
The Wildlife Wildcard: Natural Resource Damages and Putting a Price on Nature

Marissa L. Curran

As lawyers, we are often tasked with putting a price on the priceless. The spokesperson for General Motors did so during the spring 2014 congressional hearings to explain why GM decided not to recall faulty ignition switches that put some 28 million cars at risk for malfunctioning airbags (it was a “business” decision). Lawyers working for the families of the 9/11 victims did it when they were negotiating the life insurance policy proceeds the families would receive. Lawyers for insurance companies do it every day. Things are no different in the environmental law context. Attorneys, juries, judges, and governmental agencies are tasked with putting a price on the value of nature every time natural resource damages (NRDs) are sought in CERCLA litigation. Calculating appropriate natural resource damages involves not just legal, but economic and philosophical questions. Business owners should have a working knowledge of how these decisions are reached before they find themselves facing an NRD claim. This article generally explains the statutory scheme that sets out natural resource damages, gives an overview of the numerous considerations that go into the government putting a price tag on nature’s resources, and suggests considerations for business owners who may be targeted for these types of damages.

Federal, state, local, or tribal government or trustees (hereinafter government or trustees) have the authority to seek NRDs in connection with CERCLA (or Oil Pollution Act (OPA)) actions where injuries to natural resources have occurred at sites as a result of a release of a hazardous substance (or oil). 42 U.S.C. §§ 9601–9675; 33 U.S.C. §§ 2701–2761. Trustees may have the authority to bring natural resource damages claims pursuant to common law and state statutes as well as CERCLA or OPA, but because the valuation methods and types of damages sought are often the same, I will focus on the federal statutory scheme.

CERCLA was enacted in 1980 with the goal of addressing releases and threatened releases of hazardous substances that could pose a threat to human health or the environment. The OPA was enacted after the *Exxon Valdez* spill in 1989, and it provides the government with the authority to manage oil release cleanups. Both statutes permit the government to seek natural resource damages if a release has caused injury to or destroyed one or more natural resources. Natural resources are defined in both statutes to include “land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources.” CERCLA § 101(16); OPA § 1001 (20). A natural resource, in this context, is ordinarily a resource belonging

to the public, or “managed by, held in trust by, appertaining to, or otherwise controlled by” the United States, any state, an Indian tribe, or a local or foreign government. *Id.* Thus, injuries to and restoration of species of plants and animals are clearly natural resources contemplated under the statutory scheme.

NRD claims must be brought within three years from the completion of the remediation action for all National Priority List sites and federal facilities, as well as for facilities that are already scheduled for remedial action pursuant to CERCLA section 113. National Priority List sites are hazardous waste sites that are eligible for long-term remedial action financed under the federal Superfund program. CERCLA Section 113 governs the cleanup of sites pursuant to an administrative settlement between potentially responsible parties and the government. For all other sites, NRD claims must be brought within three years of the later of (1) the date on which the Department of the Interior’s Natural Resource Damage Assessment regulations were promulgated, or (2) the date of discovery of the loss and its connection with the release. The government (or other trustee) may seek damages in the amount it costs to restore the natural resource to its “baseline” condition, including any reasonable costs it incurred in completing a “Natural Resource Damage Assessment.” 15 C.F.R. pt. 990; 43 C.F.R. pt. 11. In addition, the government (or other trustee) may seek compensation for interim loss of natural resources or services pending restoration. 15 C.F.R. pt. 9901; 43 C.F.R. pt. 11. Natural resources—unlike other types of resources, goods, and property—are those that are held in “trust” for the public. That is, under both CERCLA and the OPA, federal, state, and tribal “trustees” have responsibility for protecting natural resources for the benefit of the public. While they are charged with restoring services for ecological communities, the government values resources by looking at how much they matter to humans. Value has any number of interpretations, from the value humans get from simply knowing a resource is there to the value we receive by using the resource and all services that flow from it, such as the purification of air and water, flood control, fertilization of soils, and recycling. *See, e.g.,* Gretchen C. Daily, *Introduction: What Are Ecosystem Services?* NATURE’S SERVICES 1, 3–4 (1997).

What, then, are federal, state, and tribal natural resource trustees charged with doing? Trustees are primarily engaged in natural resource damage assessments (NRDAs). NRDA’s are assessments conducted to identify what resource was injured, how much it was injured, and how much it will cost to restore it to its “baseline” condition. Trustees are then tasked with overseeing the actual restoration of the resource. Where trustees suspect that particular species may have been impacted, they may conduct Ecological Resource Assessments (ERAs), which are intended to help trustees determine what adverse

Ms. Curran is an environmental and natural resource attorney at Polsinelli PC in St. Louis, Missouri. She may be reached at mcurran@polsinelli.com.

effects of human activity have injured living organisms. ERAs also consider effects beyond the species level and may examine an entire population, community, or ecosystem, as well as nonchemical stressors to the environment, such as loss of wildlife habitat. See EPA, *Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments* (1997). ERAs and their counterpart, Habitat Resource Assessments (HRAs), are often incorporated into a broader NRDA when species have been impacted, such as in the 1989 *Exxon Valdez* oil spill, which will be discussed later.

