The Evolution of Natural Resource Damage Assessments Under the Oil Pollution Act and the Comprehensive Environmental Response, Compensation, and Liability Act

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THE EVOLUTION OF NATURAL RESOURCE DAMAGE ASSESSMENTS UNDER THE OIL POLLUTION ACT AND THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT

J. TERENCE RYAN*

INTRODUCTION

Earlier this year, the Department of the Interior ("DOI" or "Department") and the National Oceanic and Atmospheric Administration ("NOAA") took administrative action to fulfill their obligations under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA" or "Act"), and the Oil Pollution Act of 1990 ("OPA"), respectively. Both agencies were required to promulgate regulations that would establish administrative processes for determining how liability for damage to our natural resources would be calculated. Pursuant to statutory obligations, these agencies have been given the task of assessing and calculating monetary damage assessments designed to restore resources previously damaged by hazardous waste or oil.

On January 7, 1994, the NOAA published a Notice of Proposed Rulemaking ("NOPR") seeking comments on its proposed rule for federal, state, and tribal officials who, acting as "trustees," will pursue natural resource damage assessments that result from the discharge of oil. On March 25, 1994, the Federal Register published the DOI's Final Rule on Natural Resource Damage Assessments. The final rule amends the regulations that set forth the criteria and methodologies used to assess the damages incurred by our nation's natural resources.

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as either a result of a discharge of oil into the navigable waters under the Clean Water Act, or the release of a hazardous substance under CERCLA.\(^6\) When NOAA's regulations become final, the rule will supersede DOI's regulations regarding the discharge of oil. DOI's final rule will be issued pursuant to a court order that held that the prior damage assessment regulations issued by the Department were inconsistent with congressional mandates.\(^7\)

This analysis, in three parts, explores the impact of the final and proposed rules on the current regulatory regime. Part I gives a brief synopsis of major statutory provisions of CERCLA and OPA, including an introduction to natural resources damages. Part II offers a more comprehensive examination of natural resources damages and the methodologies used to calculate penalties. Part III examines both the judicial forces that have shaped the development of natural resource damage assessment rules and the changes that the proposed and final rules have made to the current regulatory regime. Finally, this Article concludes that regulated industries will have to prepare for an increased number of natural resource damage actions.

I. Overview

A. CERCLA's Beginnings

In the final days of the Carter Administration, Congress enacted CERCLA. Due in large part to the impending presidency of Ronald Reagan in 1980, Senate Bill 1480 underwent a last-minute overhaul in which senators offered a flurry of amendments in an attempt to guarantee the bill's passage.\(^8\) As a result of the multitude of compromises struck immediately preceding its enactment, many provisions of the statute, including those relating to natural resource damages, are rather ambiguous.\(^9\) Nonetheless, it is clear that the Act has two principal purposes, to ensure (1) cleanup of contaminated waste sites;\(^10\) and (2) recovery of natural resource damages.\(^11\)

B. The CERCLA Program

CERCLA's coverage is fairly broad, as it applies to all environmental media including air, surface water, groundwater, and soil.\(^12\) The

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\(^{6}\) See id.\(^{7}\)

\(^{8}\) See Ohio v. United States Dep't of the Interior, 880 F.2d 432 (D.C. Cir. 1989) (mandating revision of DOI's 1986 damage assessment rules).\(^{9}\)


\(^{9}\) Id.\(^{10}\)

\(^{10}\) 42 U.S.C. § 9607 (1988).\(^{11}\)

\(^{11}\) See id.\(^{12}\)

\(^{12}\) ENVIRONMENTAL LAW HANDBOOK 76 (J. Gordon Arbuckle et al. eds., 10th ed. 1989).
statute imposes strict liability on those potentially responsible parties ("PRPs") for the "response" costs incurred in cleaning up a contaminated site. Response costs are associated with removal and remedial actions. Removal actions are usually associated with the short-term measures necessary to respond to the immediate impacts of a contaminated site. Remedial actions, on the other hand, are usually associated with the long-term measures implemented to transport, treat, and destroy the contaminated materials located at the site.

13. See 42 U.S.C. § 9607(a) (1988), which defines potentially responsible parties to include:
   (1) the owner and operator of a vessel or a facility,
   (2) any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of,
   (3) any person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person, by any other party or entity, at any facility or incineration vessel owned or operated by another party or entity and containing such hazardous substances, and
   (4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities, incineration vessels or sites selected by such person, from which there is a release, or a threatened release which causes the incurrence of response costs, of a hazardous substance.

14. See id., which requires all persons liable for cleanup costs to bear:
   (A) all costs of removal or remedial action incurred by the United States Government or State or an Indian tribe not inconsistent with the national contingency plan;
   (B) any other necessary costs of response incurred by any other person consistent with the national contingency plan;
   (C) damages for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss resulting from such a release; and
   (D) the costs of any health assessment or health effects study carried out under section 9604(i) of this title.

15. See 42 U.S.C. § 9601(23) (1988), which defines removal, in relevant part, as:
   ...the cleanup or removal of released hazardous substances from the environment, such actions as may be necessary taken in the event of the threat of release of hazardous substances into the environment, such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release (footnotes omitted).

