

COMMENTS

THE RECOVERY OF RESTORATION COSTS: ANALYTICAL SYNTHESIS OF COMMON-LAW PROPERTY DAMAGES, RESTITUTION, AND NATURAL RESOURCE DAMAGES UNDER CERCLA

I.	INTRODUCTION	256
II.	COMMON-LAW PROPERTY DAMAGES	257
	A. <i>Temporary v. Permanent Injuries</i>	258
	B. <i>Enhancement of Property Value</i>	259
	C. <i>Landowner's Interest in Property</i>	260
	D. <i>Restoration Costs</i>	262
	E. <i>Overview</i>	264
III.	CASE STUDY OF WETLANDS	264
IV.	RESTITUTION	266
	A. <i>Theory of Restitution</i>	266
	B. <i>Restitution as Economic Waste</i>	268
V.	RESTORATION UNDER CERCLA.....	269
	A. <i>Ohio Decision</i>	270
	B. <i>Colocotroni Case</i>	273
	C. <i>NOAA Cases for Natural Resource Damages</i> <i>Recovery</i>	274
VI.	CONCEPTUAL PROBLEMS OF RESTORATION COSTS.....	276
	A. <i>Restoration v. Replacement</i>	276
	B. <i>Restoration v. Response/Remedial Actions</i>	277
	C. <i>Cost v. Value</i>	278
	D. <i>Basis of Restoration Costs</i>	278
	E. <i>Valuation of Natural Resources</i>	279
	F. <i>Incorporation of Natural Recovery into</i> <i>Restoration Costs</i>	282
	G. <i>Goal of Restoration Costs</i>	283
VII.	SUMMARY.....	283

The intricate web of interdependence which characterizes our environment requires that we look beyond the present and immediate in assessing the value of any particular element of the environment or in gauging the harm that will accrue from its destruction.¹

I. INTRODUCTION

Evolving from the adage "an eye for an eye," the rules for awarding damages in tort cases have continued to reflect society's attempt to compensate the victim and to deter the wrongdoer. The basic goal, although difficult to achieve in practice, is to place the injured person in a position as good as the person occupied before he or she was wronged.² The scope of recognized damages to the environment and its resources has greatly expanded, especially as the ability to bring private actions related to the environment has become easier.³ New concepts of harm have been recognized by the courts as societal awareness of environmental values has increased.⁴ However, the damages arising from the wide variety of environmental harm pose particularly unique and difficult issues of evaluation. Complications emerge in accurately assessing the total cost of harm caused by the pollution of the environment with hazardous substances of all types. Primarily, what are the true costs of personal injuries (*i.e.*, medical bills, medical monitoring, pain and suffering) and the costs of property damages?

As more emphasis has been directed toward the recovery for personal injury damages in the toxic tort arena, this paper will focus on the private individual's ability to recover for prop-

1. *United States v. Weisman*, 489 F. Supp. 1331, 1346 (M.D. Fla. 1980).

2. See Walter L. Maroney et al., 3 *Environmental Tort Liability*, in *The Law of Hazardous Waste* (MB) § 17.04[1][b] (Susan M. Cooke et al. eds., 1990).

3. At the federal level, private actions have been made easier by the incorporation of citizen suit provisions in major federal environmental statutes. See, e.g., Clean Air Act, 42 U.S.C. § 7604 (1988). Through citizen suit provisions, private citizens are authorized to bring civil enforcement actions against entities responsible for pollution, or against the government, for failure to implement or enforce the laws adequately. See William P. Horn, *Private Claims and Public Resources*, NAT. RESOURCES & ENV'T, Spring 1990, at 17, 17.

4. Horn, *supra* note 3, at 55. For discussion of the wide variety of damages being sought in environmental tort cases, such as emotional distress, diminished quality of life, and lost use or enjoyment, see Maroney *supra* note 2, § 17.04. Indeed, in the *Exxon Valdez* case, the State of Alaska sought compensation for the lost "bequest value" due to the injury arising from the fact that Prince William Sound is no longer a pristine environment to be given to future generations. See Complaint, *Alaska v. Exxon Corp.*, No. 3AN8906852 CIV (Ala. Super. Ct., filed August 15, 1989), reprinted in Edward Greer & Warren Freedman, *TOXIC TORT LITIGATION*, SA-a, SA-16, SA-17 app. (Supp. I 1991).

erty damages based on restoration costs. First, the common-law methods of measuring property damages based on either the diminution in the market value of the property or the cost of restoration⁵ of the property will be reviewed. Second, a case study of wetlands will be presented to demonstrate the growing trend among the courts to award restoration costs. Third, the recovery of restoration costs will be justified on the theory of restitution as a means to prevent "unjust enrichment" for the polluter. Fourth, this comment will illustrate the recent attempts at the federal level to recover restoration costs for natural resource damages resulting from a release of hazardous substances. Finally, the inherent conceptual problems of restoration will be discussed.

II. COMMON-LAW PROPERTY DAMAGES

There are two basic methods of computing damages for injury to property. The first method is to measure the diminution in the market value of the property. Using this method a landowner is entitled to recover the difference between the value of the property immediately before and after the damage.⁶ The second method is to compute the cost of restoration of the property. Using this method a property owner is entitled to recover the costs of restoring the property to its original condition.⁷

Controversy in their application arises when there is a significant difference between the two measures of damages. This conflict is best illustrated in environmental recovery suits. For example, the remedial costs sought in many hazardous waste cleanup cases may greatly exceed the diminution of value as well as the total value of the property. In fact, the costs of the expensive, lengthy, and complex remedial efforts involved in cleaning up a hazardous waste site bear little resemblance in type or magnitude to the repair costs recovered in older tort cases.⁸ This raises the fundamental question of whether environmental harm can be adequately compensated by the traditional principles of common-law property.

5. It is important to note that the courts in the common-law property damage cases do not make a distinction between restoration, replacement, or repair costs. The courts assume that each cost enables the plaintiff to be returned to his pre-tort condition. As such, this comment will use the terms interchangeably. As will be discussed in the last section of this comment, this assumption is invalid in many environmental cases.

6. See RESTATEMENT (SECOND) OF TORTS § 929(1)(a), at 544 (1979).

7. See *id.*

8. Maroney, *supra* note 2, § 17.04[1][a].

Historically, courts have preferred the diminution in market value method when determining the property damages caused by pollution or other tortious acts, especially where private plaintiffs are involved.⁹ Although the application of these two basic damage measures vary among states,¹⁰ many uniform factors influence a court's choice between the diminution in value and the restoration cost measures.

A. *Temporary v. Permanent Injuries*

Courts frequently rely on the distinction between terms such as "temporary" and "permanent" injuries to disguise their true economic motives in awarding damages. Where the costs of restoring the injured property exceeds the diminished value of the property, a court may characterize the damage as permanent.¹¹ Hence, rather than apply the measure of costs for restoration, the court awards the lower or more easily determined diminution in market value measure.¹² Conversely, when the damaged property can be reasonably restored such that the restoration costs are less than the diminution of value, the costs of restoration are allowed on the ground that the injury is temporary.¹³ In other cases, where the diminution in value is greater than the cost of restoration, or where the effectiveness of cleanup is difficult to predict, the plaintiff will prefer the diminution in value measure.¹⁴ However, the plaintiff must demonstrate that the entirety of his land was damaged; otherwise, the plaintiff will

9. *Id.* § 17.04[2][b].

10. See generally William B. Johnson, Annotation, *Measure and Elements of Damages for Pollution of Well or Spring*, 76 A.L.R. 4th 629-743 (1990) (variation among several jurisdictions regarding the applications of damage rules for temporary nuisance injury caused by water pollution); W.R. Habeeb, Annotation, *Measure and Elements of Damages for Pollution of a Stream*, 49 A.L.R. 2d 253-314 (1956) (same).

11. Maroney, *supra* note 2, § 17.04[2][b].

12. See, e.g., *Crown Cork & Seal Co. v. Vroom*, 480 So. 2d 108, 112 (Fla. Dist. Ct. App. 1985); *United States Steel Corp. v. Benefield*, 352 So. 2d 892, 894 (Fla. Dist. Ct. App. 1977), *cert. denied*, 364 So. 2d 881 (Fla. 1978); *Burk Ranches, Inc., v. State*, 790 P.2d 443, 445-46 (Mont. 1990); *Wilson v. Key Tronic Corp.*, 701 P.2d 518, 525 (Wash. Ct. App. 1985).

