Natural Resource Damages

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This chapter addresses the ability of the government to recover damages at sites where natural resources have been injured or destroyed due to the release of hazardous substances or oil, among other things. Sections 32B.01 through 32B.04 discuss the basics of natural resource damages (NRD) law including the context of an NRD claim, the principal statutes authorizing NRD recoveries, the key regulations promulgated by the federal government and the main statutory defenses. Section 32B.05 provides a discussion of the difficult evidentiary issues related to NRD claims including the government's burden to prove injury, baseline, causation, and damages. Section 32B.06 addresses some of the considerations at a trial of NRD claims. Section 32B.07 provides an overview of one of the most controversial aspects of NRD, namely, the methodologies for calculating damages. Section 32B.08 addresses the recent increase in prosecution of groundwater NRD claims. Finally, Section 32B.09 discusses the advantages, disadvantages and mechanics of cooperating with the government in an NRD matter.

Many NRD assessments are now handled through a coopera-

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tive process that involves both the government and the potentially responsible party (PRP). Part C of this chapter (consisting of Sections 32B.10 and 32.B11) provides two model cooperative agreements between a PRP and a government trustee.

NRD claims may be brought by both the federal government as well as state governments. Part D of this chapter (Section 32B.12) provides a comprehensive, state-by-state guide of the current NRD program in each state. This 50-state guide discusses the nature of each state's NRD program, an overview of major matters where applicable, and contact information.

SYNOPSIS

PART A: LEGAL BACKGROUND

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§ 32B.01 Natural Resource Damages: The Basics

[1] Introduction to Natural Resource Damages

Federal, state, territorial and tribal governments may seek compensation for natural resources injured or destroyed when property becomes contaminated with certain pollutants, including hazardous substances and petroleum. As a general rule, the compensation for natural resource damages (NRD) is intended to restore the natural environment to its prior condition and compensate the public for the interim lost use from the time of contamination until restoration.

The authority to seek NRD compensation is rooted in common law principles, including the public trust doctrine and others. Nonetheless, most NRD claims are brought pursuant to state or federal environmental statutes. The modern statutory framework authorizing NRD compensation provides the relevant government agencies with a significant enforcement mechanism for obtaining money damages at contaminated properties. In addition to the large sums needed to restore natural resources and compensate for lost use, the statutes generally impose a strict liability regime upon a class of parties. The combination of large compensatory damages and strict liability means that liable parties often face significant exposure from NRD claims.

[2] NRD in Context: The Life Cycle of a Contaminated Site

The "life cycle" of a contaminated site is important to understand, as it provides the context for an NRD claim. Specifically, the typical contaminated site has five stages: (i) insurance; (ii) allocation; (iii) remedy; (iv) toxic tort; and (v) NRD. Each of these stages addresses a separate issue and resolution in one stage will not resolve the others. Also, these stages are not necessarily linear and may occur in different orders or simultaneously. Many sites do not feature all five of these stages.

The *insurance* stage simply refers to the effort by a liable party to enforce a contractual indemnity owed to it for its environmental liabilities at the site.[1] The *allocation* stage refers to the ability of a liable party to allocate responsibility for a site among itself and other liable parties.[2]

The last three stages of the contaminated site — remedy, toxic tort and NRD — are closely interrelated. The *remedy* refers to the remedial investigation, selection

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[1] For discussion of environmental insurance issues, *see supra* Chapter 8.

[2] For discussion of allocation issues, *see supra* § 31.03.

and implementation. The main objective of the remedy stage is the protection of human health and the environment. While the remedial cleanup may have collateral ecological benefits, the principal focus is on removing or isolating contaminants, not restoring natural resources. Further, there are no remedy "damages," only costs.[3]

Conversely, the *toxic tort* stage is usually focused on damages, not cleanup. This is true for a number of reasons, but one is that some statutes preclude a toxic tort plaintiff from seeking injunctive relief if the site is already the subject of a government cleanup order or investigation.[4] The toxic tort plaintiff usually seeks private damages associated with the contamination, including diminution in property value, unjust enrichment, pain and suffering, personal injury and the like.[5]

Finally, the *NRD* stage generally seeks both cleanup and damages, although it is sometimes framed as related only to damages. In that sense, the NRD stage is a hybrid of the remedy and the toxic tort stages. Yet, an NRD claim should be duplicative of neither. The cleanup that is sought in an NRD matter is focused on restoring natural resources, not protecting human health and the environment. One way to consider the distinction is that the remedy removes or isolates the contaminants while the restoration replaces the lost natural resources. In this way, the NRD "cleanup" is sometimes said to be the residual work needed after implementation of the remedy.

The distinction between the NRD stage and the toxic tort stage is also important. The toxic tort claimant is an individual or class. The NRD claimant is the public through a governmental trustee. Furthermore, the damages sought in a NRD matter are tied to the lost resources, while the damages in a toxic tort matter are tied to the imposition on the plaintiff and the culpability of the defendant.

During the life cycle of a contaminated site, the distinctions among these five stages are often unclear and there is frequently overlap. For example, the extent of the liability impacts the ability to allocate, and the nature of the remedy often impacts NRD or toxic tort liability. Furthermore, there are numerous other aspects of a site besides these five stages, such as bankruptcy issues, compliance with regulatory laws, and community relations. Nonetheless, considering these five stages in the life cycle of a contaminated site helps to place NRD in the proper context.

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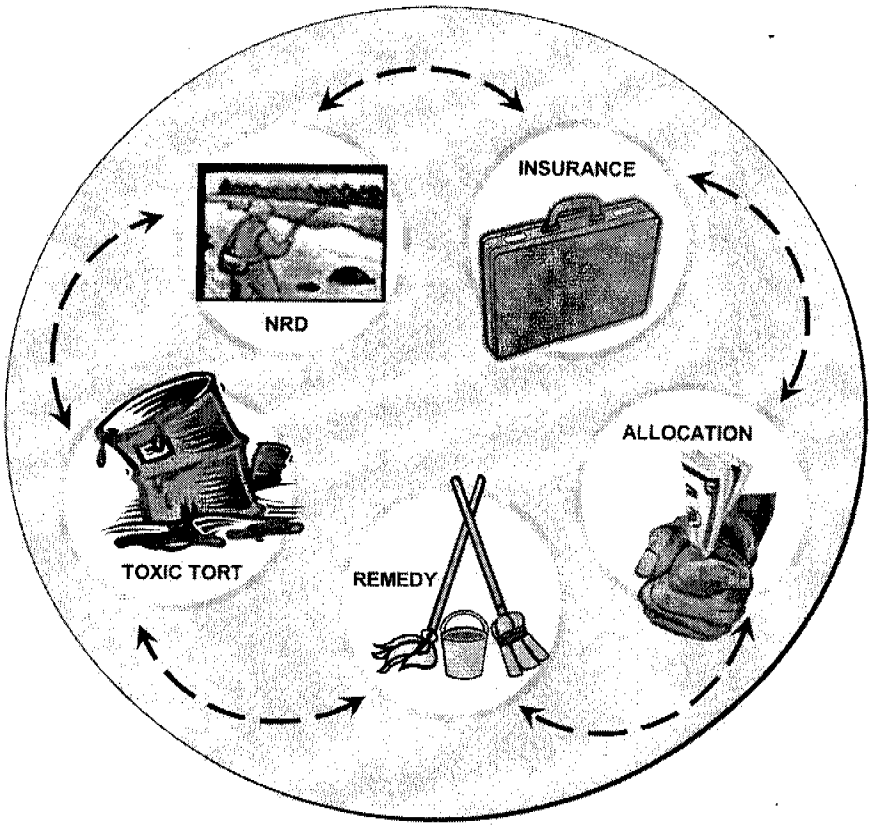
[3] For further discussion of the Superfund process, *see supra* Chapter 30.

[4] *See, e.g.*, 42 U.S.C. § 9622(e)(6).

[5] For further discussion of toxic tort issues, *see supra* Chapter 33. *See also* Lester Sotsky & Brian D. Israel, *Protecting Against Environmental Litigation: Successful Strategies & Proactive Measures,* 20 Toxics L. Rep. (BNA) 475 (2005).

TABLE 1: The Life Cycle of a Contaminated Property



[3] NRD Litigation in a Nutshell

There are three major types of NRD litigation: hazardous waste sites, spills, and regulatory challenges.

[a] Hazardous Waste and Other Superfund Sites

Hazardous waste or Superfund sites refer generally to properties contaminated from past industrial practices. These sites are frequently complex, with numerous contaminants having an impact on media, including soil, surface water and groundwater. Often multiple parties have contributed the contaminated condition.

Hazardous waste sites often present difficult issues for the prosecution of an NRD claim. As will be discussed below, the government bears a burden in NRD matters that is more stringent than for most other environmental claims, including the requirement to demonstrate some level of causation. The combination of the complexity of many hazardous waste sites and the burden of proof on the

government means that these matters are often resolved only after many years of litigation.

[b] Spills and Other Discrete Events

While hazardous waste NRD matters tend to be larger, more adversarial and more notorious, by far most NRD claims result from discrete events such as oil spills, chemical releases or intentional acts (*e.g.*,. seagrass scarring). Unlike at a hazardous waste site, the action that causes the injury is usually known immediately. Spills and discrete events involve present occurrences, whereas hazardous waste sites typically involve past practices. Accordingly, there is rarely a credible dispute as to who caused the release. Moreover, the extent of the injury is often (though not always) easily discernible. If a chemical spill causes a fish kill, for example, it is relatively easy to calculate the number of injured animals.

Spills are ubiquitous in the United States. In 2001, there were 7,559 oil spills, 105 liquid chemical spills, and 25 non-liquid chemical spills.[6] By volume, there was a total of 854,520 gallons of oil, 271,429 gallons of liquid chemicals and 360,532 pounds of non-liquid chemicals discharged in 2001 alone.[7] Most spills were less than 100 gallons.[8] As can be seen in the chart below, between approximately 80 and 95% of all spills over the last 20 years resulted from small releases.

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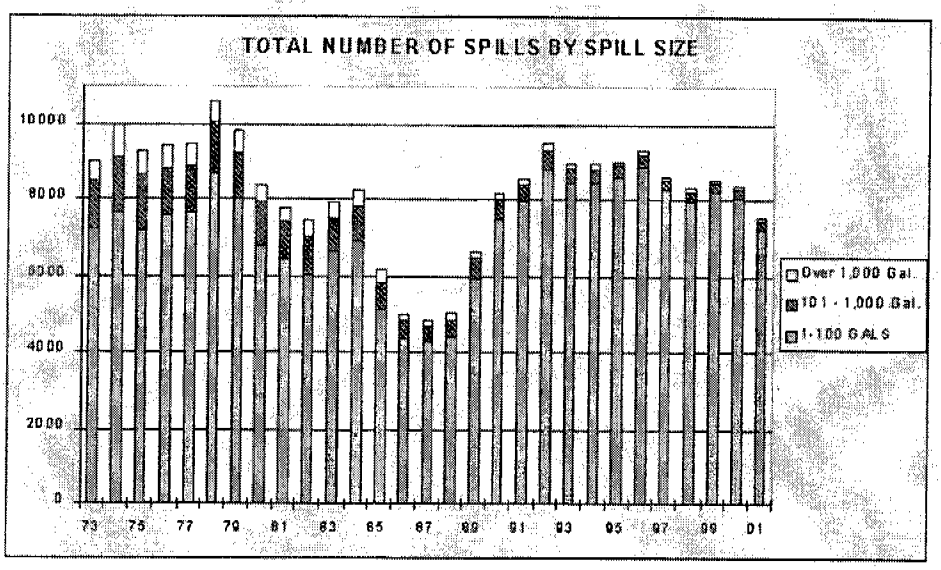
[6] U.S. Coast Guard, *Pollution Incidents In & Around U.S. Water in 2001* (2003), http://www.uscg.mil/hq/gm/nmc/response/stats/chpt2001.pdf.

[7] U.S. Coast Guard, *Pollution Incidents In & Around U.S. Water in 2001* (2003), http://www.uscg.mil/hq/gm/nmc/response/stats/chpt2001.pdf.

[8] U.S. Coast Guard, *Pollution Incidents In & Around U.S. Water in 2001* (2003), http://www.uscg.mil/hq/gm/nmc/response/stats/chpt2001.pdf. While the number of total spills appears fairly constant over time, the annual volume of discharged material has decreased significantly since the mid-1980s. *See* U.S. Coast Guard, *Polluting Incident Compendium Graph: Total Volume of Spills by Spill Size*, http://www.uscg.mil/hq/gm/nmc/response/stats/Summary.htm. This reduction is clearly the result of a sharp drop in the number of spills over 1000 gallons. *See* U.S. Coast Guard, *Polluting Incident Compendium Graph: Oil Spills in U.S. Waters Over 1,000 Gallons*, http://www.uscg.mil/hq/gm/nmc/response/stats/Summary.htm.

TABLE 2: Oil Spills by Year and Size[9]



There are two consequences of this data from an NRD perspective. First, there are hundreds, if not thousands, of potential NRD claims across the country. Many of these are asserted every year, often by states or tribes. Second, the majority (or "ready all") of these claims are relatively minor and are potentially resolved without litigation.

[c] Regulatory Challenges

The final category of NRD litigation is the regulatory challenge. Much of this litigation occurred in the 1980s and 1990s, as discussed below. Still, because the federal regulations are subject to periodic review, regulatory challenges can be expected to continue in the future. As discussed below, the Department of the Interior (DOI) is currently reviewing potential changes to its NRD assessment regulations. Furthermore, as state NRD programs are becoming more robust, many states are promulgating regulations to assist in NRD prosecution. As with federal regulations, these rules are often subject to challenge. It is therefore likely that litigation related to state NRD regulations will occur with more frequency in the future.

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[9] According to/Source: U.S. Coast Guard, *Polluting Incident Compendium Graph: Total Number of Spills by Spill Size,* http://www.uscg.mil/hq/g-m/nmc/response/stats/Summary.htm.

§ 32B.02 Overview of the NRD Statutes

[1] The Principal NRD Statutes

[a] The Superfund Statute

A principal statutory authority for recovery of natural resource damages is the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund. CERCLA governs the assessment and restoration of natural resources that have been injured by a hazardous substance release.

Under CERCLA, parties responsible for the release of a hazardous substance are liable for "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."[10] The President, or the authorized representative of any State, will act on behalf of the public as trustee of such natural resources to recover for such damages.

CERCLA defines natural resources broadly 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 . . . . any State or local government, any foreign government, [or] any Indian tribe."[11]

The measure of damages in an NRD action under CERCLA is not limited to the amount that can be used to restore or replace injured resources.[12] At the same time, "[s]ums recovered by a State as trustee . . . shall be available for use only to restore, replace, or acquire the equivalent of such natural resources by the State."[13] Regulations governing the assessment and restoration of natural resource damages under CERCLA are discussed below (see Sections 32B.03[1] through [5].

[b] The Oil Pollution Act

Trustees may also recover natural resource damages under the Oil Pollution Act (OPA), which was enacted in response to the Exxon Valdez tanker spill in 1989.

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[10] 42 U.S.C. § 9607(a)(4)(C). For further discussion of the categories of liable parties under CERCLA, *see supra* Chapter 31 (Waste Site Liability, § 31.01).

[11] 42 U.S.C. § 9601(16). In addition, such resources are a natural resource if "subject to a trust restriction on alienation" and belonging or managed by "any member of an Indian tribe." 42 U.S.C. § 9601(16).

[12] *See* 42 U.S.C. § 9607(f)(1).

[13] 42 U.S.C. § 9607(f)(1).

The legislation makes parties who are responsible for oil spills liable for the damage to natural resources resulting from those spills.[14]

OPA includes within the measure of natural resource damages: the cost of restoring, rehabilitating, replacing or acquiring the equivalent of the damaged resources; the reasonable cost of assessing those damages; and the diminution in values of those natural resources pending restoration.[15] Regulations governing the assessment and restoration of NRD under OPA are discussed below (see 32B.03[6]).

[c] The Clean Water Act

The Clean Water Act (CWA) likewise contains a right of action for natural resource damages for spills of oil and hazardous substances, although since OPA's enactment and the more frequent use of CERCLA, it has decreased in use.

Section 311 of the CWA allows the federal government to remove oil or hazardous substances discharged into or upon the navigable waters, adjoining shorelines, or waters of the contiguous zone, and to assess the costs of removal against the owner, operator, or person in charge of the vessel or facility responsible for the unlawful spill or release.[16] These costs include the cost of "restoration and replacement" of injured resources.[17] Money recovered under the NRD provisions of the CWA must be used by trustees "to restore, rehabilitate, or acquire the equivalent of such natural resources."[18] The CWA establishes restoration cost as the standard measure of damages.

Natural resource damage assessments under the CWA are conducted in accordance with both CERCLA regulations and OPA regulations: the CERCLA regulations are followed in the event of a hazardous substance discharge, and the OPA regulations are followed in the event of an oil spill.

[d] Other Federal Laws

While CERCLA, OPA, and CWA are the main federal statutes authorizing NRD actions, there are several other authorities relevant to natural resource damage claims, including the following:

- *National Marine Sanctuaries Act* (formerly Title III of the Marine Protection, Research and Sanctuaries Act). This statute creates liability for

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[14] *See* 33 U.S.C. § 2702(a); 33 U.S.C. § 2702(b)(2)(A).

[15] 33 U.S.C. § 2706(d).

[16] *See* 33 U.S.C. § 1321(f)(1)-(3).

[17] 33 U.S.C. § 1321(f)(4).

[18] 33 U.S.C. § 1321(f)(5).

injury to any sanctuary resource, regardless of the substance that caused the injury. The statute defines "sanctuary resource" to include "any living or nonliving resource of a national marine sanctuary that contributes to the conservation, recreational, ecological, historical, educational, cultural, archaeological, scientific, or aesthetic value of the sanctuary."[19] The measure of damages is the cost of restoration, replacement, or acquisition of the resource.[20] Funds left over after reimbursement of response costs must be used for restoration.

- *Park System Resource Protection Act* (Public Law No. 101-337). This law allows the federal government to commence a civil action for response costs and damages against a person responsible for injury to park system resources, subject to certain defenses. Recovered damages may be used only to reimburse response cost and damage assessments, as well as to restore, replace, or acquire the equivalent of the injured or lost resources.[21] Excess funds are deposited in the general treasury.
- *Executive Order 12898 — Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.* Pursuant to this Executive Order, federal natural resource trustees, like other federal agencies, determine whether a restoration action will have disproportionate, adverse (health or environmental) impacts on members of a tribal or other minority or low-income population. Trustees are to ensure that no low-income or ethnic minority communities would be adversely affected by the proposed restoration activities.[22]

[e] State Statutory Authority

Many states have their own independent statutory authority to pursue NRD claims. Since many of the federal statutes provide authority for states to assert a claim, some of these provisions are duplicative of the federal statutes. In other cases, the state laws provide different standards and defenses. Accordingly, the state provisions are important to understand. Furthermore, as states are becoming increasing aggressive in asserting NRD claims, these state statutes are becoming more important. A state-by-state guide of NRD programs, including references to applicable legislation, is provided in Section 32B.12 of this chapter.

[2] Who Is a Trustee?

"A 'trustee' is a federal, state or Indian tribal official who, in accordance with

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[19] 16 U.S.C. § 1432(8).

[20] *See* 16 U.S.C. § 1432(6)(A).

[21] *See* 16 U.S.C. § 19jj (1990).

[22] Exec. Order No. 12898, 59 Fed. Reg. 7629 (Feb. 11, 1994).

42 U.S.C. § 9607(f)(2), is designated to 'act on behalf of the public as [a] trustee[] for natural resources.'"[23] Trustee officials have the duty to "assess damages for injury to, destruction of, or loss of natural resources . . . for those resources under their trusteeship."[24] As indicated by some recent litigation, trusteeship may become an increasingly pivotal aspect of future NRD claims.

[a] The Main Federal Trustees

CERCLA requires the President to designate federal trustees. In an executive order, the president listed the following as "among those designated in the [National Contingency Plan (NCP)] as federal trustees for natural resources (1) Secretary of Defense; (2) Secretary of Interior; (3) Secretary of Agriculture; (4) Secretary of Commerce; and (5) Secretary of Energy."[25] The NCP further provides:

- The Secretary of the Interior shall be "the trustee for natural resources managed or controlled by DOI, and for natural resources" for which an "Indian tribe would otherwise act as trustee in cases where the United States acts on behalf of a tribe."[26]
- The Secretary of Commerce shall be the trustee for natural resources managed or controlled by the Department of Commerce, and for natural resources managed or controlled by other agencies where those natural resources are found "in, under, or using" water bodies such as navigable waters and waters of the contiguous zone.[27]
- The head of the relevant department — such as DOI, USDA, DOD, and DOE — will be the trustee for natural resources "located on, over, or under land administered by the United States."[28]

The regulations also provide that, notwithstanding these stated designations, the

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[23] Nat'l Ass'n of Mfrs. v. U.S. Dep't of Interior, 134 F.3d 1095, 1098 n.1 (D.C. Cir. 1998) (quoting 42 U.S.C. 42 U.S.C. § 9607(f)(2)). OPA contemplates foreign trustees, as well. *See* 40 C.F.R. § 300.612 ("Pursuant to section 1006 of the OPA, foreign trustees shall act on behalf of the head of a foreign government as trustees for natural resources belonging to, managed by, controlled by, or appertaining to such foreign government.").

[24] 42 U.S.C. § 9607(f)(2)(A) and (B). Federal trustees may also assess damages for natural resources under a state's trusteeship, if requested by the state and subject to reimbursement by the state. 42 U.S.C. § 9607(f)(2)(A).

[25] Exec. Order No. 12580, 52 Fed. Reg. 2923 (Jan. 23, 1987). The NCP provides the organizational structure and procedures for preparing for and responding to releases of hazardous substances under CERCLA. See *supra* § 31.01[5].

[26] 40 C.F.R. § 300.600(b)(2).

[27] 40 C.F.R. § 300.600(b)(1).

[28] 40 C.F.R. § 300.600(b)(3).

Secretaries of Commerce and Interior are to "act as trustees of those resources subject to their respective management and control."[29]

[b] States, Tribes, Territories and Cities

CERCLA makes state governors responsible for appointing state trustees. The NCP encourages the governor to designate a state lead trustee to coordinate all state trustee responsibilities with other trustee agencies and with EPA's response activities.[30] The designated trustees for the respective states are discussed in more detail, along with information regarding each state's NRD program, in Section 32B.12 of this chapter.

The NCP further provides that tribal trustees shall be "tribal chairmen (or heads of the governing bodies) of Indian tribes . . . or a person designated by the tribal officials."[31] Tribal trustees, like state trustees, are authorized to act for resources including "supporting ecosystems."[32] Historically, many tribes have been very successful in pursuing NRD claims, either in conjunction with other trustees or as the lead trustee.

The territories and commonwealths of the United States are also trustees for purposes of NRD claims.[33] There are currently two commonwealths — Puerto Rico and the Northern Marianas — and twelve territories or possessions (*e.g.*, Guam, American Samoa and the U.S. Virgin Islands). The territories have indeed pursued NRD claims. For example, in 2001, the Puerto Rico Department of Natural and Environmental Resources, along with the federal trustees, settled claims related to an 800,000 gallon oil spill off the coast of Puerto Rico. The settlement — over $80 million — included compensation for injuries to natural resources and assessment costs.[34]

Prior to the Superfund Amendments and Reauthorization Act (SARA) in 1986,[35] case law permitted municipalities to bring NRD claims, relying in part on the reference to "local government" in CERCLA's definition of "natural resources."[36] Since SARA, however, courts have consistently held that a munici-

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[29] 40 C.F.R. § 300.600(b).

[30] 40 C.F.R. § 300.605.

[31] 40 C.F.R. § 300.610.

[32] 40 C.F.R.§ 300.610.

[33] *See., e.g.*, 15 C.F.R. § 990.30.

[34] Press Release, U.S. Dep't of Justice, "$83.5 Million Settlement Reached in 1994 Puerto Rico Oil Spill" (Jan. 19, 2001).

[35] Pub. L. No. 99-499, 100 Stat. 1613 (1986).

[36] *See, e.g.*, Mayor & Trustees of Boonton v. Drew Chem. Corp., 621 F. Supp. 663, 668 (D.N.J. 1985).

pality may bring a NRD claim under CERCLA only if specifically authorized by the governor of the state in which it is located.[37] SARA specified a mechanism for appointing a state representative (through the governor of the state), where no such mechanism previously existed. Courts interpreted this addition as affording the *sole* mechanism by which municipalities may act.[38] The absence of any reference to municipalities within the definition of "state" — especially because SARA did not change the definition of "state," even as the amendments introduced a mechanism for appointing state trustees — led courts to conclude that Congress intended to preclude cities from bringing independent NRD claims under CERCLA.[39]

Although municipalities lack independent authority to bring NRD claims under CERCLA, the Ninth Circuit has held that a municipality may enact local ordinances that permit it to recover for damages to natural resources held in its trust.[40]

[c] Standing to Assert an NRD Claim

An issue that increasingly confronts state, federal, and tribal trustees is the issue of standing to sue, which turns on whether a resource is "under [the] trusteeship" of a given agency, state, or tribe. The statute does not define the phrase "under their trusteeship," but does state that:

> 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, or belonging to a member of such tribe if

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[37] *See* Mayor & Council of Rockaway v. Klockner, 811 F. Supp. 1039, 1049 (D.N.J. 1993); City of Portland v. Boeing Co., 179 F. Supp. 2d 1190, 1202-1204 (D. Or. 2001); City of Toledo v. Beazer Mats & Servs. Inc., 833 F. Supp. 646, 652 (N.D. Ohio 1993). The court in Werlein v. United States, while it ruled against the municipality, appears to have done so because the resource in question was not within the management of the city, but, rather the state. 746 F. Supp. 887, 910 (D. Minn. 1990), *vacated in part on other grounds,* 793 F. Supp. 898 (D. Minn. 1992).

[38] *See* Town of Bedford v. Raytheon Co., 755 F. Supp. 469, 473 (D. Mass. 1991).

[39] *Mayor of Rockaway,* 811 F. Supp. at 1049; Town of Bedford, 755 F. Supp. at 473. *But see* Michael J. Wittke, Comment, *Municipal Recovery of Natural Resource Damages Under CERCLA,* 23 B.C. Envtl. Aff. L. Rev. 921, 930-31 (1996) (suggesting that SARA's legislative history demonstrated an intent to uphold decisions allowing municipalities to serve as trustees independent of state authorization).

[40] *See* Fireman's Fund Ins. Co. v. City of Lodi, 302 F.3d 928, 943-945 (9th Cir. 2002) ("Notwithstanding any authority under CERCLA or HSAA that Lodi may acquire by delegation, Lodi retains its independent authority to protect its proprietary interest in natural resources held in trust by the City.").

such resources are subject to a trust restriction on alienation.[41]

In addition, in the preamble to its final rule, DOI interpreted the CERCLA provision to mean that "trustee officials can only recover damages for injuries to those resources that are related to them through ownership, management, trust, or control. These relationships are created by other Federal, State, local, and tribal laws."[42] Thus, trusteeship appears to depend on the extent to which the resources in question are managed or controlled by or "appertain[]" to the governmental entity asserting trusteeship.

It is important to note, however, that a trustee need not "own" the resource in order to bring an NRD claim.[43] Nor, in some cases, does the resource necessarily have to be within the geographical jurisdiction of the trustee, as long as trusteeship is otherwise established.[44]

Finally, although privately owned resources are excluded from the definition of natural resources, damages for such resources may be recovered if there is a "substantial degree of government regulation, management or other form of control over the property."[45]

In *Coeur d'Alene Tribe v. ASARCO, Inc.*,[46] the court addressed the issue of trusteeship. The defendant responsible parties argued that the United States and tribe were not trustees over — and therefore had no standing to recover damages for — certain natural resources at issue. The defendants argued that the trustees lacked "*actual* stewardship" over the resources. The plaintiffs argued that trusteeship was a matter of statutory authority, regardless of the actual actions taken by sovereign governments.

The court rejected the tribe's and government's argument, finding that trusteeship was a "question of both fact and law."[47] The court stated:

> The factual predicate of trusteeship . . . is to be determined on a case by case basis depending on who the resource belongs to, who is it managed by, who controls the same and how the resource appertains to other resources. Resources

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[41] 42 U.S.C. § 9607(f)(1) (emphases added).

[42] Natural Resource Damage Assessments, 59 Fed. Reg. 14262, 14269 (Mar. 25, 1994).

[43] Ohio v. U.S. Dep't of Interior, 880 F.2d 432 (D.C. Cir. 1989).

[44] *See* Natural Resource Damage Assessments, 59 Fed. Reg. 14262 (Mar. 25, 1994) (Preamble to Final Rule) (discussing tribes).

[45] Ohio v. U.S. Dep't of Interior, 880 F.2d 432, 461 (D.C. Cir. 1989).

[46] 280 F. Supp. 2d 1094 (D. Idaho 2003).

[47] 280 F. Supp. 2d at 1115.

must be under the stewardship of a trustee before damages can be assessed for their injury, loss or destruction.[48]

Because the court further held that a trustee could recover only the percentage of damages that accorded with its stewardship over a resource, the court postponed a determination of trusteeship over certain resources until the second phase of the trial, when evidence could be presented on such stewardship percentages.[49]

Significantly, however, in a later order, the court *sua sponte* reversed itself on the issue of trusteeship divisibility. Determining that any trustee could indeed recover the full amount of damage, less any amount already paid in settlement to another trustee, the court decided that it need not wait for Phase 2 of the trial to determine trusteeship. Based on the plaintiffs' "involvement in the management and control" of the migratory natural resources in question (fish, wildlife, biota, water and groundwater), and based on the fact that "applicable federal statutes [gave] the United States trusteeship duties over fish, wildlife[,] and birds," the court found that the United States and tribe were indeed trustees over those resources.[50]

In *New Mexico v. General Electric, Co.*, the parties similarly litigated the issue of trusteeship over natural resources, although in the context of state law claims rather than as a formal NRD suit. As discussed further in Section 32B.09[2] below, the court narrowed the state's interest as a trustee over groundwater, thus limiting the scope of the state's recovery for damages.[51]

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[48] 280 F. Supp. 2d at 1115.

[49] The resources were fish, wildlife, biota, water, and groundwater. 280 F. Supp. 2d at 1117. With regard to other resources, the court found that: "the federal government is a trustee over 100% of federal lands in the Basin and the Tribe is trustee over 100% of the lands within the reservation boundaries." 280 F. Supp. 2d at 1117.

[50] Coeur d'Alene Tribe v. ASARCO Inc., No. CV 96-0122-N-EJL, No. CV-91-0342-N-EJL, slip op. (D. Idaho Aug. 9, 2005). It is not clear whether the district court's *sua sponte* reversal affects its analysis of cultural resources and trusteeship. In its original opinion, the court held that use of natural resources in "the exercise of . . . cultural activities . . . does not rise to the level of making a natural resource 'belong or be connected as a rightful part or attribute' for purposes of trusteeship analysis." 280 F. Supp. 2d at 1117 (quoting Webster's New Collegiate Dictionary, 54 (1979)). The court's analysis here differs from the position taken by one commentator, who advises readers that where land is concerned, parties should consider, inter alia, whether "any tribal cultural resources or tribal uses of resources protected by treaties" have been affected, in determining which trustees are likely to be involved in a NRDA. *See* Valerie Ann Lee & P.J. Bridgen, The Natural Resource Damage Assessment Deskbook 23-24 (Envtl. Law Inst. 2002).

[51] 322 F. Supp. 2d 1237, 1260-1261 (D.N.M. June 19, 2004). For further discussion of the New Mexico case, *see supra* § 32B.08[2].

§ 32B.03 The Key Federal Regulations, Their Troubled History and Why They Matter

[1] CERCLA Regulations — The Statutory Mandate

In 1980, with the passage of CERCLA, Congress asked the President to draft procedures for assessing damages to natural resources.[52] Congress's intent was to provide for the efficient and uniform assessment of natural resource damages.[53] In order to encourage the use of such procedures, Congress further provided that any trustee assessment conducted pursuant to these procedures would enjoy a rebuttable presumption of legitimacy.[54]

Congress provided that the NRD assessment regulations take into account "direct and indirect injury, destruction, or loss and shall take into consideration factors including, but not limited to, replacement value, use value, and ability of the ecosystem or resource to recover."[55] Further, Congress mandated the creation of two types of procedures for conducting natural resource damage assessments. First, the regulations are to specify "standard procedures for simplified assessments requiring minimal field observation" (the "Type A" rules). Second, the regulations are to provide "alternative protocols for conducting assessments in individual cases" (the "Type B" rules). Both Type A and Type B rules are to "identify the best available procedures to determine such damages." This final requirement is an ongoing mandate facilitated by the statute's provision for a biennial review.[56]

As it turned out, implementing Congress's mandate was a far trickier proposition than Congress imagined. Instead of the two years envisaged by Congress in 1980, the development of the NRD regulations extended over two decades and three administrations. And while the drama of these regulations provides a history lesson in political intrigue and litigation strategy, the story reveals much more. As will be shown below, the reward for persevering through the NRD regulations saga is a much better understanding of the law of NRD, as it exists today.

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[52] *See* 42 U.S.C. § 9651(c).

[53] *See, e.g.*, 43 C.F.R. § 11.11 ("The purpose of this part is to provide standardized and cost-effective procedures for assessing natural resource damages.").

[54] *See* 42 U.S.C. § 9607(f)(2)(C). The provision for a rebuttable presumption was added as part of SARA. As discussed below, the Trustee is not obligated to utilize the NRD assessment procedures in order to maintain a natural resource damages case. However, any assessment that is not done pursuant to these regulations will not enjoy the statutory rebuttable presumption.

[55] CERCLA § 301(c)(2), 42 U.S.C. § 9651(c)(2).

[56] CERCLA § 301(c)(2), 42 U.S.C. § 9651(c)(2).

[2] Round One — The 1980s

Following CERCLA's enactment, President Reagan delegated responsibility for promulgating the NRD assessment rules to DOI via executive order.[57] As Chief Judge Wald of the United States Court of Appeals for the District of Columbia later stated, however, "Interior's response to its assigned task of promulgating regulations for assessing natural resource damages was, to put it charitably, relaxed."[58] Although the statute had required that the rules be in place by December 1982, by that mandated deadline, DOI had promulgated no rules. In 1983 and 1984, three lawsuits were filed to compel the DOI to promulgate NRD assessment regulations.[59]

Finally, in January 1983, DOI issued an advance notice of proposed rulemaking soliciting comments from the public on how to approach the development of the regulations,[60] a process it repeated over the next two years. Later in 1983, DOI issued a second advance notice of proposed rulemaking. Two years after its first advance notice, in January 1985, DOI published a notice inviting yet more public comments and suggesting meetings with interested members of the public.[61] In December 1985, DOI published a proposed rule setting out (a) regulations concerning the assessment process generally and (b) Type B rules in particular.[62] Finally, on August 1, 1986, DOI published a final rule containing general natural resource damage assessment regulations as well as the regulations for assessments for individual cases, the Type B rules.[63] A set of Type A rules was issued as a final rule in March 1987.[64] In 1988, DOI revised its regulations to conform to SARA, enacted by Congress after DOI had issued its 1986 rule.

The CERCLA Type B rules (those issued in August 1986 and revised in 1988) were promptly challenged in the D.C. Circuit by state governments, environmental groups, industrial corporations, and an industry group. In *Ohio v. U.S. Department of Interior*, argued on February 22, 1989, the plaintiffs and intervenors raised ten issues, including issues related to the Department's methods for

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[57] Exec. Order No. 12316, 46 Fed. Reg. 42237 (Aug. 14, 1981); *see also* Exec. Order No. 12580, 52 Fed. Reg. 2923 (Jan. 23, 1987).

[58] Ohio v. U.S. Dep't of Interior, 880 F.2d 432, 440 (D.C. Cir. 1989).

[59] *See* Colorado v. U.S. Dep't of Interior, 880 F.2d 481, 484 (D.C. Cir. 1989) (recounting history).

[60] 48 Fed. Reg. 1084 (Jan. 10, 1983).

[61] 50 Fed. Reg. 1550 (Jan. 11, 1985).

[62] 50 Fed. Reg. 52126 (Dec. 20, 1985).

[63] 51 Fed. Reg. 27674 (Aug. 1, 1986).

[64] 52 Fed. Reg. 9042 (Mar. 20, 1987).

injury and damage assessments.[65] On the same day, the D.C. Circuit heard *Colorado v. Department of Interior*, in which the state of Colorado and environmental groups challenged the Type A rules promulgated in 1987.[66]

These two cases — both decided on July 14, 1989 — upheld much of the DOI's regulations, but remanded on a key provision: the relative weight the rules were required to give to restoration costs versus diminution in use values in the calculation of damages. Specifically, the *Ohio* court rejected the DOI's adoption of the "lesser of" rule, that is, the regulation providing that damages for destruction to natural resources shall be the "lesser of: restoration or replacement costs; or diminution of use values."[67] The court found that the equal presumptive legitimacy the regulation accorded to use value and restoration cost (and the resultant likelihood that use value would end up being the measure of damages, as it would more often be less than restoration cost) contravened Congress's stated preference for restoration costs to be the minimum measure of damages in natural resource cases. In reaching this conclusion, the court exhaustively examined the text and structure of CERCLA, as well as the statute's legislative history and the legislative history of amendments to the statute enacted in SARA.

The *Ohio* court struck down two other aspects of DOI's Type B rules. First, the court rejected DOI's hierarchy of methods for determining "use values," which limited recovery to the market price of the resource unless the market for that resource was not competitive. The court found this preference for market value as a methodology to be an unreasonable interpretation of the statute, because natural resources invariably have values that are not fully captured by the market system, and because CERCLA evinced an intent to capture all aspects of loss, not just that reflected in the market value.[68] Second, the court struck down DOI's interpretation that option and existence values be estimated in lieu of use values only when use values cannot be determined.[68.1] The court found, instead, that "[o]ption and existence values may represent 'passive' use, but they nonetheless reflect utility derived by humans from a resource, and thus, *prima facie*, ought to be included

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[65] 880 F.2d 432 (D.C. Cir. 1989).

[66] 880 F.2d 481 (D.C. Cir. 1989).

[67] *Ohio*, 880 F.2d at 441 (quoting 43 C.F.R. § 11.35(b)(2) (1987)).

[68] *Ohio*, 880 F.2d at 464. The court thus remanded for DOI to consider a rule that "would permit trustees to derive use values for natural resources by summing up all reliably calculated use values, however measured, so long as the trustee does not double count." 880 F.2d at 464.