   ...those actions consistent with permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment. The term includes, but is not limited to, such actions at the location of the release as storage, confinement, perimeter protection using dikes, trenches, or ditches, clay cover, neutralization, cleanup of released hazardous substances.
In addition to the cleanup of contamination, the second major part of CERCLA deals with the liability\textsuperscript{17} and the payment of damages\textsuperscript{18} for the destruction of natural resources.\textsuperscript{19} Congress intended these provisions to expand upon common-law approaches used to assess damages to natural resources.\textsuperscript{20} The scope of the CERCLA natural resource damages provisions, however, is much narrower than the common-law approach to natural resources damages. Under CERCLA, liability for natural resources damages only attaches if there has been a release of a hazardous substance into the environment.

C. Oil Pollution Act of 1990

Largely in response to the Exxon Valdez disaster in 1989, in which 11 million gallons of crude oil were spilled in Prince William Sound, Alaska, Congress enacted OPA. OPA's statutory provisions are very similar to those set forth under the Federal Water Pollution Control Act ("Clean Water Act")\textsuperscript{21} and CERCLA. OPA's scope is intended to cover all discharges of oil from a vessel or facility into navigable waters that occur after August 18, 1990, the date of enactment. OPA provisions now supersede any provisions in the Clean Water Act that relate to the recovery of costs for natural resource damages caused by the discharge of oil. OPA does not overlap with CERCLA because,

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\item\textsuperscript{17} See 42 U.S.C. § 9607(f)(1) (1988) (setting out the liability provisions for natural resources). This section provides, in relevant part:
  In the case of an injury to, destruction of, or loss of natural resources . . . liability shall be to the United States Government and to any State for natural resources within the State or belonging to, managed by, controlled by, or appertaining to such State and to any Indian tribe for natural resources belonging to, managed by, controlled by, or appertaining to such tribe, or held in trust for the benefit of such tribe, . . . Provided, however, that no liability to the United States or State or Indian tribe shall be imposed . . . where the party sought to be charged has demonstrated that the damages to natural resources complained of were specifically identified as an irreversible and irretrievable commitment of natural resources in an environmental impact statement, or other comparable environmental analysis, and the decision to grant a permit or license authorizes such commitment of natural resources, and the facility or project was otherwise operating within the terms of its permit or license . . . The President, or the authorized representative of any State, shall act on behalf of the public as trustee of such natural resources to recover for such damages (emphasis added).
\item\textsuperscript{18} 42 U.S.C. § 9607(a)(4) (1988).
\item\textsuperscript{19} See 42 U.S.C. § 9601(16) (1988), which defines "natural resources" as: land, fish, wildlife, biota, air, water, ground 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 [16 U.S.C. § 1801 et seq.]) 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.
\item\textsuperscript{20} Woodard, \textit{supra} note 8, at 190.
\item\textsuperscript{21} 33 U.S.C. §§ 1251-1387 (1988).
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by definition, petroleum is not encompassed by the term "hazardous substance." Thus, OPA and CERCLA are designed to be mutually exclusive.

D. OPA’s Program

Under OPA, each responsible party for a vessel or a facility from which oil is discharged, or which poses the substantial threat of a discharge of oil, into or upon the navigable waters or adjoining shorelines or the exclusive economic zone is liable for the removal costs and damages that result from such incident.

Under the statute, “responsible party” is defined as broadly as its counterpart is under CERCLA. Under this definition, a responsible party includes states, municipalities, state political subdivisions, and interstate bodies. Under OPA, a responsible party is liable for damages if there is a discharge of oil, from a vessel or facility, into or on the navigable waters, adjoining shorelines, or exclusive economic zone. The “exclusive economic zone” is the area that is contiguous to the territorial sea and extends outward 200 nautical miles from shore.

OPA requires that each responsible party be liable for all removal costs resulting from the cleanup of all of the discharged oil. Additionally, a responsible party is liable for natural resources damages and for the costs of assessing those damages. Natural resource damages under OPA are only recoverable by the United States, a state, an Indian tribe, or a foreign trustee. All monies recovered are to be used

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25. See 33 U.S.C. § 2701(32) (Supp. V 1993), which defines responsible parties to include:
   (A) any person owning, operating, or demise chartering a vessel;
   (B) any person owning or operating an onshore facility;
   (C) the lessee or permittee of, or the holder of, a right of use and easement for the area in which an offshore facility is located;
   (D) the licensee of a deepwater port licensed under the Deepwater Port Act of 1974 (33 U.S.C. §§ 1501-1524);
   (E) any person owning and operating a pipeline; and
   (F) in the case of an abandoned vessel, facility, port or pipeline, the persons who would have been responsible parties immediately prior to the abandonment.
29. 33 U.S.C. § 2702 (Supp. V 1993). Under OPA, responsible parties are also responsible for damage to real or personal property, subsistence use, lost revenues, lost profits and earning capacity, and the cost of providing additional or increased services.
only to reimburse or pay the costs of assessment of damages, and for the development and implementation of a plan designed to restore, replace, rehabilitate or acquire equivalent natural resources.\(^{30}\) In addition, the damage assessment must also account for the diminution in value of the natural resources pending restoration.\(^{31}\)

II. Natural Resources Damages

Under CERCLA and OPA, federal and state trustees are responsible for pursuing natural resources damage actions.\(^{32}\) Yet, to date, relatively few natural resources damage actions have been pursued.\(^{33}\) The lack of recovery actions has been due to several factors, including: (1) the problems economists have in measuring natural resources damages; (2) DOI's four-year delay in promulgating its first set of natural resources damage regulations; (3) CERCLA's failure to provide funding to trustees to enable them to make preliminary damage assessments; and (4) the lack of judicial precedents regarding natural resources damage assessments to provide guidance to trustees.\(^{34}\) Despite these obstacles, there seems to be a consensus that natural resources damage actions will become more prevalent in the latter half of this decade.\(^{35}\)

