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CREATING ECONOMIC INCENTIVES TO PRESERVE UNIQUE ECOSYSTEMS: SHOULD WISCONSIN ADOPT A PRIVATE WETLANDS MITIGATION BANKING POLICY?

Crossing the Swamp

Here is the endless wet thick cosmos,
the center of everything –
the nugget of dense sap, branching vines,
the dark burred faintly belching bogs.
Here is the *swamp*, here is struggle, closure –
pathless, seamless, peerless mud. . .
the fat grassy mires, the rich and succulent
marrows of earth –
a poor dry stick given one more chance by the
whims of swamp water –
a bough that still, after all these years,
could take root, sprout, branch out, bud –
make of its life a breathing palace of leaves.

– Mary Oliver¹

I. INTRODUCTION

Wisconsin's wetlands are diverse, unique ecosystems that provide beauty, recreation, health and safety to its citizens. Developers, public and private, often do not see the economic advantage of preserving these structures and seek only to transform their inherent nature into an artificial resource.² However, preserving, restoring and recreating the

1. MARY OLIVER, *NEW AND SELECTED POEMS* 166-67 (1992).

2. For an incomplete, but general view of proponents of land development see generally Julian Conrad Juergensmeyer et al., *Transferable Development Rights and Alternatives After Suitum*, 30 URB. LAW 441 (1998); Michael K. Braswell & Stephen L. Poe, *Private Property vs. Federal Wetlands Regulation: Should Private Landowners Bear the Cost of Wetlands Protection?*, 33 AM. BUS. L.J. 179 (1995); David A. Dana, *Natural Preservation and the Race to Develop*, 143 U. PA. L. REV. 655 (1995); John A. Humbach, *Law and a New Land Ethic*, 74 MINN. L. REV. 339 (1989). See also Lois J. Schiffer & Jeremy D. Heep, *Forests, Wetlands and the Superfund: Three Examples of Environmental Protection Promoting Jobs*, 22 J. CORP. L. 571, 591 n.151 (1997) (mentioning of several groups who denounce environmental

natural environment when properly done can have economic benefits as well.³

During the 1997-1998 legislative session in Wisconsin, a bill that would have established a wetlands mitigation banking program was narrowly defeated.⁴ Wetland mitigation banking in its simplest form uses market based, preventative measures and economic incentives to encourage wetland preservation by allowing public or private entities to develop or fill in wetlands once they have passed the permitting process and purchased applicable tax credits.⁵ Currently, Wisconsin employs similar measures only when the Department of Transportation develops new roads, maintains or expands old ones and needs to pave over wetlands in order to do so.⁶ Other states have instituted wetland protection programs involving mitigation banking.⁷

preservation in the name of economic development because they view non-use of land as robbing the economic value from the landowner).

3. See generally JON KUSLER, PH.D. & TERESA OPHEIM, *OUR NATIONAL WETLAND HERITAGE: A PROTECTION GUIDE* (2d ed. 1996).

4. See A.B. 492, 93rd Leg., Reg. Sess. (Wis. 1997) (assembly bill substitute 1). This was a proposed "Act to create section 23.321 of the statutes; relating to: requiring the department of natural resources to consider wetland compensatory mitigation and granting rule-making authority." *Id.*

5. See MARK S. DENNISON & JAMES F. BERRY, *WETLANDS: GUIDE TO SCIENCE, LAW, AND TECHNOLOGY* 299 (Noyes Publications 1993).

6. See James Reinartz, Ph.D., Proposal to the Ozaukee Land Trust Board of Directors, at 1 (Apr. 20, 1998) (unpublished meeting proposal on file at the University of Wisconsin Milwaukee Field Station and copy on file with author). See also, e.g., Minda Maurer, *Crossing Meadows Businesses Say Interchange Would Be Inconvenient*, LACROSSE TRIBUNE (Wisconsin), Oct. 27, 1998, at A1.

7. As of the writing of this Comment, the following states have instituted a wetlands mitigation banking policy: Arkansas, California, Florida, Illinois, Louisiana, Maine, Maryland, Minnesota, New Jersey, North Carolina, Oregon, Texas, Virginia, Washington, and Wyoming. See Arkansas Wetlands Mitigation Bank Act, ARK. CODE ANN. §§ 15-22-1001-1012 (Michie Supp. 1999); Sacramento-San Joaquin Valley Wetlands Mitigation Bank Act of 1993, CAL. FISH & GAME CODE §§ 1775-1795 (West 1998); Management and Storage of Surface Waters, FLA. STAT. ANN. §§ 373.4135-4137, 373.414 (West 1997 & Supp. 2000); Interagency Wetland Policy Act of 1989, 20 ILL. COMP. STAT. ANN. §§ 830/1-1 - 4-1 (West 1993); Louisiana Coastal Wetlands Conservation, Restoration, and Management, LA. REV. STAT. ANN. 49 §§ 213-214.34 (West Supp. 2000); Protection and Improvement of Waters, ME. REV. STAT. ANN. tit. 38 § 480-Z (West Supp. 1999); Nontidal Wetlands Act, MD. CODE ANN., ENVIR. §§ 5-902-910 (1996); Wetland Value Replacement Plans, MINN. STAT. ANN. § 103G.2242 (West 1997 & Supp. 2000); Wetlands Mitigation Bank, N.J. STAT. ANN. §§ 13:9B-13-15 (West 1991 & 1999 Supp.); Wetlands Restoration Program, N.C. GEN. STAT. §§ 143-214.8-11 (1999); Oregon Wetlands Mitigation Bank Act of 1987, OR. REV. STAT. §§ 196.600-665 (1997); Wetland Mitigation, TEX. NAT. RES. CODE ANN. §§ 221.001-048 (West 1993 & Supp. 2000); Wetlands Mitigation Banking, VA. CODE ANN. § 33.1-223.2:1 (Michie 1996 & Supp. 1999); Wetlands Mitigation Banking, WASH. REV. CODE ANN. § 90.84.005-070 (West Supp. 2000); WYO. STAT. ANN. § 35-11-311 (Michie 1999). In addition, Colorado enacted a

These programs receive intense scrutiny because they allow for some wetland loss.⁸ Environmentalists balk at these programs because they do not believe that artificially created wetlands will sufficiently or efficiently sustain wetland species or withstand the test of time.⁹ In addition, some environmentalists are opposed to state level wetland regulation rather than federal because business competition among states may lead to relaxed permitting by state governments.¹⁰ Other groups, primarily developers and farmers, oppose wetland mitigation programs because of the expense involved.¹¹ However, some developers seem eager to support private mitigation banking programs because they believe these will generate flexibility in the permitting process.¹² If done correctly, communities and private developers can benefit environmentally and economically from such a policy.¹³

wetland mitigation banking act called the Resource Mitigation Banking Act that was subsequently repealed. See COLO. REV. STAT. ANN. §§ 37-85.5-101-111 (West 1990 & Supp. 1999) repealed by Laws 1991, S.B. 91-120 § 1 (eff. July 1, 1997).

8. See David Farrier, *Conserving Biodiversity on Private Land: Incentives for Management or Compensation for Lost Expectations?*, 19 HARV. ENVTL. L. REV. 303, 367-70 (1995); Marianne Dugan, *Citizen Participation in Wetlands Planning in the Pacific Northwest*, 9 J. ENVTL. L. & LITIG., 29, 31-32 (1994).

9. See Farrier, *supra* note 8, at 369-70. See also James S. Johnson, et al., *Bogged Down Trying to Define Federal Wetlands*, 2 TEX. WESLEYAN L. REV. 481, 497 (1996) (explaining that many preservationists only support wetland conservation if the wetland will be left in its natural state).

10. See Michael G. Le Desma, *A Sound of Thunder: Problems & Prospects in Wetland Mitigation Banking*, 19 COLUM. J. ENVTL. L. 497, 500 (1994).

11. See DENNISON, *supra* note 5, at 302. See also Johnson, *supra* note 9, at 497 (explaining that these groups want compensation from the government resulting from wetland preservation that interferes with their use of the land).

12. See Michael C. Blumm, *The Clinton Wetlands Plan: No Net Gain in Wetlands Protection*, 9 J. LAND USE & ENVTL. L. 203, 226 (1994).

13. See Virginia Morell, *In Search of Solutions*, NAT'L GEOGRAPHIC, Feb. 1999, at 72, 80.

Green spaces are easily taken for granted, yet their great expanses unobtrusively support human existence. Among many other things, they furnish essential raw materials, renew soils and prevent erosion, shelter animals that pollinate crops and control agricultural pests, purify our air and water, and help regulate climate.

Because many of these ecosystem services, as scientists call them, have no traditional market value, their long-term protection is often ignored in favor of short-term profits. "Humans are now a relatively major component of life on Earth, and we can damage ecosystems quite intensively," says Robert Costanza, an ecologist at the University of Maryland. To demonstrate the economic benefits of conservation, Costanza and others are attempting to estimate the worth of ecosystem services – which runs well into tens of trillions of dollars a year worldwide. "Assigning values, even if they are imprecise, helps make it clear that

This comment discusses what constitutes a wetland, why wetlands need protection,¹⁴ explains how wetlands mitigation banking works,¹⁵ explores the controversy behind it,¹⁶ explains wetland regulation in Wisconsin,¹⁷ reviews the bill proposed in the 1998 legislative session in Wisconsin, analyzes programs adopted by other states, and recommends adopting mitigation guidelines to implement a coherent and consistent private wetlands mitigation banking program in Wisconsin.¹⁸

II. WETLANDS

A. How to Identify Wetlands

Wetlands are a specific type of ecosystem that contains variations in form.¹⁹ Nonetheless, they all contain characteristics attributable to both land and water ecostructures.²⁰ However, the mixture of land to water ratio varies between wetlands, and depends to some extent on seasons and location.²¹ Wetlands are, therefore, difficult to identify because of their disparate characteristics.²² This class of ecosystems²³ consists of

losing this stuff entails a cost," explains Gretchen Daily, a conservation biologist at Stanford University.

Id.

14. See Part II *infra*.

15. See Part III *infra*.

16. See Part IV *infra*.

17. See Part V *infra*.

18. See Part VI *infra*.

19. See Stephen R. Rubin, *An Analysis of Nontidal Wetland Regulation in Maryland*, 16 VA. ENVTL. L.J. 459, 460-61 (1997).

