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Integrating Conservation Uses into Takings Law: Why Courts Should View Conservation as a Possible Highest and Best Use

INTRODUCTION

Few things are as controversial as government interference with private property interests.1 In our society, property ownership has long been a part of obtaining economic success and is therefore seen as desirable. However, it is well established that all levels of government have the right to restrict land uses and can even acquire the land in fee through the power of eminent domain.2 An important issue that does not receive enough attention is the amount of

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2. See U.S. CONST. amend. V (“[N]or shall private property be taken for public use, without just compensation.”).
compensation to which landowners are entitled when the government takes land in fee or restricts uses of the land.3

In order to achieve the highest level of compensation for their clients, it is important for practitioners negotiating compensation to be creative in advancing possible uses of the land. Developments in environmental regulation have presented opportunities to value land in nontraditional ways.4 For some landowners, dedicating their land to a conservation use may bring the best price for the land.5 For example, a landowner can place a conservation easement on her land6 or convert the land into a wetland.7 The push for market-based environmental regulations has created markets which have increased the amount that landowners can be compensated for dedicating their land to a conservation use.8 Open markets currently exist for wetlands and endangered species credits, and additional possibilities are on the horizon.9

In Part I, this Comment will outline the basics of eminent domain and regulatory takings and explain the standards courts consider when compensating landowners whose property has been taken. Specifically, this Comment will establish that landowners must receive “just compensation” under the Constitution, that Olson v. United States10 is the standard for just compensation, and that conservation uses are a factor that courts should consider under the Olson standard. In Part II, this Comment will survey cases in which litigators have sought to value property based on its possible

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4. See Royal C. Gardner, Banking on Entrepreneurs: Wetlands, Mitigation Banking, and Takings, 81 IOWA L. REV. 527, 529 (1996) (examining traditional notions of property value and explaining that wetlands mitigation banking may provide society with an opportunity to place value on land that is purposefully left in its natural state, as opposed to traditional notions that land is only valuable when it is used for economic production).
5. For the purposes of this Comment, a conservation use is a use which permanently converts a piece of land to a use that improves environmental conditions on the land.
7. Gardner, supra note 4, at 551.
8. See infra Part I.C.
conservation uses, showing that courts have been reluctant to consider conservation uses when applying Olson. In Part III, this Comment will outline recent changes in environmental law that are creating environmental markets. Part IV of this Comment will explore the current state of environmental markets and the need to use markets to protect environmental resources. This Comment will show that current environmental regulations have created a market for wetland mitigation credits and that a market for endangered species credits is evolving. Ultimately, this Comment concludes that although precedent in this area sends mixed messages, some conservation uses should be taken into account when compensating landowners for a taking because such uses are a viable market for which buyers are currently willing to pay.

I. EMINENT DOMAIN AND REGULATORY TAKINGS

The Federal Constitution gives the government the power of eminent domain, or the right to take land from private owners in order to fulfill public need. The framers inserted the power of eminent domain directly into the Constitution, stating, "nor shall private property be taken for public use, without just compensation." The power of eminent domain allows governments to acquire lands to build crucial infrastructure like schools, roads, and military installations.

In addition to the power to take land in fee, the government can also place restrictions on land use which sometimes rise to the level of a taking. As the government began to exercise the power to regulate property uses, the law of regulatory takings developed. The power to regulate property uses is primarily exercised in zoning and environmental protection laws. Regulations restrict the uses that property owners may make of their land. For instance, a landowner

11. See U.S. CONST. amend. V.
12. Id.
14. See, e.g., Pa. Coal Co. v. Mahon, 260 U.S. 393, 415 (1922) (“While property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking.”).
may not be permitted to open a mine or quarry in the middle of a residential neighborhood. Likewise, a farmer may not fill a portion of his wetland property without first obtaining a permit. Although government entities can usually enforce these restrictions without triggering a takings case, sometimes the regulations cause the land to be effectively worthless on the market. In those situations, courts rule that a regulatory taking has occurred and the landowner must be compensated.

A. Just Compensation

Although the government has the power to take private property, the Constitution provides that it must give the landowner just compensation if it does so. In eminent domain, this is a fairly simple concept: the government takes private land in fee in exchange for a payment to the owner in every case. In regulatory takings cases, however, the analysis is more complex, as courts compare the value of the land before the regulation with the value of the land after the regulation. Only if the value of the regulated land has been reduced to practically zero is the owner entitled to compensation.

Once a court establishes that a taking has occurred, through either eminent domain or a regulatory taking, the analysis of compensation is the same. The measure of just compensation is the fair market value of the land. Landowners are entitled to an assessment of fair market value by either a commission of adjudicators, a single judge, or a jury trial, and both parties to the

18. See Penn Cent. Transp. Co. v. New York City, 438 U.S. 104, 138 n.36 (1978) (stating that the landowner would be entitled to relief if the regulation prevents the property from being "economically viable").
19. Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1027 (1992) ("Where the State seeks to sustain regulation that deprives land of all economically beneficial use, we think it may resist compensation only if the logically antecedent inquiry into the nature of the owner's estate shows that the proscribed use interests were not part of his title to begin with.").
20. See U.S. Const. amend. V.
23. Lucas, 505 U.S. at 1027-28. While this statement is a gross oversimplification of the case-by-case inquiries that courts undertake in regulatory takings analysis, an examination of the amount of reduction in value which courts consider a taking is outside the scope of this Comment.
24. Olson v. United States, 292 U.S. 246, 255 (1934). Fair market value is the amount that a willing buyer would pay a willing seller on the day the land is taken. Id. at 257.
proceeding usually rely on expert appraisers. Regulatory takings also occur in the context of permit applications and denials. Courts are to compare the value of the land before and after the permit denial to determine whether a taking has occurred.

B. The Olson Test and “Highest and Best Use”

When determining just compensation, it may seem intuitive to look at the uses that the landowner has made of the land. However, this is not the standard. Appraisers are allowed to value land at the “highest and best use,” which is the use that will be most profitable to the landowner. The highest and best use standard makes logical sense because a willing buyer would consider possible uses and pay a higher price for land that could be put to a more profitable use. For instance, a piece of farmland that is suitable for subdivision will be valued as a subdivision, even if the current landowner has no plans to subdivide.

The standard for determining whether a possible use will be considered in an appraisal was laid out in Olson v. United States. According to Olson, courts are to decide whether the proposed use could be applied in the reasonably near future. Of course, if the hypothetical piece of farmland mentioned in the previous paragraph were in a floodplain or in a remote area, then subdividing would not be a use that could be applied in the reasonably near future. Courts also phrase this standard by stating that the proposed use cannot be

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26. See infra note 65. See generally Loveladies Harbor, Inc. v. United States, 21 Cl. Ct. 153 (1990) (concluding that a permit denial constituted a taking and awarding just compensation by comparing the fair market value of the property before the taking with the fair market value after the taking).

27. 4 NICHOLS ON EMINENT DOMAIN 2006, supra note 25, § 13.01[8]; see also Olson, 292 U.S. at 255 (holding that the “highest and most profitable use for which the property is adaptable . . . in the reasonably near future is to be considered”). Of course, the land may be suitable for several uses under the Olson standard; compensation is awarded on the most profitable of the possible uses. Id. at 255.

28. Olson, 292 U.S. at 255.

29. 292 U.S. 246 (1934).