[68.1] "Existence values" are the intrinsic, non-economic values derived from the mere existence of the natural resource. "Option values" are the dollar amounts individuals are willing to pay although they are not currently using the resource but wish to reserve the option to use that resource in a certain state of being in the future. *Ohio*, 880 F.2d at 476 n.72.

in a damage assessment."[69]

To be sure, the *Ohio* and *Colorado* decisions were not a total loss for the government, and indeed numerous important principles of NRD law were established or clarified. For example, the court confirmed that damages were not recoverable from natural resources in the ownership of private parties. The court noted, however, that the statute did not limit the definition of "natural resources" to resources *owned* by the government, but included resources managed by the trustees. The court therefore remanded the regulations to the DOI to clarify to what extent the regulations extended to resources not owned by the government.[70] In addition, the court rejected the notion that DOI's regulations gave preferential treatment to potentially responsible parties (PRPs) by authorizing PRPs to undertake assessment tasks. The court affirmed DOI's use of acceptance criteria, as discussed in more detail below.[71] The court rejected the main challenge asserted by industry representatives, namely that the contingent valuation method of calculating non-use values was arbitrary and capricious.[72] Finally, in *Colorado*, the court affirmed the DOI's limited use of the Type A rules.[73]

Thus, nine years after the enactment of the statute and seven years after DOI was initially to have promulgated the rules, the process was far from complete. While the 1980s regulations — promulgated by the Reagan and George H.W. Bush administrations — caused the most profound concern from environmental groups and some states, the Clinton round would provoke an outcry principally from industry. As discussed below, the concerns were both substantive and procedural.

[3] Round Two — The 1990s

In response to the D.C. Circuit's decision in *Ohio*, DOI set about revising its

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[69] *Ohio*, 880 F.2d at 464 (citing Frank B. Cross, *Natural Resource Damage Valuation*, 42 Vand. L. Rev. 269, 285-289 (1989)). The regulations still maintain this limitation on calculating existence and option values. *See* 43 C.F.R. § 11.83(c)(1)(iii). Apparently, the regulations address the court's concern by allowing non-market methodologies for calculating use values.

[70] *See Ohio*, 880 F.2d at 461.

[71] *See Ohio*, 880 F.2d at 472. *See infra* § 32B.05[1][a].

[72] *Ohio*, 880 F.2d at 479.

[73] *See* Colorado v. U.S. Dep't of Interior, 880 F.2d 481, 486-487, 489 (D.C. Cir. 1989) ("[I]n light of DOI's subsequent determinations of data and resource inadequacies, we find that DOI acted reasonably in limiting the scope of the final rules as it did. . . . [D]espite its footdragging, DOI appears to have made a technically reasonable and responsible determination that the data to produce a suitable computer model for assessing natural resource damages in noncoastal and nonmarine environments were inadequate or insufficiently reliable.")

rules.[74] In April 1991, the agency proposed new regulations, leaving most of the prior rules in place, but changing specific sections to address the court's concerns. Although the new public comment period ended in July 1991, however, by the time of the November 1992 presidential election, DOI had still not approved or issued its final rules.

In mid-January 1993, shortly before President Clinton's inauguration, DOI's Assistant Secretary for Policy, Management, and Budget approved a set of Type B regulations — regulations *different* from those proposed in April 1991.[75] The document was sent to the Office of the Federal Register (OFR) for publication as final regulations, and the OFR received it sometime during the afternoon of January 19, 1993, the last full day of the first Bush administration. Two days later, after the change in administration but before OFR had filed the document for public inspection, the new acting Assistant Secretary for Policy, Management and Budget directed the OFR to withdraw the document. The OFR stopped processing the 1993 document and returned its copies to DOI, recording the action in its "Kill Book," a ledger for maintaining track of documents withdrawn by agencies.[76]

Several months later, in July 1993, DOI reopened the public comment period on the regulations it had proposed in April 1991 (not the regulations sent to the OFR), and suggested further revisions to those proposed rules.[77] DOI issued final regulations in March 1994, five years after the D.C. Circuit's decision in *Ohio*.[78]

Similarly, it took DOI seven years after the D.C. Circuit's decision in *Colorado* — in which the court stated that it "fully expect[ed] DOI to act as expeditiously as possible"[79] — to revise the Type A rules and add to them another environment in which Type A procedures could be used (*i.e.*, the Great Lakes environment).

As with the 1986 Type B and 1987 Type A regulations, the 1994 Type B and 1996 Type A regulations were challenged soon after their promulgation. This time, industry, rather than mostly state and environmental groups, petitioned for review. The challengers to the Type B regulations argued that the new rules were procedurally unsound, because, among other reasons, DOI had withdrawn the 1993 document before making it publicly available. The petitioners also raised a

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[74] The history of the 1994 regulations is laid out in *Kennecott Utah Copper Corp. v. U.S. Department of Interior*, 88 F.3d 1191, 1200-01 (D.C. Cir. 1996). *See also* Valerie Ann Lee & P.J. Bridgen, The Natural Resource Damage Assessment Deskbook 211 & n.172 (Envtl. Law Inst. 2002).

[75] *Kennecott Utah Copper Corp.*, 88 F.3d at 1200-01.

[76] *Kennecott Utah Copper Corp.*, 88 F.3d at 1200-01.

[77] 58 Fed. Reg. 39328, 39329 (July 22, 1993).

[78] 59 Fed. Reg. 14262 (Mar. 25, 1994).

[79] Colorado v. U.S. Dep't of Interior, 880 F.2d 481, 491 (D.C. Cir. 1989).

number of substantive issues. The D.C. Circuit, in *Kennecott Utah Copper Corp.* found in favor of the agency and upheld the Type B rules.[80] Similarly, in *National Association of Manufacturers v. U.S. Department of Interior*, the D.C. Circuit upheld the Type A rules against challenge.[81]

Thus ended 18 years of trial and error and retrial in the promulgation of the NRDA regulations. Below is a table summarizing this history.

TABLE 3: History of the NRD Regulations

Regulation	*Date*	*Cite*	*Case*	*Notes*
Dep't of Interior — Type B Assessments	8/1/86	43 C.F.R. § 11	*Ohio v. DOI*, 880 F.2d 432 (D.C. Cir. July 14, 1989)	Rejected DOT's "lesser-of" rule for recovery of damages and hierarchy of methods to calculate lost use values. Otherwise, Type B rules upheld.
Dep't of Interior — Type A Assessments	3/20/87	43 C.F.R. 11	*Colorado v. DOI*, 880 F.2d 481 (D.C. Cir. July 14, 1989)	Upheld in part, remanded in part.
Dep't of Interior — Type B (Final)	March 1994	43 C.F.R. § 11	*Kennecott Utah Copper v. DOI*, 88 F.3d 1191 (D.C. Cir. Aug. 5,1996)	Upheld most.
Dep't of Interior — Type A (Final)	1996	43 C.F.R. § 11	*Nat'l Ass'n of Mfrs v. DOI*, 134 F.3d 1095 (D.C. Cir. Jan. 16, 1998)	Upheld.
NOAA	1994 & 1995	15 C.F.R. § 990	*GE Co. v. Dep't of Commerce*, 128 F.3d 767 (D.C. Cir., Nov. 18, 1997)	Upheld most.

[4] The Type A Regulations — A Closer Look

The regulations state: "A type A procedure is a standardized methodology for performing Injury Determination, Quantification, and Damage Determination that requires minimal field observation."[82] This procedure is available only for incidents in two types of environments: the Great Lakes and coastal and marine environments.

The Type A procedures rely on computer models developed by the government, one model for the Great Lakes environment (NRDAM/GLE) and one model for coastal and marine environments (NRDAM/CME). Before using the models, the

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[80] Kennecott Utah Copper Corp. v. United States, 88 F.3d 1191 (D.C. Cir. 1996).

[81] Nat'l Ass'n of Mfrs. v. U.S. Dep't of Interior, 134 F.3d 1095 (D.C. Cir. 1998).

[82] 43 C.F.R. § 11.40(a).

authorized official must develop the following data inputs:

- Identity of the released substance;
- Mass or volume of the identified substance that was released;
- Duration of the release;
- Time of release;
- Location of release;
- Wind conditions;
- Extent of response actions;
- Extent of any closures;
- Implicit price deflator; and
- For NRDAM/CME, condition of the currents and tides.[83]

[5] The Type B Regulations — A Closer Look

Unlike the Type A procedures, the Type B assessment procedures involve extensive field observation and may be used in any environment. Type B assessments involve the following steps:

- *Injury determination:* This step involves determination of whether injury has occurred as a result of the release or spill. For each of several categories of natural resources defined in the regulations (surface water, groundwater, air, and geologic and biologic resources), the regulations set forth definitions of "injury" and "acceptance criteria" to determine whether "injury" has occurred. Once injury is established, causation must be proven. This is done by establishing that a pathway of exposure — defined by the regulations as "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"[84] — exists between the release and the resource injured. The regulations provide guidance regarding how pathways may be investigated for particular categories of media (as with resource categories, these categories are surface water, groundwater, air, geologic, and biologic).[85]
- *Injury quantification:* This step involves determination of the nature, scope, and severity of the injury. Specifically, the authorized official is to

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[83] 43 C.F.R. § 11.41.

[84] 43 C.F.R. § 11.14(dd).

[85] *See* 43 C.F.R. § 11.63.

measure the reduction in quantity and quality of services from baseline conditions.[86] The process involves measurement of the extent of injury, estimation of baseline condition and identification of baseline services, determination of the recoverability of the resource, and estimation of reduction in services resulting from the discharge or release.[87]

- *Damage determination:* This step involves estimating the amount of money to be sought in compensation for the injury. Damages are measured in terms of the cost of restoration, rehabilitation, replacement, and/or acquisition of the equivalent of the injured natural resources and their services. The authorized official also has the discretion to include within damages the compensable value of services lost in the interim between release/discharge and restoration/rehabilitation.[88] As part of the process of damage determination, the trustee must develop a Restoration and Compensation Determination Plan, which includes setting out a reasonable number of restoration alternatives and selecting among them based on a list of ten criteria.[89]

[6] The Oil Pollution Act Regulations

[a] History of the OPA Regulations

Natural resource damages are recoverable not only under CERCLA but also under the OPA. Congress enacted OPA seventeen months after the Exxon Valdez tanker spill in Prince William Sound. The legislation makes parties who are responsible for oil spills liable for the damage to natural resources resulting from those spills. It further directs the President, acting through the National Oceanic and Atmospheric Administration (NOAA), to promulgate regulations for assessment of the damages.[90] Like CERCLA, OPA states that assessments made in accordance with the regulations enjoy a rebuttable presumption on behalf of the trustee in an administrative or judicial proceeding.[91]

Pursuant to the OPA mandate, NOAA undertook a rulemaking process. In 1994, the agency issued proposed rules, and in 1996, six years after the passage of the act, NOAA issued a final rule governing NRD assessments in oil discharge cases. Shortly after they were issued, the regulations were challenged by industry and

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[86] 43 C.F.R. § 11.70(a)(1).

[87] 43 C.F.R. § 11.70(c).

[88] 43 C.F.R. § 11.80(b).

[89] 43 C.F.R. § 11.80(c); *see also* 43 C.F.R. § 11.82(d).

[90] 33 U.S.C. § 2706(e)(1).

[91] 33 U.S.C. § 2706(e)(2).

insurance petitioners in *General Electric Co. v. U.S. Dep't of Commerce*.[92] The D.C. Circuit vacated two parts of the regulations and upheld the remainder. The court's notable holdings relate to contingent valuation, residual removal authority, and monitoring costs.

With regard to contingent valuation, the court followed its earlier decision in *Ohio v. U.S. Dep't of Interior*,[93] and held that the agency had not acted arbitrarily or capriciously by authorizing trustees to use contingent valuation. The court also rejected petitioners' procedural arguments and held that NOAA did not ignore comments an expert panel had made on contingent valuation, but "simply gave trustees discretion to use contingent valuation, so long as the technique produces, as required by [15 C.F.R] section 990.27(a)(3), valid and reliable results for the particular incident."[94]

With regard to residual removal authority, industry petitioners challenged the provision in 15 C.F.R. § 990.53(b)(3)(i) of the final rule, which authorized trustees to "[r]emove conditions that would prevent or limit the effectiveness of any restoration action (e.g., residual sources of contamination)."[95] Petitioners argued that NOAA exceeded its statutory authority because OPA delegated sole responsibility for oil removal to the President, acting through the EPA or the Coast Guard. The court ultimately did not resolve the dispute, but vacated the section and remanded for further agency action because it found that NOAA had failed to exercise reasoned decision-making. Specifically, the court found that NOAA had failed to explain the difference between the language in its proposed rule versus the final rule, the relationship between the trustees' removal authority and the primary removal authority of EPA and the Coast Guard, and whether the three agencies concurred as to how they would coordinate removal authorities.

With regard to monitoring costs, the court held that costs associated with monitoring restoration projects could be included in the definition of reasonable assessment costs, for which trustees could recover. The court vacated, however, a provision allowing recovery of attorneys' fees, a point that NOAA conceded without challenge. Still, because the parties disagreed about the extent to which trustees could recover for certain other legal work, the court left it to NOAA to draw a "precise line between recoverable and nonrecoverable" legal costs.[96]

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[92] 128 F.3d 767 (D.C. Cir. 1997).

[93] 880 F.2d 432 (D.C. Cir. 1989)

[94] *Gen. Elec.*, 128 F.3d at 773.

[95] *Gen. Elec.*, 128 F.3d at 774 (quoting 15 C.F.R. § 990.53(b)(3)(i)(1996)).

[96] *Gen. Elec.*, 128 F.3d at 776. In 2002, NOAA revised its rule to respond to the court's concerns. With regard to legal costs, the agency set forth various criteria for determining whether trustees' legal costs were "reasonable assessment costs." The new rule also provides examples of

[b] Framework of the OPA Regulations

The OPA regulations set forth the following steps for assessment: (1) preassessment; (2) restoration planning; (3) restoration implementation.

- *Preassessment:* In this step, the trustees collect limited data and determine whether or not to proceed with a damage assessment. The regulations prescribe a series of steps and conditions trustees must attend to, including determining jurisdiction, determining existence of feasible restoration actions, preparation of a notice of intent to responsible parties, and opening of a publicly available administrative record to document the basis of their restoration decisions.
- *Restoration planning:* This step involves two sub-phases: injury assessment and selection of restoration options.
    - Injury assessment. This phase includes determining whether or not an injury has occurred, as well as the extent of the injury. Unlike the CERCLA regulations, the OPA regulations contain no specific definitions of injury and acceptance criteria, but, only guidelines, including demonstration of exposure to discharged oil and existence of the pathway from discharge to the resources.
    - Restoration selection. This phase involves considering a range of restoration alternatives, comprised of both primary restoration (actions taken to return the resources or services to baseline) and compensatory restoration (actions taken to compensate for interim losses of resources and services).
    - Scaling. Once trustees have identified types of restoration actions, trustees must determine the "'scale' of those actions that will make the environment and public whole"[97] — that is, the "appropriate size or spatial and temporal extent of restoration actions required to bring injured resources to baseline and compensate the public for interim losses."[98] The regulations require trustees to consider "resource-to-resource" or "service-to-service" scaling, which would yield natural resources or services equal in quantity to those lost.[99] A less-favored method is valuation scaling, whereby trustees

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attorney action performed for the purpose of assessment or development of a restoration plan. *See* 67 Fed. Reg. 61483, 61490-61491 (Oct. 1, 2002).

[97] 15 C.F.R. § 990.53(d).

[98] Valeric Ann Lee & P.J. Bridgen, The Natural Resource Damage Assessment Deskbook 288 (Envtl. Law Inst. 2002).

[99] 15 C.F.R. § 990.53(d)(2).

determine the amount of natural resources/services that must be provided to produce the same value lost to the public.[100]

- *Restoration implementation:* After notice and comment and the development of a Final Restoration Plan, the trustees close the administrative record and present a written demand to the responsible parties.[101]

[c] Main Difference Between the CERCLA and OPA Regulations

The main way in which the OPA regulations differ from the CERCLA regulations is in their focus on a restoration-based approach, bypassing the valuation of injured resources. Under the OPA rule, as with the CERCLA regulations, trustees determine the nature and extent of injury. Thereafter, however, the trustees in an OPA assessment proceed immediately to restoration planning, without quantifying the value of lost resources as the CERCLA regulations would have them do. Once a preferred restoration alternative is identified, trustees in an OPA assessment seek the cost of carrying out the restoration as the measure of damages rather than the value of the injured resources and lost services.[102]

The OPA regulations are also significantly less cumbersome than the CERCLA regulations. The OPA regulations contain general guidelines and objectives for each element of an assessment, rather than providing specific requirements as the CERCLA regulations do.[103]

[7] Round Three — What's Next for NRD Regulations

CERCLA mandates a review of the DOI regulations every two years. Recent discussion surrounding revision of the rules portends a change in direction for the CERCLA regulations.

In December 2005, the Department of Interior convened a federal advisory committee to recommend how the Department might revise its NRD assessment regulations, in particular, to shift the focus of the regulations toward restoration and away from monetizing damages. The department asked the panel whether, in this regard, it should reform the CERCLA NRD assessment regulations to resemble NOAA's OPA regulations.

The December meeting formed four subcommittees, each charged with

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[100] 15 C.F.R. § 990.53(d)(3).

[101] 15 C.F.R. § 990.61; 15 C.F.R.§ 990.62.

[102] *See also* Bill Conner & Ron Gouguet, *Getting to Restoration*, The Environmental Forum 22, 24 (2004).

[103] *See, e.g.,* Valerie Ann Lee & P.J. Bridgen, The Natural Resource Damage Assessment Deskbook 170 (Envtl. Law Inst. 2002).

reviewing a question and developing an outline and timeline for addressing it. The four questions, as stated by the DOI subcommittees, were:

- What are the appropriate steps and procedures to use in determining injury to habitat, ecosystems, and other levels of biological scale?
- Should the DOI regulations provide additional guidance for determining whether direct restoration, rehabilitation, replacement, or acquisition of equivalent resources is the best strategy for addressing natural resource injuries?
- Should DOI revise the CERCLA NRD regulations to encourage compensating for interim losses with additional restoration projects in lieu of monetary damages? If so, how should project-based interim loss compensation claims be calculated?
- What additional measures should DOI consider to expedite planning and implementation of restoration projects and to ensure effective and efficient restoration after awards or settlements are secured?[104]

In a March 2, 2006 hearing, the subcommittees provided an initial report on these questions.[105] In its presentation on injury determination procedures, the first subcommittee suggested, "[t]here is a need to balance practicality (time, money, human resources) with a scientifically defensible, credible assessment of the injury and service loss."[106] The subcommittee also suggested exploring ecological risk assessment (ERA) for application to NRD assessments.

The second subcommittee further sharpened its focus on restoration, querying whether (1) the NRDA rule should be revised to facilitate "integration" of restoration planning and remedial decision-making, and (2) trustees should be required to perform an early screening step to identify potential restoration opportunities. The second subcommittee also asked whether the ten criteria CERCLA regulations currently listed for selecting restoration projects were appropriate.[107]

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[104] A summary of the December meeting is available on the DOI's website. Natural Resource Damage Assessment and Restoration Advisory Committee, Summary of Committee Meeting (Dec. 1, 2005), http://restoration.doi.gov/pdf/mtg1bsummary.pdf.

[105] The agenda for the March 2, 2006, meeting is available at http://restoration.doi.gov/pdf/mtg2draftagenda.pdf.

[106] Natural Resource Damage Assessment & Restoration Advisory Committee Meeting, *Question 1 Subcommittee: Initial Report to DOI FACA Cmt*, (PowerPoint presentation) at 3 (Mar. 2, 2006)

[107] *See* Natural Resource Damage Assessment & Restoration Advisory Committee Meeting, *Q2 Subcommittee Report to DOI Federal Advisory Committee: To Restore, Replace or Acquire . . . That is the Question*, (PowerPoint presentation) (Mar. 2, 2006).

The third subcommittee sought to harmonize the CERCLA regulations with the OPA regulations on the issue of scaling and measuring interim losses.[108] The fourth subcommittee, focusing on measures to expedite planning and implementation of restoration projects, considered measures for consensus-building, cooperation, constructive participation, and flexibility/creativity in the design of settlements. For example, the subcommittee stated that it would consider how to "involve trustees in deliberations regarding the clean-up of a site."[109] In addition, to encourage constructive participation by responsible parties with agencies and trustees, the subcommittee suggested incentives and tolling arrangements.[110]

The trend in NRDA regulations thus appears to be toward the restoration-based approach of the NOAA regulations. The committee expects to have a draft report by July 2006 and a final by December 2006 or have a contingency plan to extend its charter past its May 2007 deadline.

§ 32B.04 Principal Statutory Defenses

This section discusses some of the key statutory defenses available in NRD claims. Other defenses available generally in CERCLA matters — such as act of God, act of war, and innocent landowners — are discussed in Chapter 31 *supra*.

[1] Statute of Limitations

Given that many NRD matters involve inactive sites that are well-known and quite old, defendants often look to the statute of limitations as an available defense. While the limitations period does provide an important statutory defense to many claims, as discussed below, there are numerous obstacles to the successful assertion of this affirmative defense.

[a] The NRD Statute of Limitations Under CERCLA

CERCLA provides multiple limitations periods depending on the status of the site at issue, including whether it is listed on the National Priorities List (NPL). CERCLA § 113(g)(1) contains the limitations period for most NRD claims.

[i] General (non-NPL) Limitations Period

Generally, a damages claim must be commenced within three years after the

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[108] See Natural Resource Damage Assessment and Restoration Advisory Committee, *Question 3 Subcommittee Report*, at 1 (Mar. 2, 2006).

[109] Natural Resource Damage Assessment & Restoration Advisory Committee Meeting, *Subcommittee Four: Report to the Full Committee*, at 3 (Feb. 27, 2006).

[110] *See* Natural Resource Damage Assessment & Restoration Advisory Committee Meeting, *Subcommittee Four: Report to the Full Committee*, at 3 (Feb. 27, 2006).

later of the following: "(A) the date of the discovery of the loss and its connection with the release in question, (B) the date on which the regulations are promulgated under [CERCLA § 301(c)]."[111]

In *California v. Montrose Chemical Corp.*, the Ninth Circuit established that the "date on which the regulations are promulgated" was March 20, 1987, the date on which DOI promulgated the Type A regulations.[112] Since most cases arising now are brought more than three years after that date, whether the limitations period has run would depend on the date of discovery, as required by the first prong of the provision.[113]

There is very little case law interpreting section (A) of this provision. However, when and how much a trustee must know before being deemed to have "discovered the loss" appears to be a fact-intensive inquiry. In *Montrose*, the district court found that the "discovery" prong had been triggered where trustee agencies had conducted several site investigations and generated reports describing the extent of the contamination, some of the resource injuries, and the pollution by defendants.[114] The court also found that defendant responsible parties bear the burden of demonstrating that trustees have knowledge of the loss and connection of that loss to the release, although that knowledge may be established by demonstrating knowledge on the part of low-level employees.[115]

In *New York v. General Electric Co.*, the defendants argued (as part of a non-limitations issue) that plaintiffs' limitations period had expired three years after the enactment of CERCLA, because the activities in question "took place in the early 1960s [and] there is no allegation in the complaint that the alleged loss was not discovered until some later time."[116] The court rejected the defendant's argument, stating that, given the procedural posture (motion to dismiss), the court was required to construe the complaint's allegations in favor of the plaintiff, and, as the complaint alleged that sampling had taken place in 1982 and 1983, "as a

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[111] 42 U.S.C. § 9613(g)(1). The statute explicitly excepts contribution and subrogation claims from this provision.

[112] 104 F.3d 1507, 1514 (9th Cir. 1997).

[113] In *Kennecott Utah Copper Corp. v. U.S. Dep't of Interior*, the court held that DOI's subsequent revisions of the regulations did not postpone the limitations period. 88 F.3d 1191 (D.C. Cir. 1996).

[114] United States v. Montrose Chem. Corp., 883 F. Supp. 1396 (C.D. Cal. 1995), *rev'd on other grounds,* California v. Montrose Chem. Corp., 104 F.3d 1507 (9th Cir. 1997). *See also* Kelley v. United States, 23 Env't Rep. Cas. (BNA) 1503 (W.D. Mich. Sept. 12, 1985) (holding that date of discovery was not until the state's hydrogeologic investigation was completed) (quoting 50 Fed. Reg.. 9593, 9602 (Mar. 8, 1985).

[115] 883 F. Supp. 1396 (C.D. Cal. 1995).

[116] 592 F. Supp. 291, 300 (N.D.N.Y. 1984) (citing defendant's brief).

pleading matter, it appear[ed] that the statute of limitations would not expire until some time in 1985."[117]

Perhaps more pertinently, the court was also persuaded by the plaintiff's argument that the action would be timely, based on the "theory of continuing nuisance. That is, even if the injury was discovered more than three years ago, because the injurious activity has not yet abated, the wrong is a continuous one and the cause of action must therefore continue to accrue."[118]

[ii] Limitations Period for NPL and Scheduled Remedial Sites

In addition to CERCLA Section 113's two-pronged limitations period for non-NPL sites, the statute also provides an alternative longer limitations period[119] for (a) "any facility listed on the National Priorities List," (b) certain federal facilities, or (c) "any vessel or facility at which a remedial action under [CERCLA] is otherwise scheduled."[120] With respect to these facilities, a NRD action must be commenced within three years of "completion of the remedial action (excluding operation and maintenance activities)."[121]

This provision was litigated in *United States v. ASARCO Inc.*,[122] in which federal trustees sought damages for injury to natural resources at the "Bunker Hill facility," a site listed on the NPL. In their complaint, the trustees stated that the NPL site included the Coeur d'Alene basin, an area that happened to be outside the original listing. The defendants moved for summary judgment on a statute of limitations defense, arguing that the area outside the original NPL site fell under the shorter 113(g)(1) limitations period, and that EPA could not now expand the site's boundaries without engaging in notice-and-comment rulemaking.

The Ninth Circuit noted that the EPA's own policy stated that it could revise NPL site boundaries at any time, and that the D.C. Circuit had previously indicated that EPA need not engage in notice-and-comment rulemaking for revisions to site boundaries, as long as it gave sufficient notice of the revision,

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[117] 592 F. Supp. at 300.

[118] 592 F. Supp. at 300 n.17.

[119] One commentator has termed these two aspects of CERCLA related to limitations the "conventional" limitations period and "special" limitations period. *See* David G. Mandelbaum, *The Timing Provisions of CERCLA for Natural Resource Damage Claims*, 19 Toxics L. Rep. (BNA) 22 (Jan. 1, 2004). *See also* Michael R. Thorp, Handbook of the Law of Natural Resource Damages 18-22 (2004).

[120] 42 U.S.C. § 9613(g)(1).

[121] 42 U.S.C. § 9613(g)(1).

[122] 214 F.3d 1104 (9th Cir. 2000).

which the *ASARCO* court suggested was provided in this case.[123] Nonetheless, the court did not answer the ultimate question, deeming itself without jurisdiction to hear a review of the Bunker Hill site designation, a review CERCLA vested in the D.C. Circuit alone.

Although the Ninth Circuit's decision left open the question whether an existing site's boundaries could be revised to the benefit of plaintiff trustees opposing a statute of limitations defense, the district court's statement in the case indicates that more generally, an otherwise expired NRD claim can be revived if the EPA decides to designate a not-yet-listed site to the NPL: "If the trustee fails to file a NRD action within 3 years of the date of the discovery of the loss and its connection with the release in question . . . then the trustee can still timely file a NRD action for the loss if the facility is [subsequently] listed by the EPA on the NPL."[124]

In addition to the revival of a NRD claim by EPA action, a trustee could potentially reinstate an otherwise expired action. In August 1996, President Clinton delegated limited authority to trustees to issue CERCLA Section 106 orders. This authority could allow trustees such as DOI to order remedial action for a particular site, thereby, in theory at least, tolling the statute of limitations for NRD claims. There are, however, no cases in which trustees have used their section 106 authority to defeat an otherwise expired claim.[125]

Finally, the longer statute of limitations period also applies to sites at which a remedial action is "otherwise scheduled." The statute does not specify in what contexts a remedial action may be "otherwise scheduled" and thus trigger the extended limitations period. Since only NPL sites are eligible for federally financed remedial action, the term cannot apply to EPA-financed remedial actions. One possibility is that a remedial action may be "otherwise scheduled" at state-financed sites and sites financed by responsible parties, such as where EPA has issued a Section 106 order,[126] or where a responsible party has entered into a Remedial Design/Remedial Action ("RD/RA") Consent Decree with the United States. Further, a remedial action would arguably be "otherwise scheduled" if a trustee agency were to issue a Section 106 order pursuant to Executive Order 13016, although the contrary argument could be made that Section 106 orders do not give rise to "remedial actions." Other than *ASARCO*, where the district court

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[123] 14 F.3d at 1107 (citing Washington State Dep't of Transp. v. EPA, 917 F.2d 1309, 1311 (D.C. Cir. 1990) and Eagle-Picher Indus. v. EPA, 822 F.2d 132, 144 n.59 (D.C. Cir. 1987)).

[124] United States v. ASARCO, Inc., 28 F. Supp. 2d 1170, 1179 (D. Idaho 1998), *vacated and remanded with instructions to stay proceedings*, 214 F.3d 1104 (9th Cir. 2000).

[125] *See* Michael R. Thorp, Handbook of the Law of Natural Resource Damages 23 (2004).

[126] *See ASARCO*, 28 F. Supp. 2d at 1179 n.23.

found that an on-going Remedial Investigation/Feasibility Study ("RI/FS") did not constitute the scheduling of a remedial action, no published decisions have interpreted this provision.

[b] The NRD Statute of Limitations Under OPA

Under OPA, the three-year statute of limitations begins to run on the later of: "(i) the date on which the loss and the connection of the loss with the discharge in question are reasonably discoverable with the exercise of due care"; and (ii) "the date of completion of the natural resources damage assessment under section 1006(c) [of OPA]."[127]

[2] Wholly Before December 11, 1980

Section 107(f) of CERCLA provides that "[t]here shall be no recovery [for natural resource damages] where such damages and the release of a hazardous substance from which such damages resulted have occurred wholly before December 11, 1980."[128] There is very little case law discussing what in particular is exempted by this section. One issue that is central to this inquiry is when "damages" "occur" under this section — whether they occur when the actual injury to natural resources occurs, or when monetary expenses are incurred. Two cases that discussed this issue in depth reached opposite conclusions.

The court in *In re Acushnet River*,[129] noting the lack of legislative history and relevant case law, concluded that "damages" — *i.e.*, monetary quantification of the injury done to the natural resources — 'occur' as a general rule when the property owner in this example, or some entity as a general rule, incurs expenses due to the injury to natural resources . . . ."[130] The *In re Acushnet River* opinion was buttressed by two other cases. In *Coeur d'Alene Tribe v. ASARCO Inc.*, the court cited to the DOI regulations, which define "damages" as "*the amount of money* sought by the natural resource trustee as compensation for injury, destruction, or loss of natural resources."[131] In *Aetna Casualty & Surety Co., v. Pintlar Corp.*,[132] the Ninth Circuit favorably cited the *Acushnet River* analysis of

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[127] OPA § 1017(f)(1), 33 U.S.C. § 2717(f)(1). No explicit date is given for when a trustee must conduct an assessment. *See* OPA § 1006, 33 U.S.C. § 2706.

[128] 42 U.S.C. § 9607(f)(1).

[129] *In re* Acushnet River & New Bedford Harbor Proceedings *re* Alleged PCB Pollution, 716 F. Supp. 676 (D. Mass. 1989)

[130] 716 F. Supp. at 683; *see also* Coeur d'Alene Tribe v. ASARCO Inc., 280 F. Supp. 2d 1094, 1114 (D. Idaho 2003) (damages generally occur when some entity incurs expenses due to injury to natural resources).

[131] Coeur d'Alene, 280 F. Supp. 2d at 1114 (quoting 43 C.F.R. 11.14(l)) (emphasis added).

[132] 948 F.2d 1507 (9th Cir. 1991).

the definition of damages. The court stated: "The statutory definition, although somewhat circular, does not appear to support [an] interpretation . . . [that] equate[s] the term 'damages' [ ] with injury to the natural resources."[133]

In contrast to these cases, the court in *Montana v. ARCO*[134] expressly rejected *In re Acushnet River*'s interpretation of what constitutes "damages" under Section 107(f)(1) of CERCLA,[135] finding instead that damages occur when the underlying injury occurs. To hold that damages occur only when a trustee incurs expenses or the court quantifies restoration costs, reasoned the court, would be to render the "wholly before" limitation meaningless. The court thus found plaintiff trustee's claims barred because the "injuries to, destruction or loss of natural resources" occurred before CERCLA's date of enactment.[136] The court stated: "Absent proof that injuries, destruction or loss of natural resource damages occurred after December 11, 1980, the essential element of causation required by Section 107(f) is missing."[137]

Given the opposite conclusions reached by *In re Acushnet River* and *ARCO*, the issue of when "damages" "occur" for purposes of the "wholly before" defense remains unsettled.

In addition to discussing when "damages" occur under Section 107(f), the court in *Acushnet River* considered the larger issue of the scope of recovery where releases started pre-enactment but continued post-enactment, or where a release that started pre-enactment incurred both pre- and post-enactment damages. As the court noted, the parties did not dispute that incremental post-enactment damages caused by pre- and post-enactment releases are recoverable.[138] The court held that if damages are not divisible and either the damages or the release that caused them continue after December 11, 1980, the government can recover such damages in their entirety.[139] In contrast, where the damages are readily divisible, the government can recover only for damages occurring after the date of enactment.[140] In determining what damages are recoverable, the party seeking to rely upon the exemption in Section 107(f) bears the burden of demonstrating that certain damages occurring before the date of enactment are divisible from

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[133] 948 F.2d at 1515.

[134] 266 F. Supp. 2d 1238, 1242, 1244 (D. Mont. 2003).

[135] 266 F. Supp. 2d at 1244 n.2.

[136] 266 F. Supp. 2d at 1244-45.

[137] 266 F. Supp. 2d at 1244.

[138] 716 F. Supp. 676, 679 (D. Mass. 1989).

[139] 716 F. Supp. at 686.

[140] 716 F. Supp. at 685.

post-enactment damages.[141]

[3] Federally Permitted Release

A defense is available to litigants who can show that some part of the damage to natural resources was caused by federally permitted discharges. CERCLA states: "[R]ecovery by any person . . for response costs or damages resulting from a federally permitted release shall be pursuant to existing law in lieu of this section."[142] The statute defines "federally permitted release" as discharges or emissions undertaken in compliance with permits or licenses issued pursuant to any of 11 listed federal programs, such as the Clean Water Act program.[143]

Courts have narrowly interpreted the federally permitted release exemption. For example, in *Idaho v. Bunker Hill Co.*, the court held that the exemption does not offer protection in the case of releases not expressly covered by the permit, releases that exceeded the limits of the permit, or releases that occurred outside the time period of the permit.[144] Further, in *In re Acushnet River & New Bedford Harbor*, the court held that the defendant claiming the exemption bears the burden of proving, "by a fair preponderance of the evidence, which releases were federally permitted and, if possible, what portion of the natural resource damages are allocable to federally permitted releases."[145]

[4] Irretrievable Commitment of Resources

CERCLA provides that trustees may not recover for losses to natural resources where a responsible party demonstrates that those losses were identified in an environmental impact statement (EIS) or similar analysis as an "irreversible and irretrievable commitment of natural resources . . . and the decision to grant a permit or license authorizes such commitment of natural resources."[146]

The statute does not define the terms "irreversible" or "irretrievable," but the Ninth Circuit has pointed out that the phrase "irreversible or irretrievable

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[141] 716 F. Supp. at 687-688.

[142] 42 U.S.C. § 9607(j). Thus, "resort must be made to state common law in order to recover for any damages resulting from permitted releases." Idaho v. Bunker Hill Co., 635 F. Supp. 665, 673 (D. Idaho 1986).

[143] 42 U.S.C. § 9601(10).

[144] 635 F. Supp. at 674.

[145] 722 F. Supp. 893, 901 (D. Mass. 1989).

[146] 42 U.S.C. § 9607(f)(1). In addition, the facility or project must be shown to have been operating within the terms of its permit or license, and, where tribal resources are involved, the permit or license must have been issued consistent with the fiduciary duty of the tribe and the United States. 42 U.S.C. § 9607(f)(1).

commitment of natural resources" originates in the National Environmental Policy Act (NEPA).[147] The Forest Service regulations addressing NEPA define "irreversible" as applying "primarily to the use of nonrenewable resources, such as minerals or cultural resources or to those factors which are renewable only over long time spans, such as soil productivity."[148] The same regulations define "irretrievable" as applying to "losses of production, harvest or use for renewable natural resources," such as might happen in the case of timber production in an area temporarily used as a winter sports site.[149]

In *Idaho v. Hanna Mining Co.*, the court held that while it was preferable for the EIS to include the words "irreversible and irretrievable," no such "formulaic recitation" was required by the statute, and thus a party could still successfully assert the defense by showing "an agency finding that does not employ [the statute's] specific terms [but is] otherwise clear and unambiguous."[150] The court also held that the exclusion was not meant to excuse liability for activities and injuries taking place before the permit was issued.[151]

[5] Double Recovery

CERCLA prohibits double recovery of natural resource damages[152] — that is, "damages or assessment costs may only be recovered once, for the same discharge or release and natural resource."[153] The statute does, however, permit "different claims or actions for *different* damages stemming from the same injury to the same natural resources."[154]

In *Coeur d'Alene v. ASARCO, Inc.*, the court affirmed the Government's argument that "there is not a double recovery until the total value of the damaged or injured resource has been recovered."[155] Although the court then went on to hold that CERCLA's bar against double recovery limited trustees' individual recovery to their "stewardship percentage" in a particular resource,[156] as

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[147] Idaho v. Hanna Mining Co., 882 F.2d 392, 396 (9th Cir. 1989).

[148] 46 Fed. Reg. 56998, 57013 (Nov. 19, 1981).

[149] 46 Fed. Reg. 56998, 57013 (Nov. 19, 1981).

[150] 882 F.2d 392, 396 (9th Cir. 1989).

[151] 882 F.2d 392 at 395.

[152] 42 U.S.C. § 9607(f)(1).

[153] 43 C.F.R. § 11.15(d).

[154] H.R. Conf. Rep. 99-962, at 221 (Oct. 3, 1986), *reprinted in* 1986 U.S.C.C.A.N. 3276, 3314. (emphasis added) (discussing Pub. L. No. 99-499, 100 Stat. 1613 (Oct. 17, 1986), Superfund Amendments & Reauthorization Act of 1986).

[155] 280 F. Supp. 2d 1094, 1116-17 (D. Idaho 2003).

[156] 280 F. Supp. 2d at 1116-17.

mentioned above, the court later reversed itself, *sua sponte*, finding that CERCLA in fact permitted any trustee to recover the full amount of damages, less any amount already paid in settlement.[157]

In another case, the defendant sought to join the state of Colorado as plaintiff, arguing that it might face multiple or inconsistent obligations to the United States and Colorado because both could be awarded damages for injury to natural resources. The court found this concern unfounded, as the double recovery bar would prevent the two co-trustees from separately recovering for the same resource. The court stated: "When the total amount of Shell's liability for injury to natural resources is determined, that amount will be apportioned between the Army and Colorado."[158]

Where private parties with commercial enterprises on public land — such as harvesting of public fish and game stocks — sue and recover the public's imputed rent as part of lost profits, a trustee is barred from including such losses in its calculation of NRD.[159] Similarly, if a trustee recovers such damages, "a private party will be barred by *res judicata* from later seeking recovery for the same public losses."[160]

Parties should also be aware that, under CERCLA, if a trustee has already received damages under a different state or federal law, it is precluded from recovering for the same damages under CERCLA. Conversely, if a trustee has already received compensation for damages under CERCLA, it may not recover for the same damages under any other federal or state law.[161]

[6] Determination of Amounts

CERCLA imposes limitations on the amount of damages for which a responsible person may be liable, for each release of a hazardous substance or incident involving a release:

- The greater of $5,000,000 or $300 per gross ton, for any vessel other than an incineration vessel, carrying a hazardous substance as cargo or residue;
- The greater of $500,000 or $300 per gross ton, for any other vessel, other than an incineration vessel;

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[157] Coeur d'Alene Tribe v. ASARCO Inc., No. CV 96-0122-N-EJL, No. CV-91-0342-N-EJL, slip op. (D. Idaho Aug. 9, 2005).

