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Market Based Approaches to Environmental Preservation: To Environmental Mitigation Fees and Beyond

ABSTRACT

Impact fees are widely accepted and utilized across the United States as a technique to generate revenue for capital infrastructure improvements necessitated by new development. This article looks at the origination of impact fees, their legal framework, the extension of the concept towards environmental protection, and an alternative economic approach in environmental protection, "market based regulation." Based upon techniques utilized primarily in the arenas of wetlands and air quality regulation, a concept of utilizing economic incentives for broader environmental protection is explored. Considerations of the legal framework evolved through impacts fees are then applied to possible implementation aspects of the concept.

I. INTRODUCTION

Present environmental problems facing the world today clearly show that past techniques used for environmental protection have failed to prevent environmental degradation. The decline of the environment, signified by rising air pollution, water pollution, and deforestation shows the inherent tension between economically profitable ventures and environmental protection. This is the tragedy: environmental preservation tends to not be "profitable" while environmental degradation tends to be "cheaper." In essence, it is typically cheaper for a private party to pollute than for that individual to protect environmental resources. This construct, however, which arises as a result of concern

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with the "bottom line," exists separately from the social and natural features that society might wish to have considered. But what if environmental conservation were profitable? Can we move towards regulatory paradigms where the profit motive works towards preservation? Adam Smith told us that "it is not from the benevolence of the butcher, the brewer or the baker that we expect our dinner, but from their regard to their self-interest. We address ourselves not to their humanity, but to their self-love, and never talk to them of our necessities, but of their advantages."¹ There are—and could be many more—scenarios in which private parties can find certain environmental protection and preservation activities in their own economic self-interest.²

When considering alternative methods from those presently used, it is first necessary to realize that technology and progress are both a cause and a potential solution to the decline of the environment. Modern technology has produced many of the pollutants and wastes that today cause much of the environmental degradation plaguing the world's ecosystems. But technology, and the accumulated knowledge that goes along with this technology, are helping to create alternative production techniques and systems that can better protect, preserve, and even enhance our environment. The implementation of alternative techniques employed to preserve our natural systems are clearly not costless, however. Additionally, protecting natural systems will have further costs—typically as foregone development opportunities. The enactment of regulations requiring environmental preservation has done little to protect natural systems, especially after it was learned that the penalties for violating such regulations were minimal.

Since new techniques used to protect the environment have obvious costs, the key in establishing a program to better preserve our environmental interests is to structure economic decision making so that the "invisible hand" guides resources toward protection of the environment through economic incentives to protect the environment. The purpose of this article is to examine this incentive based approach to environmental protection through the use of mitigation programs funded by an environmental impact mitigation fee. Such a fee combines some techniques being used in the United States and other countries to compensate society for the impact of pollution and land development. Part II of this article will explain and discuss one of these techniques, the development impact fee, and will discuss how the impact fee has evolved over the years to help mitigate the effects of new development.

1. ADAM SMITH, *THE WEALTH OF NATIONS*, quoted in R. HEILBRONER, *THE WORLDLY PHILOSOPHERS* 530 (1970).

2. The most obvious is when it is a person's own environment that is being protected.

Part III will then discuss other market-based regulatory schemes and how they have been used to combat environmental degradation. This section will focus attention on tradeable emissions programs and, more importantly, wetland mitigation programs. Part IV will then discuss how these different programs and techniques can be combined to create an environmental impact mitigation fee that is grounded in a market-based approach so as to make it a profitable venture to protect the environment.

II. THE IMPACT FEE

A. Development of the Impact Fee

In one form or another, impact fees now exist in all 50 states and are a common technique used to generate revenue for capital funding necessitated by new development.³ Impact fees are charges imposed by local governments that take the form of a predetermined monetary payment—a fee—and are generally levied against developers to fund capital expansion of large-scale public facilities and services.⁴ Such fees play an integral part in giving local governments the ability to cope with many burdens of rapid population growth such as the need for new parks, roads, schools, jails, public buildings, sewer and water treatment facilities, and public safety (fire, police, and EMS) facilities.⁵

Historically, it has been a primary function of state and local governments to construct, operate, maintain, and improve the basic physical infrastructure of American communities. However, as a result of three significant events in American history, this traditional approach began to break down. The first of these events was the sharp rise in inflation in the 1970s⁶ and the decimation of fixed based taxes such as the motor fuels tax. The next was the federal government's fiscal retrenchment that began in 1982 and has continued since then, thus reducing the funds made available to local jurisdictions. The third factor leading to the

3. See JULIAN C. JUERGENSMEYER & THOMAS E. ROBERTS, *LAND USE PLANNING AND DEVELOPMENT REGULATION LAW* 421 (Practitioner Treatise 2003); JAMES C. NICHOLAS, ARTHUR C. NELSON & JULIAN C. JUERGENSMEYER, *A PRACTITIONER'S GUIDE TO DEVELOPMENT IMPACT FEES* 13 (1991).

4. See Susan M. Denbo, *Development Exactions: A New Way to Fund State and Local Government Infrastructure Improvements and Affordable Housing?*, 23 REAL EST. L.J. 7, 11 (1994).

5. JUERGENSMEYER & ROBERTS, *supra* note 3, at 421.

6. For most of the country's history inflation averaged two percent or less, with the periods of war being significant exceptions. Beginning in the 1960s and continuing through the 1980s, inflation existed at hitherto unprecedented rates, peaking at over 18 percent in the late 1970s. See U.S. DEPARTMENT OF LABOR, BUREAU OF LABOR STATISTICS website, available at www.bls.gov (last visited Oct. 2, 2003).

breakdown of the traditional approach was the general hostility to the taxation of real property, thus forcing local jurisdictions to look elsewhere to fund the ever increasing demands of constituents.⁷ Because these factors were occurring at a time when the pace of urban development was increasing, both the demand for and the cost of investment in public infrastructure began to climb at a time when the available financial resources were falling. As a result, there arose an increasing need for investment concurrent with declining means.

Due to the lessening of federal and state funding for such infrastructure facilities as water pollution control and highway system expansion and repairs, an increasing share of the responsibility to pay for these and other public investments fell directly on local jurisdictions by default.⁸ In order to assume control of providing these infrastructure needs, local governments were forced to pay the associated costs, commonly by raising local property taxes. In turn, they were then hit by the "taxpayer's revolt." Increasingly, local elected officials faced a public demand to increase public services without increasing taxes. After failing to remedy this dilemma through taxation, many jurisdictions looked to their police power as a means of addressing the problem.

In terms of the police power, most local governments have great discretion to regulate in order to protect the public's health, safety, and welfare. In contrast, local governments have almost no discretion in the exercise of their power to tax. It was natural, then, that local governments would turn to the police power, where they had discretion, in order to finance infrastructure needs.⁹ Negative aspects of urban growth, including congestion and loss of quality of life that further growth and development would entail, provided the framework for invoking the police power to protect the public. Thus, in order to make up for public service funding lost as a result of the conditions mentioned above, local governments began to impose conditions on development that were consistent with the protection of the public's health, safety, and welfare—this was accomplished through the implementation of the impact fee.

In order to see how the impact fee originated, however, it is first necessary to bring up the division of public services that had arisen in

7. See generally LAWRENCE SUSSKIND, PROPOSITION 2 ½: ITS IMPACT ON MASSACHUSETTS (1983).

8. Both state governments and the federal government abandoned funding programs for public investments because of a sharp rise in cost. Furthermore, there was a greater burden on the local governments responsible for handling these matters because of required improvements to many infrastructure facilities, such as water pollution control facilities. See, e.g., The Water Pollution Control (Clean Water) Act, 33 U.S.C. §§ 1251 et seq. (1994).