As enacted in 1980, CERCLA required the president to promulgate regulations for the assessment of damages to natural resources.\(^{36}\) By Executive Order,\(^{37}\) President Reagan delegated this responsibility to DOI. Although CERCLA required the regulations to be promulgated by December 11, 1982,\(^{38}\) the Department did not issue its first

\(^{30}\) See H.R. Conf. Rep. No. 653, 101st Cong., 2d Sess. 107-08, reprinted in 1990 U.S.C.C.A.N. 785-87 (stating that in all cases the trustee should attempt to restore and rehabilitate their natural resources; acquisition of the equivalent of natural resources should only take place when the costs involved are grossly disproportionate or the restoration is highly impracticable).


\(^{34}\) Woodard, supra note 8, at 192-93.

\(^{35}\) See, e.g., John Gerald Gleeson et al., Defending Natural Resources Damage Claims: Minimizing the Liability of Responsible Parties, 70 U. DET. L. REV. 281, 282 (1993) (noting that environmental agencies are ready to actively enforce the CERCLA provisions regarding natural resources damages).

\(^{36}\) See 42 U.S.C. § 9651(c) (1988) (setting out enabling language for the promulgation of assessment regulations). The statute states, "The President, acting through Federal officials designated by the National Contingency Plan . . ., shall study and, not later than two years after December 11, 1980, shall promulgate regulations for the assessment of damages for injury to, destruction of, or loss of natural resources resulting from a release of oil or a hazardous substance . . . ." Id.


damage assessment regulations until 1986. Additional regulations were published in March 1987. In 1990, the OPA was passed and the authority for promulgating regulations for the assessment of natural resources damages was delegated to the NOAA.

A. CERCLA's Regulations

The DOI has promulgated two different sets of regulations, “Type A” rules and “Type B” rules, which establish methods and procedures for assessing natural resources damages in different situations. Type A regulations are generally used for situations in which there is very little damage to the environment. Type B regulations are used to assess more serious damages, where the supervision and restoration will be time-intensive. Using the Type A or Type B regulations to assess natural resources damages is not required under the statute. Use of the regulations, however, creates a rebuttable presumption that the assessment is fair, accurate, and valid.

1. Type A Regulations

Type A assessments, which are currently used to assess damages from oil and hazardous waste releases into coastal and marine environments, are set forth in the Code of Federal Regulations. Assessing Type A natural resources damages entails the use of a computer model referred to as the Natural Resource Damage Assessment Model for Coastal and Marine Environments (“NRDAM/CME”). The NRDAM/CME uses a four-step process to calculate damages.

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40. See 42 U.S.C. § 9651(c)(2) (1988) (setting out the requirements for the assessment regulations). The regulations commonly known as “Type A” and “Type B” regulations, were to assess
(A) standard procedures for simplified assessments requiring minimal field observation, including establishing measures of damages based on units of discharge or release or units of affected area, and
(B) alternative protocols for conducting assessments in individual cases to determine the type and extent of short- and long-term injury, destruction, or loss...
42. See supra note 40.
44. Id. § 11.40.
45. Id. § 11.60.
46. See 42 U.S.C. § 9607(f)(2)(C) (1988) (creating a statutory rebuttable presumption in favor of trustees who use the regulations promulgated by DOI). The statute states,

determination or assessment of damages to natural resources for the purposes of this chapter... made by a Federal or State trustee in accordance with the regulations promulgated under section 9651 of this title shall have the force and effect of a rebuttable presumption on behalf of the trustee in any administrative or judicial proceeding under this chapter or section 1321 of title 33 [Federal Water Pollution Control Act].
48. Id. § 11.41(a)(1).
49. Id. § 11.41(a)(2).
This methodology involves: (1) coastal and marine environments assessment plans,\(^{50}\) (2) coastal and marine environments injury determinations,\(^{51}\) (3) coastal and marine environments quantifications,\(^{52}\) and (4) coastal and marine environment damage determinations.\(^{53}\) The final step in this process is for the trustee to seek damages from the PRPs.

2. Type B Regulations

a. Preassessment Phase

Type B damage assessments are also calculated in a multi-step process that is a bit more complex but similar to the Type A assessments. Under the regulations, in Type B assessments,\(^{54}\) the first phase in the process used to determine natural resources damages is the "preassessment phase."\(^{55}\) The regulations require the trustee, except under emergency restorations, to make a preassessment to determine

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\(^{50}\) See id. § 11.41(c) (requiring the general information on the discharge or release). The information required includes, but is not limited to, the chemical CAS number of the substance discharged or released; the estimated total mass discharged or released stated in metric tons; the date of the discharge or release; the province in which the discharge or release occurred; where the discharge or release occurred (either in a marine or estuarine environment); the current estimate of the implicit price deflator for the Gross National Product for the quarter during which the discharge or release occurred; and the extent of any cleanup that may have been conducted. Id.

\(^{51}\) See id. § 11.41(d) (requiring that "[u]nless otherwise provided for in this Part, all injury determinations for coastal and marine environments shall be established through the use of the physical fates and biological effects submodels of the NRDAM/CME.").