13. See, e.g., *Big Rock Mountain Corp. v. Stearns-Roger Corp.*, 388 F.2d 165, 169 (S.D. 8th Cir. 1968); *Dalton v. Demos Bros. Gen. Contractors, Inc.*, 135 N.E.2d 646, 647 (Mass. 1956); *R & S Dev., Inc. v. Wilson*, 534 So. 2d 1008, 1012-13 (Miss. 1988); *Hood v. Adams*, 334 S.W.2d 206, 208 (Tex. Civ. App. 1960); Cf. *Burlington-Rock I. R. R. v. Newson*, 239 S.W.2d 734, 737 (Tex. Civ. App. 1951) (reversing an award of actual damages and holding that the adjacent property owners were not entitled to recover damages based on the cost of restoration, where the plaintiffs had failed to establish that the injury was temporary in nature).

14. Cf. *Stoddard v. W. Carolina Regional Sewer Auth.*, 784 F.2d 1200, 1207-08 (4th

be entitled to recover only the diminution in value of that portion of the land actually damaged.¹⁵

A decision that clearly reflects the choice between damage measures is *Ewell v. Petro Processors of Louisiana, Inc.*¹⁶ The landowners in *Ewell* claimed that the toxic industrial waste, which the defendant had disposed of in pits, had leached into their swamp, contaminating their property. Their suit sought damages for the cost of removing the polluted soil and replacing it with clean soil. The trial court held that the landowners could recover only for the diminished value of their property.¹⁷ On appeal, the court stated that there was no set rule because the measure of damages depended upon the facts and circumstances surrounding each case.¹⁸ However, the court suggested that the following factors be considered: "[T]he extent of the damage; the use to which the property may be put; [the] extent of economic loss, both as to value and income; and the cost of and practicability of restoration."¹⁹ Given that the property in the *Ewell* case was used for cattle grazing and noncommercial hunting and fishing, and that restoration would be costly and time consuming, the court affirmed the lower court's decision, holding that diminution in value was the suitable measure.²⁰

B. Enhancement of Property Value

Another factor that may influence courts' choices between the two measures is the likelihood of the restoration measure providing the owner with more valuable property than he had originally. In such cases, courts will decline to award restoration costs to the extent that restoration would enhance the value

Cir. 1986) (deeming damage permanent because it was unclear when pollution would eventually be eliminated).

15. Maroney, *supra* note 2, § 17.04[2][b]; see *Neal v. Bullock*, 538 N.E.2d 308, 309 (Ind. Ct. App. 1989); *Atlas Chem. Indus. v. Anderson*, 514 S.W.2d 309, 319 (Tex. Civ. App. 1974), *aff'd in part, rev'd in part*, 524 S.W.2d 681 (Tex. 1975).

16. 364 So. 2d 604 (La. Ct. App. 1978), *writ denied*, 366 So. 2d 575 (La. 1979).

17. See *id.* at 608.

18. See *id.*

19. *Id.*

20. *Id.*; see also *Atlas Chem. Indus. v. Anderson*, 514 S.W.2d 319 (awarding only \$10,500 out of plaintiff's claim for \$45,000 for diminished value of part of plaintiff's land "because the cost of restoration . . . was well in excess of the diminution in fair market value"); *Belle Fourche Pipeline Co. v. Elmore Livestock Co.*, 669 P.2d 505, 511-14 (Wyo. 1983) (reversing lower court's award of damages based on the cleanup and restoration costs of the contaminated groundwater because they exceeded the market value of the land, and remanding to compare and determine the depreciation value of the land in relation to the restoration costs).

of the property.²¹ In *Meyers v. King*,²² the court held that the property owners were not entitled to recover the cost of installing a water line from their farm to a public water source, even though their well had been contaminated by drainage from a neighboring chicken farm.²³ The court further concluded that the cost of a water line should not be considered in assessing damages because it was a permanent improvement.²⁴ As the evidence in the record showed that the availability of the public water enhanced the value of their property, the court limited the cost of restoration to the amount by which the value of the property was enhanced above its value before the injury. In doing so, the court assumed that the enhanced value was equal to or greater than the cost of installing the water line.²⁵

Similarly, in the recent *Burk Ranches, Inc. v. State*²⁶ case, the court rejected the lower court's award based upon the restoration costs. Instead, the court classified the property damage which resulted from the collapse of a dam as permanent in nature, and therefore applied the diminution in value measure. The court stated:

To hold otherwise would allow repair and replacement damages which might far exceed any benefit regained. It may even exceed the value of the [property] itself. The disparity would encourage the injured party to forgo actual repairs and reap a windfall profit contrary to the purpose of compensatory damages. "The injured party is to be made as nearly whole as possible — but not to realize a profit."²⁷

C. *Landowner's Interest in Property*

Another decisive factor, in determining whether to apply the diminution in value or the restoration cost measure, is the

21. See *Maldonado v. Connecticut Light & Power Co.*, 328 A.2d 120, 122 (Conn. C.P. 1974) (holding that restoration costs would lead to "unreasonable recoveries in excess of the market value of the land," as well as "raise impossible issues in resolving the replacement values of . . . trees"); *Pettengill v. Turo*, 193 A.2d 367, 372 (Me. 1963) (noting that using the cost of restoration as a measure of damages in a case of waste has been criticized on grounds that a plaintiff might repair the property in his own way, and thus make the property much more or less valuable than it was before).

22. No. 86-257-II, 1987 WL 6549 (Tenn. Ct. App. Feb. 13, 1987).

23. *Id.* at *3.

24. *Id.*

25. *Id.*

26. 790 P.2d 443 (Mont. 1990).

27. *Id.* at 447 (quoting *Spackman v. Ralph M. Parsons Co.*, 414 P.2d 918, 921 (Mont. 1966)).

interest that is damaged with respect to the use of the property. As society has traditionally regarded land as unique, this interest factor has resulted in frequent awards of restoration costs. A landowner is permitted to do whatever he likes with his land as long as such use does not interfere with that of his neighbor. This interest can be protected only if an owner is sufficiently compensated so that he can restore the land to the state it was in before the interference.²⁸ Traditionally, courts did not acknowledge this interest and, treating the landowner as a land broker rather than as a land user, awarded only the diminution in land value resulting from the damage.²⁹ Over time, however, courts began to realize that the cost of replacement furnishes a more equitable measure of damages.

The monumental case marking this shift in the judicial perspective on the appropriate measure of damages is *Samson Construction Co. v. Brusowankin*,³⁰ in which the plaintiffs' homesite was bulldozed by a construction company. The court stated that the measure of damages for destruction of fruit trees "is not invariably the market value of the land on which the trees stood before and after the wrong, but under appropriate circumstances may be the value of the trees or the reasonable cost of a reasonable restoration of the property as it was before the wrong."³¹ The court recognized that the plaintiff-landowners had a right to enjoy the realty according to personal preference.³² Thus, a landowner could recover for the cost of restoration upon a showing of a personal reason for restoring the premises to the condition that it was in before the wrong. This result parallels, in its scope, specific relief by restoring the injured party to his original position.³³ Because this is generally an accepted aim of the law of damages, other courts have recently agreed that such a measure is an appropriate one.³⁴

The shade tree cases also illustrate the importance of the use factor in awarding restoration costs. When forest land is

28. DAN B. DOBBS, HANDBOOK ON THE LAW OF REMEDIES § 5.1, at 316 (1973).

29. *Id.*; see, e.g., *Mikol v. Vlahopoulos*, 340 P.2d 1000, 1001 (Ariz. 1959) (replacement cost not argued for diminution in land value resulting from damage to trees and shrubs); see also J.H. Cooper, Annotation, *Measure of Damages for Destruction or Injury to Trees and Shrubbery*, 69 A.L.R. 2d 1335 (1960).

30. 147 A.2d 430 (Md. Ct. App. 1958).

31. *Id.* at 435 (citing RESTATEMENT OF TORTS § 929).

32. *Id.* at 435, 437.

33. DOBBS, *supra* note 28, § 5.1, at 316.

34. *Id.*

damaged, recovery is only based on the diminished value of the land or on the timber value of the trees cut.³⁵ However, if an ornamental or shade tree in a residential area is destroyed, it is more appropriate to allow the cost of restoring the area to its original condition by replanting the tree.³⁶ Numerous cases focus on the uses that trees or shrubbery provide to a landowner, such as their aesthetic value,³⁷ and their functional purpose.³⁸ Several cases also focus on the personal interests of the landowners with respect to trees or shrubbery.³⁹ The Restatement (Second) of Torts supports the view of the more recent cases by recognizing that where land is used for "a purpose personal to the owner," the replacement cost is the proper measure of damages even when there is no diminution in value.⁴⁰ Restoration costs are recovered not only in cases involving damaged or destroyed trees and shrubbery, but also in cases where a landowner's well has been polluted.⁴¹ The courts in these cases held that the cost of procuring a new well was a proper element to consider in awarding damages. Similarly, courts have granted restoration costs for the cleaning up of polluted streams.⁴²

D. Restoration Costs

High restoration costs are the most prohibitive factor in

35. *Id.*

36. See, e.g., *Leavitt v. Continental Tel. Co.*, 559 A.2d 786, 788 (Me. 1989); *R & S Dev., Inc. v. Wilson*, 534 So. 2d 1008, 1010, 1012-13 (Miss. 1988); *Benavie v. Baker*, 420 N.Y.S.2d 735, 736 (N.Y. App. Div. 1979); *Harper v. Morris*, 365 S.E.2d 176, 178 (N.C. Ct. App. 1988); *Otto v. Cornell*, 349 N.W.2d 703, 707 (Wis. App. 1984).