9. See NICHOLAS, NELSON & JUERGENSMEYER, *supra* note 3, at 13.

American public administration: governmental and proprietary services. Governmental services were those needed in order to promote the health, safety, and welfare of the public, but not provided for by private entities. Examples of these types of services are police and fire protection, as well as the maintenance of public roads and parks. Proprietary services, on the other hand, are those services created for the same purpose, but which can be and frequently are provided by the private sector and for which service charges are imposed by the party performing the service. Examples of this are trash collection and water service.

Local governments had long charged for proprietary services, and these charges—called user fees—were extremely common. These user charges were possible because the benefit of providing a service could be isolated to individual users, and if the individual user failed to pay the charge, the user could be excluded from use or consumption.¹⁰ Governmental services, on the other hand, are classified differently because the cost of performing a service cannot be identified with a single user nor can individuals be easily excluded from use or benefit. Under this framework, initial proponents of the impact fee had the objective of applying the principles of public finance, which had hitherto been applied only to proprietary services, to governmental services. This type of application, in the end, had the effect of reducing, if not totally eliminating, the distinction between proprietary and governmental services.¹¹

The legal implications of enacting a program such as this were unknown at the time. Many, fearing that these fees would be seen as an unconstitutional tax, initially set impact fees that were very low to pay for governmental services. For example, the "land use fee" used in Broward County, Florida,¹² imposed for road improvement was \$100 per residence. Even so, this particular charge was struck down by a Florida court as an unconstitutional tax.¹³ The court based its holding on the theory that the fee exceeded the county's cost of regulation, which would have justified its collection.¹⁴ This holding, like court holdings in many other states, demanded that fees or charges assessed under the police

10. The water could be turned off or the trash left uncollected.

11. This distinction between types of services, while important in public administration, received little if any judicial recognition. This may well be why the courts had little problem with applying "proprietary" review criteria to "governmental" functions.

12. The Fort Lauderdale-Hollywood metropolitan area.

13. See *Broward County v. Janis Dev. Corp.*, 311 So. 2d 371 (Fla. 4th Dist. Ct. App. 1975).

14. *Contractors & Builders Ass'n of Pinellas County v. City of Dunedin*, 329 So. 2d 314 (Fla. 1976).

power for the impact of new development be no greater than the costs borne by the governmental entity in "regulating" new development—otherwise, such a fee would be considered a tax. Ultimately, both the definition of regulation and a detailed accounting of the "costs of regulating" development allowed local governments to base the imposition of impact fees on the police power and avoid the tax label.¹⁵ Once at this stage, local governments were able to have their impact fee programs classified as regulatory by demonstrating that new development creates the need for new and expanded facilities, and then collecting from new development its proportionate share of the cost of expanding facility capacity. Even though local governments labeled impact fees as regulatory, courts still required local governments to produce calculations and other data to support the reasonableness of their fees.¹⁶

The courts then devised several tests for reasonable "fees" as distinct from unreasonable regulations or unconstitutional taxes.¹⁷ California's "reasonable relationships"¹⁸ and Illinois' "specifically and uniquely attributable"¹⁹ tests have evolved over time to be closer to the dual rational nexus test followed in many states and indirectly blessed by Justice Scalia in *Nollan*.²⁰ The objective of all of these tests was to assure a rational relationship between the demands of new development and assessments against it. Today the dual rational nexus test tends to be followed in most states²¹ because of its consistency with the "essential

15. The idea of regulation had to be expanded from the concept of simply imposing rules and standards to actually imposing fees not classified as taxes, for health, safety, and welfare purposes.

16. In *Holmdel Builders Ass'n v. Township of Holmdel*, 583 A.2d 277, 293 (N.J. 1990), the court distinguished taxation from regulatory fees. The court stated that if the primary purpose of the fee was to raise general revenue, it was a tax. However, if the primary purpose was to "reimburse the municipality for services reasonably related to development, it [was] a permissible regulatory exaction." *Id.*

17. See Julian C. Juergensmeyer & James C. Nicholas, *Impact Fees Should Not Be Subjected to Takings Analysis*, in *TAKING SIDES ON TAKINGS ISSUES: PUBLIC AND PRIVATE PERSPECTIVES* 357-70 (Thomas E. Roberts ed., 2002).

18. First seen in *Ayers v. City Council of City of Los Angeles*, 207 P.2d 1 (Cal. 1949).

19. See, e.g., *Pioneer Trust & Sav. Bank v. Village of Mount Prospect*, 176 N.E.2d 799 (Ill. 1961).

20. *Nollan v. Cal. Coastal Comm'n*, 483 U.S. 825 (1987).

21. Many states have specifically enabled rational nexus type impact fees: Maine, Vermont, New Hampshire, Georgia, Indiana, Wisconsin, Idaho, Washington, and Hawaii. Many others have judicially established that test, including Florida. However, the modern criteria in reasonable relationship states, such as California, look very much like rational nexus. See *Ehrlich v. City of Culver City*, 911 P.2d 429, 436-37 (Cal.1996). Also see the reinterpretation of Illinois' specifically and uniquely attributable test to mean "rational nexus" in *Northern Illinois Home Builders Ass'n v. County of Du Page*, 649 N.E.2d 384, 389-90 (Ill. 1995). In both instances, the current criteria for exactions are very similar to rational nexus criteria. See generally JUERGENSMEYER & ROBERTS, *supra* note 3, at 432-35.

nexus" requirement of *Nollan*.²² The rational nexus test was designed to ensure that impact fees imposed on a new development are proportionate to the facilities and services needed as a result of the new development and also with the benefits received by the new development. Thus, two prongs must be met before an impact fee will pass the rational nexus test: (1) impact fees may be no more than the government's infrastructure costs that are reasonably attributable to the new development and (2) the development required to pay the fee must derive some benefit from the use of the fees collected.²³ If the two prongs of this test are not met, however, the impact fee in question has at times been deemed an unconstitutional taking, entitling the property owner to monetary damages.²⁴ Whether the failure of an impact fee to meet rational nexus criteria is unconstitutional taking of private property or an illegal tax is a matter of current debate.²⁵

B. Impact Fee Uses

Impact fees are currently being used for a wide variety of public services and now represent a common fiscal tool used by local governments in funding public service infrastructure needs.²⁶ Impact fees are assessed for the provision of water and sewer systems, roads, solid-waste facilities, libraries, parks, schools, police and fire facilities, emergency medical facilities, environmental and habitat preservation,

22. The dual rational nexus test was originally used in *Jordan v. Village of Menomonee Falls*, 137 N.W.2d 442 (Wis. 1965). See Julian C. Juergensmeyer & Robert M. Blake, *Impact Fees: An Answer to Local Governments' Capital Funding Dilemma*, 9 FLA. ST. U. L. REV. 415, 430 (1981).

23. See *Jordan v. Village of Menomonee Falls*, 137 N.W.2d 442, 447 (Wis. 1965); JUERGENSMAYER & ROBERTS, *supra* note 3, at 434.

24. There are three general theories under which courts have held that a taking by regulation has occurred: (1) a taking by invasion has occurred, (2) a regulation significantly diminishes the value of the private property, and (3) the requirements placed upon a landowner do not substantially advance the purpose of the regulation. In terms of impact fees, developers most often advance the third theory listed. If, however, an impact fee has fulfilled the nexus requirement of the dual rational nexus test, it will generally withstand this type of challenge. See generally JUERGENSMAYER & ROBERTS, *supra* note 3, ch. 10. See also *Home Builders Ass'n of Greater Des Moines v. City of W. Des Moines*, 644 NW.2d 339, 351 (Iowa 2002).

