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Glicksman, Robert L.

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Pollution on the Federal Lands IV: Liability for Hazardous Waste Disposal

*by Robert L. Glicksman**

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* Professor of Law, University of Kansas. J.D., Cornell Law School, 1977; M.A., Harvard University, 1974, A.B., Union College, 1973. I would like to thank John Zoellner and Jeff Shaw for their valuable research assistance, and the University of Kansas General Research Fund for the financial assistance it lent to this project.

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I.
INTRODUCTION

This is the final article in a series of four on the laws that control pollution of the federal lands and resources.¹ Together, these articles survey an aspect of environmental law that has received relatively little attention — the intersection of the law of pollution control and the law of public natural resources management.² Each of the articles in the series provides a general overview of a particular aspect of the federal pollution control laws, emphasizes the aspects of those laws most significant to the use and management of the federal lands and resources, assesses the strengths, weaknesses, and ambiguities of current law, and recommends mechanisms for improving the ability of the federal environmental protection and land management agencies to protect those resources from further degradation attributable to pollution.

This article analyzes the application of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") to federal lands and resources.³ That statute, also known as Superfund, authorizes remediation of resources contaminated by the release of hazardous substances and imposes liability on all persons responsible for any such releases that either require remediation or that cause injury to natural resources.⁴ CERCLA authorizes the federal Environmental Protection Agency ("EPA"), with the assistance of other federal and state agencies, to respond to actual or threatened hazardous substance releases.⁵

1. The first two articles analyzed regulation of activities that contribute to air and water pollution on the federal lands. See Robert L. Glicksman, *Pollution on the Federal Lands I: Air Pollution Law*, 12 UCLA J. ENVTL. L. & POL'Y 1 (1993) [hereinafter *Pollution on the Federal Lands I*]; Robert L. Glicksman, *Pollution on the Federal Lands II: Water Pollution Law*, 12 UCLA J. ENVTL. L. & POL'Y 61 (1993) [hereinafter *Pollution on the Federal Lands II*]. The third article analyzed regulation of activities that involve the management of solid or hazardous waste. See Robert L. Glicksman, *Pollution on the Federal Lands III: Regulation of Solid and Hazardous Waste Management*, 13 STANFORD ENVTL. L.J. 3 (1994). This article uses the term federal lands and resources to refer to lands and resources owned or managed by the United States. See *Pollution on the Federal Lands I, supra*, at 2 n.5.

2. See *Pollution on the Federal Lands I, supra* note 1, at 1-6.

3. 42 U.S.C. §§ 9601-9675 (1988).

4. See generally ENVIRONMENTAL LAW INSTITUTE, LAW OF ENVIRONMENTAL PROTECTION ch. 13 (Sheldon M. Novick ed., 1987, Release No. 11, 1994) [hereinafter ELI, LAW OF ENVIRONMENTAL PROTECTION]; DONALD W. STEVER, LAW OF CHEMICAL REGULATION AND HAZARDOUS WASTE ch. 6 (1986, Release No. 15, 1993).

5. 42 U.S.C. § 9604 (1988).

The Act also enables both governmental and private entities engaged in the cleanup of hazardous substance releases to seek cost reimbursement from those responsible for the releases,⁶ and it creates a governmental right of action to recover for damage to natural resources.⁷

Cleanups and liabilities under CERCLA have become increasingly important aspects of federal land and resource management. As the third article in this series explained, both private users of the federal lands and various arms of the federal bureaucracy are responsible for federal lands contamination by hazardous substances.⁸ Mineral developers probably constitute the private users whose waste generation and management activities most frequently subject them to both the remediation obligations and the liability provisions of CERCLA.⁹ Hazardous substance releases at both active and abandoned commercial mine sites on the federal lands have required remediation.¹⁰

Problems attributable to the federal government's mismanagement of hazardous substances are even more widespread. The EPA has listed 150 government owned or operated facilities on CERCLA's National Priorities List of the sites demanding the most urgent remedial action.¹¹ The Departments of Defense and Energy alone generate a total of about twenty million tons of hazardous and radioactive waste annually.¹² In retrospect, it is clear that for years the government devoted insufficient attention to the careless management of these materials. The govern-

6. *Id.* § 9607(a).

7. *Id.* § 9607(f). See *infra* § VIII.

8. See *Pollution on the Federal Lands III*, *supra* note 1, at 63-74.

9. See, e.g., Sheryl L. Katz, *Hazardous Waste on Public Lands*, 2 NAT. RESOURCES & ENV'T 14 (1986).

10. See J.B. Wolverton, Note, *Sovereign Immunity and National Priorities: Enforcing Federal Facilities' Compliance with Environmental Statutes*, 15 HARV. ENVTL. L. REV. 565, 567 (1991); Katz, *supra* note 9, at 16. The cost of cleaning up abandoned and contaminated hardrock mining sites on National Park Service ("NPS"), Bureau of Land Management ("BLM"), and Forest Service land will probably run into the billions of dollars. See MAJORITY STAFF REPORT, SUBCOMM. ON OVERSIGHT AND INVESTIGATIONS, COMM. ON NATURAL RESOURCES, DEEP POCKETS: TAXPAYER LIABILITY FOR ENVTL. CONTAMINATION 6 (July 1993) [hereinafter DEEP POCKETS]. Mercury spilled as a result of improper plugging and capping of oil and gas wells is the single greatest unidentified contaminant in wildlife refuges. *Id.* at 14.

11. 59 Fed. Reg. 27,989 (1994); See also Wolverton, *supra* note 10, at 567. The National Priorities List is compiled based on an EPA devised hazard ranking system. See 42 U.S.C. § 9605(8) (1988); 40 C.F.R. Part 300, Appendix B (1993); *infra* § IV C.1.

12. Wolverton, *supra* note 10, at 568. See also United States Energy Dep't v. Ohio, 118 L. Ed.2d 255, 275 (1992).

ment's use of the federal lands for military training and weapons testing, for example, has produced widespread contamination by unexploded ordnance, some of which contains depleted uranium.¹³ Some of the most egregious groundwater pollution attributable to improper hazardous substance disposal has occurred at sites operated by these two agencies, including the Army's Rocky Mountain Arsenal near Denver, Colorado and the Energy Department's uranium processing plant in Fernald, Ohio.¹⁴

This article evaluates CERCLA's application to the federal lands. Part II analyzes the statute's scope through examinations of its definition of hazardous substances, its application to mining wastes, and its exemption for petroleum and related substances. Parts III, IV, V, and VI describe CERCLA's regulatory requirements, the cleanup process authorized by the statute, the funding mechanisms for remediation of hazardous substance releases, and the available avenues for seeking judicial review of EPA orders and regulations issued under CERCLA, as the statute applies to releases occurring on or affecting the federal lands. The article describes the unique obstacles to EPA's cleanup process at federal facilities, including the tendency of the agencies responsible for contaminated facilities to balk at EPA's remedial direction. It recommends that Congress or the President reinforce EPA's authority to take control over all aspects of federal facility cleanups, and that EPA take advantage of its existing authority to penalize other agencies that violate EPA cleanup orders.

Parts VII and VIII of the article are devoted to a thorough examination of CERCLA's liability scheme. After generally describing CERCLA's response cost liability mechanism, Part VII focuses on potential liabilities stemming from the federal government's ownership of, operation of, or other connection with hazardous substance disposal facilities. These provisions have given rise to a great deal of controversy, as both EPA and state pollution control agencies have struggled to hold a reluctant

13. See DEEP POCKETS *supra* note 10, at 10. The BLM has estimated that about 2 million acres of lands under its jurisdiction are contaminated in this manner, with about 100,000 heavily contaminated. *Id.* at 11. Although the Defense Department ultimately will bear much of the responsibility for remediation at these sites, the BLM will have to bear some of the cost itself. *Id.* The problem is so widespread that the government has documented pollution attributable to unexploded ordnance at a minimum of 15 wildlife refuges. *Id.* at 12.

14. See Wolverton, *supra* note 10, at 568-69.

federal government accountable for decades of deficient waste management practices. The article contends that CERCLA appropriately holds federal agencies liable for hazardous substance releases at facilities they operate, despite the Justice Department's attempt to prevent one federal agency from penalizing another. It also takes the position, however, that the federal land management agencies should not be exposed to liability for regulation of the private use of the federal lands by industries such as minerals development. Congress has more direct and efficient ways to minimize contamination of public resources by private activities, and to induce the land management agencies to better control private use of lands under their jurisdiction.

Part VIII deals with the statutory authorization for various natural resource trustees to recover damages on behalf of the public for injuries to natural resources, the aspect of CERCLA's liability scheme which can create the largest monetary liabilities for public and private entities responsible for improper hazardous waste disposal on federal lands. Because the Interior Department was slow to issue valid regulations, implementation of the natural resource damage assessment and liability provisions of CERCLA has barely begun. Still, the courts are already grappling with the seemingly intractable valuation problems inherent in efforts to impose liability for injuries to natural resources. The Interior Department's recently issued revised damage assessment regulations surely will spark considerable new litigation, and as a result, natural resource damage liability likely will be the fastest growing area of pollution control and public natural resources management law in the foreseeable future. This article dissects CERCLA's natural resource damage liability scheme, and identifies such unresolved issues as the necessary degree of the government's connection with damaged natural resources to trigger liability. Finally, the article anticipates opposition to the Interior Department's revised regulations and describes the probable impact of those regulations on natural resource damage recovery litigation.

II.

THE SCOPE OF CERCLA

This part discusses CERCLA's scope by exploring the statutory definition of hazardous substances, CERCLA's application to mining wastes, and the petroleum exclusion. Despite Congress's decision to exempt mining wastes from regulation as haz-

ardous wastes under the Resource Conservation and Recovery Act ("RCRA"),¹⁵ the release of these wastes on or near federal lands has given rise to liability under CERCLA in most instances. Similarly, the courts for the most part have interpreted the petroleum exclusion narrowly. As a result, CERCLA is likely to apply to the private activities that pose the most widespread threats of federal lands contamination.

A. *The Definition of Hazardous Substances*

Most of CERCLA's regulatory, cleanup, and liability provisions are triggered by either a release or threatened release of a "hazardous substance."¹⁶ The scope of these provisions thus depends upon the definition of that term. CERCLA defines a hazardous substance primarily by reference to other federal pollution statutes.¹⁷ Hazardous substances include any substances designated as hazardous under the oil spill provisions of the Clean Water Act ("CWA"),¹⁸ any listed or characteristic hazardous waste under RCRA,¹⁹ any toxic pollutant under the CWA,²⁰ any hazardous air pollutant listed under the Clean Air Act ("CAA"),²¹ and any imminently hazardous chemical substance or mixture targeted by EPA under the Toxic Substances Control Act ("TSCA").²² In addition, CERCLA authorizes EPA to designate as hazardous any substance which, when released into the environment, may present substantial danger to the pub-

15. 42 U.S.C. §§ 6901-6992(k) (1988).

16. *See, e.g.*, 42 U.S.C. § 9603(a) (1988) (notification requirements); *id.* § 9604(a)(1) (EPA's remediation authority); *id.* § 9607(a) (cost reimbursement liability). EPA's remediation authority also is triggered by a release or threatened release of any "pollutant or contaminant which may present an imminent and substantial endangerment to the public health or welfare." *Id.* § 9604(a)(1)(B). A "pollutant or contaminant" includes any substance which, after release into the environment and exposure, ingestion, inhalation, or assimilation into any organism, will or may reasonably be anticipated to cause death, disease, or other specified adverse effects. *Id.* § 9601(33).

17. *Id.* § 9601(14); 40 C.F.R. § 300.5 (1993).

18. 33 U.S.C. § 1321(b)(2)(A) (1988). The application of the CWA to the federal lands is the subject of *Pollution on the Federal Lands II*, *supra* note 1.

19. 42 U.S.C. § 6921 (1988). For analysis of RCRA's application to activities on the federal lands, see *Pollution on the Federal Lands III*, *supra* note 1.

20. 33 U.S.C. § 1317(a) (1988).

21. 42 U.S.C. § 7412 (1988), as amended by Pub. L. No. 101-549, Title III, 104 Stat. 2468, 2531 (1990). Air pollution problems on the federal lands are described in *Pollution on the Federal Lands I*, *supra* note 1.

22. 15 U.S.C. § 2606 (1988). TSCA's relevance to activities on the federal lands is discussed in *Pollution on the Federal Lands III*, *supra* note 1 at 22-23, 25.

lic health or welfare or to the environment.²³ CERCLA therefore may apply to virtually any activity that involves the management of waste deemed hazardous or toxic under the entire array of federal pollution control statutes.

B. Application to Mining Wastes

Congress has exempted many mining wastes, at least temporarily, from the RCRA hazardous waste regulatory system.²⁴ Because CERCLA's definition of "hazardous substance" specifically excludes wastes for which Congress has suspended RCRA regulation,²⁵ the mining industry anticipated similarly favorable treatment under CERCLA. Despite RCRA's exemption, however, these hopes were largely squelched in the early years of judicial interpretation of CERCLA. Virtually every court that ruled during the 1980's on the status of mine wastes under CERCLA concluded that these wastes met the definition of hazardous substances, notwithstanding the RCRA exemption.²⁶ These courts reasoned that even if a mining waste is exempt from RCRA regulation, it is still a hazardous substance for purposes of CERCLA if one or more of its constituent elements is covered by one of CERCLA's other statutory cross-references (such as a CWA hazardous substance or a CAA hazardous air pollutant).²⁷ Under this interpretation, persons that handle min-

23. 42 U.S.C. § 9602(a) (1988). See also *id.* § 9601(14)(B). EPA has listed these additional CERCLA hazardous substances at 40 C.F.R. § 302.4 (1993).

24. See *Pollution on the Federal Lands III*, *supra* note 1, at § V B.

25. 42 U.S.C. § 9601(14)(C) (1988).

26. John R. Jacus & Thomas E. Root, *The Law of Mine Waste: A Primer; Mine Waste from Agricola to CERCLA and Beyond*, 35 ROCKY MTN. MIN. L. INST. 9-1, 9-59 (1989). See also Elizabeth H. Temkin & Kristin Tita, *Multiparty Issues: CERCLA Mining and Energy Sites*, 35 ROCKY MTN. MIN. L. INST. 6-1, 6-17 (1989) (the courts have "eviscerated" CERCLA's mining waste exclusion).

27. See, e.g., *Idaho v. Hanna Mining Co.*, 699 F. Supp. 827, 833 (D. Idaho 1987), *aff'd*, 882 F.2d 392 (9th Cir. 1989) (even if cobalt and copper are exempt from RCRA regulation under the Bevill Amendment, and therefore excluded from the definition of hazardous substances under § 9601(14)(C), they are still covered under § 9601(14)(A) of CERCLA); *United States v. Metate Asbestos Corp.*, 584 F. Supp. 1143 (D. Ariz. 1984) (asbestos mining and milling wastes are CERCLA hazardous substances because asbestos is regulated as a toxic pollutant under the CWA and a hazardous pollutant under the CAA). See also *United States v. Union Gas Co.*, 586 F. Supp. 1522, 1524-25 (E.D. Pa. 1984) (when RCRA and other federal laws overlap, Congress intended that RCRA exemptions be "preempted," so mining wastes are covered by CERCLA). For other cases interpreting CERCLA to apply to mining wastes, see *Louisiana-Pacific Corp. v. ASARCO Inc.*, 6 F.3d 1332, 1337-40 (9th Cir. 1993); *Bradley Mining Co. v. EPA*, 972 F.2d 1356 (D.C. Cir. 1992) (EPA properly included inactive mercury mine site on the National Priorities List); *EDF v. EPA*,

ing wastes excluded from RCRA nevertheless may be subject to CERCLA's regulatory or liability provisions if those wastes are separately identified or listed under any other incorporated federal statute or if they contain constituents listed as hazardous under CERCLA itself.²⁸

The *Iron Mountain Mines* decision appeared to revive the early hopes of the mining industry that mining wastes excluded from RCRA regulation also might be exempt from CERCLA.²⁹ The court agreed with industry's claim that the prevailing interpretation of the term hazardous substances tends to render the CERCLA exclusion for wastes suspended from RCRA regulation meaningless, because all such wastes are covered by one or more of the statutory cross-references to statutes other than RCRA. The court ultimately concluded that the argument was not dispositive, however, because it found that Congress did not know when it enacted CERCLA that all mining wastes suspended from RCRA regulation are "hazardous" under other federal laws.³⁰ Turning to the legislative history, the court concluded that Congress did not intend CERCLA to regulate mining wastes exempt from RCRA regulation, even if they contain constituents that are hazardous within the meaning of other federal pollution laws.³¹ Subsequently, however, the Ninth Cir-

852 F.2d 1309 (D.C. Cir. 1988); *Eagle-Picher Indus. v. EPA*, 759 F.2d 922 (D.C. Cir. 1985) (mining wastes and fly ash are CERCLA hazardous substances if any of their constituent elements falls within any of the cross-references in § 9601(14)); *United States v. United Nuclear Corp.*, 814 F. Supp. 1552 (D.N.M. 1992) (uranium mine tailings are CERCLA hazardous substances); *Colorado v. Idarado Mining Co.*, 707 F. Supp. 1227 (D. Colo. 1989) (mine operators liable under CERCLA for costs and damages caused by release from tailings piles); *T&E Indus., Inc. v. Safety Light Corp.*, 680 F. Supp. 696, 697 (D.N.J. 1988) (carnotite ore tailings are hazardous substances under CERCLA § 9601(14)(C)); *Idaho v. Bunker Hill Co.*, 635 F. Supp. 665, 673 (D. Idaho 1986). *Cf.* *United States v. Smuggler-Durant Mining Corp.*, 823 F. Supp. 873 (D. Colo. 1993) (suit for recovery of response costs incurred removing lead, cadmium, and other mine tailings emanating from mine site).

28. See Marilyn G. Alkire, *CERCLA Liability for Mining and Milling Operations*, 30 ROCKY MTN. MIN. L. INST. 7-1, 7-6 to 7-12 (1984). See generally Linda Rockwood & Robert Lawrence, *New Mines from Old: Environmental Considerations in Remining and Reprocessing of Waste Materials*, 36 ROCKY MTN. MIN. L. INST. 4-1, 4-27 to 4-28 (1990).

29. *United States v. Iron Mountain Mines, Inc.*, 812 F. Supp. 1528 (E.D. Cal. 1992).

30. *Id.* at 1540. Thus, the court did not accept industry's argument that Congress would not have adopted an exclusion that it knew was meaningless. *Id.* at 1539-40.

31. *Id.* After the decision in *Iron Mountain Mines*, EPA issued an order under the imminent hazard provisions of RCRA, 42 U.S.C. § 6973(a) (1988), to clean up the site. See *Current Dev.*, 24 *Env't Rep.* (BNA) 184 (May 28, 1993). Under that authority, EPA may issue orders requiring action to address an imminent and sub-

cuit without citing *Iron Mountain Mines*, accepted the majority view that a Bevill mining waste is a CERCLA hazardous substance if it is covered by any of the statutory cross-references.³²

C. *The Petroleum Exclusion*

Even if the mining industry cannot escape the burdens of CERCLA compliance and liability, oil and gas producers may be able to take advantage of CERCLA's petroleum exclusion. This exclusion provides that the term "hazardous substance"

does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under [section 101(14)(A)-(F) of CERCLA], and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).³³

EPA has interpreted the petroleum exclusion to apply only to petroleum as it has been pumped from the deposit, to the products of petroleum, and to hazardous substances that are either indigenous to those petroleum substances or normally added to or mixed with them during the refining process.³⁴ According to the agency, the exclusion does not exempt petroleum wastes which contain nonpetroleum contaminants.³⁵ Thus, EPA may respond only to the release of hazardous substances added to pe-

stantial endangerment to health and the environment that is presented by the management of either solid or hazardous waste. Thus, EPA may order the cleanup even if the mining wastes are neither RCRA hazardous wastes nor CERCLA hazardous substances.

32. *Louisiana-Pacific Corp. v. ASARCO Inc.*, 6 F.3d 1332 (9th Cir. 1993). *Pollution on the Federal Lands III*, *supra* note 1, at § V B, describes the convoluted, if not bizarre, history of the treatment of mining wastes under RCRA.

33. 42 U.S.C. § 9601(14) (1988). The definition of a "pollutant or contaminant" contains a similar exclusion. *Id.* § 9601(33). On the petroleum exclusion, see generally Leo O. Bacher, Jr., *When Oil Is Not Oil: An Analysis of CERCLA's Petroleum Exclusion in the Context of A Mixed Oil Spill*, 45 BAYLOR L. REV. 233 (1993); Richard J. Denney, et al., *Contamination from Oil and Gas Production: Who Pays for Cleanup?*, 36 ROCKY MTN. MIN. L. INST. 6-1, 6-4 to 6-13 (1991); Temkin & Tita, *supra* note 26, at 6-14 to 6-17. Petroleum-related substances also may be exempt from state hazardous substance remediation and liability statutes. See, e.g., *Ulvestad v. Chevron U.S.A., Inc.*, 818 F. Supp 292 (C.D. Cal. 1993) (California's Hazardous Substance Account Act does not apply to refined petroleum, including gasoline).

34. See James A. Holtkamp & William R. Richards, *Mineral Transactions, Environmental Permits, and the Shifting Liability for Environmental Problems Upon Transfer of Property Interests*, 35 ROCKY MTN. MIN. L. INST. 4-1, 4-11 (1989); Temkin & Tita, *supra* note 26, at 6-15, both citing Opinion of EPA General Counsel (July 31, 1987).

35. See Holtkamp & Richards, *supra* note 34, at 4-11; Temkin & Tita, *supra* note 26, at 6-15.

troleum products through use, but not to the release of the petroleum product itself.³⁶ If, however, the petroleum product and the added hazardous substance are so commingled that they cannot be separated, EPA believes that it can respond to the entire release under CERCLA.³⁷ Any other position would appear to make agency efforts to respond to releases of mixtures of petroleum products and hazardous substances extremely problematic.

Judicial interpretation of the petroleum exclusion to date follows EPA's views. In *Wilshire Westwood Association v. Atlantic Richfield Corporation*,³⁸ for example, the Ninth Circuit held that the exclusion applies to unrefined and refined gasoline even though certain of its indigenous components and certain refining additives have themselves been designated as hazardous substances under CERCLA. Accordingly, refined petroleum fractions are excluded, even if hazardous substances were added in the refining process.³⁹ In *Washington v. Time Oil Company*,⁴⁰ on the other hand, a Washington district court concluded that when hazardous substances are added to waste oil, resulting in larger amounts of hazardous components than would occur in crude or refined petroleum products, the exemption does not apply.⁴¹ In

36. See Temkin & Tita, *supra* note 26, at 6-15.

37. *Id.*

38. 881 F.2d 801, 810 (9th Cir. 1989).

39. See, e.g., *id.* at 802. Cf. *Bunger v. Hartman*, 797 F. Supp. 968, 972 (S.D. Fla. 1992).

40. 687 F. Supp. 529 (W.D. Wash. 1988).

41. *Id.* at 532. See also *United States v. Alcan Aluminum Corp.*, 964 F.2d 252, 266-67 (3d Cir. 1992) (aluminum manufacturer's emulsion containing used oil to which CERCLA hazardous substances had been added during use was not covered by the petroleum exclusion); *Portsmouth Redev. and Housing Auth. v. BMI Apartments Assoc.*, 827 F. Supp. 354, 356-57 (E.D. Va. 1993) (deferring to EPA's interpretation, under which the petroleum exclusion does not cover hazardous substances which are added to petroleum or which increase in concentration solely as a result of contamination of petroleum during use); *Mid Valley Bank v. North Valley Bank*, 764 F. Supp. 1377, 1382-84 (E.D. Cal. 1991) ("adulterated" waste oil containing CERCLA hazardous substances is not within the exclusion); *City of New York v. Exxon Corp.*, 744 F. Supp. 474, 489-90 (S.D.N.Y. 1990), 766 F. Supp. 177, 186-87 (S.D.N.Y. 1991) (waste oil to which cadmium, chromium, and lead had been added, all of which are listed hazardous substances, are not within the exclusion). See also *Southern Pac. Transp. Co. v. California (CALTRANS)*, 790 F. Supp. 983, 984-86 (C.D. Cal. 1991), in which the court held that (1) the petroleum exclusion applies even though CERCLA-listed hazardous substances are indigenous in the petroleum or are normal additives of the refining process; (2) used petroleum products are covered by the exclusion, provided that CERCLA-listed hazardous substances have not been added to the petroleum product during its use, nor have concentrations of such substances been increased by use of the petroleum product; and (3) soil that is mixed

Cose v. Getty Oil Co.,⁴² the court held that the separated sediment and water that constitute crude oil tank bottoms do not fall within the petroleum exclusion.⁴³

Although it is unclear whether the petroleum exclusion prevents liability for injuries to natural resources under CERCLA,⁴⁴ the oil spill provisions of the CWA⁴⁵ impose liability for damage to natural resources caused by a discharge of oil even if CERCLA does not.⁴⁶ The term "oil" includes "oil of any kind in any form, including . . . petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil."⁴⁷ Further, the Oil Pollution Act of 1990 ("OPA") expanded the CWA's liability scheme by making persons responsible for discharges of oil liable for several kinds of damages, including damages for injured property and lost profits.⁴⁸ CERCLA's delegation of authority to the President to assess natural resource damages covers damages caused both by the release of hazardous substances under CERCLA and by the discharge of oil under the CWA.⁴⁹ The Department of Interior, to which the President has delegated part of this authority, has issued damage assessment regulations applicable to both releases of hazardous substances and discharges of oil.⁵⁰

only with petroleum material covered by the exclusion is also covered as long as the soil itself is not a CERCLA-listed hazardous substance.

42. 4 F.3d 700 (9th Cir. 1993).

43. *Id.* at 702, 705-09. See also *United States v. Western Processing Co.*, 761 F. Supp. 713 (W.D. Wash. 1991).

44. Gregory G. Garre, Note, *Environmental Law: CERCLA, Natural Resource Damage Assessments, and the D.C. Circuit's Review of Agency Statutory Interpretations Under Chevron*, 58 GEO. WASH. L. REV. 932, 935-36 n.26 (1990), argues that it does not. But CERCLA imposes damage liability for injured, destroyed, or lost natural resources resulting from a release or threatened release of a "hazardous substance," and that term excludes petroleum. 42 U.S.C. §§ 9607(a)(4)(C), 9601(14) (1988). The natural resource damage provisions of CERCLA are explored in detail *infra* at § VIII.

45. 33 U.S.C. § 1321 (1988 & Supp. V 1993).

46. 33 U.S.C. § 1321(f)(4)-(5) (1988).

47. *Id.* § 1321(a)(1).

48. *Id.* § 2702(b)(2)(B), (E) (Supp. V 1993). Liability under the OPA is analyzed in *Pollution on the Federal Lands II*, *supra* note 1, at § V C.

49. 42 U.S.C. § 9607(f)(2) (1988).

50. 43 C.F.R. § 11.10 (1992), amended by 59 Fed. Reg. 14,262 (1994). The Interior Department's natural resource damage assessment regulations are discussed *infra* at § VIII.

III.

CERCLA'S REGULATORY REQUIREMENTS

CERCLA aims to protect the environment from hazardous substance releases primarily through the imposition of liability for response costs and natural resource damages. The statute also has a regulatory component, however, which includes reporting and financial responsibility requirements. This part focuses on the regulatory aspects of CERCLA of particular relevance to facilities located on federal lands. The statute requires federal agencies to notify prospective purchasers of contaminated property and to complete necessary remedial action before transferring such property. In 1992, to encourage redevelopment of closed military bases, Congress authorized the transfer of uncontaminated portions of federal property even though other portions contain hazardous substances. This part also analyzes these legislative efforts to maximize the economic productivity of surplus federal property while retaining incentives for agencies to investigate and remediate federal lands contamination.

A. Investigation, Notification, and Reporting

1. General

Although CERCLA's primary function is to impose liability for costs and damages resulting from releases of hazardous substances, Congress also included a regulatory component to help impose such liability. One part of this regulatory component requires vessels⁵¹ and facilities⁵² involved in releases to notify and file reports with the appropriate authorities. As soon as a person in charge of a vessel or facility knows of any release⁵³ of a haz-

51. Vessels are watercraft or other artificial contrivances used, or capable of being used, as a means of transportation on water. 42 U.S.C. § 9601(28) (1988).

52. CERCLA defines a facility very broadly to include "(A) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel." *Id.* § 9601(9).

53. The term "release" also is broadly defined to include "any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant). . . ." *Id.* § 9601(22). Releases do not include certain workplace exposures, engine exhaust emissions, releases of nuclear

ardous substance in quantities determined by EPA to be reportable,⁵⁴ he or she must immediately notify the National Response Center ("NRC").⁵⁵ The NRC then must notify all appropriate government agencies, including the governors of affected states.⁵⁶ Persons failing to comply with these release notification requirements are subject to criminal penalties.⁵⁷

CERCLA also requires that owners and operators of hazardous substance treatment, storage, and disposal ("TSD") facilities notify EPA of the existence of such facilities, the amount and type of substances managed there, and any known, suspected, or likely releases.⁵⁸ In addition, EPA regulations are supposed to require that any facility releasing a hazardous substance notify potentially injured parties.⁵⁹ Reasonable notice by publication in local newspapers serving the affected area is required until such regulations are promulgated.⁶⁰

2. Federal Facilities

CERCLA's release notification requirements apply not only to private entities, but also to all federal agencies.⁶¹ In addition, CERCLA obligates the federal government to notify prospective purchasers of contaminated property.⁶² When a federal agency enters a contract to sell real property on which hazardous waste was stored for one year or more, was known to have been released, or was disposed of, the agency must notify the prospective buyer in the contract and include certain provisions in the

materials regulated by the Nuclear Regulatory Commission under the Atomic Energy Act, or the normal application of fertilizer. *Id.*

54. The reportable quantities established by EPA for various hazardous substances are at 40 C.F.R. §§ 302.4-302.5 (1993).

55. 42 U.S.C. § 9603(a) (1988); 40 C.F.R. § 302.6(a) (1993) (listing the NRC's phone number).

56. 42 U.S.C. § 9603(a) (1988); 40 C.F.R. § 302.6 (1993). Certain releases are exempt from the notification requirement, including the application of a pesticide product registered under the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. §§ 136-136y (1988) (*see* 42 U.S.C. § 9603(e) (1988)), releases required to be reported under RCRA, and certain stable and continuous releases, 42 U.S.C. § 9603(f) (1988).

57. 42 U.S.C. § 9603(b) (1988).

58. *Id.* § 9603(c). Record keeping requirements for TSD facilities are authorized at *id.* § 9603(d).

59. *Id.* § 9611(g).

60. *Id.*

61. 40 C.F.R. § 300.170(c)-(d) (1993). Curiously, federal agencies are encouraged but apparently not required to report releases of pollutants or contaminants and discharges of oil. *Id.* § 300.170(d).

62. 42 U.S.C. § 9620(h)(1)-(3) (1988).

deed.⁶³ The deed must include covenants warranting that all remedial action necessary to protect human health and the environment has been taken before the date of transfer, and that the United States will conduct any additional remedial action.⁶⁴ Among the issues raised by the notification and transfer provisions are whether the government may transfer an uncontaminated parcel within a facility even if another parcel is contaminated, whether transfer may occur after completion of construction of the remedy but before final cleanup goals have been achieved, and whether liability is transferred along with the property.⁶⁵ A 1992 amendment to CERCLA provides that all remedial action at a federal facility is complete if the construction and installation of the approved remedial design has been completed, and the remedy has been demonstrated to EPA to be operating properly and successfully.⁶⁶

*Hercules Inc. v. EPA*⁶⁷ addressed the conveyance notice obligation. EPA took the position that federal agencies transferring properties contaminated by hazardous substances need only notify purchasers of contamination if it occurred during the period of government ownership.⁶⁸ EPA argued that a more expansive interpretation of the notice requirement would seriously burden federal agencies acquiring property through foreclosure or voluntary seizure because they would have to search the records of the acquired business.⁶⁹ The court disagreed, holding that notifi-

63. *Id.*

64. *Id.* § 9620(h)(3)(B).

65. EPA apparently takes the position that the first two questions should be answered affirmatively. See *Current Dev.*, 22 *Env't Rep. (BNA)* 2723 (Apr. 17, 1992). See also *infra* 71-76 nn. & accompanying text (the government may transfer uncontaminated portions of property on which it plans to terminate military installations, even though other portions contain hazardous substances). As to the third question, the statute requires that the transferring agency include in the deed of transfer a covenant that all necessary remedial action has been or will be conducted by the United States, but it is silent on the liability of the purchaser. See 42 U.S.C. § 9620(h)(3)(B) (1988). Because of the covenant required in the deed, it likely will be difficult for the purchaser to avail itself of the innocent purchaser defense of *Id.* § 9601(35).

66. Pub. L. No. 102-426, § 4(a), 106 Stat. 2174, 2177 (1992) (to be codified at 42 U.S.C. § 9620(h)(3)(B)). The carrying out of long-term pumping and treating, or operation and maintenance, after the remedy has been so demonstrated does not preclude transfer of the property. *Id.*

67. 938 F.2d 276 (D.C. Cir. 1991).

68. *Id.* at 278.