[158] United States v. Shell Oil Co., 605 F. Supp. 1064, 1081 (D. Colo. 1985).

[159] Nat'l Ass'n of Mfrs. v. U.S. Dep't of Interior, 134 F.3d 1095, 1114-1115 (D.C. Cir. 1998) (citing 43 C.F.R. § 11.44(d) (1996)).

[160] 134 F.3d at 1114-1115.

[161] 42 U.S.C. § 9614(b).

- $50,000,000, or any lesser amount established by regulation, but no less than $5,000,000, for any motor vehicle, aircraft, hazardous liquid pipeline facility, or rolling stock; or
- $50,000,000 plus total response costs, for any incineration vessel or any facility not listed above.[162]

The above limitations do not apply, however, if the release was a "result of willful misconduct or willful negligence," or was caused by a violation of safety regulations. In addition, the limitation does not apply where the responsible person does not provide "all reasonable cooperation and assistance requested by a responsible public official in connection with response activities."[163] Under these circumstances, the responsible person is liable for the "full and total costs of response and damages."[164]

The question arises how broadly Congress intended the terms "each release" or "incident involving release" to apply.[165] In *Montrose*, the Ninth Circuit held that "incident involving release" was not limited to the "contaminated site," as defendants argued, but, rather, meant "an occurrence or series of occurrences of relatively short duration involving a single release or a series of releases all resulting from or connected to the event or occurrence."[166] The court stated: "Thus a series of events that lead up to a spill of hazardous substance would be considered an incident involving release; however, a series of *releases* over a long period of time might or might not."[167]

The court also held that the cap on damages applied, not to the defendants collectively, but, rather, to each separately, depending on the type of vessel or facility the responsible person owned or operated, even if the defendants were related to the same facility.[168]

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[162] 42 U.S.C. § 9607(c)(1)(A)-(D).

[163] 42 U.S.C. § 9607(c)(2).

[164] 42 U.S.C. § 9607(c)(2).

[165] The statute defines release as: "any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment." 42 U.S.C. § 9601(22). The statute does not define "incident involving release."

[166] 104 F.3d 1507, 1520 (9th Cir. 1997).

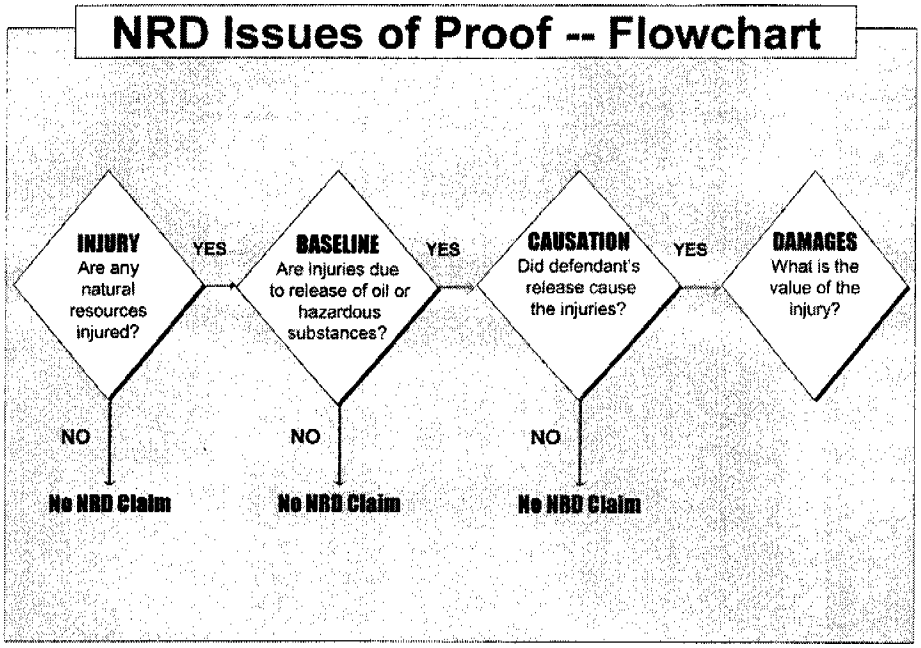
[167] 104 F.3d at 1520. The court earlier stated that "the fact that the statute includes a limit on liability for 'each release' implies that Congress contemplated that an owner or operator could be liable independently for several releases and that the liability cap would apply separately for each release. If, however, the releases are linked to one 'incident' — one series of events of relatively short duration — the liability cap applies to that incident." 104 F.3d at 1519.

[168] 104 F.3d at 1518, 1520.

§ 32B.05 Principal Evidentiary Issues

There are four principal evidentiary issues presented by a NRD claim: injury, baseline, causation and damages. The following flowchart illustrates the general relationship of these issues. Each will be discussed in more detail below.

TABLE 4: NRD Issues of Proof



[1] Injury

The first question in any NRD matter is whether, and to what extent, any resources have been injured or destroyed. If there is no injury, there is no claim. The scientific and legal determination of injury, however, is far from simple. While CERCLA defines "natural resources," it does not define "injury." The Department of Interior defines injury as "a measurable adverse change, either long- or short-term, in the chemical or physical quality or the 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 the discharge of oil or release of a hazardous substance."[169] The Department of Commerce defines injury as "an observable or measurable adverse change in a

[169] 43 C.F.R. § 11.14(v).

natural resource or impairment of a natural resource service."[170] Of course, both of these definitions beg the hard question: namely, what is an adverse change?

In essence, assuming the application of the Interior regulations, there are three broad categories of natural resource injuries: *per se* injury, adverse biological changes and defined injuries.

[a] *Per Se* Injuries

A *per se* injury is simply an exceedence of an applicable standard. For instance, if surface water or groundwater exceeds federal or state drinking water standards, the trustees will define the natural resource as "injured" *per se*.[171] Similarly, if the surface or ground water exceeds a non-drinking water quality criteria, the resource will be deemed "injured" *per se*.[172] Other important *per se* categories include exceedences of Clean Air Act standards,[173] Food, Drug and Cosmetic Act action or tolerance levels,[174] and Solid Waste Disposal Act characteristics.[175]

In the *Montrose* litigation — notwithstanding the high-profile claims related to bald eagles and peregrine falcons — a major component of the trustee's claim relied upon a *per se* injury. The United States and California argued that since there were concentrations of DDT in the water column above the Palos Verdes shelf that exceeded the EPA water quality criterion of one part per billion, therefore "the surface water . . . . is 'injured' as a matter of law."[176] Similarly, in the Coeur d'Alene Basin litigation, the trustees are relying heavily on the *per se* injury provisions.[177]

The availability of a "*per se*" injury is a tremendous tool for the government. In lieu of showing actual biological harm, the trustees can instead simply compare environmental data to a regulatory criteria. Since there are no real issues of proof involved (assuming the integrity of the data which is only rarely in doubt), the government is able to focus its attention and resources on quantifying damages instead of proving injury.

On the other hand, there are at least two difficult questions posed by the

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[170] 15 C.F.R § 990.30.

[171] 43 C.F.R. § 11.62(b)(1)(i) and (c)(1)(i).

[172] 43 C.F.R. § 11.62(b)(1)(iii) and (c)(1)(iii).

[173] 43 C.F.R. § 11.62(d)(1).

[174] 43 C.F.R. § 11.62(f)(1)(ii).

[175] 43 C.F.R. § 11.62(e)(1).

[176] Mem. of Contentions of Law & Fact of Pls. United States & State of Cal., at 19, United States v. Montrose Chem. Corp., No. CV 903122-R (C.D. Cal. Aug 7, 2000).

[177] 280 F. Supp. 2d at 1122-1124 (finding numerous injuries where, *inter alia*, concentrations of contaminants exceed various regulatory thresholds).

application of *per se* injuries. First, it is entirely unclear that the trustees can rely upon the *per se* criteria if they are not otherwise applying the NRD assessment regulations. While this issue has not been adequately tested in the courts, a PRP may be able to argue that it is inappropriate for a trustee to "cherry pick" the parts of the regulations that help its case while choosing to avoid the other parts of the regulations, including public participation, baseline determination and other requirements.[178] Second, the trustee may, in the end, harm its case by relying upon *per se* injuries. This is true because a defendant may be able to argue that the injury is *de minimis* or technical in nature, and therefore the damages should be small. Accordingly, if the trustee is able to show injury in fact instead of injury as a matter of law, it will usually do so.

[b] Adverse Biological Changes

A resource is also injured if it exhibits an adverse biological change, which includes "death, disease, behavioral abnormalities, cancer" and others.[179] The criteria for determining an adverse biological change are rigorous and include a four-part mandatory test, known as the acceptance criteria. First, the trustee must show that the "biological response is often the result of exposure to oil or hazardous substances" and that the response is commonly documented.[180] Second, the biological response must be known to occur in a natural ecosystem.[181] Third, the biological response must be known to occur in controlled experiments.[182] Fourth, the biological response must be measurable in a scientifically valid and accepted manner.[183] Finally, the trustee must demonstrate a statistically significant difference between the assessment area and a control area.[184]

In *Ohio v. U.S. Dep't of Interior*, discussed above, a number of states and environmental groups contested these acceptance criteria, arguing that they imposed a causation standard that was not otherwise required by the statute. The

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[178] In *Coeur d'Alene*, the court relied, in part, on exceedances of water quality criteria for finding the existence of an injury while explicitly withholding judgment on whether the trustees' assessments were conducted in accordance with the regulations. *Coeur D'Alene*, 280 F. Supp. 2d at 1122-1123. Specifically, Judge Lodge stated: "While the Court will grant due deference to the agency's definitions [of injury], the Court does not find it is bound to such definitions . . . ." 280 F. Supp. at 1122 n.22. In that case, however, the defendants "agree[d] that the DOI regulations are instructive and should be used by the Court in considering a standard for determining if Plaintiffs have met their burden in establishing 'injury' to natural resources." 280 F. Supp. at 1122.

[179] 43 C.F.R. § 11.62(f)(1)(i).

[180] 43 C.F.R. § 11.62(f)(2)(i).

[181] 43 C.F.R. § 11.62(f)(2)(ii).

[182] 43 C.F.R. § 11.62(f)(2)(iii).

[183] 43 C.F.R. § 11.62(f)(2)(iv).

[184] 43 C.F.R. § 11.62(f)(3).

Court of Appeals rejected the petitioners' arguments on several grounds, but noted that the criteria provided a reasonable method for standardizing an injury assessment.[185] The court also noted that the requirements would prevent trustees from succumbing to the *post hoc ergo propter hoc* fallacy: namely the fallacy of assuming that an observed injury chronologically following a release was therefore caused by the release.[186] Finally, the court observed that the acceptance criteria may, at times, make the trustee's job easier, not more difficult.[187]

[c] Defined Injuries

Finally, the DOI regulations define 18 specific responses that are deemed to satisfy the acceptance criteria. These include methods for measuring mortality, disease, behavioral abnormalities, cancer, physiological malfunctions and physical deformation.[188]

[d] Injury and Issues of Proof

Notwithstanding the very detailed DOI regulations, the determination of injury presents a complicated evidentiary issue that is expert intensive and often litigated. At the end of the day, the trustee and the PRP are likely to disagree about the existence, scope and severity of the injuries. Each side will rely upon biologists, chemists, ecologists, toxicologists, risk assessors and other scientists to argue different aspects of the injury determination. In some cases, the scientific uncertainty is increased further by predictions about future injury that will result from observed environmental data.

Even relatively simple injury assessments are often controversial and expert-intensive. For example, the State of Idaho brought a claim following a truck accident and chemical spill into the Little Salmon River in 1987. There was no dispute that the spill of hundreds of gallons of a fungicide killed a number of fish in the river, but the parties litigated and ultimately tried the issue of how many fish were killed. The State claimed that 90% or more of the fish were killed and sought significant natural resource damages as a result. Ultimately, after two weeks of trial and consideration of numerous experts, the court found that the State's injury determination was not reasonable.[189] The court concluded that far fewer fish were killed than proffered by the State and awarded damages of less than $50,000.[190]

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[185] Ohio v. Dep't of Interior, 880 F.2d 432, 472 (D.C. Cir. 1989).

[186] 880 F.2d at 473.

[187] 880 F.2d at 472.

[188] 43 C.F.R. § 11.62(f)(4).

[189] Idaho v. S. Refrigerated Transp. Inc., No. 88-1279, 1991 U.S. Dist. LEXIS 1869 (D. Idaho Jan. 24, 1991) (finding a number of the trustee's assumptions to be unreasonable).

[190] *Idaho*, 1991 U.S. Dist. LEXIS 1869 at *67.

[2] The Relationship Between Baseline and Causation

The details of "baseline" and "causation" will be discussed below, but it is important at the outset to consider the two in relation to each other. Both the "causation" concept and the "baseline" concept are rooted in the same statutory language, although neither concept is explicitly mentioned. The language of the statutes simply states that the plaintiff must show that the injury "result[ed] from" the release.[191] As the regulations and practice of NRD have evolved, however, two different tests have been packed into these words: (i) first, whether the injury was caused by the release (causation) and (ii) second, to what extent the injury existed independent of the release (baseline). An alternative way to view these two concepts might be that the causation question speaks to a defendant's liability while the baseline question speaks to the quantification of damages. In any event, the difference between these two concepts is important.

Causation, in theory at least, asks whether the observed injury was caused, in whole or part, by the release. While it is true that this represents a burden not generally found in environmental statutory law, in the practical world this may prove not to be a difficult burden to overcome. Consider the case of a spill of chemicals into an urban river and a subsequent fish kill. Even if the fish population were vulnerable due to other environmental insults, the trustees would likely have the better argument that the chemical spill *caused* the fish kill.[192] Regardless of the particular causation standard applied (see discussion below), the trustee will always argue that "but for" the release, the injury would not have occurred. Indeed, as a practical matter, if the trustee can show (a) a release and (b) an injury that in theory would result from that release, the court may effectively require the defendant to demonstrate an alternative cause. In this way, the causation question can become a burden of proof on the defendant, not the plaintiffs.

The evaluation of baseline is strikingly different and more favorable to a defendant. Baseline does not ask about the cause of a current impaired condition, but about the nature of the condition absent the release. As defined in the regulations, baseline is "the condition or conditions that would have existed at the assessment area had the . . . release . . . not occurred."[193] In other words, the baseline analysis forces the trustee to tease out of the quantification of damages those injuries that would have existed independent of the release. As discussed below, this analysis is complicated by the need to evaluate injuries caused by

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[191] 42 U.S.C. § 9607(4)(C).

[192] Of course, there is still the thorny question of determining the extent of the fish kill. This is no easy endeavor and at least one court has rejected a trustee's methodology for doing so. *See* Idaho vs. S. Refrigerated Transp. Inc., No. 88-1279, 1991 U.S. Dist. LEXIS 1869 (D. Idaho Jan. 24, 1991) (finding a number of the trustee's assumptions to be unreasonable).

[193] *See, e.g.*, 43 C.F.R. § 11.14(e).

natural forces, human actions and changes over time. In the urban river example, it is not enough to say the release was the "but for" cause of the fish kill. In addition, the trustees must measure the state of the fish population prior to the release, usually in terms of services provided, as well as the expected condition of the population now had the release not occurred.[194] Then, pursuant to the regulations, the trustees should claim damages only for the difference between the baseline condition and the post-release condition.

[3] Baseline — A Closer Look

A primary objective of the NRD regime is restoration to baseline: namely, the return of injured natural resources to a condition that would have existed had the release or discharge not occurred.[195] The apparent simplicity of this objective, however, is betrayed by the complexities of the natural world, and further complicated by the reality that natural resources endure insults from numerous human and non-human sources. As a result, the evaluation of baseline frequently is extraordinarily difficult and time-consuming. For a trustee, the baseline analysis is critical for measuring damages and complying with the assessment regulations. For a PRP wishing to limit its exposure to the actual damage that it caused, the baseline analysis presents one of the most promising areas for defending a NRD claim.

The most obvious obstacle to defining baseline is the fact that other human activity likely impacted the assessment area. This activity could include other releases of hazardous substances or petroleum and other emissions or discharges (hot water, non-hazardous substances, *etc.*). In addition, the assessment area could have been impacted by an infinite number of other human activities, including stormwater run-off, urban sprawl, pesticide application, development, mobile sources, trespassers, hunting, acid precipitation and global climate change, to name a few possibilities. Finally, the change in baseline may be due to releases that were permitted or otherwise allowable under the relevant statute. As stated by the NOAA Damage Assessment and Restoration Program, "[b]aseline may differ from pre-release conditions because of non-actionable (permitted) events that would have affected natural resources even if no release occurred."[196]

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[194] Services are defined as "the physical and biological functions performed by the resource including the human uses of those functions. These services are the result of the physical, chemical, or biological quality of the resource." 43 C.F.R. § 11.14(nn).

[195] *See, e.g.*, 15 C.F.R. § 990.10 (the goal of the OPA "is achieved through the return of the injured natural resources and services to baseline and compensation for interim losses . . . ."); 15 C.F.R. § 990.30 ("Baseline means the condition of the natural resources and services that would have existed had the incident not occurred."). *See also* 40 C.F.R. § 11.14(e).

[196] NOAA Damage Assessment and Restoration Program, Joint Assessment Team Meeting: Baseline (Nov. 18, 2003).

In addition, baseline must account for the underlying trajectory of the ecological services. As stated by NOAA, baseline "is the condition the resource would be in today if it had not been exposed to the release."[197] Thus, the trustee must evaluate not only the condition of the ecosystem prior to the release, but also the hypothetical condition of the ecosystem today *but for* the release. In order to make this temporal adjustment, the trustee must evaluate the ecological trend. NOAA has identified at least five potential baseline "forms" or trends. According to NOAA, the ecological baseline could be constant (ecological services stable independent of the release), declining (ecological services in decline independent of the release), fluctuating (ecological services increasing and decreasing, such as beaches), increasing (ecological services improving or recovering independent of release), or crashing (ecological services severely harmed by storm or other event).[198]

In order to understand the baseline, therefore, a trustee must consider other environmental and human forces that may have caused the observed injury, as well as how the services would have changed over time. As stated eloquently by U.S. District Judge Lodge in *Coeur d'Alene* (although not while discussing baseline):

> To put this case in proper perspective, one has to review the history of over 100 years of mining in the Coeur d'Alene Basin, what efforts were made to deal with the problems as they became evident, what direction the Courts and the State of Idaho legislature gave to interested parties, what contribution, if any, the Federal Government and Tribe made to the conditions, how urbanization, forest fires and floods also impacted the environment, how settlements between certain parties may have changed the landscape and what are the observations and experiences of the people who live in the Coeur d' Alene Basin today.[199]

While the challenges to defining baseline are enormous, trustees have a potentially potent countermeasure: they may choose not to define it at all. As discussed below, the statute does not explicitly require a baseline assessment. The trustees may argue that the regulatory hurdles described above are voluntary and are "not intended to affect the recoverability of natural resource damages when recoveries are sought other than in accordance with [the regulations]."[200] On the other hand, if trustees decline to follow the regulations, they will also waive their right to rely upon the rebuttable presumption. Furthermore, as a practical matter,

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[197] NOAA Damage Assessment and Restoration Program, Joint Assessment Team Meeting: Baseline (Nov. 18, 2003).

[198] NOAA Damage Assessment and Restoration Program, Joint Assessment Team Meeting: Baseline (Nov. 18, 2003).

[199] 280 F. Supp. 2d at 1101.

[200] 15 C.F.R. § 990.11; *see also* 43 C.F.R. § 11.10.

given that the trustees have so often informally relied upon the regulations, they may not be able to distance themselves from the baseline requirements.[201]

[4] Causation — Which Standard Applies?

Under Section 107(a)(4)(C) of CERCLA, responsible parties are responsible for damages for injury to natural resources "resulting from" a release of hazardous substances or oil. Otherwise, however, the statutory text is silent with respect to the degree of causation that is required and whether proof of causation of injury should be less strict than required by common law. Moreover, the legislative history sheds very little light on the issues.[202]

In *Ohio v. U.S. Dep't of Interior*, the court acknowledged that Congress had expressed some displeasure with the common law causation standard, but nonetheless concluded that it had stopped short of adopting any particular standard. Several decisions have noted this ambiguity and have held that CERCLA is "ambiguous on the precise question of what standard of proof is required to demonstrate that natural resource injuries were caused by, or 'resulted from,' a particular release."[203] Noting this ambiguity, other decisions have observed that "CERCLA left it to Interior to define the measure of damages in natural resources damage assessment cases."[204]

Due to this ambiguity, there is some inconsistency regarding the appropriate causation standard for NRD claims. For example, in the *Montrose* matter, the court held that a trustee "must show that a defendant's release of a hazardous substance was the sole or substantially contributing cause of each alleged injury to natural resources."[205] This test — which is now well-known by NRD practitioners and is referred to the "sole or substantially contributing cause" standard — has a somewhat colorful history.

The *Montrose* case was originally filed by the United States and State of California in June of 1990. The complaint alleged injury to birds, fish and marine mammals as a result of DDT and PCB contamination on the Palos Verdes shelf of the coast of California. On March 18, 1991, Judge Hauk of the United States

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[201] *See infra* § 32B.06[3] (rebuttable presumption).

[202] *See* Ohio v. U. S. Dep't of Interior, 880 F.2d 432 (D.C. Cir. 1989) (discussion of legislative history).

[203] Ohio v. Dep't of Interior, 880 F.2d 432; *see also* Kennecott Utah Copper Corp. v. U.S. Dep't of Interior, 88 F.3d 1191 (D.C. Cir. 1996); Nat'l Ass'n of Mfrs. v. U.S. Dep't of Interior, 134 F.3d 1095, 1105 (D.C. Cir. 1998).

[204] *Kennecott Utah Copper Corp.*, 88 F.3d at 1224.

[205] United States v. Montrose Chem. Corp., No. CV 90-3122, 1991 U.S. Dist. LEXIS 10128 at *2 (C.D. Cal. Mar. 29, 1991).

District Court held a hearing for various motions not related to the causation standard. During the hearing, the defendants asserted that the trustee's complaint contained vague allegations. Judge Hauk orally, without briefing, dismissed the trustee's complaint with leave to amend and instructed defendant's counsel to draft a proposed order. A week later, on March 27, 1991, counsel for one of the defendants submitted the proposed dismissal order, which was signed by Judge Hauk on the same day.[206]

Judge Hauk's order, which cites to no authority and resulted from an un-noticed, un-briefed oral motion, is even more remarkable in its elaboration of the trustees' burden. The order went on to say that the plaintiffs must allege the following elements:

> (1) WHAT natural resources have been injured; *i.e.*, plaintiffs shall identify each alleged injury to natural resources for which plaintiffs 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 in issue); (2) the specific locations WHERE each such injury has occurred and where the releases of hazardous substances alleged to be the sole or substantially contributing cause of each such injury occurred; . . . (3) WHEN each such injury occurred and the releases 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.[207]

The *Montrose* order, therefore, does more than impose a "substantially contributing" factor test. The *Montrose* order arguably eviscerates joint and several liability for NRD claims. A plaintiff under this standard must identify the specific release by each defendant that caused each injury. The requirement that the trustee track each hazardous substance from release to injury for each defendant means that NRD liability is several, not joint.

Later decisions have criticized the court's conclusion in *Montrose*, however. For example, in *Coeur d'Alene*, the court rejected defendants' reliance on this standard, noting that the court in *Montrose* did not explain the reasoning behind its decision.[208]

The majority of courts have held that the standard for causation is not as stringent as under common law, stating that defendant's release must be a

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[206] [Proposed] Order Dismissing Plaintiffs' First Claim for Relief, United States v. Montrose Chem. Corp., No. CV 90-3122, 1991 U.S. Dist. LEXIS 10128 at *3 (C.D. Cal. Mar. 27, 1991). The court hand-wrote on the order "[n]o objection by any plaintiff to form of order."

[207] *Montrose*, 1991 U.S. Dist. LEXIS 10128 at *2-3.

[208] Coeur d'Alene Tribe v. ASARCO Inc., No. CV91-0342NEJL, n.4 (D. Idaho Mar. 30, 2001).

"contributing factor" to the injury and more than a mere *de minimis* amount.[209]

In *Coeur d'Alene Tribe*, the court distinguished between whether or not the waste was commingled with other waste:

> In cases where releases have been commingled, the Court finds the Trustees have the burden of proving a release that results in commingled hazardous substances is a "contributing factor" [more than a *de minimis* amount—to an extent that at least some of the injury would have occurred if only the Defendant's amount of release had occurred]. In cases where releases have *not* been commingled, the burden would be to show that such release was the sole or proximate cause of the injury to the natural resources.[210]

At issue here were several defendants each allegedly liable for some or all of the releases causing natural resource damage. It does not appear as though any court has considered whether natural causes, such as acid rain, could constitute a "commingled hazardous substance."

A final question related to causation is one of choice of law; namely whether the courts should look to state or federal law for evaluating the causation standard. In at least one instance, the U.S. Department of Justice appears to have taken the position that state, not federal, common law should guide this determination.[211] Of course, the application of state decisional law in this context may present an opportunity for defendants to assert the application of common law defenses.

[5] Damages

Three main types of damages are recoverable pursuant to the NRD statutes: (i) restoration, (ii) compensation, and (iii) assessment. With regard to restoration, the trustee will seek the "cost of restoration, rehabilitation, replacement, and/or acquisition of the equivalent of the injured natural resources and the services those resources provide."[212] With regard to compensation, the trustee may seek "at the discretion of the authorized official, the compensable value of all or a portion of the services lost to the public for the time period from the discharge or release until the attainment of the restoration, rehabilitation, replacement, and/or acqui-

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[209] *See, e.g., In re* Acushnet River & Bedford Harbor: Proceedings *re* Alleged PCB Pollution, 722 F. Supp. 893, 897 (D. Mass. 1989); Coeur d' Alene Tribe v. Asarco Inc., 280 F. Supp. 2d 1094, 1124 (D. Idaho 2003).

[210] Coeur d'Alene Tribe v. ASARCO Inc., No. CV91-0342NEJL (D. Idaho Mar. 30, 2001).

[211] Mem. of Contentions of Law & Fact of Pls. United States & State of Cal., at 18, United States v. Montrose Chem. Corp., No. CV 903122-R (C.D. Cal. Aug 7, 2000) (citing to the Supreme Court of California's interpretation of the "substantial factor" test).

[212] 43 C.F.R. § 11.80(b).

sition of equivalent of the resources and their services to baseline."[213] With regard to assessment damages, the trustee is entitled to recover "the reasonable costs of assessing" the injury, destruction or loss of natural resources resulting from a release for which the defendant is liable.[214]

To be sure, the most controversial aspect of the damages calculation relates to compensation for the interim period between release and restoration. This compensation may include actual economic losses (interim lost use of the resource) as measured by the "value of the resources to the public attributable to the direct use of the services provided by the natural resource."[215] In addition, compensation may include nonuse values, such as the intrinsic, non-economic value derived from the mere existence of the natural resource ("existence value"). Pursuant to the current CERCLA regulations, the trustee may only estimate, and therefore seek, existence values "if the authorized official determines that no use values can be determined."[216]

As with the other issues of proof discussed above (injury, baseline and causation), the issue of damages presents a difficult evidentiary challenge. The plaintiff trustee must convert lost ecological services into monetary damages. In so doing, the trustee necessarily will rely upon the expert opinions of ecologists and economists. The defendant, conversely, will likely contest both the assumptions and the conclusions of the trustee's experts.

The various methodologies for calculating damages, as well as a more detailed discussion of the types of services that are recoverable, are presented below in Section 32B.08 of this chapter.

§ 32B.06 Trial Considerations

[1] Right to a Jury

While few opinions have addressed the issue, the better reasoned cases have found that a right to a trial by jury exists in natural resource damage cases. For example, in *Montana v. ARCO*, the court discussed at length the availability of a jury trial when a party seeks recovery for natural resource damages under CERCLA.[217] The court undertook an analysis under the Seventh Amendment, which "preserves the right to a jury trial '[i]n Suits at common law, where the

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[213] 43 C.F.R. § 11.80(b).

[214] 42 U.S.C. § 9607(4)(C).

[215] 43 C.F.R. § 11.83(c)(1)(i).

[216] 43 C.F.R. § 11.83(c)(1)(iii).

[217] Montana v. ARCO, No. CV-83-317, Memorandum and Order (D. Mont. Mar. 3, 1997).

value in controversy shall exceed twenty dollars.'"[218] As the court noted, "suits at common law," in the context of Seventh Amendment jury trials, are "suits in which legal rights [are] to be ascertained and determined, in contradistinction to those where equitable rights alone [are] recognized, and equitable remedies [are] administered."[219]

Where a cause of action is created by statute, and where the statute itself is silent on the right to a trial by jury, the court must undertake a two-pronged analysis to determine whether the right exists.[220] First the court must focus upon the nature of the statutory action, and "compare the statutory action to 18th century actions brought in the courts of England before the merger of law and equity."[221] Second, the court must consider the nature of the remedy sought, in particular, whether it is equitable or legal in nature. "A constitutional right to a jury applies only to statutory causes of action that involve rights and remedies of the sort typically enforced in an action at law."[222]

Applying these general principles to CERCLA natural resource damages actions, the court concluded that the rights and remedies involved in such actions are characteristic of an action at law and thus invoke the right to a trial by jury.[223] First, the court noted that suits to recover for natural resource damages developed from suits to recover for property damages, which have historically been triable to a jury.[224] Second, the court noted that "[i]n a natural resource damage action, a trustee seeks monetary relief for injury, destruction, or loss of publicly owned or managed natural resources," and monetary damages are a form of relief for which jury trials are available.[225]

The court noted that, although under some circumstances monetary damages can be considered equitable relief when they are "incidental to or intertwined with injunctive relief,"[226] this was not the case with natural resource damages. Indeed, under CERCLA, natural resource trustees are not entitled to seek injunctive

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[218] *ARCO* at 17 (quoting U.S. Const. amend. VII.).

[219] *ARCO* at 17-18 (quoting Chauffeurs, Teamsters & Helpers Local No. 391 v. Terry, 494 U.S. 558, 564 (1990)).

[220] *See* Tull v. United States, 481 U.S. 412, 107 S. Ct. 1831, 95 L. Ed. 2d 365 (1987).

[221] Montana v. ARCO, No. CV-83-317, Memorandum and Order, at 18 (D. Mont. Mar. 3, 1997) (quoting Tull v. United States, 481 U.S. 412 (1987)).

[222] *ARCO* at 18 (quoting Curtis v. Loether, 415 U.S. 189, 194-195 (1974)).

[223] *ARCO* at 18.

[224] *ARCO* at 19 (citing Pernell v. Southall Realty Co., 416 U.S. 363, 370 (1974)).

[225] *ARCO* at 20.

[226] *ARCO* at 20 (quoting *Chauffeurs*, 494 U.S. at 570).

relief.[227] Moreover, "the statutory scheme of CERCLA provides for a clear division between equitable response costs and natural resource damages, with each remedy prescribed in a separate subsection of CERCLA."[228]

Other cases have reached results consistent with *ARCO*. For example, in *Acushnet*,[229] the court similarly relied on the *Tull* analysis to conclude that a party seeking damages for natural resources was entitled to a trial by jury under the Seventh Amendment.

In *New York v. Lashins Arcade Co.*,[230] the court ruled that the right to a jury trial — which it had earlier ruled existed in an NRD action — still existed for the defendant after the plaintiff withdrew its NRD claim. The court based its holding on the rationale that the NRD claims were essentially torts, for which expenses and costs are customarily available as money damages, and money damages involved matters "particularly appropriate for resolution by a trial jury."[231] The *Lashins Arcade* decision supports a finding that a right to demand a jury trial should be available not only to plaintiffs, but also to defendants in natural resource damages cases.

In addition to these cases, which have ruled that a jury trial is available, other decisions have found that actions for natural resource damages under CERCLA are legal in nature.[232] While such decisions are not directly on point, under the *Tull* analysis, they support a finding that a jury trial should be available to parties pursuing natural resource damages under CERCLA.

At least one case has reached the opposite conclusion and denied a party seeking natural resource damages the right to a trial by jury.[233] Here, however, the claim for natural resource damages was limited to costs previously incurred by the trustee.[234] In particular, the trustee had incurred expenses when assessing the injuries to the natural resources and had expended money on rehabilitating certain resources. The court in *Wade* reasoned that such expenses were equitable in

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[227] *See* 42 U.S.C. § 9606(a).

[228] Montana v. ARCO, No. CV-83-317, Memorandum and Order, at 22 (D. Mont. Mar. 3, 1997); *see also* 42 U.S.C. § 9607(a)(4)(A)-(C).

[229] *In re* Acushnet River & New Bedford Harbor: Proceedings *re* Alleged PCB Pollution, 712 F. Supp. 994, 1000-1001 (D. Mass 1989).

[230] 888 F. Supp. 27 (S.D.N.Y. 1995).

[231] 888 F. Supp. at 28 (quoting Vicinanzo v. Brunschwig & Fils, Inc., 739 F. Supp. 882, 886 (S.D.N.Y. 1990)).

[232] *See, e.g.*, United States v. Montrose Chem. Corp. 788 F. Supp. 1485 (C.D. Cal. 1992).

[233] United States v. Wade, 653 F. Supp. 11, 13 (E.D. Pa. 1984).

[234] *Wade*, 653 F. Supp. at 13.

nature.[235]

[2] The Rebuttable Presumption

Trustees need not follow the assessment procedures prescribed in the regulations and discussed above. Should trustees choose to adhere to these regulations, however, their assessments are accorded the force and effect of a rebuttable presumption.[236] A rebuttable presumption does not alter the burden of proof, but "merely operates to shift the burden of production to the opposing party to rebut the presumption, by offering evidence which would support a finding that the presumed fact does not exist."[237] Thus, the burden of proof in an NRD challenge remains with the plaintiff trustee.[238]

Some questions — as yet untested in the courts — remain: How does the rebuttable presumption work in practice? How closely must the trustee follow the regulations in order to gain the benefit of the presumption? This question is not academic, since observers in the government have conceded that "there are few instances where there has been strict adherence to the steps outlined therein."[239] A related question, discussed above, is whether the trustees may rely on selected parts of the regulations while ignoring others.[240]

The other practical question related to the presumption is whether it matters at all. Since contested NRD cases are scientifically complex and since the presumption is rebuttable, the court will have to hear and weigh competing expert testimony. Further, under the NOAA regulations, trustees must first prove that

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[235] *Id.* In addition to the *Wade* court, certain commentators have argued that a right to a trial by jury should not exist where a party is seeking natural resource damages under CERCLA. *See, e.g.*, F. Henry Habicht II, *The Expanding Role of Natural Resource Damage Claims Under Superfund*, 7 Va. J. Nat. Resources L. 1, 18-20 (1987); George Van Cleve, *Outline for Remarks on Natural Resource Damages Under CERCLA*, C637 ALI-ABA 467 (1991).

[236] 42 U.S.C. § 9607(f)(2)(C).

[237] Montana v. ARCO, No. CV-83-317-HLN-PGH, slip op. at 15 (D. Mont. Mar. 3, 1997) (citing St. Mary's Honor Center v. Hicks, 509 U.S. 502, 506-509 (1993)) The preamble to NOAA's final rule interpreted the presumption to impose on responsible parties "the burdens of presenting alternative evidence on damages and of persuading the fact finder that the damages presented by the trustees are not an appropriate measure of damages." Gen. Elec. Co. v. U.S. Dep't of Commerce, 128 F.3d 767, 772 (D.C. Cir. 1997) (quoting 61 Fed. Reg. 440, 443 (Jan. 5, 1996)).

[238] 128 F.3d at 772. *See also* Fed. R. Evid. 301 (presumption "does not shift. . .the burden of proof in the sense of the risk of nonpersuasion, which remains throughout the trial upon the party on whom it was originally cast.").

[239] Natural Resource Damage Assessment & Restoration Advisory Committee Meeting, *Question 1 Subcommittee Initial Response for Presentation*, at 2 (Mar. 2, 2006).

[240] *See infra* § 32.05[1][b].

their damage assessments are "reliable and valid for the particular incident"[241] before they may take advantage of the presumption.[242] Finally, there are no reported cases where the trustee has successfully relied upon the presumption to overcome a litigated dispute. Accordingly, while the NRD regulations continue to play a large role in the development of natural resource damage assessments, the statutory presumption has had little impact in NRD litigation to date.

[3] Scope and Standard of Review

CERCLA has no provision addressing the standard or scope of judicial review over trustees' NRD assessments. Trustee agencies have argued that the statute requires judges to limit their review to the administrative record, employing an arbitrary-and-capricious standard.[243] Courts who have addressed this issue have rejected the agencies' argument, holding that trustees' assessments are subject to *de novo* review and that that review encompasses the entire evidentiary record, not just the record before the agency.

In *Montana v. ARCO*, the court held that administrative record review was incompatible with (a) CERCLA's statutory scheme, particularly the statute's provision of a rebuttable presumption, and (b) the defendants' right to a jury trial. The court reasoned that record review and the rebuttable presumption were incompatible, insofar as the two employ "divergent rules of evidence": Record review shifts the burden of proof to the defendant to prove that the trustees' determination is arbitrary and capricious, while the rebuttable presumption keeps the ultimate burden of proof with the plaintiff.[244] Moreover, stated the court, record review would render the rebuttable presumption superfluous, as utilizing

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[241] 15 C.F.R. § 990.27(a)(3).

[242] Gen. Elec. Co. v. U.S. Dep't of Commerce, 128 F.3d 767, 772 (D.C. Cir. 1997).

[243] *See* Montana v. ARCO, No. CV-83-317-HLN-PGH, Memorandum and Order (D. Mont. Feb. 28 and Mar. 3, 1997); United States v. ASARCO Inc., Nos. CV 96-0122-N-EJL, CV 91-342-N-EJL, 1998 U.S. Dist. LEXIS 6172 (D. Idaho Mar. 31, 1998). As the court in *ARCO* explained:

> Under an administrative record review, the court would review the administrative record created by the [government] under the traditional administrative model embodied in the Administrative Procedure Act, 5 U.S.C. §§ 701-706, giving substantial deference to the [government's] selection of appropriate restoration alternatives and determination of recoverable damages.
>
> [The defendant] could challenge the [government's] selection of restoration alternatives and determination of damages based only on the information compiled in the administrative record. The [government's] determination of damages would be set aside only if it was found to be arbitrary and capricious.

ARCO at 8 n.11.

