapp, *supra* note 91, at 992.

106. *Id.* at 974.

107. *Id.*

108. *Id.*

109. *Id.*

110. *Id.* at 974-75.

111. *Id.*

Banks also have a vested economic interest in making sure new wetlands succeed, as opposed to the lone farmer engaging in off-site mitigation where costs quickly begin to pile up as the process drags on.¹¹² Further, when a site does fail, a bank is in a much better position to restore the wetland and will enjoy all of these economies of scale during that process.¹¹³

Mitigation banking also provides great advantages to the administrative regulators while still maintaining the ecological value of the wetlands it seeks to preserve.¹¹⁴ The larger sites provided by mitigation banks are a boon to regulators as it lowers oversight and administrative costs for the agency as well.¹¹⁵ Agencies also like the familiarity that comes with engaging experienced bankers. As one commentator states, “[o]nce the regulators become familiar with the functions and values of a given mitigation bank, each successive credit exchange involving that bank is easier; only the functions and values of the wetlands destined for destruction need to be measured.”¹¹⁶ Mitigation banks also cut down on the costs associated with monitoring sites, as enforcement officials have fewer sites to travel to.¹¹⁷ A further benefit is that the U.S. Attorney’s Office is more likely to notice when a large mitigation site fails, as opposed to when small sites fail, often escaping the notice of enforcement officials.¹¹⁸

Proponents of mitigation banking (as the best approach to compensatory mitigation) highlight the numerous environmental advantages that banking has over other mitigation approaches.¹¹⁹ Perhaps the greatest advantage that a bank has over on-site mitigation, or individual off-site mitigation, is in the site selection process.¹²⁰ One of the greatest causes of failure for mitigation efforts is the lack of “connect- edness” with other wetland ecosystems.¹²¹ However, mitigation banks operate outside of the influence of just a single project and, therefore, are able to account for more environmental impacts than solo projects.¹²² Such projects are often rushed, or if engaging in on-site mitigation, are forced to develop wetlands in locations unsuitable for lasting, healthy wetlands.¹²³ In contrast, in selecting a suitable site,

112. *Id.* at 975.

113. *Id.* at 976.

114. *Id.* at 977.

115. *Id.*

116. *Id.*

117. *Id.*

118. *Id.* at 978.

119. Booth, *supra* note 13, at 214-15.

120. *See id.* at 217.

121. *Id.*

122. Silverstein, *supra* note 34, at 137.

123. *Id.*

bankers will take into account many factors such as: “availability, size, proximity to possible degrading influences, and regional wetland-function needs.”¹²⁴ A further consideration often taken into account is the proximity to other wetlands, with an emphasis on the particular functions of those wetlands to ensure compatibility.¹²⁵ A proper analysis of these factors helps to ensure that there is proper “connectedness” to other wetland ecosystems, increasing the likelihood of successful mitigation.¹²⁶

As highlighted above, the amount of time it takes to complete the permit process is a serious issue that can lead to greater wetlands destruction.¹²⁷ As mitigation banks have a significant financial incentive to get the bank up and running as fast as possible and in an ecologically successful way, this leads to technological innovation that further improves mitigation efforts.¹²⁸ The competitive market ensures those advances spread quickly throughout the industry.¹²⁹

Larger sites also provide better ecological value for the plant and wildlife. For example, certain types of plants that banks can be required to plant are mandated to have a buffer zone around them.¹³⁰ These buffer zones are critically important to the viability of certain species, as they decrease the impact of surrounding land use and deter the introduction of pervasive plant species and predatory animal species.¹³¹ However, buffer zones create exponential impacts on the acreage available for habitat.¹³² For example, a sixteen acre mitigation site including a one acre buffer zone on “all sides from development . . . will only yield four acres of usable habitat. In contrast, a sixty-four acre mitigation project would yield thirty-six acres of useable habitat. Thus, the second site which is only four times larger yields nine times more useable habitat for sensitive wetland species.”¹³³ Certain animal species, such as the otter, do much better in larger mitigation sites, whereas they likely would not survive long in a smaller site.¹³⁴ In particular, sites that preserve and maintain wildlife corridors are especially attractive to such species, and bankers can often charge more for credits from these sites or sell credits for the wildlife corridor itself.¹³⁵

124. *Id.* at 138.

125. Booth, *supra* note 13, at 217; Silverstein, *supra* note 34, at 138.

126. *See* Booth, *supra* note 13, at 217.

127. Silverstein, *supra* note 34, at 149.

128. *Id.* at 138.

129. Sapp, *supra* note 91, at 978-79.

130. *Id.* at 979.