69. *Id.* at 281.

cation is required whether or not the contamination occurred during government ownership.⁷⁰

In 1992, Congress passed the Community Environmental Response Facilitation Act⁷¹ to encourage the redevelopment of closed military bases, to mitigate the adverse economic impact of such closings, and to authorize the transfer of uncontaminated portions of federal property even though other portions contain hazardous substances. The Act amends CERCLA to require each federal agency to investigate real property within its jurisdiction on which hazardous substances or petroleum products and their derivatives were not stored recently, and were not known to have been released or disposed of.⁷² The Act applies to real property owned by the United States on which the government plans to terminate federal government operations and to military installations on which the United States plans to close or realign military operations pursuant to a base closure law.⁷³ The investigation is to determine the likelihood of a release or threatened release of any hazardous substance or petroleum product or its derivatives.⁷⁴ With a facility on CERCLA's National Priorities List, EPA must concur in the results reached by the investigating agency before the property may be sold. For all other properties, the investigating agency must seek the concurrence of state officials.⁷⁵ Any deed for the sale or transfer of a property covered by the Act must contain a covenant warranting that the United States will conduct any response or corrective action found to be necessary subsequent to the sale, and a clause granting the United States access to the property to facilitate response or corrective actions on the transferred or adjoining properties.⁷⁶

70. *Id.* at 278, 280-81. The court also ruled that EPA did not act arbitrarily in refusing to define which contracts constitute transfers of property subject to the notice requirement, although it added that such a uniform administrative definition "would assist agencies in fulfilling their duties under the statute." *Id.* at 283.

71. Pub. L. No. 102-426, 106 Stat. 2174 (1992).

72. *Id.* § 3 (to be codified at 42 U.S.C. § 9620(h)(4)(A)).

73. *Id.* § 3 (to be codified at 42 U.S.C. § 9620(h)(4)(E)(i)). Base closure laws are those referred to in *id.* § 3 (to be codified at 42 U.S.C. § 9620(h)(4)(E)(ii)).

74. *Id.* § 3 (to be codified at 42 U.S.C. § 9620(h)(4)(A)).

75. *Id.* § 3 (to be codified at 42 U.S.C. § 9620(h)(4)(B)).

76. *Id.* § 3 (to be codified at 42 U.S.C. § 9620(h)(4)(D)). In a provision of the 1993 Defense Department authorization bill, Congress also required the federal government to hold harmless and indemnify subsequent owners of former military bases from liability stemming from hazardous substances located at the bases. Pub. L. No. 102-484, § 330(a), 106 Stat. 2315, 2371-72 (1992). See also Pub. L. No. 102-396, tit. II, 106 Stat. 1876, 1883-84 (1992) (the United States will hold harmless state and

Though he signed the legislation, former President Bush objected to the provision requiring the concurrence of state officials prior to the sale of facilities that were not on the National Priorities List. The President contended that the provision amounted to a grant of federal executive powers to a person not appointed in conformity with the Constitution's appointments clause.⁷⁷ Accordingly, President Bush purported to authorize federal officials to transfer properties affected by the Act even when a state official fails to concur in its identification as uncontaminated property.⁷⁸ This interpretation of the statute, if valid, would reduce state control over the fate of federal sites which give rise to disputes between federal and state officials concerning the adequacy of hazardous substance cleanups. In other contexts, the courts have enlarged the authority of the states to dictate the substantive environmental standards that federal facility cleanups must achieve.⁷⁹

3. Assessment of Notification and Related Obligations

Non-compliance with CERCLA's notification requirements creates an obvious risk that EPA will not learn of the need for remediation until well after a release has occurred. Generally, the longer the delay between a release and the start of remediation, the greater the cost of responding to that release is likely to be. Thus, anything less than vigorous enforcement of CERCLA's notification provisions could undermine the entire statutory cleanup mechanism.

The provisions requiring the government to notify prospective purchasers of the history of hazardous waste management activities at federal facilities and to guarantee necessary remediation at the government's expense is intended to prevent the United States from unloading properties with potential multi-million dollar contamination liabilities to unsuspecting purchasers. The expansive interpretation of the notification provisions in the *Hercules* case should induce the government to investigate properties for hazardous waste problems before it purchases them, which in turn should speed discovery of the sources of potential hazardous

local government real property transferees for claims arising out of hazardous substance releases resulting from Defense Department activities).

77. Current Dev., 23 Env't Rep. (BNA) 1633-34 (Oct. 23, 1992).

78. *Id.* at 1634.

79. See, e.g., *United States v. Colorado*, 990 F.2d 1565, 1571 n.9 (10th Cir. 1993), cert. denied, 114 S. Ct. 922 (1994), discussed *infra* at § IV D.3.

substance releases. The Community Environmental Response Facilitation Act maintains those responsibilities for closed military bases and other properties on which the government plans to cease operations, while seeking to secure economic benefits by removal of unnecessary obstacles to the properties' transformation to productive new uses.

B. *Financial Responsibility*

A second category of regulatory requirements under CERCLA pertains to financial responsibility. Congress required EPA to issue regulations specifying that certain classes of facilities establish evidence of financial responsibility, that is, a capability to handle the risks associated with the production, transportation, treatment, storage, or disposal of CERCLA hazardous substances.⁸⁰ Persons covered may establish financial responsibility by insurance, guarantee, surety bond, letter of credit, or qualification as a self-insurer.⁸¹

To allow the insurance industry time to develop appropriate insurance coverage,⁸² Congress authorized EPA to phase in CERCLA's financial responsibility requirements over a period of four years from the date of promulgation of the regulations.⁸³ The insurance industry reacted lethargically to the market opportunities section 108 of CERCLA created,⁸⁴ however, and implementation of the financial responsibility provisions has proceeded even more slowly than anticipated. In 1986, Congress added a new pollution insurance title to CERCLA in an effort to remove barriers provided by state law to coverage of the contamination risks addressed in CERCLA.⁸⁵ The Act purports to preempt prohibitions under state law on the formation of self-insurance pools,⁸⁶ and it blocks the application to groups formed to purchase pollution liability insurance of state insurance law limitations on group insurance.⁸⁷ It seems safe to assume that,

80. 42 U.S.C. § 9608(b)(1) (1988).

81. *Id.* § 9608(b)(2). Similar requirements apply to certain large vessels that use United States ports or offshore facilities. *Id.* § 9608(a).

82. See STEVER, *supra* note 4, at § 6.09[2].

83. 42 U.S.C. § 9608(b)(3) (1988). EPA was supposed to issue financial responsibility regulations beginning not earlier than five years after the date of CERCLA's initial adoption in December 1980. *Id.* § 9608(b)(1).

84. See STEVER, *supra* note 4, at § 6.09[2].

85. 42 U.S.C. §§ 9671-9675 (1988).

86. *Id.* § 9673.

87. *Id.* § 9674. See generally STEVER, *supra* note 4, at § 6.09[2].

given EPA's delays in issuing financial responsibility regulations and the insurance industry's reluctance to provide effective coverage, the safety net that Congress intended to spread under the risks of liability arising from hazardous substance releases is still full of holes.

IV.

THE CERCLA CLEANUP PROCESS

CERCLA delegates broad authority to EPA to respond to hazardous substance releases. The statute creates a mechanism for prioritizing sites in need of remediation and provides guidance on the appropriate extent of remediation. After outlining the provisions that govern designation and cleanup of priority sites, this part evaluates their application to hazardous substance releases on federal lands. The article focuses on the unique difficulties facing EPA in its efforts to respond to these releases, which include the reluctance of responsible federal agencies to commit resources to site remediation, the jurisdictional conflicts that typically arise between EPA and those agencies, and the potential constitutional barriers to enforcement of federal laws by one executive branch agency against another.

A. *General Response Authority*

The two main functions of CERCLA are to establish an effective mechanism for responding to releases and threatened releases of hazardous substances and to impose liability on all responsible parties. To achieve the first goal, CERCLA authorizes EPA,⁸⁸ in a manner consistent with the National Contingency Plan ("NCP"),⁸⁹ to respond to (or arrange for a response to) any release or substantial threat of a release of hazardous substances into the environment, or of pollutants or contaminants which may present imminent and substantial danger to the

88. CERCLA actually vests the authority to respond to hazardous substance releases in the President, but the President has delegated to EPA most of the responsibility for implementing CERCLA's remediation provisions. *See* Exec. Order No. 12580, 52 Fed. Reg. 2,923 (1987), § 2(g), *as amended by* Exec. Order No. 12777, 56 Fed. Reg. 54,757 (1991). *See generally* 40 C.F.R. pt. 300 (1993).

89. The NCP was first promulgated in connection with the CWA's oil spill provisions to provide for efficient, coordinated, and effective action to minimize damage from oil spills, 33 U.S.C. § 1321(c)(2) (1988). It has been substantially revised and expanded under CERCLA, 42 U.S.C. § 9605 (1988), and now provides the "blueprints" for cleanups of released hazardous substances and discharged oil. The NCP is at 40 C.F.R. pt. 300 (1993).

public health or welfare. Response⁹⁰ takes two forms: short-term removal actions⁹¹ designed to minimize immediate threats to health, welfare, or the environment; and long-term, relatively permanent remedial actions⁹² designed to prevent or minimize migration of hazardous substances posing similar dangers. CERCLA gives priority to those releases which EPA deems to threaten public health.⁹³

Whenever EPA is authorized to respond, it may investigate, monitor, test, and otherwise gather information to identify the existence and extent of a release or threat thereof, the source and nature of the hazardous substances involved, and the danger to health, welfare, or the environment. EPA also may undertake planning, legal, fiscal, economic, engineering, architectural, and other investigations necessary to plan and direct responses and to recover costs.⁹⁴

The NCP elaborates upon these general grants of authority by describing mechanisms at several levels for response planning, implementation, and coordination. In descending order, these levels include a National Response Team ("NRT"),⁹⁵ Regional Response Teams ("RRTs"),⁹⁶ and on-scene coordinators ("OSCs") and remedial project managers ("RPMs").⁹⁷ The NRT consists of representatives from several federal agencies, including EPA, the National Response Center, the Coast Guard, the Federal Emergency Management Agency, the Nuclear Regulatory Commission, and the Departments of Interior, Agriculture, Defense, Energy, Commerce, Justice, Labor, State, and Transportation.⁹⁸ Among other things, the NRT must review regional responses to ensure coordination among responsible public agencies.⁹⁹

90. A "response" is defined to include removal and remedial action and related enforcement actions. 42 U.S.C. § 9601(25) (1988).

91. Removal actions are defined at *id.* § 9601(23).

92. Remedial actions are defined at *id.* § 9601(24). For a description of some of the differences between removal and remedial actions, see generally Jerry L. Anderson, *Removal or Remedial? The Myth of CERCLA's Two-Response System*, 18 COLUM. J. ENVTL. L. 103 (1993).

93. 42 U.S.C. § 9604(a)(1) (1988).

94. *Id.* § 9604(b)(1).

95. 40 C.F.R. § 300.110 (1993).

96. *Id.* § 300.115.

97. *Id.* § 300.120.

98. *Id.* §§ 300.110(a), 300.175.

99. *Id.* § 300.110(h)(8).

Some members of the NRT are responsible for releases affecting federal lands and resources. Within the Agriculture Department, the Forest Service generally oversees planning, protection, and management of national forests and grasslands affected by a release.¹⁰⁰ Interior Department land managers have jurisdiction over releases affecting the national park system, national wildlife refuges and fish hatcheries, the BLM public lands, and certain water projects in western states.¹⁰¹ The scheme relies on the BLM's expertise concerning minerals, soils, vegetation, wildlife, habitat, archaeology, and wilderness,¹⁰² while the NPS is the designated expert for biological and general natural resources at park units.¹⁰³ Federal agencies represented in the NRT also may have duties as natural resource trustees, overseeing the rehabilitation, restoration, or replacement of natural resources damaged by hazardous substance releases.¹⁰⁴ Federal agencies must coordinate with each other in implementing these duties.¹⁰⁵

Regional Response Teams develop and coordinate preparation for response actions as well as coordination and advice to the OSC or RPM during those actions.¹⁰⁶ The OSC or RPM actually directs and coordinates all response efforts at the scene of the discharge or release.¹⁰⁷ EPA and the Coast Guard predesignate OCSs for each of the ten regions into which the country is divided,¹⁰⁸ and assign RPMs to manage responses at particular sites on the National Priorities List.¹⁰⁹

State and local governments may contract with the federal government to carry out response actions under CERCLA.¹¹⁰ Federal officials and state and local entities so authorized may require the submission of information relating to releases, demand reasonable access to vessels and facilities, and inspect samples of suspected hazardous substances or pollutants or

100. *Id.* § 300.175(b)(6)(i).

101. *Id.* § 300.175(b)(9).

102. *Id.* § 300.175(b)(9)(iii).

103. *Id.* § 300.175(b)(9)(vii).

104. *Id.* § 300.170. The process for designating natural resource trustees and the responsibilities of those trustees in assessing natural resource damages are discussed *infra* at §§ VIII H-I.

105. 40 C.F.R. § 300.170 (1993).

106. *Id.* § 300.115(a).

107. *Id.* § 300.120(a).

108. These regions are illustrated at *id.* § 300.105(d).

109. The list is discussed *infra* at § IV C.1.

110. 42 U.S.C. § 9604(d) (1988).

contaminants.¹¹¹ Congress also authorized the federal government to acquire any real property necessary to conduct a remedial action, but only if the state in which the property is located agrees to accept transfer of the interest upon completion of the remedial action.¹¹²

B. *Limitations on Response Authority*

In several ways, Congress limited its general grants of authority under CERCLA for responding to hazardous substance releases. The federal government's authority does not extend to a release or threat of release of a naturally occurring substance in its unaltered form, or of such a substance altered solely through naturally occurring processes, from a location where it is naturally found. Nor does response authority extend to releases from products which are part of the structure of, and result in exposure within, residential buildings or business or community structures. CERCLA's response mechanisms also do not apply to releases into public or private drinking water supplies due to deterioration of the system through ordinary use.¹¹³ CERCLA also sets time and spending limits on responses unless EPA indicates that an emergency exists. Response actions must cease after the federal government commits two million dollars to a cleanup project or twelve months have elapsed from the date of initial response.¹¹⁴

Federal agencies may not undertake remedial actions unless the state in which the release first occurs provides assurances that (1) it will be responsible for future maintenance of the response actions; (2) a TSD facility properly permitted under RCRA will be available for off-site handling of hazardous substances; and (3) the state will pay its specified share of the costs of the remedial action.¹¹⁵ Finally, the law since 1989 has prohibited the federal

111. *Id.* § 9604(e).

112. *Id.* § 9604(j)(1)-(2). No agency will be liable under CERCLA for response costs or damages solely as a result of acquiring property pursuant to this authority. *Id.* § 9604(j)(3).

113. *Id.* § 9604(a)(3). Despite these limitations, EPA may respond to any release or threat thereof if it constitutes a public health or environmental emergency and no other person with the authority and capability to respond will do so in a timely manner. *Id.* § 9604(a)(4).

114. *Id.* § 9604(c)(1).

115. *Id.* § 9604(c)(3). The state's share is 10 percent, unless the facility from which the release occurred was operated by the state or one of its subdivisions directly or indirectly, at any time of any disposal of hazardous substances therein, in which case the state is responsible for 50 percent of response costs. *Id.*

government from providing remedial actions unless the state in which the release occurs first provides assurances that adequate capacity will exist for the destruction, treatment, or secure disposition of all hazardous wastes reasonably expected to be generated within the state during the next twenty years.¹¹⁶

C. *The National Contingency Plan and Cleanup Standards*

1. The National Priorities List

CERCLA requires EPA to issue and periodically revise the NCP to include a national hazardous substance response plan establishing procedures and standards for responding to releases. The NCP must set forth methods for discovering and investigating facilities at which hazardous substances have been disposed, methods for evaluating and remedying releases, and means of assuring cost-effective remedial actions.¹¹⁷ Responses to and actions to minimize damage from hazardous substance releases must comply with the NCP to the greatest extent possible.¹¹⁸

The NCP also requires a set of criteria for determining priorities among responses to releases based on relative risk or danger to health, welfare, or the environment.¹¹⁹ Based on these criteria, the NCP must list national priority sites for long-term remedial evaluation and response to releases or threatened releases.¹²⁰ The current NCP authorizes EPA to include three types of sites on this National Priorities List ("NPL"):¹²¹ first, a site that scores sufficiently high under EPA's Hazard Ranking System ("HRS") may be included;¹²² second, the NPL includes each site that a state has designated as its highest priority;¹²³ and third, EPA may list a site if a release there poses a significant threat to the public health, the Agency for Toxic Substances and Disease Registry ("ATSDR")¹²⁴ has issued a health advisory for

116. *Id.* § 9604(c)(9).

117. The requirements of the NCP are listed at *id.* § 9605(a). *See generally* 40 C.F.R. pt. 300 (1993).

118. 42 U.S.C. § 9605(a) (1988).

119. *Id.* § 9605(a)(8)(A).

120. *Id.* § 9605(a)(8)(B). *See also* 40 C.F.R. § 300.425(b) (1993).

121. The NPL is at 40 C.F.R. pt. 300, App. B (1993).

122. 40 C.F.R. § 300.425(c)(1) (1993).

123. *Id.* § 300.425(c)(2).

124. The ATSDR was created by CERCLA to establish a national registry of persons exposed to toxic substances, compile an inventory of research on the health effects of exposure to those substances, provide medical care to individuals exposed to those substances in public health emergencies, and conduct screening programs to determine the relationships between exposure and illness. 42 U.S.C. § 9604(i)(1)

the site, and EPA anticipates it will be more cost-effective to use remedial rather than removal authority.¹²⁵ Although the statute does not impose this restriction, EPA has limited the use of CERCLA's Hazardous Substance Superfund to remedial action at sites placed on the NPL.¹²⁶

The HRS is a mathematical model for evaluating the seriousness of the threat posed by a particular site.¹²⁷ EPA uses it to evaluate the relative potential of uncontrolled hazardous substance facilities to cause health or safety problems or ecological or environmental damage.¹²⁸ To establish priorities for response action, the HRS includes criteria based on the relative risk or danger posed by a particular site, taking into account the population at risk; the hazardous potential of substances at the site; and the potential for contamination of drinking water supplies,¹²⁹ direct human contact, and destruction of sensitive ecosystems.¹³⁰

2. Cleanup Standards

During the first several years after CERCLA's enactment, cleanup efforts were plagued by the inconsistency of the standards to determine the appropriate extent of remediation. In the

(1988). The ATSDR also lists the hazardous substances most commonly found at facilities on the NPL, prepares toxicological profiles of listed substances, and performs health assessments for each facility on the NPL to determine whether actions should be taken to reduce human exposure to hazardous substances at a facility. *Id.* § 9604(i)(2)-(6). If a health assessment indicates significant risk to human health, EPA must take necessary steps to reduce exposure and mitigate the risk. *Id.* § 9604(i)(11).

125. 40 C.F.R. § 300.425(c)(3) (1993).

126. *Id.* § 300.425(b)(1). The Superfund is described *infra* at § V. Inclusion on the NPL is not a prerequisite to the use of EPA's authority under 42 U.S.C. § 9606 (1988) to respond to imminent and substantial endangerments to health or welfare due to a release or threatened release, or to the recovery from responsible parties of the costs of non-Fund financed cleanups. 40 C.F.R. § 300.425(b)(4) (1993).

127. The HRS is described at 40 C.F.R. pt. 300, App. A (1993).

128. *Id.*

129. CERCLA requires that priority be given to facilities where releases have resulted in closing of drinking water wells or contamination of principal drinking water supplies. 42 U.S.C. § 9618 (1988).

130. 40 C.F.R. pt. 300, App. A, ¶ 1 (1993). One commentator's assertion that damage to natural resources alone will not lead EPA to place a site on the NPL due to the HRS' emphasis on health risk appears to have been premature. See Frederick R. Anderson, *Natural Resource Damages, Superfund, and the Courts*, 16 B.C. ENVTL. AFF. L. REV. 405, 419-20 (1989). The December 1990 revisions to the HRS, by placing greater emphasis on threats to endangered species or wildlife habitat posed by hazardous substance releases, may result in more facilities on or near federal lands appearing on the NPL. See Current Dev., 22 Env't Rep. (BNA) 1021 (Aug. 9, 1991).

1986 amendments to the Act, Congress provided some additional guidance. The statute now requires that, to the extent practicable, remedial actions be consistent with the NCP, cost-effective, and protect human health and the environment.¹³¹ Remedial actions must attain a degree of cleanup of released hazardous substances and control of further releases that, at a minimum, assures protection of health and the environment and is "relevant and appropriate under the circumstances."¹³²

CERCLA favors remedial actions in which the volume, toxicity, or mobility of hazardous substances are permanently and significantly reduced.¹³³ Off-site transport and disposal of untreated hazardous substances is the least-favored alternative when practicable treatment technologies are available.¹³⁴ Hazardous substances transferred off-site must be sent to properly permitted RCRA or TSCA TSD facilities.¹³⁵ Remedial actions that result in any hazardous substances remaining at a site must be reviewed at least every five years to assure protection of human health and the environment.¹³⁶ Hazardous substances that will remain on-site must be controlled sufficiently to achieve any legally applicable or relevant and appropriate federal or state environmental standards.¹³⁷ In these circumstances, no federal, state, or local permit may be required for the portion of any removal or remedial action conducted entirely on-site.¹³⁸ In limited circumstances, EPA may authorize exceptions to these general cleanup standards.¹³⁹

In addition to the generally applicable cleanup standards, federal agencies may apply special requirements to releases affecting federal lands or resources. For oil discharge removals, for example, the Departments of Interior and Commerce, through the National Oceanic and Atmospheric Administration ("NOAA"), must coordinate professional and volunteer groups participating

131. 42 U.S.C. § 9621(a), (b)(1) (1988).

132. *Id.* § 9621(d)(1).

133. *Id.* § 9621(b)(1).

134. *Id.*

135. *Id.* § 9621(d)(3).

136. *Id.* § 9621(c).

137. *Id.* § 9621(d)(2)(A). The process for identifying any such "ARAR" standards is described at 40 C.F.R. § 300.400(g) (1993). See generally Steven A. Hann, *ARARs: Defining How Clean Is Clean?*, 10 TEMPLE ENVTL. L. & TECH. J. 1 (1991).

138. 42 U.S.C. § 9621(e)(1) (1988).

139. See *id.* § 9621(d)(4).

in wildlife dispersal, collection, cleaning, rehabilitation, and recovery activities under applicable federal¹⁴⁰ and state laws.¹⁴¹

The 1986 amendments to CERCLA imposed deadlines on EPA for performing certain aspects of the cleanup process, including preliminary assessments, site inspections, evaluations, remedial investigations and feasibility studies ("RI/FSs"), and on-site remedial actions at sites on the NPL.¹⁴² EPA regulations describe the RI/FS and remedy selection processes.¹⁴³ The RI/FS assesses site conditions and evaluates alternatives to the extent necessary to select a remedy.¹⁴⁴ Remedy selection is designed to implement remedies that eliminate, reduce, or control risks to human health and the environment.¹⁴⁵

D. *Site Assessment and Cleanup at Federal Facilities*

1. Site Identification

In a 1987 report, the General Accounting Office found that the federal lands "could have thousands of hazardous waste sites at research laboratories, maintenance facilities, municipal and state-operated landfills and dumps, and former oil and gas mining operations, among others."¹⁴⁶ At that time, federal agencies had identified about 5400 potential hazardous waste sites on lands under their jurisdiction,¹⁴⁷ but that number has since nearly doubled.¹⁴⁸ Many of these sites involve military or energy-related installations,¹⁴⁹ but others are attributable to activities that range from the operation of illegal drug laboratories to the

140. *E.g.*, the Migratory Bird Treaty Act, 16 U.S.C. §§ 703-712 (1988).

141. 40 C.F.R. § 300.330 (1993).

142. 42 U.S.C. § 9616 (1988).

143. 40 C.F.R. § 300.430 (1993).

144. *Id.* § 300.430(a)(2). Criteria for remedy selection are at *id.* § 300.430(e)(9)(iii), (f)(1).

145. *Id.* § 300.430(a)(1). The remedial design and remedial action stages include development of the selected remedy and implementation through construction, followed by any necessary maintenance. *Id.* § 300.435(a).

146. GENERAL ACCOUNTING OFFICE, SUPERFUND - EXTENT OF NATION'S POTENTIAL HAZARDOUS WASTE PROBLEM STILL UNKNOWN 18 (1987) (*cited in* Robert C. Davis, Jr. & R. Timothy McCrum, *Environmental Liability for Federal Lands and Facilities*, 6 NAT. RESOURCES & ENV'T 31 (1991)).

147. Davis & McCrum, *supra* note 146, at 31-32.

148. *See* Current Dev., 24 Env't Rep. (BNA) 229 (June 4, 1993).

149. *See, e.g.*, Colorado v. Department of the Army, 707 F. Supp. 1562, 1570 (D. Colo. 1989); United States v. Shell Oil Co., 605 F. Supp. 1064, 1080 (D. Colo. 1985) (Army is liable for contamination resulting from disposal of hazardous substances at Rocky Mountain Arsenal).

dumping of unused pesticides.¹⁵⁰ In addition to the contamination resulting from the conduct of governmental and proprietary functions, the federal lands may be polluted by private entities authorized to use the federal lands. Agencies like the Forest Service and the BLM license or approve private activities like mining and oil and gas development that may cause hazardous substance releases.

Congress, in both RCRA and CERCLA, tried to force federal agencies to identify and respond to hazardous waste contamination on lands owned and operated by the federal government. Under RCRA, each federal agency must undertake a continuing program to compile, publish, and submit to EPA and to states with authorized hazardous waste management programs an inventory of each treatment, storage, or disposal facility owned or operated by the agency.¹⁵¹ CERCLA requires federal agencies to add to this RCRA inventory information concerning contamination from each facility they own or operate if that contamination affects contiguous or adjacent property owned by another person or agency.¹⁵² Based on this information, EPA must compile a Federal Agency Hazardous Waste Compliance Docket.¹⁵³ This Docket, first published in February, 1988,¹⁵⁴ contained about 1600 sites as of August 1990.¹⁵⁵ A year later, EPA added more than 300 sites to the Docket¹⁵⁶ and by November 1993 the Docket contained 1,946 facilities.¹⁵⁷ The Interior Department is responsible for most of the sites on the Docket.¹⁵⁸

2. The NPL and Federal Facilities

Once a site is included on the Hazardous Waste Compliance Docket, CERCLA imposes a series of deadlines aimed at forcing EPA and the responsible agencies to determine whether the site should be included on the NPL or otherwise become the subject of response action. Within eighteen months of listing a facility on

150. See DEEP POCKETS, *supra* note 10, at 20.

151. 42 U.S.C. § 6937(a) (1988).

152. *Id.* § 9620(b).

153. *Id.* § 9620(c).

154. 53 Fed. Reg. 46,364 (1988).

155. Current Dev., 22 Env't Rep. (BNA) 1406 (Oct. 4, 1991).

156. See 56 Fed. Reg. 49,328 (1991).

157. 58 Fed. Reg. 59,790 (1993). Of the 263 facilities added to the list in February 1993, 32 were facilities that have reported the release of a reportable quantity of a hazardous substance to the Nuclear Regulatory Commission. See Current Dev., 23 Env't Rep. (BNA) 2678 (Feb. 12, 1993).

158. See Davis & McCrum, *supra* note 146, at 33.

the Docket, EPA must conduct or arrange for a preliminary assessment.¹⁵⁹ In *Conservation Law Foundation v. Reilly*,¹⁶⁰ the court rejected EPA's contention that its duty to evaluate the sites is discretionary.¹⁶¹ Following the preliminary assessment, EPA must evaluate facilities on the Docket in accordance with criteria in the NCP and include them on the NPL if they meet applicable NCP listing criteria.¹⁶² The court in *Conservation Law Foundation* also set a deadline for EPA to determine which sites merit inclusion on the NPL.¹⁶³

Two aspects of the NPL are of particular significance to activities on or near the federal lands. First, EPA must consider a series of special factors before it may include on the NPL a site at which oil and gas, mining, or other wastes temporarily exempt from RCRA regulation are present in significant quantities.¹⁶⁴ These factors are intended to reflect the special high-volume, low-toxicity characteristics that prompted temporary exclusion of these wastes from RCRA in the first place.¹⁶⁵ Despite these special considerations, by 1985, twenty-two mining or milling sites had been placed on the NPL,¹⁶⁶ and by 1989, that number had increased to more than fifty.¹⁶⁷ When industry challenged the inclusion of mining waste sites on the NPL, the court in *Eagle-Picher Industries, Inc. v. EPA*¹⁶⁸ upheld EPA's authority to place these sites on the NPL, even if the mining waste found at the

159. 42 U.S.C. § 9620(d) (1988).

160. 755 F. Supp. 475 (D. Mass. 1991), *rev'd on other grounds*, 950 F.2d 38 (1st Cir. 1991).

161. *Id.* at 480-481.

162. 42 U.S.C. § 9620(d) (1988).

163. 755 F. Supp. at 481. On appeal, the First Circuit held that the plaintiff lacked standing to force EPA to assess risks at all federal facilities. *Conservation Law Found. v. EPA*, 950 F.2d 38 (1st Cir., 1991). The court indicated, however, that individual members of the group who lived near particular facilities could seek to require EPA's statutory compliance at those facilities. On remand, the district court refused to certify a class action so that the plaintiffs could obtain the nationwide injunction which the First Circuit's decision had precluded. *Conservation Law Found. v. Browner*, 840 F. Supp. 171 (D. Mass. 1993).

164. 42 U.S.C. § 9605(g)(1) (1988).

165. *Id.* § 9605(g)(2). For a description of the development and application of the exemption for "special wastes" under RCRA, see *Pollution on the Federal Lands III*, *supra* note 1, at § V B. See also 42 U.S.C. § 9625 (1988) (limiting EPA's authority to include on the NPL facilities containing substantial volumes of fly ash and similar wastes temporarily exempt from RCRA regulation pending revision of the HRS).

166. See Charlotte L. Neitzel, *Environmental Risks and Liabilities in the Purchase and Sale of Mining and Milling Properties*, 31 ROCKY Mtn. MIN. L. INST. 10-1, 10-6 (1985).

167. See Jacus & Root, *supra* note 26, at 9-60.

168. 759 F.2d 922 (D.C. Cir. 1985).

sites are temporarily exempt from RCRA as high-volume, low-hazard special wastes.¹⁶⁹

Second, the NPL includes a separate "Federal Section"; as of May, 1994, the NPL contained 150 federal facilities.¹⁷⁰ Federal facilities are not eligible for Superfund-financed remedial action, however, even if they are included on the NPL.¹⁷¹ EPA apparently would prefer that the agencies responsible for these sites finance cleanups, rather than deplete scarce Superfund resources for federal facility remediation.

3. The Cleanup Process at Federal Facilities

Responsibility for cleaning up a contaminated federal facility is divided between EPA and the agency with jurisdiction over the site. Within six months of including a docketed facility on the NPL, the responsible agency, in consultation with EPA and state authorities, must commence a RI/FS.¹⁷² Executive Order 12,580¹⁷³ authorizes the agency with jurisdiction over the property to undertake response action either when a release occurs on a federal facility or when a federal facility is the sole source of a release.¹⁷⁴ In these circumstances, that agency also may be responsible for taking response actions and supervising enforcement activities.¹⁷⁵ The Order deprives EPA of all authority to

169. *Id.* at 933. The court found that mining wastes and fly ash are hazardous substances under 42 U.S.C. § 9601(14) (1988); that even if they are not, they are "pollutants or contaminants" under *id.* § 9604(a)(2), and therefore that their release triggered potential inclusion on the NPL. 759 F.2d at 931. *Cf.* *Bradley Mining Co. v. EPA*, 972 F.2d 1356 (D.C. Cir. 1992), in which the court upheld EPA's decision to include on the NPL an inactive mercury mine on the basis of an observed release of hazardous substances into surface water. The court did not address the mine owner's claim that EPA failed to consider the special statutory factors applicable to sites containing RCRA-exempt wastes because the company did not raise the issue until the submission of its reply brief. *Id.* at 1361.

170. 59 Fed. Reg. 27,989 (1994). By mid-1993, sixty abandoned mine sites on BLM lands alone were on the NPL. *See DEEP POCKETS, supra* note 10, at 2. The federal facilities section of the NPL is at 40 C.F.R. pt. 300, App. B, Table 2 (1993).

171. 40 C.F.R. § 300.425(b)(3) (1993). *But cf.* 42 U.S.C. § 9611(e)(3) (1988) (Fund may be used to provide alternative water supplies in certain cases).

172. 42 U.S.C. § 9620(e)(1) (1988). For a description of the function of the RI/FS, see *supra* notes 143-45 & accompanying text.

173. 52 Fed. Reg. 2,923 (1987), as amended by Exec. Order No. 12777, 56 Fed. Reg. 54,757 (1991), *reprinted in* 42 U.S.C.A. § 9615 note.

174. *Id.* § 1(d)-(e). *See also* Andrew M. Gaydosh, *The Superfund Federal Facility Program: We Have Met the Enemy and It Is U.S.*, 6 NAT. RESOURCES & ENV'T 21, 22 (Winter 1992).