30. Id. at 255. The standard is flexible in that even though land may not be immediately adjacent to already-developed land or may not be previously zoned for a particular use, courts may still consider that use if it is reasonable to believe that development will stretch into the countryside or that future owners would be able to obtain the permits necessary to develop that land.
too speculative.\textsuperscript{31} However, it is important to note that there is another use for the term "speculative." In the second use of the term, real estate buyers purchase land as an investment with the expectation that the land’s value will increase.\textsuperscript{32}

\section*{C. Practical Applications}

As a first instinct, practitioners often try to value land at the most intensive commercial use feasible.\textsuperscript{33} Typically, appraisers will be asked to value the land as if it were subdivided for residential use or, depending on the site, industrial use. This is understandable because our culture tends to see development as an economic way forward.\textsuperscript{34} Therefore, litigation typically centers on whether an undeveloped piece of property is suitable for a more developed use.\textsuperscript{35} Practitioners should be careful, however, to evaluate all the possible methods of valuing the property in order to achieve the highest level of compensation possible for their clients. Due to relatively recent developments in environmental law, appraising a tract of land based on its conservation uses may result in a higher land value and, therefore, a larger payment to the client whose land the government is taking.\textsuperscript{36}

The term “conservation uses” broadly refers to all environmental credits and payments that landowners can receive for taking certain actions that benefit the natural environment. Landowners can make arrangements with regulatory agencies, both state and federal, to preserve their land or to enhance the land to attract certain kinds of

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\item \textsuperscript{31} See, e.g., United States v. 320.0 Acres of Land, 605 F.2d 762, 814 (5th Cir. 1979); United States v. 1291.83 Acres of Land, 411 F.2d 1081, 1084 (6th Cir. 1969).
\item \textsuperscript{32} Real estate entrepreneurs often buy land and hold it for future use. This is called “buying speculatively.” Such entrepreneurs represent a willing hypothetical buyer who will buy land as an investment and hold it until the value increases. The price that the entrepreneur would pay for the land is the fair market value at the time and is not a “speculative” use under the \textit{Olson} standard because there is a current willing buyer. Fla. Rock Indus. v. United States, 18 F.3d 1560, 1565 (Fed. Cir. 1994) (quoting Fla. Rock Indus. v. United States, 791 F.2d 893, 903 (Fed. Cir. 1986)). In sum, although the term “speculative” can be confusing, the test for considering a highest and best use is whether there is a current hypothetical willing buyer, and the proper valuation is what that buyer would pay at the time of the taking. \textit{Olson}, 292 U.S. at 255.
\item \textsuperscript{33} Interview with F. Bryan Brice, Jr., Attorney-at-Law, in Raleigh, N.C. (Jan. 26, 2007).
\item \textsuperscript{34} Gardner, supra note 4, at 529.
\item \textsuperscript{36} See infra Part IV.A.
\end{itemize}
plants or wildlife that are environmentally beneficial. Many times the regulatory agency arranges for the landowner to sell a “credit” to a regulated entity in exchange for the preservation or enhancement work.

At times, conservation uses are more valuable than developing the land. For example, International Paper Corporation, a timber company, has discovered that preserving land for hunting is profitable. The southeastern division of the corporation now earns twenty-five percent of its profits from recreational uses of its land. The company uses a 16,000 acre tract in Georgia to research, among other things, ways to increase wildlife on its timber holdings. In fact, the area is so successful in protecting wildlife that the company is now able to produce and sell Endangered Species Act (“ESA”) credits for red-cockaded woodpeckers.

Similarly, the Lyme Timber Company discovered that merging conservation uses with traditional timber industry activities increases profits. Likewise, many individuals are finding that they can gain economically by placing a conservation easement on their land. An investment group in Charleston, South Carolina was able to purchase a 600 acre tract, develop only forty of the acres, and commit the rest to conservation. Using this technique, the investors outbid a major developer who would have developed the land much more intensively.

38. Id. A credit is the legal entitlement to create a certain unit of pollution. See id.
45. See McDermott, supra note 6.
46. Id.
47. Id. Of course, conservation uses will not be the best economic use of a piece of property every time. Whether or not the land could make a profit, or the most profit, from a conservation use is a highly fact-intensive inquiry. Not all land is eligible for
In the current world of commerce, buyers and sellers are valuing land with conservation uses in mind. Can takings law also value land in this way? As we will see, courts have previously treated valuation of land for conservation uses inconsistently and with suspicion.

II. CASE LAW SENDS MIXED MESSAGES

From an advocacy standpoint, government entities face a double-edged sword when deciding whether or not to argue that conservation uses are a possible highest and best use. When analyzing case law, it is important to keep in mind that the same entity can find itself on both sides of the argument depending on the type of takings case it is litigating. If a parcel of land were more valuable for a conservation use than commercial development, and if courts allowed such a valuation as the highest and best use, then the landscape of takings law might change significantly. First, the government would have to pay more in certain eminent domain cases. This might direct the government to take fewer lands with potential for conservation uses. Second, the government would win more often in regulatory takings cases. Currently, a court would likely view a permit denial to fill a wetland as an action that takes all value from the land. Yet, if a court were willing to recognize that land has a remaining value for conservation uses, such permit denials would not take all of the legal value from the land. Thus, a regulatory taking would not occur in such cases, and the government would not have to compensate the landowner.

At this point, the government has not adopted a stance on the viability of conservation uses, and it appears that government attorneys are free to advance whichever argument best suits their case at the time. In Loveladies Harbor, Inc. v. United States and Formanek v. United States, two regulatory takings cases, the

conversion to a wetland or has an endangered species on it. See infra Part IV. What is important is that practitioners and courts at least consider the possibility that the highest and best use of the land may be a conservation use.

48. See 4 NICHOLS ON EMINENT DOMAIN 2006, supra note 25, § 13.01[8].
49. See Gardner, supra note 4, at 587.
50. See infra notes 65–71 and accompanying text.
51. See Formanek v. United States, 26 Cl. Ct. 332, 335 (1992) (holding that if land has remaining legal value following a permit denial, a regulatory taking has not occurred (quoting Fla. Rock Indus., Inc. v. United States, 791 F.2d 893, 903 (Fed. Cir. 1986))).
52. Id.
government argued that conservation was the highest and best use. In *United States v. 7.92 Acres of Land*, an eminent domain case, the government argued that conservation was highest and best because, for that particular piece of land, conservation uses were the least valuable use of the land. In *Ciampitti v. United States*, the government missed an opportunity to argue that conservation uses were a highest and best use and conceded that the land in question was worthless as a wetland. In *Washington Metropolitan Area Transit Authority v. United States*, the government argued that conservation was not the highest and best use because the case involved a taking by eminent domain, and the conservation use of the land was the most valuable use. In that case, the court acknowledged that the government often adopts different viewpoints on conservation use as a highest and best use, depending on which is the best argument for the government at the time.

While the government as a litigant has adopted various stances on conservation uses, courts have largely been consistent in finding that conservation uses are not a highest and best use. *Loveladies* is perhaps the best example. In that case, Loveladies Corporation sued for compensation under a regulatory takings theory. While the government argued that conservation was the highest and best use, the court ruled against the government. The Army Corps of Engineers ("Corps of Engineers" or "Corps") had denied Loveladies' request for a permit to fill its wetlands, thereby precluding any development of the land. The government argued that although the land value had been reduced, the land still had value as a site suitable

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55. *Id.* at 339; *Loveladies*, 21 Cl. Ct. at 158.
56. 769 F.2d 4 (1st Cir. 1985).
57. *Id.* at 12.
59. *Id.* at 317.
60. 54 Fed. Cl. 20 (2002).
61. *Id.* at 33.
62. *Id.* at 34 n.20 (noting that "in many of the cases, defendant or one of its agencies was the one arguing in favor of recreation or conservation use").
64. *Id.* at 158.
65. *Id.* at 154. Section 404 of the Clean Water Act charges the Corps of Engineers with the responsibility of regulating discharges of dredged or fill material into navigable waterways. Clean Water Act, 33 U.S.C. § 1344 (2000). Landowners must obtain a permit before they are allowed to fill or destroy wetlands. *Id.* Permit denials frequently result in a claim of regulatory taking by the landowner. See, e.g., Formanek v. United States, 26 Cl. Ct. 332, 334 (1992); Ciampitti v. United States, 22 Cl. Ct. 310, 316 (1991); *Loveladies*, 21 Cl. Ct. at 154 (all cases where the lawsuit for compensation was filed after a permit denial).
for conversion into a wetlands mitigation area.\textsuperscript{66} According to the government, the landowner could then have sold credits to those who needed to mitigate the wetlands that they were permitted to destroy.\textsuperscript{67} The court flatly rejected the argument, stating:

There is no evidence that the alternative uses proposed by [the government] \ldots would have met the standard of a reasonable probability for adaptability and demand set forth in \textit{Olson}. Moreover, even if the court were to accept defendant’s unsupported contentions that the property could be adapted for use for hunting, agriculture, as a mitigation site, or a marina, that would not establish a market for that use.\textsuperscript{68}

This ruling was made in spite of testimony by Corps of Engineers’ officers and developers, as well as documentary evidence that the Corps frequently requires developers to pay others for mitigation.\textsuperscript{69} The logic behind the court’s decision was that despite these requirements, there was no market for mitigation and, therefore, the use was too remote to meet the \textit{Olson} test.\textsuperscript{70} Thus, the case stands for the premise that there is no market for wetlands mitigation banking. While this may have been true in 1990 when the U.S. Claims Court decided the case, such a finding may no longer be accurate.\textsuperscript{71}

In \textit{7.92 Acres of Land}, the First Circuit was also skeptical that conservation uses could be a highest and best use.\textsuperscript{72} In this case, the landowner appealed a commission ruling in an eminent domain proceeding that awarded the landowner $2,000 for her land.\textsuperscript{73} The government argued that conservation was the highest and best use because the land was not suitable for development.\textsuperscript{74} The government made its argument in an attempt to reduce the appraisal value of the land and thus pay less for it.\textsuperscript{75} The landowner, however,

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\item \textsuperscript{66} \textit{Loveladies}, 21 Cl. Ct. at 159.
\item \textsuperscript{67} \textit{Id.; see also infra} Part IV.A (outlining market for undeveloped wetlands through system of wetlands mitigation banking).
\item \textsuperscript{68} \textit{Loveladies}, 21 Cl. Ct. at 159.
\item \textsuperscript{69} \textit{Id.} This testimony was offered as evidence that a market does exist for mitigation. See \textit{id.}
\item \textsuperscript{70} \textit{Id.}
\item \textsuperscript{71} \textit{See infra} Part IV.
\item \textsuperscript{72} United States v. \textit{7.92 Acres of Land}, 769 F.2d 4, 12 (1st Cir. 1985).
\item \textsuperscript{73} \textit{Id.} at 6.
\item \textsuperscript{74} \textit{Id.} at 12.
\item \textsuperscript{75} \textit{See id.}
\end{itemize}
argued that the highest and best use was development.\textsuperscript{76} The court sided with the government and affirmed the commission's decision, awarding the landowner $2,000; nevertheless, it noted that the commission did not believe that there was a conservation market for the land.\textsuperscript{77}

The inconsistency in the ruling is apparent under the Olson standard.\textsuperscript{78} The court could not believe that the fair market value of the land, based on conservation, was $2,000 and that a market for conservation did not exist. If no market exists for use of the land, then, under Olson, it is inappropriate to value that land based on such a use because there is no fair market value without a market.\textsuperscript{79} The bottom line is that the court dismissed the idea of conservation as a viable market in this case as well.

In Formanek, the U.S. Claims Court applied Loveladies and affirmed that courts do not view conservation uses as a highest and best use.\textsuperscript{80} In 1960, Ray Formanek and his wife purchased property, consisting of 100 acres of highly sensitive wetlands, for approximately $18,000.\textsuperscript{81} In 1981, the Minnesota Department of Natural Resources offered to purchase the property for $590,000.\textsuperscript{82} Later, these negotiations fell through,\textsuperscript{83} although at trial Mr. Formanek's appraiser admitted that the land was currently worth $490,000 as a conservation property.\textsuperscript{84} In 1985, the plaintiffs applied for a permit to fill the wetlands but were denied, and the litigation ensued.\textsuperscript{85} The court found that even though the landowner had received two specific offers for his property from conservation interests, the value of the

\textsuperscript{76} Id. at 10, 12. Interestingly, the government attempted to establish that the land could not be valued as a developable property because it was restricted by wetlands laws, among other reasons. Id. at 12.

\textsuperscript{77} Id. at 12. 7.92 Acres of Land was decided in 1985 before most environmental markets had developed, and therefore developed land was likely much more valuable than any conservation use. See infra Part IV.

\textsuperscript{78} See supra Part I.B.

\textsuperscript{79} See 4 NICHOLS ON EMINENT DOMAIN 2006, supra note 25, § 13.01[9]. Courts sometimes do find that a piece of land does not have fair market value and therefore use either a replacement cost approach (awarding the cost to the particular landowner of purchasing another like piece of property) or an income-producing approach (awarding the profit normally produced by the land). Id. While it is possible that the court in 7.92 Acres of Land employed one of these alternate approaches, the court never explicitly stated that it chose to do so.

\textsuperscript{80} Formanek v. United States, 26 Cl. Ct. 332, 333, 340 (1992).

\textsuperscript{81} Id. at 333.

\textsuperscript{82} Id. at 334.

\textsuperscript{83} Id.

\textsuperscript{84} Id. at 340.

\textsuperscript{85} Id. at 334.
land had been so greatly reduced by a wetland permit denial that the denial constituted a taking.\textsuperscript{86}

What is significant about \textit{Formanek} is that the court knew of two offers to purchase the land for a conservation use at substantial prices,\textsuperscript{87} and yet deemed the after-taking value of the land to be $112,000.\textsuperscript{88} The court acknowledged that "if there is found to exist a solid and adequate fair market value . . . which [plaintiffs] could have obtained from others for that property, that would be a sufficient remaining use of the property to forestall a determination that a taking had occurred . . . ."\textsuperscript{89} The court's language indicates that, while the court was aware that finding another profitable use of the land would mean that the permit denial was not a taking, the court was unwilling to view the conservationists' offers as a viable valuation of the land.\textsuperscript{90} Thus, the underlying assumption was that conservation uses are not an appropriate method of appraising land.\textsuperscript{91} Again, at the time, the court may have been correct in its assumption. Under current circumstances, however, the court would have been incorrect.

\textit{Ciampitti}, another case involving a regulatory taking of wetlands, demonstrates that practitioners can miss important opportunities to consider conservation use values. In this case, both the government and Ciampitti agreed, in the court's words, that "[t]he wetlands area has only nominal value and is fundamentally commercially unmarketable."\textsuperscript{92} The court could not look beyond the undisputed evidence. While in other cases practitioners were making the

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\item \textsuperscript{86} \textit{Id.} at 341.
\item \textsuperscript{87} \textit{Formanek} v. United States, 18 Cl. Ct. 785, 797 (1989) (noting in an earlier interlocutory appeal from summary judgment that in addition to the $590,000 offer from the Minnesota Department of Natural Resources, the plaintiffs also received another offer from the Nature Conservancy for an unspecified amount).
\item \textsuperscript{88} \textit{Formanek}, 26 Cl. Ct. at 340. The court found the before-taking value of the land at the time of taking to be $933,921. \textit{Id.}
\item \textsuperscript{89} \textit{Id.} at 335 (quoting Fla. Rock Indus., Inc. v. United States, 791 F.2d 893, 903 (Fed. Cir. 1986)).
\item \textsuperscript{90} The value of the land was still reduced by half. However, courts have consistently ruled that the government does not have to pay for regulations which cause a "mere diminution" in value. Loveladies Harbor, Inc. v. United States, 21 Cl. Ct. 153, 160 (1990) (citing Pa. Coal Co. v. Mahon, 260 U.S. 393, 413 (1922)). Takings are only deemed to have occurred when the value is severely influenced. \textit{Id.} The jurisprudence that draws the line between mere diminution and severe interference is complex and requires case-specific determinations. See \textit{Formanek}, 26 Cl. Ct. at 335 ("[T]he court must make ad hoc, factual inquiries into the circumstances of each particular case." (citation omitted)).
\item \textsuperscript{91} \textit{See Formanek}, 18 Cl. Ct. at 789 ("This court adopts the view presented by \textit{Loveladies Harbor} that an offer to purchase made by a conservation group which would maintain the property in its natural state is not a speculative, commercial, or recreational use which would refute plaintiffs' taking claim as a matter of law.").
\item \textsuperscript{92} \textit{Ciampitti} v. United States, 22 Cl. Ct. 310, 317 (1991).
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argument for including conservation uses, the government attorneys here missed an important chance.