20. See *id.*

21. See *id.* at 461.

Wetlands are classified according to differences in local and regional hydrology, vegetation, water chemistry, soils, topography, and climate. Coastal wetlands include estuarine marshes found adjacent to ocean coastlines, mangrove swamps located largely in Puerto Rico, Hawaii and Florida, and the harbor coastal wetlands along the Great Lakes. Inland wetlands, which may be isolated or located adjacent to an inland body of water, include marshes, wet meadows, bottomland hardwood forests, Great Plains prairie potholes, cypress-gum swamps, and southwestern playa lakes.

Shirley Jeanne Whitsitt, *Wetlands Mitigation Banking*, 3 ENVTL. L. 441, 445-446 (1997). See also Johnson, *supra* note 9, at 481-97 (analyzing the federal manuals and case law used to delineate a wetland under federal jurisdiction).

22. See Rubin, *supra* note 19, at 461.

more than just bogs, marshes and swamps.²⁴ For example, they can occur in forests, prairies, along riverbanks and on coastlines.²⁵

Governments, scientists and conservationists have striven mightily, although mostly in vain, to define precisely what constitutes a wetland.²⁶ Thus, a confusing myriad of conflicting definitions of "wetland" exist.²⁷ The federal government got into the act when, through the Clean Water Act²⁸ ("CWA"), Congress defined wetlands as "those areas that are inundated or saturated by surface or ground water 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."²⁹ Congress explained that "[w]etlands generally include swamps, marshes, bogs and similar areas."³⁰ As applied, this definition requires an area to include all of the following characteristics to be considered a wetland: "(1) wetland hydrology (the presence of water at or near the surface for a period of time), (2) hydrophytic vegetation (wetland plants), and (3) hydric soils (periodically anaerobic soils resulting from prolonged saturation or

23. *See id.* "Wetlands are distinguishable in many ways from . . . other ecosystem[s] . . . ; thus, the scientific community considers them to be a distinctive class." *Id.* (citation omitted).

24. *See id.* *See also* DENNISON, *supra* note 5, at 18-54, 74-152; KUSLER & OPHEIM, *supra* note 3, at 13-21 for a more in depth discussion of different wetlands and how to identify them.

25. *See* Rubin, *supra* note 19, at 460-61. *See also* KUSLER & OPHEIM, *supra* note 3, at 19. The U.S. Department of the Interior developed the Cowardin system for classifying wetlands and mapping wetlands in America. *See id.* (citing L. Cowardin, et al., *Classification of Wetlands and Deepwater Habitats of the United States*, U.S. Department of the Interior (1979)). Wetlands are broken down into five main categories. *See id.* (a.) Marine wetlands "are exposed to the waves and currents of the open ocean, and the water regimes are determined primarily by the ebb and flow of oceanic tides." *Id.* (b.) Estuarine wetlands are "[d]eepwater tidal habitats and adjacent tidal wetlands that usually are semi-enclosed by land but have open, partly obstructed, or sporadic access to the open ocean." *Id.* (c.) Riverine wetlands "[i]nclude[] all wetlands and deepwater habitats contained within a channel, with two exceptions: 1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and 2) habitats with water containing ocean-derived salts in excess of 0.5 percent." *Id.* (d.) Lacustrine wetlands are "deepwater habitats with all of the following characteristics: 1) situated in a topographic depression or a dammed river channel; 2) lacking trees, shrubs, persistent emergents, emergent mosses or lichens with greater than 30 percent areal coverage; and 3) total area exceeds 20 acres." *Id.* (e.) Palustrine wetlands are "all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 percent." *Id.*

26. *See* DENNISON & BERRY, *supra* note 5, at 4.

27. *See id.* "There are over fifty federal and state wetland definitions." *Id.*

28. *See* 33 U.S.C. §§ 1251-1387 (1994).

29. 40 C.F.R. § 230.3(t) (1999).

30. *Id.*

inundation)."³¹

However, the U.S. Fish and Wildlife Service ("FWS") defined wetlands to include "any one of the attributes of wetland hydrology, hydrophytic vegetation, or hydric soils,"³² thus, differing from Congress's definition. Wisconsin, not to be denied, defined wetlands to include "an area where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions"³³ – a somewhat subjective definition, at least on its face. It becomes, therefore, increasingly difficult for landowners to determine whether an area will be considered a wetland. A piece of land can become a wetland over time or exhibit "swamp-like" characteristics during one season, but during another it may dry up and look like a prairie.³⁴

Along with the numerous definitions of wetlands that exist, attempts to classify wetlands into different specific categories also produce inconsistent results.³⁵ Federal agencies, such as the FWS, create most classification systems.³⁶ However, the FWS's classification system only provides for distinguishing wetlands in different parts of the country, and not for a thoroughgoing, national classification system.³⁷ Groups have struggled with wetland classification because most wetlands exhibit characteristics common to other types of land, some overlap into each other, and they can change type over time.³⁸ Thus, labeling them with a concrete classification denies their inherent dynamic nature, thereby creating inconsistencies and conflicts in classification systems.³⁹ In addition, the U.S. Army Corps of Engineers' ("the Corps") classification of wetlands is used to determine which areas fall within its regulatory jurisdiction under section 404 of the CWA.⁴⁰ The Corps's system,

31. DENNISON & BERRY, *supra* note 5, at 5.

32. *Id.*

33. WIS. STAT. ANN. § 23.32(1) (West 1998).

34. *See* KUSLER & OPHEIM, *supra* note 3, at 18. *See also* Johnson, *supra* note 9, at 504-06 (telling a story of an East Texas town whose landfill became a federally recognized wetland when a portion of it had standing water and vegetation in it). *But see* DENNISON & BERRY, *supra* note 5, at 154-55 (explaining that "[a]rtificial wetlands intentionally or accidentally created by human activities are exempted under the Corps regulations or policies are not intended to be included as wetlands using the 1987 Corps manual.")

35. *See* DENNISON & BERRY, *supra* note 5, at 6.

36. *See id.*

37. *See id.*

38. *See id.*

39. *See id.*

40. *See id.* at 153. *See also* Pamela H. Schaefer, *Coordination of State, Federal and Local*

however, only serves to distinguish between those wetlands that relate to interstate commerce and those that do not.⁴¹

Wisconsin has developed a classification system as well.⁴² This system of classification delineates wetlands in the state first by class (e.g., forested, upland), second, by subclass (e.g., mud, organic), third by hydrologic modifier (e.g., river, lake) and if necessary, fourth by a special modifier (e.g., farmed, excavated).⁴³ This guide also explains generally what areas are included in the mapping classification system and what areas are not.⁴⁴

B. Why Wetlands Need Protection

1. Wetland Values

Unlike the bleak image that has been traditionally linked to swamps, bogs and marshes, wetlands offer many economic, medical, recreational and environmental values.⁴⁵ However, wetland values went unrecognized for the most part during America's development and were often considered undesirable.⁴⁶ Thus, many "swamps" were logged for timber or drained for agricultural and residential development.⁴⁷ In fact, most of America's airports, and many of its prisons, sporting stadiums and landfills stand upon what once were thriving wetlands.⁴⁸

In reality, wetlands are a continually renewable natural resource which provide many benefits.⁴⁹ For example, they house rare and

Requirements Applicable to Wetlands, in KEY ISSUES IN WETLANDS REGULATION IN WISCONSIN 7, 12-14 (1995).

41. See DENNISON & BERRY, *supra* note 5, at 218-20.

42. See WISCONSIN DEPARTMENT OF NATURAL RESOURCES, WISCONSIN WETLAND INVENTORY: CLASSIFICATION GUIDE, PUBL-WZ-W203 (Feb. 1992).

43. See *id.*

44. See *id.*

45. See DAVID SALVESEN, WETLANDS: MITIGATING AND REGULATING DEVELOPMENT IMPACTS 14 (Urban Land Institute 1990). "Even the names we gave wetlands, like the Great Dismal Swamp along the Virginia - North Carolina border, conjure up images of a gloomy, dreadful wasteland." *Id.*

46. See *id.*

47. See *id.* In the late 1800's and early 1900's Wisconsin's swamps were logged for timber production. "Daylight in the swamps" was the call that echoed across Wisconsin logging camps to awaken the lumberjacks for the day. See ROBERT E. GARD & L.G. SORDEN, WISCONSIN LORE 59-62 (Heartland Press 1987).

48. See SALVESEN, *supra* note 45, at 14.

49. See Rubin, *supra* note 19, at 461; Whitsitt, *supra* note 21, at 445.

Wetlands provide many vital watershed benefits, including: (1) habitats for fish,

diverse species of animals and plants that can be studied and learned from and even economically exploited.⁵⁰ In addition, they act as sponge-like reservoirs during torrential rain storms and fast snow melts, thereby assisting with flood control.⁵¹ They also act as filtration systems for our water supplies and improve its quality by filtering out silt and toxins.⁵² Wetlands have recreational benefits⁵³ as well: canoeing, kayaking, hunting, hiking, fishing and animal watching.⁵⁴ Moreover, they produce natural resources and food for consumption, such as fertilizer, rice, fish and shellfish.⁵⁵ Several Wisconsin commercial industries rely on wetlands for their productivity: fisheries,⁵⁶ wild rice growers,⁵⁷ and

waterfowl and other life, including endangered species; (2) flood conveyance and storage; (3) groundwater recharge; (4) sediment control; (5) nutrient removal; (6) barriers to waves and erosion; (7) timber production; (8) recreation; (9) education and research; and (10) food production.

Id. See also DENNISON & BERRY, *supra* note 5, at 54-65; KUSLER & OPHEIM, *supra* note 3, at 5-9; Johnson, *supra* note 9, at 499-503.

50. See Rubin, *supra* note 19, at 462. For example, the creation of many of our modern medicines comes from such plants. In addition, DNR scientists recently discovered a rare species of dragonfly that "could serve in the future as a marker for global climate change." WISCONSIN DEPARTMENT OF NATURAL RESOURCES, *New Dragonfly Species Found in Wisconsin*, WISCONSIN DNR NEWS & OUTDOOR REPORT, at 8, (June 22, 1999) available in <<http://www.dnr.state.wi.us>>. The DNR explained that

"[t]his is a reminder that there is much we don't know about certain habitats in the state and the existence of the species in Wisconsin The bottom line is there are certain types of habitat, like the muskeg bog area where we collected this dragonfly, where we just haven't done much sampling. Some of these under-collected areas need more attention so we know what species we have that need protection." . . . The species is not a "generalist," [so] it must have the northern boreal forest and large muskeg bogs . . . to survive. It wouldn't survive in other types of habitat.