175. *See* Gaydosh, *supra* note 174, at 22. The Department of Defense, for example, is responsible for implementing response actions at facilities owned by the De-

undertake removal actions on federal property, except in an emergency.¹⁷⁶

Although the Executive Order appears to vest control over federal facility remediation in the agency with jurisdiction over the contaminated site, the statute requires the agency to enter into an interagency agreement ("IAG") with EPA to expedite remedial action.¹⁷⁷ If EPA and the agency that is a party to the IAG cannot agree on a remedy, EPA is authorized to choose one.¹⁷⁸ Accordingly, even though under the Executive Order another agency nominally may be the lead agency responsible for cleaning up the site, CERCLA dictates that EPA control the remedy selection process.¹⁷⁹ Even the statute equivocates, though, in its allocation of the ultimate responsibility for remediation at federal facilities. Concerning response actions at Department of Defense or Department of Energy facilities, CERCLA authorizes the President to issue whatever orders are necessary to protect national security, including an order exempting these facilities from any CERCLA requirement.¹⁸⁰

The federal government is supposed to supplement its own views on the appropriate remedies for hazardous substance releases at federal facilities by soliciting input from the states and the public. CERCLA affords a variety of opportunities for state and public involvement in the cleanup process.¹⁸¹ States may protest remedial actions at federally owned facilities as insuffi-

partment. *United States v. Colorado*, 990 F.2d 1565, 1571 n.9 (10th Cir. 1993), *cert. denied*, 114 S.Ct. 922 (1994).

176. *See Gaydosh, supra* note 174, at 22.

177. 42 U.S.C. § 9620(e)(2) (1988). The contents of these interagency agreements are set forth at *id.* § 9620(e)(4). The agreement must provide for the commencement of substantial continuous physical on-site remedial action not later than 15 months after completion of the RI/FS. *Id.* § 9620(e)(2). IAG's typically are patterned after models developed by EPA with the Departments of Defense and Energy in 1988 and with state agencies in 1989. *See Gaydosh, supra* note 174, at 22.

178. 42 U.S.C. § 9620(e)(4)(A) (1988).

179. *See Gaydosh, supra* note 174, at 22. Under most IAGs, EPA retains the authority to oversee and approve of remedial work undertaken by the responsible agency. *Id.*

180. 42 U.S.C. § 9620(j)(1) (1988). The President may not grant an exemption due to a lack of appropriation unless he has specifically requested one during the budgetary process and Congress has failed to make the appropriation available. *Id.*

181. *Id.* §§ 9617, 9620(f). EPA prefers that states be parties to IAGs and that they participate in oversight of response actions. *See* 54 Fed. Reg. 10,520 (1989); Gaydosh, *supra* note 174, at 23. The Defense Department allocates one percent of total federal facility response costs for state oversight to provide an incentive for state participation. *Id.*

cient, for example, by bringing suit in federal district court.¹⁸² But relatively few states have taken advantage of the opportunities afforded by the statute to participate in the remedy selection and implementation process at federal facilities. One reason for this reluctance has been the federal government's position that, unlike at privately owned facilities, remedial action at federal facilities under CERCLA obviated the need for corrective action under RCRA. This position was based on the provision of CERCLA which makes state laws concerning response actions applicable to federal facilities not listed on the NPL, unless those laws are more stringent than those applicable to similarly situated private persons.¹⁸³ The United States interpreted this provision to mean that state law, including state RCRA programs, did not apply independently to federal facilities on the NPL except to the extent permitted in CERCLA.¹⁸⁴ In *United States v. Colorado*,¹⁸⁵ the Tenth Circuit rejected this position and held that a state which EPA has authorized to carry out a hazardous waste management program under RCRA may require compliance with that program at an NPL site, even if a response action is already underway.¹⁸⁶ This decision should induce the states to provide additional input into the process of cleaning up contaminated federal facilities.¹⁸⁷

EPA has begun to help federal agencies comply with CERCLA by attempting to draft a new subpart to the NCP. The addition would consolidate all NCP references to federal agency obligations for responding to releases on or solely caused by federal facilities and provide a road map for federal facility CER-

182. 42 U.S.C. § 9621(f)(3) (1988). If the state fails to prove that the remedy selected by the federal government is not supported by substantial evidence, however, the state must pay for any more stringent remedies it desires. *Id.* § 9621(f)(3)(B)(iii).

183. *Id.* § 9620(a)(4).

184. See Gaydosh, *supra* note 174, at 23. See also 54 Fed. Reg. 10,520 (1989) (once an RI/FS is underway at an NPL site pursuant to an IAG, the United States can prohibit independent RCRA corrective action).

185. 990 F.2d 1565 (10th Cir. 1993), *cert. denied*, 114 S.Ct. 922 (1994).

186. *Id.* at 1578-80.

187. The United States argued in *Colorado* that Congress intended to limit the state's role in the site cleanup process to the formulation of ARARs under 42 U.S.C. § 9621(a) (Supp. V 1993). The court disagreed, and permitted Colorado to enforce a compliance order under state law that addressed monitoring and mitigation of soil and groundwater contamination. 990 F.2d at 1578-84. For further discussion of the rationale and probable impact of the decision in *Colorado*, see *Pollution on the Federal Lands III*, *supra* note 1, at 67-68.

CLA obligations.¹⁸⁸ Although EPA completed a draft in 1990, final issuance of the new subpart required OMB approval, which was delayed pending further review and comment on EPA's proposal by affected agencies, including the Defense, Energy, and Agriculture Departments.¹⁸⁹ EPA's proposal, which disappeared into the review process in 1991, has yet to resurface.

4. The Efficacy of the Cleanup Process on the Federal Lands

CERCLA vests in EPA broad authority to conduct or supervise responses to hazardous substance releases. EPA's implementation of the CERCLA cleanup process has been anything but smooth, however. It has been roundly criticized as dilatory, inefficient, and inconsistent, as applied to both public and private facilities.¹⁹⁰ As of mid-1993, the Army had spent billions of dollars on remediation without removing a single site from the NPL.¹⁹¹ The statutory deadlines imposed on EPA and responsible federal agencies for site assessment and remediation¹⁹² in theory should help to minimize the delays that have characterized cleanups at many non-federal facilities,¹⁹³ although the agency has failed to meet unrealistic deadlines in a variety of other contexts.¹⁹⁴

188. See 55 Fed. Reg. 8,667 (1990).

189. See Current Dev., 22 Env't Rep. (BNA) 1563-64 (Oct. 18, 1991).

190. See, e.g., ROBERT V. PERCIVAL, ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 368-70, 373-77 (1992); Donald A. Brown, *EPA's Resolution of the Conflict Between Cleanup Costs and the Law in Setting Cleanup Standards Under Superfund*, 15 COLUM. J. ENVTL. L. 241, 287-88 (1990) (citing ENVIRONMENTAL DEFENSE FUND, ET AL., RIGHT TRAIN, WRONG TRACK: FAILED LEADERSHIP IN THE SUPERFUND CLEANUP PROGRAM (1988); OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS, ARE WE CLEANING UP? 10 SUPERFUND CASE STUDIES (1988)).

191. See Current Dev., 24 Env't Rep. (BNA) 229 (June 4, 1993).

192. See *supra* notes 159-63, 172 & accompanying text.

193. The 1986 amendments imposed similar deadlines for site assessment, listing, evaluation, investigation, and remedial action commencement at non-federal facilities. 42 U.S.C. § 9616 (1988). Had Congress imposed deadlines only for federal facility cleanups, EPA may have been under greater pressure to address those facilities first, leaving sites not subject to deadlines for subsequent evaluation and remediation. The imposition of deadlines on actions at other sites may dilute that pressure.

194. See Sidney A. Shapiro & Robert L. Glicksman, *Congress, the Supreme Court, and the Quiet Revolution in Administrative Law*, 1988 DUKE L.J. 819, 835-36 (citing Alden F. Abbott, *The Case Against Federal Statutory and Judicial Deadlines: A Cost-Benefit Appraisal*, 39 ADMIN. L. REV. 171, 182 (1987); John D. Graham, *The Failure of Agency-Forcing: The Regulation of Airborne Carcinogens Under Section 112 of the Clean Air Act*, 1985 DUKE L.J. 100, 123; ENVIRONMENTAL & ENERGY STUDY

Furthermore, EPA faces unique obstacles in implementing CERCLA at federal facilities. The agency's refusal to use money from the Superfund to clean up facilities on federal lands¹⁹⁵ seems to require it to rely even more heavily on cooperation by the agencies with jurisdiction over the affected lands and resources than it does on cooperation by private potentially responsible parties. This cooperation has not always been forthcoming. Because the interests of EPA and the agencies with jurisdiction over contaminated sites often conflict, they typically reach different conclusions about the desirable pace and extent of remediation. The reluctance of responsible federal agencies to spend scarce budgetary resources on remediation of hazardous substance releases appears to have caused slippage of the statutory assessment and cleanup deadlines.¹⁹⁶ Most IAGs vest in EPA the authority to override the agency with jurisdiction over a contaminated site in the event of a disagreement.¹⁹⁷ This authority ought to provide EPA with the ability to prioritize site cleanups and avoid wasteful cleanup expenditures and uneven cleanup goals. The Executive Order delegating response authority to the agency responsible for the site, however, blurs the line of responsibility for decision making concerning the manner and extent of federal facility cleanups.¹⁹⁸ Members of Congress accordingly have called for increased accountability on the part of agencies responsible for contamination of federal lands.¹⁹⁹

Beyond disagreements concerning the details of individual site cleanups, a larger principle is at stake. The Justice Department as well as agencies such as the Defense and Energy Departments have balked at the prospect of EPA's attempts to infringe upon the authority of other parts of the federal government to direct their own affairs. The Justice Department has contended, for ex-

INST. & ENVTL. LAW INST., STATUTORY DEADLINES IN ENVIRONMENTAL LEGISLATION: NECESSARY BUT NEED IMPROVEMENT at 12 (1985)).

195. See *supra* note 171 & accompanying text.

196. See *Current Dev.*, 24 *Env't Rep.* (BNA) 40-41 (May 14, 1993); *id.* at 3113 (April 9, 1993); *id.* at 3018 (March 19, 1993). Furthermore, the agencies with jurisdiction over contaminated facilities are not always prone to address first those sites whose contamination poses the greatest risks to health and the environment. According to Senate Majority leader George Mitchell, for example, the Air Force has tended to spend funds to clean up active sites rather than focusing its attention on closed facilities, regardless of the level of the hazards they present. See *id.* at 229 (June 4, 1993).

197. See *supra* note 178 & accompanying text.

198. See *supra* notes 173-76 & accompanying text.

199. See, e.g., *Current Dev.*, 23 *Env't Rep.* (BNA) 3083 (April 2, 1993).

ample, that EPA lacks the authority to assess liability for releases at federal facilities.²⁰⁰ Until these jurisdictional squabbles are resolved, federal facility cleanups will face unnecessary impediments.

The statute already provides the basis for clearing away many difficulties concerning the allocation of responsibility for conducting federal facility cleanups. CERCLA provides that EPA regulations governing preliminary assessments, inclusion on the NPL, and implementation of remedial actions apply to federal facilities to the same extent as they do to other facilities.²⁰¹ No agency may adopt or use any regulations or criteria inconsistent with EPA's.²⁰² Clearly, Congress intended EPA to have the final word on remediation of hazardous substance releases at federal facilities.²⁰³ It may be useful to amend Executive Order 12580 to eliminate any confusion it may have created; allocation to the responsible agencies of the President's authority to conduct remediation at federal facilities does not impair EPA's authority to determine the particulars of federal facility cleanups. In the event that the responsible agency violates any EPA regulations or orders, Congress's waiver of the federal government's sovereign immunity²⁰⁴ should enable EPA to assess civil penalties for such violations.²⁰⁵ Indeed, recent efforts to penalize the United States Army for violating cleanup deadlines in IAGs indicate EPA's increased willingness to exercise the available enforcement mechanisms against other federal agencies.²⁰⁶ Making responsible agency officials more amenable to EPA supervision

200. See *infra* notes 400-05 & accompanying text.

201. 42 U.S.C. § 9620(a)(2) (1988).

202. *Id.*

203. *But cf. supra* note 180 & accompanying text (discussing provision of CERCLA that authorizes presidential exemptions for Defense and Energy Department facilities).

204. 42 U.S.C. §§ 9620(a), 9609(a) (1988). In light of the Supreme Court's tortured interpretations of the sovereign immunity waivers under some of the other federal pollution control statutes, however, there is no guarantee that the Court will not adopt a pinched view of the scope of CERCLA's waiver. See, e.g., *United States Dep't of Energy v. Ohio*, 112 S. Ct. 1627 (1992). Congress has overturned the Court's interpretation of sovereign immunity waivers under the CAA, the CWA, and RCRA. See the Federal Facility Compliance Act, Pub. L. No. 102-386, 106 Stat. 1505 (1992); 33 U.S.C. § 1323 (1988); 42 U.S.C. § 7418 (1988). The *Ohio* case is discussed in *Pollution on the Federal Lands III*, *supra* note 1, at 70-72.

205. Advocates of the unitary executive theory contend, however, that attempts by one agency to penalize another improperly infringe on the President's management of the executive branch. See *infra* notes 398-403 & accompanying text.

206. See, e.g., *Current Dev.*, 23 *Env't Rep.* (BNA) 3113 (April 9, 1993).

and more willing to spend scarce capital on remediation of hazardous substance releases may take more time and effort.²⁰⁷

V.

THE HAZARDOUS SUBSTANCE SUPERFUND

EPA relies heavily on public funds to carry out its responsibilities to respond to releases and threatened releases of hazardous substances under CERCLA. This part briefly describes the authorized uses and limitations of the Hazardous Substance Superfund and the procedures by which persons who incur expenses responding to hazardous substance releases may file claims for reimbursement from the Superfund.

A. Authorized Uses

Cleanup activities under CERCLA may be financed in appropriate circumstances out of a Hazardous Substance Superfund ("Superfund" or "the Fund") established as a special account in the United States Treasury.²⁰⁸ Congress has authorized a more than \$5 billion appropriation from the Superfund for fiscal years 1992-1994.²⁰⁹ This money may be used:

— to pay certain costs the federal government incurs responding to releases or threatened releases of hazardous substances;²¹⁰

— to reimburse private parties for response costs incurred consistent with the NCP and approved and certified for reimbursement by the federal government;²¹¹

— to pay unsatisfied claims under the CWA's oil spill provisions;²¹²

— to pay for the costs of assessing damages to natural resources lost or damaged as a result of hazardous substance releases;²¹³

— to pay for certain peripheral and administrative costs;²¹⁴
and

207. Attitudes within some of the agencies, however, already may be changing. The Defense Department, the three major Armed Services, and the National Aeronautics and Space Administration all had larger budgets for environmental restoration in fiscal year 1994 than ever before. *See id.* at 277 (June 11, 1993).

208. 26 U.S.C. § 9507 (1988).

209. 42 U.S.C. § 9611(a) (1988).

210. *Id.* § 9611(a)(1).

211. *Id.* § 9611(a)(2).

212. *Id.* § 9611(a)(3), (b).

213. *Id.* § 9611(a)(3)-(4), (c)(1)-(2).

214. *Id.* § 9611(a)(4), (c)(3)-(14).

— to reimburse local governments affected by releases for expenses incurred in carrying out temporary emergency measures.²¹⁵

B. *Limitations on Use*

CERCLA limits EPA's use of the Superfund by preventing it from paying claims in excess of the total amount in the Fund or appropriated by Congress.²¹⁶ Expenditures in connection with remedial actions at federally owned facilities generally are limited to the provision of alternative water supplies.²¹⁷ The statute prohibits double recoveries from the Fund.²¹⁸

Several important limits apply to the use of the Fund in connection with natural resource damages. Beginning in 1986, Congress barred the use of the Fund to pay for the restoration, replacement, or acquisition of damaged natural resources.²¹⁹ That prohibition will force natural resource trustees under CERCLA to litigate their claims directly against potentially responsible parties.²²⁰ The Fund still may be used to reimburse natural resource trustees for the costs of assessing natural resource damages, but not if EPA determines that all of the Fund is needed to respond to releases threatening the public health.²²¹ Money from the Fund is unavailable for assessment costs in connection with releases causing natural resource damages wholly before December 11, 1980.²²²

C. *Claims Procedures*

Persons who incur expenses responding to a release of hazardous substances may file claims against the Superfund.²²³ A typi-

215. *Id.* § 9623(a), (b)(1). Such reimbursements may not exceed \$25,000 for a single response. *Id.* § 9623(c).

216. *Id.* § 9611(e)(1), (4).

217. *Id.* § 9611(e)(3).

218. *Id.* § 9612(f).

219. 26 U.S.C. § 9507(c)(1)(A) (1988). Prior to that time, no natural resource damage claim (except for the costs of assessing such a claim) could be paid from the Fund unless the claimant had exhausted all administrative and judicial remedies to recover from potentially responsible parties. 42 U.S.C. § 9611(b)(2)(A)-(B) (1988).

220. See F. Henry Habicht, II, *The Expanding Role of Natural Resources Damage Claims Under Superfund*, 7 VA. J. NAT. RESOURCES L. 1, 12 (1987).

221. 42 U.S.C. § 9611(e)(2) (1988).

222. *Id.* § 9611(d)(1).

223. CERCLA defines a claimant as any person who presents a claim for compensation against the Fund. *Id.* § 9601(5). A claim is a demand in writing for a certain sum. *Id.* § 9601(4).

cal claimant might be the owner of property adjacent to the property at which a release occurred if the contamination resulting from the release reaches that person's property, the owner of the site of a release if the release is the result of a prior owner's activities, or a person who has complied with an EPA order to respond to an imminent hazard.²²⁴ No claim may be asserted against the Superfund unless it first has been presented to the owner, operator, or guarantor of the vessel or facility from which the release occurred and to any other potentially responsible party known to the claimant.²²⁵ If the claim is not paid within sixty days, the claimant may proceed against the Fund.²²⁶ Claims must be presented on forms and in accordance with procedures designed by EPA.²²⁷ If the federal government refuses a claim asserted against the Superfund, the claimant may request an administrative hearing within thirty days.²²⁸ The claimant has the burden of proof in such a hearing.²²⁹ Adverse administrative determinations may be appealed to the federal district court for the district in which the release took place.²³⁰

When the Fund pays a claim, the United States may acquire by subrogation the claimant's right to recover from potentially responsible parties amounts paid to the claimant out of the Fund.²³¹ The Attorney General may commence an action on behalf of the Fund to recover compensation paid to a claimant.²³²

224. See *id.* § 9606(b)(2)(A). The claimant has the burden of demonstrating that its response costs were incurred in a manner consistent with the NCP. *Id.* §§ 9611(a)(2), 9612(b)(3).

225. *Id.* § 9612(a).

226. *Id.* This 60-day notice and waiting requirement applies only to claims against the Fund, not to judicial actions for reimbursement of response costs or natural resource damages. See *Idaho v. Howmet Turbine Component Co.*, 814 F.2d 1376, 1379-80 (9th Cir. 1987); *Dedham Water Co. v. Cumberland Farms Dairy, Inc.*, 805 F.2d 1074, 1080 (1st Cir. 1986); *Idaho v. Bunker Hill Co.*, 634 F. Supp. 800 (D. Idaho 1986). Response cost and natural resource damage liability is discussed *infra* at §§ VII-VIII.

227. 42 U.S.C. § 9612(b)(1) (1988).

228. *Id.* § 9612(b)(2).

229. *Id.* § 9612(b)(3).

230. *Id.* § 9612(b)(5).

231. *Id.* § 9612(c)(1). Any person, including the Fund, who pays compensation under CERCLA to any claimant for natural resource damages or response costs is subrogated to all rights of the claimant under CERCLA or any other law. *Id.* § 9612(c)(2).

232. *Id.* § 9612(c)(3).

D. *Limitations on Claims*

No claim for response costs may be presented to the Fund more than six years from the date of completion of all response action.²³³ No claim for natural resource damage assessment costs²³⁴ may be paid unless presented within three years after the date of discovery of the loss and its connection with the releases in question, or the date on which the Interior Department issues natural resource damage regulations under CERCLA,²³⁵ whichever is later.²³⁶

VI.

JUDICIAL REVIEW

Congress has carved out an unusually broad role for the courts in the implementation of CERCLA. The statutory provisions authorizing judicial review of EPA orders and regulations, empowering the courts to issue injunctive relief to abate imminently hazardous activities, and entitling private citizens to sue to redress statutory violations by private parties and agencies alike are typical of most of the federal pollution control statutes. Those provisions are the subject of this part. What distinguishes CERCLA from those other laws is the extent to which it relies on the imposition of liability rather than the regulation of ongoing activities to achieve its environmental protection objectives. The provisions of CERCLA vesting in the courts the responsibility to determine and allocate liability for response costs and natural resource damages are the focus of parts VII and VIII below.

233. *Id.* § 9612(d)(1).

234. The statute refers to claims for recovery of natural resource damages, but since the Fund may no longer be used to pay for restoration, replacement, or rehabilitation of damaged natural resources, *see supra* note 219 & accompanying text, this reference probably should be interpreted to include only damage assessment costs.

235. These regulations are discussed *infra* at § VIII I.1-2.

236. 42 U.S.C. § 9612(d)(2) (1988). The date of issuance of the Interior Department regulations appears to refer to the date of issuance of the Type A regulations, which were initially issued several months after the Type B regulations. At least one court has interpreted the similarly worded statute of limitations on judicial actions for recovery of natural resource damages in *id.* § 9613(g)(1) in this fashion. *See United States v. Seattle*, 33 Env't Rep. Cas. (BNA) 1549 (W.D. Wash. 1991). *See infra* § VIII I.1-2 for a discussion of the Type A and B regulations.

A. Review of EPA Orders and Regulations

Judicial review under CERCLA generally is in the federal district courts,²³⁷ except for review of regulations, which takes place in the Court of Appeals for the District of Columbia Circuit.²³⁸ Congress limited jurisdiction to review pre-enforcement challenges to remedial action or EPA abatement orders.²³⁹ Review of issues concerning the adequacy of response action is limited to the administrative record,²⁴⁰ and response actions can be overturned only upon proof that they are arbitrary and capricious.²⁴¹ In *United States v. Colorado*,²⁴² the federal government argued that by listing the Rocky Mountain Arsenal on the NPL, EPA had divested the federal courts of jurisdiction to compel the Defense Department to comply with state hazardous waste management laws in cleaning up the site. The district court accepted the argument,²⁴³ but the Court of Appeals reversed, concluding that, rather than barring federal courts from reviewing a CERCLA response action prior to its completion, CERCLA's judicial review provision prevents the courts from reviewing "challenges" to CERCLA response actions.²⁴⁴ Rather than challenging EPA's ongoing remedial action, Colorado sought to enforce its own EPA-authorized hazardous waste management laws against the Defense Department as a means of fulfilling its obligation to protect the health and environment of its citizens. Accordingly, Colorado's suit was not precluded.²⁴⁵ Furthermore, Colorado was free to enforce its own laws in state court.²⁴⁶

237. 42 U.S.C. § 9613(b) (1988).

238. *Id.* § 9613(a).

239. *Id.* § 9613(h). In *In re Hanford Nuclear Reservation Litigation*, 780 F. Supp. 1551, 1559-61 (E.D. Wash. 1991), the court held that § 9613(h) required dismissal of a claim by neighboring property owners. The owners sought an order directing abatement of the risks allegedly imposed by the underground storage of radioactive and nonradioactive hazardous substances at the Hanford Nuclear Reservation. The Department of Energy is the sole owner of all nuclear production facilities. The court found that it lacked jurisdiction because of ongoing efforts by EPA, DOE, and the state to respond to the release. See also *Heart of Am. Northwest v. Westinghouse Hanford Co.*, 820 F. Supp. 1265, 1275-84 (E.D. Wash. 1993) (§ 9613(h) applies to federal facility cleanups under 42 U.S.C. § 9620 (1988)).

240. 42 U.S.C. § 9613(j)(1) (1988). EPA must provide opportunities for public participation in development of the administrative record. *Id.* § 9613(k)(2).

241. *Id.* § 9613(j)(2).

242. 990 F.2d 1565 (10th Cir. 1993), *cert. denied*, 114 S.Ct. 922 (1994).

243. *United States v. Colorado*, 33 Env't Rep. Cas. (BNA) 1585 (D. Colo. 1991).

244. 990 F.2d at 1575 (citing 42 U.S.C. § 9613(h) (1988)).

245. *Id.* at 1575-76, 1578-79.

246. *Id.* at 1579.

B. *Abatement Actions*

CERCLA authorizes the Attorney General to bring an action in federal district court to abate any imminent and substantial endangerment to the public health or welfare or the environment resulting from an actual or threatened release of a hazardous substance from a facility.²⁴⁷ The courts have broad authority in these cases to grant whatever relief “the public interest and the equities of the case may require.”²⁴⁸ After providing notice to affected states, EPA may also issue orders to protect health, welfare, and the environment from such imminent hazards.²⁴⁹ Anyone who violates such an order without sufficient cause is subject to fines of up to \$25,000 per day of violation.²⁵⁰ A person who complies with an EPA imminent hazard order may, within sixty days after completing the required action, petition the Fund for reimbursement of the reasonable costs of compliance, plus interest.²⁵¹

C. *Citizen Suits*

The 1986 amendments to CERCLA added a citizen suit provision to the many other kinds of litigation the statute authorizes. Any person may commence a civil action in federal district court against any other person, including the federal government, alleged to be in violation of any regulation or order under CERCLA, including the provisions of agreements relating to the cleanup of federal facilities.²⁵² Citizens may commence actions in the district court for the District of Columbia against federal officers who have allegedly failed to perform any nondiscretionary act or duty.²⁵³ No action may be commenced, however, until proper notice has been provided to appropriate federal and state officials and any alleged violator,²⁵⁴ and suit is barred if the fed-

247. 42 U.S.C. § 9606(a) (1988).

248. *Id.* Because the statute does not define the term “imminent and substantial endangerment,” the courts also have the task, as they have under the imminent hazard provisions of the other federal pollution control statutes, of defining this term on a case-by-case basis.

249. *Id.*

250. *Id.* § 9606(b)(1).

251. *Id.* § 9606(b)(2)(A). Appeals of denials of such petitions may be directed to the federal district courts. *Id.* § 9606(b)(2)(B).

252. *Id.* § 9659(a)(1), (b)(1).

253. *Id.* § 9659(a)(2), (b)(2).

254. *Id.* § 9659(d)(1), (e).

eral government is diligently acting under RCRA or CERCLA to require compliance with the regulation or order.²⁵⁵

VII.

GENERAL LIABILITY STANDARDS

Because the Hazardous Substance Superfund cannot finance remediation of the thousands of sites contaminated by hazardous substance releases, Congress imposed on responsible parties liability for the costs of responding to those releases and for damage to natural resources. This part examines CERCLA's liability provisions. It discusses the categories of liability created by the statute; the persons who may be responsible for response costs and natural resource damages; the limited exceptions from, defenses to, and limits on liability; the standard of liability; the statute of limitations; the imposition of statutory liens; statutory inducements to settlement; and civil and criminal penalty liability. The article focuses on those aspects of these provisions especially relevant to activities on the federal lands, including those aspects that deal with natural resource damage liability.²⁵⁶

Because some of the most contaminated sites on the NPL are owned or operated by the federal government, the liability of the government for response costs and natural resources damages has become the subject of considerable recent attention and controversy. The last section in this part analyzes the basis for liability of federal agencies under CERCLA. Although Congress has waived the federal government's sovereign immunity to response costs and natural resource damage liability, the Justice department has taken the position that the Constitution prohibits EPA from suing other parts of the Executive Branch to assess this liability. Although a detailed assessment of the validity of the Department's position is beyond the scope of this article,²⁵⁷ this part examines the unresolved statutory questions concerning the

255. *Id.* § 9659(d)(2).

256. The natural resource damage liability provisions of CERCLA are analyzed in greater depth *infra* at § VIII.

257. For further discussion of the so-called "unitary executive theory" see generally Michael Herz, *United States v. United States: When Can the Federal Government Sue Itself?*, 32 WM. & MARY L. REV. 893 (1991); Morton Rosenberg, *Congress' Prerogative Over Agencies and Agency Decisionmakers: The Rise and Demise of the Reagan Administration's Theory of Unitary Executive*, 57 GEO. WASH. L. REV. 627 (1989); Symposium, *Agency Autonomy and the Unitary Executive*, 68 WASH. U. L. Q. 495 (1980).

scope of the federal government's liability as a site owner or operator and as a regulator of private conduct on the federal lands.

A. *Categories of Liability*

CERCLA imposes monetary liability on responsible parties for four categories of costs and damages.²⁵⁸ First, federal and state government plaintiffs may seek recovery of removal or remedial action costs incurred in a manner not inconsistent with the NCP.²⁵⁹ Second, private plaintiffs may recover necessary response costs incurred consistently with the NCP.²⁶⁰ Third, the federal government may recover the costs of health assessments or health effects studies performed by the ATSDR under CERCLA.²⁶¹ Fourth, governmental trustees may recover damages for injury to, destruction of, or loss of natural resources, as well as reasonable assessment costs, caused by a hazardous substance release.²⁶² This part analyzes liability issues related to all four of these categories, emphasizing response cost recovery. Part VIII below addresses issues unique to natural resource damage liability.

B. *Potentially Responsible Parties*

CERCLA designates four categories of potentially responsible parties ("PRPs") for costs or damages incurred as a result of a release or threatened release of a hazardous substance. To begin with, the current owner or operator of a vessel or facility from which a release occurs is liable for resulting costs and damages.²⁶³

258. For each of the categories, plaintiffs in CERCLA civil liability actions may recover interest accruing from the later of the date payment of a specified amount is demanded in writing, or the date of the expenditure concerned. 42 U.S.C. § 9607(a)(4)(A)-(D) (1988).

259. *Id.* § 9607(a)(4)(A). Although the statute defines the terms "removal" at *id.* § 9601(23) and "remedial action" at *id.* § 9601(24), the courts have had to determine in many cases whether a particular response cost is or is not recoverable. Relevant cases are collected at D. STEVER, *supra* note 4, at § 6.07[2][b]; ELI, *LAW OF ENVIRONMENTAL PROTECTION*, *supra* note 4, at § 13.06[3][e]; *see also supra* § IV A.

260. 42 U.S.C. § 9607(a)(4)(B) (1988). In a suit by federal or state governments, the burden of proving inconsistency with the NCP is on the defendants; in a suit by private plaintiffs, however, the burden of proving consistency is on the plaintiffs. *See, e.g., Williams v. Allied Automotive, Autolite Div.*, 704 F. Supp. 782, 784 (N.D. Ohio 1988).

261. 42 U.S.C. § 9607(a)(4)(D) (1988); *see also id.* § 9604(i)(6) (describing such assessments and studies).

262. *Id.* § 9607(a)(4)(C).

263. *Id.* § 9607(a)(1). The statute exempts from the definition of an "owner or operator" a unit of state or local government that acquires title or control of a facil-

The second category of PRPs includes owners and operators of a facility at the time of disposal of the hazardous substances where a release or threatened release later occurs.²⁶⁴ Third, any person who arranged — by contract, agreement, or otherwise — or arranged with a transporter for disposal or treatment of its hazardous substances at a facility owned by someone else, also is liable.²⁶⁵ This third category of PRPs includes generators of hazardous wastes disposed of at a facility from which a release later occurs.²⁶⁶ Finally, those who transport hazardous substances to a facility from which a release occurs are liable if they selected the facility.²⁶⁷ A guarantor providing evidence of financial responsibility for a vessel or facility also may be liable for costs and damages in certain cases.²⁶⁸

ity due to bankruptcy, foreclosure, tax delinquency, abandonment, or similar means. *Id.* § 9601(20)(A)(iii). A person who, without participating in the management of a vessel or facility, holds indicia of ownership primarily to protect a security interest is also exempt. *Id.* Judicial interpretations of the scope of this secured creditor exemption have generated considerable controversy. *See, e.g., In re Bergsoe Metal Corp.*, 910 F.2d 668 (9th Cir. 1990); *United States v. Fleet Factors Corp.*, 901 F.2d 1550 (11th Cir. 1990), *cert. denied*, 498 U.S. 1046 (1991); *United States v. Maryland Bank & Trust Co.*, 632 F. Supp. 573 (D. Md. 1986). EPA has also issued regulations to clarify the availability of the exemption. 57 Fed. Reg. 18,344 (1992). In *Kelley v. EPA*, 15 F.3d 1100 (D.C. Cir. 1994), the court invalidated these regulations on the ground that Congress intended that the courts, not EPA, be responsible for interpreting the scope of response cost liability under CERCLA.