The U.S. Court of Federal Claims signaled a possible departure from former attitudes about conservation uses in Washington Metropolitan Area Transit Authority, where the government sought to use eminent domain to take land which Washington Metro had formerly used as a suburban rail line. The plaintiffs set forth a unique argument that the highest and best use of the land was for an unbroken hiking and biking trail. The court found that there was a viable market for hiking and biking trails and noted that the Olson approach is flexible enough for the court to consider all possible uses of the land. The court also noted that the government has often argued that conservation uses should be counted as a potential highest and best use, such as in Loveladies and 7.92 Acres of Land. The ruling may signal a new era in which courts are willing to accept conservation uses as a highest and best use; because similar cases have not followed, however, it is not safe to assume that this was a broad ruling in favor of conservation uses.

The above cases demonstrate that, for the most part, courts have adopted the view that conservation uses should not be taken into account when valuing land in either eminent domain or regulatory takings cases. Only in some limited circumstances have courts used conservation values as an indicator of fair market value. What is unanswered is whether courts would generally accept valuation for conservation uses as an acceptable appraisal method if those courts understood that conservation uses constitute a viable market. Assuming that the Olson standard still holds, this Comment will explore whether various conservation uses constitute a viable market under the standard. In other words, are conservation uses reasonably possible uses which are not too speculative?

93. See Formanek, 26 Cl. Ct. at 334; Loveladies, 21 Cl. Ct. at 158.
95. Id. at 28.
96. Id. at 32–33; see also supra Part I.B.
97. Id. at 34 n.20 ("[I]n many of these cases, [the United States] or one of its agencies was the one arguing in favor of a recreation or conservation use." (citing Loveladies, 21 Cl. Ct. at 159; United States v. 7.92 Acres of Land, 769 F.2d 4, 12 (1st Cir. 1985))).
98. See Wash. Metro., 54 Fed. Cl. at 32–33.
99. This idea was first explored by Royal C. Gardner in Banking on Entrepreneurs: Wetlands, Mitigation Bankings, and Takings, supra note 4. At the time, Professor Gardner concluded that wetlands mitigation banking had not yet emerged as a sufficient way to value land. Id. at 577.
100. See id.
III. HISTORY OF ENVIRONMENTAL REGULATIONS

Environmental regulations have been the driving force behind the creation of conservation markets. While most environmental regulations began as strict government rules, many regulatory schemes have at least partially integrated market-based systems, which seek to use market incentives to encourage polluters to comply with the law.

Environmental laws initially came in the form of command and control regulations. Under these schemes, the government would set a standard and command industry to follow. While command and control regulations have provided great environmental gains for the United States, these systems can be economically and environmentally inefficient. Because command and control regulations require two different firms, emitting the same pollutant, to reduce emissions to the same level, they disregard the notion that reducing emissions is more costly to some firms than to others. In contrast, a market-based approach would allow the two firms to bargain with one another to achieve the same total amount of emission reduction at a lower overall price.

101. See Parrish, supra note 39 (outlining a variety of economic incentives that have been employed in United States environmental law).
103. See Parrish, supra note 39.
104. See PERCIVAL ET AL., supra note 102, at 90-91.
105. William W. Sapp, The Supply-Side and Demand-Side of Wetlands Mitigation Banking, 74 OR. L. REV. 951, 957 (1995). For instance, federal air regulations specify that new lime manufacturing plants cannot emit more than 0.3 kilograms of particulate matter, a pollutant, per megagram of stone feed processed. 40 C.F.R. § 60.342 (2007).
107. See id. at 539 (“[C]riticism often targets the [Clean Water] Act’s reliance upon technology-based standards because such a uniform approach to pollution control is said to impose ‘inordinate expense’ and stifle ‘innovation and investment that would benefit both the environment and the economy.’” (quoting Richard B. Stewart, Economics, Environment, and the Limits of Legal Control, 9 HARY. ENVTL. L. REV. 1, 9 (1985))); see also PERCIVAL ET AL., supra note 102, at 136 (noting that economists are “harshly critical of command-and-control regulations” due to their inefficiency).
108. See 42 U.S.C. § 7411(b)(1)(B) (2000) (authorizing the Environmental Protection Agency to set up categories of sources and requiring each source to meet the same emissions standards as other sources in its category). Sometimes, Firm A can reduce its emissions at a lower cost per unit of emissions, perhaps because of a certain technology that fits well with its plant. In command and control schemes, Firm B is required to reduce its emissions to the same amount as Firm A, although it costs Firm B much more per unit to achieve compliance. Sapp, supra note 105, at 958.
109. See PERCIVAL ET AL., supra note 102, at 133. Firm A would reduce enough pollution to cover both firms’ requirements, and Firm B would compensate Firm A for
A corollary to economic inefficiency is environmental inefficiency. Regulated industries possess a great deal of political clout, and if industries feel oppressed by command and control regulations, then they are likely to fight back.\textsuperscript{110} The result of political fights is environmental inefficiencies.\textsuperscript{111} For instance, the Clean Water Act ("CWA") alone has not been able to adequately regulate nonpoint source pollution or provide comprehensive protection to wetlands systems.\textsuperscript{112} Furthermore, Congress has not regulated development in a way that preserves biodiversity.\textsuperscript{113} With so much at stake financially and ecologically, it is not surprising that compromise over command and control regulations is hard to reach. Former U.S. Environmental Protection Agency ("EPA") Administrator William D. Ruckelshaus has stated, "We probably have taken the regulatory system, what we call the command and control system, about as far as we can take it... If we're really going to make additional progress, we have to figure out how to get the economic incentives in line with our environmental goals."\textsuperscript{114} Therefore, the most environmentally efficient way to approach environmental regulation may be to compromise with the regulated community by allowing market-based systems.\textsuperscript{115}

\section*{IV. ENVIRONMENTAL MARKETS}

Pressure to reform command and control regulations has caused many types of environmental regulations to move towards a market-based approach.\textsuperscript{116} For example, credits for emissions of sulfur dioxide ("SO\textsubscript{2}") are currently traded on the open market,\textsuperscript{117} and the U.S. Fish and Wildlife Service ("FWS") allows trading of habitat doing so. The amount firm B would pay would be less than what it would cost the firm to comply on its own. \textit{Id.}

\begin{itemize}
\item[111.] Parrish, \textit{supra} note 39 ("Where you can get the profit motive working," said Thomas Graff, a senior attorney of the Environmental Defense Fund, 'you will see a lot more results more quickly than if you're simply trying to take something away from a polluter... You had a regulatory system that worked pretty well through the '70s, but, in essence, a confrontationist approach breeds its own response.").
\item[112.] Andreen, \textit{supra} note 106, at 543-44.
\item[113.] See Clark & Downes, \textit{supra} note 9, at 33.
\item[114.] Parrish, \textit{supra} note 39.
\item[115.] See Clark & Downes, \textit{supra} note 9, at 15-16.
\item[116.] \textit{Id.}
\item[117.] PERCIVAL ET AL., \textit{supra} note 102, at 96.
\end{itemize}
credits for sensitive species. In addition, wetlands mitigation banking allows developers to buy wetland credits in exchange for the right to develop the wetlands they own. Although not as easily valuated, other programs such as conservation payments to farmers for employing farming techniques that decrease erosion, and the recent purchase of the Hudson Valley watershed by New York City, also offer examples of landowners who received cash on the open market after converting their land to conservation uses.