\(^{52}\) See id. § 11.41(e) (requiring, "[u]nless otherwise provided for in this Part, all quantification of injury for coastal and marine environments shall be established through the use of the biological effects submodel of the NRDAM/CME."). The injury determination is calculated by the use of the computer which estimates the total biomass killed. Id. Officials attempt to quantify the injury by determining, inter alia, the effect on any intertidal areas, the toxic threshold concentrations that may have migrated across the boundary of an estuarine or marine environment, and the toxic threshold concentrations that may have migrated across the province boundary. Id. Province boundaries are one of the ten geographical areas used by the NRDAM/CME. Id. § 11.41(b). The provinces are defined as: (1) Acadian (Northeast); (2) Virginian (Mid-Atlantic); (3) Carolinian (South-Atlantic); (4) Louisianian (Gulf Coast); (5) West Indian (South Florida); (6) Californian (California and the Mexican Border); (7) Columbian (Pacific Northwest); (8) Fjord (Gulf of Alaska); (9) Arctic (Alaska); and (10) the Pacific Insular (Hawaii).

\(^{53}\) See id. § 11.41(f) (requiring that, "unless otherwise provided for in this Part, all damage determinations for coastal and marine environments shall be established through the use of the economic damages submodel of the NRDAM/CME."). Under the regulations, damages are calculated for: short-term lethal effects on lower trophic biota; direct and indirect lethal effects on fur seals, waterfowl, shorebirds, and seabirds; direct and indirect lethal effects on fish and shellfish; the reduction in catch from the closure of a fishing area; the reduction in harvest from the closure of a hunting area; and the direct loss of use of a public beach due to closure. Id.

\(^{54}\) 43 C.F.R. § 11.60 (1993).

\(^{55}\) Id. § 11.23.
whether an assessment is indeed warranted. 66 "Emergency restorations" are defined as "any situation related to a discharge or release 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 a similar need for emergency action." 57 The purpose of the preassessment is to rapidly review all current available information to ascertain if there is a "reasonable probability" of being successful in pursuing damages against a PRP. 58

When authorized officials engage in a preassessment determination and decide that a natural resources damages action should be brought, the officials must document their preliminary findings. 59 This "Preassessment Screen Determination" is included in the "Report of Assessment," which consists of supporting documentation used to assess the damages. 60 The preassessment screen information must include the following findings: (1) a discharge of oil or a release of a hazardous substance has occurred; 61 (2) natural resources for which a federal or state agency or Indian tribe may assert trusteeship have been or are likely to have been adversely affected by the discharge or release; 62 (3) the quantity and concentration of the discharge or release is sufficient to potentially cause injury; 63 (4) the data sufficient to pursue an assessment are readily available or likely to be obtained at reasonable cost; 64 and (5) the response actions undertaken will not sufficiently remedy the injury to natural resources without further action. 65

Moreover, the regulations expressly allow "reasonable and necessary" costs to be undertaken during the preassessment period. 66 The costs are limited 67 to the following categories: (1) release detection

66. Id. § 11.23(a).
67. Id. § 11.21.
58. Id. § 11.23(b) (requiring that the costs and efforts will be justified when pursuing a claim).
59. Id. § 11.23(c).
60. See id. § 11.90 (requiring that at the conclusion of either a Type A or Type B assessment, the authorized official shall prepare a Report of Assessment consisting of the Preassessment Screen Determination and the Assessment Plan). Additionally, for Type B Assessments:
the Report of Assessment shall consist of all the documentation supporting the determinations required in the Injury Determination phase, the Quantification phase, and the Damage Determination phase, and specifically including the test results of any and all methodologies performed in these phases. Where the basis for the measure of damages is restoration or replacement costs, the Restoration Methodology Plan shall also be included in the Report of Assessment. Id.
61. Id. § 11.23(e)(1).
62. Id. § 11.23(e)(2).
63. Id. § 11.23(e)(3).
64. Id. § 11.23(e)(4).
65. Id. § 11.23(e)(5).
66. Id. § 11.23(g).
67. See also § 11.23(g)(2) (setting out further restrictions on the amount of costs incurred). The regulations explicitly state:
and identification costs;\textsuperscript{68} (2) trustee identification and notification costs;\textsuperscript{69} (3) potentially injured resource identification costs;\textsuperscript{70} (4) site characterization costs;\textsuperscript{71} and (5) other preassessment costs related to notification and identification of the trustees.\textsuperscript{72} After the initial preassessment determination is completed, the trustees will undertake the second phase of the process, the Assessment Plan.\textsuperscript{73}

In formulating the Assessment Plan, the first step for the government trustee is to notify all other trustees who may also have jurisdiction over the natural resources damages.\textsuperscript{74} At the very least, the notification should make the other trustees aware that an Assessment Plan is being developed. The notification should also include the Preassessment Screen Determination.\textsuperscript{75} Additionally, all PRPs are to be notified,\textsuperscript{76} as the government is required to invite participation\textsuperscript{77} to help develop the scope of, and performance in, the assessment.\textsuperscript{78}

b. Assessment Plan Phase

After notification and identification, the formulation of the Assessment Plan begins. The Assessment Plan must include all the scientific and economic methodologies to be used,\textsuperscript{79} a description of the natural