264. 42 U.S.C. § 9607(a)(2) (1988). Some courts have interpreted the term "disposal" to extend beyond disposal by affirmative human conduct to passive situations involving the reposing of hazardous substances and their subsequent movement through the environment. Under this interpretation, the second category of PRPs includes persons who owned a facility at a time when it was leaking hazardous substances, even if they played no part in the dumping of waste at the site. *See Nurad, Inc. v. William E. Hooper & Sons Co.*, 966 F.2d 837, 844-46 (4th Cir.), *cert. denied*, 113 S. Ct. 377 (1992); *Stanley Works v. Syndergeneral Corp.*, 781 F. Supp. 659, 662-64 (E.D. Cal. 1990). *But see United States v. Petersen Sand & Gravel, Inc.*, 806 F. Supp. 1346, 1350-53 (N.D. Ill. 1992); *Ecodyne Corp. v. Shah*, 718 F. Supp. 1454, 1457 (N.D. Cal. 1989) (active involvement with hazardous substances is required to impose liability on former owners).

265. 42 U.S.C. § 9607(a)(3) (1988).

266. *See, e.g., United States v. Monsanto Co.*, 858 F.2d 160, 169-70 (4th Cir. 1988), *cert. denied*, 490 U.S. 1106 (1989).

267. 42 U.S.C. § 9607(a)(4) (1988). Common or contract carriers may be able to avoid CERCLA liability for releases that occur during the course of transportation. *See id.* § 9656(b).

268. *Id.* § 9608(c). Guarantor liability is limited to the aggregate amount of the monetary limits of the insurance policy, surety bond, or other instrument of guarantee. *Id.* § 9608(d)(1).

Industrial PRPs have sought to minimize their liability by extending liability to state and local governments.²⁶⁹ Industrial PRPs have succeeded, for example, in imposing liability on municipalities that arranged for the treatment or disposal of municipal solid waste at a facility at which a release later occurred.²⁷⁰ In *United States v. Union Gas Co.*,²⁷¹ a suit for contribution against the state of Pennsylvania by the owner of a plant from which coal tar was released, the court ruled that the state could be held liable both as an owner and as an operator. The state could be liable as an owner because under state law the state owns the stream beds of all navigable waterways. Because the creek was used to transport goods fifty years ago, it was navigable, and accordingly Pennsylvania owned the creek bed containing much of the contamination.²⁷² In jurisdictions in which title to the beds of waterways is vested in the state, the *Union Gas* case has the potential to shift a significant portion of CERCLA liability from private PRPs to the government.

269. PRPs may minimize their own liability either by naming other PRPs as third party defendants and seeking contribution from them in a response cost recovery action in which the PRPs are the original defendants, *see id.* § 9613(f), or by incurring cleanup costs and initiating private response cost recovery actions under *id.* § 9607(a)(4)(B).

270. *See* B.F. Goodrich Co. v. Murtha, 958 F.2d 1192 (2d Cir. 1992); B.F. Goodrich Co. v. Murtha, 815 F. Supp. 539 (D. Conn. 1993); Anderson v. Minnetonka, 1993 U.S. Dist. Lexis 4846, at *33-*40 (D. Minn. Jan. 27, 1993); *cf.* New Jersey, Dep't of Env'tl. Protection & Energy v. Gloucester Env'tl. Management Serv., Inc., 821 F. Supp. 999, 1004-05 (D.N.J. 1993) (municipalities are PRPs in response cost recovery action under 42 U.S.C. § 9607(a)(1) (1988)). *But see* B.F. Goodrich Co. v. Murtha, 840 F. Supp. 180, 187-89 (D. Conn. 1993) (municipalities not liable in contribution action for disposing of municipal solid waste that contained items which were made with or incorporated components or elements containing hazardous substances in the absence of evidence that they disposed of particular hazardous substance).

271. 35 Env't Rep. Cas. (BNA) 1751 (E.D. Pa. 1992).

272. *Id.* at 1755-56. The state's potential liability as an operator stemmed from the fact that, years before discovery of the contamination, the state had helped construct a flood control system that rerouted the creek over the contaminated land at the plant. This project extended the contamination downstream from the plant. Pennsylvania also had acquired a perpetual easement over lands adjoining the creek in order to permit the state to make necessary repairs to the flood control project. The state was an operator at the time of the release because a release occurred when state officials rerouted the creek and caused coal tar to be removed from the site. *Id.* at 1756.

C. *Liability Exceptions and Exemptions*

1. Pesticide Applications

Although the scope of CERCLA liability is very broad,²⁷³ Congress provided several narrow exceptions to and exemptions from liability.²⁷⁴ No person, including the United States, may recover under CERCLA for response costs or natural resource damages resulting from the application of a pesticide registered under FIFRA.²⁷⁵ This exemption, however, does not preclude liability under other federal or state statutes or common law.²⁷⁶

2. Federally Permitted Releases

Recovery for response costs or natural resource damages resulting from a "federally permitted release" must be sought under laws other than CERCLA.²⁷⁷ Federally permitted releases include:

— discharges in compliance with a National Pollutant Discharge Elimination System ("NPDES") permit issued under the CWA or covered by a condition in such a permit;²⁷⁸

— continuous or anticipated intermittent discharges from a point source, identified in an NPDES permit or permit application, which are caused by events occurring within the scope of relevant operating or treatment systems;

— discharges in compliance with a dredge and fill permit issued under the CWA;

— releases in compliance with a treatment, storage, or disposal facility permit under RCRA;

— releases in compliance with a dumping permit under the Marine Protection, Research, and Sanctuaries Act;

273. See *infra* § VII D.

274. Additional exemptions applicable solely to natural resource damage liability are discussed *infra* § VIII C.

275. 42 U.S.C. § 9607(i) (1988); 43 C.F.R. § 11.71(g)(3) (1993).

276. 42 U.S.C. § 9607(i) (1988).

277. *Id.* § 9607(j).

278. Costs of response incurred by the federal government in connection with a discharge covered by an NPDES permit or with continuous or anticipated intermittent discharges identified in an NPDES permit are recoverable under the civil liability provisions of the CWA. *Id.* § 9607(j); 33 U.S.C. § 1319(b) (1988). Even if a facility has an NPDES permit, discharges from nonpoint sources at the same facility are not covered by the exemption. See *Idaho v. Hanna Mining Co.*, 699 F. Supp. 827, 831-32 (D. Idaho 1987), *aff'd*, 882 F.2d 392 (9th Cir. 1989).

- injection of fluids authorized under the Safe Drinking Water Act's underground injection control program;²⁷⁹
- emissions into the air in compliance with the CAA;
- injections of fluids or other materials authorized by state law for the purpose of stimulating or treating wells for the production of oil, gas, or water, or for the purpose of enhanced recovery, or which are brought to the surface in conjunction with the production of oil or gas and then reinjected;
- introduction of pollutants into publicly owned treatment works in compliance with the CWA's pretreatment program;²⁸⁰ and
- releases of source, special nuclear, or byproduct material in compliance with the Atomic Energy Act.²⁸¹

EPA has taken the position that only those releases expressly specified in this definition qualify for the exclusion. As a result, neither damage from contaminants not so specified²⁸² nor releases exceeding permit authorizations are exempt.²⁸³ De minimis discharges that do not require a permit under another statute also do not qualify for the federally permitted release exemption.²⁸⁴

Difficult problems of allocating responsibility may arise when both federally permitted and non-permitted releases contribute to a natural resource injury. One court held PRPs jointly and severally liable for all resulting injury based upon the government's proof that non-federally permitted releases contributed, along with federally permitted releases, to an indivisible injury to natural resources.²⁸⁵ A PRP claiming that the exemption applies bears the burden of proving, by a preponderance of the evidence, which releases were federally permitted and what portion of the damages are allocable to federally permitted releases.²⁸⁶

279. This program is discussed in *Pollution on the Federal Lands III*, *supra* note 1, at 23-24.

280. See 33 U.S.C. § 1317(b) (1988).

281. 42 U.S.C. § 9601(10) (1988).

282. See Bradley K. Marten & Cestjon McFarland, *Litigating CERCLA Natural Resource Damage Claims*, Current Dev., 22 Env't Rep. (BNA) 670, 673 (July 19, 1991) (citing 53 Fed. Reg. 27,268, 27,270 (1988)).

283. See *Idaho v. Bunker Hill Co.*, 635 F. Supp. 665, 674 (D. Idaho 1986).

284. Marten & McFarland, *supra* note 282, at 673.

285. *In re Acushnet River & New Bedford Harbor*, 722 F. Supp. 888, 897 (D. Mass. 1989).

286. *Id.* at 901. The court's decision is less than a model of clarity. The court stated that if the government proves that federally permitted releases would alone have accounted for all the damage, PRPs still would be liable for any injury to which

D. *Standard of Liability*

1. Apportionment

PRPs responsible for releases are strictly liable for response costs and damages to natural resources.²⁸⁷ Liability for response costs is joint and several, unless those costs are apportionable.²⁸⁸ PRPs seeking to avoid joint and several liability bear the burden of proving that the costs are divisible.²⁸⁹ Some courts now seem more inclined to apportion liability than in earlier cases.²⁹⁰

Courts have not clearly decided yet whether joint and several liability applies to natural resource damages as well as response costs. Although commentators have asserted that joint and several liability is appropriate,²⁹¹ and at least one court has so held,²⁹² some courts may still conclude that proportional responsibility governs liability for natural resource damages.²⁹³

their non-federally permitted releases constituted a contributing factor. *Id.* at 898 n.12. The court also concluded, however, that "federally permitted releases can absolve a defendant from liability primarily in the sense that, while all the PCB releases by the defendant may amount to a contributing factor, the non-federally permitted PCB releases alone may not. Thus, the defendant would not be jointly and severally liable. In fact, it would not be liable at all." *Id.* at 897-98 n.11.

287. See 42 U.S.C. § 9601(32) (1988) (the term "liability" under CERCLA refers to the standard of liability under the oil spill provisions of the CWA, 33 U.S.C.A. § 1321 (West Supp. 1993), which have been interpreted as imposing strict liability); see, e.g., *New York v. Shore Realty Corp.*, 759 F.2d 1032, 1042 (2d Cir. 1985); *Colorado v. Idarado Mining Co.*, 707 F. Supp. 1227, 1232 (D. Colo. 1989) (citing *United States v. Ottati & Goss*, 630 F. Supp. 1361 (D.N.H. 1985)).

288. *O'Neil v. Picillo*, 883 F.2d 176, 178-79 (1st Cir. 1989), *cert. denied sub nom. American Cyanamid Co. v. O'Neil*, 493 U.S. 1071 (1990); *United States v. Monsanto Co.*, 858 F.2d 160, 171-73 (4th Cir. 1988), *cert. denied*, 490 U.S. 1106 (1989); *United States v. Chem-Dyne Corp.*, 572 F. Supp. 802, 810-11 (S.D. Ohio 1983).

289. *Monsanto*, 858 F.2d at 172; *Tanglewood East Homeowners v. Charles-Thomas, Inc.*, 849 F.2d 1568 (5th Cir. 1988). *But cf. Allied Corp. v. Acme Solvents Reclaiming, Inc.*, 691 F. Supp. 1100, 1116 (N.D. Ill. 1988) (courts may reject joint and several liability, regardless of the indivisibility of the harm, where the peculiar facts of the case point to a fairer apportionment of liability.).

290. See, e.g., *Bell Petroleum Serv., Inc. v. United States EPA*, 3 F.3d 889 (5th Cir. 1993); *United States v. Alcan Aluminum Corp. (Alcan-PAS)*, 990 F.2d 711 (2d Cir. 1993); *United States v. Alcan Aluminum Corp. (Alcan-Butler)*, 964 F.2d 252 (3d Cir. 1992).

291. See, e.g., Kerry E. Russell, *A Research Guide to Natural Resource Damage Under the Comprehensive Environmental Response, Compensation, and Liability Act*, 26 LAND & WATER L. REV. 403, 407 (1991); Anderson, *supra* note 130, at 427.

292. *In re Acushnet River & New Bedford Harbor*, 722 F. Supp. 888 (D. Mass. 1989).

293. See Russell, *supra* note 291, at 413.

PRPs in effect may apportion response costs among themselves through equitable contribution actions.²⁹⁴ Any PRP may seek contribution from any other PRP during or following an abatement action²⁹⁵ or a liability action.²⁹⁶ Section 113(f)(1) of CERCLA authorizes courts hearing PRP contribution claims to use whatever equitable factors the courts deem appropriate.²⁹⁷ Some courts have looked to the so-called "Gore criteria," named after the factors contained in an amendment to CERCLA adopted by the House of Representatives but dropped in the final bill.²⁹⁸ These criteria include amount of waste, toxicity of waste, degree of involvement in waste generation or TSD activities, degree of care exercised, and extent of cooperation with the government.²⁹⁹

To encourage PRPs to settle, the statute exempts PRPs who settle with the United States or a state from further contribution claims on the settled issues.³⁰⁰ If the government settles with a PRP for less than its proportionate share, the non-settlers, rather than the government, can be required to make up the difference.³⁰¹ But the federal government itself may be the target of a contribution action initiated by other PRPs when the government's activities contribute to a release.³⁰² PRPs cannot contract out of CERCLA liability. Indemnification and hold harmless

294. *O'Neil v. Picillo*, 883 F.2d 176, 179 (1st Cir. 1989), *cert. denied sub. nom. American Cyanamid Co. v. O'Neil*, 493 U.S. 1071 (1990).

295. 42 U.S.C. § 9606 (1988).

296. *Id.* §§ 9607(a), 9613(f)(1). In *United States v. Shell Oil Co.*, 841 F. Supp. 962 (E.D. Cal. 1993), the court relied on the rights afforded by CERCLA's contribution provisions in rejecting the claim that § 107 liability imposes a compensable taking. *Id.* at 974.

297. 42 U.S.C. § 9613(f)(1) (1988).

298. See ELI, LAW OF ENVIRONMENTAL PROTECTION, *supra* note 4, at § 13.06[3][b] (citing H.R. REP. NO. 253, pt. 3, 99th Cong., 2d Sess. 19 (1986)).

299. See *id.* (citing *United States v. Conservation Chem. Co.*, 619 F. Supp. 162 (W.D. Mo. 1985); *United States v. A&F Materials, Inc.*, 578 F. Supp. 1249 (S.D. Ill. 1984)); *Temkin & Tita*, *supra* note 26, at 6-45 to 6-46 (citing *Allied Corp. v. Acme Solvents Reclaiming, Inc.*, 691 F. Supp. 1100, 1116-17 (N.D. Ill. 1988)).

300. 42 U.S.C. § 9613(f)(2) (1988).

301. *Acushnet River*, 712 F. Supp. at 1032.

302. See, e.g., *Key Tronic Corp. v. United States*, 766 F. Supp. 865 (E.D. Wash. 1991) (generator PRP is entitled to contribution from the United States Air Force, which also generated chemicals disposed of at landfill that leaked). The Ninth Circuit subsequently concluded that the private plaintiff was not entitled to recover its attorneys fees from the Air Force, even if the plaintiff did not contribute to the contamination. *Key Tronic Corp. v. United States*, 984 F.2d 1025, 1027 (9th Cir. 1993).

agreements between PRPs and other persons, however, are effective among the parties to such agreements.³⁰³

No action for contribution for response costs or damages may be commenced more than three years after the date of a CERCLA liability judgment, the date of a judicially approved settlement, or the date of an administrative order relating to settlements.³⁰⁴ No action based on rights subrogated pursuant to section 113 of CERCLA by reason of payment of a claim may be commenced more than three years after payment.³⁰⁵

2. Retroactivity

Liability for both response costs and natural resource damages is retroactive; PRPs may be liable for activities that took place prior to CERCLA's enactment.³⁰⁶ The courts consistently have rejected assertions that the imposition of retroactive liability violates the due process clause.³⁰⁷

3. Causation

Civil plaintiffs seeking response cost reimbursement under CERCLA benefit not only from these broad standards of liability, but also from a rather attenuated causation standard. Once a CERCLA plaintiff demonstrates that the defendant falls within one of the four categories of PRPs (for example, the current or former owner of the site at which a release occurred, or the party that arranged for disposal of its waste at the site), that plaintiff need not prove that the PRP caused the release.³⁰⁸ It only has to

303. 42 U.S.C. § 9607(e)(1) (1988).

304. *Id.* § 9613(g)(3).

305. *Id.* § 9613(g)(4). Subrogation is discussed *supra* at notes 231-32 & accompanying text.

306. *See, e.g.,* Mayor and Board of Alderman of the Town of Boonton v. Drew Chem. Corp., 621 F. Supp. 663, 668 (D.N.J. 1985) (citing *United States v. Shell Oil Co.*, 605 F. Supp. 1064 (D. Colo. 1985); *United States v. Northeastern Pharmaceutical Co.*, 579 F. Supp. 823, 839 (W.D. Mo. 1984), *aff'd in part and rev'd in part*, 810 F.2d 726 (8th Cir. 1986), *cert. denied*, 484 U.S. 848 (1987); *State of Ohio ex rel. Brown v. Georgeoff*, 562 F. Supp. 1300, 1302-14 (N.D. Ohio 1983)).

307. *See, e.g.,* *United States v. Northeastern Pharmaceutical & Chem. Co.*, 810 F.2d 726, 733 (8th Cir. 1986), *cert. denied*, 484 U.S. 848 (1987); *United States v. Shell Oil Co.*, 841 F. Supp. 962, 974 (E.D. Cal. 1993); *In re Acushnet River & New Bedford Harbor*, 716 F. Supp. 676, 688 (D. Mass. 1989) (concerning natural resource damages); *United States v. South Carolina Recycling and Disposal, Inc.*, 653 F. Supp. 984, 996-98 (D.S.C. 1984); *Town of Boonton*, 621 F. Supp. at 669.

308. *See* *United States v. Alcan Aluminum Corp.*, 990 F.2d 711, 721 (2d Cir. 1993) (Congress specifically rejected including a causation requirement in § 9607(a)).

demonstrate a causal connection between a release or threatened release and the response costs it incurred.³⁰⁹

Just as the applicability of joint and several liability to actions for recovery of natural resource damages is not yet clear, the question of whether courts will apply the loose causation requirements applicable to actions for response costs to cases involving natural resource damages also is unsettled.³¹⁰ Current indications are that the courts may be more rigorous in their treatment of causation with respect to natural resource damages than to response costs.³¹¹ The First Circuit has concluded, for example, that in a natural resource damage action, "there must be a connection between the defendant and the damages to the natural resources."³¹² In perhaps an even more revealing opinion, the court in *United States v. Montrose Chemical Co.*³¹³ dismissed without prejudice the United States' claim for natural resource damages because it failed "adequately to apprise the court and defendants of the nature of, and basis for, the claim."³¹⁴ The court indicated that the government must show that a release of a hazardous substance was the sole or substantially contributing cause of each alleged injury to natural resources.³¹⁵ As a result, the plaintiffs' complaint must allege:

- (1) WHAT natural resources have been injured; *i.e.*, plaintiffs shall identify each alleged injury to natural resources for which plaintiffs

309. See Kyle E. McSarrow, et al., *A Decade of Superfund Litigation: CERCLA Case Law From 1981-1991*, 21 *Env'tl. L. Rep. (Env'tl. L. Inst.)* 10367, 10400 (1991); *New York v. Shore Realty*, 759 F.2d 1032, 1044 (2d Cir. 1985) (interpreting § 9607(a)(1) as including a causation requirement would make the affirmative defenses of § 9607(b) superfluous); *City of New York v. Exxon Corp.*, 766 F. Supp. 177, 191-93 (S.D.N.Y. 1991). See also Anderson, *supra* note 130, at 429.

310. In *Ohio v. United States Dep't of Interior*, 880 F.2d 432, 472 (D.C. Cir. 1989), the court said that CERCLA is ambiguous on the question of whether the causation-of-injury standard in natural resource damage actions is less demanding than the common law standard.

311. See Marten & McFarland, *supra* note 282, at 671 (arguing that trustees in natural resource damage actions "must meet a much higher burden of proof in establishing causation," and that such actions are likely to be harder for the government to win than response cost actions because "[t]he elements of [the] cause of action — particularly the causation element — are more difficult to establish").

312. *Dedham Water Co. v. Cumberland Farms Dairy, Inc.*, 889 F.2d 1146, 1154 n.7 (1st Cir. 1989). See also *Idaho v. Bunker Hill Co.*, 635 F. Supp. 665, 674 (D. Idaho 1986) (stating in dictum that CERCLA's strict liability scheme does not obviate the need for the plaintiff in an action seeking natural resource damages to show causation; the damage for which recovery is sought must be causally linked to the act of the PRP).

313. 33 *Env't Rep. Cas. (BNA)* 1207 (C.D. Cal. 1991).

314. *Id.* at 1208.

315. *Id.*

seek to recover natural resource damages, and shall identify the specific natural resource injured (*e.g.*, the particular species of fish, bird, mammal or other natural resource at issue); (2) the specific locations WHERE each such injury has occurred and where the releases of hazardous substances alleged to be the . . . cause of each such injury occurred; these locations will be stated with specific reference to whether they are within or beyond the "three-mile limit" established by the Submerged Lands Act, 43 U.S.C. §§ 1301 *et seq.*; (3) WHEN each such injury occurred; and (4) WHICH defendant's release(s) of WHAT hazardous substance was the sole or substantially contributing cause of each such injury, and by what pathway exposure to the hazardous substance occurred.³¹⁶

If other courts follow these guidelines, then plaintiffs in actions for natural resource damages will have to plead their cases with greater specificity than plaintiffs seeking response costs, and their ultimate burden of proof on causation issues will be harder to meet.

E. Defenses

Although CERCLA's standard of liability is stringent, Congress provided certain limited defenses for PRPs. PRPs may avoid liability by demonstrating that a release or threatened release and the damages resulting from it were caused solely by an act of God,³¹⁷ an act of war³¹⁸, an act or omission of a third party who is not related to the PRP through employment or contract, or any combination of the above.³¹⁹

316. *Id.* The Justice Department subsequently filed an amended complaint in *Montrose Chemical*, alleging that DDT and PCBs reduced or eliminated several threatened or endangered species and harmed other marine animals. *See Current Dev.*, 22 *Env't Rep. (BNA)* 1189 (Aug. 30, 1991).

317. This term is defined at 42 U.S.C. § 9601(1) (1988).

318. For a case rejecting the act of war defense, see *United States v. Shell Oil Co.*, 841 F. Supp 962, 970-72 (E.D. Cal. 1993) (the defense does not cover the government's World War II contracts to purchase aviation fuel from the oil companies or its regulation of oil companies' production of aviation fuel).

319. 42 U.S.C. § 9607(b) (1988). Even if a bankrupt PRP has no defenses to liability, it nevertheless may be able to discharge claims for response costs and natural resource damages under the bankruptcy laws. *See, e.g., In re National Gypsum Co.*, 139 B.R. 397, 34 *Env't Rep. Cas. (BNA)* 1577 (Bankr. N.D. Tex. 1992) (all claims for future response costs and natural resource damages based on pre-petition conduct that can be fairly contemplated by the parties at the time of the debtor's bankruptcy are claims dischargeable under the Bankruptcy Code). *But cf. In re Chateaugay Corp.*, 944 F.2d 997 (2d Cir. 1991) (actions for response costs attributable to pre-petition conduct do not represent dischargeable claims unless the release or threatened release of hazardous substances also occurred before the bankruptcy petition was filed). The decision in *Chateaugay* has spurred settlements in which the federal government has agreed to accept stock in reorganized PRPs in response cost

The unrelated third party defense is the one likely to be used most often and it will require the most litigation to flesh out its scope.³²⁰ That defense is available only if the PRP can establish by a preponderance of the evidence that it exercised due care with respect to the hazardous substance concerned, and that it took precautions against foreseeable acts or omissions of the third party and their foreseeable consequences.³²¹

In the 1986 CERCLA amendments, Congress clarified the third party defense by defining "contractual relationship" to include (but not be limited to) land contracts, deeds, or other instruments transferring title or possession, unless real property was acquired by the defendant after the disposal or placement of the hazardous substance.³²² The last clause creates what has become known as the "innocent purchaser defense."³²³ To use that defense, a PRP must also prove that: (1) at the time it acquired the facility, the PRP did not know and had no reason to know that any released hazardous substance was disposed of at the facility; (2) the PRP is a government entity which acquired the facility by escheat, or through any other involuntary transfer or acquisition, or through the exercise of the power of eminent domain; or (3) the PRP acquired the facility by inheritance or bequest.³²⁴

Two other defenses allow PRPs to avoid liability in connection with efforts to respond to releases or damages to natural resources. Under the "good Samaritan defense," a person who acts in the course of rendering care, assistance, or advice in accordance with the NCP or at the direction of an OSC with respect to an incident creating a danger to health, welfare, or the environment is not liable for response costs or damages, unless he or she

recovery actions. See Current Dev., 24 Env't Rep. (BNA) 181-82 (May 28, 1993) (citing *In re Insilco Corp.*, No. 91-70021 (Bankr. N.D. Tex. April 1, 1993)).

320. For cases interpreting the third party defense, see STEVER, *supra* note 4, at § 6.07[2][m].

321. 42 U.S.C. § 9607(b)(3) (1988).

322. *Id.* § 9601(35)(A).

323. See, e.g., *Westwood Pharmaceuticals, Inc. v. National Fuel Gas Distribution Corp.*, 767 F. Supp. 456, 458 (W.D.N.Y. 1991). Cases construing the innocent purchaser defense are collected at STEVER, *supra* note 4, at § 6.07[2][m].

324. 42 U.S.C. § 9601(35)(A) (1988). To establish that it had no reason to know, the PRP must have undertaken at the time of acquisition all appropriate inquiry into previous ownership and uses consistent with good commercial or customary practice in an effort to minimize liability. *Id.* § 9601(35)(B). Despite the innocent landowner defense, a PRP is liable if its acts or omissions caused or contributed to the release which is the subject of the action. *Id.* § 9601(35)(D).

was negligent.³²⁵ Similarly, Congress exonerated state and local governments for costs or damages resulting from their actions taken in response to an emergency created by a release from a facility owned by another person, absent gross negligence or intentional misconduct.³²⁶

F. *Statutes of Limitations*

CERCLA provides separate statutes of limitations for actions to recover response costs and natural resource damages. A response cost action must be brought within three years after completion of a removal action, or within six years after the start of physical on-site construction in connection with a remedial action.³²⁷

Government trustees cannot commence actions to recover natural resource damages concerning federal facilities or sites listed on the NPL more than three years after completion of remedial action.³²⁸ For sites not on the NPL, no suit may be brought more than three years after the later of the date of discovery of the loss and its connection with the release, or the date of issuance of the Interior Department's regulations for measuring natural resource damages.³²⁹

CERCLA requires the Interior Department to issue two kinds of damage assessment regulations: Type A regulations, which contain a standard procedure for assessing damages on a simplified basis; and Type B regulations, which establish an alternative procedure for damage assessments on an individualized basis.³³⁰ In *United States v. Seattle*,³³¹ the PRPs in a natural resource damage action argued that the statute of limitations began running on August 1, 1986, when the Department issued the Type B regulations.³³² The Type A regulations were not issued until March 20, 1987. Interior took the position that the statute did not begin running until both sets of regulations were issued.³³³ Despite

325. *Id.* § 9607(d)(1).

326. *Id.* § 9607(d)(2).

327. *Id.* § 9613(g)(2). There are limited exceptions to these general rules. *Id.*

328. *Id.* § 9613(g)(1). No such suit may be brought *before* selection of the remedial action if the government is diligently proceeding with a RI/FS. *Id.*

329. *Id.* These regulations are discussed *infra* at § VIII I.

330. 42 U.S.C. § 9651(c)(2) (1988). *See infra* § VIII I.

331. 33 Env't Rep. Cas. (BNA) 1549 (W.D. Wash. 1991).

332. *Id.* at 1550.

333. 56 Fed. Reg. 19,773 (1991). *See also* 43 C.F.R. § 11.91 (e), cited at 59 Fed. Reg. 14,262, 14,287 (1994), which provides that, for purposes of § 9613(g) of CERCLA, the date on which natural resource damage assessment regulations are

predictions by some commentators that the courts would reject the "bootstrapping argument that the statute starts running again each time Interior revises its regulations,"³³⁴ the court agreed with the government. Because Congress intended both sets of procedures to be in place before the limitations period commenced, the statute began running only when the Department issued the second of the two sets of regulations.³³⁵

G. *Limits on Liability*

CERCLA limits liability for the owners and operators of both vessels and facilities. For any vessel, other than an incineration vessel,³³⁶ that carries hazardous substances as cargo or residue, liability for each release may not exceed \$300 per gross ton or five million dollars, whichever is greater.³³⁷ Facilities and incineration vessels may not be liable for more than the total of all response costs plus fifty million dollars for natural resource damages per release.³³⁸ It is not clear whether continuous leaching from a facility will be treated as a series of releases, each with its own fifty million dollar damage limit, or as a single release.³³⁹ Liability for both response costs and damages is unlimited, however, if a release results from willful misconduct, willful negligence, or violation of applicable regulations, or if the PRP fails to cooperate with responsible federal officials.³⁴⁰ A PRP who fails, without cause, to comply with an order for response action under

promulgated is the date on which the later of the revisions to the Type A and Type B rules on remand from the decisions in *Colorado v. United States Dep't of the Interior*, 880 F.2d 481 (D.C. Cir. 1989), and *Ohio v. United States Dep't of the Interior*, 880 F.2d 432 (D.C. Cir. 1989), is published as a final rule in the Federal Register.

334. See Marten & McFarland, *supra* note 282, at 675. The authors pointed out that if the government's position is erroneous, the statute of limitations has already run on actions concerning losses discovered more than three years ago. *Id.*

335. 33 Env't Rep. Cas. (BNA) at 1550. The court concluded that Congress wanted natural resource trustees to exercise discretion in choosing between the two assessment procedures. Accordingly, the § 9651(c) regulations were not in place and the statute did not begin to run until all the regulations were issued. *Id.*

336. An incineration vessel is one that carries hazardous substances for the purpose of on board incineration. 42 U.S.C. § 9601(38) (1988). Incineration vessels are treated like facilities for purposes of CERCLA's liability limits. *Id.* § 9607(c)(1)(D).

337. *Id.* § 9607(c)(1)(A).

338. *Id.* § 9607(c)(1)(D). Motor vehicles, aircrafts, pipelines, and rolling stock are subject to different limits. *Id.* § 9607(c)(1)(C).

339. See Edward D. Warren & John A. Zackrison, *Natural Resource Damages Provisions of CERCLA*, 1 NAT. RESOURCES & ENV'T 18, 49 (1985) (arguing that continuous leaching should be treated as a single release).

340. 42 U.S.C. § 9607(c)(2) (1988).

sections 104 or 106 of CERCLA³⁴¹ is liable for actual response costs incurred as a result in addition to punitive damages of three times those costs.³⁴²

H. *Statutory Liens*

CERCLA provides that response costs and natural resource damages for which a person is liable constitute a lien in favor of the United States on all property rights subject to or affected by a removal or remedial action.³⁴³ In an en banc decision, the First Circuit invalidated this lien provision as a deprivation of due process.³⁴⁴ The court found that CERCLA provides no procedural safeguards to protect against erroneous deprivation of a landowner's significant property interest. The deprivation results from the cloud on title, tainted credit rating, impaired ability to sell, and reduced chances of obtaining a loan caused by the lien.³⁴⁵ The court suggested, though, that these shortcomings could be overcome by the creation of minimal procedural safeguards.³⁴⁶

I. *Settlements*

1. Settlement Procedures

In order to accelerate the pace of cleanup of hazardous waste releases and minimize litigation, Congress in 1986 authorized EPA to settle disputes.³⁴⁷ Settlements must be approved by the Attorney General and entered in the appropriate federal district court as consent decrees.³⁴⁸ Federal agencies with authority to undertake response actions under the NCP may settle response

341. *Id.* §§ 9604, 9606.

342. *Id.* § 9607(c)(3); *United States v. Parsons*, 936 F.2d 526 (11th Cir. 1991).

343. 42 U.S.C. § 9607(l)(1) (1988). The lien arises at the time costs are first incurred or the time the PRP is notified of potential liability, whichever is later, and continues until liability is satisfied or becomes unenforceable under CERCLA's statute of limitations. *Id.* § 9607(l)(2). Costs constituting the lien may be recovered in an action in rem in federal district court. *Id.* § 9607(l)(4). Costs and damages attributable to a vessel create a maritime lien. *Id.* § 9607(m).

344. *Reardon v. United States*, 947 F.2d 1509 (1st Cir. 1991).

345. *Id.* at 1518.

346. *Id.* at 1522-23.

347. 42 U.S.C. § 9622(a) (1988). CERCLA's settlement provisions do not apply to releases from vessels. *Id.* § 9607(h). For a good discussion of the factors PRPs should consider in settlement negotiations, see *Temkin & Tita*, *supra* note 26, at 6-53 to 6-86.

348. 42 U.S.C. § 9622(d)(1)(A) (1988).

cost claims if those claims have not been referred to the Justice Department for further action.³⁴⁹

When settlement negotiations concern a release or threatened release that may have damaged natural resources under federal trusteeship, the federal trustees must be notified and permitted to participate in the negotiations.³⁵⁰ CERCLA also affords opportunities for public participation in settlement negotiations.³⁵¹ Environmental groups and other interested parties can seek to intervene, for example, in proceedings seeking district court approval of consent decrees.