[244] *ARCO* at 15-16.

record review "would automatically presume the validity of the NRD assessment."[245] Besides the rebuttable presumption, the court noted that when Congress amended CERCLA, it provided for administrative record review for selection of remediation alternatives, yet did not add such a provision for natural resource damages. This omission, according to the court, signified that Congress intended *de novo* review of trustees' damage assessments — review not limited to the administrative record but including all evidence presentable at trial.[246]

Finally, the court found that record review under an arbitrary-and-capricious standard was contrary to the right to a jury trial, which, as discussed in § 32B.06[1] *supra*, the court established NRD defendants could assert. The court reasoned:

> The record review mandates that courts give substantial deference to the pretrial factual determinations of the administrative agency, whereas the right to a jury trial guaranteed under the Seventh Amendment "reserves the weighing of evidence and the finding of facts exclusively to the jury." Because a record review infringes upon the jury's role as the ultimate and independent fact finder, it necessarily violates the Seventh Amendment.[247]

In *United States v. ASARCO Inc.*, the court rejected plaintiffs' arguments regarding the scope and standard of review on similar grounds.[248] In addition, the court found that record review under the Administrative Procedure Act was not warranted, as plaintiffs United States and Coeur d'Alene Tribe were not "agencies" within the meaning of the APA, and an assessment was not a final "agency action" as defined by the statute.[249]

Thus, while the rebuttable presumption may accord trustees an advantage in some cases, the finder of fact retains broad power to review trustees' damage assessments.

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[245] *ARCO* at 16.

[246] *ARCO* at 16-17.

[247] ARCO at 23 (citations omitted).

[248] United States v. ASARCO Inc., No. CV 96-0122-N-EJL, CV 91-342-N-EJL, 1998 U.S. Dist. LEXIS 6172 (D. Idaho Mar. 31, 1998).

[249] *ASARCO*, 1998 U.S. Dist. LEXIS 6172 at *16.

PART B: PROCEDURAL GUIDE

§ 32B.07 How to Value Nature

[1] Calculating Restoration or Replacement Costs

The calculation of restoration costs is principally an assessment of the various actions available to return natural resources to their baseline condition. Pursuant to the DOI regulations, the trustee must consider a range of possible actions from "intensive action" to "natural recovery."[250] The trustee must then select the appropriate restoration activity based upon a number of factors.

Interestingly, the DOI regulations require *two* different considerations of cost when selecting a restoration alternative. First, the trustee must consider *cost effectiveness*, which means the least costly activity that will achieve the same or similar benefit.[251] Second, the trustee must evaluate *cost-benefit*, which means "the relationship of the expected costs of the proposed actions to the expected benefits from the restoration, replacement, and/or acquisition of equivalent resources."[252]

Other factors that must be considered when determining restoration costs include the results of any actual or planned response actions, technical feasibility, natural recovery and the potential for additional injury resulting from the proposed action.[253]

[2] Compensation for Interim Lost Uses

In addition to restoration, the trustees may seek compensation for the interim lost use of the natural resources from the moment the injury occurs until the service is restored. While the restoration calculation is mainly an ecological assessment, the interim lost use is mainly an economic calculation. This section will discuss the various types of lost uses that trustees have sought. In addition to these services, state trustees have recently sought interim lost use values for contaminated groundwater. The groundwater claims are discussed in the following section.

[a] Recreational Losses

Recreational services impacted by injuries to natural resources are generally considered direct compensable losses by federal and state trustees. Typical

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[250] 43 C.F.R. § 11.82(c).

[251] 43 C.F.R. § 11.82(d)(3); 43 C.F.R. § 11.14(j).

[252] 43 C.F.R. § 11.82(d)(2).

[253] 43 C.F.R. § 11.82(d).

recreational services evaluated include recreational fishing, hiking, hunting and boating. Passive recreational activities such as birdwatching are less frequently evaluated as a lost service, and are discussed in more detail below as an "aesthetic loss." Recreational losses may be calculated using a number of the methodologies described below.

[b] Economic Losses

Economic services impacted by injuries to natural resources are also commonly assessed as part of a NRD evaluation. Typical economic services evaluated include timber harvesting, commercial fishing, tourism and agriculture. Economic losses are often measured by comparison to actual market conditions, either in the impacted area or analogous markets. Several other methodologies of calculating economic losses are discussed below.

[c] Cultural Losses

Although cultural resources are not "natural resources" under CERCLA, the question arises whether trustees may recover for the lost use of such resources as "services" lost to the public as a result of injury to natural resources.[254] As defined in the regulations, the term "services" does not itself refer to historic or cultural resources. Services are "the physical and biological functions performed by the resource *including the human uses of those functions*. These services are the result of the physical, chemical, or biological quality of the resource."[255]

The regulations do not define "human uses." Nor do they explain further what nexus must exist between the natural resource and the human use. The examples of "services" listed in the regulations, however, suggest a close nexus: "services include 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."[256] Thus, the rule on its face would seem not to include historic or cultural resources as "services."

At the same time, the DOI's preamble to its NRDA regulations directly termed the use of cultural and archaeological resources "services":

> [A]lthough archaeological and cultural resources, as defined in other statutes, are not treated as "natural" resources under CERCLA, the rule does allow trustee

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[254] The scope of recoverable damages is broader than the scope of injured natural resources alone. As the DOI regulations state: "The measure of damages is the cost of restoration, rehabilitation, replacement, and/or acquisition of the equivalent of the *injured natural resources and the services those resources provide* . . . ." 43 C.F.R. § 11.80(b) (emphasis added).

[255] 43 C.F.R. § 11.14(nn) (emphasis added).

[256] 43 C.F.R. § 11.71(e).

officials to include the loss of archaeological and other cultural services provided by a natural resource in a natural resource damage assessment. For example, if land constituting a CERCLA-defined natural resource contains archaeological artifacts, then that land might provide the service of supporting archaeological research. If an injury to the land causes a reduction in the level of service (archaeological research) that could be performed, trustee officials could recover damages for the lost service. Further clarification is beyond the scope of this rulemaking.[257]

In *Kennecott Utah Copper Corp. v. U.S. Department of Interior*,[258] industry petitioners challenged this aspect of the regulations, arguing that DOI had exceeded its authority in authorizing the recovery of injury to archaeological and cultural resources. Petitioners argued that such resources were outside the purview of CERCLA: first, because state tort law already provided a private remedy for injury to cultural and archaeological resources,[259] and CERCLA precluded double recovery; second, because taken to its logical conclusion, the agency's reasoning that a natural resource that contained artifacts "might provide the service of supporting archaeological research" could apply to just about any human activity. As described by the opinion, the petitioners argued that the agency's reasoning "[knew] no bounds . . . . [S]ince virtually all human activities are supported in some form by land and other natural resources, the rule would expose defendants to liability for harms that lie well beyond the stated reach of the CERCLA."[260]

The court did not reach the merits of the challenge, finding instead that the issue was not ripe for review. Specifically, the court found that petitioners had failed to demonstrate that the 1994 preamble had "a direct and immediate rather than a distant and speculative impact upon them." According to the court:

> [the preamble] indicated only that a trustee could recover damages for an injury to land that reduces archaeological research . . . [I]t does not represent an interpretation of an identified statutory provision, nor a clarification of an otherwise binding regulation. The guidance offered is hypothetical and non-specific; it is not crafted as a concrete rule that can be applied under identified circumstances. Instead, Interior has merely advised that recovery could be available for injury to non-natural resources, and illustrated one type of injury that would qualify.[261]

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[257] 59 Fed. Reg. 14262, 14269 (Mar. 25, 1994).

[258] 88 F.3d 1191, 1222-1223 (D.C. Cir. 1996).

[259] The court cited to *In re* Exxon-Valdez Litigation, No. 3AN-89-2533C1 (Alaska Sept. 24, 1994) for this proposition.

[260] 88 F.3d at 1222-1223.

[261] 88 F.3d at 1223.

The court thus chose to wait for a more concrete case, in which a trustee invoked the preamble in an attempt to affect the outcome of a real dispute, before ruling on the issue whether the preamble properly included cultural and archaeological resources within a natural resource damages assessment.

In the only other case that appears to have addressed the issue, *Coeur d'Alene*, the court stated, in listing "injury from releases" in its section on findings of fact: "Cultural uses of water and soil by [the] Tribe are not recoverable as natural resource damages."[262]

Two commentators have suggested that losses to cultural resources may be recoverable.[263] One study pointed to Washington state's procedure for assessing compensation for oil spills, which based its compensation schedule for unquantifiable damages in part on the sensitivity of the affected area, which depends partly on "the importance of the area for recreational, aesthetic, or archaeological use."[264]

Yet examples involving cultural resources most often refer to cultural resources, not as separate resources such as artifacts, but as natural resources with some cultural significance. For example, one assessment where damages to cultural resources were considered referred to the "cultural importance of Panther Creek fish to certain Native American tribes."[265] In the lower Fox River restoration plan, harm to cultural resources included harm to revered animal species and to sacred locations.[266] In other cases, restoration plans analyze the *impact* of a particular restoration activity on cultural resources.[267] In one case of restoration of an

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[262] Coeur d'Alene Tribe v. ASARCO Inc., 280 F. Supp. 2d 1094, 1107 (D. Idaho 2003).

[263] *See* Amy W. Ando *et al.*, Natural Resource Damage Assessment: Methods and Cases, 71 (Illinois Waste Mgmt. & Research July 2004), available at http:/www.wmrc.uiuc.edu/main_sections/info_services/library_docs/RR/RR-108.pdf (listing cultural resources as resources for which damages have been sought, alongside surface water, wetlands, air, fish, and wildlife) [hereinafter "Ando, *NRDA: Methods & Cases*"]; Valerie Ann Lee *et al.*, Natural Resources Damage Assessment Deskbook 287 (Figure 13-1) (2002) (listing "historical resource uses" as human uses that would constitute a service lost to the public).

[264] Ando, *NRDA: Methods & Cases* at 29.

[265] Ando, *NRDA: Methods & Cases* at 102.

[266] *See* Joint Restoration Plan and Environmental Assessment for the Lower Fox River and Green Bay Area, June 2003, at 21, 24, 28, available at http://www.fws.gov/midwest/FoxRiverNEPA/documents/FinalJune2003.pdf. The trustees did seem to consider, to a lesser extent, historic properties resulting from European settlement. The alternative ultimately proposed by the trustees sought to restore tribal cultural resources, as well as, through the acquisition of land, to preserve archaeological and historic resources. *Id.*

[267] *See, e.g.*, New Bedford Trustee Council, Environmental Assessment, New Bedford Harbor Restoration: Round II, Final, 17 (2001), available at http://www.darp.noaa.gov/northeast/new_bedford/pdf/r2eafinl.pdf; *see also id.* at p. 19 (stating, that

historic pier, the project was undertaken not to remediate harm to the historic resource *per se*, but to remediate harm done to recreational uses of the river.[268]

[d] Aesthetic Losses

Neither CERCLA nor DOI's NRD regulations refer specifically to the loss of aesthetic resources or aesthetic use of natural resources.[269] Under a broad reading, however, the regulations could arguably encompass this use, to the extent "aesthetic" value is associated with "recreation," which is included as a "service" under the regulations,[270] or associated with existence and bequest values, which the regulations state are to be included in compensable value.[271] In addition, while the regulations do not refer to "aesthetic" use specifically, they do refer to "lost wildlife viewing" as a category of injury and compensable value covered by the Type A procedures.[272]

Cases have contemplated "aesthetic value" as part of the measurement of natural resource damages.[273] Two other sources — the New York State Department of Environmental Conservation (DEC)'s Enforcement Memorandum on Natural Resource Damages and an Illinois study on NRDA — refer to "aesthetic uses" as services for which trustees may recover in an NRD claim.

In enumerating recoverable damages, the DEC memorandum includes "indirect losses, such as 'passive' birdwatching, and similar benefits from visual ameni-

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"[n]o impacts on cultural resources (archaeological or historical) or on land use patterns are expected"). The case of the World Prodigy oil spill is also instructive; *see also* NOAA, *Final Environmental Assessment and Restoration Plan,* World Prodigy *Oil Spill Restoration Plan, Narragansett Bay, Rhode Island*, March 1996, available at http://www.darp.noaa.gov/northeast/world/wpea.html ("The Rhode Island Coastal Resources Management Program contains a policy statement to protect cultural resources within the state's coastal zone (Olsen and Seavey, 1983). Any action(s) undertaken to restore the natural resources impacted by the *World Prodigy* oil spill must comply with the historic and archaeological protection guidelines outlined by the state's approved coastal zone management plan.").

[268] *See* N.J. Dep't of Envtl. Protection, *National Resources Restoration Plan for Damages Associated with the* Presidente Rivera *Oil Spill of June 1989* (1996), available at http://www.darp.noaa.gov/northeast/presidente/pdf/pres-rp1.pdf.

[269] The National Marine Sanctuaries Act does explicitly define a "sanctuary resource" to include "any living or nonliving resource of a national marine sanctuary that contributes to the . . . [*inter alia*] aesthetic value of the sanctuary." 16 U.S.C. § 1432(8).

[270] 43 C.F.R. § 11.7(e).

[271] *See* 43 C.F.R. 11.83(c).

[272] *See* 43 C.F.R. § 11.36(b)(8).

[273] *See, e.g.*, Idaho v. Bunker Hill Co., 635 F. Supp. 665, 675 (D. Idaho 1986); Artesian Water Co. v. New Castle County, 659 F. Supp. 1269, 1288 n.34 (D. Del. 1987); *see also In re* Acushnet River & New Bedford Harbor Proceedings *re* Alleged PCB Pollution, 716 F. Supp. 676, 686 (D. Mass. 1989).

ties."[274] In a table of possible uses that might be lost, the memorandum further devotes a column to "aesthetic uses," listing "scenic views" and "vistas."[275]

The Illinois study notes that Washington state's assessment method recognizes the "aesthetic value of natural resources in the state" as an injury caused by oil spills, on par with injuries to fishing, tourism, and recreation.[276] Washington's method also includes aesthetic values as an indirect use value — along with existence and bequest values — to be included in the calculation of interim lost value.[277] And the state's compensation schedule for damages factors in the sensitivity of an affected area, including the "importance of the area for recreational, aesthetic, or archaeological use."[278]

As in Washington, Florida's pollution and discharge prevention and removal statute contemplates recoverable loss of aesthetic use of natural resources. The statute states that the compensation schedule is "based upon both restoration costs and the loss of a wide range of use (economic, scientific, recreational, educational, consumptive, and aesthetic) and non-use (ecological and intrinsic) values associated with injured or destroyed resources."[279]

Finally, at least one restoration plan has mentioned explicit injury to aesthetic use. In describing the injury to wetlands and beach shoreline due to the Chalk Point oil spill in Maryland, the plan stated: "Above-ground vegetation represents a broad range of ecological functions (or services) related to primary production, habitat structure, recreational and aesthetic value, food chain support, and fish and shellfish production."[280] Another restoration plan did not refer to aesthetic

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[274] *See* New York Dep't of Envtl. Conservation, "Natural Resources Damages: Enforcement Guidance Memorandum," May 17, 1989, available at www.dec.state.ny.us/website/ogc/egm/nrd.html.

[275] *See* New York Dep't of Envtl. Conservation, "Natural Resources Damages: Enforcement Guidance Memorandum," May 17, 1989, available at www.dec.state.ny.us/website/ogc/egm/nrd.html.

[276] Amy W. Ando et al., Natural Resource Damage Assessment: Methods and Cases 71 (Illinois Waste Mgmt. & Research July 2004), available at http:/www.wmrc.uiuc.edu/main_sections/info_services/library_docs/RR/RR-108.pdf [hereinafter "Ando, *NRDA: Methods & Cases*"].

[277] "This interim lost value is to include consumptive values, non-consumptive and indirect use values (which may include existence, bequest, option and aesthetic values) . . . ." Ando, *NRDA: Methods & Cases* at 28.

[278] Ando, *NRDA: Methods & Cases* at 29.

[279] Ando, *NRDA: Methods & Cases* at 37 (citing Fla. Stat. § 376.121(2)).

[280] NOAA, Final Restoration Plan and Environmental Assessment for the April 7, 2000 Oil Spill at Chalk Point on the Patuxent River, Maryland 18 (2002), available at www.darp.noaa.gov/northeast/chalk_point/pdf/cp2107.pdf.

resources, but did identify bird-watching as a "service."[281]

Other restoration plans that include references to aesthetic resources do so in the context of describing the potential effects *restoration* activities might have on aesthetic value, rather than the harm to an aesthetic resource caused by the underlying contamination.[282]

[3] Calculating Compensatory Damages

While calculating primary restoration costs is itself extremely complex, it is relatively simple when compared to the valuation of the interim lost use of the resource. How can a trustee quantify the value of, say, a lake from one point in time to another? In light of the statutory bar on double recovery, is it appropriate to calculate both active uses of the lake (*e.g.*, fishing and swimming) and the passive uses of the lake (*e.g.*, existence value)? When calculating the lost fishing service, does one monetize this loss based upon the marginal cost to fish elsewhere or the amount people state they would be willing to pay for a clean lake? If the latter, by how many people should the results be multiplied? When calculating interim lost use, should the trustee account for baseline by subtracting hypothetical impacts to the resources that could be predicted to have occurred had the resource not already been impacted? These are just some of the difficult questions posed by the need to quantify the interim lost uses of the resources.

There are approximately a dozen different economic methodologies that have been studied and utilized in the NRD context.[283] The various valuation techniques range in complexity and controversy. The discussion below presents some of the advantages and disadvantages of some of the more common valuation methods.

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[281] *See* David Chapman et al., *Calculating Resource Compensation: An Application of the Service-to-Service Approach to the Blackbird Mine Hazardous Waste Site,* NOAA Tech Paper 97-1, Oct. 16, 1998, at 2 n.2, available at http://www.darrp.noaa.gov/northwest/black/pdf/blackfnl.pdf.

[282] *See, e.g.*, DOI, (Draft) Restoration Plan and Environmental Assessment for the Love Canal, 102nd Street, and Forest Glen Mobile Home Subdivision Superfund Sites, July 2005, at 30 (referring to effects of projects on aesthetic resources), available at www.fws.gov/contaminants/restorationplans/LoveCanal/FinalLoveCanal102ForestGlenRestorationPlan7-05.doc#_Toc77491441; *see also* Tenyo Maru Oil Spill Natural Resource Trustees, Final Restoration Plan and Environmental Assessment for the Tenyo Maru Oil Spill (April 4, 2000) ("*aesthetic qualities* should not be adversely affected under the preferred alternative"), available at www.darp.noaa.gov/northwest/tenyo/pdf/ten0008.pdf; Natural Resource Trustees, Montrose Settlements Restoration Program: Final Restoration Plan (Oct. 2005), available at http://www.darp.noaa.gov/southwest/montrose/pdf/msrpfinalrestorationplan.pdf.

[283] C.A. Ulibarri & K.F. Wellman, Natural Resource Valuation: A Primer on Concepts and Techniques 11 (Dep't of Energy 1997), available at http://www.eh.doe.gov/oepa/guidance/cercla/valuation.pdf [hereinafter "Ulibarri, *Natural Resource Valuation*"].

[a] Appraisal Method

The appraisal method is perhaps the most intuitive, and simply assesses the difference between the market value of the resource in its baseline state and the market value in its contaminated state.[284] In the case of groundwater, for example, other things being equal, contaminated water should fetch a lower price on the open market than uncontaminated water. The lower price reflects either the lower desirability of using the water in its current state, the higher cost of treatment to prepare the water for use, or a combination of both. For example, the groundwater in its baseline state might be potable and sell for a price of $1.50 per 1000 gallons, while in its contaminated state it might be unsuitable for any consumptive use and thus have zero market value (or perhaps a much lower market value if the water can be made suitable for consumptive uses through treatment). The injury is quantified by multiplying the difference in the price of the water in the baseline state and the price of the water in its contaminated state by the volume of water affected.[285]

The obvious limitation of this method is that it is only applicable when there is a market for the resource, because of the need for market data to establish the comparison. Another drawback is that it limits damages to consumptive use values, which, according to some economists, will normally only be a subset of true damages.[286] On the other hand, this method is advantageous in that it is relatively easy and inexpensive to apply and relies on real world data rather than interpolated prices. It is accordingly likely to be a good fit in situations in which a market for the resource exists and the injury primarily affects consumptive uses.

[b] Production Cost Method

The production cost method of valuing natural resource injuries is applicable only when the resource is used as part of a production process, such as water used for irrigation. In such cases, contaminated resources may cause increased production prices because of the need for treatment or the increased cost of obtaining water from an alternate source.[287] The increased production cost may translate into lower profits. When that occurs, the value of the injury is the loss in profits to the producer.[288]

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[284] Ulibarri, *Natural Resource Valuation* at 11.

[285] Amy W. Ando et al., Natural Resource Damage Assessment: Methods and Cases 71 (Illinois Waste Mgmt. & Research July 2004), available at http:/www.wmrc.uiuc.edu/main_sections/info_services/library_docs/RR/RR-108.pdf [hereinafter "Ando, *NRDA: Methods & Cases*"].

[286] Ando, *NRDA: Methods & Cases at* 11.

[287] Ando, *NRDA: Methods & Cases at* 58.

[288] Ando, *NRDA: Methods & Cases at* 60.

Like the appraisal method, the production cost approach has the advantage of relying on observed data. Although the assessment itself is no more difficult than the appraisal method, the necessary data may be harder to gather because of the need to get information on companies' production processes and profit margins, which the affected companies may be reluctant to divulge. The method also has the drawback of being applicable only in areas in which the resource is used as a production input.

[c] Averting Expenditures Method

The averting expenditures method values compensatory damages by measuring the additional expenses incurred by individuals as a result of the contamination.[289] For example, individuals who would otherwise use affected groundwater for drinking water might instead purchase bottled water.[290] Various statistical methods can be used to translate these expenditures into an implied value for the groundwater injury.[291] Another example may be the additional travel costs associated with finding alternative locations to hunt or fish.

Like the appraisal method, this method has the advantage that it relies on observed behaviors to produce values. It has the further advantage of being useful in areas in which market data may not be readily available, as, for instance, in areas where many residents get drinking water from private wells. Although somewhat more difficult than the appraisal method, the averting expenditures method is also relatively straightforward and inexpensive to apply.

Just as it shares many of the appraisal method's advantages, the averting expenditures method shares its disadvantages. Foremost, it only measures consumptive values.[292] It also runs into difficulty when the averting behaviors do not have a price readily associated with them. Finally, it may undervalue damages in that consumers may choose simply not to avoid certain disadvantages of the injured resource. For example, if water is otherwise potable, users might continue to consume water that has an off taste or odor, or to use it for bathing and washing while only using bottled water for drinking. Still, this method will be the most

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[289] EPA: Office of Air Quality Planning & Standards, Economic Analysis Resource Document § 7.2.3.1, http://www.epa.gov/ttn/ecas/econdata/ Rmanual2/7.2.html.

[290] EPA: Office of Air Quality Planning & Standards, Economic Analysis Resource Document § 7.2.3.1, http://www.epa.gov/ttn/ecas/econdata/ Rmanual2/7.2.html.

[291] EPA: Office of Air Quality Planning & Standards, Economic Analysis Resource Document § 7.2.3.2, http://www.epa.gov/ttn/ecas/econdata/ Rmanual2/7.2.html.

[292] Amy W. Ando *et al.*, Natural Resource Damage Assessment: Methods and Cases 61 (Illinois Waste Mgmt. & Research July 2004), available at http:/www.wmrc.uiuc.edu/main_sections/info_services/library_docs/RR/RR-108.pdf [hereinafter "Ando, *NRDA: Methods & Cases*"].

reliable and practical method in many circumstances.

[d] Hedonic Pricing Method

The hedonic method of assessing damages is based on "the premise that people value a good because of the attributes of that good rather than the good itself."[293] In other words, the method does not attempt to value the resource directly, but rather infers the value of the resource from the prices people are willing to pay for goods that are affected by resource quality. For example, a hedonic price analysis would be to evaluate differences in property values in an effort to determine the portion of the difference attributable to differences in the relevant natural resource quality.[294] Statistical techniques are used to control for other differences that affect property values.

As compared to the appraisal and averting expenditure methods, this approach is relatively complex. Although it also relies on observed behaviors, interpreting the relationship between those behaviors and the value of the resource is a difficult process that may involve assumptions that could skew the final result.[295] Use of the method also requires substantial expert support, which can make it prohibitively expensive at many sites. One advantage is that it can take into account use values other than consumption values, but like the appraisal and averting expenditure methods, it does not directly consider ecological values.[296] Because of its relative expense, this method may be most appropriate for large sites at which there is a lack of data regarding appraisal value or averting expenditures.

[e] Stated Preference Approaches

Stated preference methodologies attempt to value resources by surveying people's willingness to pay for a resource in its contaminated and baseline states.[297] For example, a survey respondent might be presented with the situation of a currently impaired bird species and then be asked what the respondent would be willing to pay to return the species to its baseline state. One primary advantage of these methods is that they are intended to capture both use and nonuse values.[298]

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[293] Ando, *NRDA: Methods & Cases at* 62.

[294] C.A. Ulibarri & K.F. Wellman, Natural Resource Valuation: A Primer on Concepts and Techniques 19-20 (Dep't of Energy 1997), available at http://www.eh.doe.gov/oepa/guidance/cercla/valuation.pdf [hereinafter "Ulibarri, *Natural Resource Valuation*"].

[295] Ulibarri, *Natural Resource Valuation* at 20.

[296] Ulibarri, *Natural Resource Valuation* at 20.

[297] Ulibarri, *Natural Resource Valuation* at 25.

[298] Amy W. Ando *et al.*, Natural Resource Damage Assessment: Methods and Cases 62-63 (Illinois Waste Mgmt. & Research July 2004), available at

Broadly speaking, there are two types of stated preference methodologies: contingent valuation and conjoint.

[i] Contingent Valuation Studies

A contingent valuation study is a survey of members of the public to determine their willingness to pay to fix a problem identified by the interviewer. This figure is then multiplied by the number of persons identified as impacted by the injury to derive a total value for interim lost use. According to the trustees in the *Montrose* litigation, "[t]his 'willingness to pay' provides the estimate of the total lost use value of the specified natural resources."[299]

The contingent valuation technique has many inherent disadvantages. First, it is difficult to obtain reliable and unbiased data.[300] For instance, because the contingent valuation study does not require the respondent to make economic choices between ecological service and some other good, many PRPs and observers feel that the results are unrealistic and biased upward. Additionally, as with any survey, there are numerous design considerations that could impact the results, including, for example, the desire of the respondent to please the interviewer or to appear socially responsible. Another practical difficulty related to contingent valuation studies is that they are extremely expensive.[301]

Finally, although DOI regulations approve the use of contingent value methodology,[302] the use of contingent valuation studies in actual cases has generally not been successful. In the *Montrose* litigation, the trustees conducted a sophisticated contingent valuation survey that found interim loss uses ranging between $305 million and $575 million.[303] The defendants argued that the studies were fatally flawed because the assumed injuries were not accurately stated in the survey questions, among other problems. The court excluded the trustee's contingent valuation studies.[304]

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http:/www.wmrc.uiuc.edu/main_sections/info_services/library_docs/RR/RR-108.pdf [hereinafter "Ando, *NRDA: Methods & Cases*"].

[299] *See* Pls.' Opp. to Defs.' Mot. to Exclude Pls.' Contingent Valuation Report & Testimony Based Thereon, at 1, United States v. Montrose Chemical Corp., No. CV 903122-R (C.D. Cal. Mar. 27, 2000).

[300] Ulibarri, *Natural Resource Valuation* at 26.

[301] Ulibarri, *Natural Resource Valuation* at 26.

[302] 43 C.F.R. § 11.83(c)(2)(vii).

[303] Mem. of Contentions of Law & Fact of Pls. United States & State of Cal., at 28, United States v. Montrose Chem. Corp., No. CV 903122-R (C.D. Cal. Aug 7, 2000) [hereinafter "Plaintiffs' Trial Brief"].

[304] Plaintiffs' Trial Brief at 28; *see also* Idaho v. S. Refrigerated Transp., Inc., No. 88-1279, 1991 U.S. Dist. LEXIS 1869, at *55 (D. Idaho 1991).

[ii] Conjoint or Attribute-Based Studies

Another valuation alternative that has been gaining wider use in recent years involves the application of attribute-based stated choice methods, commonly referred to as conjoint analysis. As with contingent valuation studies, conjoint surveys are survey-based methods that, in theory, can be used to quantify both use and non-use values.

Conjoint studies are implemented through surveys that present a series of choice questions that ask respondents to select between two or more sets of attributes. For example, a survey designed to evaluate management options for a wilderness area may present one choice set that includes increased visibility, increased species diversity, and fewer access points for recreational fishing. This would be compared to another choice set that includes increased park fees, improved water quality, and higher catch rates for anglers. The respondents are then asked to pick the choice set that they prefer or they may elect to choose neither. By asking a series of these choice questions, the investigator is able to derive each individual's demand for the environmental goods included in the survey. The results of a conjoint survey can be expressed in terms of environmental goods (*e.g.*, acres of habitat, the number of additional days of compliance with a standard), or, if a payment is included in each choice set, in terms of the dollar value the public sets on changes in environmental goods.

Conjoint surveys have been proposed by some in the NRD context to address criticisms directed at contingent valuation studies.[305] For example, a major criticism of contingent valuation studies is that they employ hypothetical contexts (*i.e.*, scenarios in which respondents do not have decision-making experience) and the respondent is not required to follow through with an actual payment to "purchase" the preferred choice. Conjoint surveys, in theory, address some of the concern by asking respondents several choice questions using a repeated format. This provides the respondent with some familiarity in making tradeoffs among the attributes in the survey. In addition, the repeated choice design allows the investigator to conduct internal validity tests and evaluate the consistency of respondent answers.[306]

Notwithstanding these features, conjoint studies are still hypothetical in nature. Conjoint studies are also subject to many considerations of survey design. For example, question wording, question order, attribute levels, survey length, and the method of survey administration are just a few of the issues that may influence responses. Accordingly, many of the design issues and best practices identified by

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[305] Mark Curry, Industrial Economics, Inc., Personal Communication (Mar. 27, 2006).

[306] *Id.*

the NOAA panel regarding the use of contingent valuation surveys[307] are applicable to conjoint studies. Another factor that must be taken into account is that conjoint surveys are mathematically complex when compared to other valuation methods such as benefit transfer or habitat equivalency analysis. These factors contribute to the time and effort required to conduct a conjoint study and may affect a court's willingness to accept such a study into evidence.

[4] Equivalency Offset Approaches

Unlike other approaches to assessing NRD, which attempt to value the injury in terms of dollars, resource or habitat equivalency analysis attempts to produce a "good for good" assessment. In other words, an equivalency analysis operates on the principle that NRD can be compensated by resource replacement projects that provide additional resources similar to those injured.[308] Because it will not always be possible to provide identical resources, habitat or resource equivalency analyses normally attempt to develop restoration projects that will provide the same or similar resource services. Accomplishing this task requires the identification of some common metric that can be measured across similar resources.[309]

The main advantage of habitat or resource equivalency analyses is that they focus directly on restoration, which is the primary goal of most NRD programs. To the extent that responsible parties have some control and influence over how NRD recoveries are used, habitat equivalency analysis may be more palatable. The main disadvantages of the habitat equivalency analyses are that they can be complex to implement and that they require certain qualitative judgments on which consensus might be difficult.[310] Even when other assessment methodologies are used, habitat equivalence analysis can be useful as a tool to design and scale resource restoration projects.

The following diagram shows how an equivalency exchange works. In this diagram, the "B" services are *in addition to* the recovery to baseline. In this way, by providing for additional resources, the equivalency method is able to address both primary restoration and interim lost uses. When "B" (the new services above baseline) equals "A" (the lost services), restoration is complete.[311]

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[307] *See, e.g.*, Ken Arrow, et al., Report of the NOAA Panel on Contingent Valuation (Jan. 1993).

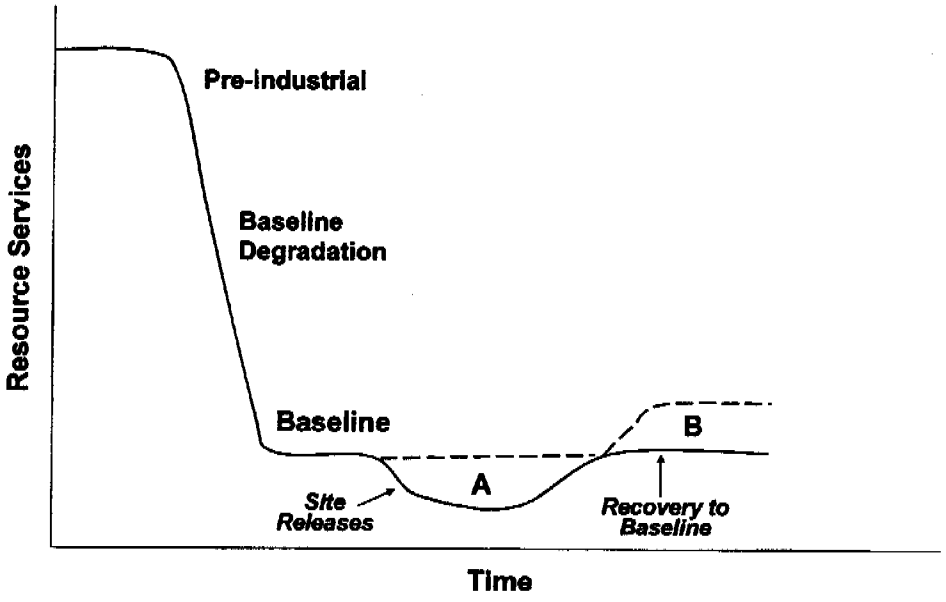
[308] NOAA Damage Assessment & Restoration Program, *Habitat Equivalency Analysis: An Overview* 1 (rev. ed. 2004), available at http://www.darrp.noaa.gov/library/pdf/heaoverv.pdf.

[309] NOAA Damage Assessment & Restoration Program, *Habitat Equivalency Analysis: An Overview* 3-4 (rev. ed. 2004), available at http://www.darrp.noaa.gov/library/pdf/heaoverv.pdf.

[310] NOAA Damage Assessment & Restoration Program, *Habitat Equivalency Analysis: An Overview* 3-4 (rev. ed. 2004), available at http://www.darrp.noaa.gov/library/pdf/heaoverv.pdf.

[311] David Ludwig, Blasland, Bouck & Lee, Inc., Personal Communication (Mar. 23, 2006).

TABLE 5: The Equivalency Offset Approach



§ 32B.08 Groundwater — The Next Frontier

[1] The Unique Features of a Groundwater NRD Claim

Groundwater is quickly moving to the forefront of interest in natural resource damages litigation. It is of particular concern because it is often the natural resource relied on most directly by the affected community. About 46% of Americans get all or part of their drinking water from groundwater supplies.[312] In rural areas, nearly 99% of drinking water comes from groundwater, much of it from private wells.[313] As the demand for water continues to grow and the supply contracts, the economic importance of groundwater will only increase.

Groundwater NRD claims have many features that make them stand out from other NRD cases. Groundwater itself is invisible, but injuries to it are relatively easy to detect (although, as discussed below, quantifying those damages is often far from easy). Responsible parties are routinely required to delineate groundwater contamination fully as part of the remedial investigation of a site; thus, the

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[312] U.S. EPA: Office of Water, National Water Quality Inventory: 2000 Report 49 (2002), available at http://www.epa.gov/305b/2000report/chp6.pdf.

[313] U.S. EPA: Office of Water, National Water Quality Inventory: 2000 Report 49 (2002), available at http://www.epa.gov/305b/2000report/chp6.pdf.

extent of groundwater contamination will usually be known.[314] Because groundwater is a natural resource in itself,[315] NRD claims may be made with respect to contaminated groundwater without the need to show additional adverse effects from the contamination.[316] In other words, the very fact that groundwater is contaminated can be enough to constitute damage to a natural resource, without the need to make a further showing that the contamination is causing harm to biological resources. Groundwater cases can also be complicated by the fact that the remediation of contaminated groundwater can itself be a cause of additional damages in some cases. For example, if a high volume pump-and-treat remedy is used to address groundwater contamination, it can reduce the volume of groundwater discharge, potentially resulting in compensable injury to the resource.

Groundwater is not only important as a resource because of its use to humans, but also because of its role in the larger environment. For example, groundwater is often a key source for surface water.[317] Depending on the nature and severity of the contamination, these discharges of contaminated groundwater to surface water can result in additional damage to natural resources. For example, contaminated groundwater discharging to a lake can contribute to contamination that makes the lake unfishable.[318]

Finally, groundwater is unique among resources because it is the only resource that is virtually always under state, not federal, trusteeship.[319] As a consequence, state trustees often prefer to pursue injuries to groundwater under state laws rather than CERCLA. At least 26 states have some form of independent state statutory authority to pursue natural resource damages claims, in addition to common law causes of action, such as public nuisance.[320] One consequence of state trusteeship is that states are empowered to develop their own approaches to assessing damages to groundwater, which may depart from the cumbersome federal regulations. Indeed, a handful of states have seized this opportunity and developed

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[314] *See, e.g.*, 40 C.F.R. § 300.430(d) (outlining the requirements for a remedial investigation under the National Contingency Plan).

[315] 42 U.S.C. § 9601(16) (defining "natural resources" to include groundwater).

[316] *See* 43 C.F.R. § 11.62(c).

[317] Thomas C. Winter, *et al.*, Ground Water and Surface Water: A Single Resource 5 (U.S. Geological Survey 1998), available at http://pubs.usgs.gov/circ/circ1139.

[318] Thomas C. Winter, *et al.*, Ground Water and Surface Water: A Single Resource 23 (U.S. Geological Survey 1998), available at http://pubs.usgs.gov/circ/circ1139.

[319] *See* 40 C.F.R. § 300.605; *see also* U.S. EPA, Natural Resources Trustees, http://www.epa.gov/superfund/programs/nrd/trustees.htm. The only exception would be for federal enclaves, such as large tracts of federally owned land.

[320] *See infra* § 32B.11.

streamlined damages assessment methodologies designed to allow trustees to settle damage to groundwater claims quickly and inexpensively.[321]

[2] The Seminal Groundwater Case: *New Mexico v. General Electric*

Although injuries to groundwater are in many ways simpler than other NRD claims, a recent major NRD suit demonstrates the hidden difficulties that may underlie groundwater claims and how creative lawyering can be used to defend against those claims. In *New Mexico v. General Electric Co.*,[322] the State of New Mexico brought NRD claims against GE and other companies for injuries to the groundwater underlying the South Valley, near Albuquerque. Although the case began as an NRD suit under CERCLA with supplemental claims under state common law, the state plaintiffs voluntarily dismissed their CERCLA claims and proceeded only on state law.[323] The case is nonetheless instructive, as the court and the parties continued to treat it as essentially a suit for NRD.[324]

The court made two key rulings that resulted in it ultimately granting summary judgment in favor of the defendants on all claims. First, the court sharply limited New Mexico's interest as a trustee, holding that the state's sole interest was in making water available for appropriation by others, not in the use of the water itself.[325] Accordingly, the court held that the state could recover damages only to the extent that the injury prevented the groundwater from being appropriated.[326] Second, the court held that the state was limited to the cost of restoring the aquifer because the harm to the resource was neither permanent nor total.[327] As the defendants were already funding remediation projects that would result in the restoration of the aquifer, the court determined that the state was not entitled to further damages.[328]

In reaching these conclusions, the court also rejected all three of the state's proposed measures of damages. First, the court held that the proper basis for measuring injury was the federal Maximum Contaminant Level set pursuant to the Safe Drinking Water Act, rather than the water in its pristine condition.[329] Second, the court held that the state was not entitled to collect damages for the

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[321] *See infra* § 32B.11.