SO\textsubscript{2} trading is a classic market-based regulation. An amendment to the Clean Air Act passed during the George H.W. Bush administration directs the EPA to set caps on SO\textsubscript{2} emissions across the country. Permits then issued to firms give the plants the right to emit a certain number of tons of SO\textsubscript{2} per year. The permits will likely be issued for less than the plants already emit, and so firms will be compelled to either install pollution controls or purchase credits from firms that reduce more than is required. Plants that reduce more than is required are then allowed to sell their credits to other polluters. Thus, individual firms will do what is most profitable for themselves: either buy extra credits on the market or clean up and sell excess credits to other firms.


119. See Gardner, supra note 4, at 531.

120. New York City discovered that, by investing in watershed conservation, it could provide pure drinking water to the city for $1.5 billion, a far cry from the estimated six to eight billion dollar cost for a water purification plant. James Salzman, Creating Markets for Ecosystem Services: Notes from the Field, 80 N.Y.U. L. REV. 870, 878-79 (2005).


122. § 7651b(a).

123. § 7651b(b).

Of course, SO2 credits are not exactly relevant to eminent domain because landowners cannot create credits to sell simply by owning the land. However, such a system would be relevant if the United States chooses to regulate greenhouse gases which cause global climate change. Industry executives are already calling for a system of credit trading for carbon that is similar to the SO2 system.\(^{125}\) Under that scheme, landowners would be able to create carbon credits to sell by planting additional trees on their land.\(^{126}\) In fact, a similar system already exists in Europe, and firms pay landowners across the globe in order to offset their emissions.\(^{127}\) As of this writing, carbon offsets are trading in the three dollar range.\(^{128}\) Greenhouse gas trading is already a viable market that will likely continue to grow.\(^{129}\) Land that is currently rural forestland and not readily developable in the near future may have a highest and best use as a carbon sequestration site.\(^{130}\)

A. Wetlands Mitigation Banking

Perhaps the best opportunity for courts to find a viable market that would satisfy Olson is in wetlands mitigation banking. Wetlands mitigation banking is a robust market, and wetlands are a vital part of the environment that judges should seek to protect in the public interest.


\(^{126}\) Chicago Climate Exchange, CCX Offsets Program, http://www.chicagoclimatex.com/content.jsf?id=23 (last visited Nov. 7, 2007). This particular program pays individuals to plant trees and grass cover to reduce emissions and to capture and burn methane. This is called carbon sequestration, which refers to the ability of trees to trap carbon as they grow.


\(^{129}\) See PERCIVAL ET AL., *supra* note 102, at 1065. European Union leaders have recently pursued an even more ambitious program of reductions that will likely result in a greater trading volume. See id.

\(^{130}\) Rural land is just as subject to takings as is urban land. The government may need such land for an interstate highway or a secluded military installation. For example, the World War II Manhattan Project designated land in Oak Ridge, Tennessee, a remote area of the state, to develop the atomic bomb. The government requisitioned enough land to build a "secret city." See Oak Ridge National Laboratory, http://www.ornl.gov/info/swords/swords.shtml (last visited Nov. 7, 2007).
1. Background

Section 404 of the CWA authorizes the Corps of Engineers to protect wetlands by requiring a permit for anyone who wants to "dredge[] or fill" wetlands on their property. The Corps has a policy of "no net loss," meaning that although some wetlands will inevitably be lost to development, developers are responsible for replacing the wetlands they destroy. The goal of the policy is to stop loss of wetland acreage and eventually regain some of the wetlands already lost. Developers were initially expected to preserve or create additional wetlands on the same site as the damaged wetlands. However, these onsite wetlands often did not serve to replace the functions of the damaged wetlands because developers did not have the expertise to create wetlands. Further, this system of mitigation was economically inefficient because the onsite land was often worth a great deal of money, while offsite areas could be converted to wetlands for a lower price.

Regulators soon found an alternative to onsite mitigation called wetlands mitigation banking. This system permits developers to pay a landowner at a different site to preserve existing wetlands, enhance a currently degraded wetland, or to create an entirely new wetland area. The Corps of Engineers determines, from the site to be destroyed, how many credits of mitigation will be required.

131. 33 U.S.C. § 1344(a) (2000). The Corps first prefers that landowners avoid or minimize damage to wetlands on their property. After these possibilities have been exhausted, mitigation is considered. Mathew H. Bonds & Jeffrey J. Pompe, Calculating Wetland Mitigation Banking Credits: Adjusting for Wetland Function and Location, 43 NAT. RESOURCES J. 961, 962 (2003).
132. Gardner, supra note 4, at 534–35.
133. Id. at 534.
134. Bonds & Pompe, supra note 131, at 962.
135. See id.
136. See id.
137. Federal Guidance for the Establishment, Use and Operation of Mitigation Banks, 60 Fed. Reg. 58,605, 58,607 (Nov. 28, 1995); Bonds & Pompe, supra note 131, at 962–63; Gardner, supra note 4, at 531. Mitigation through preservation of existing wetlands is controversial. Although preserved natural wetlands often will be more functional than a created wetland, it is not consistent with the "no net loss" policy to allow mitigation by preservation. Gardner, supra note 4, at 553.
138. Federal Guidance for the Establishment, Use and Operation of Mitigation Banks, 60 Fed. Reg. at 58,612. This is not necessarily a one-to-one ratio. Created wetlands offsite do not necessarily serve as high a function as natural wetlands, and so often regulators require more wetlands to be created than are destroyed. See Gardner, supra note 4, at 552–55 for a discussion on how agencies calculate this ratio. See also Bonds & Pompe, supra note 131, at 965–66 (stating that different parcels of wetlands should be valued according to their functions and that regulators do so in practice by creating "trading
Corps also determines how many credits a mitigation site can offer for sale. Entrepreneurs can therefore create large-scale mitigation banks for profit by buying regular land, converting it into wetland, and then selling the credits to developers.

2. Why Mitigation Banks Are a Highest and Best Use Under Olson

A robust market for wetlands mitigation banking does currently exist. Generally, there are two types of wetland mitigation banks: purely entrepreneurial and in-lieu-fee. Entrepreneurial banks are run by private owners who buy land speculatively and then convert the land into a wetland. Once the wetland has begun to perform ecological functions—a determination made by the Corps of Engineers—the credits that the bank has created can then be sold on the open market. In contrast, in-lieu-fee programs are typically run by the government. The government entity, usually the state, fixes prices for different kinds of wetland credits, and developers pay into the state fund in order to meet their mitigation requirements. The state is then charged with creating the offsetting wetland area.

ratios”). This is also consistent with the long-term policy of increasing the nation’s total wetland area. See Gardner, supra note 4, at 534.


140. See Gardner, supra note 4, at 551. In some cases, the developer is also the owner of the mitigation bank. Id. State departments of transportation may follow this model. See id.

141. See generally Wilkinson & Thompson, supra note 9 (describing the various prices and systems for selling wetland mitigation credits).