The *In re Acushnet River & New Bedford Harbor*³⁵² court permitted the National Wildlife Federation ("NWF") to contest a proposed consent decree involving a natural resource damage claim. The United States and Massachusetts had sued a company whose operation of a capacitor manufacturing plant caused the contamination of the harbor with PCBs. The court concluded that neither the federal nor state governments would adequately represent the NWF's interests, because the sovereigns believed that the proper measure of damages was the *lesser* of the costs of restoring or replacing injured resources and lost use value; NWF claimed that the proper measure was the cost of restoration or replacement, or, failing that, of the acquisition of equivalent resources, *plus* the lost use value.³⁵³ As a result, the court found a significant adversity of interests between NWF and the sovereigns.³⁵⁴ But the court imposed conditions on NWF's intervention, including a prohibition on arguing to the jury the conclusions to be drawn from evidence taken at trial.³⁵⁵

349. *Id.* § 9622(h)(1). The statutory procedures for such settlements are at *id.* § 9622(i).

350. *Id.* § 9622(j)(1). Natural resource damage liability is discussed *infra* at § VIII.

351. 42 U.S.C. § 9622(d)(2) (1988).

352. *In re Acushnet River & New Bedford Harbor*, 712 F. Supp. 1019 (D. Mass. 1989).

353. *Id.* at 1024.

354. *Id.* at 1024 n.7.

355. *Id.* at 1026. The First Circuit held that another environmental organization lacked standing to appeal the district court's approval of a consent decree that obligated two private PRPs to pay to the government more than \$9 million in response costs and more than \$3 million in natural resource damages. *United States v. AVX Corp.*, 962 F.2d 108 (1st Cir. 1992).

2. Settlement Terms and Conditions

CERCLA authorizes the government to enter into several different kinds of settlements. These include mixed funding agreements, in which the costs of site investigation or cleanup are shared among PRPs and EPA,³⁵⁶ and *de minimis* settlements, which involve the early release of parties with minimal culpability in exchange for cash payments reflecting the released PRP's equitable share of costs.³⁵⁷

A settlement that includes a covenant not to sue limits the future liability of the settling PRP to the United States arising from a release or threatened release.³⁵⁸ Such settlements must meet a series of conditions, including consistency with the public interest.³⁵⁹ Factors relevant to that determination include the effectiveness and reliability of the remedy, the nature of the risks remaining at the facility, the extent to which the response action provides a complete remedy, the extent to which technology used in the response action is demonstrated to be effective, and the availability of the Fund or other sources of money for any additional remedial actions that might eventually be necessary.³⁶⁰ Covenants not to sue are subject to judicial approval.³⁶¹

The *Acushnet River* court elaborated on the criteria for approval of covenants not to sue by the federal government. First, the court held that the appropriate standard for judicial approval is whether a covenant not to sue is "fair, adequate, and reasonable, and consistent with the Constitution and the mandate of Congress."³⁶² Second, despite a covenant not to sue, CERCLA authorizes the government to sue for liability arising out of conditions unknown at the time the government certifies that remedial action has been completed.³⁶³ Intervenor NWF argued that this provision requires settlements containing a covenant not to sue to include a "reopener" clause that permits further litigation

356. 42 U.S.C. § 9622(b)(1) (1988).

357. *Id.* § 9622(g). See Temkin & Tita, *supra* note 26, at 6-68 to 6-70.

358. 42 U.S.C. § 9622(c)(1) (1988).

359. *Id.* § 9622(f)(1)(A).

360. *Id.* § 9622(f)(4).

361. *Id.* § 9622(c)(1).

362. *Acushnet River*, 712 F. Supp. at 1027 (citing *City of New York v. Exxon Corp.*, 697 F. Supp. 677, 692 (S.D.N.Y. 1988)). The court deemed protection of the public interest to be paramount. *Id.*

363. 42 U.S.C. § 9622(f)(6)(A) (1988). A covenant not to sue concerning future liability may not take effect absent such a certification of completeness. *Id.* § 9622(f)(3).

between the United States and settlers concerning further damage due to conditions unknown at the time of settlement.³⁶⁴ The court stated in dictum that the provision preserving future rights to sue does not seem to apply to a settlement that concerns solely natural resource damages, and not response costs.³⁶⁵ Nevertheless, the court held that the provision did apply to the instant case, in which a natural resource damage claim was tried before resolution of a response cost claim. Although the court conceded that Congress probably did not envision this situation, it reasoned that the reopener provision should be applied "in order to fulfill the more general intent of Congress with respect to the proper manner of settling CERCLA actions."³⁶⁶ If the provision did not apply, the statute would provide no guidance on the appropriate content of natural resource damage claim settlements.³⁶⁷ Moreover, even if the specific statutory reopener provision does not apply to natural resource damage settlements, the court found that such settlements nevertheless must contain a reopener to promote the congressional mandate in favor of settlements. In particular, a reopener is necessary to "ensure that the federal government, and thus ultimately the taxpayer, does not bear the costs of future unknown damages."³⁶⁸ Because the natural resource damage settlement before the court failed to contain such a reopener, it was contrary to the public interest.³⁶⁹

Third, the natural resource trustee with jurisdiction over the damaged resources must consent in writing to a covenant not to sue.³⁷⁰ A trustee may agree to a covenant not to sue only if PRPs agree to undertake "appropriate actions necessary to protect and restore" damaged natural resources.³⁷¹ NWF argued in *Acushnet*

364. *Acushnet River*, 712 F. Supp. at 1033.

365. *Id.* at 1035 (citing 42 U.S.C. § 9622(f)(6) (1988)).

366. *Id.* at 1036.

367. *Id.* at 1035.

368. *Id.* at 1037.

369. *Id.* at 1038.

370. 42 U.S.C. § 9622 (j)(2) (1988). Designation and notification of natural resource trustees is discussed *infra* at § VIII H.

371. 42 U.S.C. § 9622(j)(2) (1988). Although this requirement on its face applies only to cases involving federal trustees, one court has concluded that, even when a state trustee enters a natural resource damage settlement that contains a covenant not to sue, § 9622(j)(2) requires provisions in the settlement to assure that PRPs will take actions necessary to protect and restore the injured natural resources. *Utah v. Kennecott Corp.*, 801 F. Supp. 553, 569 n.20 (D. Utah 1992), *appeal dismissed for lack of jurisdiction*, 14 F.3d 1489 (10th Cir. 1994). The court refused to approve the consent decree in that case for failure to comply with that mandate. *Id.* at 570. For another case refusing to approve a consent decree settling CERCLA natural re-

River that this provision precludes settlements for substantially less than the full natural resource damages asserted.³⁷² The court disagreed on the ground that few PRPs would agree to settle at 100 percent of liability, thereby thwarting Congress' desire to encourage settlements.³⁷³ CERCLA only requires the federal government to "assess the strengths and weaknesses of its case and drive the hardest bargain it can."³⁷⁴ Although the court concluded that the United States had complied with this requirement, it nevertheless refused to approve the consent decree because the record failed to indicate that the federal trustee agreed to the covenant not to sue, as CERCLA requires.³⁷⁵

Perhaps because of the perceived difficulty of prevailing in actions for natural resource damages, the Justice Department has openly encouraged PRPs to settle those claims.³⁷⁶ The government is willing to discuss cash-outs, PRP-conducted damage assessments, PRP acquisition of replacement resources, and *de minimis* settlement opportunities. Settlement continues to be problematic, however. Two observers have asserted that "[t]here are virtually no incentives . . . to settle a questionable natural resource damage claim, other than the transaction costs that may be incurred in litigation,"³⁷⁷ because CERCLA lacks a provision for recovery of treble damages in a natural resource damage case similar to the one applicable to response cost actions.³⁷⁸ A trustee's most powerful weapon in negotiations may be to threaten to perform the damage assessment without PRP participation, which may increase the ultimate liability of PRPs, but that threat is only realistic if the trustee has sufficient funds to perform the assessment.³⁷⁹

source damage claims, see *New York v. SCA Serv., Inc.*, 36 Env't Rep. Cas. (BNA) 1439 (S.D.N.Y. 1993).

372. 712 F. Supp. at 1033.

373. *Id.* at 1036.

374. *Id.*

375. *Id.* at 1036-37 (citing 42 U.S.C. § 9622(j)(2) (1988)). It is not clear from the opinion whether the settlors never sought the trustee's consent, or merely failed to include evidence of such consent in the record.

376. See Marten & McFarland, *supra* note 282, at 674.

377. *Id.*

378. That provision imposes punitive damages on PRPs who fail without sufficient cause to properly provide removal or remedial action upon issuance of an order to do so by EPA. See 42 U.S.C. § 9607(c)(3) (1988); *supra* notes 341-42 & accompanying text.

379. See Marten & McFarland, *supra* note 282, at 674.

J. *Liability Under Other Laws*

CERCLA does not preempt additional liability under state law for releases of hazardous substances.³⁸⁰ CERCLA's waiver of sovereign immunity permits the states to sue the United States for violations of state environmental laws that deal with removal and remedial actions as defined in CERCLA.³⁸¹ Any person who receives compensation for removal costs or natural resource damages or for claims against the Superfund, however, may not recover compensation under any other federal or state law for the same costs or damages.³⁸²

K. *Civil and Criminal Penalties*

CERCLA provides two classes of administrative civil penalties for violations of regulations or orders issued under the statute.³⁸³ Penalties may not exceed \$25,000 per violation (Class I penalties) or per day of continuing violation (Class II penalties), except in the case of repeat violations.³⁸⁴ EPA calculates these penalties by using factors that include the nature, circumstances, extent, and gravity of the violation, and the violator's ability to pay, degree of culpability, and past history of violations.³⁸⁵ Judicial review of administrative penalty assessments is available in federal district court for Class I penalties and in the Courts of Appeals for Class II penalties.³⁸⁶ Federal district courts also can assess

380. 42 U.S.C. § 9614(a) (1988).

381. *See* United States v. Pennsylvania, 778 F. Supp. 1328 (M.D. Pa. 1991) (citing 42 U.S.C. § 9620(a)(4) (1988)) (involving Pennsylvania's suit against the United States Navy). *Cf.* United States *ex rel.* Dep't of Fish and Game v. Montrose, 788 F. Supp. 1485 (C.D. Cal. 1992) (under 42 U.S.C. § 9613(f) (1988), defendants in a CERCLA § 107 action may assert counterclaims against a state plaintiff under both CERCLA and state tort law). In *Rospatch Jessco Corp. v. Chrysler Corp.*, 829 F. Supp. 224 (W.D. Mich. 1993), the court held that § 120(a)(4) only authorizes suits against the federal government for violations of state laws at facilities currently owned or operated by the United States. *Id.* at 227-29. *See also* Redlands Soccer Club, Inc. v. Department of the Army, 801 F. Supp 1432 (M.D. Pa. 1992). In *Tenaya Assoc. Ltd. Partnership v United States Forest Serv.*, No. CV-F-92-5375 REC (E.D. Cal. May 18, 1993), however, the court concluded that CERCLA's waiver of sovereign immunity was broad enough to permit state law claims against the United States concerning a site which it no longer owned.

382. 42 U.S.C. § 9614(b) (1988).

383. *Id.* § 9609(a)-(b).

384. *Id.* § 9609(a)(1), (b).

385. *Id.* § 9609(a)(3).

386. *Id.* § 9609(a)(4), (b).

civil penalties of up to \$25,000 for each day that a violation continues.³⁸⁷

Bounties of up to \$10,000 are available from the Superfund to anyone who provides information leading to the arrest and conviction of any person for a violation subject to a criminal penalty, such as submission of false and misleading information.³⁸⁸ Any person in charge of a vessel or facility from which a release of hazardous substances occurs in amounts greater than the threshold quantities designated by EPA who fails to provide appropriate notification to the government or who knowingly submits false or misleading information may be imprisoned for up to three years for a first conviction and up to five years for second or subsequent convictions.³⁸⁹

L. *Liability of Federal Agencies*

1. Liability for Activities at Government-Owned or Operated Facilities

Federal agencies are subject to and must comply with CERCLA to the same extent as nongovernmental entities.³⁹⁰ The extent of the federal government's liability under CERCLA may depend on the nature of the governmental connection with facilities at which a release or threatened release occurs and on the reaction of the courts to the Justice Department's claim that one federal agency may not sue another.³⁹¹ The government may incur response cost and natural resource damages liability on the basis of either its ownership or operation of hazardous waste facilities or its regulation of private activities involving hazardous waste.

CERCLA imposes liability on four categories of "persons,"³⁹² and it defines a person to include the federal government.³⁹³ Accordingly, the federal government may be a PRP if it is the person who owns and operates a facility at which a hazardous substance release occurs, or who owned or operated such a site at

387. *Id.* § 9609(c).

388. *Id.* §§ 9609(d), 9603(b).

389. *Id.* § 9603(b).

390. *Id.* § 9620(a)(1). *See also id.* § 9601(21) (defining a "person" potentially subject to liability to include the United States). *See generally* Stan Millan, *Federal Facilities and Environmental Compliance: Toward A Solution*, 36 *LOY. L. REV.* 319 (1990); Gaydosh, *supra* note 174, at 21.

391. *See infra* notes 398-401 & accompanying text.

392. 42 U.S.C. § 9607(a) (1988). *See supra* § VII B.

393. 42 U.S.C. § 9601(21) (1988).

the time of disposal.³⁹⁴ In addition to its potential liability as a present or past owner or operator, the federal government may incur liability as the person who arranged for disposal of hazardous substances at a facility from which there was a release,³⁹⁵ or as the person who accepted hazardous substances for transport to a leaking facility which it selected.³⁹⁶

Despite CERCLA's waiver of the government's sovereign immunity to liability for hazardous substance releases at federal facilities,³⁹⁷ the Justice Department has taken the position that, under the "unitary executive theory," EPA cannot sue another federal agency, and consequently, that EPA only has limited authority to assess liability for activities at federal facilities.³⁹⁸ This theory is premised on the Constitution's delegation of all executive power in the federal government to the President, who must insure that the executive branch speaks with one voice.³⁹⁹ Suits

394. See *id.* § 9620(a) (federal agencies are subject to and must comply with CERCLA to the same extent as nongovernmental entities, "including liability under [42 U.S.C. § 9607].")

395. In *Santa Fe Pac. Realty Corp. v. United States*, 780 F. Supp. 687 (E.D. Cal. 1991), for example, the court declined the government's summary judgment motion on a claim that the Defense Department was liable as an "arranger" in connection with public auction sales under the Federal Property and Administrative Services Act of 1949, 40 U.S.C. §§ 471-544 (1988), of chemicals, paints, solvents, insecticides, and other surplus personal property. See also *New York v. Allied Corp.*, 789 F. Supp. 93, 98 (N.D.N.Y. 1992) (federal government liable as an arranger because the Air Force sent hazardous solvents to dump site).

396. 42 U.S.C. § 9607(a)(4) (1988). In *Price v. United States Navy*, 818 F. Supp. 1326 (S.D. Cal. 1992), the court held the Navy 95 percent responsible in a private cost recovery action because in the 1930's the Navy shipped metal-containing paints, used asbestos gaskets, and insulation to a junkyard. But in *United States v. Vertac Chem. Corp.*, 841 F. Supp. 884 (E.D. Ark. 1993), the court held that the Army was not liable as an arranger in connection with wastes attributable to its contractor's production of Agent Orange during the Vietnam War because the government lacked the authority to control waste disposal activities and was not actually involved in waste disposal decisions. *Id.* at 889-90.

397. The government also may waive its sovereign immunity to counterclaims alleging that the government is liable for response costs or natural resource damages when it files a complaint under the CERCLA liability provisions. See, e.g., *United States ex rel. Dep't of Fish and Game v. Montrose*, 788 F. Supp. 1485, 1490-91 (C.D. Cal. 1992) (citing *United States v. 2,116 Boxes of Boned Beef*, 726 F.2d 1481, 1490 (10th Cir. 1984)). One court has held that when the government files an action for recovery of natural resources damages, the Federal Tort Claims Act waives the government's immunity to counterclaims seeking indemnity because CERCLA natural resource damage actions sound basically in tort. See *Montrose*, 788 F. Supp. at 1491 & n.2 (citing *United States v. Yellow Cab*, 340 U.S. 543, 554 (1951)); *Spawr v. United States*, 796 F.2d 279, 281 (9th Cir. 1986); *In re Acushnet River & New Bedford Harbor*, 712 F. Supp. 994, 1000 (D. Mass. 1989)).

398. See *Davis & McCrum*, *supra* note 146, at 66-67.

399. *Id.* at 66.

or administrative orders by one arm of the federal government against another would interfere with the President's management of the executive branch, according to the Justice Department.⁴⁰⁰ Moreover, there might not be a justiciable controversy in a suit by one federal agency against another.⁴⁰¹ Recent decisions, the legislative history of the Federal Facilities Compliance Act,⁴⁰² and scholarly commentary all cast doubt on the validity of the theory.⁴⁰³

To facilitate enforcement of CERCLA against other federal agencies, EPA has sought to enter compliance agreements with agencies responsible for sites with hazardous waste contamination. These agreements typically set deadlines for various cleanup tasks, authorize citizen suits to force compliance with these tasks, and stipulate penalties for failure to comply by the responsible agency.⁴⁰⁴

A more direct means of avoiding the potential obstacles to enforcement posed by the unitary executive theory involves efforts to impose CERCLA liability on government contractors, who are protected neither by sovereign immunity nor the unitary executive theory, in the hope that such efforts will pressure the responsible agency to undertake necessary response action.⁴⁰⁵ Even if the agency does not respond to such pressure, contractors held liable may seek indemnification from the federal government under contract or statutory provisions.⁴⁰⁶ In a case of first impression, a federal district court held that the federal government's involvement with its contractor rendered the government jointly and severally liable under CERCLA itself for response costs as an operator.⁴⁰⁷ The court found that the government either knew or should have known that the treatment or disposal of hazardous substances was inherent in the manufacturing pro-

400. *Id.* at 66-67.

401. *Id.* at 67.

402. Pub. L. No. 102-386, 106 Stat. 1505 (1992).

403. See *Pollution on the Federal Lands III*, *supra* note 1 at 72-73. For analysis critical of the unitary executive theory, see generally, Herz, *supra* note 257.

404. See Davis & McCrum, *supra* note 146 at 67.

405. See *id.* See also Gaydosh, *supra* note 174, at 21.

406. Davis & McCrum, *supra* note 146, at 67. Defense contracts, for example, sometimes contain indemnification provisions relating to unusually hazardous activities. See *id.* (citing 50 U.S.C. § 1431 (1988)).

407. *FMC Corp. v. United States*, 786 F. Supp. 471, 486-87 (E.D. Pa. 1992). The case involved liability for cleanup costs at a facility in Front Royal, Virginia at which FMC produced high tenacity rayon during World War II under contract with the War Production Board.

cess for which it had contracted.⁴⁰⁸ On appeal, the Third Circuit affirmed.⁴⁰⁹ The court rejected the government's contention that sovereign immunity precluded liability for federal regulatory activities, concluding that any such activities that would make a private party liable if it engaged in them also imposed liability on the government.⁴¹⁰ The United States was liable in this case as an operator of the rayon production plant because it had become involved in the plant not for the purpose of responding to a threatened release of hazardous substances, but for the purpose of regulating the plant's production activities.⁴¹¹ This regulation was so extensive that it vested in the government substantial control over the production process and constituted active involvement in facility activities.⁴¹² Because the court was equally divided on the question, it affirmed without discussion the district court's holding that the government was liable as an arranger.⁴¹³ If other courts agree the Third Circuit, private party PRPs may be able to seek expanded contribution from federal agencies, even if the unitary executive theory bars EPA from suing those agencies directly. The government itself described its potential liability under the principles adopted in *FMC* as "massive and far outpac[ing] anything Congress could have imagined."⁴¹⁴

2. Liability for Government Regulation of Private Activities

The extent of the government's liability and the legal status of enforcement efforts against the government are even less clear when federal participation in hazardous waste management activities amounts to something less than ownership or sole operation of facilities. Commentators have speculated that federal

408. *Id.* at 484-85.

409. *FMC Corp. v. United States Dep't of Commerce*, 29 F.3d 833 (3d Cir. 1994).

410. *Id.* at 840. The court stated that the government could be liable when it acted in a regulatory capacity unless it was responding to an environmental emergency." *Id.* at 840-41.

411. *Id.* at 841-42. In *United States v. Vertac Chem. Corp.*, 841 F. Supp. 884 (E.D. Ark. 1993), however, the court held that the United States was not liable as an operator for response costs incurred in connection with hazardous wastes produced during a contractor's production of Agent Orange, despite the fact that the contractor followed the Army's specifications and manufactured the chemicals in accordance with directives issued under the Defense Production Act. The government was not liable because it neither actually participated in facility operations nor directed the manner in which wastes were disposed. *Id.* at 889.

412. *FMC*, 29 F.3d at 843.

413. *Id.* at 845-46.

414. *FMC*, 10 F.3d 987, 997 (3d Cir. 1993), *vacated*, 10 F.3d 1003 (3d Cir. 1994).

agencies may be liable as operators if, as lessors, they become involved in the operations of private mining lessees.⁴¹⁵ This liability may extend to federal oversight of mining activities under the General Mining Law of 1872,⁴¹⁶ including both patented and unpatented claims; oil and gas and other mineral leasing under the Mineral Leasing Act of 1920;⁴¹⁷ and approval of these activities by the BLM, the Forest Service, the Bureau of Mines, and the United States Geological Survey.⁴¹⁸ EPA guidance documents indicate, for example, that agencies that permit certain hazardous waste management activities to take place may become PRPs.⁴¹⁹ Under statutes such as the General Mining Law and the Mineral Leasing Act of 1920, the government has both "permitted and encouraged . . . mineral production and incidental waste disposal activity."⁴²⁰

Judicial precedents concerning federal liability for activities engaged in by private entities on federal lands with agency approval are still scarce.⁴²¹ In one case, a private PRP procured a stipulation that the federal government is a PRP at a site where the BLM conducted or participated in mining or mineral processing activities.⁴²² In other cases, private PRPs have named the federal government as an additional PRP on the basis of its ownership interest in unpatented mining claims or its past practice of encouraging, funding, and staffing mining activities within the

415. See Davis & McCrum, *supra* note 146, at 32. See also Nancy Mangone, *The Other Federal PRPs: Liability for Mining Wastes Under CERCLA and RCRA*, 10 VA. ENVTL. L.J. 87, 97-98, 104 (1990). The author of the latter article had found no cases testing this theory as of the publication date.

416. 30 U.S.C. §§ 21-42 (1988).

417. *Id.* §§ 181-287.

418. See Davis & McCrum, *supra* note 146, at 32.

419. *Id.* at 33 (citing 54 Fed. Reg. 34,237 (1989)).

420. *Id.*

421. In a suit seeking contribution for cleanup costs from the U.S. Coast Guard for efforts, engaged in before the enactment of CERCLA, to respond to a hazardous substance release, one court has determined that inadequate enforcement of environmental regulation does not constitute ownership or control such that a government entity is considered in the class of liable parties. *United States v. Skipper*, 781 F. Supp. 1106 (E.D.N.C. 1991). The government is theoretically liable in tort for improper cleanups conducted under CERCLA, but in order to prevail in such an action, the plaintiff would have to convince the court that the government's activities did not fall within the scope of the discretionary function exception to the Federal Tort Claims Act. See PNRL, *supra* note *, at § 7.03[2]. Typically, that will be a difficult burden to sustain in the context of a government-implemented CERCLA cleanup. See, e.g., *Daigle v. Shell Oil Co.*, 972 F.2d 1527 (10th Cir. 1992) (holding that the discretionary function exception did not apply).

422. See Temkin & Tita, *supra* note 26, at 6-26 (citing *Robinson Brick Co. v. United States*, No. 86-C-838, Stipulated Final Judgment (D. Colo. June 26, 1987)).

boundaries of current CERCLA sites.⁴²³ Given the near universality of PRP attempts to enmesh as many other PRPs as possible in litigation, and thus share the burden of CERCLA liability, many more such efforts to force the government to contribute on the basis of peripheral involvement in site activities are likely.⁴²⁴

3. Unresolved Questions Concerning Federal Liability

Complaints that CERCLA's joint, several, and retroactive liability scheme is unfair have been legion,⁴²⁵ and industry has sought repeatedly, thus far without success, to convince Congress to amend that scheme.⁴²⁶ Assuming Congress decides not to alter the fundamental principles of liability for response costs and natural resource damages, it still should consider changes to settle questions concerning the extent of both private natural resource damage liability in actions brought by government natural resource trustees and the federal government's own liability for both response costs and natural resource damages.

Two issues with great potential to generate conflicting lower court decisions are whether the joint and several liability standard and the attenuated causation standard applicable to response cost liability actions also apply in the context of suits for natural resource damages. Despite indications that the courts may impose more rigorous burdens of proof on the government in the natural resource damage context than in the response cost recovery context, at least with respect to causation,⁴²⁷ no court has yet enunciated a convincing rationale for making it more difficult for the government to seek compensation for natural resource damage assessment and resource replacement. The presumption, discussed below,⁴²⁸ that the natural resource trustees are entitled to compensation if they conduct their damage

423. See *id.* (citing *United States v. Apache Energy and Minerals Co.*, No. 86-C-1675 (D. Colo. Sept. 29, 1986)).

424. See, e.g., *Key Tronic Corp. v. United States*, 766 F. Supp. 865 (E.D. Wash. 1991).

425. See, e.g., PERCIVAL ET AL., *supra* note 190, at 310-11; Richard A. Epstein, *The Principles of Environmental Protection: The Case of Superfund*, 2 CATO J. 9 (1982); Linda J. Oswald & Cindy A. Schipani, *CERCLA and the "Erosion" of Traditional Corporate Law Doctrine*, 86 Nw. U. L. REV. 259 (1992).

426. See, e.g., *Industry Backed Liability Scheme Would Force Excise Tax Hike, House Aid Says*, Current Dev., 24 Env't Rep. (BNA) 38-39 (May 14, 1993); Inside EPA, June 18, 1993, at 9.

427. See *supra* notes 310-16 & accompanying text.

428. See *infra* § VIII I.1.c.

assessments in accordance with applicable regulations⁴²⁹ apparently indicates a legislative desire to facilitate damage recoveries by easing the government's burden of proof. The imposition of special and more demanding liability and causation standards in natural resource damage cases would be inconsistent with this desire. To avoid confusion, Congress should clarify its intent now.

The government's liability as a facility owner or operator or as a generator of hazardous substances which arranges for their disposal at a private facility is relatively straightforward in concept.⁴³⁰ Its liability in connection with the management of wastes by those it regulates is more troublesome, as a matter of both statutory interpretation⁴³¹ and policy. To resolve uncertainties under the current statute concerning the extent of the government's liability, Congress should specify whether that liability is limited to releases arising out of the government's ownership and operation of federal facilities and the management of the wastes it generates, or whether it extends to releases allegedly attributable to inadequate regulation by federal agencies of private conduct. It certainly is arguable that imposing liability for inadequate regulatory supervision will provide incentives for more careful agency consideration of the consequences of permitting private activities on the federal lands with the potential to generate hazardous substances.

Congress, however, has other, more direct means of minimizing the environmental contamination attributable to the private use of the federal lands. The private users themselves may be subject to liability for activities that cause hazardous substance releases, not only under CERCLA, but also under the statutes and regulations under which they seek permission to use the federal lands.⁴³² That liability provides incentives for lease applicants and other federal land users to act in an environmentally responsible manner. Other laws require federal agencies to preclude use of the federal lands without precautions that are adequate to prevent and mitigate environmental harm that may result from the management of hazardous substances. Statutes

429. See 42 U.S.C. § 9607(f)(2)(C) (1988).

430. See *supra* notes 390-96 & accompanying text.

431. See *supra* notes 415-424 & accompanying text.

432. Both Forest Service and BLM regulations, for example, seek to minimize adverse environmental impacts attributable to the extraction of hardrock minerals on the federal lands. See generally PNRL, *supra* note *, at § 25.04[3]. Similar constraints apply to coal and oil and gas leases. See *id.* §§ 22.04, 23.02[4].

such as the National Environmental Policy Act ("NEPA")⁴³³ and the Endangered Species Act⁴³⁴ require the agencies to consider the environmental consequences of their decisions, including those that involve the issuance of permits, licenses, and leases for private use of the federal lands.⁴³⁵ The agencies' substantive enabling acts also may require them to impose conditions to protect the environment on private permittees and licensees.⁴³⁶ If the agencies fail to comply with the statutes and regulations that require them to supervise private land users to prevent contamination of federal lands and resources, environmental groups and other interested parties may seek to enjoin or invalidate actions such as the issuance of mineral leases or permits. Faulty supervision by the agencies also is likely to come to the attention of congressional oversight committees, which may respond by publicly denouncing the agencies, cutting appropriations, or further constraining agency discretion through amendments to the relevant substantive enabling statutes.

The threat of Superfund liability may add little to these existing safeguards. Even if that threat would add additional protection, however, the costs of imposing liability for inadequate federal regulation may exceed the benefits. Superfund litigation has been nothing if not complicated, lengthy, and expensive. A single case may involve more than a hundred PRPs. There can be little doubt that if the courts established that the government is subject to liability for its regulation of private activities, the government would find itself named as a PRP in a myriad of cases involving contamination of both federal and private lands.⁴³⁷ The necessity of reviewing the government's decision making concerning matters such as lease or permit issuance would simply create another layer of issues for the courts to resolve in CERCLA liability cases.⁴³⁸ There must surely be a more efficient and effective way of assessing the adequacy of the government's environmental regulation than in the crucible of a

433. 42 U.S.C. §§ 4321-4370a (1988).

434. 16 U.S.C. §§ 1531-1544 (1988).

435. *See, e.g.*, PNRL, *supra* note *, at § 12.02[2][c].

436. *See, e.g.*, 30 U.S.C. § 201(a)(3)(C) (1988) (requiring the Interior Secretary to consider the effects of coal mining leases on the environment).

437. *See supra* note 424 & accompanying text.

438. Courts in response cost recovery actions already must determine whether the response action was conducted in a manner consistent with the NCP. 42 U.S.C. § 9607(a)(4)(A)-(B) (1988).

multi-party CERCLA cost-recovery or natural resource damage case.

VIII.

ACTIONS FOR RECOVERY OF NATURAL RESOURCE DAMAGES

A. Introduction

CERCLA imposes liability on PRPs for hazardous substance releases or threatened releases that result in injury to, destruction of, or loss of natural resources.⁴³⁹ The natural resource damage liability provisions of CERCLA probably have their roots in the public trust doctrine which the Supreme Court enunciated in *Illinois Central Railroad v. Illinois*⁴⁴⁰ and which the state courts have since expanded to include a variety of lands and resources.⁴⁴¹ Recoveries for natural resource damage claims are likely to be very large and in some instances may dwarf response costs.⁴⁴² The federal government, for example, sought a \$1.8 billion damage recovery at one site alone, the Rocky Mountain Ar-

439. *Id.* § 9607(a)(4)(C). For a useful compendium of source materials concerning natural resource damages under CERCLA as well as other laws, see David R. Hodas, *Natural Resource Damages: A Research Guide*, 9 PACE ENVTL. L. REV. 107 (1991).

440. 146 U.S. 387 (1892). See Anderson, *supra* note 130, at 413-14; Mehron Azarmehr, *Natural Resource Damages Under CERCLA § 107: How the Liability Rules Differ Between Actions for Natural Resource Damages and Response Costs*, 22 ENVTL. L. REP. (ENVTL. L. INST.) 10655 (1992); Cynthia Carlson, *Making CERCLA Natural Resource Damage Regulations Work: The Use of the Public Trust Doctrine and Other State Remedies*, 18 ENVTL. L. REP. (ENVTL. L. INST.) 10299, 10303-07 (1988) (noting both similarities and differences between the public trust doctrine and CERCLA's natural resource damage provisions); Howard Kenison, et al., *State Actions for Natural Resource Damages: Enforcement of the Public Trust*, 17 ENVTL. L. REP. (ENVTL. L. INST.) 10434, 10435-36 (1987); Eric P. Olson, *Natural Resource Damages in the Wake of the Ohio and Colorado Decisions: Where Do We Go From Here?*, 19 ENVTL. L. REP. (ENVTL. L. INST.) 10551, 10552 (1989); Russell, *supra* note 291, at 410; Gina M. Chase, *Remedying CERCLA's Natural Resources Damages Provision: Incorporation of the Public Trust Doctrine Into Natural Resource Damage Actions*, 11 VA. ENVTL. L.J. 353 (1992). Professor Alison Rieser has argued that the natural resource damage provisions of CERCLA codify the notion that the public has property rights in non-commodity values of natural resources, and reflect the view that the only effective way of protecting these rights is through the imposition of a public trust. See Alison Rieser, *Ecological Preservation As A Public Property Right: An Emerging Doctrine In Search of a Theory*, 15 HARV. ENVTL. L. REV. 393, 426-33 (1991).