37. See, e.g., *Kroulik v. Knuppel*, 634 P.2d 1027, 1030 (Colo. Ct. App. 1981); *Canton Village Constr., Inc. v. Huntington*, 510 A.2d 1377, 1378 (Conn. App. Ct. 1986); *Rector of St. Christopher's Episcopal Church v. C.S. McCrossan, Inc.*, 235 N.W.2d 609, 610-11 (Minn. 1975).

38. See, e.g., *Baker v. Ramirez*, 235 Cal. Rptr. 857, 865 (Cal. Ct. App. 1987) (orange groves); *Bangert v. Osceola County*, 456 N.W.2d 183, 190 (Iowa 1990) ("trees were maintained for sentimental and historic reasons, for shade and windbreaks, as well as for environmental, wildlife and special landmark purposes"); *Rector of St. Christopher's Episcopal Church v. C.S. McCrossan, Inc.*, 235 N.W.2d at 610 (trees screened sound and provided privacy, shade, and aesthetic value); *Gross v. Jackson Township*, 476 A.2d 974, 976 (Pa. Super. 1984) (hedges and shrubs provided privacy as well as a natural fence for pets).

39. See, e.g., *Bowman v. McFarlin*, 615 S.W.2d 383, 385 (Ark. Ct. App. 1981) (plaintiffs bought land because they wanted a wooded setting); *Heninger v. Dunn*, 162 Cal. Rptr. 104, 108-09 (Cal. Ct. App. 1980) (beauty of natural forest).

40. RESTATEMENT (SECOND) OF TORTS § 929, cmt. b, at 545-46 (1979).

41. See generally *Johnson supra* note 10, at 712-17, 720-24.

42. See, e.g., *Freel v. Ozark-Mahoning Co.*, 208 F. Supp. 93, 98, 99 (D. Colo. 1962). But see *Habeeb, supra* note 10, at 260-66 (cases classifying stream pollution as permanent; plaintiffs were awarded damages based on the diminution in value).

applying the restoration cost measure.⁴³ In order to prevent a windfall to the landowner, recovery of restoration costs traditionally has been limited to the value of the property.⁴⁴ This limitation is likely to be a major constraint if applied in hazardous waste cases, where cleanup costs exceed property values. As Professor Dobbs states:

Several courts have varied this formula by allowing repair or restoration costs to exceed the diminution in the value of the property but limiting such costs to the total pre-tort value of the property. Such ceilings on recovery seem not only unduly mechanical but also wrong from the point of view of reasonable compensation. If the plaintiff wishes to use the damaged property, rather than sell it, repair or restoration at the expense of the defendant is the only remedy that affords full compensation. To limit repair costs to diminution in value is to either force a landowner either to sell property he wishes to keep or to make repairs partly out of his own pocket. Of course, there should be some reasonable likelihood that repairs will in fact be made if repair costs exceed diminution in value; otherwise the landowner will pocket the repair costs and then sell the property, thus deriving a net gain from the tort. In the normal case, however, this is not much of a risk and it seems better to face this risk than it does to face the risk of inadequate compensation.⁴⁵

Breach of contract cases best exemplify the courts' willingness to face the risk that a landowner may take the money for himself rather than use it to complete the work contemplated by the contract with the defendant.⁴⁶ If a building contractor fails to complete the building contracted for, the landowner is ordinarily awarded the cost of completion, even if the cost of completion far exceeds the value of the land or the desired building.⁴⁷ An analogy to contract law is useful to justify the grant of restoration costs in property cases. A few courts have implicitly recognized this contract law remedy by allowing recovery, without

43. *But see* C.R.T., Inc. v. Brown, 602 S.W.2d 409, 410 (Ark. 1980) ("The fact that it would be expensive to restore the land to its former condition is not reason alone to [reject restoration costs]").

44. *See, e.g.*, Burk Ranches, Inc. v. State, 790 P.2d 443, 447 (Mont. 1990).

45. DOBBS, *supra* note 28, § 5.1, at 317 (footnotes omitted).

46. *Id.*

47. *Id.* The landmark case discussing awards for the cost of completion is Jacob & Youngs, Inc. v. Kent, 129 N.E. 889, 891-92 (N.Y. 1921); *see also* Bellizzi v. Huntley Estates, 143 N.E.2d 802, 804 (N.Y. 1957) (stating that it is unfair to burden plaintiff with the burden of fixing an unsafe and dangerous driveway).

a ceiling, for the cost of restoration when it exceeds the diminution in value of the property.⁴⁸ These cases provide another indication of the growing judicial acceptance of restoration costs.

E. Overview

While this review of the common-law property damage cases seems to indicate an increasing willingness by courts to accept restoration costs, it is too soon to say whether this approach represents a substantial shift in judicial opinion. Nevertheless, the majority of courts realize the need to reject their prior application of a fixed and mechanical standard for measuring damages in environmental cases.⁴⁹ As stated in *Board of County Comm'rs v. Slovek*:⁵⁰

No formula can be devised that will produce litmus-test certainty and yet retain the flexibility to produce fair results in all cases. Indeed, the cases reflect . . . efforts by courts to extricate themselves from the bonds of rigid standards that yielded fair results in the cases that gave them birth, but that lead to perceptibly unjust consequences when applied to different facts.⁵¹

Acknowledging the flaws of the traditional tort damage approach, when applied to the complex environmental tort injuries, is the first essential step in the development of an innovative approach for assessing damages based on restoration costs.

III. CASE STUDY OF WETLANDS

One flaw recognized by courts is that the traditional damage model market value differential is inappropriate for assessing injuries to aesthetic and other noncommercial values of natural resources. As a result, focus has shifted to a more equitable measure of restoration costs. For example, recent wetland cases exemplify an equitable analysis in deciding whether a restoration order should be issued for violators of section 404 of the Clean Water Act.⁵² In fact, the government has obtained restoration

48. DOBBS, *supra* note 28, § 5.1, at 317-18; *see, e.g.,* Maloof v. United States, 242 F. Supp. 175, 183 (D. Md. 1965); *Board of County Comm'rs v. Slovek*, 723 P.2d 1309, 1316 (Colo. 1986); *City of Elberton v. J.C. Pool Realty Co.*, 143 S.E.2d 407, 410 (Ga. Ct. App. 1965); *Huber v. Serpico*, 176 A.2d 805, 813-14 (N.J. Super. 1962).

49. *See* DOBBS, *supra* note 28, § 5.1, at 311.

50. 723 P.2d 1309 (Colo. 1986).

51. *Id.* at 1316 (citing DOBBS, *supra* note 28, § 5.1, at 311).

52. This section states that the Army Corps of Engineers may issue permits for the "discharge of dredged or fill material into the navigable waters at specified disposal sites." 33 U.S.C. § 1344(a) (1988). To enforce section 404, the government frequently requests

orders in numerous cases.⁵³ The court in *United States v. Weisman*⁵⁴ held that restoration should be ordered if the proposed plan will "1) confer maximum environmental benefits, 2) be achievable as a practical matter, and 3) bear an equitable relationship to the degree and kind of wrong which [the restoration plan] is intended to remedy."⁵⁵ Though many courts have adopted the standards articulated in *Weisman*,⁵⁶ these standards provide great judicial discretion in deciding whether a restoration order is appropriate. Most notably, courts have broadened the meaning of the second factor of practicality to include consideration of a restoration plan's economic feasibility and cost-effectiveness.⁵⁷ As such, courts have focused on the financial capability of the defendant,⁵⁸ as well as the cost of the restoration plan⁵⁹ in determining the practicality of restoration.⁶⁰ This broad interpretation of practicality undermines the goal of maximum environmental benefits in the first factor because it provides an economic incentive for the defendant to create large restoration costs.⁶¹ As a result, the court is less likely to order restoration.⁶² This situation is analogous to the common-law property damage cases in which defendants prefer to characterize the injury as permanent so as to escape paying restoration

that courts order violators, those people who have discharged dredged material without a permit, to restore area to its original condition.