25. See generally Juergensmeyer & Nicholas, *supra* note 17, at 357-70.

26. In one form or another, impact fees exist in all states and have existed for a number of years. See Gus Bauman & William H. Ether, *Development Exactions and Impact Fees: A Survey of American Practices*, 50 LAW & CONTEMP. PROBS. 51 (1987). The most recent trend has been a shift toward more and higher impact fees, which grew from being minor "economic nuisances" in the neighborhood of \$1000 to \$2000 per home to substantial amounts commonly surpassing \$10,000. JUERGENSMAYER & ROBERTS, *supra* note 3 § 9.8B.

public hospitals, and even public cemeteries.²⁷ The most common use for impact fees is in the funding of capital improvements for potable water and sanitary sewer facilities. Transportation services such as highways and bridges are the next most common type of impact fee.²⁸ No matter what the fee is used for, courts assess the validity of impact fees in large part on how fairly and accurately it reflects a new development's proportional share of the necessary infrastructure costs.²⁹ Because accuracy is a major factor in determining the reasonableness of an impact fee, impact fee programs require very careful economic analysis and planning to determine what public facilities will be provided, the cost of providing the infrastructure, and the proportion of that cost attributable to the individual unit of development on the infrastructure facilities.³⁰ Therefore, the most widely upheld and implemented impact fees are those based on data that indicate the desired level-of-service standards for a particular facility and calculate the cost of maintaining those standards in light of the increased demands created by new development.³¹ Today, impact fee formulae are the methods used to set impact fees and are based on the fundamental theory of the police power.³² Once the formulae are developed, the actual impact fee is then derived by entering the data into the formulae. Impact fees can then be offset with credits³³ given by the local government to account for past payment for existing capital facilities, future tax and other payments by the development, and infrastructure and improvements to the land provided directly by the developer.³⁴

One of the more common uses for impact fees is to fund the need for roads and highway systems brought on by new development. When visualizing how the formula may be set for an impact fee assessment, transportation network fees provide a useful example of how impact fees are calculated and assessed. One of the first steps in calculating this type

27. This list is merely illustrative, not exhaustive. See generally NICHOLAS, NELSON & JUERGENSMEYER, *supra* note 3, at 2.

28. *Id.*

29. *Id.* at 82.

30. The forgiving language in *Dolan v. City of Tigard*, 512 U.S. 374, 375 (1994), that mathematical precision is not required, has not proven to be the case in impact fee challenges.

31. See *id.*

32. If the developer were required to pay for more impact than they actually cause, this would be a taking or a tax and, therefore, would be unconstitutional. Therefore, the role of the formulae is to accurately determine the cost of the impact. See discussion *supra* part II.A.

33. It is unfortunate that in impact fee methodology and literature "credit" has two meanings. This first refers to a reduction in the amount of an impact fee to reflect other funds devoted to that same facility or service. The second meaning refers to a donation or dedication of land and/or facilities that allows an individual to pay impact fees "in kind."

34. See NICHOLAS, NELSON & JUERGENSMEYER, *supra* note 3, at 98-107.

of impact fee is to determine the level and quality of service that the local government wants to maintain or achieve—a desired level-of-service standard. Once this is established, formulae are then developed to determine the actual impact that a development will have on the particular facility—in this case the highway system. For example, a shopping center will have a very different impact on the highway system than a single-family home. Differences such as this are then taken into consideration in determining the amount of the fee.

For roads specifically, the impact fee formulae begin by calculating the physical quantity of roads that must be built in order to protect public health, safety, and welfare from deterioration in the quality of service on public roads. This quantity of roads is physical and is measured in lane miles or lane feet of roadways.³⁵ It is calculated by multiplying the trip generation rate,³⁶ divided by two, times the average trip length, times the percent of new trips, all divided by the capacity of a lane mile (or foot) of roadway.³⁷ The attributable travel is also reduced to account for what are known as captured or diverted trips—that is, trips that were already on the road and are not attributable to new development. This results in a number of vehicular miles of travel, the impact that may be attributed to new development. The next step is to then calculate the cost of the road construction and to include credits.³⁸ The impact fee is then established based on the projected cost of new construction less any “credits” for dedications the developer may be entitled to.

35. A lane mile is a single lane of road, one mile long. A four-lane roadway one mile long is, therefore, four lane miles.

36. Many jurisdictions use trip generation rates provided by the Institute for Transportation Engineering (ITE), although jurisdictions may elect to conduct their own trip generation studies.

37. The following is a general formula for roadway impact fee determination: $(\text{Trip rate}/2) \times \text{Trip length} \times \% \text{ New trips} = \text{Attributable travel}$. $(\text{Attributable travel}/\text{Road lane capacity}) = \text{New roads}$. $(\text{New roads (in lane miles)}) \times (\text{Construction Cost (in lane miles)}) = \text{Construction costs}$. $(\text{New roads (in lane miles)}) \times (\text{Right of way cost (in lane miles)}) = \text{Right of way costs}$. $(\text{Construction costs}) + (\text{Right of way costs}) = \text{Total cost}$. Following this computation, any credits the developer may possess will be subtracted from the total cost to obtain the impact fee.

38. Because roads are paid for in part by fuel taxes, new development should receive “credit” because it will generate and attract new attributable travel, thereby consuming fuel, the taxes on which will be used to pay for new roads. Because these taxes are paid annually and in perpetuity, it is necessary to consider future payments as well. “Credit” for the payment of past property taxes paid by the developer, which in part are used to fund the building of roads, should also be applied.

C. Impact Fee Evaluation and Future Uses for the Framework

Impact fees are now a commonplace means of infrastructure finance. By requiring new land development to bear a proportionate cost of providing the new or expanded infrastructure it will require, impact fees provide, in part, an answer to the dilemma faced by local governments when searching for sources of funding for capital expenditures. Now that impact fees have been widely accepted by the courts as regulatory measures, rather than unconstitutional taxes, they are widely seen as funding programs that reasonably allow local governments to maintain levels of capital facilities that can keep up with growth.

There are limitations, however, to the traditional use of impact fees. While they respond to the issues of location, availability, and provision of capital infrastructure with regard to new development, they are "largely unresponsive and even insensitive to the issue of the quantity and type of growth that should be allowed to occur."³⁹ Furthermore, the traditional impact fee fails to respond to other growth and development issues such as housing and employment needs.⁴⁰

Partly in response to these shortcomings associated with the traditional impact fee and partly because of the success of impact fees in raising funds for many infrastructure items, many local governments have begun to explore the possibility of using the idea of the impact fee to fund "soft" or "social" infrastructure needs such as "child care facilities, low income or affordable housing,"⁴¹ art in public places, and environmental mitigation programs.⁴² These types of funding requirements designed to raise funds for "soft," "social," and now "green" infrastructure items are usually referred to as "linkage fees."⁴³ When first implemented, "linkage" fees were thought to be something distinct from "impact" fees.⁴⁴ *Nollan v California Coastal Commission*⁴⁵ dealt the first blow to the perceived difference between linkage and impact fees by holding that a nexus was essential to any condition of

39. NICHOLAS, NELSON & JUERGENSMEYER, *supra* note 3, at 48.

40. Christine Andrews & Dwight Merriam, *Defensible Linkage*, in DEVELOPMENT IMPACT FEES (Arthur C. Nelson ed., 1988). See also Jerold S. Kayden & Robert Pollard, *Linkage Ordinances and Traditional Exactions Analysis: The Connection Between Office Development and Housing*, 50 LAW & CONTEMP. PROBS. 127, 128-29 (1987).

41. The most recent contribution to affordable housing as "social" infrastructure is Marc T. Smith & Ruth L. Steiner, *Affordable Housing as an Adequate Public Facility*, 36 VAL. U. L. REV. 443 (2002).

42. JUERGENSMEYER & ROBERTS, *supra* note 3, at 442.

43. See generally Andrews & Merriam, *supra* note 40.

44. See Donald L. Connors & Michael E. High, *The Expanding Circle of Exactions: From Dedications to Linkage*, 50 LAW & CONTEMP. PROBS. 69 (1987).

45. 483 U.S. 825 (1987).

development approval requiring a dedication. The Ninth Circuit further diminished any distinction in *Commercial Builders of Northern California v. Sacramento*⁴⁶ by applying what were essentially impact fee criteria to what was characterized as an affordable housing "linkage" requirement. Today the weight of opinion is that there are no fundamental differences between "linkage" and "impact" fees, but the convention of naming soft, social, or green impact payments linkage and applying impact to hard infrastructure remains.