441. See the cases and authorities cited in PNRL, *supra* note *, at § 6.05[4].

442. See Joseph J. Maraziti, Jr., *Local Governments: Opportunities to Recover for Natural Resource Damages*, 17 ENVTL. L. REP. (ENVTL. L. INST.) 10036, 10036 (1987).

senal in Colorado.⁴⁴³ Liability includes the reasonable costs of assessing the injury,⁴⁴⁴ costs which can be large. Government studies in the first year after the *Exxon Valdez* oil spill cost more than \$35 million.⁴⁴⁵ Certain industries, notably mining and mineral processing operations, run particularly high risks of incurring natural resource damage liability.⁴⁴⁶ Government officials have recommended that industry PRPs attempt to control natural resource damage liability by participating in the remedy selection process,⁴⁴⁷ achieving prompt settlements,⁴⁴⁸ and taking appropriate steps to mitigate injuries as they occur.⁴⁴⁹

Given its limited enforcement resources, the federal government, during the first decade of CERCLA's operation, subordinated the recovery of natural resource damages to recoupment of the costs of responding to hazardous substance releases.⁴⁵⁰ But despite this subordination of damage claims to response cost recovery actions, trustees already have filed a significant number of natural resource liability claims.⁴⁵¹ At least

443. *United States v. Shell Oil Co.*, 605 F. Supp. 1064, 1084-86 (D. Colo. 1985) (refusing to strike allegations pertaining to this sum as immaterial or scandalous).

444. 42 U.S.C. § 9607(a)(4)(c) (1988).

445. Marten & McFarland, *supra* note 282, at 672. By the end of the first three field seasons, federal and state trustees had incurred \$108 million in assessment costs. See Thomas A. Campbell, *Economic Valuation of Injury to Natural Resources*, 6 NAT. RESOURCES & ENV'T 28, 56 (Winter 1992).

446. See Peter Keppler & Louis J. Maruchau, *Mining Wastes at the Crossroads: Application of RCRA and CERCLA*, 32 ROCKY MTN. MIN. L. INST. 8-1, 8-26 (1986). See also Alkire, *supra* note 28, at 7-33 to 7-37.

447. See Marten & McFarland, *supra* note 282, at 674-75 (providing a good description of what PRPs should expect when they become involved in the assessment process).

448. According to one observer, "in some instances, resource damage claims appear to have become an expendable chip in bargaining over cleanup settlements." Anderson, *supra* note 130, at 420. See also Olson, *supra* note 440, at 10557. The provisions of CERCLA concerning settlements are discussed *supra* at § VII I.

449. See Habicht, *supra* note 220, at 24-25.

450. One commentator stated in 1989 that the natural resource damage provisions "to date have been doing little more than gathering dust." Olson, *supra* note 440, at 10551. The government's disinclination to pursue natural resource damage actions may have been due to factors such as the Department of Interior's valuation regulations, which arguably undervalued resources and unnecessarily complicated recovery; Congress's decision in the 1986 CERCLA amendments to cut off use of the Superfund for damage assessments; and apathy toward or ignorance of the program among natural resource trustees, EPA, and the Justice Department. *Id.* at 10552. The Interior Department's damage assessment regulations are discussed *infra* at § VIII I.

451. By mid-1991, about 25 cases had been filed by state trustees and about 12 more by the federal government. Marten & McFarland, *supra* note 282, at 670. See

one case has been tried,⁴⁵² and parties have reached multi-million dollar settlements in several other cases.⁴⁵³ Some of these settlements contained innovative remedial provisions. One required PRPs to give senior consumptive water rights and land to the State of Colorado;⁴⁵⁴ in another, PRPs promised to purchase land for conversion to wetlands to compensate for nearby damaged resources.⁴⁵⁵ Damage claims are likely to proliferate in light of the Department of Interior's recent issuance of revised damage assessment regulations.⁴⁵⁶ One former EPA official speculated that the federal government will be especially likely to seek damages when a significant resource has been harmed, and

also Developments in the Law - Toxic Waste Litigation, 99 HARV. L. REV. 1458, 1565 (1986).

452. *Idaho v. Southern Refrigerated Transp., Inc.*, No. 88-1279 (D. Idaho Feb. 1, 1991) (PRP held liable for \$87,000 to compensate for cleanup costs and loss of commercial and recreational fish).

453. See Marten & McFarland, *supra* note 282, at 670; Anderson, *supra* note 130, at 407. In September 1991, the City of Seattle entered a consent decree with the National Oceanic and Atmospheric Administration ("NOAA"), among others, in which the City agreed to spend \$5 million for habitat development projects and to pay \$250,000 more to the NOAA for natural resource and habitat restoration planning in connection with natural resource injuries sustained when the City released hazardous substances through storm drains and combined sewer overflow discharges. *United States v. Seattle*, No. C90-395 WD (W.D. Wash. Sept. 9, 1991). In *United States v. Montrose Chem. Corp.*, 827 F. Supp. 1453 (C.D. Cal. 1993), the court approved a consent decree in which two paper companies agreed to pay nearly \$43 million dollars to restore injured resources in the ocean and harbors in and around Los Angeles. See also *United States v. AVX, Inc.*, 962 F.2d 108 (1st Cir. 1992) (holding that intervenor lacked standing to appeal district court's approval of a consent decree requiring the payment of more than \$3 million in natural resource damages). Two additional defendants in the AVX case agreed to pay \$10 million in natural resource damages. See *United States v. AVX Corp.*, No. 83-3882-Y (D. Mass. Sept. 4, 1992). *But cf.* *Utah v. Kennecott Corp.*, 801 F. Supp. 553 (D. Utah 1992), *appeal dismissed for lack of jurisdiction*, 14 F.3d 1489 (10th Cir. 1994) (refusing to approve CERCLA settlement because it failed to require substantial protection of natural resources and undervalued natural resource damages by relying exclusively on the loss-of-value method).

454. *Colorado v. Union Carbide Corp.*, No. 83-C-2383 (D. Colo.). In *Utah v. Kennecott Corp.*, 801 F. Supp. 553 (D. Utah 1992), *appeal dismissed for lack of jurisdiction*, 14 F.3d 1489 (10th Cir. 1994), the court rejected a consent decree in which Kennecott had offered to exchange water rights as part of the consideration for the state's covenant not to sue.

455. *United States v. Alexander*, No. G-86-267 (S.D. Tex.). See Carlson, *supra* note 440, at 10304.

456. 59 Fed. Reg. 14,262 (1994). See, e.g., Habicht, *supra* note 220, at 3-4. Some commentators have asserted, however, that the need to prove assessment costs are reasonable will impose an additional burden on governmental plaintiffs seeking recovery of such costs. Duane Woodward & Michael R. Hope, *Natural Resource Damage Litigation Under the Comprehensive Environmental Response, Compensation, and Liability Act*, 14 HARV. ENVTL. L. REV. 189, 195 (1990).

a complete cleanup either will not be technically feasible or cost-effective, or will not restore the injured resources.⁴⁵⁷

This part of the article analyzes the significant aspects of the burgeoning field of natural resource damage assessment and recovery under CERCLA. Among other things, it discusses the statutory definition of natural resources, the prerequisites to and exemptions from damage liability, and the requirement that natural resource damage recovery plaintiffs be governmental entities. The article explores the NCP provisions that govern the designation and notification of natural resource trustees and it describes their duties. In-depth analysis of the contents and status of the Interior Department's 1994 revised natural resource damage assessment regulations is followed by a review of damage assessment litigation. This part concludes with an evaluation of the probable future of natural resource damage assessment and recovery.

B. *Definition of Natural Resources*

CERCLA defines "natural resources" as:

land, water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States (including the resources of the fishery conservation zone established by the Magnuson Fishery Conservation and Management Act),⁴⁵⁸ any State or local government, any foreign government, any Indian tribe, or, if such resources are subject to a trust restriction on alienation, any member of an Indian tribe.⁴⁵⁹

The definition's references to government ownership, management, or control effectively preclude a non-governmental entity from recovering for natural resource damages.⁴⁶⁰

To recover compensation for injured natural resources under CERCLA, a governmental entity must establish a nexus with those resources.⁴⁶¹ One commentator has divided natural resources into four categories for purposes of determining whether

457. See Habicht, *supra* note 220, at 5-6.

458. 16 U.S.C. §§ 1801-1882 (1988 & Supp. V 1993).

459. 42 U.S.C. § 9601(16) (1988). The term "damages" means damages for injury or loss of natural resources as recoverable under the Superfund claims and liability provisions of CERCLA. *Id.* § 9601(6).

460. Satsky v. Paramount Communications, Inc., 7 F.3d 1464 (10th Cir. 1993). *But cf. infra* notes 524-26, 580-586 & accompanying text.

461. See Barry N. Breen, *CERCLA's Natural Resource Damage Provisions: What Do We Know So Far?*, 14 *Envtl. L. Rep.* (Envtl. L. Inst.) 10304, 10305 (1984).

such a nexus exists: (1) resources owned by a government or over which it has exclusive possession, as through a lease;⁴⁶² (2) resources that are part of the public trust; (3) resources regulated directly by a government for purposes of environmental protection;⁴⁶³ and (4) resources that are not so regulated but that constitutionally could be for such purposes.⁴⁶⁴ The commentator concluded that resources in the first category certainly meet the nexus test and that resources in category two are probably covered.⁴⁶⁵ He speculated that the third category of resources should be covered, and that the fourth category is least likely to be covered, although the definition's inclusion of resources "appertaining to" a governmental entity could be construed to encompass any resources within a sovereign's jurisdiction.⁴⁶⁶

C. Exemptions From Liability⁴⁶⁷

1. Damages Incurred Before 1980

PRPs are not liable for natural resource damages if the damages and the release that caused them occurred wholly before the 1980 effective date of CERCLA.⁴⁶⁸ If a release occurred before the enactment of CERCLA but damage did not occur until after enactment, however, this exception does not preclude liability.⁴⁶⁹

The pre-1980 exemption can raise difficult issues involving the segregation of damages caused by ongoing leaching of hazardous substances. In the *Acushnet River* case, the court concluded that incremental post-enactment damages caused by either pre- or post-enactment releases are recoverable.⁴⁷⁰ But when pre-enactment releases result in both pre- and post-enactment damages, or

462. This category includes public domain land, parkland, national forests, military installations, and other similar property in which the government's interest is "proprietary." See *id.*

463. This category includes endangered species, coastal zones, public water supplies, and air. *Id.*

464. *Id.*

465. *Id.* at 10305-06. See also Azarmehr, *supra* note 440, at 10657.

466. Breen, *supra* note 461, at 10306. The NCP defines natural resources to include those over which the United States has sovereign rights, and those within the territorial sea, contiguous zone, exclusive economic zone, and outer continental shelf belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States. 40 C.F.R. § 300.600(a) (1993).

467. For discussion of statutory exemptions that apply to response costs as well as natural resource damage liability, see *supra* § VII C.

468. 42 U.S.C. § 9607(f)(1) (1988); 43 C.F.R. § 11.71(g)(2) (1993). See also *In re Acushnet River & New Bedford Harbor*, 716 F. Supp. 676, 679 (D. Mass. 1989).

469. See *Idaho v. Bunker Hill Co.*, 635 F. Supp. 665, 675 (D. Idaho 1986).

470. *Acushnet River*, 716 F. Supp at 679.

when pre-enactment releases continue after enactment and the damages are readily divisible, the sovereign cannot recover for damages incurred before passage of CERCLA.⁴⁷¹ The court also held that if damages are not divisible and either the damages or the release that caused them continue after enactment, the government can recover the non-divisible damages in their entirety.⁴⁷² Damages occur for purposes of this exemption when the property owner or some other entity incurs expenses due to the injury to natural resources.⁴⁷³ The party seeking to qualify for the exemption has the burden of proving that damages or a divisible portion thereof occurred before December 1980.⁴⁷⁴

2. Resources Covered By An EIS

A PRP incurs no natural resource damage liability if it demonstrates that the damage was specifically identified as an irreversible and irretrievable commitment of natural resources in an environmental impact statement ("EIS") prepared under NEPA⁴⁷⁵ or other comparable analysis in connection with a permit or license application or similar proceeding.⁴⁷⁶ Courts have not yet resolved the question whether a state EIS or an EIS prepared by private parties with government oversight triggers the exemption.⁴⁷⁷ To qualify for this exemption, the PRP must prove that the agency, in deciding to grant the permit or license for which the EIS was prepared, authorized the commitment of natural resources, and that the facility or project was otherwise operating within the terms of its permit or license.⁴⁷⁸ The legislative history of CERCLA indicates the rationale for this exemption: "[I]n certain instances Federal officials make decisions in which resource trade-offs must necessarily be made, and in such cases liability for resource damage . . . should be limited."⁴⁷⁹

The leading case on this exemption is *Idaho v. Hanna Mining Co.*⁴⁸⁰ The company operated a pilot project for the operation of a mine. It received an NPDES permit under the CWA from EPA

471. *Id.* at 685.

472. *Id.* at 686.

473. *Id.* at 683.

474. *Id.* at 687-88.

475. 42 U.S.C. §§ 4321-4370a (1988).

476. *Id.* § 9607(f)(1).

477. See Marten & McFarland, *supra* note 282, at 673.

478. *Id.*

479. S. REP. NO. 848, 96th Cong., 2d Sess. 88 (1980).

480. 882 F.2d 392 (9th Cir. 1989).

and a use permit from the Forest Service to undertake full-scale operation, but it never did so. Mining wastes from activities conducted from 1917-67 allegedly contaminated ground and surface waters and damaged aquatic life and wildlife. After Idaho sued for injunctive relief and damages, the company moved for summary judgment, arguing that the state's claim for natural resource damages was barred because the damages claimed had been identified in an EIS and Environmental Assessment ("EA") prepared in 1982 by the Forest Service in connection with the proposed reopening of the mine that never occurred.⁴⁸¹

The court held that the EIS exemption did not apply because the damage arose from pre-1967 mining activities. The exemption, the court concluded, applies only for pollution caused by the facility for which the EIS was prepared, not for problems that developed before that facility existed.⁴⁸² Releases that would have occurred whether or not the project for which the EIS was prepared was carried out are not exempt. Accordingly, "liability arising from past activities is not automatically extinguished by an authorization in an EIS for a new project."⁴⁸³ In this case, neither the EIS nor the EA discussed CERCLA liability.⁴⁸⁴

3. Prohibition on Double Recovery

Natural resource damage liability under CERCLA is not limited to amounts necessary to restore or replace the damaged resources, but the statute prohibits double recovery for natural resource damages or for damage assessment costs.⁴⁸⁵ Consequently, federal natural resource trustees should not be able to recover damages when PRPs already have paid damages to a state trustee for the same resource.⁴⁸⁶ In certain situations, though, different trustees may recover for injuries to different interests in the same resource. Marten & McFarland argue, for example, that "a burial ground on federal park land may have

481. *Id.* at 394.

482. *Id.* at 395. The court cited the legislative history, which indicated that releases excluded from liability are those "which will occur . . . if such project or action is carried out." *Id.* (citing S. REP. NO. 848, 96th Cong., 2d Sess. 88 (1980)).

483. *Id.*

484. *Id.* The court added in dictum that to qualify for the exemption, the EIS need not use the precise words "irreversible" and "irretrievable," as long as the EIS is "clear and unambiguous." *Id.* at 396.

485. 42 U.S.C. § 9607(f)(1) (1988).

486. Marten & McFarland, *supra* note 282, at 674.

compensable value to a tribal trustee independent of its value as park land to a federal trustee"⁴⁸⁷

D. *Prerequisites to Recovery of Damages*

A site need not be on the NPL for trustees to seek damages for natural resources injuries sustained there.⁴⁸⁸ If a site is on the NPL, or is a federal facility, or has had remedial action scheduled for it, the natural resource trustee may not commence an action for natural resource damages prior to sixty days after it notifies EPA and PRPs of its intent to file suit. Some courts have found that the sixty-day notice period is not jurisdictional, but is only meant to facilitate negotiated settlements.⁴⁸⁹ The continuing validity of these cases is doubtful, however, in light of the Supreme Court's decision that a similar notice period under the citizen suit provisions of RCRA is a mandatory prerequisite to bringing suit.⁴⁹⁰

One court has held that the government is not required to actually spend money before it can seek to recover natural resource damages, as it must do in actions to recover response costs.⁴⁹¹ The government may not bring an action, however, before selection of a remedial action if EPA is diligently proceeding with a RI/FS.⁴⁹² States apparently need not apply to the federal government for contracts or cooperative agreements before commencing their own actions for natural resource damages.⁴⁹³

E. *Right to a Jury Trial*

Several courts have ruled that PRPs are entitled to jury trials on natural resource damage claims as these claims seek legal damages, not equitable restitution.⁴⁹⁴ Because recoveries must

487. *Id.*

488. See Anderson, *supra* note 130, at 420. According to Anderson, however, trustees will face "tremendous obstacles" in such cases. *Id.*

489. See, e.g., Colorado v. ASARCO, Inc., 616 F. Supp. 822, 824-27 (D. Colo. 1985); New York v. General Elec. Co., 592 F. Supp. 291, 300 (N.D.N.Y. 1984) (claiming presentation under § 112, 42 U.S.C. § 9612 (1988), and 60-day waiting requirement are not jurisdictional in actions brought under CERCLA's liability provisions). See also Marten & McFarland, *supra* note 282, at 673 & n.85, and cases cited therein.

490. Hallstrom v. Tillamook County, 493 U.S. 20 (1989).

491. New York v. General Elec. Co., 592 F. Supp. 291, 298 (N.D.N.Y. 1984).

492. 42 U.S.C. § 9613(g)(1)(B)(ii) (1988).

493. See Idaho v. Southern Refrigerated Transp., Inc., 1991 U.S. Dist. LEXIS 1869, at *12-*13 (D. Idaho Jan. 24, 1991).

494. See United States v. Seattle, No. C90-395-WD (W.D. Wash. Nov. 30, 1990); *In re Acushnet River & New Bedford Harbor*, 712 F. Supp. 994 (D. Mass. 1989);

be devoted to restoration, replacement, or acquisition of equivalent resources,⁴⁹⁵ commentators have criticized these decisions on the basis of the fundamentally restitutionary nature of natural resource damage recoveries.⁴⁹⁶

F. *Appropriate Plaintiffs*

1. Federal and State Governments

Both the federal and state governments can initiate natural resource damage actions for resources they own, manage, hold in trust, or control.⁴⁹⁷ Although states lack the broad cleanup powers delegated to the federal government under CERCLA, they have been in the forefront of attempts to recover natural resource damages as an enforcement tool against PRPs.⁴⁹⁸

2. Municipalities

The courts have split on the question whether municipalities can recover natural resource damages under CERCLA, but the weight of opinion appears to preclude such suits.⁴⁹⁹ The courts in *Town of Boonton v. Drew Chemical Corporation*⁵⁰⁰ and *City of New York v. Exxon Corporation*⁵⁰¹ permitted suits by municipalities to proceed.⁵⁰² The *Town of Boonton* court rejected the defendant's argument that because the statute explicitly authorizes recovery by states but not by localities,⁵⁰³ the latter are barred from recovering damages. The court thought it anomalous to give states a cause of action for damages but to exclude localities from access to recovery, even though resources owned by local governments are within the scope of resources protected by the

United States v. Allied Chem. Co., No. C-835898 (N.D. Cal. Sept. 14, 1984); United States v. AVX Corp., No. 83-3882-Y (D. Mass. Mar. 27, 1986). See also *Continental Ins. Co. v. Northeastern Pharmaceutical & Chem. Co.*, 842 F.2d 977, 986-87 (8th Cir. 1988) (dictum). But see *United States v. Wade*, 653 F. Supp. 11, 13 (E.D. Pa. 1984) (holding that the state's claim for natural resource damages would properly be characterized as equitable and would not give PRPs a right to a jury trial).

495. 42 U.S.C. § 9607(f)(1) (1988).

496. Habicht, *supra* note 220, at 19. See also Anderson, *supra* note 130, at 438.

497. The process of designating federal trustees is described *infra* at § VIII H.1.

498. See Habicht, *supra* note 220, at 20.

499. See generally Maraziti, *supra* note 442.

500. 621 F. Supp. 663 (D.N.J. 1985).

501. 633 F. Supp. 609 (S.D.N.Y. 1986).

502. See also *City of New York v. Exxon Corp.*, 766 F. Supp. 177, 196-97 (S.D.N.Y. 1991) (city demonstrated that it was the "authorized representative" of the state); *City of New York v. Exxon Corp.*, 697 F. Supp. 677, 683-86 (S.D.N.Y. 1988).

503. 42 U.S.C. § 9607(f)(1) (1988).

statute.⁵⁰⁴ Accordingly, it said, cities should be regarded as states for purposes of natural resource damage liability.⁵⁰⁵ Alternatively, the court reasoned that the Act permits "the authorized representative of any State" to act as a trustee to recover damages.⁵⁰⁶ As New Jersey statutes vest in localities the power to represent the state in attempting to recover damages, the town of Boonton could sue under CERCLA.⁵⁰⁷

Similarly, in *Exxon Corporation*, the court rejected the argument that only states, not cities, may sue for damages as an "overly literal reading" of CERCLA that is inconsistent with the Act's broad remedial intention. The narrow interpretation, the court reasoned, would prevent the authorities entrusted with the management of public resources from suing to recover the costs of protecting them.⁵⁰⁸

Courts refusing to hear damage suits brought by localities for the most part have interpreted the statutory authorization for states to sue as excluding local government plaintiffs.⁵⁰⁹ In *Town of Bedford v. Raytheon Corporation*,⁵¹⁰ the court also pointed out that the 1986 amendments to CERCLA created a different mechanism for municipalities to protect their interests. Those amendments authorize states to appoint natural resource trustees to bring damage suits.⁵¹¹ Municipalities may seek such designation from the state and then pursue damage claims as trustees. This alternative remedial mechanism, the court concluded, undermines the rationale of cases arguing that a broad interpreta-

504. See 621 F. Supp. at 666; 42 U.S.C. § 9601(16) (1988) (defining the term "natural resources" to include resources belonging to any local government).

505. 621 F. Supp. at 667.

506. *Id.* (citing 42 U.S.C. § 9607(f)(1) (1988)).

507. 621 F. Supp. at 667. See also *City of New York v. Exxon Corp.*, 766 F. Supp. 177, 196-97 (S.D.N.Y. 1991). Despite its enunciation of this alternative rationale, the court in *Town of Boonton* was not necessarily convinced that Congress intended state law to govern the issue of who is an "authorized representative." 621 F. Supp. at 667.

508. 633 F. Supp. at 619.

509. See, e.g., *Werlein v. United States*, 746 F. Supp. 887, 908-10 (D. Minn. 1990) (holding that only a state or the United States government could recover for damages under CERCLA). Cf. *City of Philadelphia v. Stepan Chem. Co.*, 713 F. Supp. 1484 (E.D. Pa. 1989) (stating that when allocating the burden of proof in actions to recover response costs, states do not include municipalities); *City of Heath v. Ashland Oil, Inc.*, 834 F. Supp. 971, 976-77 (S.D. Ohio 1993) (same).

510. 755 F. Supp. 469 (D. Mass. 1991).

511. *Id.* at 472; 42 U.S.C. § 9607(f)(2)(B) (1988).

tion of the term "state" is necessary to permit municipalities to present claims on their own behalf.⁵¹²

In *Mayor and Council of the Borough of Rockaway v. Klockner & Klockner*,⁵¹³ the same judge who issued the *Town of Boonton* decision retreated from that decision, relying on the provisions of the 1986 amendments⁵¹⁴ cited by the court in *Town of Bedford*.⁵¹⁵ In addition, Judge Ackerman concluded that Congress deliberately chose to centralize decisions regarding natural resource damage recoveries in the state; Congress did so, the court found, to prevent the parochial views of a locality from affecting matters of statewide concern and to avoid a proliferation of inconsistent litigation strategy and settlement approaches by a wide range of plaintiffs with counsel of variable quality and experience.⁵¹⁶ Although the *Borough of Rockaway* decision does not preclude states from designating local governments as natural resource trustees, the court concluded that a New Jersey executive order had designated the state's Department of Environmental Protection and Energy as the state's sole trustee.⁵¹⁷

The cases concluding that local governments may not sue for natural resource damages have some logical appeal. The statute provides that liability for natural resource damages shall be to "the State" for resources belonging to, managed by, controlled by, or appertaining to it.⁵¹⁸ CERCLA's definition of a "state" does not refer to local governments.⁵¹⁹ Furthermore, Congress explicitly referred to localities as well as states in its definition of natural resources,⁵²⁰ indicating that it knew how to differentiate between the two.

Although the conclusion that CERCLA does not authorize local governments to bring natural resource damage actions results

512. 755 F. Supp. at 472. The court felt that it would be inappropriate for natural resource damage claims to be subject to "the parochial views of a state's political subdivision." *Id.* at 473.

513. 811 F. Supp. 1039 (D.N.J. 1993).

514. 42 U.S.C. § 9607(f)(2)(B) (1988).

515. 811 F. Supp. at 1047-49.

516. *Id.* at 1049-50.

517. *Id.*

518. 42 U.S.C. § 9607(f)(1) (1988).

519. *Id.* § 9601(27). Furthermore, interpreting the term "state" in § 9607(f)(1) to exclude localities would be consistent with the conclusion of some courts that municipalities are not included within the term "state" for purposes of bringing response cost recovery actions. *See, e.g., City of Philadelphia v. Stepan Chem. Co.* 713 F. Supp. 1484 (E.D. Pa. 1989) (interpreting § 9607(a)(4)(A)).

520. 42 U.S.C. § 9601(16) (1988).

in the centralization of decision making authority in a limited number of entities,⁵²¹ it also may sever that authority from the entity with the greatest stake in the injured resource. For natural resources belonging to or managed by a municipality, that entity would appear to be the local government. Despite their principal holdings, cases such as *Town of Bedford* and *Borough of Rockaway* address that concern by recognizing the ability of the states to authorize localities to represent them in natural resource damage actions involving resources that are primarily of local concern.⁵²²

3. Private Persons

Several courts have held that private persons may not sue for natural resource damages under CERCLA.⁵²³ Even so, it is conceivable that private owners can sue if the resources they own are subject to significant government regulation or control. The preamble to the Interior Department's damage assessment regulations appears to limit the availability of damages to instances in which the resources harmed are *owned* by governments, not by private parties.⁵²⁴ But the Department, defending the validity of the regulations, claimed that this provision actually extends beyond government ownership to situations involving "a substantial degree of government regulation, management or other form of control over [private] property."⁵²⁵ The court reviewing the regulations indicated that, absent this gloss on the facial meaning of the regulations, the regulations would "pose a serious risk of running afoul of CERCLA."⁵²⁶ Exactly what constitutes "sub-

521. See *supra* note 516 & accompanying text.

522. See, e.g., *Borough of Rockaway*, 811 F. Supp. at 1049 n. 8.

523. See *Artesian Water Co. v. New Castle County*, 851 F.2d 643 (3d Cir. 1988); *United States v. Southeastern Pennsylvania Transp. Auth.*, 24 Env't Rep. Cas. (BNA) 1860, 1865 (E.D. Pa. 1986); *Thompson v. Andersen Window Corp.*, 1989 U.S. Dist. LEXIS 871 (D. Minn. Jan. 27, 1989); Patrick T. Michael, III, Comment, *Natural Resource Damages Under CERCLA: The Emerging Champion of Environmental Enforcement*, 20 PEPP. L. REV. 185 (1992) (recommending the creation of a private right of action for natural resource damages).

524. See 51 Fed. Reg. at 27,696; *Ohio v. United States Dep't of the Interior*, 880 F.2d 432, 460-61 (D.C. Cir. 1989).

525. *Ohio v. United States Dep't of the Interior*, 880 F.2d at 461 (D.C. Cir. 1989). The court remanded the regulations to Interior for clarification, since this interpretation did not appear in either the regulations or the preamble. *Id.* For a discussion of the Department's response on remand, see *infra* § VIII I.2. Cf. Kenison, et al., *supra* note 440, at 10439-40 (arguing that states should be able to recover for injuries to all interests, public and private, in natural resources).

526. 880 F.2d at 461.

stantial" government regulation or control sufficient to trigger the right to sue for natural resource damage is unclear. Because the Interior Department's final damage assessment regulations provide little guidance on the issue, its resolution likely will require judicial review of those regulations' applicability on a case-by-case basis.

G. Attorneys Fees

CERCLA does not indicate whether attorneys fees may be awarded in actions for natural resource damages.⁵²⁷ Although the government may be able to argue that assessment costs include attorneys fees, some commentators have characterized the argument as unconvincing.⁵²⁸ One court elected not to make an award of attorneys fees for unexplained reasons.⁵²⁹ When it issued its revised damage assessment regulations in 1994, the Interior Department did not take a position on whether attorneys fees incurred in litigation over the results of the damage assessment are recoverable. According to the agency, fees for attorneys involved in work specifically allocable to damage assessment are recoverable as assessment costs.⁵³⁰

The damage assessment regulations authorize the recovery of the indirect costs of the damage assessment process. In *United States v Rohm and Haas Co.*,⁵³¹ the Third Circuit held that oversight costs incurred by EPA in a removal action are not recover-

527. An issue that has generated considerable litigation is whether plaintiffs in response cost recovery actions under CERCLA may recover attorneys fees. In *Key Tronic Corp. v. United States*, 114 S. Ct. 1960 (1994), the Supreme Court held that CERCLA does not authorize the award of private litigant attorneys fees associated with bringing a cost recovery action or the negotiation of a consent decree with EPA. *Id.* at 1967. The costs of identifying other potentially responsible parties, however, are recoverable as necessary costs of response. *Id.* See also *FMC Corp. v Aero Indus., Inc.*, 998 F.2d 842 (10th Cir. 1993) (nonlitigation attorneys fees are recoverable in private cost recovery actions). Although the issue was not before it, the Court seemed to endorse decisions holding that the government may recover its litigation expenses, including attorneys fees, in § 107 cost recovery actions. *Key Tronic Corp.*, 114 S. Ct. at 1996. CERCLA authorizes the recovery of attorneys fees in citizen suits, 42 U.S.C. § 9659(f) (1988), and in suits to recover response costs that the government erroneously ordered the plaintiff to pay in an abatement action. *Id.* § 9606(b)(2)(E). See generally Kenneth A. Freeling, *Recovery of Attorneys Fees in CERCLA Private-Party Cost Recovery Actions: Striking A Balance*, 23 *Envtl. L. Rep.* (Envtl. L. Inst.) 10477 (1993); Janet Morris Jones, Comment, *Attorneys Fees: CERCLA Private Recovery Actions*, 10 *PACE ENVTL. L. REV.* 393 (1992).

528. See Marten & McFarland, *supra* note 282, at 672.

529. *Idaho v. Hanna Mining Co.*, 882 F.2d 392, 396 (9th Cir. 1989).

530. See 59 Fed. Reg. 14,264, 14,270 (1994).

531. 2 F.3d 1265 (3d Cir. 1993).

able from PRPs in a response cost recovery action.⁵³² The Interior Department has dismissed that precedent as irrelevant to recovery of the indirect costs of damage assessments, which it characterizes as costs that trustees will incur as they undertake resource restoration, rather than as oversight costs.⁵³³

H. *National Contingency Plan Provisions*

1. Designation of Trustees

CERCLA delegates to the President or an authorized state representative the authority to act on behalf of the public as the trustee of natural resources in recovering damages.⁵³⁴ State governors are responsible for appointing state trustees.⁵³⁵ The President designated the Secretaries of Defense, Interior, Agriculture, and Commerce as federal trustees.⁵³⁶ Under the CWA's oil spill provisions and CERCLA, the NCP charges the Secretary of Commerce with the responsibility of protecting natural resources found in or under navigable waters, tidally influenced waters, or waters of the contiguous zone, the exclusive economic zone, and the outer continental shelf, and in upland areas serving as habitat for marine mammals and other protected species.⁵³⁷ The Interior Secretary is responsible for natural resources managed or protected by the Department, including migratory birds, certain anadromous fish, endangered species, marine mammals, federally-owned minerals, and certain federally-managed water resources.⁵³⁸ For natural resources located on, over, or under land administered by the United States, the trustee is the head of the Department in which the land management agency is found.⁵³⁹ The head of the agency authorized to manage or protect those resources acts as trustee for natural resources located in the United States but not otherwise described in the regulations.⁵⁴⁰

532. *Id.* at 1278.

533. 59 Fed. Reg. 14,262, 14,276 (1994). *But see* 43 C.F.R. § 11.83(b)(1)(ii), cited at 59 Fed. Reg. at 14,285 (an example of indirect costs is traditional overhead).

534. 42 U.S.C. § 9607(f)(1) (1988).

535. *Id.* § 9607(f)(2)(B).

536. Exec. Order. No. 12,316, 46 Fed. Reg. 42,237 (1981).

537. 40 C.F.R. § 300.600(b)(1) (1993).

538. *Id.* § 300.600(b)(2).

539. *Id.* § 300.600(b)(3).

540. *Id.* § 300.600(b)(4).