[322] 322 F. Supp. 2d 1237 (D.N.M. 2004).

[323] 322 F. Supp. 2d at 1241 n.8.

[324] 322 F. Supp. 2d at 1241–1242.

[325] 322 F. Supp. 2d at 1240–41.

[326] 322 F. Supp. 2d at 1261.

[327] 322 F. Supp. 2d at 1243.

[328] 322 F. Supp. 2d at 1263.

[329] New Mexico v. Gen. Elec. Co., 335 F. Supp. 2d 1185, 1210 (D.N.M. 2004).

groundwater's value as a drought reserve because a combination of the remediation efforts and available treatment technologies meant that the state would be able to continue to meet its drinking water needs in the case of drought.[330] Finally, the court rejected the state's attempt to value the injury based on the cost of constructing a substitute surface reservoir that would provide a comparable supply of water. In the court's view, the ongoing remediation would result in the restoration of the aquifer; thus, a measure of damages based on total replacement would be inappropriate.[331]

The court's decision should remind responsible parties of the importance of clearly defining the trustee's interest and the injury to it, as the resolution of that issue will inform the choice of assessment methodology and the measure of damages. The court's decision to limit damages to the cost of restoration — to the exclusion of damages for the period of the injury — reflects the fact that the issue of what damages are compensable is still far from settled and worth litigation. The vitality of the *New Mexico v. General Electric* decision remains to be seen. An appeal was argued in the Tenth Circuit on January 12, 2006. At the time this chapter went to press, the court of appeals had not yet issued a decision.

[3] Calculating Groundwater Damages

Evaluating injury to groundwater has the same components as any other NRD assessment: establishing a baseline, determining the injury, and valuing the injury in terms of dollars.[332] Establishing the baseline requires determining the likely condition of the aquifer in the absence of the contamination under consideration. It should not be assumed that "uncontaminated" groundwater is pure, as there is considerable natural variation in groundwater quality. In addition, the presence of anthropogenic contaminants from other sources should be considered. Determining the injury entails the evaluation of the aquifer in question as a natural resource. This inquiry includes examination of, among other things, aquifer flow and recharge rates, the potential suitability of the aquifer for use as a drinking water supply, and whether the discharges from the aquifer support other natural environments, such as surface water or wetlands.[333] Finally, valuing the injury requires setting a price on the injury. This step is the most difficult and controversial. If the injury is primarily defined in terms of lost use of groundwater for drinking, irrigation, or other uses, it may be possible to value the lost use with reference to existing markets. However, when the injury is primarily to non-use

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[330] *Gen. Elec.*, 322 F. Supp. 2d at 1244 n.12.

[331] *Gen. Elec.*, 335 F. Supp. at 1231.

[332] *See supra* §§ 32B.05, 32B.07.

[333] *See* 43 C.F.R. §§ 11.62(c), 11.71(i), 11.72(h).

values, such as subsidence protection, or ecological values, the monetization of the injury may be more difficult.

[4] The New Jersey Initiative

In 2003, the New Jersey Department of Environmental Protection (NJDEP) launched a new NRD initiative.[334] New Jersey's stated goal was to collect on the many NRD claims that had been lying dormant as the state focused on remediation of contaminated sites.[335] As part of that program, NJDEP created a new, simplified framework for valuing damages to groundwater. Although the new groundwater assessment methodology has not been promulgated as a regulation, NJDEP has indicated that the Department will use it as the basis for settling groundwater NRD claims in the future.[336]

NJDEP's groundwater assessment methodology is relatively easy to apply. The aerial extent of the contamination (measured in square feet) is multiplied by the annual recharge rate. That result is then multiplied by the number of years NJDEP expects the contamination to persist to derive a total number of impacted gallons of groundwater. Damages are then assessed by multiplying the number of gallons by the highest local rate for potable water to arrive at a dollar figure.[337]

A notable feature of the New Jersey methodology is that the only inputs based on site-specific factors are the aerial extent and estimated duration of the contamination. The recharge rate and local cost of water are predetermined based on a state-wide survey by NJDEP.[338] The model also excludes a number of potentially important site-specific variables. For example, it assumes that all groundwater regardless of its location or baseline characteristics is suitable for use as drinking water. The model also fails to consider whether the groundwater could be treated to drinking water standards at a cost that would be lower than replacement cost for potable water. On the other side of the equation, New

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[334] *See* N.J. Dep't of Envtl. Protection, Policy Directive 2003-07 Subject: Natural Resource Damages (Sept. 24, 2003), available at http://www.nj.gov/dep/commissioner/policy/pdir2003-07.htm.

[335] *See* N.J. Dep't of Envtl. Protection, Policy Directive 2003-07 Subject: Natural Resource Damages (Sept. 24, 2003), available at http://www.nj.gov/dep/commissioner/policy/pdir2003-07.htm.

[336] *See* N.J. Dep't of Envtl. Protection, Policy Directive 2003-07 Subject: Natural Resource Damages (Sept. 24, 2003), available at http://www.nj.gov/dep/commissioner/policy/pdir2003-07.htm.

[337] *See* N.J. Dep't of Envtl. Protection, Sample Ground Water Injury Calculation, available at http://www.state.nj.us/dep/nrr/nri/gw_injury_calc_200305.pdf.

[338] *See* N.J. Dep't of Envtl. Protection, Sample Ground Water Injury Calculation, available at http://www.state.nj.us/dep/nrr/nri/gw_injury_calc_200305.pdf.

Jersey's approach also fails to take into account non-consumptive uses of groundwater, such as habitat support.[339]

New Jersey's simplified methodology is designed to allow the state to enter into quick settlements with responsive parties without the need to undertake additional investigation. To the extent that efficiency — rather than accuracy — is the goal, New Jersey's assessment methodology is well-suited to its purpose. Indeed, at many smaller sites the difference between the damages calculated under New Jersey's method and a more accurate assessment may be small enough not to be significant. To further enhance the state's ability to collect groundwater damages at a large number of sites, the New Jersey Attorney General has retained outside counsel to prosecute claims.[340] A New Jersey trial court recently rebuffed a challenge by industry to the use of outside counsel.[341]

Although New Jersey's simplified assessment methodology for groundwater values NRD in dollars, New Jersey has a stated policy to prioritize natural resource restoration projects over cash settlements.[342] Because restoration of the affected resource will not always be practicable, NJDEP allows responsible parties to provide substitute resources as part of a restoration package. Resource restoration projects must have a nexus to the injured resources, and when possible should be located in the same watershed.[343] Examples of resource restoration projects include the purchase of land to be used as aquifer recharge areas and reforestation projects to assist with water retention. New Jersey's focus on restoration projects means that habitat equivalency analysis is often an important part of finalizing a damages settlement.

By some measurements, New Jersey's NRD initiative appears to have been successful. For instance, according to a press release issued by the agency, NJDEP has collected more than $30 million in NRD since 2002 and has secured

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[339] *See generally* Amy W. Ando *et al.*, Natural Resource Damage Assessment: Methods and Cases 45-46 (Illinois Waste Mgmt. & Research July 2004), available at http:/www.wmrc.uiuc.edu/main_sections/info_services/library_docs/RR/RR-108.pdf [hereinafter "Ando, *NRDA: Methods & Cases*"] (discussing the strengths and weaknesses of the New Jersey method from the perspective of economic theory).

[340] Special Counsel Agreement between Peter C. Harvey, Att'y Gen. of N.J., and Allan Kanner & Assocs., P.C. (July 9, 2003) (on file with author).

[341] *N.J. Soc'y for Envtl. & Econ. Dev. v. Campbell*, No. MER-L 343-04, Oral Decision, at 106–29 (N.J. Super. Law Div. June 18, 2004).

[342] *See* N.J. Dep't of Envtl. Protection, Policy Directive 2003-07 Subject: Natural Resource Damages (Sept. 24, 2003), available at http://www.nj.gov/dep/commissioner/policy/pdir2003-07.htm.

[343] *See* N.J. Dep't of Envtl. Protection, Policy Directive 2003-07 Subject: Natural Resource Damages (Sept. 24, 2003), available at http://www.nj.gov/dep/commissioner/policy/pdir2003-07.htm.

commitments from industry to undertake extensive natural resource restoration projects.[344] On the other hand, the future of the New Jersey program is potentially uncertain given the inherent problems in assessing groundwater damages, the difficulties in managing a program with a large volume of small and medium size claims, and the remaining issues surrounding the use of private counsel. Nonetheless, as discussed in Section 32B.12 below, several states are watching New Jersey's program closely and some are beginning to develop similar approaches to groundwater claims.

Although pursuing a different objective, at least one other state has developed a streamlined approach to assessing natural resource damages with respect to groundwater. In 1994, Minnesota began its Closed Landfill Program to address more than 100 closed municipal landfills.[345] Although the program primarily focuses on cleanup, the Minnesota Pollution Control Agency (MPCA) has also developed methods for estimating natural resource damages, so that responsible parties and their insurers can settle all potential claims in one proceeding.[346] As part of this program, MPCA developed a groundwater assessment methodology that is similar to New Jersey's in that it estimates damages by multiplying the estimated volume of affected groundwater by a fixed cost.[347] In Minnesota, the rate is the estimated difference in the cost per gallon to provide drinking water from uncontaminated drinking water supplies and the cost per gallon for treatment to drinking water standards.[348] Like New Jersey, Minnesota applies a predetermined rate to all sites, regardless of site-specific characteristics.[349] Indeed, the Minnesota approach is even more general because it uses a single number for all sites throughout the state, regardless of local conditions. Because of its similarity, the Minnesota method shares many of the strengths and weaknesses of the New Jersey model. Although the Minnesota model is in some ways more realistic than

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[344] Press Release, N.J. Dep't of Envtl. Protection, DEP Settles Ground Water Claims with Valero Refinery: Compensation for Natural Resource Damages at Gloucester County Site (Jan. 5, 2006), available at http://www.state.nj.us/dep/newsrel/2006/06_0001.htm.

[345] Doug Wetzstein, *et al.*, Minnesota Closed Landfill Program: 1998 Annual Report 1 (Minn. Pollution Control Agency 1999), available at http://www.pca.state.mn.us/cleanup/pubs/landfill98.pdf.

[346] Doug Wetzstein, *et al.*, Minnesota Closed Landfill Program: 1998 Annual Report 5 (Minn. Pollution Control Agency 1999), available at http://www.pca.state.mn.us/cleanup/pubs/landfill98.pdf.

[347] Amy W. Ando *et al.*, Natural Resource Damage Assessment: Methods and Cases 47 (Illinois Waste Mgmt. & Research July 2004), available at http:/www.wmrc.uiuc.edu/main_sections/info_services/library_docs/RR/RR-108.pdf [hereinafter "Ando, *NRDA: Methods & Cases*"].

[348] Ando, *NRDA: Methods & Cases* at 47.

[349] Ando, *NRDA: Methods & Cases* at 47.

the New Jersey model because it considers treatment, it has its own limitation in that it does not account for the possibility that treatment will be more expensive than replacement. Because Minnesota's model was designed to address natural resource damages at a specific subset of sites, it remains unclear whether MPCA will apply it more broadly.

[5] Strategic Issues Related to Groundwater NRD Claims

From a strategic point of view, the principal difference between claims for injury to groundwater and other NRD claims is that much, if not all, of the necessary data for the assessment will be gathered as part of the remedial investigation process. Thus, the dilemma usually put to the trustees — whether to invest the money to fund an NRD assessment — is not posed in a groundwater-only case. Nor is the parallel dilemma posed to defendants — whether to cooperate in the assessment. Because states may view groundwater NRD claims as comparatively easy to assess with few defenses, states may come to see these claims as relatively attractive. Moreover, because trustees can potentially claim damages at any site where groundwater is contaminated, there are literally thousands of opportunities for state trustees to press these claims.

The crux of a groundwater NRD defense strategy must therefore focus on the assessment methodology. In states such as New Jersey that employ a simplified groundwater NRD assessment process, the opportunities to affect the outcome may be limited. One possible point for negotiation is the inputs into the state's preferred assessment formula. For example, New Jersey has assigned a single groundwater recharge rate and single price per 1,000 gallons to each groundwater planning region for the purpose of NRD assessment.[350] A defendant might persuade the trustee that such generalized numbers are inappropriate if it could demonstrate that site-specific conditions differ from the assumed numbers. Another tack would be to challenge the trustee's assumed baseline. Again, using New Jersey as an example, the assessment model assumes all groundwater to be potable.[351] The reality in many areas, however, will be that the aquifer in question is not suitable as a source of drinking water; thus, the model's assumption may be inappropriate. As long as streamlined assessment models exist only as guidelines, rather than binding regulations, such arguments should carry considerable force in negotiations, as the trustee may be wary of risking litigation over assumed variables that are demonstrably inapplicable to the site in question.

In addition to technical arguments, a number of legal issues remain unsettled

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[350] *See* N.J. Dep't of Envtl. Protection, Sample Ground Water Injury Calculation, available at http://www.state.nj.us/dep/nrr/gw_injury_calc_200305.pdf.

[351] *See* N.J. Dep't of Envtl. Protection, Sample Ground Water Injury Calculation, available at http://www.state.nj.us/dep/nrr/gw_injury_calc_200305.pdf.

with respect to streamlined assessment procedures. At least in states that follow the CERCLA model, the burden remains on the trustees to prove their damages. Although simplified assessment methods may be useful for negotiating quick settlements, there is considerable doubt as to whether they would carry any weight with courts. In cases under CERCLA, there would appear to be no basis for according a streamlined assessment any deference, and the basis for deference under state law is at best uncertain. No state has yet done so, but it is conceivable that trustee agencies in some states might attempt to promulgate streamlined assessment methodologies as regulations, creating further questions about the deference to be accorded those assessments as well as whether the regulations would themselves be arbitrary and capricious. Because of these uncertainties, defendants may be well advised to put the trustees to their proof rather than accept the results of a streamlined assessment, at least at sites with large potential damages.

In states without streamlined assessment procedures, the assessment process is still the most fertile ground negotiations between defendants and trustees. In addition to paying careful attention to the underlying data — including plume size, recharge rates, and expected plume duration — the choice of assessment methodology will be important. Because each assessment methodology relies on different types of data, they can lead to substantially different results at the same site. Matching the site to the assessment methodology that most accurately reflects the values associated with a given aquifer is therefore crucial to an accurate damages assessment.

§ 32B.09 NRD Defense Strategies: Litigation Versus Cooperation

As NRD practice has evolved, trustees and responsible parties have increasingly sought to achieve cooperative resolution of NRD claims. There are numerous reasons why a trustee may wish to pursue a more cooperative NRD approach. First, consistent with the trustee's mission, a cooperative approach promises faster restoration.[352] Second, since a major component of the cooperative approach is PRP funding of the damage assessment, a cooperative NRD approach provides critical funds to trustees who otherwise may not have the financial resources or budget needed to pursue a claim.[353] Finally, as discussed above, the trustees face several significant evidentiary obstacles when prosecuting

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[352] *See* NOAA, Cooperative Assessment Project (CAP) Framework, October 2003, at 2, http://www.darrp.noaa.gov/partner/cap/pdf/capframe.pdf; *see also* NOAA Office of Response and Restoration, Cooperative Assessment Process (CAP) Fact Sheet 2005, http://www.darp.noaa.gov/partner/cap/pdf/orr_capv2_508.pdf.

[353] *See* NOAA, Cooperative Assessment Project (CAP) Framework, October 2003, at 2, http://www.darrp.noaa.gov/partner/cap/pdf/capframe.pdf.

a NRD claim, and the cooperative approach obviates the need for time-consuming, expensive and uncertain litigation.

This section discusses in more detail the advantages and disadvantages of the litigation and cooperation approaches from the perspective of the PRP. Further, this section addresses a number of the logistical challenges and mechanics to cooperation.

[1] The Litigation Advantage

Besides the overall concern that a cooperative approach, because it assumes that the PRP will finance the NRD assessment, is something akin to building one's own guillotine, there are principled reasons for pursuing litigation in many NRD matters. As an initial matter, it is important to point out that the PRP is under no legal obligation to cooperate with the trustee, and litigation is an entirely legitimate option. The reasons why litigation may be strategic include the following:

[a] Putting the Trustees to Their Proof

The principal reason to maintain a litigious posture when defending a NRD claim is that the trustee bears the burden of proof to show that that the defendant is liable, that the injury occurred, that the injury resulted from a release or discharge by the defendant, and that the claimed damages are appropriate. Given that the financial stakes in NRD claims are often tremendous, the PRP may perceive no rational option other than to contest the claim. Obviously, as with any matter, the litigation advantage can only be evaluated in light of two major factors: first, the size of the claim, and second, the strength of the defenses. The difficulty in the cooperative approach is that it often demands a commitment (even if partial) from the potentially liable party before that PRP is in a position to evaluate either of these factors. Fortunately, this problem can be mitigated by proceeding in an iterative manner. In this way, the PRP will have an opportunity to evaluate over time whether the issues of proof justify a more defensive approach.

[b] Attacking Assessment Bias

A second advantage to a defensive posture is that it allows the PRP to devote its resources toward attacking the trustee's assessment. A common observation by PRPs is that the trustee — whether in a cooperative or litigation mode — will infer the least favorable conclusion from ambiguous or inconclusive data. The following are some examples of an assessment bias that is sometimes claimed by PRPs: (i) observed injuries are too quickly attributed to the contaminants associated with the PRP, as opposed to other potential causes; (ii) insufficient credit is calculated for recovering or new ecological services in an impacted area; (iii) observed contaminant concentrations are extrapolated to larger areas without a sufficient basis; (iv) multiple conservative assumptions and/or overly conserva-

tive assumptions are applied to address areas of uncertainty; and (v) insufficient attention is paid to understanding baseline conditions.

While these and other areas of potential bias can sometimes be addressed in the context of a cooperative approach, the PRP may feel that it cannot simultaneously cooperate with the trustee and adequately address this perceived bias. A purely defensive or litigation posture may allow the PRP to focus better on these issues. The PRP may further conclude that its interests are best served by attacking the assessment bias in the context of depositions or at trial, and that a cooperative approach will allow the trustee to make its assessment more defensible without modifying its ultimate conclusions.

[c] Developing Caselaw on Legal Defenses

A third advantage of litigation is that it allows the PRP to develop the decisional law. The state of NRD law is relatively immature as compared with other areas of environmental law. In particular, there are few interpretations of the statutory defenses applicable to NRD matters. Further, there are a number of novel arguments that have not been adequately tested in the courts, including the invalidity of retroactive NRD claims, the applicability of general CERCLA caselaw regarding liability to NRD actions and the burden on the government of subtracting baseline conditions. While litigation to judgment involves risk, given the stakes involved in many NRD matters and the relative paucity of circuit court decisions, a PRP may decide that an aggressive litigation posture is appropriate. This strategy may be particularly compelling for companies with multiple NRD sites across the country.

[d] Postponing Liabilities

A fourth advantage to litigation for many PRPs is that it may significantly postpone the NRD liability. This consideration may be particularly salient in the NRD context, given that complex NRD litigation is notoriously slow. For example, the *Montrose* case, involving DDT contamination on the Palos Verdes shelf off the coast of California, was originally filed in June of 1990. Due to a number of factors in the litigation, including the breadth and complexity of the claims asserted, the case did not go to trial until late 2000 and was still not fully resolved as of Spring 2006. While litigation for the purpose of obtaining delay may not appear to serve a public interest, given the enormity of some NRD claims, the choice to litigate in order to obtain time is sometimes not unreasonable. Delay also may be justified when other issues are impacting a contaminated site, such as an allocation or insurance dispute. In these situations, the PRPs may simply be unable to cooperate since there is no agreement as to which parties own the liability and to what extent.

[e] Avoiding Liabilities

Finally, the non-cooperative approach may in some cases result in the avoidance of the entire NRD claim, or at least the significant minimization of the claim. The reason why trustees prefer the cooperative approach is that they often lack the funds to proceed with a complicated NRD assessment themselves. For example, the appropriated budget for the Natural Resource Damage and Assessment Program of the U.S. DOI, one of the largest federal trustees, was less than $6 million in 2005.[354] Similarly, many states report extremely modest assessment budgets or, in some cases, no appropriations whatsoever.[355] Accordingly, absent a willing PRP to conduct the assessment, the trustees will simply have to delay or postpone its NRD assessment, and in some cases may never conduct the assessment. Given these budget constraints, and given the lack of a legal obligation to do otherwise, a PRP may decide it is worth taking the chance that the trustee will simply be unable to conduct the assessment on its own. Further, due to the natural restorative ability of ecological systems, a delay in the NRD assessment may result in a significant decrease in the injury. In some cases, the damage may disappear by the time the trustee is able to assess it.

[2] The Cooperation Advantage

Litigation is expensive, time-consuming, risky and inconvenient. Furthermore, for many companies, litigation is a distraction from solving the problem at hand, namely injured natural resources. Thus, there are many reasons to consider an alternative approach. The cooperative assessment process is often the alternative. As is clear below, however, cooperation is not an abdication of one's own interests or objectives. Both the trustee and the PRP recognize that their respective decision to work together is for separate purposes. The objective of the trustee is to ensure that it has adequately and accurately quantified the full extent of the recoverable injury. The objective of the PRP is to ensure that it is not held responsible for damages that are not real or for which it is not liable under the law. While these are different goals, they are not necessarily in conflict.

[a] Trusting the Trusting Trustee

The first and most obvious benefit of the cooperative approach is that it provides an opportunity for the parties to work together in good faith to resolve a complex problem. In this way, mutual trust is both the prerequisite and the consequence of a successful cooperative strategy. Of course, as many commentators have noted, mutual trust and respect in a cooperative process do not mean

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[354] *See* Natural Resource Damage Assessment & Restoration Program, Restoration Program: Budget Overview, http://restoration.doi.gov/budgetoverview.html.

[355] *See infra* § 32B.12 (NRD in the States).

a lack of disagreement.[356] The key, however, is that the parties demonstrate a commitment to accommodate opposing scientific, technical and legal opinions to the greatest extent possible, consistent with their own objectives. The other benefits of a cooperative approach, as described below, cannot be achieved without mutual trust.

[b] Impacting the Scope and Type of the NRD Assessments

The NRD assessment is the vehicle that allows the trustee and the PRP to work together despite their competing objectives. The cooperative approach affords the PRP the opportunity to affect the damage assessment in important and legitimate ways. For example, the PRP may be able to suggest creative alternatives that achieve restoration but at less cost. As another example, particularly with regard to interim lost use calculations, the PRP will often find opportunities to assess the extent of the loss of services in a manner that will satisfy both parties. Finally, the PRP is usually both creative and assertive in modifying the assessment to account for baseline. Since the baseline calculation is required by the trustee's regulations, this effort by the PRP is not inconsistent with the trustee's objectives.

As noted above, one advantage to litigation is the opportunity to wage a full-fledged attack on the perceived bias found in NRD assessments. To the extent the parties are working together, and to the extent the PRP is realistic and mindful of the needs of the trustee, the cooperative approach may achieve the same result.

[c] Proactive Restoration

A third advantage of the cooperative approach is the enhanced ability of the PRP to propose proactive restoration measures. In some cases, the restoration efforts will be recognized by all parties as interim measures. In other cases, these efforts may be pilot studies. In yet other cases, these proactive measures may result in full restoration for at least some services. Regardless of the status, however, sensible proactive restoration efforts present a tremendous advantage to both parties. For the trustee, the resource is restored more quickly. For the PRP, rapid restoration will, in nearly all cases, lower its ultimate financial exposure, since once the PRP is able to restore the lost services, the calculation of interim lost use ceases.

[d] Integration of Restoration and Remediation

Many NRD sites involve ongoing remedial investigations and cleanups under CERCLA or similar programs. Since the trustees are not entitled to double recovery, the PRP may be able to structure the cleanup in a way that also achieves

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[356] *See, e.g.*, Bill Conner & Ron Gouguet, Getting to Restoration 26 (Envtl. Law Inst. 2004) "The parties must be able to get beyond disagreement or the process will stall and fail.").

restoration, thereby obtaining two objectives with the same dollar. While this objective can often be addressed independent of the cooperative approach, to the extent that the cooperative approach provides the PRP with additional insight into the concerns of the trustee, and to the extent that the trustee is coordinating with the EPA or state agencies, the cooperative approach may facilitate this result. As noted by the former Chief of the Damage Assessment Center at NOAA, "it makes more sense, saves time and money, and is consistent with the regulatory framework for trustees and response agencies to conduct simultaneous assessments and coordinate remedial and restoration planning."[357]

[e] Information Sharing

In an adversarial mode, the trustees may not be required to share information with the PRP on an ongoing basis. If the matter is in active litigation, the PRP may not see the results of the trustee's investigation until they appear in an expert report. Conversely, a cooperative approach assumes the parties will be actively exchanging and sharing data and other information. While such interaction entails some risk for both parties, many PRPs would rather remain continually informed of the results of data collection. The sharing of information allows the PRP to assess its liability and evaluate its options regularly.

[f] Avoiding Litigation

Of course, a critical advantage of cooperation is that it is not litigation. The trustees, as part of any cooperative agreement, will usually agree in writing not to issue notice letters or commence litigation against the PRP during the effective period of the agreement. Conversely, the PRP will agree to toll any statute of limitations claims based on the period of the agreement.

[g] Reducing Transaction Costs

Putting aside the risk of an adverse outcome, litigation is expensive, especially in NRD cases. This is true for two reasons. First, the cost of retaining experts and conducting ecological studies is extraordinarily high. The cost is even higher when studies are conducted for purposes of litigation. Second, if the trustees prevail, the PRP must pay its own costs plus the assessment costs of the trustees. The cooperative approach has the potential to reduce assessment costs greatly.

Additionally, the cooperative approach will sometimes facilitate the integration of data collection for multiple purposes, including the NRD assessment and the remedial investigation. The avoidance of duplicative data-gathering efforts represents an important opportunity to achieve efficiencies, a major incentive for

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[357] Bill Conner & Ron Gouguet, Getting to Restoration 24 (Envtl. Law Inst. 2004).

many companies.[358]

[3] Mechanics for Cooperation

[a] Trustee Cooperative Assessment Programs

Both the CERCLA and OPA regulations require that the trustee invite the PRP to participate in the assessment process, and it is also the practice of many states.[359] Notwithstanding these provisions, the history of NRD cooperation between PRPs and trustees is mixed. Over the last several years, many federal and state trustees have aggressively sought to advance a cooperative assessment and restoration model. This new model is best exemplified by the initiatives at NOAA, including the Cooperative Assessment Project (CAP). As stated by NOAA, CAP and other similar programs are "intended to further promote cooperative damage assessments by, among other means, allowing for greater participation between natural resource trustees (Trustees) and Potentially Responsible Parties (PRPs) and encouraging the use of more streamlined and innovative approaches to settle damage assessment liability and restore natural resources."[360]

[b] Cooperative Agreements

While a formal agreement is not absolutely necessary to proceed in a cooperative manner, both the PRPs and the trustees usual prefer such a document. As stated by NOAA, "it is strongly recommended that basic agreements and terms be somehow documented in writing to minimize future misunderstandings. This might be accomplished by a simple letter of agreement outlining the basic goals of the process or a more comprehensive project initiation agreement."[361]

The NRD cooperative agreements vary in size and scope, but often contain the following elements. (In addition, two sample cooperative agreements are provided in Sections 32B.10 and 32B.11 of this chapter.)

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[358] *See, e.g.*, Bill Conner & Ron Gouguet, Getting to Restoration 24 (Envtl. Law Inst. 2004) ("The trustees and the PRPs have the opportunity to save money through fine-tuning of investigations to satisfy both types of data needs.").

[359] *See, e.g.*, 15 C.F.R. § 990.14 (stating that the "[t]rustees *must* invite the responsible parties to participate in the natural resource damage assessment . . ." and that the trustee should consider a binding agreement to facilitate cooperation with the PRP) (emphasis added). *See also* 43 C.F.R. § 11.32(a)(2)(iii)(A) (stating that if a PRP is known, the trustee shall "invite the participation of the potentially responsible party" in the NRD assessment).

[360] NOAA, Cooperative Assessment Project (CAP) Framework, Oct. 2003, at 1, http://www.darrp.noaa.gov/partner/cap/pdf/capframe.pdf.

[361] NOAA, CAP Compendium of Additional Ideas and Example Documents (Oct. 2003), http://www.darrp.noaa.gov/partner/cap/capcompendium.html

[i] Statements of Principle

First, many cooperative agreements include statements of principle regarding the desire of the parties to work together in good faith to assess potential injuries and damages. The NOAA draft cooperation agreement states, among other things, that the parties agree to be "open, fair and balanced to all the affected and interested Parties."[362] While such statements may or may not be legally enforceable, it is very important to identify the framework of cooperation. If the PRP later feels that the trustee is not responsive to its concerns, these statements of principle are often very useful in meetings between the parties' respective management. Furthermore, if necessary, the PRP can cite to these provisions if it later decides to terminate or not renew the cooperative agreement.

Some principles that the parties may wish to include in their cooperative agreement are the following:

- Trustee and PRP shall interact in good faith;
- Trustee and PRP shall make efforts to establish a collaborative and cooperative process;
- Trustee and PRP shall enter the process with a focus on restoration as the best method for resolving natural resource damage claims;
- Trustee and PRP shall endeavor to identify proactive restoration projects;.
- Trustee and PRP shall share all data generated or collected during the pendency of the agreement;
- Trustee and PRP shall strive to achieve consensus decision-making;
- Trustee will maintain ultimate control over the assessment process, but trustee will meaningfully involve the PRP in the process;
- Trustee and PRP will work to resolve any disputes in a collaborative manner to the extent possible; and
- Trustee and PRP will attempt to use the cooperative process to work toward a final settlement of the entire NRD claim.

[ii] Funding Arrangements

A major premise of the cooperative arrangement is the payment of assessment costs by the PRP. The mechanics of these payments are highly variable and may include payment in advance, the establishment of an escrow account, reimbursement, or other means of payment by the PRP. In some agreements, the PRP retains

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[362] NOAA, CAP Project Initiation Agreement, Draft (Feb. 2003), http://www.darrp.noaa.gov/partner/cap/pdf/dcapinagr.pdf.

the right not to fund any study or activity with which it disagrees. Obviously, such a provision will often provide an important "off ramp" for the PRP that is less drastic than termination of the cooperative process.

The PRP will want to receive adequate documentation of the assessment costs incurred by the trustees. In addition, it is common that the funding provisions provide that the PRP is only obligated to pay reasonable and appropriate expenses. Finally, there should be a dispute mechanism set forth in case the PRP believes that some costs were inappropriately incurred.

[iii] Tolling and Standstill Provisions

If the trustee is concerned that the statute of limitations may expire, the trustee will require an agreement to toll the period of the agreement. In return, the PRP may request an agreement that the trustee will not file a claim during the pendency of the cooperative assessment agreement.

[iv] Termination Provisions

Both parties will want the right to terminate the cooperative process at any time and for any reason. Such provisions are customary. Indeed, the ability to terminate is critical for allowing the parties to proceed with the cooperative agreement in the first place and, ironically, is extremely helpful in building mutual trust. Since each party knows that it may terminate at any time, it is more likely to take risks toward consensus-building with the other party. Similarly, neither party will be cavalier in responding to the concerns of the other for fear that the other could terminate the agreement.

[v] Information Sharing

As discussed above, cooperative agreements usually provide that all data and information generated as part of the agreement will be shared with each party. In addition, some agreements provide that data collected independently will be shared or may be shared, depending upon the intent of the parties. In some cases, the parties commit to notify each other if they intend to commence any study that is outside the scope of the agreement but relevant to the assessment. Of course, the parties should clearly indicate that they need not share information that is privileged or confidential.

[vi] Reservation of Rights

The trustee will seek to reserve its enforcement rights as well as its ultimate decision-making authority at the site. The PRP will seek to reserve all of its defenses. These reservation provisions are customary. The PRP may also seek to preserve its ability to contest the conclusions of the NRD assessment, notwithstanding its agreement to cooperate with the trustee.

[c] Avoiding Cooperation Pitfalls

As is clear in this discussion, cooperation entails risk for both parties. In addition to negotiating a protective agreement, there are a number of steps that the PRP should consider to ensure that it avoids some pitfalls of cooperation.

First, the PRP should actively ensure that the administrative record is complete. When assessment decisions — even if derived by consensus — do not include items that may later become relevant to the PRP's defense, the PRP or its consultant should memorialize those items. The PRP must protect itself from an argument later that its agreement to proceed with an assessment plan constituted a waiver of any other assessment needs related to that resource.

Second, to the extent that the trustee is unwilling to conduct studies that the PRP believes are necessary for its defense, the PRP should be willing to proceed independently. This problem is most commonly, although not exclusively, present with regard to baseline studies. The trustee is generally focused on understanding the present injury. The PRP must ensure that any impact caused by forces other than its alleged releases are examined thoroughly.

Third, the PRP should retain independent experts. The role of these experts is to review and, if appropriate, critique assessment plans put forward by the trustees, develop alternative assessments where appropriate, and continually explore opportunities for proactive restoration. A PRP generally misjudges when it views the cooperative process as simply a funding mechanism for government scientists. In order for the PRP's objectives to be met, it must bring sufficient expertise to the process.

Finally, the PRP should continually evaluate its strategy. The agreement to cooperate makes sense only as long as is working. A change in strategy may be in order based on the nature of the relationship with the trustees, the results of the assessment studies, or developments in the law.

PART C: FORMS

§ 32B.10 Cooperative Assessment Project Initiation Agreement
CAP *Project Initiation Agreement*

I. Parties Involved

The purpose of this Project Initiation Agreement (Agreement) is to promote a Cooperative Assessment Project (CAP) at [description of project site and designation of Project Name to be used in this Agreement] between the Trustees and the Company(ies):

Participating Trustees

[Identify participating Trustee(s) individually]

Participating Company(ies)

[Identify participating Company(ies) individually]

The signatory of each Party certifies that he or she is authorized by the Party(ies) whom he or she represents to enter into this Agreement and bind the Party(ies) to this Agreement. The provisions of this Agreement will apply to the participating Parties and become effective once all the Party representatives sign the Agreement.

II. Definitions

Agreement means this signed Project Initiation Agreement.

Company(ies) means a Potentially Responsible Party(ies) who is a signatory to this Agreement.

Framework means the agreed upon Framework for participating in CAP.

Party(ies) means one of the signatories to this Agreement.

[Project Name] means _____

Trustee(s) means a natural resource trustee who is a signatory to this Agreement.

III. Non-Participants Module [as appropriate]

The Parties have used their best efforts to identify and contact all other known potential Parties for [Project Name]. As part of this Agreement, the Parties acknowledge that there are Trustees and Company(ies) that are affected, may be interested in, but choose not to participate in [Project Name]. The following Non-Participating Trustees and Company(ies), that are known to be associated with [Project Name], have been contacted and are included in a non-participating capacity:

Non-Participating Trustees

[Identify non-participating Trustee(s) individually]

Non-Participating Company(ies)

[Identify non-participating Company(ies) individually]

The Parties must keep these Non-Participating Trustees and Company(ies) informed on [Project Name] activities.

Non-Participating Trustees may join in a settlement or enter [Project Name] prior to settlement based on the understanding that prior commitments by the Participating Trustees to the Participating Company(ies) will not be revisited without new and substantive information.

Optional

Should one or more Companies decide not to participate in [Project Name] or later withdraw from [Project Name], the remaining Company(ies) may continue only if the Company(ies) takes on the responsibility of the Non-Participating Company(ies) or liability can be divided reliably from the remaining, Non-Participating Company(ies).

IV. Expectations

CAP is based on the premise that the Parties can provide appropriate restoration outcomes more cost-effectively than might otherwise be the case by expediting the natural resource damage assessment and restoration process while maintaining damage assessment and restoration standards at [Project Name].

Should this Agreement be terminated for any reason, the Participating Trustees have the right to pursue a natural resource damage assessment under the applicable [CERCLA, or OPA] natural resource damage assessment rules at [43 C.F.R. Part 11, or 15 C.F.R. Part 990].

Consistent with the language and spirit of CAP and to ensure a successful outcome for [Project Name], the Parties are expected to commit to:

- The CAP Framework;
- The project-specific requirements in this Agreement; and
- Any subsequent agreements of any form, including modifications to any agreements specific to [Project Name].

The [Project Name] under CAP is intended to:

- Define a process and mechanisms whereby the Company(ies) can employ initiative and creativity in resolving their natural resource liability, while retaining Trustee oversight responsibility;

- Be cost-and time effective for both the Participating Trustees and Company(ies) to ensure a positive outcome for all Parties;
- Be flexible to address the uniqueness of [Project Name] by tailoring the assessment and restoration process to facilitate innovative and creative solutions; and
- Be open, fair, and balanced to all the affected and interested Parties.

V. Objectives

The objectives of [Project Name] are to:

[To be defined based on the project. Objectives must identify the outcome (or endpoint) of the object in question.]

VI. Authorities

The Trustees enter into this Agreement pursuant to the authorities provided to natural resource trustees by the [Comprehensive Environmental, Response, Compensation, and Liability Act, as amended (CERCLA), 42 U.S.C. §§ 9601 *et seq.,]* or [Oil Pollution Act of 1990 (OPA), 33 U.S.C. §§ 2701 *et seq.,]*; Subpart G of the National contingency Plan, 40 C.F.R. §§ 300.600, *et seq.;* Executive Order 12580, 3 C.F.R., 1987, Comp. p. 193, 52 Fed. Reg. 2923 (January 23, 1987), as amended by Executive Order 12777, 56 Fed. Reg. 54757 (October 9, 1991); the [CERCLA Natural Resources Damage Assessment Regulations, as amended, 43 C.F.R. Part 11] or [Oil Pollution Act Damage Assessment Regulations, 15 C.F.R. Part 990]. The State(s) of _____ also enters into this Agreement pursuant to [state authorities].

The following officials, or their designees, represent agencies that act on behalf of the public under the above authorities with respect to natural resources being addressed under this Agreement:

[Party's name, agency name, resources and services covered]

_____

_____, etc.

The designation of representatives in this Agreement is for coordination and planning purposes. For each Party, the designation of a representative in this Agreement does not constitute a delegation of any legal or policy making authority nor does it authorize the representative to create policy positions, to create liabilities or debts against the Party, or otherwise legally obligate the Party in any way. The Parties will communicate any tentative consensus decisions or positions to their respective management and seek expeditious approval.

VII. Trustee Coordination

The Trustees will coordinate their efforts for [Project Name].

[NOTE: There are several ways this coordination might be accomplished, as demonstrated by the options below.]

Option One:

The Trustees have an existing Memorandum of Understanding (MOU) that would be appropriate for [Project Name].

Option Two:

The Trustees agree to:

1) Abide by the coordination responsibilities under the Framework; and

2) Document additional coordination requirements in the public record necessary to initiate and manage the Project, including, but not limited to:

a) Identifying the Lead Administrative Trustee (LAT)

b) Defining the decisionmaking process, including roles and responsibilities of decisionmakers;

c) Defining, with the Company(ies), contracting needs and access; and

d) Defining, with the Company(ies), an acceptable dispute resolution process.

Option Three:

The Trustees agree to coordinate all activities and matters under this Agreement accordance with the decisionmaking procedures described below.