142. See Bonds & Pompe, supra note 131, at 963. It may be overly simplistic to reduce the regulatory options to a choice between private banks and state-run in-lieu-fee programs. See Wilkinson & Thompson, supra note 9, for a more extensive explanation of the different ways to achieve mitigation. See also Federal Guidance for the Establishment, Use and Operation of Mitigation Banks, 60 Fed. Reg. at 58,607 (establishing federal policy on the operation of entrepreneurial wetland mitigation banks); Federal Guidance on the Use of In-Lieu-Fee Arrangements for Compensatory Mitigation Under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act 1 (2000), http://www.epa.gov/owow/wetlands/regs/inlieufee.pdf (clarifying federal policy on the operation of state-run in-lieu-fee mitigation programs).

143. See Bonds & Pompe, supra note 131, at 963.

144. See Gardner, supra note 4, at 555–56; see also Federal Guidance for the Establishment, Use and Operation of Mitigation Banks, 60 Fed. Reg. at 58,607 (establishing federal policy on the sale of credits by entrepreneurial banks).

145. Wilkinson & Thompson, supra note 9, at 14. In 2005, eighty-one percent were run by the Corps of Engineers, fourteen percent were run by state agencies, and just under five percent were run by local authorities. Id. at 16.

146. Id. at 14; see, e.g., North Carolina Ecosystem Enhancement Program, http://www.nceep.net/pages/fee.htm (last visited Nov. 7, 2007) (listing North Carolina’s prices for in-lieu-fee credits).
The Environmental Law Institute ("ELI") periodically surveys Corps of Engineers' offices to determine the kinds and amounts of mitigation projects being operated.\textsuperscript{147} In 1992, circa \textit{Loveladies}\textsuperscript{148} and \textit{Formanek},\textsuperscript{149} only forty-six wetland mitigation banks existed in the United States, and none had sold out of credits.\textsuperscript{150} In 2005, however, there were 330 banks, and seventy-five banks had completely sold out.\textsuperscript{151} Seventy percent of banks in 2005 had credits for sale on the open market.\textsuperscript{152} In addition, there were forty-two in-lieu-fee programs.\textsuperscript{153} By 2001, 42,000 acres of wetlands had been created for the purpose of mitigation.\textsuperscript{154}

The market prices for mitigation credits demonstrate that mitigation banking is a robust market. For instance, credits in Florida have sold for as much as $45,000 per acre.\textsuperscript{155} ELI's survey of open-market banks showed a low of $3,000 per acre in the Baltimore district and a high of $350,000 per acre in the Norfolk district.\textsuperscript{156} Prices vary due to factors such as land costs and the type of mitigation performed.\textsuperscript{157} For instance, North Carolina's in-lieu-fee program breaks down payments according to the type of wetland that will be

\begin{itemize}
\item \textsuperscript{147} \textit{WILKINSON \& THOMPSON, supra} note 9, at 1. Eighty-two percent of Corps of Engineers Districts responded to the 2005 survey. \textit{Id.}
\item \textsuperscript{148} \textit{Loveladies Harbor, Inc. v. United States}, 21 Cl. Ct. 153 (1990).
\item \textsuperscript{149} \textit{Formanek v. United States}, 26 Cl. Ct. 332 (1992).
\item \textsuperscript{150} \textit{WILKINSON \& THOMPSON, supra} note 9, at 2.
\item \textsuperscript{151} \textit{Id.}
\item \textsuperscript{152} \textit{Id.} at 7. The other thirty percent were wetland banks created specifically for one developer, with all of the credits from that bank going to offset the developer's project, or were state-run banks which were partially used to offset government projects. \textit{Id.}
\item \textsuperscript{153} \textit{Id.} at 15.
\item \textsuperscript{154} \textit{Bonds \& Pompe, supra} note 131, at 963. There is some debate about the appropriate way to go about creating credits. Some environmentalists agree that putting a permanent conservation easement on an existing wetland should count as a creation of credits. Others disagree, claiming that because such wetlands already existed, simply preserving them does not offset the damage that the development is doing, and that a more appropriate mitigation method is to create new wetlands or improve degraded wetlands; this way, the increased wetland functions truly offset those lost in development. However, currently existing wetlands often function better than manmade ones. The bottom line is that some landowners of wetlands may be able to earn profit from the land by placing a permanent easement on the land, while owners of land suitable for conversion to wetland can definitely earn revenue this way. For a summary of this debate, see \textit{Gardner, supra} note 4, at 552-53.
\item \textsuperscript{155} \textit{Bonds \& Pompe, supra} note 131, at 976.
\item \textsuperscript{156} \textit{WILKINSON \& THOMPSON, supra} note 9, at 28. It should be noted that ELI could not report accurately on this matter because some districts responded to the survey with total prices, while others responded with a mitigation-plus-land-costs price. \textit{Id.} Further, only thirty-nine percent of districts responded with any information at all. \textit{Id.}
\item \textsuperscript{157} \textit{Id.} at 28.
\end{itemize}
destroyed. As of July 1, 2007, a credit for non-riparian wetland costs $14,676 per acre, while a credit for riparian wetland costs $29,351 per acre. The Katoomba Group’s Ecosystem Marketplace, a web-based trading system, reports forty-seven open-market trades since 2000 for a total of 7,967 credits and a market volume of $289,659,866.

Wetlands mitigation banking, therefore, creates a market for lands which can be converted to wetland and, in some cases, land which is currently wetland. When facing a takings case, practitioners should question whether the land is convertible and, if so, what mitigation bankers are willing to pay for such land. This conservation use is an appropriate and relevant highest and best use under the Olson standard that can result in higher compensation for some landowners. Of course, in a regulatory takings case, the opposite is true; if courts consider wetlands to be valuable for their preservation credits, then the land would have remaining value which would preclude the court from finding a taking.

The most important argument, however, is for the landowners whose land is being taken. By arbitrarily denying a system of valuation that may result in higher compensation for the landowner, courts are denying those landowners their constitutional right to just compensation, thereby violating due process.

159. Id. The difference in price might be attributed to the fact that riparian wetlands border a waterway and may thus be considered more environmentally valuable than non-riparian wetlands.
161. Gardner, supra note 4, at 563.
164. Nichols on Eminent Domain states:

It has been held that even though the constitutional prohibition against the taking of property without due process of law does not specify or regulate compensation, just compensation, made or secured, is an essential element of due process of law with respect to the taking of private property for a public use.
3. Public Policy Is Served by Ruling that Mitigation Banks Are a

Highest and Best Use

In addition to applying the Olson standard to conservation uses, courts should also keep in mind the public policy concerns at stake. It is undeniably in the public interest to fully integrate conservation uses into just compensation law in order to encourage the preservation and creation of wetlands. Integrating conservation uses into just compensation law might actually have a positive effect on the amount of land conserved in the United States by increasing public awareness of conservation markets and changing the deeply rooted American assumption that land is valuable only as developed or as held for future development. The fact that the government is exercising its power of eminent domain and taking land that is ecologically sensitive may seem to make the entire exercise futile; however, this is not the case. Under the National Environmental Policy Act ("NEPA"), the government itself will have to mitigate any wetlands it destroys.

The public interest is also served by encouraging conservation banking. If the environment is to be preserved, credit trading is the most realistic method of doing so via a method that speaks to everyone regardless of ideology: money. While command and control water regulations have brought great water quality gains to the United States, they have also provoked an anti-environmental backlash that may prevent the furtherance of environmentalism through command and control. Wetlands mitigation banking injects flexibility into the process by allowing industry the opportunity to be green and have some autonomy in environmental compliance decisions, while at the same time reducing compliance costs.

165. See Gardner, supra note 4, at 534–35 ("[T]he question today is no longer whether wetlands should be protected, but rather how best to protect them."). This can be done through mitigation banks: "Wetland mitigation banking, if properly implemented, can offer benefits both to the environment and to private landowners." Id. at 550.