Id.

51. See Rubin, *supra* note 19, at 462.

52. See *id.*

53. A unique recreational use of a wetland exists in Cedarburg, Wisconsin. See Katherine Esposito, *Fairways in the Rough*, WISCONSIN NATURAL RESOURCES MAGAZINE, Aug. 1998, at 9. The Cedarburg Bog Golf Course is built around a rare wetland. See *id.* It was constructed to preserve the wetland it surrounds and it is managed and maintained in that manner as well. See *id.*

54. See Rubin, *supra* note 19, at 462.

55. See *id.*

56. See Bob Riepenhoff, *Northern Pike Spawning Areas Hold Key to Future: West Side of Green Bay Has Important Wetlands*, MILWAUKEE J. SENTINEL, March 28, 1999, at C20.

57. See Meg Jones, *Up North, Tradition's in the Grain with Ancient Methods, Ricers Gather the Food that Grows on Water*, MILWAUKEE J. SENTINEL, Oct. 3, 1999, at B1.

cranberry growers.⁵⁸

Wetlands absorb and retain sunlight and filter out minerals from the water that passes through them, thereby creating a nutrient rich ecostructure.⁵⁹ Farmers who drain and convert wetlands to farmland obtain bountiful harvests.⁶⁰ Furthermore, wetlands provide shelter to wildlife and plant species, nesting grounds and rest stops for migratory birds and homes and spawning grounds to varieties of fish and amphibians.⁶¹ Wetlands also provide game for hunters and fish for fishermen.⁶² Furthermore, pollutant run-off from overly used wetlands into adjacent watersheds can adversely affect commercial fishing industries.⁶³

2. Wetland Losses

In the past few decades, Americans have begun to realize the value of wetlands and have instituted some wetland preservation programs.⁶⁴ However, many wetland acres still go unregulated and as a result are either developed or degraded by deleterious activities around them.⁶⁵ The FWS "estimates that over 50 percent of U.S. wetlands have been destroyed during the last two centuries."⁶⁶ Most of those original 225 million wetland acres were converted to farmland, leaving only eight

58. Wisconsin is the number one cranberry producer in the nation. See Meg Jones, *A Record Bounty in the Bogs Harvest, Markets Again Smile on State's Cranberry Growers*, MILWAUKEE J. SENTINEL, Oct. 20, 1998, at 1A. "Wisconsin has been atop the cranberry heap for four straight years, ahead of Massachusetts." *Id.*

59. See SALVESEN, *supra* note 45, at 14.

60. See *id.*

61. See *id.* at 15.

62. See *id.*

About two-thirds of U.S. shellfish and commercial sports fisheries rely on coastal marshes for spawning and nursery grounds. In the Southeastern coastal region, for example, over 95 percent of commercial and over 50 percent of recreational fish and shellfish harvests consist of species that depend on estuaries, which are closely linked with coastal wetlands, for all or part of their life cycles. In Louisiana, approximately 75 percent of all commercial marine species, including shrimp and menhaden, rely on coastal marshes and estuaries for part of their life cycle. The state's annual seafood catch is worth about \$170 million.

Id.

63. See *id.*

64. See *id.* at 18.

65. See *id.*

66. *Id.* See also DENNISON & BERRY, *supra* note 5, at 67.

percent of those acres lost to urbanization.⁶⁷ However, urbanization claimed over 90 percent of coastal wetland losses.⁶⁸ Pollution and indiscriminate logging are two examples of other activities that lead to substantial wetland destruction.⁶⁹ Wetland loss estimates are difficult to assess, perhaps because of a combination of the rate of loss (they are developed before they can be counted) and the difficulty in identifying them (definitions and classifications of wetlands are numerous and inconsistent); thus, a view of what land in America remains as wetlands terrain is unclear.

Nevertheless, the FWS has attempted to estimate the amount of wetland losses in our country.⁷⁰ Over the course of America's history, over 100 million acres of wetlands in the continental United States have been filled in and presently, over 140,000 acres of wetlands are destroyed per year.⁷¹ In Wisconsin, for example, out of the ten million original wetland acres, 32% have been diminished, leaving 6.75 million acres untouched as of 1984.⁷² Connecticut, Louisiana and Minnesota have lost about half of their original wetland acres (30,000, 18.4 million and 11.3 million respectively).⁷³ Out of the original 8.3 million wetland acres in Illinois, only 918,000 acres remain.⁷⁴ Iowa has converted ninety-nine percent of its wetlands into farmland, followed by Nebraska which developed ninety-one percent of its wetlands for farming.⁷⁵ Out of

67. See SALVESEN, *supra* note 45, at 18.

68. See *id.* "Urban development has caused almost two-thirds of Delaware's total wetlands losses. California has lost over 90 percent of its original wetlands. At one time, there were an estimated 200,000 acres of coastal marshes in the San Francisco Bay Area. Today, less than 40,000 acres remain." *Id.*

69. See KUSLER & OPHEIM, *supra* note 3, at 3. See also DENNISON & BERRY, *supra* note 5, at 69-70 (listing other causes of wetland losses, direct and indirect).

70. See SALVESEN, *supra* note 45, at 19 (providing a table of wetlands losses in various states from Ralph W. Tiner, Jr., U.S. Fish and Wildlife Service, *Wetlands of the United States: Current Status and Recent Trends*, National Wetlands Inventory Project (Washington D.C.: U.S. Department of the Interior, Fish and Wildlife Service, March 1984, p. 34)).

71. See Jonathan H. Adler, *Wetlands, Waterfowl, and the Menace of Mr. Wilson: Commerce Clause Jurisprudence and the Limits of Federal Wetland Regulation*, 29 ENVTL L.J. 1, 21-22 (1999).

72. See *id.* SALVESEN, *supra* note 45, at 19.

73. See *id.*

74. See DENNISON & BERRY, *supra* note 5, at 68. "Between 6,000 and 9,000 acres per year are lost to development and agricultural conversion in Illinois, and only about 6,000 acres of Illinois wetlands are still of high quality." *Id.*

75. See SALVESEN, *supra* note 45, at 19. Many farmers are now trying to convert farm land back to its natural state or offer it up for residential use because it is not economically prudent to continue to farm certain areas, for example steep hills and valleys. See *id.* Wisconsin is also looking to convert back some of its farmland. See Marv Balousek, *Falk's*

California's original five million wetland acres ninety-one percent of them are gone.⁷⁶ Draining and ditching has destroyed over sixty-seven percent of the initial 3,600 square miles that form the Florida Everglades.⁷⁷ Total annual wetland loss estimates are inconsistent. "The U.S. General Accounting Office estimated annual wetlands losses at 300,000 to 500,000 in 1988."⁷⁸ However, other sources have estimated the rate of loss at only 80,000 per year.⁷⁹

Notwithstanding the statistics, it is apparent from the adverse effects of wetland loss that conservation is imperative to prevent further environmental detriment. For example, loss of wetlands has created more property damage through mudslides and floods, less clean ground water resources, and lost habitat upon which many commercial industries rely.⁸⁰ Private wetland mitigation banking programs may be, therefore, the most promising conservation alternatives extant to address the problems faced because of lost wetland terrain.

III. WETLANDS MITIGATION BANKING

A. What is Mitigation?

Wetland mitigation is a process whereby wetland values that have been lost or degraded are restored through compensatory efforts.⁸¹ "Mitigation banking is a kind of transferable development right program that enables a developer to create, restore, or enhance wetlands to compensate for future projects that will destroy other

Farmland Plans Stir Criticisms: Developers Say Two Programs Proposed by the Dane County Executive Would Drive Up the Cost of Housing, WIS. STATE. J. (Madison), June 7, 1998, at 1C. Wisconsin's farmland mitigation program mimics the federal wetlands mitigation policy in that developers will be required "to protect one acre of farmland for every acre that has converted to non-agricultural uses." Mike Ivey, *Market Demands Pose Obstacle for Design Dane!*, MADISON CAP. TIMES (Wisconsin), May 26, 1998, at 1C.

76. See Schiffer & Heep, *supra* note 2, at 592.

77. See Charles H. Rather, *Should Preservation be Used as Mitigation in Wetland Mitigation Banking Programs?: A Florida Perspective*, 48 U. MIAMI L. REV. 1133, 1141 (1994).

78. Blumm, *supra* note 12, at 205-06 n.19. See also Robert D. Sokolove & P. Robert Thompson, *The Future of Wetland Regulation is Here*, 32 REAL EST. L.J. 78, 79 (1994).

79. See Schiffer & Heep, *supra* note 2, at 592.

80. See Part II B-1 *supra*.

81. See DENNISON & BERRY, *supra* note 5, at 319. "Compensatory mitigation is the re-establishment, restoration, enhancement, or creation of a wetland for the purpose of compensating for unavoidable adverse impacts to a wetland after all appropriate and practicable avoidance and minimization has been achieved." Reinartz, *supra* note 6, at 1.

wetlands."⁸² It is a market-based, economic approach that involves the purchase of tax credits by a developer from a private mitigation bank.⁸³ Once a developer receives a permit to fill in a wetland from the government regulator (e.g., the Corps) and has shown that further wetland loss cannot be avoided or lessened, he must then buy credits from a wetland preservation group.⁸⁴ A mitigation banking firm restores, preserves or creates other off-site wetland areas (although as part of the same watershed), computes the cost of doing so and then compensates for its costs by using the money it receives from tax credits it has sold to developers.⁸⁵

The amount of credits a developer will purchase depends on the wetland being degraded and the wetland being restored.⁸⁶ In situations where the quality of the substitute wetland acreage is not comparable to the destroyed wetland, the Corps will

implement its leveraged mark-up policy where wetlands acreage is quantitatively increased, not merely maintained. In effect, this policy attempts to balance the qualitative loss of wetlands to an ecosystem with a gain in quantity through a creation of new wetlands. Therefore, conservation policies such as mitigation banking are particularly important to commercial and residential developers because credits from newly created wetlands may be purchased and substituted to offset destruction of existing wetlands.⁸⁷

Essentially two groups, state departments of transportation and major developers, have, to date, taken advantage of wetland mitigation banking projects, through mostly federal, but some state wetland mitigation laws.⁸⁸ Several states have implemented state mitigation

82. Blumm, *supra* note 12, at 226.

83. See Lawrence R. Liebesman and David M. Plott, *The Emergence of Private Wetlands Mitigation Banking*, 13 NAT. RESOURCES & ENVTL. 341 (Summer 1998). See also JoAnne L. Dunc, *Economic Incentives: Alternatives for the Next Millennium*, 12 NAT. RESOURCES & ENVTL. 292, 293 (Spring 1998). For other examples of economic incentives advocated by economists to address environmental problems see *id.* Dunc provides a brief description of air emission trading and water transfers, historic preservation tax credits, and conservation easements, agriculture and brownfields.