To the extent authorized by applicable law and policies, the Trustees may take the following actions, among others, to address the purposes of this Agreement:

1) Conduct, participate in, and/or oversee scientific and technical work conducted pursuant to this Agreement related to the assessment and quantification of injury to natural resources and their services resulting from the [release] or [discharge] and the restoration of injured resources and services;

2) Participate in negotiations with the Company(ies), when appropriate;

3) Oversee the development and implementation of a plan for the restoration of the injured natural resources and services;

4) In accordance with applicable law, make all necessary decisions for the management and administration of any joint funds; and

5) In accordance with applicable law, arrange for one or more contracts with professional consultants, technical or otherwise, that the Trustees determine are necessary and best qualified to provide services to the Trustees.

The trustees agree that the Lead Administrative Trustee (LAT) for [Project Name] will be: [Name, agency, contact information]. The duties of the LAT will include, but are not limited to: coordinating and expediting the progress of the injury assessment and restoration process; scheduling of meetings of the Trustees and preparing agendas for those meetings; acting as a central contract point for the Trustees; and carrying out such other duties as directed by the Trustees. The LAT will be responsible for informing the other Trustees of all pertinent developments on a timely basis.

The Trustees agree that all decisions implementing this Agreement will require unanimous approval of the Trustees. In the event that unanimous agreement cannot be reached among Trustees, the matter in dispute will be elevated to the Trustees' management for resolution, at the appropriate time. If necessary, the Trustees may establish further mechanisms by which disputes may be resolved. The Trustees further agree that decisionmaking deliberations will focus upon the Trustees' mutual purpose of assessing natural resource damages and restoring, rehabilitating, replacing, and/or acquiring the equivalent of the affected natural resources, rather than upon control or respective trusteeship over those resources.

Option Four:

The Trustees will develop a Memorandum of Understanding to attach to this Agreement.[1]

VIII. Multiple Company Coordination Module [as appropriate]

By signing this Agreement, multiple Companies agree to coordinate among

[1] An example is attached.

themselves, consistent with the Framework. The Companies will provide promptly the Trustees information concerning project staffing, associated roles and responsibilities, and the Companies' related project actions.

IX. Coordination with Response

If response actions are underway or planned at [Project Name], the Parties must coordinate closely with the lead response agency, as noted in the Framework. If response actions are not underway or planned, the Parties must notify the potential lead response agency and proceed according to the guidance in the Framework.

X. Funding

The Company(ies) agrees to pay the full and reasonable costs, both direct and indirect, associated with the natural resource injury assessment and restoration actions associated with [Project Name]. Costs associated with the development of the CAP program itself, above and beyond those costs necessary for the joint development of this Agreement and for activities associated with [Project Name], are not to be included in funding under this Agreement.

The payment of any costs and expenses under this section is without prejudice to any trustee claims for assessment costs, or any associated defenses, that are beyond the funding levels provided under this Agreement or have been or are incurred outside the scope or effective period of this Agreement or associated attachments.

[NOTE: Some Trustees may be able to receive advance funding for their participation under this Agreement. Other Trustees may only be able to seek reimbursement of their expenditures. Therefore, Trustees may want to choose between the two options given here. If neither option is entirely appropriate for a given situation, the Parties may wish to draft some other arrangements for funding Trustees' activities and to attach such language to this Agreement.]

Option One: Advance Funding

The Company(ies) agrees to fund the trustee administrative costs and expenses in advance as they participate with the Company(ies) in the joint development of this Agreement. Once this Agreement is in effect, the Trustees will provide, on a basis as determined by the Parties, a periodic budget estimate for their upcoming needs, identifying the scope and expected timeline for those needs in implementing this Agreement. The Trustees' budget estimates will be received on behalf of the Company(ies) by:

[Name & Title]

[Address]

Upon receipt of the Trustee's budget estimate, the Company(ies) will provide such funding to the Trustees within 180 calendar days. Should a deficit exist at the end of the year, the amount of the deficit will be included in the estimate for the next year. The trustees, as soon as possible after the end of each fiscal year or some other periodic basis agreed upon by the Parties, provide to the Company(ies) an accounting of costs expended pursuant to this Agreement.

Option Two: Reimbursement of Cost Incurred

The Company(ies) agrees to reimburse the Trustees for the costs of the joint development of this Agreement and of implementing this Agreement. Each Trustee may periodically submit to the Company(ies) an accounting of costs incurred pursuant to this Agreement. The accounting will consist of a summary of the costs incurred with supporting documentation as to each Trustee's costs. The Trustees' accounting of these costs will be received on behalf of the Company(ies) by:

[Name & Title]

[Address]

Upon receipt of the Trustees' accounting, the Company(ies) will reimburse the Trustees' costs within [30] calendar days.

Option Three: Allowing for Different Payment Schemes

Since individual Trustees may not necessarily be able to agree to one funding scheme, the Companies and Trustees will determine appropriate payment mechanisms and schedules that addresses their unique circumstances. Payment schemes may be a combination of Option One and Two or additional schemes not identified above.

XI. Payment of Trustee Costs

The Company(ies) will make the payment required by Paragraph_____ above in the form of electronic transfer of funds or a certified or cashier's check made payable to the [appropriate designation for Federal agency] or [appropriate designation for state agency] and tendered to the appropriate trustee designated person. The Company(ies) will state that it is paying for costs related to [Project

Name], will reference [appropriate file or account number]. Copies of the check are to be sent to the persons specified in Paragraph_____ .

Promptly upon receipt of funds from the Company, the Trustee(s) will provide the Company with a written acknowledgment of such receipt.

XII. Public Record

The Parties will establish and maintain a public record for [Project Name]. The public record should be opened concurrently with the effective date of this Agreement and should contain those documents relied upon by the Parties in carrying out this agreement.

The Parties agree that all information arising out of this Agreement may be placed in the publicly available administrative record and otherwise may be made public as soon as the Trustees determine that the release will not prejudice the ongoing assessment. The Trustees will consult the guidance provided in [43 C.F.R. _____] or [15 C.F.R. 990.45] for determining the appropriate materials to be included in the administrative record. In addition to scientific data (once they have been validated), the type of documents that may be made public or placed in the administrative record include workplans, photographs, maps, charts, laboratory and field analyses, final draft reports, final reports, draft restoration plans, comments on draft restoration plans, and final restoration plans. The Parties should decide on what information goes into the public record subject to the guidelines of the Framework.

Although the public record can be comprised of documents developed by any Party, the Trustees are responsible for maintaining the original documents in the public record, consistent with relevant document retention policies.

XIII. Public Involvement

The Trustees are required by law to give public notice and to solicit public review and comment when engaged in a natural resource damage assessment and restoration. The Parties therefore agree to involve the public and document such intentions as appropriate to the circumstances of the project. As appropriate, the Company(ies) will participate in the planning and preparation of public planning and dissemination efforts. Since public participation is a Trustee responsibility, the Trustees will be responsible for overseeing and leading such activities.

The public must have the opportunity to review and submit comments on the contents of the public record. Therefore, a local repository should be established at or near the project, available to the public at reasonable times. Access through the Internet may be provided in addition to, but not as a substitute for, the local repository.

XIV. Technical Standards, Policies, and Procedures

Decisions made by the Parties during the conduct of [Project Name] must be

based on sound science and objective implementation of appropriate standards, policies, and procedures. Therefore, when considering issues and information of a scientific or technical nature for [Project Name], the Parties must be consistent with:

- General scientific principles and procedures;
- Scientific principles and procedures of the particular, applied discipline;
- The scientific and technical standards under [CERCLA at 43 C.F.R. Part 11 or OPA at 15 C.F.R. Part 990]; and
- Policies that apply to each Party's affiliation.

Beyond this, the Parties may need to develop scientific or technical requirements specific to the project. Determining and approving such project-specific requirements will ensure that the project objectives will be fulfilled. While the Company(ies) may suggest and must concur with any project-specific requirements, it is the responsibility of the Trustees to ultimately determine and approve the requirements appropriate to [Project Name].

Scientific and technical requirements appropriate to [Project Name] will be determined as the project proceeds. As project-specific requirements develop, concurrence by the Company(ies) to the requirements and approval of the requirements by the Trustees must be documented in the public record.

XV. Implementation of the Process

Option One:

As may be appropriate to efficiently achieve the objectives of this Agreement, the Parties agree that Technical Work Groups may be formed to assist in the development of plans for use in implementing a natural resource injury assessment, quantification, and restoration pursuant to this Agreement. Technical Work Groups, membership in those groups, and roles and responsibilities of the groups and members will be set forth in attachments to this Agreement or in the public record.

The Parties agree that the technical representatives of any Party may be present at any and all locations where work that is part of the injury assessment and restoration process is being performed. The Parties will fully and freely share all data developed for the purposes of the studies as well as study design and procedures, including quality assurance/quality control procedures, and the Parties' representatives will have access to and use of all such data collection during the period of this Agreement.

The Parties will employ good faith efforts to reach agreement on the

interpretation of the data resulting from the implementation of any process. Unless otherwise agreed to in this Agreement or in an attachment or stipulation incorporated into this Agreement, the Parties expressly reserve and maintain the right to join or not join, in a timely manner, in the interpretation of the data resulting from any work or, alternatively, to produce separate and independent findings and conclusions. The Parties will also endeavor to jointly conduct all injury assessment work. The Parties agree that independent injury assessment work under this Agreement will not be undertaken unless such work proposals have first been presented to all the Parties for joint consideration. Further, the conduct and implementation of an independent work will be in accordance with access, observation, and data sharing requirements. However, unless otherwise agreed to in this Agreement or in an attachment or stipulation incorporated into this Agreement, the Parties expressly reserve the right to perform independent injury assessment work.

The Parties will endeavor to enter into stipulations, when appropriate, during the course of the cooperative injury assessment, quantification, and restoration process. Any Party may propose a stipulation at any time. A stipulation, agreed to by all the Parties, will be attached to this Agreement. Any matter covered by a stipulation or other form of agreement under this Agreement will not be subject to objection or challenge by any Party.

Option Two:

The Parties will endeavor to jointly conduct work related to [Project Name]. The Parties agree that independent work under this Agreement will not be undertaken unless such work has first been presented to all the Parties for joint consideration. Further, the conduct and implementation of independent work will be in accordance with the access, observation, and data sharing requirements in Paragraph_____. However, unless otherwise agreed to in this Agreement or in an attachment or stipulation incorporated into this Agreement, the Parties expressly reserve the right to perform independent work. The Parties will attempt to reach consensus work on the necessity, selection, design, and protocols for performing work relating to this project.

A. *Work Categories and Technical Work Groups* The Parties will identify potential injury work categories for the purpose of coordinating the cooperative injury assessment and restoration to minimize redundancy. The Parties may jointly identify other work categories as the process continues, as appropriate. As appropriate, the Parties will form a Technical Work Group

with respect to each category, to be led in each case by a Trustee representative.

The Parties will develop workplans for any work, as needed. Any work plans developed will be attached to this Agreement. Included in these work plans, among other requirements listed in the CAP Framework, will be a schedule for all work. The Parties are required to keep to these schedules within reasonable and practical constraints. Changes to either activities or schedules must be communicated to the other Parties within [Time Period to be Defined] prior to initiating such changes. The Trustees must provide written approval of all substantive Company(ies) actions, or changes to those activities or schedules, within [Time Period to be Defined] of the request of the proposed Company(ies) action(s). No substantive Company(ies) action may be initiated without such Trustee approval.

B. *Cooperative Work* All Parties may propose work. Any proposed work that all Parties agree is reasonable and appropriate will be deemed "Cooperative Work." A work plan for Cooperative Work will be attached to this Agreement and will be subject to all of this Agreement's terms and conditions.

1. *Funding*: The Company will fund the activities of the Technical Work Groups and all Cooperative Work through to completion, unless the Parties agree to the contrary or the work design calls for discontinuation upon the occurrence of a specified event.

2. *Retention of Persons Performing Cooperative Work:*

   a. *Jointly Designated Experts* In order to promote the [Project Name], the Parties may jointly agree on the retention of "Jointly Designated Experts" to perform work on behalf of [Project Name]. Prior to the completion of work for [Project Name], any person designated as a Jointly Designated Expert will not be retained separately by, and will not otherwise perform services on behalf of, any Party with respect to [Project Name]. The Parties may consult with such persons at scheduled meetings in which all the Parties will have an opportunity to participate. Neither the Parties nor any persons retained by them will engage in communications (other than routine, non-substantive communications) regarding the work with Jointly Designated Experts unless all Parties consent. Any and all contracts for Jointly Designated Experts will prohibit any such communications. The Parties will adopt such other reasonable strictures and controls as are appropriate to protect the objectivity and fairness of Jointly Designated Experts.

Any Party may call a Jointly Designated Expert as a witness in any judicial or administrative proceeding relating to natural resource damages arising from the [release] or [discharge], to testify regarding the conduct of, and conclusions reached, in performing such study. In addition, following completion of the relevant study, any Party may seek to retain, as a testifying or consulting expert, any Jointly Designated Expert, and no Party will object to the retention or testimony of such person on the basis of such person's prior participation as a Jointly Designated Expert.

b. *Separately Retained Experts* Any Party may separately retain an expert or experts for any issue relating to the project, but should first offer this proposed expert as a jointly Designated Expert. The Parties may elect to conduct one or more Cooperative Studies with the use of Separately Retained Experts and without the use of Jointly Designated Experts. The Trustees may propose the use of their own Separately Retained Experts as part of a proposed Cooperative Study and may propose that the cost of such experts be funded by the Company as part of such proposal.

3. *Data Collection and Analyses*: All Parties may be present during data collection and analyses for Cooperative Work. The Parties agree to give at least 30 calendar days' advance notice, unless otherwise agreed, by [facsimile or some other means] of data collection and analyses activities for Cooperative Work. All data collected for Cooperative Work will be fully and freely shared among the Parties as soon after it is collected as is reasonably practical.

4. *Interpretation*: The Parties will attempt to reach consensus on the interpretation of, and conclusions to be drawn from, data collected during Cooperative Work, including how to address remaining uncertainty. Each Party expressly reserves the right to produce and present separate and independent interpretations and conclusions.

5. *Modification of Cooperative Work*: The Parties may agree to modifications of work plans for Cooperative Work. The Work Contact designated by the Trustees pursuant to Paragraph _____ may agree to modifications on behalf of all the Trustees.

C. *Independent Work*: The Parties expressly reserve the right to perform independent assessment work (Independent Work). However, any independent work must first be proposed as Cooperative Work or the results of such work cannot be used in any proceedings, etc. If other Parties do not agree to

conduct any work as Cooperative Work, then at least 30 calendar days, unless otherwise agreed, prior to the commencement of any Independent Work conducted by or on behalf of a Party, such Party will provide detailed work plans and protocols for such Independent Work to the other Parties. The Party conducting the Independent Work will also provide prompt notice of any changes made to the scope of work of any Independent Work in progress.

All parties may be present during data collection for Independent Work. The Parties agree to give 30 calendar days' advance notice, unless otherwise agreed, of data collection activities for Independent Work. All data, verified and unverified, collected for Independent Work will be fully and freely shared among the Parties as soon as is reasonably practical and, in any event, no later than it is transmitted by the analyst to the Party sponsoring the Independent Work.

Any Party conducting an Independent Work will provide to the Parties copies of any final documents relating to such work within 14 calendar days of its completion.

XVI. Disclosure of Contractors/Conflicts of Interest

When contractors are selected to conduct work for [Project Name], the Parties will have the opportunity to review: the proposed contractor's qualifications; the goals and objectives for the proposed contractor; the proposed contractor's scope of work and planned activities; and the schedule for work to be performed by the contractor. The Parties agree that they will require the disclosure of potentially conflicting relationships by the contractors, as part of their employment, to all Parties, and further agree to require in all contracts reasonable and appropriate strictures and controls to prevent the transfer of confidential information.

XVII. Weight of Agreements and Stipulations

The Parties agree that any agreements or stipulations reached pursuant to this Agreement shall be admissible in any judicial or administrative proceeding between or among the Parties relating to natural resource damages arising from the [release] or [discharge].

Nothing in this Agreement will be construed as an agreement by any Party that any Cooperative Work is admissible or binding in any judicial or administrative proceeding (including any proceeding relating to private party claims arising from the [release] or [discharge]) other than a proceeding between or among the Parties relating to natural resource damages arising from the [release] or [discharge]. Each Party reserves its right to challenge, in any judicial or administrative proceeding between or among the Parties relating to natural resource damages arising from the [release] or [discharge], any result, conclusion, or interpretation

that the Party has timely challenged pursuant to this paragraph.

XVIII. Access Module [as needed]

If any property to which access is needed to implement this Agreement is owned or controlled by the Company(ies), the Company(ies) will provide the Trustees with access at all reasonable times for the purpose of conducting activities in connection with this Agreement.

The Trustees agree that their representatives seeking access to any property owned or controlled by the Company(ies) will fully comply with all health and safety requirements applicable to [Project Name]. The Company(ies) will assist the Trustees to the extent that the Trustees will need such assistance (e.g., instruction) in meeting health and safety compliance requirements. In the event that any such representative fails to comply with these requirements, access to the property may be denied.

If any property to which access is needed to implement this Agreement is owned or controlled by persons other than any of the Company(ies), the Company(ies) will use best efforts to secure from such persons an agreement to provide access to such property for the Company(ies), as well as for all the Parties, as necessary to implement this Agreement. If any access required to implement the injury assessment or restoration cannot be obtained in a timely manner, the Company(ies) will promptly notify the Trustees in writing, and include in that notification a summary of the steps the Company(ies) has taken to attempt to obtain access. Following such notice, the Trustees will use their available authorities to obtain the necessary access in a timely manner or, with the agreement of the Company(ies), will modify the relevant obligations of this Agreement to preclude the need for such access.

XIX. Indemnification

The Company(ies) waives all claims against the Trustees for damages or reimbursement or for set-off of any payments made or to be made to the Trustees arising from or on account of any contract, agreement, or arrangement between any one or more of the Company(ies) and any person for performance of the injury assessment or restoration, including but not limited to claims on account of construction delays. In addition, the Company(ies) shall indemnify and hold harmless the Trustees with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of the Company(ies) and any person for performance of the injury assessment or restoration, including but not limited to claims on account of construction delays.

The Trustees do not assume any liability by entering into this Agreement. The Company(ies) shall indemnify, defend, save and hold harmless the Trustees and

their officials, agents, employees, contractors, subcontractors, or representatives for or from any and all claims or causes of action to the extent arising from, or on account of, negligent or other wrongful acts or omissions of the Company(ies), their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities under this Agreement. Further, the Company(ies) agrees to compensate the Trustees for any costs they incur, including attorneys fees and other expenses of litigation and settlement, arising from, or on account of, claims made against the Trustees based on negligent or other wrongful acts or omissions of the Company(ies), their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities under this Agreement. Neither the Company(ies) nor any such contractor shall be considered an agent of the United States or the State of _____ . The Trustees shall promptly give notice of any claim for which they plan to seek indemnification under this paragraph, allow the Company(ies) to control the defense of the claim, and cooperate fully with the Company(ies). The indemnity provided by the Company(ies) does not include any claims or causes of action arising from or on account of acts or omissions of the Trustees, their agencies, departments, officials, employees, contractors, subcontractors, or other representatives.

The Trustees shall indemnify, defend, save and hold harmless the Company(ies) and their officials, agents, employees, contractors, subcontractors, or representatives for or from any and all claims or causes of action to the extent arising from, or on account of, negligent or other wrongful acts or omissions of the Trustees, their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities under this Agreement. Further, the Trustees agree to pay the Company(ies) any costs they incur, including attorneys fees and other expenses of litigation and settlement, arising from, or on account of, claims made against the Company(ies) based on negligent or other wrongful acts or omissions of the Trustees, their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities under this Agreement. Neither the United States nor the State of _____ shall be considered an agent of the Company(ies). The Company(ies) shall promptly give notice of any claim for which they plan to seek indemnification under this paragraph, allow the Trustees to control the defense of the claim, and shall cooperate fully with the Trustees. The indemnity provided by the Trustees does not include any claims or causes of action arising from or on account of acts or omissions of the Company(ies), their agencies, departments, officials, employees, contractors, subcontractors, or other representatives.

XX. Notice and Contacts

General: Except as otherwise provided in this paragraph, Notice under this Agreement will be given to the following persons on behalf of the Parties: As to the Company(ies):

_____

As to Trustee (1):

_____

As to Trustee (2):, etc.

A copy of any Notice will also be provided to the United States Department of Justice, at the following address:

_____

XXI. Record Preservation

All records and documents in the possession of the Company(ies) generated under this Agreement will be preserved during the time period in which the terms of this Agreement are executed and for a minimum of 5 (five) years after the termination of this Agreement unless otherwise agreed to by the Parties. The foregoing requirement may be met by the Company's(ies') collectively preserving one set of the described records and documents. If one or more Trustee requests that the documents be saved, the Company(ies) will, at no cost to the Trustees, provide a single set of the documents to each requesting Trustee, subject to Section (Confidentiality). The documents may be provided as originals, copies, or in electronic form, or any combination thereof. Any documents provided in electronic form will be in a form accessible to the Trustees at the time they are provided. XXII. Procedure Upon Disagreements

Option One:

Unless specifically excluded, the dispute resolution procedures in this Paragraph are the exclusive mechanism for resolving disputes relating to this Agreement. The Parties agree that all decisions implementing this Agreement will require consensus of the Parties. The Parties agree to attempt to resolve any disputes expeditiously, in good faith, and in accordance with the objectives of this Agreement. The Parties further agree that decision-making deliberations will focus upon the Parties' mutual purpose of assessment of injuries to and restoration of the affected natural resources and their services.

The Parties agree to attempt to resolve any disputes concerning the

implementation of this agreement through good faith informal negotiations between the Company(ies) and Trustees. A dispute will be considered to have arisen when one Party informs the other Parties, in writing, of the dispute with enough specificity to allow the other Parties to identify the issues involved and to respond effectively. Any disputes arising from the conduct or implementation of study plans will be addressed first by the Technical Work Group responsible for their formulation. Any disputes that are not resolved in such a manner will be presented to the Parties for informal negotiations. The period for informal negotiations will not exceed 30 calendar days from the time the dispute arises unless otherwise agreed in writing among all the Parties involved.

Option Two:

The Parties agree that all decisions implementing this Agreement will require consensus of the Parties. The Parties agree to attempt to resolve any disputes expeditiously, in good faith, and in accordance with the objectives of this Agreement. The Parties further agree that decision-making deliberations will focus upon the Parties' mutual purpose of assessment of injuries to and restoration of the affected natural resources and their services. However, the Parties may develop more formal procedures for resolving disputes. Any such process will be attached to this Agreement.

XXIII. Use of Agreement

This Agreement will not be used in any judicial or administrative proceeding to establish the truth of any matter stated herein except in an action to enforce this Agreement.

XXIV. Modification of Agreement

This Agreement may be modified or supplemented through attachments upon agreement in writing by all Parties. The Effective Date of any modification or supplement will be the later date of execution of that modification or supplement.

XXV. Termination of Agreement

Any Party may terminate its participation in this Agreement at any time by giving 30 calendar days written notice to all Parties. Notice of intent to terminate participation in the Agreement must clearly state the reasons for such termination and must be signed by an authorized representative of the terminating Party(ies). Termination by a single Party, where applicable, will not void the Agreement as to the remaining Parties.

Termination of this Agreement, either as between the Trustees and the Company(ies) or by a single Trustee Party, is prospective only. As such, this Agreement, and any associated agreements, and all attachments and stipulations incorporated prior to the effective date of termination, survives and will remain in effect following any termination.

Each Trustee will submit a final summary of its costs, along with cost documentation, within 180 calendar days after the termination of this Agreement.

Upon termination, the Company(ies) will not withdraw from its obligation to fund cooperative work so long as the work is agreed upon and conducted consistently.

XXVI. Duration

The period of duration of this Agreement is from the Effective Date until the purposes set forth in the Agreement are accomplished unless the Parties agree otherwise or the Agreement is terminated consistent with Paragraph _____.

XXVII. Severability

This Agreement constitutes the entire understanding of the Parties with respect to the Project. The terms of this Agreement are severable. If any term, covenant, or condition of this Agreement is determined by a court of competent jurisdiction to be invalid, it shall be considered deleted and shall not invalidate any of the remaining terms, covenants, and conditions. However, within 30 calendar days after the court's determination, any Party to this Agreement may withdraw from this Agreement upon written notice to the other Parties.

XXVIII. Third-Party Challenges or Appeals

Nothing in this Agreement may be the basis of any third-party challenges or appeals. Nothing in this Agreement creates any rights or causes of action in persons not parties to this agreement.

XXIX. Confidentiality

Documents between representatives of the Trustees and the Company that are part of settlement negotiations and are governed by Federal Rule of Evidence 408 (U.S.C.S. Fed. Rules Evid. R. 408 (2002)) shall be treated by the Parties as confidential. Any Party who receives a request for such documents pursuant to such statutes as the Freedom of Information Act or who is served with a subpoena or discovery request for any such documents, or who otherwise intends to release such a document to anyone other than a Party to this Agreement, shall provide notice to the other Parties at the earliest opportunity so as to allow them, if they so choose, to assert a privilege or statutory exception seeking to prevent the release of such documents.

Nothing in this Agreement is intended as, nor shall it be construed to be, a general

waiver of any attorney-client privilege, work product privilege, deliberative process privilege, joint enforcement privilege, or any other applicable privilege.

XXX. Settlement Negotiations

Upon completion of the cooperative injury assessment, the Parties will employ good faith efforts to resolve any outstanding issues necessary for a final resolution of all natural resource issues associated with the Company's(ies') _____ site. These issues may include, but are not limited to: (1) the location and scope of any natural resource restoration, replacement, and/or acquisition of equivalent natural resources to be undertaken and assessment costs to be paid by the Company; (2) the amount of assessment costs to be paid to the Trustees by the Company; (3) the contents and details of the final [Consent Decree] or [Settlement Agreement]; (4) protection of the Company(ies) from contribution actions or claims by third parties as provided by CERCLA § 113(f)(2), 42 U.S.C. Section 9613(f)(2), for matters addressed in this Agreement.

Any such negotiations and documents used in such discussions, whether a settlement is reached or not, will remain completely confidential between the Parties, unless all Parties consent to release such information or unless the release of such information is required by law or compelled by court order.

XXXI. Effect of Settlement

Nothing in this Agreement will be construed to create any rights in, or grant any cause of action to, or limit any Party's action against, any person not a party to this Agreement. The preceding sentence will not be construed to waive or nullify any rights that any person not a signatory to this decree may have under applicable law.

In any subsequent administrative or judicial proceeding initiated by the Trustees for injunctive relief, recovery of costs, or other appropriate relief relating to the [site], the Company(ies) will not assert, and may not maintain, any defense or claim based on the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the Trustees in the subsequent proceeding were or should have been brought in the instant case; provided, however, that nothing in this Paragraph affects the enforceability of the covenants not to sue set forth in Paragraph _____ (Covenants Not To Sue By The Trustees).

XXXII. Reservation of Rights and Claims

Except as specifically in this Agreement or in any attachments or stipulations incorporated into this Agreement, the Parties agree that none of them is making any admission of fact or law by entering into this Agreement. This Agreement shall not be admissible as evidence or proof of liability or non-liability. Except as

provided in this Agreement or in any attachments or stipulations incorporated into this Agreement, this Agreement may not be admissible as to the validity or non-validity of any claim or defense in any proceeding relating to this matter. Nothing in this Agreement is to be construed to abrogate the right of any Party to pursue contribution from another Party. Except as provided in this Agreement or in any attachments or stipulations incorporated into this Agreement, nothing in this Agreement is intended nor shall be construed as a waiver by any of the Parties of any defenses or affirmative claims in any proceedings relating to the Company(ies') operations at _____ or of any other rights or remedies.

Nothing in this Agreement is intended, nor shall be interpreted, to limit the scope of the natural resource injury assessment appropriate for this [site] or to otherwise restrict or abrogate the authority or discretion of the Trustees to determine the scope of that assessment. Should this Agreement be terminated, the Trustees retain the right to pursue a NRDAR under the applicable [CERCLA] **or** [OPA] regulations at [43 C.F.R. Part 11] **or** [15 C.F.R. Part 990].

Nothing in this Agreement is intended, nor shall it be construed as a waiver of any attorney-client privilege, work product privilege, work product privilege, or any other privilege that has been or may be asserted in this or any other matter unless explicitly stated herein. Raw or factual data collected pursuant to this Agreement shall not be considered work produce or attorney-client privileged. The Company(ies) is not released from any liability by signing this Agreement, including but not limited to claims for damage, injury, loss, or destruction of natural resources or their services, claims for the costs of assessing damage, injury, loss, or destruction of natural resources or their services, claims for restoration, rehabilitation, replacement, or acquisition of the equivalent of natural resources or lost services of those resources, or any other causes of action or requests for relief, either administratively or judicially, under either state of federal law, as well as any claims, causes of action, or requests for relief in admiralty, arising from the [releases] **or** [discharges] described above.

XXXIII. Temporary Stay on Trustee Enforcement

While this Agreement is in effect, the Trustees agree that they will not issue notice letters to or commence litigation against the Company(ies) with respect to natural resource damage claims of any Trustee for natural resource damages alleged to have occurred at [the site]. The purpose of this temporary stay period is to allow the Company(ies) and the Trustees an opportunity to work together to properly assess the extent of injury to natural resources, to evaluate restoration options available for the site, and to determine natural resource damages.

XXXIV. Tolling of Time Limitations

Any time limitations set forth in [Section 113(g) of CERCLA, as amended, 42 U.S.C. § 9613(g)] or [Section _____ of OPA, 33 U.S.C._____],

respecting claims for natural resource damages against the Company(ies), are tolled in their entirety until this Agreement is terminated. [Or see Model Tolling Agreement.]

XXXV. Signatures

Signature on the agreement lines provided below will constitute acceptance of the terms and conditions of this Agreement. This Agreement may be executed in one or more counterparts, all of which will be considered an original. The Effective Date of this Agreement will be the last date of execution of any counterpart.

§ 32B.11 Cooperative Injury Assessment Agreement

SAMPLE COOPERATIVE INJURY ASSESSMENT AGREEMENT

This Agreement is between [. . . . .] (referred to as "trustees") and [. . . . .] (referred to as "responsible party(ies)"). The trustees and responsible party(ies) are hereafter collectively referred to as the "Parties." This Agreement arises from the [. . . . .] ("Incident").

The purpose of this Agreement is to provide the framework for a cooperative injury assessment to facilitate resolution of any natural resource damage claims arising from the Incident and to minimize the transaction costs associated with such claims. For the purposes of the Agreement, "injury assessment" is defined to encompass those activities related to the determination and quantification of injuries resulting from the Incident. Although this Agreement is drafted in terms of the injury assessment, the Parties also intent to explore the potential for continuing cooperative work throughout the development and implementation of a final restoration plan to resolve the natural resource damage claims arising from this Incident.

Signature on the agreement line provided below shall constitute acceptance of the Responsible Party(ies) and the Trustees. {Written concurrence is necessary to permit all Parties to continue the cooperative injury assessments already begun.}[1] The terms and conditions of this Agreement are as follows:

I. ***Cooperative Studies.*** The Parties will attempt to reach consensus on the necessity of, selection of, design of, and protocols for performing studies relating to the injury assessment for the Incident.

A. Process. The Parties may propose studies. Any proposed study that all Parties agree is reasonable and appropriate shall be deemed a "Cooperative Study." The study plan for each Cooperative Study is or will be attached to this Agreement and will be subject to all of

[1] This provision may be used when the Parties have begun cooperative work before the execution of this Agreement.

its terms and conditions.

B. Funding. The Responsible Party(ies) shall fund all Cooperative Studies through to completion, unless the Parties agree to the contrary or the study design calls for discontinuation upon the occurrence of a specified event. The parties shall agree on specific procedures for disbursement of funds.

C. Retention of Persons Performing Cooperative Studies.

1. *Jointly Designated Experts.* In order to promote a cooperative injury assessment, the Parties may jointly agree on the retention of "Jointly Designated Experts" to perform all or part of a Cooperative Study. Prior to the completion of the Injury Assessment, any person designated as a Jointly Designated Expert shall not be retained separately by, and shall not otherwise perform services on behalf of, any Party, with respect to the Incident. The Parties may consult with such persons at scheduled meetings in which all the Parties shall have an opportunity to participate. Neither the Parties nor any persons retained by them shall engage in any *ex parte* communications (other than routine, non-substantive communications) regarding the Incident with Jointly Designated Experts, unless all Parties not party to the communication consent. Any and all contracts for Jointly Designated Experts shall prohibit any such *ex parte* communications. The Parties shall adopt such other reasonable strictures and controls as are appropriate to protect the objectivity and fairness of Jointly Designated Experts.

2. *Separately Retained Experts.* The Parties may separately retain experts relating to the incident. The Parties may elect to conduct one or more Cooperative Studies with the use of Separately Designated Experts. The Trustees may propose the use of their own Separately Retained Experts as part of a proposed Cooperative Study and may propose that the cost of such experts be funded by the Responsible Party(ies) as part of such proposal.

D. Data Collection. All parties may be present during data collection for Cooperative Studies. The parties agree to give advance notice by telecopy to the Study Contact (defined below) of data collection activities for Cooperative Studies. All data collected for Cooperative Studies shall be fully and freely shared among the Parties as soon after it is collected as is reasonably practical, and in any event

no later than it is transmitted to any single Party.

E. **Interpretation.** The Parties will attempt to reach consensus on the interpretation of, and conclusions to be drawn from, data collected during Cooperative Studies. Each Party expressly reserves the right to produce and present separate and independent interpretations and conclusions.

F. **Modification of Cooperative Studies.** The Parties may agree to modifications of study plans for Cooperative Studies. The Study Contact designated by the Trustees pursuant to Paragraph VIII.B. below may agree to modifications on behalf of all of the Trustees.

G. **Withdrawal from Cooperative Studies.** The Responsible Party(ies) shall not withdraw from its obligation to fund a Cooperative Study so long as the study is conducted consistently with the agreed study plan and any agreed modifications thereto.

H. **Use.** Unless advance written consent is provided by all Parties, Cooperative Studies shall be used only as part of this overall cooperative injury assessment, and in an effort to achieve a negotiated settlement of the natural resource damage claims arising from the Incident. The Parties agree that any result in a Cooperative Study that is not challenged by such Party in writing within 30 days of receipt of the final report shall be binding upon such Party in any judicial or administrative proceeding between or among the Parties relating to the natural resource damage claims arising from the Incident. The Parties also agree that the final results of any Cooperative Study, including interpretation, shall be admissible in any judicial or administrative proceeding between or among the Parties relating to the natural resource damages arising from the Incident, regardless of whether any Party has challenged such results. The Parties further agree not to challenge the reasonableness or appropriateness of the study designs or protocols of any Cooperative Study in any such proceeding. The Parties reserve the right to challenge the admissibility of Cooperative Studies an any judicial or administrative proceeding other than one for natural resource damages arising from the Incident.

I. **Subsequent Use of Experts.** Any Party may call a Jointly Designated Expert as a witness in any judicial or administrative proceeding relating to natural resource damages arising from the Incident, to testify regarding the conduct of, and conclusions reached, in performing such study. In addition, any Party may seek to retain, as a testifying or consulting expert, any Jointly Designated

Expert, and no Party shall object to the retention or testimony of such person on the basis of such person's prior participation as a Jointly Designated Expert.

II. ***Independent Studies.*** The Parties expressly reserve the right to perform independent injury assessment studies ("Independent Study(ies)").

A. Notice. At least . . . . . days prior to the commencement of any Independent Study conducted by or on behalf of a Party, such Party shall provided detail work plans and protocols for such Independent Study to the other Parties. The Parties shall also provide prompt notice of any changes made to the scope of work of any Independent Study in progress.

B. Data Collection. All Parties may be present during data collection for Independent Studies. The Parties agree to as reasonable advance notice as circumstances allow of data collection activities for Independent Studies. All data collected for Independent Studies shall be fully and freely shared among the Parties as soon after it is collected as is reasonably practical, and in any event no later than it is transmitted by the analyst to the Party sponsoring the Independent Study.

C. Final Reports. Any Party conducting an Independent Study shall provide copies of any final report relating to such study within 7 days of its completion.

D. Use. The Parties agree and stipulate that failure to comply with the requirements of Sections II.A. and II.B. with respect to any Independent Study shall result in a bar to the admissibility and use of any such Independent Study in any judicial or administrative proceeding between or among the Parties for natural resource damages relating to the Incident.

III. ***Refused Studies.*** The requirements, prohibitions, and limitations and agreements of Sections II.B. through II.D. shall not apply to any study proposed by the Trustees for funding as a Cooperative Study that the Responsible Party(ies) refuses to fund, and that the Trustees undertake at their own expense ("Refused Study").

IV. ***Non-Party Studies.*** A "Non-Party Study" is any study that was not conducted directly or indirectly by, on behalf of, or with the input of any of the Parties. Agencies of Federal, State, or tribal Government other than the Trustees are not Parties to this agreement for purposes of this definition. The Parties reserve the right to use Non-Party Studies in any judicial or administrative proceeding, and to object to such use.

*V. **Disclosure of Experts/Conflicts of Interest.*** The Parties agree that they will identify any outside experts that they intend to retain with respect to natural resource injury assessment (for purposes of giving testimony, conducting studies, or otherwise), including Separately Retained Experts as described in Paragraph I.C.2. above, at least 7 days prior to formalizing such retention or, in the case of experts already retained, within 3 days of signing this Agreement. The Parties agree that they will require the disclosure of potentially conflicting relationships by the experts as part of their employment, which disclosed information shall be shared among all Parties, and further agree to require in all contracts for expert services reasonable and appropriate strictures and controls to prevent the transfer of confidential information.

*VI. **Dispute Resolution.*** The Parties may jointly designate a mediator or special master, with expertise in natural resource damage actions, for assistance in resolving disputes over issues upon which the Parties cannot agree. Such involvement by the designee shall not result in any final or binding decision on any such issue, but rather shall be in the form of mediation assistance to help the Parties reach mutual agreement on such disputed issues. The costs for any such mediator or special master shall be shared equally between the Trustees and the Responsible Party(ies).

*VII. **Public Participation.*** In compliance with applicable law, the Trustees will provide public notice and solicit public review and comment during certain phases of the injury assessment process, including the assessment planning and/or restoration planning phases, and prior to finalizing any proposed settlement. In the event that the Trustees and the Responsible Party(ies) have entered agreements that propose activities subject to public notice, review, and comment, the Parties agree that none of the activities shall be initiated until the appropriate notice, review, and comment requirements are fulfilled unless a time-sensitive or emergency situation exists. In such cases, certain studies may go forward pending the public notice, review, and comment process.

VIII. Notice.

A. General. Except as provided in Paragraph VIII.B. below, Notice under this Agreement shall be given to the following persons on behalf of the Parties:

1. As to the Responsible Party(ies):

. . . . . .

2. As to the individual Trustees:

. . . . . .

. . . . . , etc.

B. Study Contacts. The Trustees shall jointly designate a single Study Contact for each Cooperative Study who shall be authorized to act on behalf of all of the Trustees with respect to that particular Cooperative Study.