166. See id. at 529 (quoting Sir Edmond Coke, "[F]or what is land but the profits thereof?"," as support for the argument that Americans fail to see how land left in its natural state is valuable).


168. Id. § 4334.

169. Sapp, supra note 105, at 963.

170. See id. at 953; Judith A. Layzer, The Environmental Case: Translating Values into Policy 369 (2d ed. 2006) ("Many environmentalists have, in fact, been reassessing the traditional approaches to environmental protection in the 1990s in response to the backlash those regulations engendered. They have considered a host of approaches to addressing environmental problems [including] . . . incentive-based policies . . . .")
What is at stake environmentally is incredibly important from many different vantage points. Wetlands in particular show that human quality of life is tied to environmental quality, as wetlands provide flood control, water purification, and critical wildlife and fish habitat. Unfortunately, these functions were not discovered until a significant amount of the United States' wetlands had already been destroyed.

Flood control is a crucial function of wetlands which, once lost, is difficult to regain by traditional methods of human engineering. When precipitation reaches a developed surface, such as a parking lot, the water flows quickly into the nearest stream. The result is that the water sometimes hits the stream at too great a volume for the stream's capacity, thus resulting in a flood. However, when precipitation hits a wetland, the vegetation and structure slow the water down, delivering it to the stream at the proper rate. Heavily developed areas often have flood problems that are attributable to loss of wetlands.

Wetlands can also control floods along the coast. Louisiana formerly had a vast system of wetlands which, over time, have been severely damaged by erosion and human activity. Many scientists believe that the natural wetlands would have drastically changed the

171. Andreen, supra note 106, at 583–84.
172. Id. at 584. Estimates of the amount destroyed vary. Id. at 583.
173. PERCIVAL ET AL., supra note 102, at 695.
174. For example, southern Florida was formerly a self-regulating system: water flowed from Lake Okeechobee to the Everglades in a sheet and then passed into the Gulf of Mexico. Years of tinkering have altered the region so that water is diverted from the Everglades and shoots straight into the ocean from Central Florida. Currently, engineers are attempting to restore some of the previous functions in order to restore the Everglades, but the system has so many canals, pumps, and reservoirs that making the slightest changes to the system is a monumental effort. See, e.g., Kevin Wadlow, C-111 Project Breaks Ground, FLA. KEYS KEYNOTER, Aug. 4, 2007, available at http://www.keynoter.com/articles/2007/08/03/key west_news/news11.txt.
176. See Andreen, supra note 106, at 584 (“Wetlands . . . serve to improve water quality by removing nutrients and trapping sediments before they flow into open waters. In addition, wetlands provide flood protection by serving as storage basins during high water . . . . and help to even out stream flows.”).
177. See NOLT ET AL., supra note 175, at 201, 203.
178. Andreen, supra note 106, at 584.
179. PERCIVAL ET AL., supra note 102, at 695.
outcome of Hurricane Katrina in 2005. These wetlands would have slowed the storm surge, decreasing pressure on the levees and, perhaps, ultimately preventing the levee breach that caused substantial loss of life and property.

Wetlands also serve water purification functions by removing sediments, toxins, and bacteria from water runoff. When the rate of water flow is slowed in the wetland, sediments fall out. This is important because sedimentation is a major water quality problem in the United States. It affects fish reproduction by decreasing aquatic life’s ability to find mates, and it affects the eggs’ ability to absorb the proper amount of oxygen from the water even when there is successful mating.

In addition, nitrogen and phosphorus in the sediment can lead to algal blooms. Algal blooms are a concern because they starve out other organisms for oxygen, resulting in fish kills. The proper balance of plant life is important in wetlands because wetlands provide crucial spawning grounds for fish and habitat for migratory birds that use the dense vegetation to hide from predators. This vegetation is also the basis of many food chains.

In sum, courts have many good reasons to consider wetlands mitigation banking as the highest and best use in cases where land can be preserved as wetland or where entrepreneurs can create wetlands on the site. First, the Olson standard should apply. Wetlands mitigation banking is a well-developed market, not a speculative enterprise; consequently, disallowing this conservation method as a highest and best use deprives landowners of due process. Second,

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181. See PERCIVAL ET AL., supra note 102, at 695.
182. See Heath, supra note 180.
184. Andreen, supra note 106, at 584.
185. Id. at 558. Runoff from farms, logging, and developed areas contribute to the problem. Hutchinson, supra note 183, at 239.
186. Andreen, supra note 106, at 558.
187. Id. at 556.
189. Andreen, supra note 106, at 583-84.
190. Id.
191. See supra Part I.B.
192. See 1A NICHOLS ON EMINENT DOMAIN 2007, supra note 25, § 4.8 (stating that due process is violated whenever just compensation is not given).
courts should rule in the public interest which includes conserving and creating wetlands.  

B. Endangered Species Act Mitigation Credits

The ESA also provides opportunities to value land based on its conservation uses, though not through as well-developed of a system as that which exists for wetlands. The ESA empowers the U.S. Secretary of Commerce to identify species at risk for extinction and subsequently classify them as either endangered or threatened. Species extinction is a concern not only for the loss of the intrinsic worth of the species, but because the loss of the species may upset the balance of an entire ecosystem, triggering abnormal decreases of some species populations and increases of others. In order to protect the species, regulations must reach into private land because many endangered or threatened species’ habitat includes private land, and fifty percent of the listed species’ habitat consists solely of private land. Destroying, or “taking,” an endangered species is illegal, and landowners with endangered or threatened species found on their land face strict regulations. Protecting these species, therefore, has a high political cost and rate of resistance by landowners.

Protection of habitat is crucial to protecting endangered or threatened species. In order to protect habitat, communities have been developing novel ways to enforce the ESA while allowing flexibility to accommodate community economic needs. Landowners can apply to the Department of Interior to undertake activities which “take” an endangered species on their land. If a permit is granted, then the taking is done in conjunction with a

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193. Gardner, supra note 4, at 587.
195. NOLT ET AL., supra note 175, at 75–76 (“I have watched the face of many a newly wolfless mountain, and seen the south-facing slopes wrinkle with a maze of new deer trails. I have seen every edible bush and seedling browsed .... I now suspect that just as a deer herd lives in mortal fear of its wolves, so does a mountain live in mortal fear of its deer.” (quoting Aldo Leopold)).
196. Clark & Downes, supra note 9, at 10.
197. See id. at 48–49.
198. See generally Sapp, supra note 105, at 953 (stating that many American landowners resist the regulation of their land regardless of the purpose behind the regulation).
199. Clark & Downes, supra note 9, at 47–49 (observing that the “strict requirements” of the ESA have caused developers to be willing to negotiate habitat protection in conjunction with their projects and that market incentive programs often play a role in the negotiations).
Habitat Conservation Plan ("HCP"). HCPs lay out the scope of the impact of a taking, the alternatives to a taking, why those alternatives are not being used, and what the permit applicant will do to mitigate their actions.

Two early market-based alternatives are already established in the HCP system: Tradable Development Rights ("TDRs") and the Habitat Transaction Method ("HTM"). TDRs have been used in areas where conservation and development interact, such as the New Jersey Pinelands. Development rights are distributed to landowners within a zone like the Pinelands and can be sold if the landowner agrees to maintain the land in its natural state. In addition, TDRs funnel development into areas that are better suited for development by classifying the types of land that may be developed. For example, in the Chattahoochee Hill Country near Atlanta, Georgia, the land has been divided into "sending" and "receiving" zones. Receiving zones are planned communities where development will occur. Sending zones are spaces in which regulators attempt to limit development and maintain the land in its natural state. Basically, developers are allowed to develop land in a receiving zone once they have purchased comparable TDRs from a landowner in a sending zone. Once a developer has purchased the TDR from a sending zone, the TDR is permanently retired and no one will be able to develop that land. In the Chattahoochee Hill Country, a nonprofit group has undertaken the effort to divide land into sending and receiving zones and serve as the land "bank," matching developers with landowners who wish to permanently preserve their land in its natural state.