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\item The reasonable and necessary costs for these categories shall be limited to those costs incurred by the authorized official for, and specifically allocable to, site-specific efforts taken during the preassessment phase for assessment of damages to natural resources for which the agency or Indian tribe is acting as trustee. Such costs shall be supported by appropriate records and documentation and shall not reflect regular activities performed by the agency or Indian tribe in management of the natural resource. Activities undertaken as part of the preassessment phase shall be taken in a manner that is cost-effective.\ldots
\item Id. § 11.23(g)(1)(i).
\item Id. § 11.23(g)(1)(ii).
\item Id. § 11.23(g)(1)(iii).
\item Id. § 11.23(g)(1)(iv).
\item Id. § 11.23(g)(1)(v).
\item Id. § 11.23(g)(1)(vi).
\item 43 C.F.R. § 11.30 (1993).
\item Id. § 11.32(a)(1)(i).
\item Id.
\item See id. § 11.32(a)(2), requiring the government, in the event the number of potentially responsible parties is large or if some of the potentially responsible parties cannot be located, the authorized official may proceed against any one or more of the parties identified. The authorized official should use reasonable efforts to proceed against most known potentially responsible parties... for significant portions of the potential injury. \textsuperscript{76}
\item Id. § 11.32(a)(2)(ii) (emphasis added).
\item See id. § 11.32(a)(2)(iii)(A) (requiring the trustee to send a "Notice of Intent to Perform an Assessment" to all identified PRPs). The notice must describe the site, the vessel or facility involved, the discharge or release, and the resources potentially at risk.
\item Id.
\item Id. § 11.31(a)(2).
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resources and the geographical areas involved, sampling locations within those areas, sample and survey designs, and a preliminary determination of the recovery period. Additionally, the Assessment Plan must be detailed enough to determine whether the approach chosen for evaluating the natural resources damages is cost-effective.

c. Injury Determination Phase

The third phase, referred to as the Injury Determination Phase, is the process that determines whether (1) an injury to one or more of the natural resources has occurred, and (2) the injury resulted from the discharge or release based on the exposure pathway and the nature of the injury. The authorized official, in completing an “Injury Determination,” must make successive findings as outlined in the regulations under the section entitled “Injury Determination Phase Steps.” This requires the official to determine whether the potentially injured resource is surface water, ground water, air, geologic, or a biological resource. After making such a determination, the official, according to criteria set forth in the regulations, determines whether an injury has in fact occurred. The injury determination criteria are different for each type of natural resource.

d. Quantification Phase

After it has been determined that an injury has occurred, the official commences the fourth phase of a natural resources damages action, the Quantification Phase. In this phase, the authorized official quantifies the extent to which the natural resources have been reduced as a result of the discharge or release. To quantify the effects of a discharge or release, the authorized official must measure: the extent to which the injury proven in the Injury Determination Phase has occurred in the assessment area; the extent to which the injured resource differs from baseline conditions; the services normally produced by the injured resource; significant secondary source serv-

80. Id.
81. Id.
82. Id.
83. Id.
84. Id.
85. Id. § 11.61.
86. Id. § 11.61(a)(1).
87. Id. § 11.61(c).
88. Id. § 11.62.
89. Id.
90. Id. § 11.71.
91. Id. § 11.71(a)(1).
92. Id. § 11.71(b)(1).
93. Id. § 11.71(b)(2).
94. Id. § 11.71(b)(3).
ices that may have been disrupted by the injury, and the disruption of services resulting from the discharge or release.

In quantifying the effects of a discharge or release using the aforementioned steps, the authorized official should consider the following factors: the total area, volume, or numbers of the affected natural resource; the degree to which the resource is affected (including any subareas); the ability of the resource to recover; the proportion of the available resource in the affected area, and the services normally provided by the resource that have been reduced as a result of the discharge or release. "Services" refers to the "provision of habitat, food and other needs of biological resources, recreation, other products or services used by humans, flood control, ground water recharge, waste assimilation, and other such functions that may be provided by natural resources."

e. **Damage Determination Phase**

After quantification is completed, the government trustee must estimate the amount of damages. This fifth phase is called the Damage Determination Phase. In this phase, the authorized official estimates the amount of damages that will be sought for the destruction of the natural resources caused by the discharge or release. When the regulations were originally promulgated by DOI in 1986, damages were based on either restoration costs or the diminution of use values. The DOI's guidelines, however, required that the government trustee choose the lesser of the costs of restoration or the diminution in value when determining the amount of damages to be pursued.

DOI had argued that using diminution of use values made better economic sense than the use of replacement costs. The "lesser of" rule, however, was immediately challenged, and the D.C. Circuit rejected it as inconsistent with congressional mandates. Consequently, the Department was forced to modify sections of the natural

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95. *Id.* § 11.71(b)(4).
96. *Id.* § 11.71(b)(5).
97. *Id.* § 11.71(c)(1).
98. *Id.* § 11.71(c)(2).
99. *Id.* § 11.71(c)(3).
100. *Id.* § 11.71(c)(4).
101. *Id.* § 11.71(c)(5).
102. *Id.* § 11.71(e).
103. *Id.* § 11.81.
104. *Id.* § 11.81(a).
106. *Id.*
107. *Id.*
resources damage regulations in accordance with the D.C. Circuit's decision.

B. OPA's Regulations

1. Prespill Planning

NOAA has proposed a slightly different process than DOI to determine natural resources damages. As proposed by NOAA, the natural resources damage assessment process begins with prespill planning. Prespill planning occurs before a discharge of oil has occurred and is designed to ensure a cost-effective and coordinated assessment to deal with a spill. The prespill plans are necessary since it is impossible to retroactively obtain scientific data to determine a "baseline" (how the resource existed in its natural state before the spill occurred) after a discharge occurs. As part of a prespill plan, trustees ascertain what will be required to document the damage to the resource and the best methodologies available for obtaining information in the most expeditious and efficient manner possible.