84. See Whitsitt, *supra* note 21, at 443; Johnson, *supra* note 9, at 498.

85. See Whitsitt, *supra* note 21, at 443.

86. See Johnson, *supra* note 9, at 498.

87. See *id.* at 498-99.

88. See Liebesman & Plott, *supra* note 83, at 341.

projects; however, the majority have not.⁸⁹ The Environmental Law Institute reported that almost seventy-five percent of existing mitigation banks were used for highway and harbor development.⁹⁰

B. How Mitigation Protects Wetlands

Mitigation protects wetlands in three ways. First, it provides an incentive for landowners with wetlands on their property to maintain the wetlands.⁹¹ It financially compensates wetland property owners who want to develop their land, but cannot obtain a permit to do so.⁹² Wetland property owners can preserve, enhance or restore their wetlands and then sell tax credits to developers in other areas who need to purchase tax credits as part of their permit requirement.⁹³

Second, it prevents takings litigation by developers.⁹⁴ Mitigation allows the government to control the use of the property without voiding it of all its purpose and function, thereby infusing the wetlands with economic value.⁹⁵ These programs permit some wetland loss, but only if the impact on the watershed is minimal and the wetland is considered low-grade, thereby satisfying the federal permitting process.⁹⁶ Third, mitigation banking restores high-grade wetlands that have been polluted or degraded, preserves healthy and functional wetlands in existence and even enhances wetland areas to promote their expansion and growth.⁹⁷

C. Types of Mitigation

Wetland mitigation comes in two forms, on-site or off-site and it is

89. See DENNISON & BERRY, *supra* note 5, at 71. "Approximately 27 states have laws which protect wetlands in some fashion (some are called 'wetland' protection laws, but many are not). Some states have laws which provide greater protection for wetlands than federal laws, but most do not." *Id.* For a list of those states that have enacted compensatory wetland mitigation banking programs, see *supra* note 7.

90. See Liebesman & Plott, *supra* note 83, at 341.

91. See Dunec, *supra* note 83, at 294.

92. See *id.*

93. See *id.*

94. See Whitsitt, *supra* note 21, at 443.

95. See *id.* By allowing property owners to sell wetland bank credits due to preserving a wetland on their property, they will not be deprived of all the economic use of the property, thereby satisfying Penn Central. See *id.* at 453.

96. See Michael Rolland, *The Systemic Assumptions of Wetland Mitigation: A Look at Proposed Wetland Mitigation and Mitigation Banking Regulations*, 7 TUL. ENVTL. L.J. 497, 508-10 (1994).

97. See William W. Sapp, *The Supply-Side and Demand-Side of Wetlands Mitigation Banking*, 74 OR. L. REV. 951, 978-980 (1995).

managed in three different ways, developer banks, public banks and private banks.⁹⁸ On-site mitigation forces the developer to (a) hire another who is in the business of environmental restoration, (b) monitor the growth and stability of the on-site wetland creation project, and (c) pay for added costs of the permit requirement.⁹⁹

The problem with this type of mitigation is that the developer is usually not in the business of environmental restoration, nor does he have an interest in doing so directly.¹⁰⁰ Most developers are more interested in the ultimate goal of transforming the land to reap its economic benefits than worrying about environmental mitigation after their primary goal is reached.¹⁰¹ Furthermore, these small wetlands and piecemeal efforts do not promise to sustain wetland areas over time.¹⁰² However, the Environmental Protection Agency ("EPA") and the Corps prefer on-site mitigation because it occurs within the same watershed as the impacted wetland thereby lending to the no-net-loss theory (discussed in Part VB *infra*).¹⁰³

Off-site mitigation allows a developer, the government or a private entity, to establish a new wetland or improve a degraded wetland not on the property being developed.¹⁰⁴ If a developer uses an off-site bank it is only to satisfy his permitting requirements.¹⁰⁵ Commercial off-site banks, both public and private, carry the burden of managing and continuing the bank; thus, developers do not have to ensure the success of the wetland.¹⁰⁶

1. Developer Banks

These banks, also called "single-user" banks,¹⁰⁷ make up the majority of the mitigation banks in existence.¹⁰⁸ Only one developer will "use"

98. See Whitsitt, *supra* note 21, at 443, 454-57.

99. See Sokolove & Thompson, *supra* note 78, at 82.

100. See *id.*

101. See *id.* at 85-86.

102. See Whitsitt, *supra* note 20, at 459-60. See also DENNISON & BERRY, *supra* note 5, at 302.

103. See Whitsitt, *supra* note 21, at 459.

104. See *id.* at 443.

105. See *id.*

106. See *id.* at 455-57. See also Sokolove & Thompson, *supra* note 78, at 85.

107. Whitsitt, *supra* note 21, at 454.

108. See Whitsitt, *supra* note 21, at 454-455. "According to a 1994 survey and analysis of mitigation banks conducted by the Institute for Water Resources, single public or private entities developed and used over ninety percent of the forty-four mitigation banks in operation." *Id.* See also, Liebesman & Plott, *supra* note 83, at 341.

the bank – the one that creates it.¹⁰⁹ Primarily only wealthy, large developers use them because they are very expensive to create, run and manage.¹¹⁰ This form of mitigation is criticized because the expense involved is so high that only certain developers can benefit from it, leaving others without a means of mitigation.¹¹¹ In addition, "[t]he prevalence of single-user banks has constrained the ability of other types of mitigation banking to improve the economic efficiency and environmental effectiveness of wetland regulation because only a single developer who can make the large, up-front investment will receive the benefits of such a bank."¹¹² However, these banks do have benefits.¹¹³ Using this type of bank can quicken the permit application process for a developer.¹¹⁴

2. Public Banks

The government owns and manages public banks.¹¹⁵ Unlike developer banks, more than one permit applicant can benefit from this type of bank.¹¹⁶ A developer purchases credits from the bank to provide for his compensatory permit requirement.¹¹⁷ These banks benefit those development projects where on-site mitigation would be futile or impossible.¹¹⁸ However, most of these banks can only be used for certain wetland impacts.¹¹⁹ These banks are also expensive to start and governments have trouble finding upstart monies.¹²⁰ In addition, critics scrutinize how the government spends the money that it earns from such selling credits.¹²¹

3. Private Banks

Private wetland mitigation banking has existed since the early 1980's,

109. See Whitsitt, *supra* note 21, at 454.

110. See *id.* at 454-55. The user can be a public or private entity. See *id.*

111. See *id.*

112. *Id.* at 455.

113. See *id.* at 454.

114. See *id.* at 455.

115. See *id.*

116. See *id.*

117. See *id.* at 443.

118. See *id.* at 455-56.

119. See *id.* at 456 (giving an example of highway expansion or government funded projects that impact wetlands).

120. See *id.* at 455.

121. See *id.* at 456.

but remains a controversial practice.¹²² Private wetland mitigation bank sites must be approved by the Corps and the EPA and in theory work much the same as single-user and public commercial banks.¹²³ Even though, the mitigation does not occur on-site, it does occur within the same watershed thereby achieving the goal of no-net-loss (discussed *infra* in section VB).¹²⁴ The government regulates private mitigation banking; however, the banks are owned by private entities, either non-profit or for-profit.¹²⁵ Once all the credits in the bank have been sold, the land is then held in perpetuity by the government or a conservation group.¹²⁶

IV. THE CONTROVERSY SURROUNDING WETLANDS MITIGATION BANKING

A. *The Pros*

Unfamiliar to many other environmental conservation efforts, mitigation banking conserves and protects land without robbing the resource of its economic values. In fact, it can be a highly lucrative endeavor.¹²⁷ Credits from a successful bank in Florida, for example, were sold for \$45,000.00 per acre.¹²⁸ Originally the acres were purchased for between \$7,000.00 and \$8,500.00 per acre, thus, the value of the land was increased over six times its original value.¹²⁹

With the last frontier essentially tackled and the need to use and allocate space and land in the most efficient way, mitigation banking allows for the most productive and efficient wetlands to remain intact while low grade wetlands that do not contribute to the watershed are developed.¹³⁰ Conservation efforts will be spent on high-grade wetlands that can have a substantial impact on the area in which they exist.¹³¹ The type of wetlands that are preserved then becomes the focus of a mitigation project rather than the size.¹³² Once small high value

122. See DENNISON & BERRY, *supra* note 5, at 298.

123. *See id.*

124. See Sokolove & Thompson, *supra* note 78, at 85.

125. See Whitsitt, *supra* note 21, at 456-57.

126. See Sokolove & Thompson, *supra* note 78, at 85.

127. See Liebesman & Plott, *supra* note 83, at 344.

128. *See id.*

129. *See id.*

130. See Sokolove & Thompson, *supra* note 78, at 83.

131. See Whitsitt, *supra* note 21, at 460-62.

132. *See id.*

wetlands are recognized they can be expanded into larger high value wetlands.¹³³

Furthermore, wetlands under such a program are created or restored elsewhere prior to the destruction of the permitted on-site wetland.¹³⁴ Thus, wetland loss occurs after other wetlands have been expanded, restored or created, thereby creating a no-net-loss system of wetland management in real time.¹³⁵ Developers have long advocated for more flexibility in the permitting process with regard to state wetland management.¹³⁶ Private mitigation banks would provide such flexibility.¹³⁷ In addition, banking can relieve the burden that developers bear by allowing experts to run the wetland preservation.¹³⁸ Overextended state agencies can also benefit from third party wetland management efforts.¹³⁹ Many developers endorse mitigation banking not only for the flexibility, but also because mitigation centralizes conservation efforts into large, high-grade wetland areas rather than small piecemeal projects.¹⁴⁰ Developers endorse third party larger mitigation projects because they are less expensive in the long run, easier to manage and more successful than traditional developer driven mitigation – again, because creation occurs before the loss takes place.¹⁴¹

In addition, adopting such a program would allow the creation of high quality wetlands to be controlled and run by those people who are qualified to do so and not by developers whose priority is development, not long-term wetland restoration and preservation.¹⁴² The developer only pays for tax credits to develop the wetlands and a mitigation banking firm is responsible for the process of maintaining, preserving, restoring or creating a wetland in another area.¹⁴³ Moreover, the bank, not the developer, is responsible for the long-term management of the wetlands.¹⁴⁴ Thus, a private mitigation firm, for example, a conservancy group, in the business of environmental preservation, has access to

133. See Sokolove & Thompson, *supra* note 78, at 83.

134. See Whitsitt, *supra* note 21, at 461.

135. See *id.*

136. See Blumm, *supra* note 12, at 228.

137. See Whitsitt, *supra* note 21, at 462.

138. See Sokolove & Thompson, *supra* note 78, at 82.

139. See Blumm, *supra* note 12, at 228.

140. See *id.* at 226.

141. See *id.* at 226-227.

142. See Sokolove & Thompson, *supra* note 78, at 82. See also Rolland, *supra* note 96, at 510-11 (citing to *Dufau v. United States*, 22 Cl. Ct. 156 (1990)).