131. ENVTL. LAW INST., WETLAND MITIGATION BANKING 72 (1993).

132. Sapp, *supra* note 91, at 979.

133. *Id.*

134. *Id.*

135. *Id.*

Mitigation banking also provides advantages in watershed planning.¹³⁶ “Watershed planning involves the valuation of existing wetlands within a watershed based on their scarcity, historic wetlands distribution, and the relative importance of their functions and values.”¹³⁷ This encourages inter-agency cooperation between federal and state agencies, as well as, increasing the ecological function and value of both the watershed at large and the mitigation site itself.¹³⁸

C. Criticisms of Mitigation Banking

Despite mitigation banking being an excellent blend of what a joint public or private sector program can accomplish in a conservation context, it is not without its criticisms. A large area of concern lies with a perceived lack of enforcement on behalf of the Army Corp of Engineers.¹³⁹ Although, in theory, the larger mitigation banks should cut down on enforcement costs and make it easier to monitor mitigation sites, this rarely happens.¹⁴⁰ In fact, a 2005 report found the Army Corps of Engineers rarely inspected mitigation banks, and 30% of mitigation banks had not submitted the required monitoring reports.¹⁴¹ As one commentator states, “[a]s a result, mitigation banks largely are left to their own devices, and once their credits are sold, there is little incentive for them to ensure long-term ecology.”¹⁴²

Other critics say mitigation banking actually encourages farmers and developers to engage in more wetlands destruction with government approval.¹⁴³ As farmers and developers are free to purchase any available credits, they may not be as careful to avoid and minimize wetlands losses on their own property.¹⁴⁴ A “Sierra Club spokesperson stressed that companies should not be allowed to destroy some wetlands simply because they promise to improve others.”¹⁴⁵ Brian Top, an environmental consultant with Dakota Wetland Partners, LLC (DWP) based out of Sioux Falls, South Dakota, has had a different experience with mitigation banking

136. *Id.* at 980.

137. *Id.*

138. *Id.*

139. See R. Kyle Alagood, Comment, *The Mythology of Mitigation Banking*, 46 ENVTL. L. REP. NEWS & ANALYSIS 10200, 10206 (2016).

140. *Id.*

141. U.S. GOV'T ACCOUNTABILITY OFFICE, WETLANDS PROTECTION: CORPS OF ENGINEERS DOES NOT HAVE AN EFFECTIVE OVERSIGHT APPROACH TO ENSURE THAT COMPENSATORY MITIGATION IS OCCURRING 5 (Sept. 2005).

142. Alagood, *supra* note 139, at 10206.

143. William W. Sapp, *Mitigation Banking: Panacea or Poison for Wetlands Protection*, 1 ENVTL. LAW. 99, 118 (1994) [hereinafter Sapp, *Panacea or Poison*].

144. *Id.*

145. *Id.*

and says this is not a grave concern, especially as applied to farmers.¹⁴⁶ Mr. Top receives hundreds of calls from farmers interested in purchasing credits from his bank, only to hear the price for credits can be up to two and half times land value.¹⁴⁷ According to Mr. Top, he loses many potential customers due to the high price of credits.¹⁴⁸

A further issue with banking, according to conservationists and wildlife experts, is the mismatch that can occur between the ecological function of the destroyed wetland and the ecological function of the mitigation bank where credits were purchased.¹⁴⁹ For example, a farmer may have ten different, small pothole-type wetlands on his farm. Some of these smaller wetlands can contain unique species and ecological functions, and these more exotic ecological functions cannot always be recreated to be as viable as their natural counterparts.¹⁵⁰ Assuming a one-to-one credit-to-acre ratio, a farmer can purchase ten credits from a bank, which may not account for all of the ecological functions of the original ten wetlands.¹⁵¹ One should note, this is perhaps the most important ecological critique of mitigation banking, as it applies to both the loss of more exotic wetlands' ecological function and the Army Corps of Engineers' ability to preserve these functions through effective analysis of such functions and through monitoring at larger mitigation sites.¹⁵² Conservationists should continue to lobby the Army Corps of Engineers to use more strict tools of evaluation to ensure the goal of "no-net-loss" of wetlands is maintained and that the goal is maintained in its full variety of ecological function.

D. Strengthening the Public and Private Partnership in Mitigation Banking in the Mold of South Dakota

One exciting development in mitigation banking utilizing a 2014 change in federal law is a South Dakota program, South Dakota Wetland Exchange, overseen by Mr. Top and DWP.¹⁵³ The 2014 Farm Bill established the "Wetland Mitigation

146. See Telephone Interview with Brian Top, *supra* note 95.

147. See *id.*

148. See *id.*

149. Sapp, *Panacea or Poison*, *supra* note 143, at 118.

150. *Id.*

151. *Id.*

152. *Id.*

153. See Telephone Interview with Brian Top, *supra* note 95; see also Press Release, U.S. Dep't of Agric., USDA Grant Awarded to Establish an Agriculture Wetland Mitigation Bank in South Dakota (Aug. 19, 2016), <https://perma.cc/T4Z7-24RK>. Other states with wetland mitigation banking programs include: Georgia, Illinois, Iowa, Michigan, Minnesota, Missouri, Nebraska, North Dakota, and Ohio. U.S. DEP'T AGRIC., *2016 Wetland Mitigation Banking Projects*, MITIGATION BANKING (2016), <https://perma.cc/MBY2-P949> [hereinafter *2016 Wetland*

Banking Grant Program,”¹⁵⁴ which “helps states, local governments or qualified partners [such as DWP] . . . develop wetland mitigation banks that restore, create, or enhance wetland ecosystems, generating credits in one place to compensate for what is often a highly disturbed wetland within cropland.”¹⁵⁵ One Iowa venture, Iowa Agricultural Mitigation, Inc. (IAMI), in operation since 2010,¹⁵⁶ has enrolled in and received funding from the USDA to provide credits for the prairie pothole region in the north central part of the state.¹⁵⁷ Iowa farmers, developers, legislators, and agencies would be wise to pay closer attention to such programs and expand this model throughout the state in order to improve wetlands conservation.