2. Preassessment Phase

After a spill occurs, NOAA has proposed a Preassessment Phase consisting of a preassessment and a damage assessment determination. In the preassessment determination component of this phase, a trustee, after notification of a spill, determines if certain conditions are met. These conditions are whether: (1) the discharge meets the exclusionary conditions set forth in OPA; (2) the trustee has authority under OPA to assert damages to natural resources for such a spill; and (3) there is a reasonable probability that a successful claim for natural resources damages can be maintained.

If the above conditions are met, the trustee decides which damage assessment procedure is appropriate for the type of spill involved. Data is collected and compiled to determine the extent of the damage

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109. There is a sixth and final phase to the natural resources damage assessments called the Post-Assessment Phase. As set out in 43 C.F.R. § 11.90 (1993), at the conclusion of a Type A or Type B assessment, a "Report of Assessment" ("Report") is established that consists of all of the supporting documentation required in the first five phases. After the Report is completed, the authorized official presents to the PRPs a request for damages—including the reasonable cost of the assessment. Id. Payment of the damages by the PRPs goes into a U.S. Treasury account and can only be used to effectuate those measures articulated in the Restoration Phase. Id.


111. Id.

112. Id.

113. Id.

114. Id.


117. Id.
to the natural resources involved.\textsuperscript{118} Once enough data has been collected for the trustee to make an informed decision about what type of damage assessment is appropriate, a "preassessment phase report" is prepared.\textsuperscript{119} This report documents the data collected, the costs involved in collecting that data, and articulates the reasons for proceeding to the Assessment Phase.

3. Assessment Phase

Under the approach outlined by NOAA, the trustee will have a little more flexibility in choosing a procedure to determine damages than a trustee would have under CERCLA. Under NOAA's proposed rule, a trustee may choose between three simplified procedures or one complex procedure.\textsuperscript{120} The trustee's choice, however, must be first conveyed in a Draft Reassessment Restoration Plan ("DRRP").\textsuperscript{121} The DRRP contains the trustee's approach for assessing natural resources damages and must be made available for public comment.\textsuperscript{122} After public comment, and modification if needed, the DRRP becomes the Report of Assessment that sets forth the final valuation approach as determined by the trustee.\textsuperscript{123}

For smaller spills involving cooperative efforts, and for which cleanup and restoration can be completed in a relatively short period of time, the trustee may choose one of three different mechanisms to value the loss of natural resources.\textsuperscript{124} These include compensation formulas, Type A computer models, and Expedited Damage Assessments ("EDAs").\textsuperscript{125} For assessments that the trustee anticipates will be tremendously complex and time consuming, the proposed regulations suggest that the trustee conduct a Comprehensive Damage Assessment ("CDA").\textsuperscript{126}

The CDA is subdivided into four components: (1) an injury determination; (2) injury quantification; (3) restoration planning and costs; and (4) an economic valuation.\textsuperscript{127} In the injury determination component, the trustee must "assess the feasibility of detecting injury based on a scientifically valid study design."\textsuperscript{128} If the damage to natural resources cannot be linked to the discharge, all assessment efforts should cease. If, however, the discharge is directly linked to the de-
struction of the natural resource, the trustee must begin to quantify the amount of damage.

During the injury quantification component of the CDA, the trustee utilizes the professional services of both economists and natural resource specialists to begin assessing damages for those resources that will be replaced or restored. The proposed rule provides two different methodologies for the trustee. The trustee can either base the assessment on the direct chemical, physical, or biological damage to the resource itself, or the trustee can measure the change in the quality of services that the natural resource provided previous to the discharge. Whichever method the trustee chooses, "injury quantification requires before-after and reference/control-impact comparisons." After the injury is quantified, the trustee is charged with the responsibility of formulating a restoration plan. Under NOAA's proposed guidelines restoration plans entail: (1) a determination of the most effective technique for recovering the resources and restoring them to their natural state; and (2) an estimation of the costs of implementing such a recovery plan. Significantly, NOAA unequivocally states that the recovery plan as implemented should have as its intended goal the restoration of the natural resource as close to its predischarge condition as possible. Although natural restoration is always the preferred alternative, NOAA allows the trustee to consider other alternatives such as replacement and the acquisition of the equivalent of the natural resources.

Finally, during the last component of the CDA Assessment Phase, the trustee must determine compensable values. As set forth in the Federal Register, the types of services typically associated with natural resources are: (1) recreational; (2) commercial; (3) ecological; (4) special significance; and (5) passive use. Damages should encompass the loss of use of these services from the time of the discharge through the time at which the recovery or restoration of the natural resource is completed. These compensable values include both direct use values and passive use or nonuse values. In ascertaining the compensable values, the trustee should consider: (1) the value of the lost services; (2) what those services would have been if the damage had never occurred; (3) the predicted level of services that can be maintained after the injury and natural restoration; and (4) the predicted level of services in light of the recovery plan's implementation.

129. Id.
130. Id.
131. Id.
132. Id.
4. Post-Assessment Phase

The Post-Assessment Phase concludes the trustee’s responsibilities during a natural resources damage action. During this phase the trustee will formulate the “Report of Assessment” that addresses the chosen restoration plan and the costs associated with the recovery action. The Report of Assessment is presented to the responsible parties along with a written demand for damages. The damage figure may be separated into two different figures. The first figure would encompass estimated restoration costs. The other figure would cover other associated damages, including the cost of assessing costs and compensable values. Judicial review of the estimated restoration costs would be limited to the administrative record that was compiled. Judicial review of the other associated costs, including compensable values, would be conducted under the premise that the trustee’s figures were given deference subject to a rebuttable presumption.