143. See *id.*

144. See *id.*

environmental experts and can easily maintain the wetland bank on a long-term basis.¹⁴⁵

Communities also would not have to spend time and money developing intensely intricate and expensive storm water and sewer systems.¹⁴⁶ For example, the worst rainstorm in its history inundated Mequon, a Northern Milwaukee suburb, with 8-10 inches of water in less than 8 hours.¹⁴⁷ In response, the City Council and the Mayor developed a plan of recommendations to address the sewer system's incapacity to withstand the magnitude of rain that it received.¹⁴⁸ Those recommendations included primarily extensive sewer and drainage construction,¹⁴⁹ much of which could be alleviated by recreating wetlands and restoring degraded wetlands which naturally control water flowage.¹⁵⁰ Torrential rainstorms are and have always been common to certain areas; the damage caused is due to urban sprawl and development that does not take into account the need for naturally occurring flood controls. It is interesting that a municipality's response to a large rainstorm is to construct bigger and better drainage systems when recreating (or not destroying in the first place) the environment's natural state would probably suffice. However, the guidelines that the Wisconsin Department of Natural Resources ("DNR") follows when it does mitigation do not provide credits for construction of stormwater or wastewater treatment facilities.¹⁵¹

145. *See id.*

146. *See, e.g., A City of Mequon Informational Letter: Mequon's Worst Rainstorm*, CITY OF MEQUON COMMUNITY NEWS (Mequon, Wis.) 1997.

147. *See id.*

148. *See id. See also Paul Gores, Officials to Meet DNR Chief Over Flood Remedies: Elm Grove, Brookfield Want to Know if Control Efforts Will Get State's Approval*, MILWAUKEE J. SENTINEL, Sept. 18, 1998, at 6B (providing another example of a suburb of Milwaukee which found that its flood controls were not adequate in the face of a ten inch dump of rain and whose Mayor sees sewer infrastructure expansion as the only way to prevent future property damage from floods).

149. *See City of Mequon Community News, supra* note 146. Some of the recommendations included, "improvements to the City's existing drainage systems;" further development of the "Stormwater Master Plan;" the reconstruction of damaged sewer lines; "use of a private contractor and/or Public Works crews for increased emphasis on roadside ditch and drainage maintenance; and, correction of numerous drainage problems around the City." *Id.*

150. *See DENNISON, supra* note 5, at 63-65.

151. *See Guidelines for Wetland Compensatory Mitigation in Wisconsin*, Prepared by the Wisconsin Department of Natural Resources with concurrence of the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, the U.S. Environmental Protection Agency, and the USDA Natural Resources Conservation Service (Draft August 3, 1998) (written by an advisory committee created by the DNR as requested by the Natural Resources Board to

In contrast, some states have compared the cost of artificially versus naturally maintaining the health, welfare and safety of their citizens and found that conservation can be economically wise. For example, "New York City . . . calculated that building a water treatment plant would cost between six and eight billion dollars."¹⁵² So, "[i]nstead, the city [decided to] spend 1.5 billion dollars to keep development from overwhelming the Catskill and Delaware watersheds, which have filtered its water naturally for decades."¹⁵³

In theory, private wetland mitigation banking has the potential to create wetland acreage gains. This can happen if the permitting process for developing wetlands remains strict and the program regulates high value wetland areas regardless of size and prevent general permitting by the Corps. However, at least at the federal level, wetland mitigation is only triggered during the permit process when wetlands over two acres in size are impacted and the activity is not an exempted one.¹⁵⁴ Thus, states should consider enacting laws that authorize their agencies to get involved with wetland preservation and conservation efforts to prevent those wetlands from going unregulated.

B. The Cons

Wetlands mitigation banking is controversial because people think that the permitting process for filling in wetlands will be lowered, and it will thus, be too easy for a developer to destroy rare habitats. In Wisconsin, the Sierra Club and Wisconsin's Environmental Decade are opposed to a wetlands mitigation banking policy because they fear that it will be inconsistent with other legislation that protects the water quality of the state's wetlands.¹⁵⁵ Wisconsin's wetland water quality standards require that no "significant adverse impact[s]" affect the functional capacity of the resource.¹⁵⁶ These groups fear that a mitigation program would remove necessary water quality protections

draft uniform rules to guide the current and future mitigation permit process in Wisconsin) (copy of the draft guidelines on file at DNR) [hereinafter *Wisconsin Mitigation Guidelines*].

152. Virginia Morell, *In Search of Solutions*, NAT'L GEOGRAPHIC, Feb. 1999, at 72, 80.

153. *Id.*

154. See Part VB *supra*.

155. See *Sierra Club and Others Raise Flag Over Bills*, MADISON CAP. TIMES (Wisconsin), Apr. 27, 1998, at 1A. Other groups against the wetland mitigation banking act are the Wisconsin Waterfowl Association, Wisconsin Cranberry Growers Association, Wisconsin Builders Association and the Wisconsin Wetlands Association. See Don Behm, *Wetland Proposals Get Mixed Reception*, MILWAUKEE J. SENTINEL (Feb. 26, 1998), at 5.

156. See WIS. STAT. ANN. § 281.35(5)(d)(4), (d)(7)(c) (WEST 1999).

and not compensate for the true loss of the wetlands.¹⁵⁷

Some environmentalists have rightfully developed an aversion to supporting mitigation efforts because of the failed efforts of state compensatory mitigation programs generally.¹⁵⁸ Skeptics see the creation of a new conservation strategy, mitigation banking, as a risky investment into an unorganized and unregulated industry.¹⁵⁹ They believe that mitigation will create:

(1) off site mitigation that cannot replace many wetlands values which are site specific; (2) an excess of certain kinds of wetlands, such as marshes and shrub wetlands, because they are easier and cheaper to create than other wetlands types; and (3) issuance of fill permits based on wetlands creation when avoidance and minimization alternatives exist.¹⁶⁰

However, the consolidation of mitigation efforts into one project results in larger and more successful wetland preservation outcomes rather than small, unstable, or failed efforts.¹⁶¹ A mitigation banking program would alleviate many of the fears listed above by "reliev[ing] developers of creation, restoration, and management responsibilities" and placing those responsibilities on the shoulders of those who are motivated and knowledgeable to create, restore, and manage appropriately.¹⁶²

In addition, some think that these programs subject property owners to unfair restraints on their property.¹⁶³ "[C]urrently, a myth exists that wetlands protection is intrinsically without value and it comes only at the expense of economic development."¹⁶⁴ This harkens back to the notion that wetlands are worthless and without value. In addition, once an area is labeled a wetland "there is no clear method of land valuation."¹⁶⁵ Thus, although "appraising wetlands value and compensating landowners' losses are problematic," they are nonetheless

157. See *Environmental Groups Sound Alarm Over Bills*, MADISON CAP. TIMES (Wisconsin), Apr. 27, 1998, at 3A.

158. See Rolland, *supra* note 96, at 501.

159. See Royal C. Gardner, *Banking on Entrepreneurs: Wetlands, Mitigation Banking, and Takings*, 81 IOWA L. REV. 527, 557 (1996).

160. Blumm, *supra* note 12, at 227.

161. See Rolland, *supra* note 96, at 510.

162. Blumm, *supra* note 12, at 227.

163. See Rubin, *supra* note 19, at 459.

164. Schiffer & Heep, *supra* note 2, at 591.

165. Johnson, *supra* note 9, at 508.

"essential to wetlands conservation."¹⁶⁶

Moreover, compensating property owners for preserving their land carries a presumption that they have a right to develop their land and to prevent them from doing so would create a governmental taking without just compensation.¹⁶⁷ However, successful and established private mitigation banks make money, thus, properties with mitigation banks preserving wetland acreage will not be robbed of their economic value.¹⁶⁸ Furthermore, regulatory takings jurisprudence in Wisconsin provides that "a regulation must deny the landowner all or substantially all practical uses of a property in order to be considered a taking for which compensation is required."¹⁶⁹ Mitigation banking programs, to the contrary, increase the value of land.¹⁷⁰

Other opponents see mitigation as allowing for the destruction of long-standing, natural wetlands only to be replaced by new artificially created ones that may not be able to be sustained over time.¹⁷¹ However, comprehensive wetland mitigation banking programs include newly created wetlands on sites that are determined by scientists as capable of sustaining such habitat.¹⁷² If a high-grade wetland is preserved and enlarged, then an improved rather than diminished impact to the water system will result.¹⁷³ Furthermore, most banks occur on wetlands that already exist and mitigation comes in the form of

166. *Id.*

167. See Blumm, *supra* note 12, at 239-240; see also *Lucas v. South Car. Coastal Council*, 503 U.S. 1003 (1992). As Blumm notes, this latest Supreme Court decision regarding the takings theory demonstrates that courts do not intend to interpret property rights to include an inherent right to develop. See Blumm *supra* note 12, at 239-240. See also Humbach, *supra* note 2, at 354.

168. See Liebesman & Plott, *supra* note 83, at 344, 370-71; see also *supra* notes 127-29 and accompanying text.

169. Brian W. Ohm, *Towards a Theory of Wisconsin Regulatory Takings Jurisprudence*, 4 Wis. ENVTL. L.J. 173, 175 (1997) (quoting *Zealy v. City of Waukesha*, 201 Wis. 2d 365, 548 N.W. 2d 528 (1996)).

170. By increasing the value of wetland property through a mitigation banking program, a land owner can avoid lowering the value of his property from land use restrictions. See Christopher John Stracco, *Valuation of Wetlands for Property Taxation Purpose*, PROBATE & PROPERTY Mar./Apr. 1999, at 8 (explaining that restrictions on property from wetland preservation should be taken into account when assessing the value of a piece of land).