To the extent that any differences can be identified between linkage and impact, most linkage programs have a primary goal of problem mitigation or abatement rather than payment. Impact fees are almost the reverse, in that the expectation is that payment of the fee will be the primary means of compliance. A linkage program would identify a concern and require that the concern be abated or mitigated, and, if not abated or mitigated, a payment would be made and the proceeds derived would be used to abate or mitigate the problem. An impact program would require the payment of a specified amount, the proceeds of which would be used to construct specified public facilities, unless the individual elects to sufficiently mitigate or abate the problem by construction/dedication of those facilities.

III. A MARKET BASED APPROACH TO ENVIRONMENTAL REGULATION

Many local governments are now exploring the possibility of requiring developers to account for soft infrastructure needs through linkage programs.⁴⁷ The use of such protocols to protect the environment would signify a shift from command and control regulations that have been employed to control environmental degradation in the past.⁴⁸ Command and control regulation, or traditional regulation of the environment, has long been criticized as being too rigid, inefficient, and ineffective.⁴⁹ And, while this traditional regulatory method may have valid and useful applications, the drawbacks of the scheme have led

46. 941 F.2d 872 (1991).

47. ROBERT MELTZ, DWIGHT H. MERRIAM & RICHARD M. FRANK, *THE TAKINGS ISSUE: CONSTITUTIONAL LIMITS ON LAND USE CONTROL AND ENVIRONMENTAL REGULATION* 517 (1999).

48. The "command and control" form of environmental protection refers to mandated environmental controls instituted after the enactment of the National Environmental Policy Act (1969) and subsequent acts such as the Clean Air Act and the Clean Water Act in the 1970s. See Robert W. Hahn & Robert N. Stavins, *Incentive-Based Environmental Regulation: A New Era From an Old Idea?*, 18 *ECOLOGICAL L.Q.* 1, 5-6 (1991).

49. See BERNARD FRIEDEN, *THE ENVIRONMENTAL PROTECTION HUSTLE* (1979); RALPH A. LUKEN, *EFFICIENCY IN ENVIRONMENTAL REGULATION* (1990).

many to believe that a market-based regulatory framework is needed in order to better protect environmental resources.⁵⁰ For the purposes of this article, the term "market based regulation" refers to the more recent environmental reforms that attempt to use market forces—Smith's "invisible hand"—more extensively than in traditional regulations. This is done by making the desired end, in this case environmental protection, in somebody's economic interest, meaning that someone must profit from environmental protection. One of the main goals of market-based pollution control programs is to reduce the cost of complying with environmental regulations. One way that a market-based regulatory framework allows for this is to allow the polluter,⁵¹ not regulators, to determine the most efficient means of reducing pollution.⁵² The polluter is not given a choice with respect to the end, pollution abatement or environmental protection, but the polluter is given a choice on how best to achieve that end. One of the choices is to hire another, a "mitigator," to achieve the desired end on behalf of the polluter.

A. Tradeable Emission Programs

One of the more prominent types of market-based environmental regulation is the tradeable emission. The goal of most tradeable emission programs, unlike impact fees, is to reduce the total amount of existing pollution rather than justly compensating society for the costs associated with new pollution. Another goal of this type of program is to improve the efficiency of meeting environmental regulations, thus making stringent pollution or environmental standards more economically feasible than with a traditional regulatory format.⁵³

The typical tradeable emissions program begins with regulations setting a cap—an upper limit—on the total amount of emissions for a particular region and for a specific type of air pollution. The regulator then allocates a number of tradeable emission credits to polluters, not to exceed the cap for that region. Polluters are then allowed to continue to pollute up to the level authorized by their credits or sell the credits they

50. See Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law*, 37 STAN. L. REV. 1333, 1335-38 (1985).

51. The term polluter is used here simply to identify the producer of the item that would represent environmental or social harm.

52. See Matthew Polesetsky, *Will a Market in Air Pollution Clean the Nation's Dirty Air?: A Study of the South Coast Air Quality Management District's Regional Clean Air Incentives Market*, 22 ECOLOGY L.Q. 359, 369 (1995).

53. In theory, the cost savings produced through more efficient measures of meeting environmental regulatory standards would allow for more stringent standards to be set, an important aspect of the program for those interested in reducing pollution, not reducing costs for industry. See Hahn & Stavins, *supra* note 48, at 33.

possess to other polluters in the same program. The flexibility of the program is seen in the fact that the regulator does not specify the means by which the polluter attains the level of pollution set by the number of credits held. Instead, the polluter can reach this level by whatever means they think are most efficient and effective.⁵⁴ Thus, tradeable emission credits can increase efficiency by encouraging entrepreneurs to develop better pollution control devices and substitute pollution abatement for pollution by credit, while selling pollution credits, potentially for a profit.⁵⁵ In this manner someone profits from pollution abatement. Contrast this situation with the typical command and control situation. As long as the polluter stays under the preset limit, there is no profit in pollution reductions.

1. Tradeable Emissions in Action: California's RECLAIM

California's Regional Clean Air Incentives Market (RECLAIM) is currently one of the largest trading programs operating in the world.⁵⁶ This program was first adopted in 1994 to reduce air pollution in the Los Angeles area—the region with the most air pollution in the United States.⁵⁷ In order to combat this problem, RECLAIM was implemented in 1993 in order to reduce existing pollution by targeting reductions in stationary sources of nitrogen oxide and sulfur dioxide. This was to be accomplished by creating a market in tradeable emission credits that would achieve the same level of pollution reduction as targeted by traditional regulations already in place.⁵⁸ Because of political pressures and economic forces at work in the area at the time, the goals of RECLAIM were twofold: to attain high air quality goals while reducing the costs of pollution control.⁵⁹ The basis of the tradeable emission

54. See Robert W. McGee & Walter E. Block, *Pollution Trading Permits as a Form of Market Socialism and the Search for a Real Market Solution to Environmental Pollution*, 6 FORDHAM ENVTL. L.J. 51, 53 (1994).

55. See Polesetsky, *supra* note 52, at 369.

56. See Pat Leyden, *The Price of Change: The Market Incentive Revolution*, 12 NAT. RESOURCES & ENV'T 160, 161 (1998).

57. Alliance of Small Emitters/Metals Indus. et al. v. So. Coast Air Quality Mgmt. Dist., 60 Cal. App. 4th 55, 57 (Cal. Ct. App. 1997).

58. See Leyden, *supra* note 56, at 160.

59. Leading up to the implementation of RECLAIM, the agency in charge of air quality management in the area—the South Coast Air Quality Management District (SCAQMD)—was under pressure to find alternatives to reduce air pollution. At the same time, the Los Angeles area was experiencing a severe economic recession. See Scott Lee Johnson & David M. Pekelney, *Economic Assessment of the Regional Clean Air Incentives Market: A New Emission Trading Program for Los Angeles*, 72 LAND ECON. 277, 279 (1996). Thus, businesses were seeking more cost effective means of meeting environmental regulations because of the high costs of meeting the requirements of traditional regulations. See Leyden, *supra* note 56, at 160.

program for RECLAIM was to give each existing polluting facility a mass allocation of pollution credits, in effect a right to pollute, based on emissions during prior years.⁶⁰ Each of the credits allocated represents one pound of emissions of one particular pollutant and has a term of one year.⁶¹ New facilities, however, do not receive any emission credits and must purchase the credits from other facilities.⁶² Pursuant to the number of emission credits given to a facility, the polluter's yearly pollution may not exceed the amount of tradeable emission credits that it holds.⁶³ The program's flexibility can be seen in the fact that the polluter is then given the choice of how that emissions cap would be most efficiently met. If the polluter is then able to reduce air pollution to levels below the individual cap set for it, it may then sell any excess credits it owns to another facility that has insufficient credits to meet its emission rate limits.⁶⁴ This option allows some facilities to maintain pollution levels at their current rate despite reductions in the overall emissions cap for that facility by buying excess credits from another facility.