53. See, e.g., *United States v. Ciampitti*, 615 F. Supp. 116 (D. N.J. 1984), *aff'd mem.*, 772 F.2d 893 (3d Cir. 1985), *cert. denied*, 475 U.S. 1014 (1986); *United States v. Tull*, 615 F. Supp. 610, 626-27 (E.D. Va. 1983), *aff'd*, 769 F.2d 182 (4th Cir. 1985), *rev'd on other grounds*, 481 U.S. 412 (1987). But see *United States v. Akers*, 785 F.2d 814, 823 (9th Cir. 1986) (affirming decision to deny restoration request and to enjoin filling and dredging of wetlands unless defendant obtained permit); *United States v. Tilton*, 705 F.2d 429, 430-31 (11th Cir. 1983) (same).

54. 489 F. Supp. 1331, 1343 (M.D. Fla. 1980).

55. *Id.* For a thorough discussion of the implications of each *Weisman* factor see Mark C. Rouvalis, Comment, *Restoration of Wetlands under Section 404 of the Clean Water Act: An Analytical Synthesis of Statutory and Case Law Principles*, 15 B. C. ENVTL. AFF. L. REV. 295 (1988).

56. See, e.g., *United States v. Cumberland Farms of Conn., Inc.*, 647 F. Supp. 1166, 1180-83 (D. Mass. 1986), *aff'd*, 826 F.2d 1151 (1st Cir. 1987), *cert. denied*, 484 U.S. 1061 (1986); *United States v. Huebner*, 752 F.2d 1235, 1244-45 (7th Cir. 1985), *cert. denied*, 474 U.S. 817 (1985); *United States v. Robinson*, 570 F. Supp. 1157, 1164 (M.D. Fla. 1983).

57. Rouvalis, *supra* note 55, at 320; see *Ciampitti*, 615 F. Supp. at 123; *Robinson*, 570 F. Supp. at 1164; *Weisman*, 489 F. Supp. at 1348.

58. *Ciampitti*, 615 F. Supp. at 123; *Robinson*, 570 F. Supp. at 1164.

59. *United States v. M.C.C. of Florida, Inc.*, 772 F.2d 1501, 1507 (11th Cir. 1985), *vacated on other grounds*, 481 U.S. 1034 (1987); *Ciampitti*, 615 F. Supp. at 123.

60. Rouvalis, *supra* note 55, at 320.

61. *Id.* (discussing the inherent dangers of overemphasizing economics).

62. *Id.*

costs.⁶³

IV. RESTITUTION

A. *The Theory of Restitution*

The recovery of restoration costs by private individuals can also be based on the theory of restitution. Restitution is an action in equity for the recovery of money from a tortfeasor who has been unjustly enriched, and therefore is under a duty to reimburse the wronged.⁶⁴ The goal of restitution is to prevent unjust enrichment by the tortfeasor. This is measured by the gains of the tortfeasor, such as being able to pollute on another's land, rather than by the plaintiff's losses, such as polluted or damaged land.⁶⁵ An action for restitution arises when a party (the landowner) undertakes the duty (restoration/remedial action) of another (the polluter) to its economic detriment.⁶⁶ In theory, the action of the party who carries out the obligation of another comprises the "unjust enrichment" that triggers the right to restitution.⁶⁷

The Restatement of Restitution provides the basic elements of a restitution claim for the performance of another's duty. It states:

A person who has performed the duty of another by supplying things or services, although acting without the other's knowledge or consent, is entitled to restitution from the other if

(a) he acted unofficiously and with intent to charge therefor, and

(b) the things or services supplied were immediately necessary to satisfy the requirements of public decency, health, or safety.⁶⁸

Recovery in restitution is most often confined to the reasonable

63. For an interesting discussion on benefit valuation of wetlands see Tirath R. Gupta & John H. Foster, *Economic Criteria for Freshwater Wetland Policy in Massachusetts*, 57 AM. J. AGRIC. ECON. 40 (1975).

64. See W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 94, at 672 (W. Page Keeton ed., 5th ed. 1984).

65. See generally DOBBS, *supra* note 28, § 4.1., at 222-29.

66. KEETON, *supra* note 64, § 94, at 672-73.

67. Maroney, *supra* note 2, § 17.01[6] (citing KEETON, *supra* note 64, § 94, at 672-73).

68. RESTATEMENT OF RESTITUTION AND UNJUST ENRICHMENT § 115 cmt. a, at 211 (1937), which explains:

The rule stated in this Section is not applicable unless there is an immediate necessity for action . . . or unless the person having the duty has been first requested to perform it, except where such request would be useless because the

costs incurred in completing the assumed duty.⁶⁹ Usually recovery in restitution is limited to the reasonable cost of performing an assumed obligation; this cost is often equal to the amount expended.⁷⁰ As a general rule, however, "the party who performs the obligation may not seek restitution unless it notifies the obligor of the obligation to act; nor can restitution generally be had for purely voluntary acts, or by a party who is also bound to perform the asserted obligation."⁷¹

The restitution theory provides a basis for the use of restoration costs for environmental damages. On the individual level, restitution is frequently relied upon by plaintiffs as a device for recovering costs entailed in the removal of asbestos contaminated buildings.⁷² At the federal level, the common law restitution principles are increasingly important in cost-response recovery suits under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and similar "mini-CERCLA" state statutes.⁷³

The leading Supreme Court case on common law restitution in the environmental context is *Wyandotte Transp. Co. v. United States*,⁷⁴ in which the federal government successfully sought restitution from a garage owner who had refused, after notice, to remove a sunken barge containing liquid chlorine from the Mississippi River. In applying the restitution principle, the Supreme Court noted that denial of the removal costs would "permit the result . . . of a wrongdoer shifting responsibility for the consequences of his negligence onto his victim."⁷⁵ Likewise, in *State v. Schenectady Chems., Inc.*, the court held that the

one having the duty has indicated an intent not to perform or where time limitations prevent the making of such a request.

69. *Maroney*, *supra* note 2, § 17.01[6]; see *State v. Schenectady Chems., Inc.*, 479 N.Y.S.2d 1010, 1014 (N.Y. App. Div. 1984).

70. *Maroney*, *supra* note 2, § 17.01[6].

71. *Id.* (footnotes omitted).

72. See, e.g., *Adams-Arapahoe Sch. Dist. v. Celotex Corp.*, 637 F. Supp. 1207, 1209 (D. Colo. 1986); *Corporation of Mercer Univ. v. National Gypsum Co.*, 368 S.E.2d 732, 733 (Ga. 1988), *rev'd on other grounds*, 877 F.2d 35 (11th Cir. 1989), *cert. denied*, 110 S. Ct. 408 (1989); *Carey Canada, Inc. v. Aetna Casualty & Sur. Co.*, Nos. CIV. A. 84-3113-JHP, 85-1640-JHP, 1988 WL 169287, at *2 (D.D.C. Mar. 31, 1988).

73. See *New York v. Shore Realty Corp.*, 759 F.2d 1032, 1042-43 (2d Cir. 1985); *United States v. Conservation Chem. Co.*, 619 F. Supp. 162, 184 (W.D. Mo. 1985). See generally Mark J. White, Comment, *Private Response-Cost Recovery Actions under CERCLA*, 34 KAN. L. REV. 109, 144-45 (1985) (discussing actionable removal and remedial costs).

74. 389 U.S. 191 (1967).

75. *Id.* at 204.

State of New York could set forth a claim for restitution, "limited to the reasonable costs for abatement [of waste pollution], not necessarily the amount expended," regardless of its duty under the state law "to enforce the environmental policy of the [s]tate."⁷⁶

B. Restitution As Economic Waste

Conversely, many argue that the award of restoration costs gives the landowner a windfall resulting in unjust enrichment or economic waste.⁷⁷ Hence, they contend that the appropriate measure of recovery is diminution in value. To this argument Farnsworth responds,

[E]ven if the injured party is awarded an excessive amount of damages, that party will not ordinarily pay to have the defects remedied if to do so will cost the party more than the resulting increase in value. The more generous measure will then result in a 'windfall' to the injured party, but not in anything that can be described as 'economic waste.' On the other hand, the less generous measure may deprive the injured party of compensation for some of the *loss in value* if that loss is not fully reflected in the diminution in market price.⁷⁸

Restoration costs, therefore, do not constitute economic waste but rather act as a deterrent to polluters.

The following Farnsworth argument⁷⁹ can also be used to dispel the belief that restoration costs are an economic waste. As there is no law to supervise the injured landowner's use of the

76. 479 N.Y.S.2d 1010, 1014 (N.Y. App. Div. 1984). *But see* Town of Hooksett Sch. Dist. v. W.R. Grace and Co., 617 F. Supp. 126, 134 (D.N.H. 1984) (rejecting a local government's claim for restitution of the costs of removing asbestos from a school building because the plaintiff had not shown that it "was performing [the] [d]efendant's duty after notifying the [d]efendant of its duty to act." Without such notification, the court concluded that the plaintiff's removal of the asbestos constituted a voluntary assumption of the duty, for which restitution was not available); City of Bridgeton v. B.P. Oil, Inc., 369 A.2d 49, 54-55 (N.J. Super. 1976) (implicitly rejecting a restitution argument by denying recovery to the city for its response costs to a fire caused by a spill because it was fulfilling a municipal duty required by law).