171. See Rolland, *supra* note 96, at 501. "The problem with mitigation banking is that it tends to result in the creation of those wetland types that are the easiest and cheapest to create, namely shrub wetlands, and marshes." DENNISON & BERRY, *supra* note 5, at 301. The hardest types of wetlands to establish are forested ones. See Liebesman & Plott, *supra* note 83, at 341.

172. See Sokolove & Thompson, *supra* note 78 at 82.

173. See *id.* at 83.

enhancement and restoration of the natural state.¹⁷⁴

V. CURRENT WETLAND REGULATION IN WISCONSIN

A. State Level Regulation

Presently, wetlands in Wisconsin are regulated through a mix of federal, state and local controls.¹⁷⁵ First, the Corps regulates the filling or dredging of any wetland that exists on waters which are considered federally navigable waters under the CWA.¹⁷⁶ When a developer applies for a permit to fill in wetland that exists in a federally regulated watershed, he must comply with the CWA unless he qualifies for a nationwide permit.¹⁷⁷ The CWA "generally requires compensatory mitigation if the wetland is over 2 [sic] acres in size."¹⁷⁸ A nationwide permit allows an activity to proceed without a permit regardless of its impact on a wetland.¹⁷⁹

In addition to the conditions the DNR has placed on nationwide permits, it can also veto any permit granted by the Corps under the CWA.¹⁸⁰ The state can exercise this power when it evaluates a federally granted permit.¹⁸¹ If the impact of the filling or dredging will affect the state's water quality standards, it can veto the permit.¹⁸² Wisconsin, taking a strict wetland conservation approach, has developed several conditions in which a general permit authorized through federal law will be deemed impermissible.¹⁸³

Second, the DNR also regulates some dredging activities and any

174. See Le Desma, *supra* note 10, at 511-12.

175. See Schaefer, *supra* note 40, at 9.

176. See *id.* (providing a definition of waters that fall under federal jurisdiction). See also 33 U.S.C. § 1344 (1994); 33 C.F.R. § 328.3 (1999). Schaefer explains that case law has determined that these waters include "wetlands adjacent to navigable waters, artificially created wetlands, and waters isolated from navigable waters. Even isolated wetlands which are separated from other waters may be considered navigable and thus subject to regulation by the federal government." Schaefer, *supra* note 40, at 14 (citations omitted).

177. See Reinartz, *supra* note 6, at 1.

178. *Id.*

179. See Schaefer, *supra* note 40, at 15. These types of activities range from maintenance to temporary recreational structures to surface mining to cranberry production to boat ramps. See *id.* at 15-18; Dennis L. Fisher, *Identification and Classification of Wetlands*, in KEY ISSUES IN WETLAND REGULATION IN WISCONSIN 49, 53-55 (1995); 33 C.F.R. § 330 (1999).

180. See 33 U.S.C. § 1341 (1994); 33 C.F.R. § 320.3(a)(1999); Blumm, *supra* note 12, at 229.

181. See Fisher, *supra* note 179, at 53-55 (1995).

182. See *id.*

183. See *id.*

other "activities which significantly impact wetlands."¹⁸⁴ The numerous water quality standards created by the DNR also provide it with the authority to regulate wetland development.¹⁸⁵ Third, a wetland can fall under local authority through zoning laws if it is larger than five acres.¹⁸⁶ To do this, the DNR created "wetland inventory maps" of all the wetlands in the state larger than five acres for zoning authorities to reference.¹⁸⁷ Wetlands which exist "in a 'Shoreland Zoning' area . . . [are] under State jurisdiction" and are regulated by the DNR.¹⁸⁸ However, the permitting process in Wisconsin does not extend authority to the DNR to consider mitigation as part of the permit requirement.¹⁸⁹ Currently, Wisconsin is losing wetlands because the DNR does not have the authority to include mitigation of wetlands in the permitting process.¹⁹⁰ "[B]etween 60 and 110 acres of wetland are lost each year in Wisconsin with no compensation because they are under 2 [sic] acres in size and fall under US 'nationwide permits' that have no compensation requirements."¹⁹¹ "In other words, . . . it would make good sense . . . to permit fill of small and degraded wetland areas if there was appropriate mitigation, but the DNR cannot now consider or require mitigation."¹⁹²

B. Federal Regulation

1. The Clean Water Act¹⁹³

Filling, dredging and development of wetlands was exempt from federal regulation until the 1970's.¹⁹⁴ During the onslaught of environmental legislation passed in that era, – none related to wetland management;¹⁹⁵ however, the federal government attained jurisdiction

184. Schaefer, *supra* note 40, at 9.

185. See Schaefer, *supra* note 40, at 23-27; Fisher, *supra* note 179, at 54. See also, e.g., WIS. STAT. ANN. § 30.12 (West 1998 & Supp. 1999).

186. See Schaefer, *supra* note 40, at 29.

187. See *id.* at 29-30.

188. Reinartz, *supra* note 6, at 1; Schaefer, *supra* note 40, at 9.

189. See Reinartz, *supra* note 6, at 1; Fisher, *supra* note 179, at 9.

190. See *id.*

191. *Id.* See also Don Behm, *DNR Wants Wetland Fund*, MILWAUKEE J. SENTINEL, Feb. 21, 1998, at 6B ("[S]maller projects facing no compensation requirement destroy up to 110 acres each year of marshes, bogs and swamps in Wisconsin.").

192. Reinartz, *supra* note 6, at 1.

193. 33 U.S.C. §§ 1344 (1994).

194. See DENNISON & BERRY, *supra* note 5, at 10.

195. See generally, e.g., Clean Water Act, 33 U.S.C.A. §§ 1344 et seq. (West 1985) (enacted in 1977 to stop pollution of and begin clean up of our nation's waterways); National

over wetlands through section 404 of the CWA.¹⁹⁶ The purpose of the CWA was "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."¹⁹⁷ Congress intended to limit the scope of the act to address activities that affect interstate commerce and not all bodies of water in the United States.¹⁹⁸ "Congress' primary concern was waters used in interstate commerce and waters that together form a 'hydrologic chain.'"¹⁹⁹ Courts have read the CWA to allow the Corps to regulate wetlands because they are considered waters of the United States.²⁰⁰ The CWA provides the Corps with jurisdiction over waters used in interstate commerce.²⁰¹

However, because no specific statute regulates wetlands, the EPA and the Corps battle over which agency has jurisdictional control over a wetland area.²⁰² The agencies have agreed to work together with regard to enforcement; however, which group has what regulatory control is still unclear.²⁰³ The United States Attorney General gave the EPA "the final administrative authority" for determining the reach of waters

Forest Management Act, 16 U.S.C.A. §§ 1600-1614 (West 1985 & Supp. 1999) (creating a system of managing the nation's renewable resources (1976)); Endangered Species Act 16 U.S.C.A. §§ 1531-1543 (1985 & Supp. 1999) (creating a conservation program for the habitat of endangered and threatened species (1973)); Wild, Free-Roaming Horses & Burros Act, 16 U.S.C.A. §§ 1331-1340 (West 1985 & Supp. 1999) (protecting the remaining wild and free-roaming horses and burros on public lands (1971)); National Environmental Policy Act, 42 U.S.C.A. §§ 4321-61 ((West 1994 & Supp. 1999) (establishing policy with regard to governmental actions that may have a significant impact on the environment (1969)); National Trails System Act, 16 U.S.C.A. §§ 1241-1249 (West 1985 & Supp. 1999) (designating a national system of trails and establishing the Appalachian Trail and the Pacific Crest Trail (1968)); National Wild & Scenic Rivers Act, 16 U.S.C.A. §§ 1271-1287 (West 1985 & Supp. 1999) (establishing a national system of free-flowing and scenic portions of the nation's remarkable riverways (1968)); National Wildlife Refuge Administration Act 16 U.S.C.A. §§ 668dd-ee (West 1985 & Supp. 1999) (consolidating conservation efforts managed by the Secretary of the Interior in to a cohesive system (1966); Wilderness Act, 16 U.S.C.A. §§ 1131-36 (1985 & Supp. 1999) (declaring that it is Congress's policy to ensure the future of our wilderness resources (1964); Multiple-Use, Sustained-Yield Act, 16 U.S.C.A. §§ 528-531 (1985 & Supp. 1999) (establishing a multiple use system in our national forests for recreation, range, timber watershed, wildlife and fish (1960).

196. See 33 U.S.C. § 1344 (1994); DENNISON & BERRY, *supra* note 5, at 10.

197. 33 U.S.C. § 1251(a) (1994).

198. See DENNISON & BERRY, *supra* note 5, at 218.

199. *Id.*

200. See DENNISON & BERRY, *supra* note 5, at 219. The court in *Natural Resources Defense Council, Inc. v. Callaway*, 392 F. Supp. 685, 686 (D.D.C. 1975) held that the Corps's jurisdiction under the CWA does not necessarily end when the body of water at issue is not "navigable." Thus, wetlands fall within the Corps's control. See *id.*

201. See DENNISON & BERRY, *supra* note 5, at 218.

202. See *id.* at 217.

203. See *id.* at 217-19.

subject to regulation under § 404.²⁰⁴ But the EPA also agreed to allow the Corps to continue to decide jurisdiction issues.²⁰⁵ The EPA will subvert the Corps' authority in special situations that involve technical or policy questions.²⁰⁶ In addition, while the Corps is responsible for granting or denying wetland activity permits, the EPA is responsible for the regulations that the Corps uses in its determinations.²⁰⁷ Furthermore, the EPA can veto a permit authorized by the Corps in special situations.²⁰⁸

The EPA and the Corps will not get involved with management of wetlands unless "destruction or degradation of the wetland could affect interstate commerce."²⁰⁹ The test for determining whether an activity affects interstate commerce is very broad,²¹⁰ thus, the EPA and the Corps have chosen to limit their exercise of authority over certain wetland domains.²¹¹ Nonetheless, prohibited discharges which theoretically affect interstate commerce include "any land-degrading activities that stir up and move around the surface of wetlands . . . , even if this displacement involves no more than soil and sediment from the roots of an uprooted tree falling to the ground."²¹²

In addition, the Supreme Court extended that authority to include any area adjacent to navigable waters or any isolated wetland so long as

204. *Id.* at 218.