While it is apparent how this method potentially saves the polluter in cost, the South Coast Air Quality Management District (SCAQMD) must also reduce the emission cap on each facility every year in order to fulfill the second goal of the tradeable emission program—attaining high air quality goals.⁶⁵ Reports show that RECLAIM was initially successful in achieving many of its goals. By 1999, six years after the implementation of RECLAIM, results looked promising. RECLAIM had high compliance rates of over 90 percent and over \$35 million in credits had been traded.⁶⁶ By 2003, emissions of nitrogen oxide were expected to be reduced by 17 tons per day, and the projected costs of meeting these reductions were reduced by almost half in comparison to projected costs of meeting the same reduction under the traditional regulatory framework—from \$139 million to \$80 million annually.⁶⁷ Recently, however, the effectiveness of the program has been called into question.

In November 2002, the Environmental Protection Agency (EPA) for District Nine (including Southern California) issued a report

60. See Daniel P. Selmi, *Impacts of Air Quality Regulation on Economic Development*, 13 NAT. RESOURCES & ENV'T 382, 386-87 (1998).

61. South Coast Air Quality Management District, 20 Regional Clean Air Incentives Market § 2007(c)(1).

62. Polesetsky, *supra* note 52, at 386.

63. Johnson & Pikelney, *supra* note 59, at 281.

64. Alliance of Small Emitters/Metals Indus. et al. v. S. Coast Air Quality Mgmt. Dist., 60 Cal. App. 4th 55, 57-8 (Cal. Ct. App. 1997).

65. Leyden, *supra* note 56, at 160.

66. See *id.* at 163.

67. *Id.* at 164.

evaluating the effectiveness of RECLAIM. The evaluation of the program was conducted after the EPA discovered that the price of tradeable emission credits had risen drastically during 2000 and 2001, while at the same time some facilities under RECLAIM had a very difficult time meeting emission standards.⁶⁸ In the EPA's final report, it found different factors that may have led to a decrease in the efficiency of the RECLAIM program. One of the largest problems found with the program is that it was unable to react to certain political and economic externalities that may have driven the price of credits to a point where it became difficult for polluters to afford to trade credits.⁶⁹ Even so, the EPA did find that RECLAIM as a whole had been effective in reducing costs for polluters to comply with regulations, in large part because "facilities were able to minimize costs by controlling emissions using the least costly methods."⁷⁰

2. Evaluation of Tradeable Emission Programs

Despite the advantages of tradeable emissions programs, it is clear that they are not a perfect solution to air pollution. Externalities, such as the political and economic climate on the local, state, and national level, can have unforeseen impacts on the effectiveness of such a program. These climates must support pollution reduction requirements and require stringent reductions in overall pollution for such a plan to work effectively.⁷¹ A clear baseline of allowable pollution that protects the environment must be set, from which credits can then be traded.⁷² Some commentators consider this type of program to be a quick fix rather than a long-term solution to environmental regulation, because many tradeable emissions programs fail to provide an incentive for continuous pollution reduction.⁷³ In essence, once a polluter has met pollution requirements set by the regulating body, no incentive remains to further reduce pollution—as one commentator states, the "equilibrium

68. U.S. Env'tl. Prot. Agency, EPA's Evaluation of the RECLAIM Program in the South Coast Air Quality Management District (2002), available at <http://www.epa.gov/Region9/air/reclaim/index.html> (last updated Oct. 2, 2003).

69. U.S. Env'tl. Prot. Agency, An Evaluation of the South Coast Air Quality Management District's Regional Clean Air Incentives Market—Lessons in Environmental Markets and Innovation 44-45 (2002), available at <http://www.epa.gov/Region9/air/reclaim/report.pdf> (last visited Oct. 2, 2003). The EPA's report found the energy demand in Southern California during 2000 had the unforeseen effect of causing a spike in the price of tradeable credits, which in turn put a strain on the market. See *id.*

70. *Id.*

71. See Leyden, *supra* note 56, at 161.

72. Ann Powers, *Reducing Nitrogen Pollution on Long Island Sound: Is There a Place for Pollutant Trading?*, 23 COLUM. J. ENVTL. L. 137, 161 (1998).

73. David M. Dreisen, *Is Emissions Trading an Economic Incentive Program?: Replacing the Command and Control Economic Incentive Dichotomy*, 55 WASH. & LEE L. REV. 289, 323 (1998).

point."⁷⁴ Even when trading programs have succeeded in reducing air pollution by setting pollution caps at levels substantially lower than existing pollution levels, these programs will not encourage further reduction once the equilibrium point has been met.⁷⁵ There is no longer a profit in pollution reduction. Putting a profit in further pollution reduction would address this shortcoming.

Another criticism of the program is that it focuses more on the concerns of reducing costs for industry while ignoring the health of people who live near polluting facilities. There is a concern that many pollution credits will be traded into poorer neighborhoods resulting in higher emissions in areas with less political power.⁷⁶

B. Mitigation: Programs for Prevention of Loss of Wetlands

While the issue of air quality remains a hot topic, rising to the forefront in the environmental community of late is the issue of preventing the loss of wetlands as a result of development. This issue came to the forefront in 1989 when President George H.W. Bush declared a "no net loss" of wetlands goal.⁷⁷ This goal was again reaffirmed in 1993 when the Clinton Administration expressed support for an "interim goal of no overall net loss of the Nation's remaining wetlands, and the long-term goal of increasing the quality and quantity of the Nation's wetlands resource base."⁷⁸ "A variety of federal, state, and local laws and regulations affect development in wetland areas."⁷⁹ The goal of these laws and regulations is similar to the goal of impact fees—the developer should compensate for the development's burden on the environment. Unlike emission trading, however, wetland mitigation regulations apply principally to new developers as opposed to existing industrial polluters.

74. *Id.* at 324.

75. *Id.* at 317.

76. See Nina Schuyler, *Clean Air Inc.: Do Market-Based Emissions Controls Mean the Poor Breathe the Dirtiest Air?*, 15 CAL. LAW. 39 (1995). But see Leyden, *supra* note 56, at 163 (arguing that RECLAIM has not resulted in increased pollution to any particular geographic area).

77. President's message to the Congress Transmitting the Fiscal Year 1990 Budget, Building a Better America, 25 WEEKLY COMP. PRES. DOC. 184, at 91 (Feb. 9, 1989).

78. White House Office on Environmental Policy, *Protecting America's Wetlands: A Fair, Flexible, and Effective Approach* (Aug. 24, 1993), available at <http://www.wetlands.com/fed/aug93wet.htm>.

79. MARK S. DENNISON, *WETLAND MITIGATION: MITIGATION BANKING AND OTHER STRATEGIES FOR DEVELOPMENT AND COMPLIANCE* 33 (1997).

1. Federal Wetland Regulation

The main federal laws that regulate wetland development activities are the National Environmental Policy Act (NEPA) and sections 401 and 404 of the Clean Water Act (CWA).⁸⁰ Following the passage of NEPA, which required federal agencies to consider the environmental impact of proposed development, Congress amended the CWA.⁸¹ The CWA Section 404 program now provides the primary federal authority for protecting the nation's wetlands.⁸² Section 404 is jointly implemented and enforced by the U.S. EPA and the U.S. Army Corps of Engineers (Corps) and requires that "wetland damage due to development should be avoided, lessened, or compensated in descending order of preference."⁸³ Through Section 404, the Corps regulates the discharge of dredged or fill materials through a permitting process. Even if the dredge and fill permit is granted, however, the Corps' role in the development process is not over. As mentioned earlier, it is a national goal—a goal adopted by the Corps—for a "no net loss to wetlands (of values and functions)."⁸⁴ Therefore, the Corps may require changes to the plans of a project and will usually require some wetlands mitigation measure to offset the negative impact of development on wetlands habitats.⁸⁵ Even with the restrictive nature of the regulations, federal agencies and private property owners have traded millions of acres worth millions of dollars, with the result being preservation of substantial environmentally sensitive areas.⁸⁶ Often times, the Corps' requirements of mitigation are a result of state wetlands mitigation.