2. Notification of Trustees

OSCs must notify federal or state trustees promptly whenever they learn of injuries or potential injuries to natural resources within their jurisdictions.⁵⁴¹ The OSC or RPM must collect facts expeditiously about a release, and make available to affected trustees information and documentation to assist them in determining the extent of actual or potential natural resource injuries.⁵⁴² Trustees may then take appropriate action, such as requesting the initiation by the lead agency of removal or remedial actions not already begun, the issuance of administrative orders by EPA, or the initiation by the Justice Department of liability actions against PRPs.⁵⁴³ Trustees also may carry out natural resource damage assessments under the Interior Department's regulations.⁵⁴⁴

3. Duties of Trustees

Trustees must assess injury to, destruction of, or loss of natural resources under their jurisdiction.⁵⁴⁵ More specifically, trustees, upon notification or discovery of injury or threat to natural resources, conduct preliminary surveys of the affected area; cooperate with OSCs and RPMs in coordinating assessments, investigations, and planning; carry out damage assessments; and devise and implement a plan for the restoration, rehabilitation, or replacement of the damaged resource, or acquisition of equivalent resources.⁵⁴⁶ Trustees also may ask the Justice Department to seek compensation from PRPs for damages and the costs of assessment.⁵⁴⁷ Trustees may participate in negotiations between the Attorney General and PRPs to obtain PRP-financed or PRP-conducted assessments and restorations, request that an authorized agency issue an administrative order or pursue injunctive relief against PRPs, and request that the lead agency undertake removal or remedial action.⁵⁴⁸

The NCP fails to allocate responsibility when injuries occur to natural resources involving multiple trustees with overlapping ju-

541. *Id.* §§ 300.305(d), 300.320(a)(6); 43 C.F.R. § 11.20(a)(2) (1993).

542. 40 C.F.R. § 300.315(c) (1993).

543. *Id.* § 300.615(c)-(d).

544. *Id.* § 300.615(c)(3).

545. Upon request from a state, they may assess damages for natural resources under state trusteeship. 42 U.S.C. § 9607(f)(2)(A) (1988).

546. 40 C.F.R. § 300.615(c) (1993).

547. *Id.* § 300.615(d).

548. *Id.* § 300.615(d)-(e).

risdictions.⁵⁴⁹ It provides only that “[w]here there are multiple trustees, because of coexisting or contiguous resources or concurrent jurisdictions, they should coordinate and cooperate in carrying out [their] responsibilities [under the NCP].”⁵⁵⁰ The Interior Department’s damage assessment regulations do little to remedy this defect.⁵⁵¹ They envision the designation of a “lead authorized official,” defined as a

Federal or State official authorized to act on behalf of all affected Federal or State agencies acting as trustees where there are multiple agencies . . . affected because of coexisting or continuous natural resources or concurrent jurisdiction.⁵⁵²

But the regulations do not provide any process for designating such an official.⁵⁵³

This failure raises potential difficulties because the interests of the various trustees may conflict. Menefee argues, for example, that federal trustees may have greater legal responsibility for species protected by the Endangered Species Act than do state trustees, while the latter may have a greater responsibility to protect sports fishing.⁵⁵⁴ He adds that “it is likely that complexities of federal and state law may lead to overlapping or conflicting claims.”⁵⁵⁵ Well before the issuance of the Interior Department’s damage assessment regulations, Menefee emphasized the need for clear guidance in resolving such conflicts.⁵⁵⁶ To date, neither EPA nor the Interior Department has provided it.

I. *Measure of Damages*

1. Introduction to the Department of Interior Regulations

a. *Scope and Purpose of the Regulations*

CERCLA required the President, through officials designated in the NCP, to issue regulations by December, 1982 for the assessment of natural resource damages caused by a release of oil

549. See Marten & McFarland, *supra* note 282, at 671.

550. 40 C.F.R. § 300.615(a) (1993).

551. These regulations are discussed *infra* at § VIII I.

552. 43 C.F.R. § 11.14 (1993).

553. Marten & McFarland, *supra* note 282, at 671.

554. Mark Menefee, *Recovery for Natural Resource Damages Under Superfund: The Role of the Rebuttable Presumption*, 12 *Envtl. L. Rep.* (Envtl. L. Inst.) 15057, 15059 (1982).

555. *Id.*

556. *Id.*

or hazardous substances.⁵⁵⁷ The Interior Department first issued damage assessment regulations in 1986.⁵⁵⁸ It revised then in 1988, following adoption of the 1986 amendments to CERCLA,⁵⁵⁹ and again in 1994,⁵⁶⁰ after the Court of Appeals for the District of Columbia Circuit invalidated important portions in two 1989 decisions.⁵⁶¹ The Department is obligated to revise the regulations as appropriate every two years.⁵⁶²

CERCLA requires that the damage assessment regulations specify both standard procedures for simplified (Type A) damage assessments and alternative protocols for conducting assessments in individual cases to determine the type and extent of injury, destruction, or loss of resources (Type B assessments).⁵⁶³ The regulations aim to provide standardized and cost-effective⁵⁶⁴ pro-

557. 42 U.S.C. § 9651(c)(1) (1988). Congress later extended the deadline after the Interior Department, to whom the President delegated responsibility for drafting the regulations, missed the deadline. *Id.* Initially, Congress intended that these regulations apply to the CWA's oil spill provisions as well as to CERCLA. *Id.* The Oil Pollution Act of 1990, 33 U.S.C. §§ 2701-2761 (Supp. V 1993), however, provided that the Interior Department's regulations would continue to apply to oil spills only until new natural resource damage assessment regulations are issued by the NOAA. See S. REP. NO. 94, 101st Cong., 1st Sess. 15 (1990); 59 Fed. Reg. 14,262, 14,262 (1994). For commentary on the damage assessment process and the economic concepts involved in that process, see Kevin M. Ward & John W. Duffield, *NATURAL RESOURCE DAMAGES: LAW AND ECONOMICS* (1992); Anderson, *supra*, note 130, at 40-56; Frank B. Cross, *Natural Resource Damage Valuation*, 42 VAND. L. REV. 269 (1989); John Gerald Gleeson, et al., *Defending Natural Resource Damage Claims: Minimizing the Liability of Responsible Parties*, 70 U. DETROIT-MERCY L. REV. 281 (1993); Thomas A. Grigalunas & James J. Opaluch, *Assessing Liability for Damages Under CERCLA: A New Approach for Providing Incentives for Pollution Avoidance?*, 28 NAT. RESOURCES J. 509 (1988); Olson, *supra*, note 440; Woodward & Hope, *supra*, note 456; Heidi Wendel, Note, *Restoration as the Economically Efficient Remedy for Damage to Publicly Owned Natural Resources*, 91 COLUM. L. REV. 430 (1991); Edward J. Yang, *Valuing Natural Resource Damage: Economics for CERCLA Lawyers*, 14 Envtl. L. Rep. (Envtl. L. Inst.) 10311 (1984).

558. 51 Fed. Reg. 27,674 (1986). These regulations covered Type B assessments for individual cases. See 42 U.S.C. § 9651(c)(2)(B) (1982). The Interior Department issued its first regulations for simplified Type A assessments in March, 1987. 52 Fed. Reg. 9,042 (1987).

559. 53 Fed. Reg. 5,166 (1988).

560. 59 Fed. Reg. 14,262 (1994). The current regulations are at 43 C.F.R. pt. 11 (1993), as amended at 59 Fed. Reg. 14,262 (1994).

561. *Colorado v. United States Dep't of the Interior*, 880 F.2d 481 (D.C. Cir. 1989); *Ohio v. United States Dep't of the Interior*, 880 F.2d 432 (D.C. Cir. 1989). For a discussion of the *Colorado* and *Ohio* decisions, see *infra* § VIII I.1.d.

562. 42 U.S.C. § 9651(c)(3) (1988); 43 C.F.R. § 11.12 (1993).

563. 42 U.S.C. § 9651(c)(2) (1988).

564. Cost-effectiveness means the least costly activity providing the selected level of benefits. 43 C.F.R. § 11.14(j) (1993).

cedures for assessing natural resource damages.⁵⁶⁵ They supplement procedures included in the NCP for the identification, investigation, study, and response to discharges of oil⁵⁶⁶ or releases of hazardous substances,⁵⁶⁷ and permit natural resource trustees⁵⁶⁸ to determine compensation for injuries⁵⁶⁹ to natural resources⁵⁷⁰ not addressed by response actions.⁵⁷¹

The regulations authorize trustees to recover costs and damages in natural resource actions in four ways. First, a trustee who performs an assessment in accordance with the regulations may recover natural resource damages to compensate for injuries attributable to a discharge or release.⁵⁷² Second, trustees may recover costs of emergency restoration efforts.⁵⁷³ Third, trustees

565. *Id.* § 11.11.

566. The term "oil" is defined in *id.* § 11.44 (bb) by reference to the CWA's oil spill provisions, 33 U.S.C. § 1321 (a)(1) (1988).

567. This term is defined in 43 C.F.R. § 11.14(u) (1993) by reference to CERCLA § 101(14), 42 U.S.C. § 9601(14) (1988).

568. A trustee is any federal natural resources management agency designated in the NCP and any state agency chosen by the governor that may pursue claims for damages in court under 42 U.S.C. § 9607(f) (1988) or against the Superfund under *id.* § 9611(b). 43 C.F.R. § 11.14(rr) (1993).

569. Injuries include measurable adverse changes in the chemical or physical quality or viability of a natural resource resulting either directly or indirectly from exposure to a discharge of oil or release of a hazardous substance, or exposure to a product of reactions resulting from such a discharge or release. 43 C.F.R. § 11.14(v) (1993). Injury encompasses destruction or loss. *Id.* Definitions of injuries to specific resources are provided in *id.* § 11.62.

570. Natural resources are defined broadly as land, fish, wildlife, biota, air, water, groundwater, drinking water supplies, and other resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States, any state or local government, any foreign government, or any Indian tribe. *Id.* § 11.14(z). Archaeological and other cultural resources are not "natural resources" for purposes of CERCLA, but trustees may include in a damage assessment the loss of archaeological and cultural services provided by a damaged natural resource. See 59 Fed. Reg. 14,262, 14,269 (1994).

571. 43 C.F.R. § 11.10 (1993).

572. *Id.* § 11.15(a)(1)(ii). That amount will be reduced to reflect any mitigation of those injuries by PRP-directed response actions, but will be increased if those response actions cause additional, reasonably avoidable injuries. *Id.* The regulations apply only in the event of an actual release or discharge, as opposed to a threat of release or discharge. 59 Fed. Reg. 14,262, 14,279-80 (1994).

573. 43 C.F.R. § 11.15(a)(2) (1993). A natural resource emergency involves any situation requiring immediate action to avoid an irreversible loss of natural resources or to prevent or reduce any continuing danger to natural resources, or a situation in which there is similar need for emergency action. *Id.* § 11.21(a)(2). In the event of such an emergency, the trustee must contact the National Response Center to report the discharge or release and to request immediate response action. *Id.* § 11.21(a)(1). If no such action is taken at the site within a time the trustee determines is reasonable, or if such actions are insufficient, the trustee is authorized to engage in on-site response actions or limited off-site restoration activity necessary

who have performed proper assessments may recover the reasonable⁵⁷⁴ and necessary costs of the assessment.⁵⁷⁵ These include the costs of performing all phases of the assessment process, and the administrative costs incidental to the assessment and any restoration⁵⁷⁶ or replacement⁵⁷⁷ undertaken.⁵⁷⁸ Finally, trustees may recover interest on the foregoing amounts, accruing from the later of the date of demanded payment in writing or the date of the expenditure.⁵⁷⁹

b. Application to Private Resources

CERCLA defines natural resources as land, fish, wildlife, biota, air, water, and other resources "belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by" federal, state, local, or foreign governments or Indian tribes.⁵⁸⁰ In its decision remanding the initial 1986 damage assessment regulations,⁵⁸¹ the Court of Appeals for the District of Columbia Circuit requested clarification on the extent to which the Interior Department believed that the statute permits recovery for injuries to resources not owned by the government.⁵⁸² The 1986 reg-

to prevent or reduce the immediate migration of oil or hazardous substances onto or into the resources under its trusteeship. *Id.* § 11.21(b).

574. Assessment costs are "reasonable" when the injury determination, quantification, and damage determination aspects of the assessment phase have a well-defined relationship to one another and are coordinated; the anticipated increment of extra benefits in terms of the precision or accuracy of estimates obtained by using a more costly methodology are greater than the anticipated increment of extra costs of that methodology; and the anticipated cost of the assessment is expected to be less than the anticipated damage amount determined during the assessment. *Id.* § 11.14(ee).

575. *Id.* § 11.15(a)(3)(i).

576. Restoration and rehabilitation are defined as actions taken to return an injured resource to its baseline condition, as measured in terms of the injured resource's physical, chemical, or biological properties or the services it previously provided, when such actions exceed the level of response to the site under the NCP. *Id.* § 11.14(II). See generally Kathryn Chelinda MacDonald, *The Recovery of Restoration Costs: Analytical Synthesis of Common-Law Property Damages, Restitution, and Natural Resource Damages Under CERCLA*, 5 TUL. ENVTL. L. J. 255 (1991).

577. Replacement or acquisition of equivalent resources means the substitution for an injured resource of a resource that provides the same or substantially similar services, when such substitutions exceed the level of response actions determined appropriate to the site under the NCP. 43 C.F.R. § 11.14(ii) (1993).

578. *Id.* § 11.15(a)(3), as amended by 59 Fed. Reg. 14,262, 14,281 (1994).

579. *Id.* § 11.15(a)(4).

580. 42 U.S.C. § 9601(16) (1988). For a discussion of the meaning of each of the statutory terms, see Warren & Zackrisson, *supra* note 339, at 20-21.

581. *Ohio v. United States Dep't of Interior*, 880 F.2d 432 (D.C. Cir. 1989). The *Ohio* case is discussed *infra* at notes 596-616 & accompanying text.

582. 880 F.2d at 461.

ulations seemed to preclude recovery for damage to any privately owned resources, but at oral argument, counsel for the Interior Department indicated that a substantial degree of government control over the resources would suffice to permit recovery.⁵⁸³

In the preamble to the 1994 regulations, the Department interpreted the court's decision as not requiring it to define precisely which privately owned resources are covered by the damage assessment regulations. The agency noted that the statutory definition of natural resources makes it clear that the damage assessment process is not restricted to government-owned resources.⁵⁸⁴ It also indicated, however, that development of a precise definition of the privately owned resources covered by the regulations is impractical because a diverse set of federal, state, local, and tribal laws govern the relationships between injured resources and various governmental and private entities. Thus, the Department decided that determination of whether particular privately owned resources constitute "natural resources" for purposes of CERCLA's liability provisions is best addressed on a case-by-case basis.⁵⁸⁵ Given the agency's failure to provide any more guidance on the issue, it agreed with the position that a trustee's statement of his or her authority over the injured resources is not entitled to a rebuttable presumption.⁵⁸⁶

c. Effect of Trustee Compliance with the Regulations.

The regulatory assessment procedures are not mandatory. Unless trustees comply with them, however, they will be unable to take advantage of a rebuttable presumption in administrative or judicial proceedings against PRPs under CERCLA or the CWA's oil spill provisions.⁵⁸⁷ Compliance with the regulations shifts the burden of proof from the trustee to PRPs on the issue of the validity of the assessment.⁵⁸⁸ The presumption in effect "directs

583. *Id.* at 460-61.

584. One commentator has interpreted the statute as authorizing a state natural resource trustee to sue for damages to an aquifer in a state that follows the English private ownership of underground water doctrine, if that state regulates withdrawals from the aquifer. *See Azarmehr, supra* note 440 at 10658.

585. 59 Fed. Reg. 14,262, 14,268 (1994).

586. *Id.*

587. 42 U.S.C. § 9607(f)(2)(C) (1988); 43 C.F.R. §§ 11.10, 11.11 (1993). The rebuttable presumption is defined at *id.* § 11.14(ff). A trustee's failure to inform PRPs in a timely manner whether it plans to take advantage of the rebuttable presumption may preclude the trustee from relying on the presumption. *See United States v. Montrose Chem. Corp.*, 835 F. Supp 534, 540-41 (C.D. Cal. 1993).

588. *See Russell, supra* note 291, at 408.

courts to give extra weight to evidence on natural resources damage" that was computed using approved methodologies.⁵⁸⁹ It is not completely clear, however, whether the presumption shifts the trustee's burden of persuasion, or only the burden of producing evidence, to PRPs.⁵⁹⁰ Other unresolved presumption issues include: whether it applies to each determination or assessment made with respect to a given release, or only to the final or total assessment;⁵⁹¹ whether Rule 301 of the Federal Rules of Evidence, governing rebuttable presumptions, controls the application of the CERCLA presumption in federal court proceedings;⁵⁹² and what is required to rebut the presumption.⁵⁹³

d. Challenges to the Initial Regulations

The initial Interior Department damage assessment regulations were criticized as affording inadequate consideration to the "intrinsic value of the existence of the natural resource for recreational use or enjoyment."⁵⁹⁴ Legislators who cosponsored the 1986 amendments to CERCLA charged that the regulations underestimated damage values generally and undervalued certain specific categories of resources such as wetlands and marine mammals.⁵⁹⁵

These and similar criticisms led several states and public interest organizations to attack the validity of the regulations in two companion cases, *Ohio v. United States Department of the Interior*,⁵⁹⁶ involving the Type B assessment regulations, and *Colorado v. United States Department of the Interior*,⁵⁹⁷ involving Type A assessments. The attack in *Ohio* focused primarily on the provision that measured damages as the *lesser* of restoration or replacement costs, or diminution of use values.⁵⁹⁸ The state and environmental plaintiffs argued that CERCLA requires damages

589. Anderson, *supra* note 130, at 434.

590. See Marten & McFarland, *supra* note 282, at 672; Menafee, *supra* note 554, at 15060.

591. Menafee, *supra* note 554, at 15060.

592. *Id.* at 15061.

593. *Id.* at 15063.

594. Russell, *supra* note 291, at 408.

595. Cross, *supra* note 557, at 325. See also Anderson, *supra* note 130, at 419-20; Kenison, et al., *supra* note 440, at 10436-39; Olson, *supra* note 440, at 10556; Woodward & Hope, *supra* note 456, at 205.

596. 880 F.2d 432 (D.C. Cir. 1989).

597. 880 F.2d 481 (D.C. Cir. 1989).

598. 43 C.F.R. § 11.35(b)(2) (1993). See 880 F.2d at 441.

to be sufficient to pay the cost in every case of restoring, replacing, or acquiring the equivalent of the injured resource. In many cases, however, lost use value will be lower than this restoration cost, thereby resulting in damages too small to pay for the costs of restoration.⁵⁹⁹ The Department responded that the statute does not prescribe a floor for damages, but rather vests discretion in the agency to decide how to measure damages.⁶⁰⁰

The court found the “lesser of” rule to be directly contrary to the expressed intent of Congress in both CERCLA and the oil spill provisions of the CWA.⁶⁰¹ The initial regulations reflected the agency’s view that Congress had expressed no preference between recovering from PRPs the full cost of restoration or the value of injured resources, which might be less than restoration cost.⁶⁰² Accordingly, the court phrased the issue as whether the Interior Department was entitled to treat use value and restoration cost as having equal presumptive legitimacy as a measure of damages.⁶⁰³ The court concluded that it was not. Because Congress’s paramount goal in enacting the natural resource damage provisions was restorative, CERCLA unambiguously mandates a preference for measuring damages by reference to restoration costs, and thus precludes a “lesser of” rule that ignores that preference.⁶⁰⁴ In particular, the court found that Congress had rejected the two basic premises underlying the “lesser of” rule — that the common law measure of damages is appropriate in the natural resources context, and that it is economically inefficient to restore a resource whose use value is less than the cost of restoration.⁶⁰⁵ The court nevertheless deemed it appropriate for the regulations to establish classes of cases in which considerations such as infeasibility of restoration or a gross imbalance between restoration cost and use value would justify the use of a standard lower than restoration cost.⁶⁰⁶

599. 880 F.2d at 441.

600. *Id.* at 442.

601. *Id.* at 450.

602. *Id.* at 444.

603. *Id.* at 443-44.

604. *Id.* at 444.

605. *Id.* at 445. The latter argument amounted to “noting more or less than cost-benefit analysis.” *Id.* at 456. Although Congress wanted restoration to take place as efficiently as possible, Interior’s approach was flawed in assuming that the value to society generated by a particular resource can be accurately measured in every case, assumptions Congress rejected. *Id.*

606. *Id.* at 459. On remand, the Interior Department deemed it unnecessary to create an exclusion from the basic measure of damages for these situations because

The court also addressed the regulations' rigid hierarchy of permissible methods for determining use values. In effect, this hierarchy limited damages to the price commanded by the injured resource on the open market, unless the trustee finds that the market for the resource is not reasonably competitive.⁶⁰⁷ The environmental groups argued that Interior's emphasis on market value was unreasonable, and the court agreed that Congress did not intend to limit use values to market prices.⁶⁰⁸ The court directed the agency on remand to consider adopting a rule that would permit trustees to derive use values by summing up all reliably calculated use values, however measured, so long as the trustees do not double count. In particular, the court rejected the agency's decision to limit the role of non-consumptive values, such as option and existence values, in the calculation of use values.⁶⁰⁹

The court dismissed several other attacks on the regulations by both environmentalists and industry. Environmentalists challenged a provision using a discount rate to calculate the present value of an expected future injury. The court concluded that use of a discount rate is appropriate, provided trustees consider the possibility that restoration costs might rise faster than the general price level.⁶¹⁰ It also rejected industry's challenge to one of the non-market methodologies for calculating use values, the contin-

if the costs of implementing a particular restoration or rehabilitation alternative greatly exceed the lost value of the injured resource, the trustee must select a less costly restoration method. This obligation protects against the selection of an alternative that poses grossly disproportionate costs. 59 Fed. Reg. 14,262, 14,271 (1994).

607. 880 F.2d at 462 (citing 43 C.F.R. § 11.83(c)(1)).

608. *Id.* at 462-63. Rather, Congress intended the damage assessment regulations to capture fully all aspects of resource loss. *Id.* at 463.

609. *Id.* at 464.

610. *Id.* at 465. The court also rejected attacks by environmental groups on provisions allowing PRPs to conduct assessments in certain situations, 43 C.F.R. § 11.32(d) (1993), 880 F.2d at 465-67; providing notice at certain stages of the assessment to PRPs but not to the public, 43 C.F.R. § 11.32(a)(2), (e) (1993), 880 F.2d at 467-68; limiting recoverable costs of the assessment itself to situations in which the anticipated cost of the assessment is expected to be less than the anticipated damage amount, 43 C.F.R. § 11.14(ee), 880 F.2d at 468; establishing a set of "acceptance criteria" for determining whether a hazardous substance release actually caused injury to the particular biological resource for which the trustee is seeking damages, 43 C.F.R. § 11.62(f)(2)-(3) (1993), 880 F.2d at 468-73; and failing to provide for recovery of punitive damages in most cases. 880 F.2d at 474. *But cf.* 42 U.S.C. § 9607(c)(3) (1988) (punitive damages are available against PRPs who violate EPA cleanup orders without sufficient cause).

gent valuation process.⁶¹¹ Industry had claimed that this methodology was inconsistent with common law damage assessment principles and violated due process.⁶¹²

The *Colorado* court rejected portions of the Type A regulations on similar grounds. State and environmental plaintiffs alleged that the Type A regulations were too narrow in that they covered only damages caused by minor point source discharges or releases of short duration, occurring at or near the water surface in coastal and marine environments.⁶¹³ The court disagreed, holding that the regulatory scope was not unreasonable in light of data inadequacies and scientific uncertainties that precluded broader coverage.⁶¹⁴ The court added, however, that it expected Interior to continue to promulgate, as expeditiously as possible, further Type A regulations to cover as many types of releases into as many different kinds of environments as feasible.⁶¹⁵ Despite this attack on scope, the court remanded the regulations on the ground that they suffered the same flaw as the Type B regulations invalidated in *Ohio* — they were improperly based exclusively on lost use values and failed adequately to incorporate restoration or replacement values.⁶¹⁶

2. The Assessment Process

a. Introduction

The regulations for assessing natural resource damages establish a four-phased process: pre-assessment, assessment plan, assessment, and post-assessment.⁶¹⁷ Before taking any action under any phase of this process, natural resource trustees must comply with any applicable consultation or review requirements that may govern the taking of samples or in other ways restrict alternative management actions.⁶¹⁸ The regulations identify the

611. This process sets up a hypothetical market to elicit an individual's economic valuation of a natural resource. See 43 C.F.R. § 11.83(c)(2)(vii)(A), cited at 59 Fed. Reg. 14,262, 14,286 (1994).

612. 880 F.2d at 474-81.

613. *Id.* at 486 (citing 43 C.F.R. § 11.41(a)(1)).

614. *Id.* at 488.

615. *Id.* at 483. In the preamble to its 1994 Type B regulations, the Department indicated its plans to issue revised regulations on remand from the *Colorado* decision later in 1994. The agency is also developing Type A procedures for assessing damages in the Great Lakes. See 59 Fed. Reg. at 14,263.

616. 880 F.2d at 490-91.

617. 43 C.F.R. § 11.13 (1993).

618. *Id.* § 11.17(b).

Endangered Species Act,⁶¹⁹ the Migratory Bird Treaty Act,⁶²⁰ the Marine Protection, Research, and Sanctuaries Act,⁶²¹ and the Marine Mammal Protection Act⁶²² as potential sources of such requirements.⁶²³

As a result of the invalidation of the 1986 "lesser of" rule, the Interior Department has now designed the damage assessment process to allow trustees to recover the costs of restoration, rehabilitation, replacement, and/or acquisition of equivalent resources ("RRRA") in all cases. In addition, trustees have the discretion to add to that basic measure of damages the value of the resource services lost to the public from the date of the discharge or release responsible for the damage until completion of the RRRRA activities.⁶²⁴ According to the Department, recovery of this "compensable value," which includes both lost use and nonuse values,⁶²⁵ will help ensure that the public receives full compensation for natural resource injuries.⁶²⁶

b. The Pre-Assessment Phase

The first phase, pre-assessment, provides for notification, coordination, and emergency activities. The OSC or lead agency designated pursuant to the NCP to supervise site cleanup must notify natural resource trustees when resources within their jurisdiction have been or are likely to be injured by a release being investigated under the NCP.⁶²⁷ Once identified, trustees must take whatever actions are necessary to protect injured or threatened resources, including emergency restorations.⁶²⁸

Before beginning the assessment process, the trustee's authorized official⁶²⁹ must complete a pre-assessment screen. This device is described in the regulations as a rapid review of readily

619. 16 U.S.C. §§ 1531-43 (1988).

620. *Id.* §§ 703-712.

621. 33 U.S.C. §§ 1401-1445 (1988).

622. 16 U.S.C. §§ 1361-1407 (1988).

623. 43 C.F.R. § 11.17(b) (1993). In addition, trustees must abide by all worker health and safety considerations specified in the NCP. *Id.* § 11.17(a).

624. *See* 59 Fed. Reg. 14,262, 14,262 (1994).

625. *Id.*

626. *Id.* at 14,270.

627. 43 C.F.R. § 11.20(a)(2) (1993). *See also* 42 U.S.C. § 9604(b)(2) (1988).

628. 43 C.F.R. §§ 11.20 (a)(3), 11.21 (1993).

629. An "authorized official" is the federal or state official to whom is delegated the authority to act on behalf of the agency designated as trustee. *Id.* § 11.14(d). This article uses the term official, authorized official, and trustee interchangeably to refer to the trustee's properly designated representative.

available information that will allow the authorized official to decide early whether an assessment can and should be performed.⁶³⁰ It is meant to assure a reasonable probability of making a successful claim before money is spent performing an assessment.⁶³¹ If the trustee decides to proceed with an assessment, it must document that a discharge or release has occurred, that natural resources under its trusteeship have been or are likely to be adversely affected, that data sufficient to pursue an assessment are available or obtainable at reasonable cost, and that response actions will not sufficiently remedy the injury to natural resources.⁶³² Trustees must make a preliminary identification of resources at risk, and estimate the likely affected areas and concentrations of hazardous substances involved.⁶³³ Reimbursable costs include those related to release detection and identification, trustee identification and notification, potentially injured resource identification, initial sampling, data collection and evaluation, and site characterization.⁶³⁴

c. The Assessment Planning Phase

In the second phase, assessment planning, an authorized official who has decided to perform an assessment must prepare an assessment plan to ensure that the assessment methodologies chosen reflect reasonable costs.⁶³⁵ The trustee must select a lead authorized official to administer the assessment.⁶³⁶ If multiple trustees cannot agree on a lead official, and the natural resources being assessed are located on lands or waters subject to the jurisdiction of a federal agency, an official of that agency should act as the lead authorized official.⁶³⁷ This official must identify, notify, and invite the participation of PRPs,⁶³⁸ and must decide whether to let PRPs implement all of part of the Assessment Plan.⁶³⁹

630. *Id.* § 11.13(b).

631. *Id.* § 11.23(a)-(b). A pre-assessment screen is not required prior to an emergency restoration. *Id.* § 11.23(a).

632. *Id.* § 11.23(c), (e).

633. *Id.* § 11.25.

634. *Id.* § 11.23(g).

635. *Id.* § 11.13(c).

636. *Id.* § 11.32(a)(1)(ii)(A). If more than one trustee is involved, they must designate a lead authorized official by mutual agreement. *Id.*

637. *Id.* § 11.32(a)(1)(ii)(B).

638. *Id.* § 11.32(a)(2), as amended by 59 Fed. Reg. at 14,285. The public must also have access to and opportunity to comment on the Assessment Plan. 43 C.F.R. § 11.32(c) (1993).

639. 43 C.F.R. § 11.32(d) (1993). *See also* 59 Fed. Reg. at 14,267.

The Assessment Plan must identify and document the use of all scientific and economic methodologies expected to be performed during the assessment itself, and should evaluate the cost-effectiveness and reasonableness of the approach likely to be used in assessing damages.⁶⁴⁰ It also must include a statement of the authority for asserting trusteeship for the natural resources considered in the assessment plan,⁶⁴¹ and document the trustee's decision whether to proceed with a Type A or Type B assessment.⁶⁴²

When performing a Type B assessment, the authorized official must develop a preliminary estimate of the anticipated costs of RRA for the injured natural resources.⁶⁴³ The purpose of this preliminary estimate of damages is to ensure that the scientific, cost estimating, and valuation methodologies ultimately chosen in the damage assessment reflect reasonable costs.⁶⁴⁴ The official performing the estimate must consider a range of possible alternative actions that would accomplish the RRA of the injured resources.⁶⁴⁵ The estimate should represent the expected present value of the anticipated compensable value between the occurrence of the discharge or release and the completion of the RRA of the injured resources and their services.⁶⁴⁶ The preliminary estimate is based on existing data and studies rather than on significant new data collection or modelling efforts. In

640. 43 C.F.R. § 11.31(a)(1)-(2) (1993), as amended by 59 Fed. Reg. at 14,281.

641. 43 C.F.R. § 11.31(a)(2), cited at 59 Fed. Reg. at 14,281. This statement does not have the effect of a rebuttable presumption in favor of the trustee. *Id.*

642. 43 C.F.R. § 11.31(b) (1993). This distinction between Type A and Type B assessments is described *infra* at notes 649-62.

643. 43 C.F.R. § 11.35(a) (1993), cited at 59 Fed. Reg. at 14,282. If the official intends to include compensable value in the damage claim, that value also must be included in the preliminary estimate of damages. *Id.* Compensable value is "the amount of money required to compensate the public for the loss in services provided by the injured resources between the time of the discharge or release and the time the resources and the services those resources provided are fully returned to their baseline conditions." *Id.* § 11.83(c)(1), cited at 59 Fed. Reg. at 14,286. Compensable value includes the value of lost public use of the services provided by the injured resources, as well as lost nonuse values, such as existence and bequest values. "Compensable value is measured by changes in consumer surplus, economic rent, and any fees or other payments collectable by a Federal or State agency or an Indian tribe for a private party's use of the natural resources; and any economic rent accruing to a private party because the [agency or tribe] does not charge a fee or price for the use of the resources." *Id.*

644. *Id.* § 11.35(b). For a definition of "reasonable cost," see 43 C.F.R. § 11.14(ee) (1993).

645. 43 C.F.R. § 11.35(c)(1) (1993), cited at 59 Fed. Reg. at 14,282.

646. *Id.* § 11.35(c)(2)(i).

the absence of sufficient data before completion of the Assessment Plan, the trustee may make a preliminary estimate at the end of the injury determination phase of the assessment, or at the time of the Assessment Plan review.⁶⁴⁷ Reimbursable costs may include those related to methodology identification and screening, PRP identification, public participation, exposure confirmation analysis, and preparation of the preliminary estimate of damages.⁶⁴⁸

d. The Assessment Phase

(1) Type A Assessments

The third phase is the assessment itself. Assessments are divided into two categories:⁶⁴⁹ Type A, simplified assessments requiring minimal field observations;⁶⁵⁰ and Type B, alternative methodologies for conducting assessments in individual cases to determine the type and extent of injury and damages.⁶⁵¹ The Type A procedures, currently applicable to coastal and marine resource injuries,⁶⁵² are governed by the use of a computer model, the Natural Resource Damage Assessment Model for Coastal and Marine Environments.⁶⁵³ The model is composed of four phases: assessment planning,⁶⁵⁴ injury determination,⁶⁵⁵ quantification,⁶⁵⁶ and damage determination.⁶⁵⁷ Damages are calculated for short-term lethal effects on lower trophic biota, birds, fish, shellfish, and animals, for reduction in harvest from closure of hunting or fishing areas, and for direct loss of use of public beaches.⁶⁵⁸ Under the computer model, damages are

647. *Id.* § 11.35(d)(1)-(2). The authorized official need not disclose the preliminary estimate before the conclusion of the assessment, but may instead include the estimate in the Assessment Report. *Id.* § 11.35(d)(3).