205. *See id.*

206. *See id.*

207. *See id.* at 216. For an explanation of how the Corps processes applications for permits to fill or dredge wetlands within its jurisdiction see *id.* at 216-17, 227-52.

208. *See Farrier, supra* note 8, at 355. This power extends to any discharge that "will have 'an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas.'" *Id.* (citing 33 U.S.C. § 1344(c) (1988); 40 C.F.R. § 321 (1994)). However, "[a]s of mid-1994, the EPA had exercised its veto only eleven times since the legislation was enacted in 1972, and only twice since 1989." *Id.* at 358.

209. DENNISON & BERRY, *supra* note 5, at 218. "Congress never intended to regulate all wetlands as 'waters of the United States.'" *Id.* See also 40 C.F.R. § 230.3(s) (1999); 33 C.F.R. 328.3(a) (1999).

210. The *Pike v. Bruce Church* balancing test will strike down a law as unconstitutional if the burden it imposes exceeds the benefits. See *Pike v. Bruce Church Inc.*, 397 U.S. 137, 142 (1970). The Court explains that "[w]here the statute regulates evenhandedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits." *Id.* (citing *Huron Cement Co. v. Detroit*, 362 U.S. 440, 443 (1960)). Because it is a balancing test, this doctrine gives courts great latitude in determining whether an activity unduly burdens interstate commerce.

211. *See DENNISON & BERRY, supra* note 5, at 218.

212. Farrier, *supra* note 8, at 357 (citing 58 Fed. Reg. 45019 (1993)).

the activity affects interstate commerce.²¹³ "The Court reasoned that adjacent wetlands [c]ould 'affect the water quality of the other waters within that aquatic system,'" and thus, those that do should fall under federal jurisdiction.²¹⁴ Wetlands do not have to be directly connected to a water system to be considered adjacent.²¹⁵ If water from a wetland eventually flows into a watershed that is within federal jurisdiction and that watershed affects interstate commerce, then that wetland can be considered adjacent.²¹⁶ Isolated wetlands will fall under federal regulation if interstate commerce is affected by activity that occurs on the isolated waters.²¹⁷ However, "[i]n *Riverside Bayview Homes*, the Supreme Court specifically left open the question whether 'isolated wetlands' (that is, wetlands that do not have a hydrological connection to 'waters of the United States') are within the scope of jurisdiction under the § 404 Program."²¹⁸

The federal government will evaluate a permit to impact a wetland using the following criteria: (1) "avoidance," (2) "minimization," (3) "mitigation," and (4) "compensation."²¹⁹ Under "avoidance," a permittee must demonstrate that proposed impact to the wetland cannot be avoided by other feasible methods.²²⁰ "The crux of this test is whether a project's purpose and success depend upon its location at the proposed site."²²¹ If the impact cannot be avoided then it must be minimized.²²² Finally, mitigation and compensation require the permittee, as part of the permit approval, to replace or pay for the value of the lost wetland acreage.²²³ This evaluation process is called "sequencing."²²⁴

Under the traditional regime of compensatory mitigation developers are responsible for restoring, maintaining or creating the type of ecosystem they destroy during the development process once they have

213. See DENNISON & BERRY, *supra* note 5, at 219-21.

214. *Id.* at 219-220 (quoting *United States v. Riverside Bayview Homes*, 474 U.S. 121, 134 (1985)).

215. See *id.* at 220 (citing *Conant v. United States*, 786 F.2d 1008 (11th Cir. 1986)).

216. See *id.*

217. See *id.*

218. *Id.* at 221.

219. Rolland, *supra* note 96, at 505-06.

220. See Whitsitt, *supra* note 21, at 450.

221. *Id.*

222. See *id.* "This step often involves the development of alternative feasible design schemes that allow the project to function as proposed." *Id.*

223. See Rolland, *supra* note 96, at 505.

224. See Whitsitt, *supra* note 21, at 450.

shown that impact to the wetlands cannot be minimized.²²⁵ This is usually a requirement for receiving a permit to develop the land.²²⁶ "[W]etland restoration and creation are to be considered only *after* all possibilities for appropriate and practicable avoidance and minimization have been exhausted."²²⁷

Loopholes to the federal permitting process to impact wetlands exist. First, a developer can avoid the permitting process entirely if he demonstrates to the Corps and the EPA that no adverse impact will occur to the wetland.²²⁸ In addition, section 404 provides exemptions for "normal farming, silviculture, and ranching activities such as plowing, seeding, cultivating, minor drainage, and harvesting . . . or upland soil and water conservation practices."²²⁹

2. Clinton's Wetland Policy²³⁰

Clinton's wetland policy is essentially the same as the Bush Administration's wetland policy.²³¹ The main purpose of the plan entails a no-net-loss wetland acreage system.²³² A no-net-loss program means that the amount of wetlands in America cannot be diminished.²³³ This

225. See DENNISON & BERRY, *supra* note 5, at 295.

226. See Whitsitt, *supra* note 21, at 450-451; see also 42 U.S.C.A. §§ 4321-61. The National Environmental Policy Act provides that the regulatory agency must assess the impact that a federal action will have on the environment before allowing it to occur. See *id.* This is called an Environmental Impact Statement ("EIS"). See *id.*

227. DENNISON & BERRY, *supra* note 5, at 295.

228. See Whitsitt, *supra* note 21, at 451.

229. 33 U.S.C. § 1344(f)(1)(A).

230. See *The Administration's New Wetlands Policy: Hearing Before the Subcommittee on Environment and Natural Resources of the House Committee on Merchant Marine and Fisheries*, 103rd Cong., 103-62 (reviewing the details of the Administration's new wetlands policy). Clinton's plan is entitled "Protecting America's Wetlands: A Fair, Flexible, and Effective Approach." Blumm, *supra* note 12, at 203.

231. See generally Blumm, *supra* note 12, at 203-05.

[T]he Clinton plan actually offered very few changes in direction from the Bush Administration. Apart from revoking the revised wetlands identification manual proposed by the Bush Administration and dropping a Bush eleventh-hour, election-year proposal to ease wetlands development restrictions in Alaska, there was little or no 'protection' for wetlands in the Clinton plan that was not part of the Bush wetlands program.

Id. at 205.

232. See *id.*

233. See *id.*

still allows for development of certain lands; however, creation, restoration and enhancement of wetlands must occur simultaneously to prevent the net total wetlands from decreasing.²³⁴ Thus, state and local level wetland mitigation and conservation are essential to its success.

Many criticize Clinton's plan for not doing enough to change wetland regulation.²³⁵ One of the criticisms is aimed at the delegation of federal responsibility to state and local authorities.²³⁶ Critics claim that the goals of Clinton's plan are defeated by delegation to state and local control because in the short term while state's are developing strict regulatory control over wetlands the federal government is doing nothing, thereby leaving development of our wetland resources to go unchecked during the shift from federal to state regulatory control.²³⁷ This points to an even greater need for states, including Wisconsin, to adopt wetland conservation policies. The status quo demonstrates the gaping hole in regulatory control and, whether good or bad, Clinton's proposal requires action at the local level to be successful.²³⁸ Furthermore, Clinton's plan endorses private mitigation banking efforts as a good way to achieve its no-net-loss goals.²³⁹

VI. WISCONSIN'S PROPOSED LEGISLATION & OTHER STATE INITIATIVES

A. Wisconsin Assembly Bill 492

The Wisconsin DNR's frustration with its inability to adopt a wetlands mitigation banking policy prompted it to "ask[] the Natural Resources Board to direct the DNR to pursue legislation authorizing the DNR to develop a compensatory mitigation program for permitted wetland loss."²⁴⁰ Hence, Assembly Bill 492 was introduced.²⁴¹ This proposed legislation was a general grant of authority to the DNR through a line in the Department of Transportation's ("DOT") budget proposal introduced by Senate leadership.²⁴² The intent of the bill was to

234. *See id.*

235. *See id.*

236. *See id.* at 228-229.

237. *See id.*

238. *See id.*

239. *See id.*

240. *See Reinartz, supra* note 6, at 1.

241. *See* A.B. 492, 93rd Leg., Reg. Sess. (Wis. 1997) (assembly bill substitute 1).

242. Reinartz, *supra* note 6, at 1.

allow the DNR to create a program for wetlands mitigation banking through its adoption of administrative rules.²⁴³ Essentially this program would have allowed for the DNR to require mitigation when wetlands would be impacted.²⁴⁴ This would include allowing an applicant to purchase credits from a mitigation bank.²⁴⁵ The bill directed the DNR to promulgate rules that would "be at least as strict as federal law governing wetland compensatory mitigation, but the rules may not require more extensive wetland compensatory mitigation than is required by federal law."²⁴⁶ It was defeated because opponents were concerned that a general grant of authority would not provide enough guidance for the DNR to create a successful and comprehensive program.²⁴⁷

Wisconsin must act now – especially with the huge real estate boom and sprawl that the state is seeing. More and more strip malls, neighborhoods, and industries are replacing the country's prairies, forests, and wetlands.²⁴⁸ Economic growth is vital to state progress, but biodiversity and genetic diversity are also key components to success and survival.²⁴⁹

Wisconsin should adopt regulations to permit private entities to establish private wetland banks. High-grade wetlands under five acres in size could then be protected from general permitting. Furthermore,

243. *See id.*

244. *See id.*

245. *See id.*

246. A.B. 492, 93rd Leg., Reg. Sess. (Wis. 1997) (assembly bill substitute 1).

247. Telephone Interview with James Reinartz, Ph.D., Director, University of Wisconsin Milwaukee Field Station (Jan. 8, 1999).

248. *See SALVESEN, supra* note 44, at 18-20.

249. *See id.* at 304-05.

Nature conservation is increasingly being redefined in terms of biodiversity conservation—the protection of ecosystem and species diversity and genetic diversity within species. . . . The transition can be characterized as a movement away from simply valuing the contribution of nature to life-style and toward acknowledging biodiversity as vital to human life-support. . . . [I]n the future, biodiversity may be the source of new substances whose uses will benefit human beings, such as food and pharmaceuticals . . . [and] biodiversity is a source of current benefits, such as water purification, soil fertilization and ground-water recharge.

Id. at 304-05 (citations and emphasis omitted). *See also* Virginia Morell, *The Variety of Life*, NAT'L GEOGRAPHIC, Feb. 1999, at 6. "It's because of that all-too-real threat of extinction that many biologists are racing to understand the world's biodiversity. Already in many parts of the globe . . . habitats have been so altered that what is left is but a shadow of what once was." *Id.* at 26.

permits for low-grade wetlands should require preservation or enhancement of high-grade wetlands. By first including the smaller wetlands that are lost each year in the state's wetland inventory and requiring mitigation for high-grade wetland destruction regardless of size would ultimately result in a no-net-loss average system of wetland mitigation.