2. State Wetlands Regulation

Before Section 404 dredge and fill permits are even considered by the Corps, all necessary state wetland approvals must be secured.⁸⁷

80. *Id.*

81. *Id.* at 34.

82. For a discussion of the various federal regulatory programs, see Dwight H. Merriam & Catherine Lin, *Wetland Regulation*, 367 PLI/REAL 119, 133-41 (1991).

83. See Joy Roth, *Mitigation Banking and the Clean Water Act*, PROF. GEOLOGIST (Oct. 1998).

84. Memorandum of Agreement Between EPA and Dept. of the Army Concerning the Determination of Mitigation Under the Clean Water Action Section 404(b)(1) Guidelines, 55 Fed. Reg. 9210, 9211 (Mar. 12, 1990).

85. See JUERGENSEMEYER & ROBERTS, *supra* note 3, at 626.

86. Dwight H. Merriam, *Reengineering Regulation to Avoid Takings*, 33 URB. LAW. 1, 35 (2001).

87. See 33 C.F.R. 320.4(j). Under the Clean Water Act section 404 program, individual states may adopt and administer their own wetland protection programs, which must be approved by the Corps. Once the program has been approved, the state, rather than the Corps, may issue section 404 permits directly. The EPA, however, retains veto power to

The degree of state wetlands regulation by law ranges from minimal to stringent. A number of states have enacted enabling laws that grant the authority to enact wetlands protection ordinances to local governments. "Thus, a landowner or developer may need to comply with three layers of regulation from federal, state, and local authorities."⁸⁸ Even so, participation in state and local wetland mitigation programs will often satisfy the mitigation requirements on which a section 404 permit approval is conditioned.

3. *Forms of Mitigation: Wetland Mitigation Banking*

The Corps and many states have allowed a wide range of mitigation measures, including (1) increased public access to the area; (2) acquisition of other wetlands to provide enhanced protection or acquisition with a management commitment; (3) restoration or creation of wetlands, either as general compensation or as replacement for a specific habitat type; (4) indemnification or direct monetary payment for lost wetland values; and (5) mitigation banking (compensatory offsite⁸⁹ wetlands restoration or creation).⁹⁰

Approaches (1) and (2) are no longer permitted by states or the Corps "unless the goal of increased public access is compensation for lost public recreational opportunities, or the acquisition includes enhancement or assurance of proper management to compensate for lost wetland values."⁹¹ In contrast, the mitigation banking option, option (5), is being implemented increasingly as the mitigation method of choice. Like air emissions trading, mitigation banking is a market-based regulation program designed to create an alternative means of environmental preservation by combining investment opportunities with environmental concerns.⁹² In the United States today, there are over 100 mitigation banks either operating or proposed.

withdraw the state's section 404 permitting authority if regulatory and statutory requirements are not followed. DENNISON, *supra* note 79, at 62.

88. MARK S. DENNISON & JAMES F. BERRY, *WETLANDS: GUIDE TO SCIENCE, LAW, AND TECHNOLOGY* 268 (1993).

89. Offsite mitigation is mitigation that is outside the area in which the development is planned. See Merriam & Lin, *supra* note 82, at 137.

90. See DENNISON, *supra* note 79, at 291. Restoration and creation of wetlands are components of mitigation banking programs, with restoration of existing wetlands being the method preferred by most environmentalists rather than the creation of new wetlands. Royal C. Gardner, *Banking on Entrepreneurs: Wetlands, Mitigation Banking, and Takings*, 81 IOWA L. REV. 527, 552 (1996).

91. See DENNISON, *supra* note 79, at 291.

92. See JoAnne L. Dunec, *Economic Incentives: Alternatives for the Next Millennium*, 12 NAT. RESOURCES & ENV'T 292, 292 (1998).

The basic premise is that mitigation banking is mitigation done outside the area in which the development is planned (offsite mitigation). This type of mitigation allows the developer or polluter to pay another firm to take over the responsibility for mitigation. This allows a developer whose project is assessed as having a certain number of units of environmental impact to pay a private company, which has already purchased land identified for conservation in the comprehensive plan, an amount equal to the units of environmental impact assessed on the project. The incentive for such a program to the developer is that the private mitigation company may be able to offer this service at a price that is less than what it would cost the developer to pursue other means of mitigation.

The typical mitigation bank involves the creation of wetlands from upland areas, but banking has been expanded to include other compensatory activities such as restoration or enhancement of degraded wetlands or the provision of more stringent protection for wetlands threatened by human activities not subject to regulatory control. There are two key aspects that distinguish mitigation banking from other forms of mitigation programs. First, banking attempts to construct mitigation areas, or banked wetlands, far in advance of anticipated development impacts in an area. This is one of the key attractions to mitigation banking—fully functional bank wetlands will be attained by the time impacts are contemplated. Second, banks are generally large in area to provide this trading service for a number of different contemplated impacts, “as opposed to the typical impact-by-impact process” associated with traditional mitigation programs. Thus, banking consolidates many small, fragmented mitigation projects into fewer, much larger contiguous sites.

The general process of mitigation banking is usually initiated when the need for a bank is identified by a governmental planning agency, developer, or other party anticipating future mitigation needs in a given area. A requirement for all banks is that a corporate, non-profit, or governmental “sponsor” acquires or possesses a long-term interest in a large piece of land. The land must then be suitable to support the anticipated functional needs of a wetland habitat.

There are typically four types of wetlands mitigation banks, which are classified on the basis of the nature of the sponsors and credit users or purchasers. The first type is typically known as a single user wetland mitigation bank, where the bank is developed and exclusively used by “a single public or private entity to provide for its own mitigation needs.”⁹³ The next type of bank is known as a

93. See Shirley Jeanne Whitsitt, *Wetlands Mitigation Banking*, 3 ENVTL. L. 441, 454 (1997).

public/commercial or public/private bank. These are owned by the government, which sells mitigation credits to the general public.⁹⁴ Another type of mitigation bank is known as a private/private or private/commercial (entrepreneurial) bank. These banks sell mitigation credits to the general public but are privately owned and operated.⁹⁵

The ownership and management of mitigation banks is open to innovative arrangements. Perhaps the most interesting partnership in the country is that found at the Monastery of the Holy Spirit in Conyers, Georgia. The Trappist monks there joined with a Savannah based company, Wetlands Environmental Technologies, to form a mitigation bank. The company spent \$2 million restoring 500 acres of destroyed wetlands on the monastery's property and is now recouping its investment through the sale of wetlands credits.⁹⁶ The monastery considers itself to have profited financially and spiritually from the arrangement.⁹⁷

Mitigation Banks are designed to either replace anticipated functional losses within a specified trading area or replace identified historical functional losses with an area. The regulating agency then values the bank by quantifying the created or restored wetland functions in terms of "credits." The calculation of these credits may be done simply by the amount of acreage and the wetland type, or by quantifying habitat, physical and biological functions, and social values.⁹⁸ The total credits allocated to a bank are based on the difference in the quality of the ecosystem before and after the bank is established. The regulating agency then undertakes a substantial permitting process, establishing the bank's goals, ownership, location, size, wetland and/or other resource types, trading area, crediting methods and accounting procedures, performance and success criteria, monitoring and reporting protocol, contingency plans, financial assurances, long-term responsibility, and detailed construction plans.