648. *Id.* § 11.30(c), as amended by 59 Fed. Reg. at 14,281.

649. *See* 42 U.S.C. § 9651(c)(2) (1988); 43 C.F.R. § 11.13(d)-(e) (1993).

650. 43 C.F.R. § 11.14(ss) (1993).

651. *Id.* § 11.14(tt).

652. *Id.* §§ 11.40(a), 11.41(a)(1).

653. *Id.* § 11.41(a)(1).

654. The plan must include information concerning the release, the characteristics of the environment at the location of the release, an identification of the substances involved, and the results of the cleanup actions performed. *Id.* § 11.41(c).

655. This determination should include information on the pathway of contamination. *Id.* § 11.41(d).

656. The quantification must estimate the total biomass killed and the areas affected. *Id.* § 11.41(e). Biomass is defined as the weight of living organisms per unit of prescribed area or volume. *Id.* § 11.41(b).

657. *Id.* § 11.41(f).

658. *Id.* § 11.41(f)(1)(ii).

equal to the average diminution in the *in situ* use values due to the discharge or release.⁶⁵⁹ After completion of the assessment, the trustee must prepare a report.⁶⁶⁰

(2) Type B Assessments

Type B assessments involve alternative methodologies for measuring damages in individual cases.⁶⁶¹ The following reasonable and necessary costs may be incurred in conducting such an assessment: sampling, testing, and evaluation costs; quantification costs; Restoration and Compensation Determination Plan development costs, including evaluation of alternatives and of PRP, agency, and public comments; and use value methodology calculation costs.⁶⁶²

Type B assessments proceed in three phases; injury determination, quantification, and damage determination.⁶⁶³ Injury determination should screen out cases that do not involve well-documented injuries from a discharge or release.⁶⁶⁴ The authorized official must determine which resources have been injured and the pathways of exposure.⁶⁶⁵ The next phase quantifies the effects of a discharge or release on natural resources for use in determining the appropriate amount of compensation.⁶⁶⁶ For each injured resource, the trustee must quantify the effect of the release in terms of the reduction from the baseline condition in the quality and quantity of services provided by that resource.⁶⁶⁷ This quantification process entails measuring the extent of the injury, estimating the baseline condition of the injured resource,⁶⁶⁸ determining the recoverability of the resource,⁶⁶⁹ and

659. *Id.* § 11.41(f)(1)(i).

660. *Id.* § 11.90(a). The contents of the report are described in *id.* § 11.41(a)(3).

661. *Id.* § 11.60(a).

662. *Id.* § 11.60(d)(1), as amended by 59 Fed. Reg. at 14,283.

663. 43 C.F.R. § 11.13(e) (1993), as amended by 59 Fed. Reg. at 14,281; 43 C.F.R. § 11.60(b) (1993).

664. 43 C.F.R. § 11.61(b) (1993).

665. *Id.* §§ 11.61(c)(1), 11.62-11.63. A pathway of exposure is the route or medium through which oil or a hazardous substance is or was transported from the source of the discharge or release to the injured resource. *Id.* § 11.14(dd).

666. *Id.* § 11.70(b).

667. *Id.* § 11.70(a)(1). "Services are the physical and biological functions performed by the resource, including the human uses of those functions. *Id.* § 11.14(nn). The trustee may consider services provided by the injured resource, regardless of whether there is a committed human use of those resources. 59 Fed. Reg. at 14,273.

668. 43 C.F.R. § 11.72 (1993). Baseline conditions are those that would have existed at the assessment site had the discharge or release not occurred. *Id.* § 11.14(e).

estimating the reduction in services resulting from the discharge or release.⁶⁷⁰

The purpose of damage determination in a Type B assessment is to establish the amount of money to be sought in compensation for natural resource injuries. The principal revisions to the natural resource damage assessment regulations on remand from the *Ohio* decision affect this phase of the assessment process. These revisions constitute the Interior Department's response to the court's conclusion that the initial regulations undervalued natural resource damages by placing insufficient emphasis on restoration cost. Under the revised regulations, the measure of damages is the cost of RRA of the injured resources. At the discretion of the authorized official, damages also may include the compensable value of all or a portion of the services lost to the public between the time of the discharge or release and completion of the RRA process.⁶⁷¹

During the Damage Determination phase, the authorized official must develop a Restoration and Compensation Determination Plan. To do so, the trustee must develop a reasonable number of alternatives for RRA and select the most appropriate one, providing the rationale for doing so.⁶⁷² For each alternative, the Plan must identify the actions needed to achieve the RRA of natural resources and the services those resources provide to the baseline.⁶⁷³ Restoration or rehabilitation actions are those undertaken to restore injured resources to their baseline condition, as measured in terms of the physical, chemical, or biological properties that the injured resources would have exhibited or the services that they would have provided in the absence of the discharge or release.⁶⁷⁴ Replacement or acquisition of the equivalent involves substitution for injured resources with resources that provide the same or substantially similar services.⁶⁷⁵ Potential alternatives range from intensive action by the trustee to return the injured resources to baseline condition as quickly as

669. *Id.* § 11.73. The recovery period of an injured resource is either the longest length of time required to return services provided by the resource to their baseline condition, or a lesser period selected by the authorized official and documented in the Assessment Plan. *Id.* § 11.14(gg).

670. *Id.* §§ 11.70(c), 11.71.

671. *Id.* § 11.80(b), cited at 59 Fed. Reg. at 14,283.

672. *Id.* §§ 11.80(c), 11.81(a).

673. *Id.* § 11.82(a), cited at 59 Fed. Reg. at 14,284.

674. *Id.* § 11.82(b)(1)(i).

675. *Id.* § 11.82(b)(1)(ii).

possible to natural recovery with minimal management actions.⁶⁷⁶ The regulations require consideration of the "no action-natural recovery" alternative.⁶⁷⁷ After public review of the Restoration and Compensation Determination Plan, the authorized official must implement that Plan, thereby concluding the Damage Determination phase of the assessment.⁶⁷⁸

When selecting the alternative to pursue, the trustee must consider several factors, including technical feasibility;⁶⁷⁹ the relationship of expected costs of the proposed action to the expected benefits from the RRA; cost-effectiveness;⁶⁸⁰ the results of any actual or planned response actions under CERCLA; potential for additional injury resulting from the proposed actions, including long-term and indirect impacts, to the injured resources or to other resources; the natural recovery period of the injured resources;⁶⁸¹ the ability of the resources to recover with or without alternative actions; potential effects on human health and safety; and consistency with relevant federal, state, or tribal laws.⁶⁸² The trustee may not select an alternative that requires acquisition of land for federal management unless the official determines that restoration, rehabilitation, or replacement of the injured resources is not possible.⁶⁸³

The trustee must identify the cost estimating and valuation methodologies that will be used to calculate damages.⁶⁸⁴ The

676. *Id.* § 11.82(c)(1).

677. *Id.* § 11.82(c)(2).

678. *Id.* § 11.80(c).

679. Technical feasibility means "that the technology and management skills necessary to implement an Assessment Plan or Restoration and Compensation Determination Plan are well known and that each element of the plan has a chance of successful completion in an acceptable period of time." *Id.* § 11.14(qq).

680. Cost-effectiveness means "that when two or more activities provide the same or a similar level of benefits, the least costly activity providing that level of benefits will be selected." 43 C.F.R. § 11.14(j) (1993). The regulations do not require the trustee to select the alternative that is most cost-effective or that minimizes costs. 59 Fed. Reg. at 14,274.

681. That period is calculated pursuant to 43 C.F.R. § 11.73(a) (1) (1993).

682. 43 C.F.R. § 11.82(d) (1993), cited at 59 Fed. Reg. at 14,284-85.

683. *Id.* § 11.82(e).

684. The costs that are recoverable include both direct and indirect costs. Direct costs are "those that the authorized official identifies as attributed to the selected alternative," including the compensation of employees for the time and effort devoted to the completion of that alternative; the cost of materials required, consumed, or expended for the purpose of the action; and equipment and other capital expenditures. *Id.* § 11.83(b)(1)(i). Indirect costs are those that support the selected alternative but cannot practically be directly accounted for as costs of that alternative, such as traditional overhead. *Id.* § 11.83(b)(1)(ii). For further discussions of indirect cost recovery, see *supra* § VIII G.

methodologies chosen must be feasible and reliable for a particular incident and type of damage. They must also be cost-effective and avoid double-counting.⁶⁸⁵ The trustee may choose from among the cost estimating methodologies specifically listed in the regulations or adopt other methodologies that meet regulatory "acceptance criteria."⁶⁸⁶ At this point, understanding the regulations requires plunging into a thicket of mathematical and economic terminology. The listed methodologies include comparison,⁶⁸⁷ unit,⁶⁸⁸ probability,⁶⁸⁹ factor,⁶⁹⁰ standard time data,⁶⁹¹ and cost- and time-estimating relationship.⁶⁹² Other methodologies that are based on standard and accepted cost estimating practices are also acceptable.⁶⁹³ The acceptance criteria permit the use of other methodologies that measure compensable value in accordance with the public's willingness to pay in a cost-effective manner.⁶⁹⁴

The regulations also describe the valuation methodologies available to natural resource trustees. In response to the *Ohio* court's rejection of the Interior Department's original hierarchy of use valuation methodologies, and the presumption in favor of market-price and appraisal methodologies it reflected, the Department has eliminated the requirement that trustees abide by that hierarchy.⁶⁹⁵ Indeed, the revised regulations eliminate the ranking of use values altogether, leaving trustees free to select

685. 43 C.F.R. § 11.83(a)(3) (1993), cited at 59 Fed. Reg. at 14,285.

686. *Id.* § 11.83(b)(2). The regulations authorize the use of a combination of cost estimating methodologies, provided double counting does not occur. *Id.*

687. This methodology requires the construction of a simple design for which an estimate can be found and applied to a unique or difficult design. *Id.* § 11.83(b)(2)(i).

688. This methodology derives an estimate based on the cost per unit of a particular item. *Id.* § 11.83(b)(2)(ii).

689. The cost estimate represents an average value under these methodologies, such as expected value and range estimates. *Id.* § 11.83(b)(2)(iii).

690. This methodology, sometimes known as the ration or percentage methodology, derives a cost estimate by summing the product of several items or activities. *Id.* § 11.83(b)(2)(iv).

691. A trustee using this methodology must provide a cost estimate for labor. *Id.* § 11.83(b)(2)(v).

692. This methodology involves the use of statistical regression models that mathematically describe the cost of an item or activity as a function of one or more independent variables. The models provide statistical relationships between cost or time and physical or performance characteristics of past designs. *Id.* § 11.83(b)(2)(vi).

693. *Id.* § 11.83(b)(3).

694. *Id.* § 11.83(c)(3).

695. 59 Fed. Reg. at 14,264.

from among any of the methodologies described to estimate the economic value of the services the injured resources provided before the injury.⁶⁹⁶

Most of the valuation methodologies described in the regulations relate to use value. Use value is the value of the resources to the public attributable to the direct use of the services the natural resources provide.⁶⁹⁷ In plain English, “[u]se value is simply the worth of natural resources to the people who use them.”⁶⁹⁸ The market price methodology may be used if the natural resources are traded in the market.⁶⁹⁹ If the trustee chooses this methodology, the authorized official must determine whether the market for the resources is reasonably competitive. If it is, then the trustee may use the diminution in the market price of the injured resources or the lost services to determine the compensable value of the injured resources.⁷⁰⁰ Where sufficient information exists, the trustee may use the appraisal methodology, with compensable value measured, to the extent possible, in accordance with the Uniform Appraisal Standards for Federal Land Acquisition.⁷⁰¹ If the injured resources are inputs to a production process which has as an output product with a well-defined market price, the trustee may use the factor income, or “reverse value added” methodology. This methodology measures the in-place value of the resources.⁷⁰² The travel cost methodology is available to determine a value for the use of a specific area,⁷⁰³ the hedonic pricing methodology may be used to determine the value of nonmarketed resources by an analysis of private

696. See 56 Fed. Reg. 19,752, 19,759 (1991) (preamble to proposed regulations).

697. 43 C.F.R. § 11.83(c)(1)(i) (1993), cited at 59 Fed. Reg. at 14,286. Use values are derived through activities such as hiking or fishing. Nonuse value, which the regulations define as the difference between compensable value and use value, 43 C.F.R. § 11.83(c)(1)(ii) (1993), does not depend on use of the resource. 59 Fed. Reg. at 14,263. According to the Department, nonuse values are most significant for irreversible or long-lasting changes to well-known, unique natural resources. 56 Fed. Reg. 19,752, 19,760 (1991). For a definition of compensable value, see 43 C.F.R. § 11.83(c)(1) (1993), cited at 59 Fed. Reg. at 14,286; *supra* note 643.

698. Cross, *supra* note 557, at 281.

699. 43 C.F.R. § 11.83(c)(2)(i) (1993), cited at 59 Fed. Reg. at 14,286. Courts commonly use this approach for measuring damages to private real estate, and it is the approach industry typically prefers for measuring natural resource damages. See Cross, *supra* note 557, at 302.

700. 43 C.F.R. § 11.83(c)(2)(i) (1993), cited at 59 Fed. Reg. at 14,286.

701. *Id.* § 11.83(c)(2)(ii).

702. *Id.* § 11.83(c)(2)(iii).

703. An individual's incremental travel costs to an area are used as a proxy for the price of the services of that area. *Id.* § 11.83(c)(2)(iv). Cross calls this a form of behavioral use valuation. Cross, *supra* note 557, at 310-13.

choices,⁷⁰⁴ and the unit value methodology assigns dollar values to various types of nonmarketed recreational or other experiences by the public.⁷⁰⁵

For the time being, trustees may use option and existence values to value damaged resources only if they cannot determine use values.⁷⁰⁶ The *Ohio* court held that a similar restriction in the 1986 regulations reflected an erroneous interpretation of the statute, and it directed the Interior Department to consider a rule that would permit trustees to include all reliably calculated lost values in damage assessments.⁷⁰⁷ According to the Department, contingent valuation ("CV") is the only method available for estimating nonuse values, although CV can also be used to calculate lost use values.⁷⁰⁸ In the original rules, the Department listed CV as a non-market-based methodology for calculating either lost use or nonuse values. The Department interprets the *Ohio* decision as not requiring it to allow unlimited use of CV, and the agency solicited comments on the appropriate role of CV when it issued the proposed regulations on remand from *Ohio*.⁷⁰⁹ The final regulations authorize the use of CV methodology to assess lost use values, but the Department has indicated that it will reconsider whether additional standards for the use of CV to estimate these values are appropriate. In addition, the Department intends to issue proposed standards to improve the reliability of CV methodology when used to estimate lost nonuse values. Pending completion of these endeavors, the regulations

704. "The demand for nonmarketed natural resources is thereby estimated indirectly by an analysis of commodities that are traded in a market." 43 C.F.R. § 11.83(c)(2)(v) (1993), cited at 59 Fed. Reg. at 14,286. Hedonic pricing, another of the behavioral use valuation methodologies, measures the extent to which the value of a nonmarketed commodity is captured directly in the price of market commodities such as land. Cross, *supra* note 557, at 313.

705. 43 C.F.R. § 11.83(c)(2)(vi) (1993), cited at 59 Fed. Reg. at 14,286.

706. *Id.* § 11.83(c)(1)(iii). Existence value is the worth of natural resources beyond their use value, while option value is only one of three components of existence value, along with vicarious and intertemporal value. Cross, *supra* note 557, at 285-88.

707. 59 Fed. Reg. at 14,264-65, citing 880 F.2d at 464.

708. Cross describes CV as a controversial methodology because it is entirely hypothetical and assumes that people respond to a survey as they would to a marketplace transaction. Cross, *supra* note 557, at 315. See also Frank B. Cross, *Restoring Restoration For Natural Resource Damages*, 24 U. TOLEDO L. REV. 319 (1993) (arguing that restoration cost is preferable to contingent valuation as a methodology for valuing damaged natural resources).

709. 59 Fed. Reg. at 14,265.

concerning the use of CV remain unchanged from the version the *Ohio* court considered and remanded.⁷¹⁰

e. The Post-Assessment Phase

At the conclusion of either a Type A or B assessment, the trustee must prepare a Report of Assessment during the post-assessment phase.⁷¹¹ The authorized official must then present a written demand to PRPs for a sum certain, representing the damages calculated during the assessment, and including the reasonable costs of performing the assessment.⁷¹² The trustee should allow at least 60 days for PRPs to acknowledge and respond to the demand before filing suit.⁷¹³ The statute of limitations requires trustees to commence actions to recover natural resource damages (except at sites on the NPL or at federal facilities)⁷¹⁴ within three years after the later of the date of the discovery of the loss and its connection with the release in question or the date on which damage assessment regulations are promulgated.⁷¹⁵ The final damage assessment regulations define the date of regulatory promulgation for purposes of applying the limitations statute as the date on which the Interior Department publishes the later of the revisions of the Type A and Type B regulations on remand from the *Colorado* and *Ohio* as a final rule in the Federal Register.⁷¹⁶

All damages and assessment costs recovered through voluntary payment or litigation by the federal government acting as trustee must be retained in a separate account in the United

710. *Id.*

711. 43 C.F.R. § 11.90(a) (1993). The contents of the report, described for Type A assessments at *id.* § 11.90(b), and for Type B assessments at *id.* § 11.90(c), include the Preassessment Screen Determination and the Assessment Plan. *Id.* § 11.90 (a). See also *id.* § 11.13(f).

712. *Id.* § 11.91(a). The demand must adequately identify the agency asserting the claim, the location and description of the injured resource, the type of discharge or release causing the injuries, and the amount of damage sought. *Id.*

713. *Id.* § 11.91(d).

714. For those sites, suit must be commenced within three years of completion of remedial action. 42 U.S.C. § 9613(g)(1) (1988).

715. *Id.*

716. 43 C.F.R. § 11.91(e) (1993), cited at 59 Fed. Reg. at 14,287. The Department dismissed charges that it has no authority to interpret the meaning of the limitations provisions of CERCLA: "As the agency given authority to develop procedures for assessing natural resource damages, the Department believes it is in the best position to evaluate when regulations establishing full procedures have been promulgated. Issuance of § 11.91(e) [of the regulations] is designed merely to clarify an unclear statutory term and is well within the scope of the Department's expertise and statutory grant of authority." 59 Fed. Reg. at 14,276.

States Treasury.⁷¹⁷ Once the amount of a natural resource damage award has been determined, the authorized official must prepare a Restoration Plan (based on the earlier Restoration and Compensation Determination Plan) describing how the award will be used to effectuate the RRRRA of the injured resources. When an award includes damages for compensable value, the Plan must also describe how money will be used to address the services that are lost to the public before completion of RRRRA.⁷¹⁸ Federal agencies cannot incur ongoing restoration expenses in excess of those that would have been incurred under baseline conditions and that the separate account cannot fund, unless the agency obtains additional funds through the normal appropriations process.⁷¹⁹

3. Damage Assessment Cases

Due to the delays in issuing the Interior Department's damage assessment regulations, the early natural resource damage cases did not involve assessments completed in accordance with the regulations.⁷²⁰ In *Idaho v. Bunker Hill Company*,⁷²¹ for example, the court used the lesser of damages calculated on a value basis or on a cost-of-restoration basis.⁷²² This holding is questionable after the *Ohio* court rejected the Interior Department's "lesser of" rule as inconsistent with congressional intent.⁷²³

The court in *Idaho v. Southern Refrigerated Transport, Inc.*⁷²⁴ engaged in a more extended discussion of the measurement of natural resource damages. The court there ruled that damages

717. 43 C.F.R. § 11.92(a)(1) (1993).

718. *Id.* § 11.93(a), cited at 59 Fed. Reg. at 14,276.

719. *Id.* § 11.93(b).

720. *See, e.g., Utah v. Kennecott Corp.*, 801 F. Supp 553 (D. Utah 1992), *appeal dismissed for lack of jurisdiction*, 14 F.3d 1489 (10th Cir. 1994). *See also* Marten & McFarland, *supra* note 282, at 672. In *In re National Gypsum Co.*, No. 390-37213-SAF-11 (Bankr. N.D. Tex. June 24, 1992), however, a federal bankruptcy court limited the Untied States to a combined total of \$10.1 million in response costs and natural resource damages. The court determined that the bankrupt company's expert witness had followed EPA remedy selection more closely than had EPA itself.

721. 635 F. Supp 665 (D. Idaho 1986).

722. *Id.* at 676. *Compare* *Utah v. Kennecott Corp.*, 801 F. Supp 553 (D. Utah 1992), *appeal dismissed for lack of jurisdiction*, 14 F.3d 1489 (10th Cir. 1994), in which the court rejected a proposed consent decree settling the state's claim for natural resource damages on the ground that the state's adoption of market value as the sole determinant of use value was too narrow, and was inconsistent with the *Ohio* case. *Id.* at 571.

723. *See supra* § VIII I.1.d.

724. 1991 U.S. Dist. LEXIS 1869, *54 (D. Idaho Jan. 24, 1991).

should be based on a combination of commercial,⁷²⁵ existence,⁷²⁶ and recreational values,⁷²⁷ and it determined the commercial value of fish killed by a release based on values found in the American Fishery Society's publication, *Monetary Values of Freshwater Fish and Fish-Kill Counting Technique Guidelines*. These Guidelines assign a monetary value to fish by inch class or species, based in large part on average prices set by commercial fish hatcheries.⁷²⁸ The court supplemented commercial value with recreational value, which it derived from a study of the recreational value of steelhead salmon conducted by the Forest Service, the Fish and Wildlife Service, the BLM, and other federal agencies for other purposes.⁷²⁹ It calculated the value of the 157 returning adult steelhead lost as a result of a fungicide release at \$7,672.⁷³⁰ Although the court recognized that existence value represented yet another component of damages, it found that the studies relied on by the state to support existence values were insufficient and unpersuasive.⁷³¹

In *Utah v. Kennecott Corporation*,⁷³² the Utah district court rejected a proposed consent decree involving damages to the state's interest in groundwater contaminated by Kennecott's mining and milling operations. The court found at least three major deficiencies in the settlement. First, the state had not provided a sufficient foundation for its determination that it could not restore its groundwater resources.⁷³³ Second, the settlement failed to require the PRP to take measures necessary to protect the

725. The court described commercial value as market price or exchange value of the resource, determined by the intersection of the supply and demand curves. *Id.* at *56.

726. Cross defines existence value as the worth of natural resources beyond their use value, which he defines as the worth of natural resources to the people who use them. Cross, *supra* note 557, at 281. Existence value includes option value on the preservation of the resources, vicarious value, and intertemporal value (value to future generations). *Id.* at 285-88.

727. Recreational value is the value the consumer places on the use of a resource, e.g., for a hunting trip. *Southern Refrigerated Transp.*, 1991 U.S. Dist LEXIS 1869, at *59.

728. *Id.* at *57-*59.

729. *Id.* at *61.

730. *Id.*

731. *Id.* at *55-*56.

732. 801 F. Supp 553 (D. Utah 1992), *appeal dismissed for lack of jurisdiction*, 14 F.3d 1489 (10th Cir. 1994).

733. *Id.* at 568-69. Accordingly, the settlement was inconsistent with CERCLA's remedial purposes. *Id.* at 569.

state's resources from further contamination.⁷³⁴ Third, the consent decree improperly measured the natural resource damages the state suffered. The state concluded that because restoration of contaminated groundwater was infeasible, loss of value was the sole basis for measuring damages.⁷³⁵ The court indicated that if restoration were feasible, then loss of value might not be the appropriate basis for calculating damages. But even if the state's finding of infeasibility were correct, the state, by equating loss of value with market value, had adopted an impermissibly narrow interpretation of use value. The state failed to assess non-consumptive use values of the aquifer, including option and existence values. As a result, the settlement did not "capture fully all aspects of the loss."⁷³⁶

The lesson cases such as *Southern Refrigerated Transport* supply is that, despite the *Ohio* and *Colorado* decisions, a trustee's case for damages will be only as strong as the documentation it can provide for the various components of damages claimed. Trustees litigating damage cases can expect PRPs to attack such documentation from every conceivable angle. The 1994 revised damage assessment regulations will provide important assistance to trustees in the form of the rebuttable presumption that damages assessed in accordance with the regulations are valid and recoverable.⁷³⁷

J. *Evaluation of the Natural Resource Damage Assessment Process*

During the decade following CERCLA's enactment, critics often complained about the slow pace of EPA cleanups.⁷³⁸ Natu-

734. *Id.* at 569-70. The state could have insisted upon a covenant to protect the groundwater resources through source controls and containment of existing contaminated plumes. *Id.* at 569. Its failure to do so violated the trustee's obligation to protect and restore the damaged natural resources. *Id.*, citing 42 U.S.C. § 9622(j)(2) (1988).

735. *Id.* at 571.

736. *Id.*, quoting *Ohio v. United States Dep't of the Interior*, 880 F.2d 432, 463 (D.C. Cir. 1989).

737. See 42 U.S.C. § 9607(f)(2)(C) (1988). In *Utah v. Kennecott Corp.*, 801 F. Supp 553 (D. Utah 1992), *appeal dismissed for lack of jurisdiction*, 14 F.3d 1489 (10th Cir. 1994), the court reviewed a proposed consent decree involving damage to natural resources more rigorously than it would have had the state trustee followed the Interior Department regulations, and therefore been able to trigger the statutory rebuttable presumption on behalf of the trustee. See *id.* at 567-67, citing 42 U.S.C. § 9607 (f)(2)(C) (1988); 43 C.F.R. § 11.10 (1993).

738. See, e.g., ZYGMUNT J.B. PLATER, ET AL., ENVIRONMENTAL LAW AND POLICY: NATURE, LAW AND SOCIETY 893 (1992), citing JON PAUL ACTON, UNDER-

ral resource damage assessment took even longer to get off the ground. The delay in issuance of the 1986 regulations, followed by the *Ohio* and *Colorado* courts invalidating a central component of those rules, hampered trustees in their efforts to compute damages to injured resources and prevented them from taking advantage of the statutory presumption provided by compliance with the damage assessment regulations.⁷³⁹

The revised 1994 regulations for Type B assessments appear to address the most significant substantive deficiencies the *Ohio* court depicted. In addition to the cost of restoration, rehabilitation, replacement, or acquisition, the regulations now authorize trustees to recover the lost value of services provided by the injured resources pending restoration.⁷⁴⁰ The Interior Department also has acknowledged that market price does not necessarily reflect the full value of natural resources.⁷⁴¹

The regulations leave some important questions unanswered. The agency's refusal to provide a detailed definition of the privately owned resources that the assessment process covers⁷⁴² necessarily means that, absent statutory amendments, the crucible of litigation will settle the issue. Similarly, the courts are likely to continue to wrestle with the appropriateness of affording damage recoveries to local governments.⁷⁴³ Litigation over the Department's interpretation of the statute of limitations provisions⁷⁴⁴ is almost certain to occur, as is litigation concerning the agency's eventual resolution of the role of contingent valuation in the damage assessment process.⁷⁴⁵ The agency's promise to begin its biennial update to the Type B assessment regulations less than six months after their issuance⁷⁴⁶ lends further uncertainty to the impact of those regulations on natural resource damage recoveries. The need to keep up with the rash of new developments arising under CERCLA has spawned more than one cottage industry in the legal community. Liability for natural resource damages promises to be one of the fastest moving and

STANDING SUPERFUND: A PROGRESS REPORT 48-56 (1989); Frederick R. Anderson, *Negotiation and Informal Agency Action: The Case of Superfund*, 1985 DUKE L.J. 261, 267-69.

739. See 42 U.S.C. § 9607(f)(2)(C) (1988).

740. See *supra* § VIII I.2.d.

741. See 56 Fed. Reg. 19,752, 19,759 (1991) (preamble to proposed regulations).

742. See 59 Fed. Reg. at 14,267-68; *supra* § VIII I.1.b.

743. See 59 Fed. Reg. at 14,268; *supra* § VIII F.2.

744. See *supra* § VII F.

745. See *supra* § VIII I.2.d(2).

746. See 59 Fed. Reg. at 14,263.

growing CERCLA areas in the coming years. Attorneys seeking to provide knowledgeable advice in this area will have to familiarize themselves not only with the maze of regulations contained in the NCP, which governs matters such as designation of trustees, but also with the Interior Department's revised damage assessment regulations. Attorneys untrained in economic analysis will need to instruct themselves in this discipline, for the nuts and bolts battles in damage liability cases are likely to revolve around such arcane concepts as the vicarious and intertemporal value of injured resources,⁷⁴⁷ and the hedonic pricing and contingent nonmarketed valuation methodologies.⁷⁴⁸ In any event, it is no longer true that the damage liability provisions are good for little more than "gathering dust."⁷⁴⁹ Furthermore, the sheer size of the recoveries sought in many natural resource damage cases almost certainly will transform issues relating to those recoveries from "expendable bargaining chips" in response cost settlement negotiations⁷⁵⁰ to bottom line considerations.

IX. CONCLUSION

CERCLA is of central concern to the management of hazardous substances on or near the federal lands. CERCLA's impact on the federal lands is likely to be most prominent in three areas — application of the statute to private activities, such as mining and mineral processing; the imposition of response cost liability on federal facilities; and the assessment and recovery of damages for injured or lost natural resources.

Activities on the federal lands that are exempt from the regulatory proscriptions of RCRA, such as certain mining and mineral processing activities, are not necessarily exempt from either the regulatory or liability provisions of CERCLA.⁷⁵¹ CERCLA requires notification and reporting of actual or threatened hazardous substance releases,⁷⁵² but the statute's liability scheme is of greater concern to waste-generating users of the federal lands. Liability for costs incurred by federal or state governments or private entities in responding to hazardous substance releases

747. See Cross, *supra* note 557, at 285-88.

748. See *id.* at 313-15.

749. Olson, *supra* note 440, at 10551.

750. Anderson, *supra* note 130, at 420.

751. See *supra* § II B.

752. See *supra* § III A.

can be enormous. The statute sweeps broadly in its designation of responsible parties,⁷⁵³ in its specification of a strict liability standard,⁷⁵⁴ and in its attenuated causation standard.⁷⁵⁵ Industry-sponsored efforts to dilute the statute's reliance on the principle that "the polluter pays" in favor of increased resort to tax mechanisms that spread the burden of site cleanups more broadly thus far have been notably unsuccessful.

Because the federal government has generated considerable amounts of hazardous wastes, primarily through the Defense and Energy Departments, and apparently managed them in a haphazard fashion, the government has begun to incur substantial liabilities for response costs and natural resource damages.⁷⁵⁶ Although federal land management agencies such as the Forest Service and the BLM have not yet incurred CERCLA liability in connection with the regulation of private activities on lands under their jurisdiction, the statute arguably subjects the government to liability in that context as well.⁷⁵⁷ This article takes the position that there are more efficient methods for inducing the land management agencies to take care that the hazardous substance management activities of private lessees and licensees do not jeopardize federal lands and resources, and that Congress should forestall the imposition of liability for the government's regulatory as opposed to proprietary functions.⁷⁵⁸

The aspect of CERCLA's application to the federal lands that is most likely to see an explosion of administrative and judicial activity in the next decade involves the assessment and recovery of natural resource damages. The damage assessment process has barely begun, primarily as a result of the delayed issuance and flawed content of the Interior Department's initial damage assessment regulations.⁷⁵⁹ It is reasonable to anticipate another round of litigation over the validity of the revised 1994 regulations. Only upon the conclusion of that litigation will the process of seeking damages for injured natural resources move into high gear. The issues raised in individual damage assessments are likely to include the identity of proper damage liability plain-

753. *See supra* § VII B.

754. *See supra* §§ VII D-E.

755. *See supra* § VII D.3.

756. *See supra* § VII L.

757. *See supra* § VII L.2.

758. *See supra* notes 432-38 & accompanying text.

759. *See supra* § VIII I.

tiffs,⁷⁶⁰ the mechanisms for resolving disputes between multiple trustees,⁷⁶¹ and the scope of the statutory exemptions from damage liability.⁷⁶² The damage assessment calculations arrived at by natural resource trustees are likely to be extremely contentious. PRPs will seek to minimize liability by sponsoring their own, conflicting assessments, and environmental groups may continue to attack the government's reliance on cost-benefit analysis and various damage quantification techniques. The statutory presumption of validity afforded trustees that perform assessments in compliance with the revised regulations⁷⁶³ will be a crucial if not determinative factor in many cases.

No matter what the outcome of any challenges to the Interior Departments' revised damage assessment regulations is, a new wave of CERCLA litigation is on the horizon. It is appropriate to characterize the first wave of cases, which involved the recovery of response costs incurred in cleaning up hazardous substance releases, as primarily composed of pollution control cases. The second wave, which will center around the assessment and recovery of damages for lost or injured natural resources, will revolve around a series of CERCLA provisions that seek to both control pollution and enhance the ability of the federal land management agencies to protect the public natural resources under their jurisdiction. As a result, the natural resource damage provisions of CERCLA may well become the paradigmatic example of the intersection of these two main branches of environmental law.

760. *See supra* § VIII F.

761. *See supra* notes 549-56.

762. *See supra* § VIII C.

763. 42 U.S.C. § 9607(f)(2)(C) (1988).