77. These concepts have been most notably employed in denying restoration costs in breach of contract cases. *See, e.g.,* Associated Stations, Inc. v. Cedars Realty & Dev. Corp., 454 F.2d 184, 188-89 (4th Cir. 1972); Bowes v. Sacks & Co., 397 F.2d 113, 119 (7th Cir. 1968) ("[c]ontract damages are supposed to compensate a loss and not produce a windfall"); County of Maricopa v. Walsh & Oberg Architects, Inc., 494 P.2d 44, 46-47 (Ariz. Ct. App. 1972) (recognizing the conceptual defense of economic waste in Arizona).

78. E. ALLEN FARNSWORTH, *CONTRACTS* § 12.13, at 910 (2d ed. 1990) (footnotes omitted).

79. *See* E. Allen Farnsworth, *Legal Remedies for Breach of Contract*, 70 COLUMBIA L. REV. 1145, 1160-75 (1970).

money he recovers for restoration costs, there is no economic waste.⁸⁰ If the landowner recovers a sum enabling him to restore his property, he is free to choose whether he will "waste" it on restoration or use the money for another purpose.⁸¹ Even if the landowner was limited to the lesser sum measured by diminution in value, he still has the option to waste it.⁸² The likelihood that the landowner will waste the sum awarded to him would not necessarily increase if he is given a larger sum of money.⁸³ Furthermore, the threat of high restoration costs might coerce the polluter into developing environmentally sound practices to avoid such high costs and the associated transaction costs. Economic factors and principles of fairness dictate that these costs are better realized by the polluter than by the private landowner. Therefore, the landowner is not unjustly enriched when restoration costs are awarded as compensation for the polluter's externalities.⁸⁴

V. RESTORATION UNDER CERCLA

After the enactment of CERCLA, the primary focus of the federal and state governments has been the governmental response actions for hazardous waste sites and the follow-up cost recovery lawsuits to reimburse the government for its expenses. More recently, as the standard of this CERCLA liability scheme has become well-established, increased attention has been given to another component of CERCLA liability, namely natural resource damage liability.⁸⁵

CERCLA allows recovery for injury to, destruction of, or loss of natural resources resulting from releases of hazardous substances.⁸⁶ The idea of restoration is alluded to in the statute once. The statute states that money recovered from natural resource damage may only be used "to restore, replace, or

80. *Id.* at 1174.

81. *Id.*

82. *Id.*

83. *Id.*

84. See generally R. Birmingham, *Damage Measures and Economic Rationality: The Geometry of Contract Law*, 1969 DUKE L.J. 49 (1969).

85. Several other federal laws provide for recovery for damages to natural resources. See, e.g., Oil Pollution Act of 1990, 33 U.S.C. § 2706 (Supp. 1991); Clean Water Act, 33 U.S.C. § 1321 (1988); Deepwater Port Act of 1974, 33 U.S.C. § 1517(d) & (e) (repealed 1990); Outer Continental Shelf Lands Act, 43 U.S.C. § 1813(a)(2)(c)-(e) (repealed 1990); Trans-Alaska Pipeline Act, 43 U.S.C. § 1653(a)(1) (1988).

86. CERCLA, 42 U.S.C. § 9607(f)(1) (1988).

acquire the equivalent of such natural resources."⁸⁷ However, CERCLA provides no guidance on how to evaluate or quantify damages to the natural resources. To facilitate the natural resource trustee's duty in assessing natural resource damages, the Department of Interior (DOI) promulgated valuation regulations.⁸⁸ These DOI regulations adopted the common law approach of taking the lesser of restoration or replacement costs and diminution in value.

A. *Ohio Decision*

Shortly after the rules were issued by DOI, judicial review of the regulations was sought by ten states and environmental organizations in *Ohio v. United States Dep't of Interior*.⁸⁹ The court remanded the regulations to DOI for revision of some of the economic values and policies employed in the natural resource damage assessments.⁹⁰ The regulations are only now being republished as proposed rules.⁹¹ The *Ohio* decision manifests a continuing struggle in the field of valuation, as the vast body of law emphasizes traditional economic and market principles.

The *Ohio* court rejected DOI's hierarchy of valuation methods. The original regulations favored the market-based techniques to the nonmarket-based approaches, and more specifically, the rules preferred use value⁹² to nonuse value.⁹³ The court stated that the "[o]ption and existence values may represent 'passive' use, but they nonetheless reflect utility

87. *Id.*

88. See generally 43 C.F.R. §§ 11.10-11.93 (1989).

89. 880 F.2d 432 (D.C. Cir. 1989).

90. See 54 Fed. Reg. 39,016 (1989) (to be codified at 43 C.F.R. pt. 11) (proposed Sept. 22, 1989).

91. See 56 Fed. Reg. 19,752 (1991) (to be codified at 43 C.F.R. pt. 11) (proposed Apr. 29, 1991) (the proposed regulations incorporate the *Ohio* decision for Type B natural resource damage assessments).

92. Use value refers to the worth of the natural resources to the people who use them. 43 C.F.R. § 11.35(b)(2). For example, swimming, fishing, and boating provide the use value of a body of water.

93. Nonuse value or existence value refers to the value of the natural resources beyond their use value. It acknowledges a presence of natural resources, which even unused have a value to humans. Existence value has three categories:

1) *Option value* is the value of its preservation for future use. For instance, people who have not seen the Grand Canyon may be willing to pay to preserve their option to view at a later date.

2) *Vicarious value* refers to the value people are willing to pay for the knowledge that the resource is protected, even if they never intend to use or visit

derived by humans from a resource, and thus, *prima facie*, ought to be included in a damage assessment."⁹⁴ However, the *Ohio* court did not explicitly state the extent of the role that nonuse values will play in the assessment process.⁹⁵ The implication of the *Ohio* ruling for damage assessments is that nonuse values will be weighed equally with use values in damage awards.⁹⁶ Larger awards will be expected as a result of this broader inclusion of values in the assessment process. Thus, this will provide the trustees with more financial resources to undertake restoration efforts.

Most significantly, the *Ohio* court struck down DOI's principle of applying the lesser-of-restoration or replacement costs and the diminution in value.⁹⁷ The court noted that in the majority of cases the lost value will be lower than the cost of restoration. Thus, the rule results in damage awards too small to pay for the costs of restoring the land to its prerelease condition.⁹⁸ This holding suggests that the restoration costs will provide the presumptive measure of damages for the natural resources injured by a hazardous release or spill. The court emphasized that its decision is *not* "that DOI may not establish some class of cases where other considerations — *i.e.*, infeasibility of restoration or grossly disproportionate cost to use value — warrant a different standard."⁹⁹ Thus, even though the

it. For example, people may pay to prevent the extinction of whales or other endangered species even if they never plan to see them.

3) *Intertemporal value* refers to the money people are willing to give up to preserve resources for future generations.

Frank B. Cross, *Natural Resource Damage Valuation*, 42 VAND. L. REV. 269, 285-89 (1989).

94. *Ohio*, 880 F.2d at 464 (citing Cross, *supra* note 93, at 285-89).

95. *But see* 56 Fed. Reg. 19,769-72 (to be codified at 43 C.F.R. §§ 11.80-11.84) (proposed April 29, 1991) (DOI's proposed regulation provides a new term, "compensable value," to refer to the lost use and nonuse values such as option, existence, and bequest values, but not including any losses related to secondary impacts caused by the discharge or release. DOI states in the Notice that if there are significant use and nonuse values potentially at risk, the trustee can first determine the use values through market and nonmarket methodologies. Then, the trustee may quantify the compensable value (use and nonuse) using the contingent valuation methodology. This dual quantification may help increase the accuracy of the assessment as the trustee is able to subtract the previously determined use value from the total estimated compensable value in order to arrive at the separate estimate of the nonuse component).

96. Raymond J. Kopp et al., *Natural Resource Damages - the Economics Have Shifted After Ohio v. United States Dep't of Interior*, 20 ENVTL. L. REP. 10127, 10129 (1990).

97. *Ohio*, 880 F.2d at 459.

98. *Id.* at 441.

99. *Id.* at 459.

court acknowledged the fairness of restoration costs, it provided a loophole for the potentially responsible parties to argue for damages less than those based on the restoration costs. Once again, reminiscent of the traditional common-law property cases, the importance of economic considerations is the decisive key to environmental damages.