94. *Id.* at 455. An offshoot of the public/private type bank can be seen in the state of Florida. It is possible for the state to own the land that the bank is to be created on, but a problem arises when the state lacks the funding or the impetus to administer the bank. In this situation, even though the state owns the land, a private company can put up bids for the credits, and then the state and the private administering company split the mitigation proceeds resulting from the sale of credits. Telephone Interview with Sheri Lewin, Director, Mitigation Marketing (Mar. 25, 2003).

95. Whitsitt, *supra* note 93, at 457.

96. *Id.*

97. Kevin Duffy, *Restoring Nature: Refurbished Wetlands Profitable for Humans*, *Environment*, ATLANTA J. CONST., Mar. 31, 2003, at C1.

98. See Marjut H. Turner & Richard Gannon, *Mitigation Banking*, in WATERSHEDS: WATER, SOIL, AND HYDRO-ENVIRONMENTAL DECISION SUPPORT SYSTEM 1 (1999). See also Joy Roth, *Mitigation Banking and the Clean Water Act*, available at <http://www.agiweb.org/legis105/tpgjoy.html> (last visited Nov. 21, 2003).

The next step involves the projection of anticipated, unavoidable impacts of development, through which applicants can purchase credits from the mitigation bank to make up for the projected wetlands losses (or debits) that the development will create.⁹⁹

4. Evaluation of Existing Wetlands Mitigation Banking Programs

Many believe that wetlands mitigation programs are helping to lay the framework for future market-based regulations and have innumerable positive aspects. On the other hand, some believe that this type of mitigation bank is unsuccessful in mitigating the harms created by new development.¹⁰⁰ However, it is clear that successful mitigation banks offer larger, ecologically superior wetland areas, an attractive alternative to “postage-sized” on-site mitigation projects, which often fail.¹⁰¹ Other advantages to mitigation banking can be seen from the perspective of the developer. By purchasing or using existing mitigation credits, they are able to save the time and expense involved in designing, implementing, and maintaining specific mitigation plans for each project.¹⁰² On the regulatory side, mitigation banks are advantageous to state and local authorities because they allow for increased “efficiency of review and compliance monitoring.”¹⁰³ Others see mitigation banks as superior to other types of mitigation because they generally include greater portions of viable ecosystems for fish and wildlife, they remove from the reach of developers the aquatic resources provided by wetlands, and, perhaps most importantly, they “result[] in mitigation

99. See Turner & Gannon, *supra* note 98.

100. See Merriam & Lin, *supra* note 82, at 135.

101. Whitsitt, *supra* note 93, at 459-60. Whitsitt describes four reasons for on-site mitigation failure:

- (1) the isolated and fragmented nature of replacement wetlands which makes them vulnerable to functional degradation;
- (2) the lack of a federal regulatory requirement that permittees must maintain successful mitigation sites;
- (3) the lack of sufficient technical expertise by regulatory agencies to evaluate a large number of diverse mitigation plans adequately; and
- (4) the lack of regulatory agencies to oversee and enforce mitigation construction and to conduct site monitoring.

Id. Even so, many environmentalists continue to argue that offsite mitigation does not confront the importance of wetland functions to the particular site. To develop that site, they might argue, is to destroy the wetland's relationship to other wetlands, sources of ground water and surface water, and adjacent uplands. See DENNISON & BERRY, *supra* note 88, at 301.

102. *Id.*

103. See Robert W. Brumbaugh, *Wetland Mitigation Banking: Entering a New Era?*, at 4, available at <http://www.wes.army.mil/el/wrtc/wrp/bulletins/v5n3/brum.html> (last visited Oct. 2, 2003).

being performed in advance of, rather than subsequent to, wetland conversion projects."¹⁰⁴

Advance mitigation has two principal benefits. First, advance mitigation eliminates concerns that, once a permit is granted, mitigation may never take place. Perhaps more importantly, however, mitigation banking shows promise as a step toward moving past a "no net loss" attitude and actually realizing a gain in wetlands.¹⁰⁵

IV. JOINING FORCES: IMPACT FEES, LINKAGE, AND ENVIRONMENTAL MITIGATION FEES¹⁰⁶

Environmental linkage programs, which combine the principles of market-based regulation, such as those underlying tradeable emissions and wetlands mitigation banking, with the principles of impact fees, may provide economic incentives for developers to actually increase conservation, as opposed to merely maintaining the environmental status quo. Such a program could be packaged in an environmental mitigation fee. Although some local governments have attempted to establish similar "linkage fees" in order to finance "social" or "soft" infrastructure needs, a more overarching plan is needed in order to establish a program that is likely to harness market forces to make environmental protection possible while at the same time limiting available attacks on such a program. The purpose of this section of the article is to examine the use of an environmental mitigation fee using the implementation standards that have guided the use of impact fees while at the same time attempting to guide environmental regulation to a more market-based approach.

The goal of an environmental mitigation fee should be to move away from the on-site regulatory framework and toward a more broad-based and long-range approach to environmental protection. Historically, mitigation of the ecological impact of development and pollution has been addressed on a case-by-case basis.¹⁰⁷ Each individual development or polluting facility has been required to minimize its own

104. *Id.*

105. Whitsitt, *supra* note 93, at 477.

106. The authors have previously expressed their concept of environmental mitigation fees, especially in the European context. See James C. Nicholas, Julian C. Juergensmeyer & Ellen Margrethe Basse, *Perspectives Concerning the Use of Environmental Mitigation Fees as Incentives in Environmental Protection (Part I)*, 2 ENV. LIAB. 27 (1999); James C. Nicholas, Julian C. Juergensmeyer & Ellen Margrethe Basse, *Perspectives Concerning the Use of Environmental Mitigation Fees as Incentives in Environmental Protection (Part II)*, 3 ENV. LIAB. 71 (1999).

107. See Arthur C. Nelson, James C. Nicholas & Lindell L. Marsh, *Environmental Linkage Fees are Coming*, 58 PLANNING 1, 2 (1992).

impact on site, or mitigate its impact through some regulatorily approved means. As we have discussed earlier, this can result in fragmented scraps of habitat that may not assure an adequate critical mass, and it may not be the best place for the habitat in the long term.¹⁰⁸ Through the use of an environmental mitigation fee, solutions to many of these problems could be more readily available. To do this, however, requires long range planning of environmental goals.

A first step is to expand the context of "environment." The concept of the environment in mitigation and tradeable emissions is wetland destruction or air pollution. While these are certainly components of "the environment" and its protection, the environment of concern is much greater. It includes wetlands, habitat, clean air, and water, but it also includes trees and open spaces, as well as sites with cultural and historical importance. It would include places to walk or just sit by a stream. In sum, the environment includes those places that should be left as they are or restored to what they were, if degraded.

Any effective regulatory program will require three things:

- First, the specification of a level of service;
- Second, incorporation into a comprehensive plan; and,
- Third, the adoption of regulations that maintain the level of service in accordance with that comprehensive plan.

The authority of local governments to protect public health, safety, and welfare has long been recognized.¹⁰⁹ The goal of such efforts extends beyond clear issues of public safety to matters of aesthetics, what we today call quality of life.¹¹⁰ However, development regulations designed to protect the public should be in accordance with a comprehensive plan.¹¹¹ Thus, the community goals with respect to the environment should be contained within a comprehensive plan and that plan would become the basis for protective regulations.

Planning, both comprehensive and long-range, is most needed for habitat preservation. Critical and intact habitat must be identified early on. Identified land, perhaps furthest away from being developed, can be purchased, thus preventing fragmentation of habitats. We have

108. *Id.* See also *supra* note 100 and accompanying text.

109. See, *Village of Euclid, Ohio v. Ambler Realty Co.*, 47 S. Ct 114, (1926).

110. *Id.* See also *Penn Cent. Transp. Co. v. City of New York*, 98 S. Ct 2646, 438 U.S. 104 (1978).