III. The Judiciary’s Impact on the Formation of the Natural Resource Damage Assessment Regulations

Although the OPA was recently enacted, and no litigation has yet arisen from it regarding its provision for natural resources damages, one can assume that both the Act and the concomitant regulations issued by NOAA were significantly influenced by the litigation that ensued after DOI issued its initial natural resources damage regulations under CERCLA. Under section 113(a) of CERCLA, an interested party may only seek judicial review of any Superfund regulation issued by a government agency in the Circuit Court of Appeals of the United States for the District of Columbia. After DOI issued its initial Type B regulations in 1986, ten states, industry trade associations and environmental groups immediately challenged the validity of the regulations. The court noted that the central issue in this case centered on the legitimacy of the “lesser of” rule. 

133. Id. at 1068-69.
134. Id. at 1069.
136. See also Colorado v. United States Dep’t of the Interior, 880 F.2d 481, 491 (D.C. Cir. 1989). In a companion case to the Ohio v. DOI decision which challenged the Type A assessment rules, the D.C. Circuit upheld the limited applicability to minor sites including those involving coastal and marine environments. The court, however, remanded the regulations to DOI to “develop standard procedures for simplified assessments of natural resource damages.”
137. See Ohio v. DOI, 880 F.2d at 441 (stating that “[t]he most significant issue in this case concerns the validity of the regulation providing that damages for the despoilment of natural resources shall be the ‘lesser of: restoration or replacement costs; or diminution of use values.’”) (citing 43 C.F.R. § 11.35(b)(2) (1987)).
To illustrate the potential absurdities that could result through the use of the "lesser of" rule, the court offered the following hypothetical scenario:

Imagine a hazardous substance spill that kills a rookery of fur seals and destroys a habitat for seabirds at a sealife reserve. The lost use value of the seals and seabird habitat would be measured by the market value of the fur seals' pelts (which would be approximately $15 each) plus the selling price per acre of land comparable in value to that on which the spoiled bird habitat was located. Even if, as likely, that use value turns out to be far less than the cost of restoring the rookery and seabird habitat, it would nonetheless be the only measure of damages eligible for the presumption of recoverability under the Interior rule.

The court held that the "lesser of" rule was "directly contrary to the expressed intent of Congress." By looking at both the legislative history and the text of the Act, the court determined that Congress intended CERCLA to serve as a "restorative" measure. Specifically, the court looked to the language in section 107(f)(1), which states that the damages recovered for harm to natural resources are "for use only to restore, replace, or acquire the equivalent of such natural resources." The court noted that the Act further provides, "[t]he measure of damages in any action under [§ 107(a)(C)] shall not be limited by the sums which can be used to restore or replace such resources."

Analyzing the language of the statute, the court believed that congressional intent was to make CERCLA's paramount purpose the restoration of natural resources. However, this finding was in direct contradiction to the argument made by the DOI, as well as some intervenors, that the statute was ambiguous and those ambiguities allowed the DOI to promulgate the "lesser of" rule. Ultimately, the DOI wanted the court to apply the second phase of the Chevron

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138. *Ohio v. DOI*, 880 F.2d at 442.
139. *Id.*
140. *Id.* at 445 n.9. The court noted the comments of Representative Jones, who said, "The purpose of the regime, rather, is to make whole the natural resources that suffer injury from the releases of hazardous substances." 132 *Cong. Rec.* H9613 (daily ed. Oct. 8, 1986). The court also cited the remarks of Senator Mitchell, who said, "[w]e do not want damage to natural resources to await the workings of that [common-law tort litigation] process; we want prompt, full compensation in such cases so we can replant trees in the park..." 126 *Cong. Rec.* 30,942 (1980).
141. *Ohio v. DOI*, 880 F.2d at 444.
143. *Ohio v. DOI*, 880 F.2d at 444.
144. *Id.* (citing 42 U.S.C. § 9607(f)(1) (1988)).
145. *Id.* at 444.
146. *Id.* at 446.
147. See *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842 (1984) (holding that when reviewing an agency's interpretation of a statute, a court must first determine "whether Congress has directly spoken to the precise ques-
test and defer to the agency’s interpretation. The D.C. court, however, held that the statute “evince[d] a clear congressional intent to make restoration costs the basic measure of damages.”

Finding clarity in the statute, the D.C. Circuit rejected all claims that the “lesser of” rule was either allowable as an interpretation of the statute or consistent with the express mandates of the statutes.

The DOI also had set up a hierarchy of methodologies to be applied in determining use and nonuse values when estimating compensable value during the Damage Determination Phase. Use values are defined as the reduction in the willingness of people to pay for the resource because it has been damaged. Nonuse values consist of existence values and bequest values. Existence values are those amounts people would be willing to pay for the satisfaction that a resource exists. Bequest values are those amounts people would pay to preserve the resource for future generations. The hierarchy established a preference for market price and appraisal methodologies as opposed to non-market methodologies. The court held that the hierarchy was based “on an incorrect reading of the statute.”

As a result, the court ordered the DOI to “expeditiously as possible” issue new regulations. The new regulations, issued in March 1994, establish the procedure for calculating natural resources damages without requiring that the “lesser of” the costs of restoration or value be a determining factor in the final assessment. Additionally, the regulations no longer mandate a hierarchy for methodologies to be used when determining compensable values in the Damage Determination Phase.