The question remains as to how large the gap must be between the restoration costs and the lost-use values in order to require this "different standard."¹⁰⁰ The court's concern with this gap supports the inclusion of the nonuse value in assessing natural resource damages. Hence, the court might favor a modified "lesser of" rule involving a comparison between the restoration or replacement cost with the *total* lost value, including nonuse and use values. In turn, this would narrow the gap between restoration costs and lost value.¹⁰¹ Nonuse value is broader than use value because it does not depend on *in situ* activities. For instance, most people attach a value to the mere knowledge that the Grand Canyon exists, a value independent of their visiting it. Accordingly, the trustees¹⁰² will easily be able to develop a lost value amount which is comparable to the high restoration costs. Hence, there will be no "grossly disproportionate" standard. After the *Ohio* decision, the question arises as to whether it makes a difference if damages are based on the restoration costs or the lost value calculations.

Alternatively, the *Ohio* ruling could imply that courts have the discretion to determine when restoration costs are "grossly disproportionate" on a case-by-case analysis. This would result in a wide range of possible outcomes in natural resource damage cases. Such individualized proceedings, however, may be more suitable to tailoring damages to the unique injuries involved with any hazardous release. On the other hand, courts may choose to follow the congressional preference for restoration, which the

100. While the *Ohio* court simply referred to "restoration costs" as the preferred measure of natural resource damages, DOI's proposed regulations use the phrase "restoration, rehabilitation, replacement, and/or acquisition of equivalent" to include the full range of "restoration" actions, and hence the basis for "restoration costs." Since some portion of this broad list will always form a component of the restoration costs, DOI does not propose to set out a "different standard" where some factors other than restoration costs would be used for the measure of damages. See Notice of Proposed Rulemaking, 56 Fed. Reg. 19,752 (1991).

101. Kopp, *supra* note 96, at 10,128-29.

102. Under CERCLA, DOI and the National Oceanic and Atmospheric Administration are the federal agencies acting as trustees for the natural resources.

Ohio court recognized, and award damages based on restoration costs without considering the lost value.

B. Colocotroni Case

The cost of attempting restoration can be enormous. The First Circuit Court of Appeals confronted this problem when determining the proper measure of damages for environmental destruction in *Puerto Rico v. S.S. Zoe Colocotroni*.¹⁰³ That case involved a ship carrying oil in the Caribbean, which grounded on a reef outside Puerto Rico. To free the tanker, the ship's captain ordered the release of 1.5 million gallons of oil into the sea. This oil floated onto a beach, destroying mangrove forests and indigenous wildlife, such as fish, shrimp, snails, crabs, and tiny invertebrate organisms.¹⁰⁴ The court rejected the defendant's claim that Puerto Rico could recover no more than the loss of the property's market value.¹⁰⁵ Yet, it affirmed the district court's rejection of the plaintiff's seven million dollar plan to restore the area by replacing all oil-contaminated soil with new soil and new vegetation.¹⁰⁶ The court reasoned that it was "impractical, inordinately expensive, and unjustifiably dangerous to the healthy mangroves and marine animals still present in the area" ¹⁰⁷

In addition, the court vacated the district court's award of almost six million dollars in damages based upon the testimony of the plaintiff's expert that this figure reflected the replacement cost of 92 million tiny marine organisms killed by the spill.¹⁰⁸

103. 628 F.2d 652 (1st Cir. 1980), *cert. denied*, 450 U.S. 912 (1981).

104. *See id.* at 657-59.

105. *Id.* at 674.

106. *Id.* at 676.

107. *Id.*

108. *Id.* at 677. In dictum, the Court suggested that "[a]lternatives might include acquisition of comparable lands for public parks or . . . reforestation of a similar proximate site" *Id.* at 676. This alternative was adopted by the court in *United States v. Board of Trustees of Fla. Keys Community College*, 531 F. Supp. 267 (S.D. Fla. 1981), where the college, in order to prevent erosion, built a rock barrier that required the filling of a wetland. Confronted with evidence that restoration of the damaged site had limited feasibility, the court ordered that a comparable environmental area be created from property already owned by the defendant college. *Id.* at 275.

This idea of site replacement is currently manifested in President Bush's "no-net loss" policy for wetlands regulation. *See* NAT'L WETLANDS POLICY FORUM, THE CONSERVATION FOUND. PROTECTING AMERICA'S WETLANDS: AN ACTION AGENDA 42 (1988). This policy would allow industry to fill in a wetland with dredged material, as long as the industry undertook mitigation efforts to provide a "functional replacement" for the wetland. *See* Oliver A. Houck, *More Net Loss of Wetlands: The Army-EPA Memorandum*

The court of appeals remanded the case to permit the plaintiff to introduce testimony regarding the costs of a reasonable restoration plan for which it could recover, in addition to the 78,000 dollars in "undisputed cleanup costs" it was clearly entitled to.¹⁰⁹ This acceptance of restoration costs at the federal level will establish a strong legal precedent for cases involving private individuals seeking such costs for the recovery of property injuries or destruction caused by an environmental tort.

C. NOAA Cases for Natural Resource Damages Recovery

In the aftermath of the *Ohio* decision, lawsuits seeking recovery for natural resource damages are increasingly emerging.¹¹⁰ The purpose of such recovery is to finance the restoration of the contaminated area. DOI and the National Oceanic and Atmospheric Administration (NOAA) are the federal agencies acting as trustees for the natural resources under CERCLA. NOAA has established a Damage Assessment and Restoration Center, a multidisciplinary team of attorneys, economists, and scientists to assist NOAA in its natural resource damage assessment work. In addition, NOAA has established a Restoration Center within the National Marine Fisheries Service to conduct specific research on the restoration of marine resource habitats.

As of yet, only one natural resource damage case has been tried.¹¹¹ In *Idaho v. Southern Refrigerated Transport, Inc.*,¹¹² the court held a trucking firm liable for 87,000 dollars to compen-

of Agreement on Mitigation Under the § 404 Program, 20 ENVTL. L. REP. 10,212, 10,214 (1990). This "solution" destroys the incentive for industry to develop environmentally-sound industrial practices.

109. *Colocotroni*, 628 F.2d at 678.

110. See, e.g., *United States v. Simpson Tacoma Kraft Co.*, No. C91-5260T (W.D. Wa., filed June 24, 1991); *United States v. Aluminum Co.*, No. IP 91-591-C (S.D. Ind. 1991); *United States v. Seattle*, No. C90-0395 (W.D. Wa., filed March 19, 1990); *United States v. Montrose Chem. Corp.*, No. CV 90-3122 AAH, 1991 WL 183147 (C.D. Cal. July 9, 1991); *In re Sause Bro. Ocean Towing*, 769 F. Supp. 1147 (D. Or. 1991); *In re Acushnet River & New Bedford Harbor*, 725 F. Supp. 1264, 1265 (D. Mass. 1989).

One survey composed of 37 responding states reported that 6 states have performed damage assessments at a minimum of 18 sites; 13 states have filed a total of at least 25 civil actions to recover damages under CERCLA; 3 states have used the DOI assessment regulations at a minimum of 3 sites, and 25 states have designated natural resource trustees. See Duane Woodward & Michael R. Hope, *Natural Resource Damage Litigation Under the Comprehensive Environmental Response, Compensation, and Liability Act*, 14 HARV. ENVTL. L. REV. 189, 192 n.9 (1990).

111. Bradley M. Marten & Cestjon C. McFarland, *Litigating CERCLA Natural Resource Damage Claims*, 22 Env't Rep. (BNA) 670 (July 19, 1991).

112. No. 88-1279, 1991 WL 22479, at *24 (D. Idaho January 24, 1991).

sate for the cleanup costs and commercial and recreational fish loss caused by a chemical spill. Although this was the only case to be litigated, there have been many settlement agreements for lump sums of millions of dollars.¹¹³ The most visible settlement was Exxon's tentative agreement to settle all federal and state claims, including natural resource damage claims, resulting from the Exxon Valdez oil spill by paying a record 900 million dollars in civil damages and 100 million dollars in criminal fines.¹¹⁴ This settlement collapsed on April 24, 1991 when federal district court Judge Holland rejected the plea agreement of a 100 million dollar criminal fine as being too small.¹¹⁵ This was followed by Alaska's House of Representatives rejecting the settlement on May 3, 1991, and by the subsequent withdrawals of Exxon and the State of Alaska.¹¹⁶

In June 1990, NOAA sued eight companies for injury to marine life off Los Angeles and Long Beach.¹¹⁷ Allegedly, the companies had been dumping hazardous substances into the surrounding harbors since the 1940s.¹¹⁸ NOAA asked for an unspecified amount in restoration costs. These costs could include the removal or treatment of contaminated underwater sediments, the restocking of fish, or the installation of artificial

113. See, e.g., AVX Corp., 56 Fed. Reg. 535 (Dep't Justice 1991) (lodging of consent decree) (proposed consent decree requires 2 out of 5 defendants to pay \$12.6 million for investigative and cleanup costs, and natural resource damages caused by defendants' PCB contamination of the Acushnet River and New Bedford Harbor. Of this amount, \$3.15 million are for natural resource damages); Simpson Tacoma Kraft Co., 56 Fed. Reg. 30,770 (Dep't Justice 1991) (lodging of consent decree) (proposed consent decree requires defendant to pay \$1,000,000 for natural resources damaged by a paper mill's contamination of sediments on tidal flats and surrounding areas of Commencement Bay); BP America, Inc., 56 Fed. Reg. 36,845, 36,846 (Dep't Justice 1991) (lodging of consent decree) (proposed consent decree requiring defendants to pay \$800,000 for natural resource damages).