The HTM is similar to TDRs; however, instead of valuing all acres of land within a protected zone as biologically equal, HTM values acres based on the actual presence of an endangered species.

201. 50 C.F.R. § 17.22 (2006).
202. § 17.22(b)(1)(iii).
203. Clark & Downes, supra note 9, at 50.
204. Id. at 53.
205. Id. at 54 (stating that credits are maintained in a centralized bank for the specified area).
206. Id. at 53–54.
207. Larry Copeland, Banking Against Urban Sprawl; Landowners Outside Atlanta Draw the Line on Development, USA TODAY, July 30, 2007, at A3.
208. Id.
209. Id.
210. Id.
211. Id.
212. Id.
The HTM approach also has fewer restrictions on where development may occur; instead, HTM relies on mitigation ratios that provide economic incentives to steer development into less sensitive areas.\textsuperscript{214}

In 2003, the FWS began a system to facilitate the trading of ESA credits.\textsuperscript{215} Under this system, credits are traded within areas which are biologically important to an endangered or threatened species.\textsuperscript{216} In order to create a credit, the landowner must show that the land is actually helping to conserve the species.\textsuperscript{217} The Katoomba Group roughly estimates that 930 transactions of habitat credits have taken place, constituting a market volume of $40,773,590.\textsuperscript{218}

ESA systems for earning credits are not as highly developed as are the systems for earning wetland mitigation credits. However, the argument that ESA credits should be considered a highest and best use is parallel to the argument that wetland mitigation credits should be considered as such. ESA credits are a profitable use that landowners can make of their land.\textsuperscript{219} This opportunity is currently available to landowners who have an endangered species on their

\begin{footnotesize}
\begin{enumerate}
\item Clark & Downes, supra note 9, at 54–55 (contrasting the HTM method with the TDR method of valuing land based on the likelihood that a piece of property could provide habitat for a species).
\item Id. at 55.
\item Guidance for the Establishment, Use and Operation of Conservation Banks, 68 Fed. Reg. 24,753, 24,753 (May 8, 2003); see also PARTNERSHIP AGREEMENT, supra note 118, at 1 (establishing a cooperative arrangement between the United States Department of Agriculture, the Natural Resources Conservation Service, and the FWS to foster habitat credit trading markets in the United States).
\item See Conservation Banks Memo, supra note 216, at 6 (stating that conservation banks will only be allowed on a case-by-case basis as determined by the Director of the FWS).
\end{enumerate}
\end{footnotesize}
land or who live in areas undergoing intense development. One of the best examples of a landowner profiting from such an arrangement is International Paper, who earns and then sells credits for protecting red-cockaded woodpeckers.

Of course, because the market for ESA credits is not as well developed as the market for wetland mitigation credits, there are some legitimate arguments that the use is too speculative to meet the Olson standard. It is unknown how many landowners could actually profit from the system. It is also unknown whether landowners will have to prove the presence of the endangered species on their land before establishing eligibility for participation in all credit systems. Further, because it appears that the FWS is not using a uniform system across the country, it may be difficult for practitioners to predict which method would be used with a certain piece of land that is being taken. In some cases, like the Chattahoochee Hill Country, nonprofit groups are taking the initiative and trading development rights as credits. Therefore, it would be especially difficult to argue to a court about the potential value of land as if used to earn and sell credits unless the FWS had already implemented an HCP in the area.

The fact that landowners who have endangered species on their property face strict regulations does not moot the possibility that credits are the highest and best use. It is true that once the FWS realizes that an endangered species exists on the property, the traditional market value of the land will decrease because the land

220. Copeland, supra note 207; Clark & Downes, supra note 9, at 50–56 (establishing that through TDRs and HTM, landowners can receive payments in exchange for a promise not to develop their land).
222. In an area using HTM, land is classified by biological value of the habitat, including whether the endangered species is actually on the property. Clark & Downes, supra note 9, at 54–55. TDRs use more subjective criteria, for example interviewing residents to learn about the traditional uses of the land and protecting areas of currently undeveloped land while pushing growth into central areas. Id. at 53–54.
223. See Clark & Downes, supra note 9, at 48–56 (outlining two different credit systems that the FWS uses without explaining why different methods were chosen for different communities); Preparation of an Environmental Impact Statement in Anticipation of Receiving a Permit Application to Incidentally Take Threatened and Endangered Species in Association with the Kern County Valley Floor Habitat Conservation Plan for Kern County, California, 62 Fed. Reg. 55,269, 55,270 (Oct. 23, 1997) (stating that HTM is an option for Kern County, California, but not explaining why it was chosen over TDRs).
224. Copeland, supra note 207.
225. See Conservation Banks Memo, supra note 216, at 1 (discussing why conservation banking is an attractive conservation method).
cannot be developed without a permit. However, the landowner is free to voluntarily conserve the land in order to create credits to sell. And, at an average of over $43,000 per transaction, this value may be the best deal the landowner would get anyway.

ESA credits have the potential to develop just as wetland mitigation credits have developed over the last two decades. In locations where an HCP is in place, counsel will have more information with which to appraise value. At a minimum, judges should continue to consider arguments that this is a proper appraisal method as the laws, regulations, and market conditions continue to develop. If ESA credits are not currently an appropriate factor in appraisal under the Olson standard, they may become one as the market develops.

CONCLUSION

Current markets value land that is dedicated to conservation. Landowners may choose to create a wetland or endangered species habitat or to permanently retire their land in its natural state for a profit. Given that there is a well-established market nationwide for wetlands mitigation banking and locally for endangered species habitat, courts, practitioners, and appraisers should take conservation uses into account when assigning the highest and best use of a parcel of land. Doing so is required under the Olson standard, because use of lands for conservation purposes is a reasonable future use of qualified parcels.

226. See Clark & Downes, supra note 9, at 49-50 (noting that once an endangered species is discovered on a land, the animal’s presence has the potential to halt projects, and explaining that the law requires landowners to refrain from disturbing habitat in any way without a permit and that the permit process is “slow, laborious and contentious”).

227. See id.

228. See Overview: U.S. Conservation Banking, supra note 218 (dividing market volume by transaction volume to get the dollar amount per transaction).

229. See Clark & Downes, supra note 9, at 47 (“Conservationists, government agencies, and businesses are beginning to explore ways to utilize market mechanisms as economic incentives for achieving conservation goals.”); supra Part IVA.

230. An HCP sets out whether a trading system will be used and, if so, which system. See Clark & Downes, supra note 9, at 50 (noting that while many HCPs do not incorporate a market-based incentive, some do incorporate incentives such as HTM and TDRs).


232. See supra notes 143-44, 209-11 and accompanying text.

233. See supra Part I.C.
When approaching cases like *Loveladies* or *Formanek*, courts should rely on appraisers to determine if land is suitable for conservation easements or for conversion to environmental credits. If parties can establish that trading of conservation credits is occurring in their geographical region in a manner that is suitable to their property, then courts should consider this use in order to be consistent with *Olson*.

In conclusion, environmental resources are precious assets which the government has sought to protect through laws like the Clean Water Act and the Endangered Species Act. Part of this protection should include full integration of the concepts of mitigation banking into just compensation law. Doing so would achieve proper application of the *Olson* standard and would advance a substantial public interest. Takings law is, at this point, only partially integrated with mitigation banking. The *Olson* standard provides a means for further integration. Because conservation markets are adequately developed to meet the *Olson* test, courts should recognize that these uses are not speculative and may legitimately represent the highest and best use of the land.

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235. *See supra* Part II.

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