The federal program allows for greater cooperation between public and private entities—removing entry barriers such as time, cost, and frustration in dealing with regulators. For example, DWP partnered with the various agricultural, conservation, and wildlife groups in the state in applying for the grant and designing the program.¹⁵⁸ Enlisting these partners helps to ensure that wetlands will be cared for and maintained perpetually, which is a major concern for conservationists.¹⁵⁹ As Mr. Top told the Daily Republic, “[t]hey’re going to be permanently protected because of the [conservation] easement that we’re going to put on them, so these are going to be high functioning, good quality wetlands, . . .”¹⁶⁰

Mr. Top sees a growing opportunity for farmers with large amounts of wetland acreage to work with mitigation bankers to provide land for mitigation.¹⁶¹ First, wetlands were often a cause of concern for farmers, especially before mitigation banking programs were in existence.¹⁶² These wetlands may have little value for farmers when farmable acreage can be gained by filling or draining them.¹⁶³ Mitigation banks provide an economically beneficial alternative to these environmentally degrading practices. Further, farm wetlands often consist of several small wetlands in different areas of the property; farmers who have these small pothole

Mitigation].

154. Press Release, U.S. Dep’t of Agric., *supra* note 153.

155. *Id.*

156. *About*, IOWA AGRIC. MITIGATION, INC., <https://perma.cc/8PCY-WTXJ> (archived Jan. 17, 2018).

157. *2016 Wetland Mitigation*, *supra* note 153.

158. Evan Hendershot, *State Attempting to Establish First Wetlands Mitigation Bank for Agriculture in the Nation*, DAILY REPUBLIC (Jan. 29, 2016, 4:20 PM), <https://perma.cc/DBX4-TWLY>.

159. *See* Telephone Interview with Brian Top, *supra* note 95.

160. Hendershot, *supra* note 158.

161. *See* Telephone Interview with Brian Top, *supra* note 95.

162. *See id.*

163. *See id.*

wetlands located in close geographic proximity to each other may provide an excellent site for mitigation banks seeking to conserve more exotic and unique ecological functions.¹⁶⁴

Midwestern prairie wetlands are excellent habitat for hunters and sportsmen. Farmers can usually arrange a deal so that the land given up to the bank can be used for hunting, providing another stream of revenue for farmers with wetlands.¹⁶⁵ For example, Mr. Top has worked with farmers and hunters to establish excellent pheasant and waterfowl hunting habitat on his banks in South Dakota. This increases the economic value of the bank while still accomplishing the goal of wetlands conservation.¹⁶⁶ As avid waterfowl hunters know, prairie potholes provide some of the best hunting in the region and provide incredibly important, diverse ecological functions. Banks established with the input of hunters and other sportsmen can help to ease the concerns of conservationists and regulators because banks encourage bankers to find sites made up of prairie potholes in order to encourage hunting.¹⁶⁷

Mr. Top, who has worked in both the public and private sectors of the industry, still believes the regulatory framework is too confusing even for those experienced in the process.¹⁶⁸ Bankers often become frustrated with the time frame of the permit process and can sometimes hear contradictory things from different agencies.¹⁶⁹ In his words: "I meet with one [agency], and they say I can sell credits under these circumstances, and then I meet with a different [agency] and they say that's not true. The [government] doesn't speak with one voice throughout the process."¹⁷⁰ Mr. Top believes a comprehensive inter-agency plan should be put in place to remove entry barriers imposed by regulation and provide more consistency to mitigation bankers.¹⁷¹

IV. CONCLUSION

Wetland mitigation banking is the best tool we have to combat the loss of wetlands that has occurred in this country for the last 250 years. Although we may not have arrived at the perfect model of mitigation banking, the program established in South Dakota is an excellent blend of public and private resources that

164. *See id.*; *see also* Sapp, *Panacea or Poison*, *supra* note 143, at 118.

165. *See* Telephone Interview with Brian Top, *supra* note 95.

166. *See id.*

167. *See id.*

168. *See id.*

169. *See id.*

170. *See id.*

171. *See id.*

will lead to better mitigation and healthier wetland ecosystems. Mitigation banking creates an economic incentive for farmers to engage in conservation and provides an avenue to ease tensions that arise between farmers and regulators. Farmers and regulators in Iowa should look to follow the lead of IAMI and expand the program throughout the entire state.