114. Plea Agreement, *United States v. Exxon Corp.*, No. A90-015CR (D.C. Alaska Mar. 13, 1991); see also 56 Fed. Reg. 11,636 (Dep't. Comm. 1991) (settlement agreement).

115. Order, *United States v. Exxon Corp.*, No. A90-015CR (D.C. Alaska April 24, 1991) (plea agreement rejected).

116. *Alaska House's Rejection of Settlement Spells Death for \$1 Billion Exxon Pact*, 22 Env't Rep. 101 (BNA) (May 10, 1991).

117. See *United States v. Montrose Chem. Corp.*, No. CV 90-3122 AAH, 1991 WL 183147 (D.C. Cal. Mar. 29, 1991).

118. For a thorough discussion of the history and environmental impacts of ocean dumping in Los Angeles Harbor see generally NOAA, DAMAGE ASSESSMENT PLAN: LOS ANGELES/LONG BEACH HARBORS, PALOS VERDES SHELF, AND OCEAN DUMP SITES (February 6, 1990) (unpublished draft, on file with the *Tulane Environmental Law Journal*).

reefs.¹¹⁹

Ten days after the initial suit was filed, NOAA reached a settlement with the Los Angeles County Sewer Districts under which the districts agreed to pay as much as twelve million dollars towards the restoration of the natural resources in the harbors.¹²⁰ This lump sum award is a typical result of defendants' unwillingness to follow DOI's complex, time-consuming, and expensive regulations for natural resource damage assessments.¹²¹ In fact, the sewer districts settled even before any detailed analysis had been undertaken.

Recently, however, the United States withdrew its motion seeking the court's approval of the settlement after certain industrial defendants indicated that they would bring third-party claims against the individual cities comprising the sewer districts.¹²² The district court subsequently dismissed the government's natural resource damages claim, without prejudice, for failure to plead with sufficient detail the nature of and basis for the claim.¹²³ This suggests that natural resource trustees may have to meet a higher burden of proof in alleging natural resource damages.

NOAA is currently examining eighteen other sites around the country,¹²⁴ and natural resource damage assessments are in progress at another half-dozen sites.¹²⁵ These NOAA suits demonstrate the recent awakening of federal and state officials to the potential of CERCLA's natural resource damage provisions based on restoration costs.

VI. CONCEPTUAL PROBLEMS OF RESTORATION COSTS

A. *Restoration v. Replacement*

There is a historical and ongoing tendency to apply the terms "restoration" and "replacement" costs interchangeably.

119. Patrick M. Rahe et al., *Natural Resource Damages: Breathing New Life into CERCLA*, 2 ENVTL. HAZARDS 7 (July 1990).

120. DEP'T. OF COMMERCE, PRESS RELEASE (June 28, 1990).

121. While compliance with the regulations is not mandatory for natural resource recovery, 43 C.F.R. § 11.10, adoption of the regulations by the trustees creates a rebuttable presumption for the trustees, such that the burden of proof falls upon the potentially responsible party to show that the assessment is inaccurate. As a result, the NOAA trustees will often reserve the option to adopt the regulations.

122. Marten & McFarland, *supra* note 111, at 670.

123. *Id.*

124. Rahe, *supra* note 119, at 7.

125. Marten & McFarland, *supra* note 111, at 670.

This, however, is a misleading representation when applied to the recovery of damages for environmental torts. Restoration costs involve the money necessary to return the injured ecosystem to its original pre-injury condition. Replacement costs involve the particularized costs to replace a specific injured resource. Theoretically, the replacement costs could equal the restoration costs where the damaged resource can be replaced without the need for any additional measures to restore the surrounding environment. However, this is very unlikely when, for example, a hazardous chemical spill results in multiple direct and latent injuries to an ecosystem. Instead, assuming replacement is a feasible alternative, the replacement costs form a component of the overall restoration costs. In turn, the restoration costs are spent to ensure that the replaced resource can survive in the new environment.

B. Restoration v. Response/Remedial Actions

Restoration is only one component of the entire process required under CERCLA. Combined with the response, the cleanup, and the damage assessment process, these efforts seek to minimize adverse impacts and to compensate the public for the injury to natural resources by restoring the resources and the services they provide. The response activities include the initial emergency measures necessary to contain the spilled hazardous substance and minimize the adverse impacts, as well as the subsequent efforts to clean up the hazardous substances from the spill area.

The distinction between restoration and remedial/response activities becomes blurred as the remedial/response activities will invariably advance the restoration of the injured resources. The question then arises as to how to account for this overlap when developing restoration costs. An illustration of this problem involves a case where the outfall of the Simpson pulp mill in Tacoma, Washington had contaminated the sediment on tidal flats and surrounding areas of Commencement Bay.¹²⁶ The mill owners were required to undertake a remedial action which involved relocating the contaminated sediment and replacing it with clean sediment. When NOAA was developing its assessment plan for the area, it noted the beneficial "restoration"

126. *United States v. Simpson Tacoma Kraft Co.*, No. C91-5260T (W.D. Wa. filed June 24, 1991).

effects of this remedial "capping" project by providing an intertidal zone for marine organisms.¹²⁷ Besides requiring the cost of remedial action, NOAA took one-half of the total cost of the remedial "capping" project as a "rough" restoration cost figure.¹²⁸

C. *Cost v. Value*

To understand the problem faced by courts attempting to assess damages to natural resources, it is important to understand the relationship between value and cost.¹²⁹ Cost is the out-of-pocket expense required to produce a good, or in the damage context, the money required to restore or replace a resource.¹³⁰ Value is a measure of what the change in the resource actually costs society, measured by the public's willingness to pay for the lost use and nonuse services.¹³¹ Very often courts do not appear to distinguish between cost and value, implying that the two converge, as do most market resources.¹³² However, natural resources are not found within the market. Hence, there is no correlation between the cost and the value of natural resources.¹³³ The cost of natural resources may be over- or under-valued.¹³⁴

D. *Basis of Restoration Costs*

There is an inherent problem of over-generalization when discussing the concept of restoration costs in an environmental statute, regulation, or legal standard. Each accident causes unique present and latent injuries that vary in amount and scope depending on a variety of physical, chemical, and biological factors which characterize each ecosystem. Hence, restoration costs differ with each accident, thereby making development of a standard to determine restoration costs impossible. By its very nature, restoration costs must be assessed in a flexible framework allowing a case-by-case analysis.

127. Interview with Charles Albertson, NOAA attorney, in Seattle, Washington (November 1990).

128. *Id.*

129. See Edward J. Yang, *Valuing Natural Resource Damages: Economics for CERCLA Lawyers*, 14 ENVTL. L. REP. 10,311, 10,314 (1984).

130. *Id.*

131. *Id.* at 10,314-15.

132. *Id.* at 10,314.

133. *Id.*

134. *Id.*

Determination of restoration costs may be easy for a minor accident of short duration with a limited extent of injuries. For example, if there are relatively few fish killed by a temporary leak, the restoration will consist only of the cost to replace the fish from local commercial hatcheries. This assumes their successful adaptation to the new environment as well as no repercussions within the ecosystem from the spill or from the reintroduction of the fish. This simple picture, however, rarely reflects the norm in environmental accidents. To the contrary, these accidents are either massive in size or in impact, or, as in the majority of cases, both. In such cases, the restoration costs cannot be based on the replacement costs because replacing the resources would be impossible given the amount of injured resources and the unavailability of the impacted resources in the marketplace. For example, in the *Colocotroni* case, the court rejected the award of six million dollars in damages based on the replacement cost of 92 million tiny marine organisms killed by a 1.5 million gallon oil spill. The court opined that the submitted replacement cost was "disproportionately expensive," infeasible, and inappropriate for use in valuing.¹³⁵ The question then arises as to how to derive the restoration costs for complex and massive accidents within the environment.