IX. ***Modification.*** This Agreement may be modified or supplemented through appendices upon agreement in writing by all Parties.

This Agreement may be executed in one or more counterparts, all of which shall be considered an original. The Effective Date of this Agreement shall be the last date of execution of any counterpart hereto.

The Parties to date have acted in good faith, to the Parties' collective benefits, and look forward to continuing to work among themselves under the framework set forth above.

FOR THE RESPONSIBLE PARTY(IES)

. . . . . .

Date

FOR THE TRUSTEE(S)

. . . . . .

Date

PART D: REFERENCE GUIDE — NRD IN THE STATES

§ 32B.12 A State-by-State Guide to NRD Programs in All 50 States

As discussed above, states may pursue NRD claims pursuant to the key federal statutes or, in some cases, pursuant to independent state authority. Over the years, many states have played a critical role in the prosecution of NRD claims. Furthermore, as can be seen below, it is fair to say that state programs are evolving rapidly. Several state programs are fairly robust and many other states are currently considering increased NRD activity.

This section provides an overview of the respective state programs, a discussion of major matters where that information is available, and important contact information as well as reference material.

The information below was generally derived from self-reporting by the state trustees. Arnold & Porter contacted every state trustee and solicited information regarding the trustee's NRD program. Specifically, we requested information regarding the following: (i) the nature and history of the trustee's efforts, (ii) the number of employees involved and their roles, (iii) the state's NRD budget, (iv) the damage assessment methodologies used, (v) authority to employ private counsel, (vi) the types of injuries frequently seen, (vii) the amounts recovered in past actions, (viii) the major pending matters, (ix) whether the state was currently pursuing or considering pursuing groundwater claims, and (x) the applicable state statutes, if any.

In general, state trustees responded in writing, although in some cases information was gathered by telephone. To the extent the trustee responded in writing, these responses are on file with the author. We received informative responses from trustees in all but five states. In cases where states did not respond, we obtained information from the internet. In addition, the discussion below of major matters often includes supplemental information obtained from the trustee's web pages or other internet sources. Where available, the trustee's web address is provided below.

[1] Alabama

[a] Overview

The Natural Resource Trustees in Alabama are the Commissioner of Conservation and Natural Resources and the State Geologist, with the Commissioner of Conservation and Natural Resources serving as the lead trustee. The Trustees do not have a dedicated NRD staff, but use staff members from within their departments as necessary. The State does not use private attorneys to bring NRD claims. Alabama's Trustees prefer to use habitat based assessment methods,

although other methods are employed as necessary. The state is considering implementing a groundwater program.

[b] Contact Information

Alabama Dept. of Conservation and Natural Resources: Will Brantley, Natural Resource Manager, 64 North Union Street, Montgomery, Alabama 36130. Tel: (334) 242-3484. Web: http://www.outdooralabama.com/public-lands/stateLands/LandsPrograms/NRDA.CFM.

Geological Survey of Alabama: Bob Mink, Deputy Director, 420 Hackberry Lane, P.O. Box 869999, Tuscaloosa, AL 35486. Tel: (205) 349-2852. Web: http://www.gsa.state.al.us/.

[2] Alaska

[a] Overview

Alaska has four Natural Resource Trustees: the Department of Environmental Conservation, the Department of Natural Resources, the Department of Fish and Game, and the Department of Law. NRD activities are focused primarily in Alaska's Prevention and Emergency Response Program, which deals with oil spills. The Prevention and Emergency Response Program was established in 1995 and employs 35 full-time employees. From 1995 up to the time of this writing in Spring 2006, three cases have been settled under federal statutes with state participation. One case is pending. In general, Alaska participates in NRD recovery efforts initiated by federal trustees. Alaska does not use private attorneys to pursue NRD claims. Alaska's state NRD statutes can be found at Alaska Statutes §§ 46.03.780, 46.03.820.

[b] Major Matters

Alaska has mostly pursued relatively small matters. The major exception is the Exxon Valdez oil spill, which resulted in total payments to state and federal authorities of over $1 billion. Further information on the Exxon Valdez oil spill can be found at http://www.evostc.state.ak.us/ index.htm.

[c] Contact Information

Alaska Department of Environmental Conservation: Leslie Pearson, Prevention & Emergency Response Program Manager, Tel: (907) 269-7543. E-mail: leslie_pearson@dec.state.ak.us. Web: http://www.dec.state.ak.us/.

Alaska Department of Law: Environmental Section 1031 W. 4th Ave., Suite 200, Anchorage, AK 99501. Tel: (907) 269-5274. Web: http://www.law.state.ak.us/.

[3] Arizona

[a] Overview

Arizona's Natural Resources Trustee is the Director of the Arizona Department of Environmental Quality. The state had no budgeted NRD funding, but allocates resources on an as-needed basis. As of this writing, Arizona has not litigated or settled any NRD claims, but is pursuing one claim involving a copper mine. Arizona does not have authority to use private attorneys to pursue NRD claims. Arizona does not have a state NRD statute.

[b] Contact Information

Arizona Department of Environmental Quality, 1110 W. Washington St., Phoenix, AZ 85007. Tel: (602) 771-2300 or (800) 234-5677.
Web: http://www.azdeq.gov/index.html.

[4] Arkansas

Arkansas has state statutory authority for NRD claims codified at Ark. Code Ann. § 8-4-103(b); Ark. Code Ann. § 8-5-702(e); § 8-6-204(b), (c); § 8-7-204(b), (c); § 8-7-806(d), (e). Arkansas statutes provide for a Natural Resources Damages Advisory Board, which is tasked with developing projects for the restoration, rehabilitation, replacement, and acquisition of natural resources; requesting proposals for natural resource-related projects; reviewing and evaluating proposals for natural resource-related projects; and selecting projects for the restoration, rehabilitation, replacement, and acquisition of natural resources. The statute governing the Board's powers and duties is Ark. Code Ann. § 8-12-104.

[5] California

[a] Overview

California's Natural Resource Trustees for purposes of CERCLA and OPA are the Director of the Department of Fish and Game, the California Water Resources Control Board, the State Lands Commission, and the Department of Toxic Substances Control. Additional trustees are authorized to act under state law, including the Department of Parks and Recreation and the University of California. A dedicated NRD office exists within the Department of Fish and Game, the Office of Spill Prevention and Response (OSPR). OSPR was created in 1991 and employs two toxicologists, two economists, and two restoration biologists. These staff members are assisted by attorneys and scientists from other state offices. OSPR typically carries a case load of five major cases and 10 minor cases. To date, the state has litigated or settled 16 large and 50 smaller NRD cases. Total damages recovered are nearly $115 million exclusive of fines, penalties, and

assessment costs; this sum represents the total NRD recovered by all trustees, including federal trustees.

California usually assesses NRD using habitat or resource equivalency analysis for resources and benefits transfer information for recreational losses. California has on occasion retained private counsel to bring NRD claims. The Department of Toxic Substances Control is currently evaluating the New Jersey groundwater initiative.

California has numerous state-law authorities for pursuing NRD claims, including Government Code Section § 8670.56.5(h), Fish and Game Code §§ 2014, 12011 and 12016, and Harbors and Navigation § 151.

[b] Major Matters

Montrose Chemical Corp. — According to the state, from the 1940s to the 1970s, the Montrose Chemical Plant discharged an estimated 1,800 tons of the pesticide DDT into Los Angeles County sewers, which eventually made its way to the Pacific Ocean. Montrose also allegedly dumped hundreds of tons of DDT-contaminated waste directly into the ocean near Santa Catalina Island. Other responsible parties disposed of large quantities of PCBs into the ocean via the local sewer system. These discharges resulted in harm to fish, breeding problems in raptors, including bald eagles, and other negative effects on the marine ecosystem. The state and federal trustees litigated their NRD claims in federal district court, leading to several important published opinions. Ultimately, the NRD case against the industrial PRPs settled for $30 million. A draft restoration plan for the site was released in April 2005, and was in the process of being finalized as of Spring 2006.

Cantara Loop/Dunsmuir Chemical Spill — A train accident in 1991 caused a chemical tank car to spill 19,000 gallons of the herbicide metam sodium into the Sacramento River. Effects of the spill extended for over 20 miles to Lake Shasta. The primary resources affected were instream and riparian habitats and fish; recreational use was also affected. The state and federal trustees settled the NRD portion of the case with the responsible party, Southern Pacific Railroad, for $14 million. Restoration activities are now in progress.

American Trader Oil Spill — In 1990, the tanker American Trader ran over its anchor, causing it to spill an estimated 416,598 gallons of crude oil near Huntington Beach in Orange County. In addition to affecting fish and recreational use of Huntington Beach, the spill killed an estimated 3,400 birds. The recreational injury component of the case was tried, and a jury awarded the trustees $13.2 million. The biological injury component (*i.e.*, effects on fish and birds), settled for $2.8 million plus $300,000 in water pollution monitoring projects.

[c] Contact Information

California Department of Fish and Game: Dr. Julie Yamamoto, Resource Assessment Program, Scientific Division, Office of Spill Prevention and Response, 1700 K Street, Sacramento, CA 95814. Tel: (916) 327-3196; Katherine Verrue-Slater, Staff Counsel, Office of Spill Prevention and Response, 1700 K Street, Sacramento, CA 95814. Tel: (916) 324-9813.
Web: http://www.dfg.ca.gov/Ospr/.

California State Lands Commission: Executive Officer, 100 Howe Ave., Suite 100-South, Sacramento, CA 95825-8202. Tel: (916) 574-1900. Fax: (916) 574-1810. Web: http://www.slc.ca.gov/.

California Department of Toxic Substances Control: Steve Koyaskao, Assistant Chief Counsel, Headquarters, 1001 I Street, P.O. Box 806, Sacramento, 95812-0806. Tel: (916) 322-6996. E-mail: skoyasak@dtsc.ca.gov. Web: http://www.dtsc.ca.gov/.

[6] Colorado

[a] Overview

The state trustees in Colorado are the Attorney General, the Executive Director of the Department of Public Health and Environment (DPHE) and the Executive Director of the Department of Natural Resources (DNR). There is no dedicated NRD program office in Colorado. Rather, activities are conducted by various employees of the DPHE and DNR, as well as the AG's office, as needed. NRD activity commenced in Colorado in 1983, and the state has handled about 10 matters since then, including two large matters that were pending as of Spring 2006 (discussed below). The total NRD recovery to date is approximately $10 million. While the state has authority to retain private lawyers, it has not done so for NRD claims. Colorado is not currently planning a NRD groundwater initiative.

[b] Major matters

California Gulch Site — The California Gulch Superfund Site is comprised of 12 operable units located in the town of Leadville, the adjacent mining district in Lake County, and the watershed of California Gulch which flows to the Arkansas River, and has been undergoing a very large, cooperative remediation effort since 1990. According to the DPHE, the NRD resources that may require restoration include surface water and habitat loss. While there is an agreement among the PRPs and state related to the development of future restoration projects, the bankruptcy filing in 2005 of ASARCO creates some uncertainty moving forward. For more information, see the site website at
http://www.cdphe.state.co.us/hm/rpcalgulch.asp.

Rocky Mountain Arsenal — Another large NRD matter in Colorado is the 17,000 acre Rocky Mountain Arsenal site near Denver. This site is a former weapons and chemicals manufacturing site that is being redeveloped into a National Wildlife Refuge pursuant to a 1992 act of Congress. The massive investigation and cleanup have been proceeding for over two decades. Most of the cleanup is being conducted pursuant to an agreement among several federal agencies and Shell Oil Company, but not the State. The State has reserved its rights to pursue NRD claims. According to the DPHE, the State trustees have been negotiating with the responsible parties on a set of restoration projects that will expand parks and open space connected to the site. The NRD claim mostly involves the loss of groundwater resources. For more information, see the site website at http://www.cdphe.state.co.us/hm/rma.asp#Site%20Remediation.

[c] Contact Information

Department of Public Health & Environment: Angus Campbell, 4300 Cherry Creek Drive South, Denver, CO 80246-1530. Tel: (303) 692-3385. Web: http://www.cdphe.state.co.us/cdphehom.asp.

Department of Law: Vicky Peters, 1525 Sherman St., 5th Floor, Denver, CO 80203. Tel: (303) 866-5068. Web: http://www.ago.state.co.us/index.cfm.

[7] Connecticut

[a] Overview

Connecticut has no formal NRD program. The Commissioner of the Department of Environmental Protection oversees the state's involvement with NRD issues, but has not officially been designated as Natural Resources Trustee by the Governor. As Connecticut's program is informal, there is no dedicated staff or budget for NRD issues. Nonetheless, Connecticut has pursued at least two NRD cases to settlement, including a major matter involving General Electric. Connecticut defers to federal trustees in assessing NRD. Connecticut does not use private attorneys to pursue NRD claims.

[b] Major Matters

Housatonic and Connecticut Rivers — Connecticut's biggest NRD case to date involves General Electric's plant in Pittsfield, Massachusetts. The plant, which began operating in 1903, allegedly released PCBs into the Housatonic River, from which they made their way into the Connecticut River and ultimately Long Island Sound. The PCBs were trapped behind dams, causing high concentrations to accumulate in river sediments. The PCB contamination resulted in fish consumption advisories being imposed in 1977. The total settlement between the states and General Electric was valued at $25 million, including $6 million in restoration projects. Connecticut and Massachusetts split the $19 million cash component.

[c] Contact Information

Connecticut Department of Environmental Protection: Ed Parker, Bureau Chief of Natural Resources, 79 Elm Street, Hartford, CT 06106. Tel: (860) 424-3010. Web: http://dep.state.ct.us/.

[8] Delaware

[a] Overview

The trustee for Delaware is the Secretary of the Department of Natural Resources and Environmental Control (DNREC). Much of the NRD work is conducted by officials within the Site Investigation & Restoration Branch (SIRB) in the Division of Air and Waste Management, including two biologists, one environmental scientist and one project manager. There is, however, no official NRD program office; rather NRD activities are delegated to particular offices as appropriate. There was no budget allocation in 2006 for NRD. The state typically, although not exclusively, relies upon a habitat equivalence analysis to value natural resources. Delaware does not currently retain private lawyers to prosecute NRD Claims. The state authority for NRD is Title 7 (Conservation) Part 9 (Hazardous Substance Cleanups) Chapter 91 (Hazardous Substance Cleanup Act) of the Delaware Code.

[b] Major Matters

The state is at various stages in at least seven NRD matters involving wetlands, fish kills, groundwater, surface water, benthic organisms, fish, oysters, and crabs. These claims include a number of Superfund sites: Wildcat Landfill Superfund Site; Halby Chemical (habitat enhancement ongoing; settlement not complete); Motiva Enterprises Sulphuric Acid Spill (restoration includes easements for approximately 250 acres and wetlands enhancement); E. I. DuPont de Nemours Superfund Site in Newport (extensive cooperative restoration projects along river and wetlands; settlement nearly complete); and the Koppers Landfill Site Record of Decision (ROD) recently issued; NRD commencing soon. In addition, the state is pursuing NRD claims at the Athos Oil Spill site and the Indian River Power Plant.

[c] Contact Information

An excellent internet site for locating information related to environmental enforcement is the Delaware Environmental Navigator: http://www.dnrec.state.de.us/DNRECeis.

Delaware Department of Natural Resources and Environmental Control: Jane Biggs Sanger, Project Manager, Division of Air and Waste Management, Site Investigation and Restoration Branch, 391 Lukens Drive, New Castle, DE 19720.

Tel: (302) 395-2600. Web: http://www.dnrec.delaware.gov/default.htm.

[9] Florida

[a] Overview

The Department of Environmental Protection is the NRD Trustee in Florida. NRD claims related to coastal oil spills are overseen by the Bureau of Emergency Response. Claims related to hazardous waste sites are handled by the Division of Waste Management. Florida first began pursuing NRD claims for oil spills in 1992.

The Bureau of Environmental Response has 28 full-time employees, but none of them work exclusively on NRD, nor is any portion of the Bureau's budget earmarked for NRD cases. For oil spills, administrative orders are issued assessing damages based on a formula codified at Chapter 376 of the Florida Statutes Annotated. The Bureau has settled more than 2,500 NRD claims related to oil spills since it began work in 1992, collecting more than $1.6 million.

Within the Division of Waste Management, NRD activity is primarily handled by the Hazardous Waste Cleanup Section, which has 10 employees, none of which work exclusively on NRD issues. Staff members from other sections may also work on NRD issues as appropriate. As of Spring 2006, Florida had no active CERCLA NRD proceedings; however, the Division of Waste Management estimates that approximately 22% of Florida's 64 Superfund sites potentially have NRD issues. NRD settlements have already been negotiated at about one third of those sites. The Division of Waste Management uses a variety of assessment methodologies as appropriate.

Florida does not use private attorneys and is not currently considering a groundwater initiative. Its state NRD statutes are codified at Fla. Stat. Ann. §§ 376.121, 403.727.

[b] Major Matters

Tampa Bay Oil Spill — In August 1993, two tankers collided in Tampa Bay, resulting in the release of 330,000 gallons of fuel oil. As a result of the collision, one of the tankers caught fire and spilled an additional 32,000 gallons of various petroleum products. According to the state, the oil eventually made its way to shore, soiling approximately 12.5 miles of beaches. Several shellfish beds also had to be closed to fishing because of hydrocarbon levels in the shellfish. State and federal trustees settled NRD claims with respect to the spill in 1999 for $3.1 million. Restoration projects were ongoing as of Spring 2006.

Sapp Battery — This site was a battery salvage facility near Alford. Allegedly improper disposal practices lead to metals contamination in soil, surface water,

and groundwater, which migrated to nearby wetlands. NRD claims with respect to the site resulted in a $1.2 million settlement.

[c] Contact Information

For coastal oil spills: Phil Wieczynski, Chief, Bureau of Emergency Response, Division of Law Enforcement, Department of Environmental Protection, 3900 Commonwealth Blvd., MS 659, Tallahassee, FL 32399. Tel: (850) 245-2875. E-mail: Phil.Wieczynski@dep.state.fl.us. Web: http://www.dep.state.fl.us/law/ber.

For Superfund-related NRD: Kelsey Helton, Bureau of Waste Cleanup, Division of Waste Management, Mail Station 4520, Department of Environmental Protection, 2600 Blairstone Road, Tallahassee, FL 32399-2400. Tel: (850) 245-8927. E-mail: Kelsey.Helton@dep.state.fl.us. Web: http://www.dep.state.fl.us/waste.

[10] Georgia

[a] Overview

Georgia's Natural Resources Trustee is the Commissioner of the Department of Natural Resources. Georgia has no formal NRD program, but pursues NRD claims as they arise using appropriate staff. As of Spring 2006, Georgia had only settled one case, but was actively evaluating other possible NRD claims. Georgia does not use private attorneys to pursue NRD claims, but has been approached by private attorneys in the past. Georgia has no specific state NRD statute, and mostly relies on federal law to pursue NRD claims.

[b] Major Matters

R.J. Schlumberger — The Sangamo–Weston plant site, a capacitor manufacturing plant in Pickens, South Carolina operated from 1955 to 1987. According to the State, during this time significant PCB contamination was released from the plant into Twelvemile Creek, Lake Hartwell, and surrounding areas. Schlumberger Technology Corp. is the corporate successor to Sangamo-Weston. In January 2006, Schlumberger settled NRD claims brought by Georgia and South Carolina, as well as the federal government, for $11.8 million. Schlumberger agreed to spend an additional $8-10 million to remove two hydroelectric dams from Twelvemile Creek and to conduct restoration projects.

[c] Contact Information

Georgia Department of Natural Resources: Bill Mundy, Manager, Corrective Action Program, Hazardous Waste Management Branch, Environmental Protection Division, 2 Martin Luther King Jr. Drive, Suite 1154, Atlanta, GA 30334. Tel: (404) 657-8612. Web: http://www.gaepd.org/Documents/index_haz.html.

[11] Hawaii

[a] Overview

The State does not have a dedicated office for NRD claims. Rather, each division of the Department of Land and Natural Resources (DLNR) handles its own cases, subject to approval by the Board of Land and Natural Resources (BLNR). *See* Haw. Rev. Stat. Ch. 171. Examples of two recent NRD cases handled by the Hawaii DLNR are the following: (1) the unauthorized harvesting of koa; and (2) damage to conservation lands and a coral reef. The State refers to the following authority for NRD: Article XI of the Hawaii State Constitution; Title 12 of the Hawaii Revised Statutes; Title 13 of the Hawaii Administrative Rules. The State does not have authority to retain private lawyers to bring cases on the State's behalf.

[b] Contact Information

Hawaii Department of Land and Natural Resources: Hawaii DLNR, Kalanimoku Building, 1151 Punchbowl St., Honolulu, HI 96813. Tel: (808) 587-0320 Web: http://www.state.hi.us/dlnr.

[12] Idaho

[a] Overview

The Governor is Idaho's Natural Resources Trustee, although he or she may delegate trustee authority to other state officers on a case-by-case basis. Idaho has no dedicated NRD office and has no staff that focus on the issue. Idaho began pursuing NRD claims with respect to mining sites in 1983. Since then, Idaho has settled a total of four NRD cases, with restoration work in one case, Blackbird Mine, ongoing. Idaho has not used private attorneys to pursue NRD claims in the past, but may consider doing so in the future. There is no state statute authorizing NRD recovery.

[b] Major Matters

Bunker Hill Mining Superfund Site — This site in the Coeur d'Alene Basin was historically one of the largest mining sites in the world. In all, according to the State, more than 100 million tons of mining waste were deposited in the area's river system. More than 15,000 acres of wildlife habitat contain sediments/soils which are acutely toxic to waterfowl, and lead poisoning is responsible for a significant number of waterfowl deaths each year. Twenty-one of the 24 species of birds evaluated are at risk from the elevated metals. The State reports that due to the contamination, about 20 miles of streams are unable to sustain a reproducing fish population and about 10 miles of tributaries have virtually no aquatic life at all. In 1987, the State settled its NRD claims for $4.5 million. The

NRD case remains ongoing for other trustees, however, including the Coeur D'Alene tribe.

Blackbird Mine Superfund Site — Another large mining site in the Panther Creek watershed, this site involved injuries to surface water and wildlife, particularly the threatened Chinook salmon. The case settled in 1995, with the state and federal trustees imposing a series of restoration projects on the responsible parties. Of note, the NRD assessment for this site had to account for the impact of dams on the return of salmon to the affected streams.

[c] Contact Information

Curt Fransen, Deputy Attorney General, 2005 Ironwood Parkway, Suite 120, Coeur D'Alene, ID 83814. Tel: (208) 769-1589.

[13] Illinois

[a] Overview

The Illinois co-trustees for NRD claims are the Illinois Department of Natural Resources and the Illinois Environmental Protection Agency, which began overseeing NRD claims in 1998. The Illinois Department of Natural Resources employs four staff members to work on NRD claims, with additional technical support from other State offices. Generally, Illinois trustees follow DOI or NOAA procedures when assessing NRD. Illinois also frequently uses habitat equivalency analysis. Illinois pursues NRD under federal authorities; there is no state statute authorizing NRD recovery.

Illinois has settled six NRD cases for a total recovery of $430,187, and was pursuing approximately 20 additional matters as of Spring 2006. The bulk of the funds recovered by Illinois have been applied to restoration projects. Five of the six settled matters involved chemical or oil spills that occurred after 1995. Pending matters included a mixture of cases involving recent spills and NRD assessments being conducted in conjunction with the remediation of Superfund Sites. The State is represented by the Office of the Attorney General and does not use private counsel.

[b] Major Matters

Marathon Oil Company — Marathon operates common carrier pipelines for transporting crude and refined petroleum products. From 1977 to 1999, according to the state, numerous spills and leaks from the pipeline have occurred impacting 29 counties in southern Illinois. Allegedly affected resources included soil, surface water, groundwater and wildlife. The parties settled in 2001 and the responsible parties are in the process of undertaking a restoration project.

Millhurst Fen — In 1998, Lakehead Pipeline Company released bentonite into

Millhurst Fen, a wetland area that is a habitat for a number of endangered plant and animal species. As part of the settlement, Lakehead agreed to a package of compensation and restoration projects, including brush cutting and herbicide application to prevent exotic species encroachment.

West Shore Pipeline — West Shore released 15,000 gallons of fuel oil in 1999, resulting in damage to soil, surface water, groundwater, wildlife, and aquatic life. As reported by the state, the spill affected nearly half of a nearby wetland. The case was settled in 2002 and restoration work is in the planning stages.

[c] Contact Information

Illinois Department of Natural Resources: Office of Realty & Environmental Planning, Division of Resource Review & Coordination, Contaminant Assessment Section, One Natural Resources Way, Springfield, IL 62702-1271. Tel: 217-785-5500, Fax: 217-524-4177. Web: http://www.dnr.state.il.us/.

Illinois Environmental Protection Agency: Michelle Ryan, 1021 North Grand Avenue East, P.O. Box 19276, Springfield, IL 62794-9276. Tel: (217) 782-5544. E-mail: michelleryan@epa.state.il.us. Web: http://www.epa.state.il.us/.

[14] Indiana

[a] Overview

Trustee responsibilities in Indiana are shared between the Department of Natural Resources and the Department of Environmental Management. There is a Memorandum of Understanding between the Indiana trustees and the U.S. Fish and Wildlife Service, under which the three agencies have agreed to work jointly on all NRD claims. Between the two state agencies, three staff members work full time on NRD issues, with support from additional staff members as needed. Indiana state statutes concerning NRD include Indiana Code 14-22-10-6 (Liability for Destruction of Wild Animals by Pollutant); Indiana Code 13-25-4 (Hazardous Materials); and Indiana Code 13-24-1 (Petroleum Releases).

[b] Major Matters

White River — In December of 1999 and January 2000, Guide Corp. allegedly used excessive chemicals to treat waste water, which it subsequently discharged to the City of Anderson's publicly owned treatment works. The resulting toxic discharge, according to the State, killed approximately 5 million fish in the White River. Guide settled with State and federal authorities for a total of nearly $14 million, $6 million of which was for NRD. Restoration projects include fish restocking, ecological studies, education, and property acquisition.

Grand Calumet — Over a period of decades, several factories, refineries, and other facilities released pollutants to the Grand Calumet River, resulting in

degradation of the river sediments and water quality; wildlife has also been affected. The eastern five miles of the Grand Calumet River were particularly affected by releases from U.S. Steel's Gary Works, according to the State. Contaminants of concern include PCBs, oil, benzene, cyanide, and heavy metals. U.S. Steel settled with state and federal authorities in 1998. In addition to a $30 million dredging project, U.S. Steel will support restoration of in-stream habitat for fish and aquatic invertebrates in the river, enhance riparian habitat along the waterway, and provide monitoring. The company also agreed to acquire 216 acres of land to be added to state and national parks.

[c] Contact Information

Indiana Department of Natural Resources: Anne Mankowski, 402 W. Washington St., Room W-255L, Indianapolis, IN 46204. Tel: (317) 232-1291. Fax: (317) 233-9376. E-mail: amankowski@dnr.in.gov. Web: http://www.in.gov/dnr/.

Indiana Department of Environmental Management: James R. Smith, Natural Resource Damage Coordinator, 100 N. Senate Ave., N-1101, Indianapolis, IN 46204. Tel: (317) 232-3451. Fax: (317) 234-0428. E-mail: jsmith@idem.in.gov. Web: http://www.in.gov/idem/

[15] Iowa

[a] Overview

There is not a dedicated office in Iowa for NRD claims. This function is performed by the Fisheries and Wildlife Bureau in conjunction with the Legal Bureau, both of the Iowa Department of Natural Resources (IDNR). The State has been conducting NRD activity since 1996, and was pursuing four matters, all informally as of Spring 2006. There is no authority in Iowa to retain private counsel for NRD matters. The state statutory authority for NRD claims is Iowa Code 481A.151 (2005).

[b] Major Matters

Iowa's NRD program is exclusively focused on fish kill restitution. Since 1996, there have been 106 claims for restitution for fish kills. The total recovery since 1996 was approximately $647,911 as of Spring 2006. The program is handled through the Fisheries and Legal Bureau. The Fisheries Bureau is notified by a field office of a fish kill. A natural resources technician investigates and assesses the damage. The value of the fish is calculated and sent to the Legal Bureau, along with the administrative costs. The Legal Bureau requests restitution from the entity causing the fish kill. For more information on fish kills, see: www.iowadnr.com/water/tmdlwqa/wqa/fishkill.html.

[c] Contact Information

Iowa Department of Natural Resources: Joelyn L. Gast, Paralegal, Legal Bureau, Wallace Bldg. – 5th Floor 502 E. 9th Street, Des Moines, IA 50319. Tel: (515) 281-5918. Web: www.iowadnr.com.

[16] Kansas

[a] Overview

Kansas does not have a dedicated office for NRD claims, nor does it have specific statutory authority other than federal law for pursuing NRD claims. The State trustee is the Kansas Department of Health and Environment (KDHE). The KDHE has been pursuing NRD claims since approximately 2001 utilizing a habitat equivalency analysis to calculate damages. The State was handling approximately four matters as of Spring 2006, including one that is subject to a consent decree. The damaged resources include groundwater, surface water, soil and aquatic biota. No damages had been recovered as of Spring 2006. While the NRD program in Kansas is small, the Department's policy is that "KDHE will consider NRDA actions when the remedial or removal response does not return the natural resources to pre-release conditions in a timely manner." Natural Resource Damage Assessments, BER-ARS-044, April 1, 2002. There is no authority in Kansas to utilize private counsel on behalf of the state.

[b] Contact Information

Kansas Department of Health and Environment: Leo Hennings, Division of Environment, 1000 SW Jackson, Suite 410, Topeka, KS 66612-1367. Tel: 785-296-1914. Web: http://www.kdheks.gov.

[17] Kentucky

[a] Overview

Kentucky's Natural Resources Trustee is the Secretary of the Environmental and Public Protection Cabinet. Kentucky has not reported significant NRD activity, nor does Kentucky appear to have a state NRD statute.

[b] Contact Information

Kentucky Environment and Public Protection Cabinet, Office of Public Outreach, 500 Mero Street 5th Floor, CPT, Frankfort, KY 40601. Tel: (502) 564-3350. Fax: (502) 564-3354. E-mail: Cynthia.Schafer@ky.gov.
Web: http://www.environment.ky.gov/.

[18] Louisiana

[a] Overview

Louisiana has a dedicated NRD office, the Louisiana Oil Spill Coordinator's Office (LOSCO), which was created in 1991. LOSCO has 11 employees, and handles NRD claims related to Oil Spills. Since its inception, LOSCO has pursued over 20 NRD claims for spills and other oil discharges, generally resulting in a requirement that responsible parties perform restoration projects. LOSCO operates under the Louisiana Oil Spill Prevention and Response Act of 1991, La. Rev. St. 30:2451, *et seq.* LOSCO has promulgated regulations for NRD assessment codified at La. Admin Code 43: Part XXIX, Chapter 1.

Additionally, several other Louisiana agencies, including the Department of Environmental Quality, the Department of Natural Resources, and the Department of Wildlife and Fisheries are also NRD trustees. Louisiana does not use private attorneys to pursue NRD claims.

[b] Major Matters

Marathon Pipeline — This matter involved a spill of 475,000 gallons of gasoline into the Blind River, resulting in injuries to fish, wildlife, and air and water quality. As part of a settlement, Marathon purchased property to secure replacement resources and provided public education.

Texaco Pipeline — In 1997, a Texaco pipeline ruptured, spilling nearly 275,000 gallons of oil into Lake Barre. According to the State, the spill resulted in oil slicks covering large tracts of marsh and dead wildlife. NRD were assessed using the habitat equivalency analysis method developed for the North Cape oil spill (see entry under Rhode Island). Restoration efforts including planting 18.6 acres of marsh and the payment of assessment costs.

[c] Contact Information

Louisiana Oil Spill Coordinator's Office: Gina Muhs Saizan, Natural Resource Specialist, 150 Third Street, Suite 405, Baton Rouge, LA 70801. Tel: (225) 219-5800. Fax: (225) 219-5802. Web: www.losco.org.

Louisiana Department of Wildlife and Fisheries: Terry Romaire, P.O. Box 98000, Baton Rouge, LA 70898-9000. Tel: (225) 765-2394.
Web: http://www.wlf.state.la.us/apps/netgear/page1.asp.

[19] Maine

[a] Overview

Maine has multiple Natural Resources Trustees, including the Department of Environmental Protection, the Department of Inland Fisheries and Wildlife, the

Department of Marine Resources, and the Department of Conservation. The Department of Environmental Protection is the lead agency for NRD matters. Maine began its NRD work in the early 1990s with marine oil spills. Maine gets some funding for NRD work through the Maine Oil Spill Fund.

[b] Major Matters

Julie N Oil Spill — Maine's first major NRD case was the Julie N oil spill in 1996. The tanker Julie N struck a bridge and spilled nearly 180,000 gallons of heavy fuel oil into the Fore River. Some of the oil made its way to Stroudwater Marsh and Long Creek. Fortunately, 78% of the oil was recovered. Affected resources included surface water, sediments, marine vegetation, and birds. The restoration plan included 130 acres of habitat enhancement, as well as habitat acquisition. The settlement was valued at $1 million plus response costs.

[c] Contact Information

Maine Department of Environmental Protection: 17 State House Station, Augusta, Maine 04333-0017, Tel: (207)287-7688 or (800)452-1942. Web: http://www.maine.gov/dep/index.shtml.

Maine Department of Conservation: 22 State House Station, Augusta, ME 04333-0022. Tel:(207) 287-2211. Fax: (207) 287-2400. Web: http://www.maine.gov/doc/index.shtml.

Maine Department of Inland Fisheries and Wildlife: Richard L. Dressler, Supervisor, Wildlife Resource Assessment Section, 650 State Street, Bangor, ME 04401. Tel: (207) 941-4467; Fax.: (207) 941-4450; e-mail: richard.dressler@maine.gov.
Web: http://www.state.me.us/ifw/.

Maine Department of Marine Resources: 21 State House Station, Augusta, ME 04333-0021. Tel: (207) 624-6550. Fax: (207) 624-6024. Web: http://www.maine.gov/dmr/index.htm.

[20] Maryland

[a] Overview

The Department of Environment and the Department of Natural Resources are co-trustees for Maryland. Maryland has no dedicated office, employees, or budget for pursuing NRD claims. Maryland does not use private attorneys on NRD matters and does not have a state NRD statute.

[b] Major Matters

PEPCO Spill — The state has had just one NRD matter related to an oil spill by Potomac Electric Power Company in 2000. The spill occurred at PEPCO's Chalk

Point power plant and resulted in alleged damage to 76 acres of wetlands and 10 acres of shoreline. Maryland, along with federal trustees, pursued an NRD claim, which resulted in a $2.6 million dollar settlement for restoration of wetlands, oyster beds, waterfowl nesting areas, and terrapin habitats.

[c] Contact Information

Maryland Department of the Environment: Alan Williams, Program Manager, Emergency Response & Planning Program, 1800 Washington Blvd., Baltimore, MD 21230. Tel: (410) 537-3994. E-mail: awilliams@mde.state.md.us. Web: http://www.mde.state.md.us/.

Maryland Department of Natural Resources: 580 Taylor Avenue, Tawes State Office Building, Annapolis, MD 21401. Tel: (410) 260-8100. Web: http://www.dnr.state.md.us/ sw_index_flash.asp.

[21] Massachusetts

[a] Overview

The Secretary of the Executive Office of Environmental Affairs (EOEA) has been designated by the Governor as trustee for natural resources of the Commonwealth of Massachusetts. The Secretary has the authority under state (Massachusetts Oil and Hazardous Materials Release Prevention and Response Act (Mass. Gen. Laws ch. 21E) and federal environmental statutes to assert a claim for NRD. The NRD program in Massachusetts has a modest budget with two full-time employees, a Director and a Case Manager. However, the program does have access to other EOEA staff as needed. Further, the EOEA states that it is "committed to implementing a comprehensive NRD program which requires polluters to restore injured resources and to compensate the public for the inability to use and enjoy those resources." Massachusetts has not engaged private counsel for NRD enforcement. Massachusetts has begun to develop a simplified groundwater damages assessment model to expedite settlement of groundwater NRD cases.

[b] Major Matters

As of Spring 2006, Massachusetts had negotiated nine NRD settlements, recovered over $45 million, and restored over 580 acres. The state plans to have several additional settlements within the next year. One matter that the State is currently pursuing is the spill of an estimated 98,000 gallons of No. 6 oil in Buzzards Bay. Below are the nine settled matters and the recovery by the State:

Massachusetts Site	Settlement Year	Injured Resources	NRD Recovery
New Bedford Harbor	1992	Water column, sediments, shellfish, birds, anadromous fish, recreational fishing, beach usage	$20,200,000
Charles George Landfill	1993	Landfill pollution, gases, and leachate contamination, migratory birds, fish	$1,200,000
PSC Resources	1995	Groundwater and wetlands	$157,000
Nyanza/Sudbury River	1998	Surface water (riverine habitat), wetlands, fisheries other wildlife, recreational use	$3,100,000
Hallmark/Mystic River	1999	Surface water (riverine habitat), recreational use	$30,000
General Electric / Housatonic River	2000	Ground and surface water, nesting habitats, recreational fishing and boating, various aquatic organisms and birds	$19,700,000
Sulfuric Acid Spill / North River	2003	Various aquatic resources, aquatic fish, amphibians, invertebrates, and plant species	$30,000
Posavina Oil Spill / Chelsea Creek	2004	Coastal land and habitat, salt water vegetation, migratory birds, fish	$142,000
Coal Tar Deposits/CT River	2004	Various aquatic resources in the Connecticut River, endangered species	$500,000
Total			**$45 Million**

[c] Contact Information

Massachusetts Executive Office of Environmental Affairs: Tanya D. Baker, Natural Resource Damages Case Manager, 100 Cambridge Street, Suite 900, Boston, MA 02114-2524. Tel: (617) 626-1082. Web: http://www.mass.gov/envir/nrd/nrd_home.htm.

[22] Michigan

[a] Overview

In Michigan, the Department of Natural Resources in conjunction with the Attorney General's Office and the Department of Environmental Quality, acts as the Natural Resources Trustee. Michigan has no dedicated office for NRD and no NRD budget. Four staff members at the Department of Natural Resources work on NRD issues. As of Spring 2006, the State was pursuing at least four NRD claims. Michigan does not use private attorneys. The State is considering a groundwater initiative similar to New Jersey's.

Michigan's main NRD statute is Mich. Comp. Laws § 324.20126a. A number of other Michigan environmental statutes also include NRD provisions: Mich. Comp. Laws § 324.5530(3) (air pollution); Mich. Comp. Laws § 324.9121(6) (soil erosion and sediment control); Mich. Comp. Laws § 324.3115(2) (water resources); Mich. Comp. Laws § 324.11502(9) (solid waste management); Mich. Comp. Laws § 324.21302(d) (leaking underground storage tanks); Mich. Comp.

Laws § 324.11151(9) (hazardous waste); Mich. Comp. Laws § 324.31525(5), (7) (dam safety).

[b] Major Matters

Kalamazoo River — An NRD assessment is currently ongoing with respect to PCB contamination in the Kalamazoo River. The main resources of concern are surface water, groundwater, fish, and birds. Use values to be assessed include wildlife viewing, fishing, and dredging or dam removal restrictions.