111. See Article 3 of the Standard State Zoning Enabling Act, US Dep't of Commerce, 1926; Charles M. Haar, *In Accordance with a Comprehensive Plan*, 68 HARV. L. REV. 1154 (1955).

seen this to some extent with wetlands mitigation banking, but an environmental mitigation fee program would need to be more far-sighted than those banking operations in effect now. Just as long range plans play an important role in terms of habitat mitigation, in the pollution control context, long range pollution prevention and clean up efforts identified in comprehensive plans help establish the validity and success of an environmental mitigation fee program.

As we have seen with traditional impact fees, any environmental mitigation fees would need very careful impact analysis in order to make them feasible and defensible. Comprehensive plans should guide the assessment of the impact of any development or polluting activity. Regulators would then need to determine the units of environmental impact associated with a new or existing project and multiply the number of units by a price per unit. Again it is instructive to look at the framework for the impact fee as a guide. For instance, polluters would probably object to paying a fee to emit a pollutant that is below the regulatory limit already established for their facility, just as the citizens of Broward County, Florida, attacked the land use fee, claiming that the fee was an unconstitutional tax.¹¹² Assuming that the mitigation fee imposed does not exceed the cost of regulation, however, the standard impact formula would then determine the environmental mitigation fee for that project. At this point, the developer would have three choices. First, the polluter or developer can simply pay the environmental mitigation fee and proceed with the project. The funds derived from these fees would be used to purchase habitat that has been identified in the comprehensive plan or for pollution prevention and clean up projects also identified in a pollution control element of the plan. Second, the developer can reduce the environmental impact of the project to a point at which the activity is still profitable but the environmental impact is significantly less and thereby reduce the amount of payment required pursuant to the mitigation fee. Third, the polluter can pay another firm to mitigate the impact elsewhere. The last option is very similar to tradeable emissions programs and wetlands mitigation programs we have discussed earlier. However, there are significant differences between these existing regulatory programs and an environmental mitigation fee.

One of the main differences between an environmental mitigation fee program and programs already in place is that existing programs do not incorporate a fee for the impact of existing pollution or

112. See *Contractors & Builders Assn. of Pinellas County v. City of Dunedin*, 329 So. 2d 314, 318 (1976), *supra* note 14 and accompanying text. The courts, as stated earlier, struck down this impact fee, basing its decision on the fact that the fee exceeded the county's cost of regulation, "which was supposed to justify their collection." *Id.*

development. Whereas a tradeable emissions program might set a cap based on what is considered an acceptable level of pollution, and wetlands mitigation fees do not take into account already decimated wetlands, an environmental mitigation fee would set the baseline at zero. This means that all pollution and development, whether or not "legal" under the current regulatory framework, is assessed based on the societal impact to the environment. This would force polluters or developers to consider the environmental impact when designing a project as contrasted with only considering pollutants that exceed some stated level.

Market forces would take over because the polluter or developer is then allowed to pay another firm to take over the responsibility for mitigation and for complying with the comprehensive plan. The incentive here is that a private mitigation company—a "mitigator"—should be able to offer this service at a price that is less than the environmental mitigation fee.¹¹³ Thus, the invisible hand develops a green thumb.

A. Legal Ramifications of Environmental Mitigation Fees

While this type of program does not at first glance appear to be anything other than an exercise of the police power, it is important to understand that mitigation fee programs must be able to avoid the labels of an "unconstitutional tax" and/or a "taking." As our discussion above of impact fees has indicated, the avoidance of these labels is best accomplished by the application of the dual rational nexus test. In terms of environmental mitigation fees, the idea is in essence the same as with the impact fee—development can be charged a proportionate share of the impact cost of the development on the environment or the preservation of the environment, just as they are now legally charged under impact fee programs for impacts that development has on roads, parks, schools, and other hard infrastructure items. They cannot be charged any more than their demonstrated proportionate share, however. The next step is to ensure that a regulatory program is established so as to accomplish the environmental goals for which the fee is collected.

The second prong of the dual rational nexus test is the one in which planning is critical and all too often lacking. In order for a mitigation fee program to function as it should, long range plans and goals should be established in a comprehensive plan. The dilemmas encountered when such a plan is not in place can be seen in the

113. The economics of specialization and of scale both should yield lower costs to the mitigator than to an enterprise engaged in other activities.

Connecticut Supreme Court case of *Branhaven Plaza, L.L.C. v. Inland Wetlands Commission of Branford*.¹¹⁴

In *Branhaven*, a developer wanted to build a convenience store on a parcel of land with some very minor and very small wetland areas. Initially, the developer offered to build a bigger wetland offsite (mitigate). The local government agreed, but then changed their minds over fears that there were flood control problems with the proposal.¹¹⁵ In response to this, the developer offered to spend \$25,000 to construct an offsite wetland and to donate to the local government \$25,000 worth of engineering services (mitigation and mitigation fee).¹¹⁶ The local government agreed, but many people in the community objected to the building of the convenience store on the grounds that only paying money to be able to destroy the on-site wetlands was an inadequate and unacceptable way of satisfying the mitigation requirements. The court ended up striking down the fee, but not because they did not want to allow for offsite mitigation or the imposition of a mitigation fee. The court struck down the fee on the basis that there were no comprehensive plans and goals for how the money was to be spent. Neither the developer, the planning commission, nor the local government authority had formulated a proposal for the creation of new wetlands or the enhancement of existing wetlands. They were not acting in accordance with a comprehensive plan. This result clearly shows the importance of creating a comprehensive plan and long-range goals for environmental quality including spending fees collected for environmental mitigation.

B. Implementing the Program

The first and perhaps most important step in the implementation of an environmental mitigation fee program is the inclusion of a comprehensive environmental preservation or pollution control program in a comprehensive plan. All implementing actions would then be in accordance with a comprehensive plan, with all the luster that "accordance" or "consistency" adds. In preparing such a program, local governments should conduct studies to establish the impact that development has on the environment.¹¹⁷ After conducting the studies, local governments should prepare development performance standards that reflect the nature of, and the extent of, the need for environmental

114. 251 Conn. 269, 740 A.2d 847 (1999).

115. *Id.* at 273.

116. *Id.* at 274.

117. Thomas W. Ledman, *Local Government Environmental Mitigation Fees: Development Exactions, the Next Generation*, 45 FLA. L. REV. 835, 865 (1993).

mitigation. Any such mitigation requirement could be on a functional or area basis, whichever is appropriate.

The more difficult aspect of implementation will be first defining and then identifying the nexus between development and the need for environmental protection or preservation. If a traditional impact fee model is to be followed, some type of quantitative nexus between development and environmental impact will be needed.¹¹⁸ If new development is not on or adjacent to ecologically sensitive areas, such a relationship may be difficult to establish.¹¹⁹

Current thinking often confines areas worthy of environmental protection and preservation to places where water collects and wild things, especially those that are threatened or endangered, live. Under this confined view, environmental mitigation requirements could only be based on the direct impacts of developments that are in or immediately proximate to wetlands or habitat. But the environment is more than just wetlands and habitat and the impacts of developments extend to indirect as well as direct effects. Doesn't it include trees that may or may not be home to red cockaded woodpeckers? Doesn't the environment include open areas where children can explore? Isn't the environment inclusive of unpaved places?

This more expansive view of the environment and the embodied relationship between land disturbance and environmental consequences offers a means for establishing a quantitative nexus between development and the need for environmental protection and preservation.¹²⁰ Adopting this view in a local government's comprehensive plan would thereby establish the legal and planning framework for programs such as environmental mitigation fees based upon the nature and extent of land disturbance.

118. If the standards of "proportionality" set out in *Dolan v. City of Tigard*, 512 U.S. 374 (1994), are applied, such quantitative expressions would be a requirement.

119. It would appear that terrestrial ecological science is not yet able to establish a statistical nexus between offsite development and ecological damage.

120. This is the concept endorsed in *Just v. Marinette County*, 201 N.W. 2d 761 (Wis. 1972).