E. Valuation of Natural Resources

In a simple pollution scenario, restoration costs would equal the cost of the technology and manpower necessary to clean up the site and restore it to its prepollution condition. If irreplaceable resources are destroyed, however, how is this to be reflected in restoration costs? Nothing can be done to restore such resources. Accordingly, these resources must be given a value which should be incorporated into the total restoration costs. Placing a value on injured resources to arrive at restoration costs presents many philosophical and economical problems. It is questionable whether environmental damages can in fact be reduced to monetary values. The very fact that pollution damages are so pervasive and unquantifiable suggests that attempts to place precise monetary values on each pollution incident will tend to undervalue the actual harm done. The effect of pollutants on the food chain through bioaccumulation further complicates the valuation process:

135. *Puerto Rico v. S.S. Zoe Colocotroni*, 628 F.2d 652, 675-77 (1st Cir. 1980).

Aquatic invertebrates feed on small organisms called plankton. The invertebrates are in turn eaten by higher forms — fish and other animals — that are sources of food for human beings. This is, of course, a simplified description of the awesome, precarious natural process called the food chain, which is so delicate that the severance of any link could ruin it. But the links are even more fragile than this. When contaminants are passed up the food chain there is a tendency for the poisons to concentrate in geometric orders of magnitude. That is, relatively innocuous quantities of non-biodegradable, fat-soluble organic pollutants concentrated in plankton-sized beings can combine in lethal quantities in higher forms of life.¹³⁶

This is especially applicable when the adverse effects on the ecosystem from one pollution incident go undetected for some time.

Over forty years ago, Aldo Leopold remarked in *The Land Ethic* that “[o]ne basic weakness in a conservation system based wholly on economic motives is that most members of the land community have no economic value.”¹³⁷ However, assigning a monetary value on natural resources is not necessarily counter-intuitive. Culture places a monetary value on artwork, while a market-based economy values a natural scenic view or land formation by charging entrance fees to parks and preserves. Valuation of natural resources enables a court to assess environmental harm, deters future pollution or destruction of resources, and helps ensure protection of those resources and their ecosystems.

Several methods are used to assign monetary values to natural resources in order to determine the restoration costs. The replacement cost of resources is often used to fix their monetary value. For example, the values of some types of fish are computed on the basis of commercial hatchery production costs or by the costs assigned to them by fixed tables.¹³⁸ While these methods provide more objectivity to the valuation process, they overlook the natural mortality of hatchery fish and the impact to the ecosystem and food chain resulting from the loss of one of its

136. DAVID ZWICK & MARCY BENSTOCK, *WATER WASTELAND*, 18 (1971).

137. ALDO LEOPOLD, *The Land Ethic*, in *A SAND COUNTY ALMANAC AND SKETCHES HERE AND THERE* 210 (1949).

138. For an example of a fixed table see THE MONETARY VALUES OF FRESHWATER FISH COMMITTEE AND THE POLLUTION COMMITTEE, AMERICAN FISHERIES SOCIETY, *MONETARY VALUES OF FRESHWATER FISH AND FISH-KILL COUNTING GUIDELINES* 5-20 (1982). Many states, such as Florida and Virginia, have developed their own fish value tables.

resources. More significantly, most animals and other resources are not commercially produced, and for endangered species, there are simply no replacements to value.

Second, the market price of destroyed resources is used to calculate the "commercial" values for the restoration costs. This method depends on the accurate count of the destroyed resources and is limited to those relatively few resources that are available on the market. Therefore, at most, the commercial values can serve only as a minimum basis for the valuation of resources.

Third, values based on the loss or reduced recreational opportunities are calculated in a variety of ways. Often it is easier to measure the damage to resources by examining the effect the loss has had on humans rather than by engaging in the difficult assessment of the nature and extent of the injuries to the resources due to the accident. One method is to determine the decline in the number of recreational use to the area by comparing normal use figures with use figures gathered after the pollution incident. The resulting loss of recreational use is usually determined by summing all the travel costs incurred in arriving and departing the site. Not only does this method assume that normal use figures are available for the site, but it also grossly undervalues the real worth of the recreational activities to the site since it is based on the out-of-pocket expenses of the recreationalist. Furthermore, since recreationalists often visit a place to engage in more than one activity, the travel costs measure the demand for the entire range of activities available at the site. Also, this method does not take into account the role of substitute places for the injured resource or activity. Alternatively, if the site is not used for its recreational purposes, surveys may be conducted to elicit people's willingness to pay (WTP) to keep the area pristine.

Fourth, nonuse values,¹³⁹ most commonly aesthetic values, are the most elusive values and hence their inclusion in restoration costs are very controversial. Yet, this is usually the type of damage that affects the greatest number of people. As with recreational values, the survey (or contingent valuation) method is most frequently employed to assess the monetary value of these nonuse damages.¹⁴⁰ This method involves individuals revealing

139. See Cross, *supra* note 93, at 285-89.

140. *Id.* at 315-20. See generally Robert C. Mitchess & Richard T. Carson, *Using Surveys to Value Public Goods: The Contingent Valuation Method* 42 VAND. L. REV. 269,

their WTP for a nonmarket good based on a hypothetical market, and answering questions such as: "How much are you willing to pay to preserve the Grand Canyon?" This method assumes that the respondent fully understands the environmental impacts of the hypothetical. Also, it is difficult to account for the strategic behavior of the respondents. If respondents perceive the cost of a poor decision in a hypothetical market as being significantly lower than such costs in a real market, they might undervalue the use in the hypothetical market.¹⁴¹ Conversely, respondents may often overvalue the use if they believe the results of the survey will determine future policies regulating the protection of the environment.¹⁴²

The preceding discussion reveals two overriding problems of assessing damages to the environment. First, resources are valued in terms of the benefits they provide for humans. As a result, phytoplankton and other minute and unseen organisms, which have no direct benefit to humans, are not valued. Yet, they form essential links in the food chain of an ecosystem. Second, it is extremely difficult to assign an equitable value to natural resources because of their nonmarketable quality. As a result, there are considerable professional judgments and assumptions made to determine the appropriate factors in establishing damage values. These subjective judgments and assumptions result in monetary values attached to resources which are very easy to manipulate and are dependent on the trustee's or valuer's personal biases.

F. Incorporation of Natural Recovery into Restoration Costs

After arriving at a restoration cost through the summing of all the values of the identified injured resources, this cost must be adjusted to account for the resource's natural ability to recover if no restoration efforts were undertaken. This will involve separate scientific calculations of each injured resource's natural recovery rate based on a multitude of factors.¹⁴³ In the

315-20 (1989) (using the contingent valuation method in developing policy decisions for non-market goods).

141. EDWARD J. YANG ET AL., *THE USE OF ECONOMIC ANALYSIS IN VALUING NATURAL RESOURCE DAMAGES: AN OVERVIEW* 56 (1984).

142. *See id.*

143. The regulations for CERCLA natural resource damages from hazardous releases suggest the following factors are to be considered in determining recovery periods: ecological succession patterns in the area; growth or reproductive patterns, life cycles and ecological requirements of biological species; bioaccumulation and extent of toxic

final analysis, concerns of practicality, time, and economics might dictate that it is more efficient and economical to allow the injured resource to recover on its own. Even if restoration costs are collected, mechanisms must be set up to monitor and enforce the restoration project, involving even more expenses, time, and manpower.

G. Goal of Restoration Costs

Several questions arise regarding the goal of restoration costs when the injured resource will recover naturally, or when restoration is unable to restore a unique resource, such as the bald eagle. Where does the money collected for its restoration costs go? On the one hand, the restoration costs can be viewed as the costs of actually restoring the natural resource habitat to its previous state. Alternatively, the restoration costs can be viewed as merely a convenient measure for compensation without implying actual restoration. If so, what do restoration costs try to achieve? In equity terms, the costs are providing the private landowner just compensation. Most importantly, potentially enormous restoration costs can act as a deterrent. As such, restoration costs assume a role similar to punitive damages in common law tort cases. In both situations damages are awarded to punish the wrongdoer or to make an example of that person so that others will avoid the particular misconduct. These types of damages are especially appropriate for the intentional polluter who is consciously disregarding the property and resources of the general public.

VII. SUMMARY

A gradual acceptance of restoration costs is occurring within both the common law and the statutory frameworks as a way to ensure protection of the environment and its resources through deterrence. This trend will continue as new federal legislation, such as the Oil Pollution Act of 1990,¹⁴⁴ requires polluters to pay for natural resource damages resulting from their destructive activities. As the natural resource trustees are armed with existing common-law jurisprudence, federal statutes, and

chemicals in food chain; and the chemical, physical, and biological removal rates of the toxic chemicals. 43 C.F.R. § 11.73(c)(2).

144. 33 U.S.C. § 2706.

the current wave of environmentalism, the polluters can expect increased natural resource damages based on restoration costs.

KATHRYN CHELINDA MACDONALD