The DOI’s Final Rule on Type B Natural Resource Damages allows trustee officials to recover the costs of restoration, rehabilitation, replacement, and acquisition of lost resources. Additionally, trustees are allowed to add to the restoration damages an amount that is representative of the amount of services lost to the public. The period in which the “loss of services” is accounted for begins with the initial discharge or release and does not end until the restoration of the resources is completed. Furthermore, in determining compensable

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148. Ohio v. DOI, 880 F.2d at 448.
149. Woodard, supra note 8, at 199.
150. Id. at 200.
151. Id.
152. Id. at 200-01.
153. Ohio v. DOI, 880 F.2d at 464.
154. Id. at 481.
156. Id.
157. Id.
158. Id.
159. Id.
OPA & CERCLA DAMAGE ASSESSMENTS

damages during the Damage Determination Phase, trustees are no longer constrained by regulations requiring market-price and appraisal methodologies. The trustees are now free to use the methodology they feel is best for a given situation, including non-market based evaluation methodologies.

In issuing the Final Rule, however, DOI reserved discussion on the assessment of nonuse values in determining injury to resources. In the very same case discussed above, the court in *Ohio v. United States Department of the Interior* held that CERCLA was not limited to only recovering use values. In the preamble to the original Type B damage assessment rules, DOI had stated that “option and existence values would be added to use values. However, section 301(c) of CERCLA mentions only use values. Therefore primary emphasis in the section is on the estimation of use values.” The *Ohio v. DOI* court pointed out that the language in section 301(c) of CERCLA merely instructed DOI to take into consideration use values; the statute makes it clear, however, that DOI is “not limited to” use values.

The court went on to instruct DOI to formulate a rule that would allow trustees to incorporate the loss of nonuse values in their damage assessments.

Currently, contingent valuation methodology (“CVM”) is the only method available that is used to measure nonuse values. Because CVM addresses less concrete variables than other methodologies and relies on subjective interpretations, it causes a great deal of debate. CVM is utilized to assess the worth of nonuse values by asking individuals what value they would place on non-market commodities if markets did indeed exist. The controversy exists, in large measure, because other economic assessment methodologies compare goods and services that are subject to actual market conditions, thus more readily adopting values in accord with the public preference. There are concerns that people are unwilling and/or unable to place accurate monetary valuations on environmental non-market commodities.

Most CVM assessments center on a single question: what would people be willing to pay for the resource? Before answering that question or even before asking it, the CVM must set parameters. For example, before determining nonuse values, the methodology must select those defining the nonuse value and the breadth of the population base. Additionally, exactly “what” is being assessed must be

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160. Id.
161. 880 F.2d at 464.
163. Id.
166. Id. at 283.
167. Id. at 284.
defined. Thus, if water has been polluted, CVM could consider the use of that water merely as for recreational boating, or additionally for fishing or swimming. Finally, for people to articulate accurate values, concrete methods are presumed to be needed. This "method" is labeled a "payment vehicle" and relates the nonuse value to terms, such as taxes or increased prices, that are familiar to persons being asked to evaluate the resource in question.

On May 4, 1994, DOI issued a NOPR soliciting comments regarding the use of contingent valuation as a methodology to value natural resources. As the NOPR notes, the CVM is used "[t]o derive values through elicitation of respondents' willingness to pay to prevent injuries to natural resources or to restore injured natural resources." In the NOPR, DOI has acknowledged that NOAA has already proposed a CVM rule in its regulations issued pursuant to OPA. To maintain consistency among agencies, DOI has asked that comments address whether the CVM regulations issued pursuant to CERCLA should be substantially similar to those proposed by NOAA. Incorporating NOAA's proposed rule by reference, DOI has specifically asked for comments relating to: (1) the design and development of the survey; (2) the administration of the survey; (3) the accuracy of the results of the survey; (4) the calibration of values to determine the difference between what people say they would pay and what they actually would pay; and (5) the standard for reporting the results of contingent valuation surveys.

Some have argued, however, that the use of CVM "does not meet the standards for trustworthiness established by the Federal Rules of Evidence." Specifically, it has been argued that in light of the Supreme Court's recent decision in *Daubert v. Merrell Dow Pharmaceuticals*, CVM does not meet the evidentiary threshold of expert evidence. Under *Daubert*, before admitting expert evidence into trial, the judge must ensure that the evidence is both relevant and reliable. The Court went on to articulate that reliable evidence must be more "than subjective belief or unsupported speculation." There are tenable arguments that because CVM is based on subjective interpretations of value, it is too speculative and thus should be excluded from trials. Whether courts will in fact exclude contingent val-

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168. *Id.* at 285-86.
169. *Id.* at 286-87.
171. *Id.* at 23,100.
174. *Id.* at 2795.
175. *Id.*
uation remains to be seen; although, with the expected increase in natural resources damage actions, a definitive answer cannot be far away.

CONCLUSION

As recently promulgated under OPA and CERCLA, the proposed and final natural resources damage assessment regulations will provide trustees with greater flexibility to measure damages caused by a discharge or a release. This greater flexibility, and its attendant strengthening of natural resources damage provisions by the abolition of the "lesser of" rule, will increase the amount of natural resources damage actions. Regulated industries need to start preparing for the advent of natural resources damage actions. The best possible defense strategy to these actions is a clear understanding of their procedural aspects. Responsible parties, to ensure an open process and an equitable assessment, need to follow the process carefully to safeguard against any errors in the formulation of damages calculation by the trustees.