Tittabawassee River — The Tittabawassee River is a major ongoing NRD assessment in Michigan involving dioxins. According to the state, Dow Chemical is the primary potentially responsible party.

[c] Contact Information

Michigan Department of Natural Resources: Sharon Hanshue, Supervisor, Habitat Unit for Fisheries Division, P.O. Box 30446, Lansing, MI 48909-7946. Tel: (517) 335-4058. Web: http://www.michigan.gov/dnr.

Michigan Department of Environmental Quality, Remediation and Redevelopment Division, P.O. Box 30426, Lansing, MI 48909-7926. Tel: (517) 373-9837. Web: http://www.michigan.gov/deq.

[23] Minnesota

[a] Overview

The Department of Natural Resources and the Pollution Control Agency are co-Natural Resource Trustees in Minnesota. There are two staff members who each spend approximately 50 percent of their time on NRD issues. As of Spring 2006, Minnesota had settled three NRD cases and was pursuing five more. All of these cases involve harm to surface water or groundwater. In addition to the state's NRD program, the Pollution Control Agency runs the Minnesota Closed Landfill Program. As part of that program, the Pollution Control Agency collects NRD related to closed landfills. For additional discussion of the Minnesota Closed Landfill Program, including the methodologies used to calculate NRD, see the discussion in Section 32B.08[4] of this chapter. Minnesota does not use private attorneys to pursue NRD claims. Minnesota's NRD statute is codified at Minn. Stat. Chapters 115 and 116.

[b] Contact Information

Minnesota Department of Natural Resources: 500 Lafayette Road, St. Paul, MN 55155-4040. Tel: (651) 296-6157 or (888) 646-6367.
Web: http://www.dnr.state.mn.us/index.html.

Minnesota Pollution Control Agency: Tel: (651) 296-6300 or (800) 657-3864. http://www.pca.state.mn.us/.

[24] Mississippi

[a] Overview

The Executive Director of the Department of Environmental Quality is the Mississippi Natural Resources Trustee. Mississippi has no dedicated NRD budget or staff but dedicates resources on an as-needed basis. Since its inception in 1992, Mississippi's NRD program has handled approximately 15 claims, all but one of which settled informally. The majority of Mississippi's NRD cases were in the 1990s; only two cases had been settled or resolved between 2000 and Spring 2006. In one major case, Mississippi used habitat equivalency analysis to assess damages. Mississippi is not currently pursuing any groundwater NRD cases. The State has the authority to retain private counsel to pursue NRD claims. Mississippi has a limited NRD statute that imposes liability on responsible parties to restock fish and replenish wildlife when loss of fish or wildlife has been caused by a violation of the state's environmental statutes. Miss. Code Ann. § 49-17-43.

[b] Major Matters

Genesis Pipeline Spill — In December 1999, a pipeline owned by Genesis Pipeline USA, L.P., ruptured spilling 336,000 gallons of crude oil into the Leaf River. The spill caused significant damages to surface water, sediments, shoreline habitats, and wildlife. In addition to paying $20 million in cleanup costs, Genesis settled NRD claims by the state and federal trustees for a total of $3 million. The NRD recovery is primarily being used for streambed and wetland restoration, as well as a wood duck nesting project and groundwater monitoring.

[c] Contact Information

Mississippi Department of Environmental Quality: Mary Jacq Easley, Senior Attorney, Legal Division, P.O. Box 20305, Jackson, Mississippi 35289. Tel: (601) 961-5369. E-mail: mary_jacq_easley@deq.state.ms.us.
Web: http://www.deq.state.ms.us/.

[25] Missouri

[a] Overview

The Director of the Department of Natural Resources is the Natural Resources Trustee in Missouri. The Department has one staff person dedicated to NRD issues and uses other staff members as necessary. Missouri's costs related to NRD are paid from its Natural Resources Protection Fund. Since 1998, Missouri has concluded five NRD cases, including one that was litigated in state court. Missouri usually uses habitat equivalency analysis to assess damages; it has also relied on the New Jersey groundwater formula for some bankruptcy claims. Missouri does not use private attorneys to pursue NRD claims,. There is a state

statute that authorizes NRD recovery, Missouri Revised Statutes § 644.096.

[b] Major Matters

Jasper County Lead Mining Superfund Site — This site, also known as the Oronogo-Duenweg Mining Belt, involves hundreds of lead and zinc mines in southwestern Missouri. A preliminary site assessment prepared by the Missouri Department of Natural Resources estimates that large areas of land and surface water are contaminated with lead, zinc, and cadmium above applicable standards. Concentrations of these contaminants in shallow groundwater aquifers exceed background levels by as much as an order of magnitude. As of Spring 2006, the State was in the process of preparing an assessment plan for this site.

Cominco/Halliburton — The Department of Natural Resources received a cooperative settlement for seven lead and copper metal concentrate spill sites for which Cominco American, Inc. and Halliburton Energy Services, Inc. are allegedly responsible. Of note, these settlements occurred at the instigation of the responsible parties.

[c] Contact Information

Missouri Department of Natural Resources: Frances Klahr, NRD Coordinator, P.O. Box 176, Jefferson City, MO 65102-0176. Tel: 573-522-1347.
Web: http://www.dnr.mo.gov/env/hwp/sfund/spf.htm.

[26] Montana

[a] Overview

The Montana Natural Resource Damage Program (NRDP) office was established in 1990. The office consists of two attorneys, three environmental scientists, a restoration program chief, a program specialist and one administrative support person. The entire focus of the Montana program is the Upper Clark Fork River Basin (UCFRB), which is divided into nine areas. The program's litigation budget in 2005 was $660,000. Montana common law provides authority for the state to retain private counsel in a NRD action. Early in the *Montana v. ARCO* matter, the State retained outside counsel, but does not currently. The Montana Code, Section 75-10-701, provides the state with the statutory authority to seek natural resource damages.

[b] Major Matters

Atlantic Richfield Company — The NRDP is responsible for litigating the *Montana v. ARCO* matter, originally filed in 1983 in U.S. District Court, but stayed until 1991. The lawsuit alleges that decades of mining and mineral processing operations in and around Butte and Anaconda released substantial quantities of hazardous substances into the Upper Clark Fork River Basin between

Butte and Milltown and that these hazardous substances extensively degraded the area's natural resources. After 1991, the State commenced a natural resource damage assessment and restoration plan. The assessment alleged widespread injuries to natural resources including 600,000 acre-feet of groundwater, fish injuries (trout) and wildlife habitat injuries. In total, the State's claim was $764 million, $342 million of which was restoration cost damages, $410 million of which was compensable value damages, and $12 million of which was assessment and legal costs. In 1999, the State and ARCO reached a settlement of many of these claims. Specifically, ARCO agreed to pay approximately $128 million for natural resource damages. This settlement, however, did not include three areas of the Basin; namely, Anaconda Uplands, Butte Area One and the Upper Clark Fork River. The State maintains that the restoration damages in these three areas is approximately $180 million. Litigation regarding these areas is ongoing. In May 2003, the U.S. District Court dismissed the state's Anaconda Uplands claim on the grounds that all of the restoration damages sought arose "wholly before" December, 1980. *State of Montana v. Atlantic Richfield Co.*, 266 F. Supp. 2d 1238, 1244–1245 (D. Mont. 2003). The State contends that the decision was wrongly decided and has asserted that it intends to appeal the Court's decision. For more details on the litigation:
www.doj.state.mt.us/lands/naturalresource/lawsuithistory.asp.

[c] Contact Information

Montana Natural Resource Damage Program, Montana Department of Justice, 1301 East Lockey, P.O. Box 201425, Helena, MT 59620-1425. Phone: (406) 444-0205. Fax: (406) 444-0236.
Web: www.doj.state.mt.us/lands/naturalresource.asp.

[27] Nebraska

[a] Overview

The Natural Resource Trustee in Nebraska is the Director of the Department of Environmental Quality. Nebraska has not pursued NRD claims in the past and there is no state NRD statute.

[b] Contact Information

Nebraska Department of Environmental Quality: Annette Kovar, Legal Counsel, 1200 "N" Street, Suite 400, PO Box 98922, Lincoln, Nebraska 68509-8922. Tel: (402) 471-2186. Fax: (402) 471-2909.
Web: http://www.deq.state.ne.us/.

[28] Nevada

[a] Overview

The Administrator of the Division of Environmental Protection and the Director of the Department of Wildlife are co-trustees for natural resources in Nevada. Nevada has no formal NRD program and very little staff time is dedicated to NRD matters. Despite the informality of its program, Nevada is pursuing a handful of NRD matters in conjunction with federal and tribal trustees. The State does not use private attorneys to pursue NRD claims and does not have a state NRD statute.

[b] Contact Information

Nevada Division of Environmental Protection: David Emme, Environmental Information and Planning, 901 S. Stewart St., Suite 4005, Carson City, NV 89701-5249. Tel: (775) 687-9307. E-mail: demme@ndep.nv.gov. Web: http://www.ndep.nv.gov/.

Nevada Department of Wildlife: Rich Haskins, Fisheries Bureau, 1100 Valley Rd., Reno, NV 89512. Tel: (775) 688-1569.
Web: http://www.ndow.org/index.shtm.

[29] New Hampshire

[a] Overview

The Department of Environmental Service and the Department of Resources and Economic Development are the Natural Resource Trustees in New Hampshire. New Hampshire does not currently have an NRD program, although one is in development. New Hampshire has worked with federal trustees in the past on NRD issues. As part of its NRD activities, New Hampshire has investigated NRD related to air pollution. There is no state statute authorizing NRD recovery in New Hampshire.

[b] Contact Information

New Hampshire Department of Environmental Services, 29 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095. Tel: (603) 271-3503, Fax: (603) 271-2867.

[30] New Jersey

[a] Overview

The Commissioner of the Department of Natural Resources is New Jersey's Natural Resources Trustee. The Office of Natural Resource Restoration is the office within the Department of Environmental Protection dedicated to NRD issues. New Jersey uses a variety of assessment methodologies. As discussed above, New Jersey pioneered a simplified groundwater NRD assessment formula.

See supra § 32B.08[4]. New Jersey has state NRD authority under the New Jersey Water Pollution Control Act, N.J. Stat. Ann. § 58:10A-10, and the New Jersey Spill Compensation and Control Act, N.J. Stat. Ann. § 58:10-23.11g. In 2003, New Jersey embarked on a major natural resource initiative and claims to be systematically evaluating all contaminated sites in New Jersey for possible NRD liability. New Jersey has retained private law firms to pursue NRD claims on its behalf.

[b] Major Matters

Lower Passaic River — The state has launched an ambitious plan to bring claims related to the lower Passaic River, which some observers estimate to be valued at as much as $950 million.[364]

In September 2003, the Department of Environmental Protection issued a directive to 66 PRPs ordering them to conduct an NRD assessment in the lower Passaic River. The Passaic River, which flows into Newark Bay is among the most industrialized waterways in New Jersey, and the state's directive purported to address as many as 4,000 potential NRD claims. The use of directive authority to require an NRD assessment was unprecedented and has been subject to legal challenge. If the Department's directive authority is upheld, the recipients will have to either perform an assessment or face the possibility of treble damages for the assessment costs should the State do the work. As of Spring 2006, the matter remains mired in litigation with no clear resolution on the horizon.

Public Service Electric & Gas Co. — In 2005, Public Service Electric & Gas Co. settled NRD claims with respect to several contaminated sites. Under the settlement the company donated certain land to the State in compensation for damaged resources.

[c] Contact Information

New Jersey Department of Environmental Protection, Natural and Historic Resources, Office of Natural Resource Restoration, P.O. Box 404, Station Plaza 5, Trenton, NJ 08625-0404. Tel: (609) 984-5475. Fax: (609) 984-0836. E-mail: onrr@dep.state.nj.us. Web: http://www.state.nj.us/dep/nrr/.

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[364] *See generally In re* Lower Passaic River, Directive No. 1: Natural Resource Injury Assessment & Interim Compensatory Restoration of Natural Resource Injuries (N.J. Dep't of Envtl. Protection Sept. 19, 2003), available at http://www.state.nj.us/dep/nrr/directives/passaic_dir01.pdf; *see also* Edward F. McTiernan, *et al.*, An Overview of New Jersey's Natural Resource Damage Program, Environmental-Resource.com (Nov. 15, 2004), available at http://www.environmental-resource.com/report.asp?id=337&page=8 (last visited Mar. 25, 2006).

[31] New Mexico

[a] Overview

The Office of the Natural Resources Trustee performs trustee responsibilities in New Mexico. The Office was established in 1993 and employs four full-time staff members. New Mexico's state NRD statute is the Natural Resources Trustee Act, N.M. Stat. Ann. 1978, §§ 75-7-1 *et seq.*

[b] Major Matters

Albuquerque ATSF Site — This site involved NRD related to a former Atchison Topeka & Santa Fe Railway railroad tie treating plant. The damages were primarily related to injuries to groundwater and wildlife habitat The state and federal trustees settled their NRD claims for $1,100,000, which will be used for restoration projects that enhance or preserve groundwater and migratory bird habitat.

Molycorp Mine Facility — Molycorp operated a major molybdenum mine in Questa, NW. According to the state, contamination caused by runoff and mine tailings has affected the surrounding area, including the Red River. Molycorp is currently cooperating with state and federal trustees in a restoration-based natural resource damage assessment process.

Sparton Technology Site — Sparton Technology operated an electronics manufacturing facility in Albuquerque. Discarded solvents and plating wastes from the site reportedly resulted in substantial soil and groundwater contamination in the vicinity of the facility. In 2000, the state settled its NRD claims against Sparton for $1 million, primarily for injury to groundwater. The settlement funds are being used for groundwater restoration projects.

[c] Contact Information

New Mexico Office of the Natural Resources Trustee, 610 Gold Avenue SW, Suite 236, Albuquerque, New Mexico USA 87102. Tel: 505.243.8087. Fax: 505.243.6644. E-Mail: elysia.martinez @ state.nm.us.
Web: http://www.onrt.state.nm.us/index.html.

[32] New York

[a] Overview

The Department of Environmental Conservation is New York's Natural Resources Trustee. The Department has a Natural Resource Damages Unit devoted to NRD issues. The NRD Unit's staff includes a biologist, an economist, and a lawyer. The NRD Unit is primarily funded by NRD recoveries. New York has an active program and is currently pursuing approximately 38 NRD matters. To date, New

York's NRD program has recovered nearly $40 million, the bulk of which is being used for restoration projects. Most of the restoration activity has been in New York City or on Long Island.

New York has a state NRD statute codified at N.Y. Navigation Law § 181.

[b] Major Matters

Hudson River — In 1997, state and federal trustees issued a Preassessment Screen for NRD in the Hudson River. The screen addressed NRD from several pollutants, but of particular concern was PCB contamination allegedly related to General Electric's plants in Fort Edward and Hudson Falls. Following the Preassessment Screen, the trustees initiated a full scale NRD assessment. That effort was currently ongoing as of Spring 2006.

St. Lawrence River in Massena — This site is another site involving PCB contamination in a river. According to the state, three potentially responsible parties, General Motors, Alcoa, Reynolds, are jointly funding an NRD assessment. This process is being conducted under the supervision of state, federal, and tribal trustees. Work at this site was also ongoing as of Spring 2006.

[c] Contact Information

New York Department of Environmental Conservation: Natural Resource Damages Unit, 625 Broadway, Albany, NY 12233. Tel: (512) 402-9512. Web: http://www.dec.state.ny.us/website/ dfwmr/habitat/hoa1b2j.htm.

[33] North Carolina

[a] Overview

In early 2006, North Carolina designated the Secretary of the Department of Environment and Natural Resources as its Natural Resources Trustee. To date, North Carolina has not pursued any NRD claims.

[b] Contact Information

North Carolina Department of Environment and Natural Resources: 1601 Mail Service Center, Raleigh, NC 27699-1601. Tel: 919-733-4984. Fax: 919-715-3060. Web: http://www.enr.state.nc.us/.

[34] North Dakota

North Dakota does not appear to have a state NRD statute or program.

[35] Ohio

[a] Overview

The trustee in Ohio is the Ohio Environmental Protection Agency (OEPA). There

are no state laws providing NRD authority. The OEPA has been conducting NRD activity since the early 1990s, currently with one dedicated employee, a risk assessor, and no specific NRD budget. There is support from other professionals as needed. As of Spring 2006, Ohio was actively pursuing three matters. The total number of cases handled over the history of the program is about eight and the principal lost resources are wildlife and recreational uses. The state does not have authority to retain outside counsel for NRD prosecution. The state is researching potential groundwater claims.

[b] Major Matters

Fernald Uranium Products — The main focus of the state-led NRD efforts appear to be restoration at the Fernald uranium products site, located 18 miles northwest of Cincinnati. The site is over 1000 acres and is undergoing a large cleanup, financed by the Department of Energy. The trustees at the site are the Department of Interior and the Ohio EPA. Ohio sued DOE in 1986 claiming $206 million in NRD injuries, although the lawsuit was placed on hold shortly thereafter. The trustees have been working with DOE to address NRD as part of the site remediation. The main webpage for information related to the Fernald site is: www. http://offo2.epa.state.oh.us/Fernald/Fernald.htm.

[c] Contact Information

Ohio Environmental Protection Agency: Brian Tucker, Division of Emergency and Remedial Response, Lazarus Government Center, P.O. Box 1049, 122 South Front Street, Columbus, OH 43216-1049. Tel: (614) 644-3020.
Web: http://www.epa.state.oh.us/.

[36] Oklahoma

[a] Overview

The Oklahoma trustee for NRD claims is the Secretary of the Environment with most of the NRD enforcement activity occurring at the Department of Wildlife Conservation. The Department commenced NRD work in the mid-1980s related to the Tar Creek Superfund Site. There are no dedicated full-time employees and no budget for the NRD program in Oklahoma.

[b] Major Matters

Tar Creek Superfund Site — The principal NRD site in Oklahoma is the 40 square mile Tar Creek Superfund Site in Ottawa County, Oklahoma. The site is related to lead and zinc mining that occurred in the Tri-State Mining District (Oklahoma, Kansas and Missouri) from the early 1900s to the mid–1970s. According to a recent report commissioned by the Governor, "[n]atural resources potentially affected by contaminants at the Site include, in part, federal and state threatened

and endangered species, migratory birds, surface water, groundwater, drinking water, plants, fish, biota, wildlife, cultural, agricultural, and terrestrial resources. Natural resources specific to the Tribes include, in part, natural resources used in traditional, cultural, spiritual and/or subsistence practices, such as medicinal herbs, furbearing animals, plants and fish used for ceremonial purposes." Some estimates for NRD have exceeded several hundred million dollars. *See* http://www.deq.state.ok.us/LPDnew/Tarcreek/GovrTaskForce/NRDASubcommitteeFinalReport.PDF.

[c] Contact Information

Oklahoma Secretary of the Environment: 3800 North Classen Boulevard, Oklahoma City, OK 73118. Tel: (405) 530-8995. Fax: (405) 530-8999. Web: http://www.ose.state.ok.us.

Oklahoma Department of Wildlife Conservation,1801 North Lincoln Boulevard, Oklahoma City, OK 73105. Telephone: (405) 521-4663. Web: http://www.wildlifedepartment.com/.

[37] Oregon

[a] Overview

Oregon's Natural Resources Trustees are the Department of Environmental Quality and the Department of Fish and Wildlife. These agencies began working on NRD claims in 1993. Neither department has any staff dedicated full time to NRD issues, and the state has no budget dedicated to NRD. In addition to state-only cases, Oregon has worked with federal trustees on a number of cases. The total recovery of Oregon's state program from 1987 to 1996 (when the trustees stopped tabulating this data) was nearly $1.2 million from 14 cases. Most of these were fish kills caused by various spills. Oregon has a state statute authorizing NRD recovery, Or. Rev. Stat. § 468b.395, and a regulation for assessing NRD, Or. Admin. R. 635-410.

[b] Contact Information

Oregon Department of Environmental Quality: Jack Wylie, Senior Emergency Response Planner, 811 Southwest 6th Avenue, Portland, OR 97204. Tel: 503-229-5716. E-mail: wylie.jack@deq.state.or.us. Web: http://www.deq.state.or.us/.

Rose Owens, Habitat Special Projects Coordinator, Oregon Department of Fish and Wildlife, 3406 Cherry Ave. NE, Salem, OR 97303. Tel: 503-947-6085. E-mail: rose.m.owens @state.or.us. Web: http://www.dfw.state.or.us/.

[38] Pennsylvania

[a] Overview

The NRD trustees in Pennsylvania are the Pennsylvania Game Commission, the Pennsylvania Department of Conservation and Natural Resources (PDCNR), the Pennsylvania Fish and Boat Commission and the Pennsylvania Department of Environmental Protection (PDEP). The trustees work together depending upon the site and the nature of the impacted resources. The Game Commission reports that approximately six employees work on NRD matters. In addition to the federal statutes, the Pennsylvania Hazardous Sites Cleanup Act (HSCA) provides authority for NRD claims. The Game Commission reports that there is no intent by the state to utilize private counsel for NRD claims.

[b] Major Matters

Palmerton Zinc Superfund Site — The State has been investigating NRD claims at the Palmerton Zinc Superfund Site in Carbon County, Pennsylvania. The investigation is being led by the Palmerton Natural Resource Trustee Council, which includes all four Pennsylvania trustees in addition to federal trustees. This site, which includes a portion of the Appalachian Trail, is near an historic zinc smelting facility. In this matter, the trustees allege that numerous injuries to both aquatic and terrestrial resources caused by zinc and other metals.

[c] Contact Information

Pennsylvania Department of Environmental Protection: Rachel Carson State Office Building, 400 Market Street, Harrisburg, PA 17101. Web: http://www.dep.state.pa.us/dep/deputate/airwaste/wm/remserv/nrd/nrdhome.html.

Pennsylvania Game Commission: 2001 Elmerton Avenue, Harrisburg PA 17110-9797, Tel: (717) 787-4250. Web: http://www.pgc.state.pa.us.

Pennsylvania Fish and Boat Commission: 1601 Elmerton Avenue, P.O. Box 67000 Harrisburg, PA 17106-7000. Tel: 717-705-7800.
Web: http://www.fish.state.pa.us/PA_Exec/Fish_Boat/mpag1.htm.

Pennsylvania Department of Conservation and Natural Resources: Rachel Carson State Office Building, PO Box 8767, 400 Market Street, Harrisburg, PA 17105-8767. Web: http://www.dcnr.state.pa.us/

[39] Rhode Island

[a] Overview

Rhode Island's Natural Resources Trustee is the Director of the Department of Environmental Management. Two staff members within that agency work on NRD issues. Rhode Island's first NRD case was the North Cape Oil Spill in 1996;

it was also the first time the state required natural resources restoration. Besides the North Cape spill, the state has only pursued a handful of other claims, mostly related to former military installations. Rhode Island does not use private attorneys to pursue NRD claims. State statutory authority for pursuing NRD is codified at Rhode Island General Laws 46-12.5.1, *et seq.*

[b] Major Matters

North Cape Oil Spill — This incident involved the spill of approximately 828,000 gallons of home heating oil from the barge North Cape off the coast of southern Rhode Island. According to the State, this spill killed at least 2.9 million lobsters and caused certain areas to be closed to lobstering for five months following the spill. Nearly 400 birds were also killed, as well as numerous clams, crabs, and fish. The trustees estimated these resources would take five years or more to recover. The trustees also quantified injuries to recreational interests, namely boating. Although the short-term impacts were severe, the trustees concluded there was little or no long-term impact. The trustees focused on restoration, requiring the responsible party to, among other things, stock Block Island Sound with 1.5 million adult lobsters to accelerate the lobster population's recovery.

Calf Pasture Point — This major ongoing NRD case deals primarily with injuries to groundwater caused by discharges of chemical wastes at a former Naval facility in North Kingstown, Rhode Island. The primary contaminants of concern are chlorinated hydrocarbons and VOCs. A pre-assessment screening prepared by the state trustee estimated NRD at over $6 million.

[c] Contact Information

Rhode Island Department of Environmental Management: Mary E. Kay, Deputy Chief Legal Counsel, 235 Promenade Street, Providence, RI 02908. Tel: 401-222-6607. Web: http://www.dem.ri.gov/.

[40] South Carolina

[a] Overview

The Governor, the Director of the Department of Natural Resources, and the Commissioner of the Department of Health and Environmental Control share trusteeship responsibilities in South Carolina. South Carolina has no dedicated NRD office, but draws from the resources of the trustee agencies as necessary. As of Spring 2006, the State was pursuing several NRD claims, including two court actions. Resources involved in past cases have included groundwater, surface water, and freshwater fisheries. South Carolina primarily uses habitat equivalency analysis for NRD assessments. It uses a modified form of the New Jersey methodology for groundwater NRD. South Carolina's state NRD statute is S.C. Code Ann. § 44-56-200.

[b] Major Matters

Twelvemile Creek/Lake Hartwell — The Sangamo–Weston plant site, a capacitor manufacturing plant in Pickens, South Carolina operated from 1955 to 1987. During this time, according to the state, significant PCB contamination was released from the plant into Twelvemile Creek, Lake Hartwell, and surrounding areas. Schlumberger Technology Corp. is the corporate successor to Sangamo-Weston. In January 2006, Schlumberger settled NRD claims brought by state and federal trustees with respect to the site for $11.8 million. Schlumberger agreed to spend an additional $8-10 million to remove two hydroelectric dams from Twelvemile Creek and to conduct restoration projects.

[c] Contact Information

South Carolina Department of Natural Resources: Office of Chief Counsel, P.O. Box 167, Columbia, SC 29202. Tel: (803) 734-4006. Web: http://www.dnr.sc.gov/.

South Carolina Department of Health and Environmental Control: Richard A. Haynes, Manager, Federal and Drycleaning Remediation Section, Bureau of Land & Waste Management, 2600 Bull Street, Columbia, SC 29201. Tel: (803) 898-3432.

Web: http://www.scdhec.net/.

[41] South Dakota

[a] Overview

South Dakota's Natural Resources Trustee is the Secretary of the Department of Environment and Natural Resources. South Dakota has no dedicated NRD staff. South Dakota has pursued one claim in conjunction with federal and tribal trustees. That case, *South Dakota v. Homestake Mining Company*, involved damage to groundwater and surface water, primarily from metals. The settlement required Homestake to transfer back to the State certain water rights and to pay $4 million in damages, a third of which went to the State. South Dakota does not have a state statute authorizing NRD recovery and does not use private attorneys to pursue NRD claims.

[b] Contact Information

South Dakota Department of Environment and Natural Resources: Joane Lineburg, Hydrologist, Groundwater Quality Program, 523 East Capitol, Pierre, SD 57501. Tel: (605) 773-3296. Web: http://www.state.sd.us/denr/denr.html.

[42] Tennessee

[a] Overview

The Department of Environment and Conservation appears to act as Tennessee's Natural Resources Trustee. Although little specific information is available, Tennessee is active in the NRD arena, including with respect to NRD associated with Oak Ridge National Laboratory. Tennessee does not have a state NRD statute.

[b] Contact Information

Tennessee Department of Environment and Conservation: 401 Church Street, L & C Annex, 1st Floor, Nashville, Tennessee 37243-0435. Tel: (888) 891-8332. Web: http://www.state.tn.us/ environment/.

[43] Texas

[a] Overview

Three state agencies in Texas have been designated as NRD trustees: the Texas General Land Office (GLO), the Texas Parks and Wildlife Department (TPWD), and the Texas Commission on Environmental Quality (TCEQ). The Governor of Texas designated the GLO as a Natural Resource Trustee (Trustee) in 1991. TPWD was designated in 1990 and TCEQ (then the Texas Water Commission) was designated in 1988. The State does not have a unified budget for NRDA. Each Trustee agency addresses personnel and operational costs for NRDA within their agency's unique budgets. The State reports that it typically pursues cooperative and restoration-focused NRD assessments. State trustees have never utilized and are not currently considering the use of private attorneys to bring forward cases on the State's behalf.

Potential NRDA cases associated with hazardous substance releases from waste sites are typically identified through the Texas Trustees participation in Texas' remediation process known as the Texas Risk Reduction Program (TRRP). Within this remediation process, active Trustee participation is solicited during the Ecological Risk Assessment phase. Trustee participation is formally established under a Trustee-TCEQ Memorandum of Understanding (MOU) entered into in 2001. This MOU may be found at Title 30 Texas Administrative Code § 7.124. The State reports that "evaluating a site for potential NRDA liability during the remediation process promotes an integrated approach to selecting the most appropriate and effective remediation alternative. This early cooperative involvement of the Trustees within the remediation process provides an effective means by which cases can be efficiently settled, benefiting all parties."

The State uses special NRDA rules for oil spills in coastal environments (Title 31

Texas Administrative Code, Chapter 20) to address assessment procedure and protocols for determining, quantifying and valuing natural resource injury and loss of services. The State reports that, "the rules were developed through an innovative negotiated rulemaking process involving members of industry, conservation organizations, and State and Federal trustees."

[b] Major Matters

As of Spring 2006, approximately 39 sites were being actively worked as NRDA cases. Of these cases, 19 were in the assessment phase during which the trustees are quantifying injury and identifying potential restoration actions. The remaining 20 cases had been settled and were in the restoration implementation and monitoring phase.

The total amount recovered by the trustees for damages to natural resources for settled NRDA cases is estimated at $31,343,600. This value includes those sums recovered in cash settlements as well as the estimated cost of restoration projects implemented by responsible parties. The State of Texas reports the following breakdown of amounts recovered:

Summary of Texas NRDA Settlements by Restoration Category

Restoration Category	Estimated Cost	Acres
Beach Use	$1,096,000	- - - - - - -
Recreational Fishing	$2,200,000	- - - - - - -
Dune Construction	$1,105,000	1
Estuarine Wetlands Construction, Enhancement and Preservation	$19,723,600	1,673
Oyster Reef Construction	$2,300,000	11
Rookery Acquisition and Preservation	$130,000	105
Freshwater Wetlands Construction, Enhancement and Preservation	$1,351,000	1,113
Riparian Habitat Construction	$1,300,000	26
Bottomlands Forest Acquisition and Preservation	$1,180,000	859
Prairie Construction, Enhancement and Preservation	$268,000	283
Upland Habitat Construction, Enhancement and Preservation	$690,000	60
TOTAL	$31,343,600	4,129

The following chart provides the annual breakdown of NRD recoveries in Texas.

Summary of Texas NRDA Settlements by Fiscal Year

FY	Acres of Habitat	Estimated Cost
1992	875	$2,000,000
1994	105	$130,000
1995	256	$1,300,000
1996	35	$3,000,000
1997	20	$200,000
1998	49	$1,012,500

FY	Acres of Habitat	Estimated Cost
1999	107	$50,000
2000	134	$2,845,000
2001	498	$3,290,000
2002	110	$720,000
2003	233	$1,960,000
2004	2	$38,100
2005	1,706	$14,798,000
TOTAL	4,129	$31,343,600

[c] Contact Information

Texas General Land Office, Keith Tischler, Natural Resource Trustee Program, Team Leader/Technical Project Manager, Coastal Resources, PO Box 12873, Austin, TX 78711-2873, Phone: 512-463-6287. Web: http://www.tceq.state.tx.us/remediation/nrtp/.

[44] Utah

[a] Overview

Utah's Natural Resource Trustee is the Department of Environmental Quality. No additional overview information was reported.

[b] Major Matters

Ensign-Bickford Trojan Facility — Discharges from this explosives manufacturing facility in Spanish Fork allegedly created a groundwater plume extending approximately three miles from the plant. In 2004, the state reached a settlement with Ensign-Bickford, including approximately $2.58 million in NRD.

Southwest Jordan Valley — In 1986, the state filed a claim against Kennecott Utah Copper Corporation for injuries to groundwater and surface water reportedly related to historical mining activities in the southwestern section of Salt Lake Valley. A consent decree was reached in 1995, that required Kennecott to complete source control work, to provide $28 million for restoration of groundwater, and to pay Utah $9 million in compensation for lost use of groundwater while restoration activities were ongoing. A final restoration plan was approved in 2004.

[c] Contact Information

Utah Department of Environmental Quality: Natural Resource Damages Trustee, 168 North 1950 West, P.O. Box 144810, Salt Lake City, UT 84114-4810. Tel: (801) 536-4402. E-mail: nrdtrustee@utah.gov. Web: http://www.deq.utah.gov/.

[45] Vermont

[a] Overview

The Vermont Agency of Natural Resources is the Natural Resources Trustee in Vermont. Vermont has no formal program and does not appear to have pursued any NRD claims in the past. Vermont has no state statutory NRD authority.

[b] Contact Information

Vermont Agency of Natural Resources, 103 South Main Street, Center Building, Waterbury, VT 05671-0301. Tel: 802-241-3600. Fax: 802-244-1102. Web: http://www.anr.state.vt.us/.

[46] Virginia

[a] Overview

Virginia's Natural Resource Trustee is the Secretary of Natural Resources. Virginia does not have its own NRD statute. No additional overview information was reported.

[b] Major Matters

Tazewell County Spill — In 1998, a tanker truck overturned in Tazewell County, Virginia, spilling more than 1,300 gallons of Octocure 554-revised, a rubber accelerant, into a tributary of the Clinch River. According to the state, the spill damaged aquatic habitat along a six-mile stretch of the river and destroyed populations of three endangered species of freshwater mussels, as well as causing injuries to other aquatic life and other natural resources. The State and federal trustees settled with the responsible party, Certus Inc., in 2003 for $3.7 million in restoration work, primarily aimed at restoring the affected mussel populations and their habitat. Certus also agreed to reimburse the trustees for their assessment costs.

[c] Contact Information

Virginia Secretary of Natural Resources: P.O. Box 1475, Richmond, VA 23218. Tel: (804) 786-0044. Fax: (804) 371-8333.
Web: http://www.naturalresources.virginia.gov/index.cfm.

[47] Washington

[a] Overview

The lead Natural Resources Trustee in Washington is the Department of Ecology; however, trustee authority is also shared by the Department of Natural Resources and the Department of Fish and Wildlife. For oil spills, there is a Resource

Damage Committee composed of the foregoing trustee agencies plus the State Parks and Recreation Commission, the Department of Health, the Office of Archaeology and Historic Preservation and interested tribes. Washington has a relatively well-established NRD program that began pursuing NRD claims in the mid—to late 1980s. The Spills Prevention, Preparedness, and Response Program is an office within the Department of Ecology dedicated to NRD issues, which has an annual budget of $175,000.

As of Spring 2006, Washington was pursuing two major NRD matters: the Commencement Bay Superfund Site, at which Chinook Salmon are the single biggest affected resource, and the Elliot Bay Superfund Site. Washington handles between 30 and 40 oil spill claims annually. Although Washington has pursued hundreds of oil spill claims, none have yet gone to court.

Washington primarily relies on habitat equivalency analysis for assessing NRD for cases other than oil spills. The State has also developed its own formula for assessing NRD from oil spills. Washington uses federal procedures when working with federal trustees, such as NOAA.

Washington does not use private attorneys to bring NRD claims. Washington's state statutes on NRD are the Model Toxics Control Act (Wash. Rev. Code § 70.105D, set forth at http://apps.leg.wa.gov/RCW/default.aspx?cite=70.105D), the Water Pollution Control Act (Wash. Rev. Code § 90.48, set forth at http://apps.leg.wa.gov/RCW/default.aspx?cite=90.48), and the Oil and Hazardous Substance Spill Prevention Act (Wash. Rev. Code § 90.56, set forth at http://apps.leg.wa.gov/RCW/default.aspx?cite=90.48).

[b] Major Matters

Commencement Bay — Commencement Bay is the harbor for Tacoma, Washington, located at the southern end of Puget Sound. A number of industrial and commercial activities are located on waterways that feed the bay, including pulp and lumber mills, shipbuilding facilities, chemical production facilities, aluminum smelting facilities, and oil refineries. According to the State, contaminants originating from these facilities discharge into the waterways and the bay. The nearshore area of Commencement Bay is an important habitat for numerous marine species, including Chinook Salmon, flat fish, and marine birds. Over 400 PRPs have been identified. NRD assessment activities began in 1991 and are ongoing. Some restoration work has been done and some PRPs have entered settlement agreements, but the case was still ongoing as of Spring 2006. Extensive additional information is available at http://www.darp.noaa.gov/northwest/cbay/index.html.

Elliot Bay/Duwamish River — Elliott Bay is an eight square mile bay in central Puget Sound, which encompasses the waterfront of downtown Seattle. The major commercial district of Seattle is located on the southeastern shore of the bay. The

bay receives discharges and stormwater runoff from metropolitan Seattle. NRD assessment activities at the site are ongoing. As of Spring 2006, there have been two settlements. The first was with Pacific Sound Resources to address NRD related to a former wood treating facility. The second was with the City of Seattle concerning sewer discharges. As part of the City of Seattle Settlement, $5 million is to be spent on habitat development and restoration. More information can be found at http://darp.noaa.gov/northwest/ elliott/index.html.

[c] Contact Information

Dick Logan, Supervisor, Natural Resources Unit, Spills Prevention, Preparedness, and Response, Washington State Department of Ecology, P.O. Box 47600, Olympia, WA 98504-7600. Tel: 360-407-6971.

[48] West Virginia

[a] Overview

It appears the Division of Natural Resources is the trustee agency in West Virginia. West Virginia does not have a state NRD statute. No additional overview information was reported.

[b] Major Matters

Ohio River — A settlement was announced in March, 2006 between federal trustees and trustees for the states of West Virginia and Ohio regarding discharges to the Ohio River from the Eramet Marietta Inc. facility in Marietta, Ohio. Under the agreement, Eramet and three other responsible parties will pay $2.04 million towards restoration of native freshwater mussels, snails, and fish in the Ohio River. A restoration plan is in the process of development.

[c] Contact Information

West Virginia Division of Natural Resources: State Capitol, Building 3, Room 669, Charleston, WV 25305. Tel: (304) 558-3380.
Web: http://www.wvdnr.gov/admin/default.shtm.

[49] Wisconsin

[a] Overview

Wisconsin's Natural Resources trustee appears to be the Department of Natural Resources. Wisconsin has no general NRD recovery statute, although certain statutes provide that individuals who violate certain prohibitions, *e.g.*, operating a motor vehicle in a navigable water, may be required to undertake natural resources restoration.

[b] Contact Information

Wisconsin Department of Natural Resources: 101 South Webster St., Madison WI 53703. Tel: (608) 266-2621. Fax: (608) 261-4380. Web: http://dnr.wi.gov/.

[50] Wyoming

[a] Overview

Wyoming has no formal NRD program, staff, rules, or policies. The Wyoming Environmental Quality Act (EQA) (Wyo. Stat. §. 35-11-903) allows the state to collect additional money for the value of lost "fish, aquatic life, game or bird life." Since 1973, the state NRD provision has been used at least once, in the early 1980s. In that matter, the State collected approximately $50,000 to collect the value of fish lost in a gasoline spill. The amount was calculated based on the cost of restocking the area of the fish kill with trout.

[b] Contact Information

Wyoming Department of Environmental Quality, 122 West 25th St, Herschler Building, Cheyenne 82002. Tel: (307) 777-7937. Fax: (307) 777-7682. E-mail: deqwyo@state.wy.us. Web: http://deq.state.wy.us/.

Wyoming Game and Fish Department, 5400 Bishop Boulevard, Cheyenne, WY 82006. (307) 777-4600. Web: http://gf.state.wy.us/.