The majority of wetlands still exist in Wisconsin and private mitigation can restore degraded wetlands as well. If the state does not adopt a comprehensive program, those entities that establish banks will go unregulated and further inconsistencies will be added to wetland preservation.²⁵⁰ In addition, banks could differ in content and efforts creating failed, superficial attempts at preservation and creation. Although, the DNR will still ultimately be responsible for determining if the applicant passes the permit requirements, regulations are necessary to guide private entities and ensure that wetlands are built properly.

B. Wetland Mitigation Initiatives in Other States

Many states have recognized the need to protect wetland resources where wetlands are a dominant feature, for example, the Everglades in Florida, or the Chesapeake Bay in Maryland and Virginia, or the Puget Sound in Washington, or the Bayou in Louisiana. However, in states such as Wisconsin, where wetlands are merely common and not dominant, the need for preservation is just as great, but perhaps not as obvious.

In 1987 New Jersey adopted the first legislation creating a wetlands mitigation banking program.²⁵¹ The most comprehensive programs regulating wetland loss exist in California and Louisiana.²⁵² California has undertaken over one hundred mitigation projects; although aggressive, not all attempts have worked.²⁵³ Louisiana's flourishing 7,000 acre Tenneco Oil bank on the Gulf coastline offers future credits to developers.²⁵⁴

As of 1998, California has three functional mitigation banks in the

250. For example, the Washington-Ozaukee Land Trust ("WOLT") has proposed to marshal its funds and efforts into creating a wetlands mitigation banking firm which would regulate the development of wetlands within the Washington and Ozaukee counties. See Reinartz, *supra* note 6, at 1-2. But, not doubt efforts by other groups (e.g., developers, DNR, other preservation groups) would entail different designs.

251. See N.J. STAT. ANN. § 13:9B-15 (West 1991).

252. See Liebesman & Plott, *supra* note 89, at 341.

253. See *id.*

254. See *id.*

state and two that await final approval.²⁵⁵ California is in a unique situation because of its climate, landscape and loss of over ninety percent of its wetlands.²⁵⁶ Many of the soils suitable for a wetland have been developed – especially in the San Francisco Bay area.²⁵⁷ Furthermore, the desert and mountains that occupy much of the rest of the state make it impracticable or impossible to find appropriate wetland mitigation banking sites.²⁵⁸ However, the northern forests, coastline and canyons make practicable mitigation banking sites.²⁵⁹ Most of the problems with California's policy are technical and political and interagency conflicts have led to implementation problems.²⁶⁰

Maryland's law, enacted in 1996, was designed to deal with the especially sensitive and unique landscape which borders most of the state—the Chesapeake Bay.²⁶¹ Maryland's Nontidal Wetlands Protection Act was intended "to attain no net overall loss in nontidal wetland acreage and function and to strive for a net resource gain in nontidal wetlands over present conditions."²⁶² It is a very comprehensive piece of legislation in that it does not permit wetland loss without mitigation,²⁶³ however, it is only directed at nontidal wetlands recognized by the Corps and the EPA.²⁶⁴ Critics claim that Maryland's law is not comprehensive because many wetland types are excluded.²⁶⁵

Florida has reported unsuccessful attempts at mitigating wetland loss using a general compensatory mitigation program, one without mitigation banks.²⁶⁶ "[O]ne study in Florida indicated that only about one-quarter of projects undertaking compensatory mitigation successfully produced functional wetlands. Worse, more than one-third of the projects requiring compensatory mitigation as a permit condition

255. See Eric D. Stein, *Mitigation Banking: Challenges and Lessons Learned*, SC80 ALI-ABA 223, 225 (May 27, 1998) (Continuing Legal Education Course of Study).

256. See *id.*

257. See SALVESEN, *supra* note 45, at 18.

258. See Stein, *supra* note 255, at 225.

259. See *id.*

260. See *id.*

261. See Rubin, *supra* note 19, at 463. This article provides a thorough review of the successes and failures of Maryland's wetland preservation efforts through its mitigation banking program. See *id.*

262. MD. CODE ANN., ENVIR. § 5-902(b) (1996).

263. See *id.* See also Rubin, *supra* note 19, at 480.

264. See *id.* at 476-477.

265. See *id.* at 476, n.130. Rubin also criticizes Maryland for failing to achieve its goal of no-net-loss wetland acreage. See *id.* at 495.

266. See Blumm, *supra* note 12, at 227.

failed even to attempt compensation, and six in ten failed to satisfy the permit conditions.²⁶⁷ Florida has learned that moving to a private, for profit wetland mitigation banking system is a more rewarding policy.

VII. WETLAND MITIGATION BANKING GUIDELINES

One of the main reasons that Assembly Bill 492 was defeated in Wisconsin's last legislative session was because some feared that a general grant of authority to the DNR would give excessive or even abusive wetland control to the state.²⁶⁸ However, politics aside, the focus needs to turn to instituting a cogent and enforceable wetland conservation program because time is of the essence with regard to land development. Once wetlands are gone they are difficult if not impossible to replace, especially because getting those values back takes great effort, time and money. Wetlands that are filled or dredged for development are impossible to replace once a stadium or farm rests upon them. However, degraded wetlands can be built back up and pristine wetlands can be preserved and both types can be increased in acreage through private mitigation banking programs.

Many sources have published suggested guidelines to follow and important factors to consider when developing regulations for mitigation banking.²⁶⁹ The Corps' Institute for Water Resources listed seven relevant factors to include in a comprehensive mitigation banking program:

- (1.) Early sale of credits to facilitate a reasonable and timely return on capital;
- (2.) Banking agreements with regulatory agencies that establish bank standards for performance, monitoring, maintenance, and long-term management;
- (3.) Risk allocation for mitigation failure that is restricted to events within a credit supplier's control;
- (4.) Flexible mechanisms, such as higher trading ratios and performance bonds, for allocating liability in the event of failure;
- (5.) Rules to determine how credits will be defined and their

267. *Id.* (citations omitted)

268. Telephone Interview with James Reinartz, Ph.D., Director, University of Wisconsin Milwaukee Field Station (Jan. 8, 1999).

269. See, e.g., Liebesman & Plott, *supra* note 82, at 341-42; Kusler, *supra* note 3, at 137-42; Reinartz, *supra* note 6, at 2; Michael G. Le Desma, Note, *A Sound of Thunder: Problems and Prospects in Wetland Mitigation Banking*, 19 COLUM. J. ENVTL. L. 497, 504 (1994).

level assessed;

(6.) Flexible regulatory systems and avoidance of price controls to ensure consistency in mitigation requirements and a wiser market; and

(7.) Integration of mitigation banking with regional and local watershed planning initiatives.²⁷⁰

Other important criteria to include are adequate design of the project and appropriate site selection to lessen probability of failed attempts.²⁷¹ Educating the public about the value and importance of wetlands is another important guideline to include.²⁷² Furthermore, the goals and purposes of each mitigation bank should be clearly and precisely described to ensure that they are achieved.²⁷³

Wisconsin is in a good position to adopt legislation that allows for the establishment and management of private mitigation banks. The DNR already follows comprehensive guidelines when regulating a developer's compensatory mitigation requirement.²⁷⁴ The DNR created an Advisory Committee composed of various interest groups—environmental, real estate, commercial industry, federal, local, and Native American²⁷⁵—to aid in the drafting of comprehensive, state specific guidelines.²⁷⁶ The Committee worked for over two years to draft a comprehensive regulation.²⁷⁷ To get the support of the developers and environmentalists in the state, next time around, the legislature should propose a more specific and comprehensive bill that includes a specific purpose and other means of achieving its ends rather than a simple line in the state budget.²⁷⁸

270. Liebesman & Plott, *supra* note 83, at 341-42.

271. See Sokolove & Thompson, *supra* note 78, at 82.

272. See Dugan, *supra* note 8, at 46. Oregon has developed a public information program to increase public awareness of wetland values. See *id.* at 46-47.

273. See Le Desma, *supra* note 10, at 503-04. For an example of suggested language see *id.* at 504.

274. See *Wisconsin Mitigation Guidelines*, *supra* note 157.

275. See Letter from Scott Hausmann, Wetlands Team Leader, State of Wisconsin Department of Natural Resources, to Environmental Impact Coordinators, Water Management Specialists, GMU Water Leaders and Aquatic Habitat Experts (August 13, 1998) (on file with DNR).

276. See *id.*

277. See *id.*

278. In the future if a bill is passed that creates a private mitigation banking program the DNR in implementing its guidelines and such a program should follow Oregon's example and allow citizen participation at every step of the process of wetland preservation. See generally Dugan, *supra* note 8.

VIII. CONCLUSION

Wisconsin is fortunate to have over fifty percent of its wetland terrain intact.²⁷⁹ It is not too late for a successful no-net-loss wetland conservation policy to be adopted and private mitigation banking could very well be the catalyst. Aldo Leopold, ecologist, educator and founder of the conservation ethic, wrote "[w]e abuse the land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect."²⁸⁰ Finding a balance between economic use and natural preservation is difficult to achieve. However, it is not impossible. Mitigation projects such as the ones discussed above are a step toward that necessary balance. Responsible development and use of precious lands is necessary to ensure the continuing growth, health and prosperity of our nation. Leopold also said,

[t]here are some who can live without wild things, and some who cannot. . . . Like winds and sunsets, wild things were taken for granted until progress began to do away with them. Now we face the question whether a still higher 'standard of living' is worth its cost in things natural, wild and free.²⁸¹

Perhaps with mitigation programs part of Leopold's question can be answered in the negative so that our higher "standard of living" will not do away with the wild things, but rather promote progress and growth as a wisdom that preserves, nurtures and lives in harmony with natural surroundings. Instead of transforming the wild and free into our higher standard of living, perhaps we can change our view of a higher standard of living into one where we celebrate and preserve those rare, precious and beautiful places.

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279. See SALVESEN, *supra* note 45, at 19.

280. ALDO LEOPOLD, A SAND COUNTY ALMANAC xviii-xix (Oxford Univ. Press, Inc. 1966) (1949). Leopold was the founder of the Wisconsin Conservation Ethic and a professor at the University of Wisconsin in Madison.

281. *Id.* at xvii.