NRDAs evaluate the extent of the harm to the natural resource in question and are relied on to create a plan to restore the resource and services, while compensating for the injury. NRDAs form the basis for calculating damages assessed against potentially responsible parties (PRPs) in court actions. OPA section 1006(c). Both CERCLA and the OPA define NRDAs as the process of “collecting, compiling, and analyzing information to make these determinations.” Trustees have the option of using the methodologies prescribed by the Department of the Interior (CERCLA) or the Department of Commerce’s National Oceanic and Atmospheric Administration (OPA). 43 C.F.R. pt. 11; 15 C.F.R. pt. 990. Importantly, if a trustee sues a PRP under CERCLA for natural resource damages, the trustee’s NRDA is given the force and effect of a rebuttable presumption in federal court (as in OPA litigation). CERCLA § 107(f)(2)(c). This means that the NRDA made by the government gets significant weight in court. A burden-shifting framework like this one forces the defendant to disprove the presumption that the NRDA is correct. It would, therefore, behoove companies to understand the methods by which trustees determine the appropriate amount of restoration and compensation before they find themselves on the receiving end of an NRD claim. Companies and inside counsel ought to realize that if the trustee does not perform the assessment in accordance with applicable regulations, they have a legal defense to the amount of damages assessed. Of course this does not mean that the entire claim will disappear, but it does mean that companies have a basis for challenging the content of the NRDA. If the court awards the trustee damages, the money may be used for “restoration or replacement” of the injured natural resource. CERCLA § 107(f)(1). That includes compensation for the time the resource was “gone” or the “interim loss” of services, as well as the costs incurred in completing the NRDA and the costs of developing and implementing plans for the restoration or replacement. CERCLA § 107(f)(C)(2); OPA § 1006(f). These costs, as we will explore later, can and do add up quickly.

You may be wondering where EPA fits into the equation. In general, EPA’s role in NRD action is limited. Even with regard to the *Exxon Valdez* spill, the largest oil spill in U.S. history until the *Deepwater Horizon* release, which affected thousands of species along with their habitats, EPA played the role of a coordinator between the private parties, the federal trustees, and the state of Alaska. See 1991 State/Federal Natural Resource Damage Assessment and Restoration Plan for the Exxon Valdez Oil Spill. EPA is essentially the role of a facilitator between natural resource trustees and defendants. EPA is charged with providing trustees with any information they may need to complete an NRDA (such as information related to protecting human health and the environment) and minimizing the time it takes to reach an appropriate settlement. In 2012, EPA entered into a memorandum of understanding

(MOU) with natural resource trustees that set out what information needs to be shared at what stage of the CERCLA response action, and the MOU coordinates which duties are to be performed by which agency and within what time period. The idea is that the agencies can reduce litigation the more they coordinate with one another. While CERCLA cleanups and NRD claims are technically independent legal actions, they often involve overlapping facts. EPA also plays a supervisory role in working with the trustees to coordinate investigations, create assessment plans, and implement the restoration. 40 C.F.R. § 300.615(c). Trustees themselves help provide the technical knowledge necessary for restoration to the lead agency, the Department of the Interior for CERCLA response actions and the Department of Commerce’s National Oceanic and Atmospheric Administration for OPA releases.

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Ordinarily, NRDAs include detailed information about the relationship of the “stressor” (hazardous release or oil) to the natural resource (such as groundwater, soil, vegetation, wildlife, fish, or natural habitat). NRDAs compile collected data and are used to analyze that data along with statistics about the injury to determine what might be needed to remedy or restore the resource and services, as well as compensate the public for its interim loss. The main purpose of NRDAs is to identify additional work that will need to be completed at the affected site besides the response cleanup. 15 C.F.R. pt. 990; 43 C.F.R. pt. 11. Natural resource damages do not “count” any money spent or work done for the cleanup itself; in fact, NRDA-recommended restorations may undo some of the work that was done as part of the original cleanup. This is one of the reasons NRD claims can be so expensive—and controversial. Because the stated goal is to restore the site or particular resource to the conditions that would have existed “but for” the release of a hazardous substance (or oil), any costs recovered by natural resource trustees are above and beyond what is required for the cleanup itself. CERCLA § 107(f)(1).

Trustee Determination of Natural Resource Value

The three primary tasks for natural resource trustees are (1) determining whether or not a natural resource, including particular species, have been injured; (2) determining the extent of the injury in terms of loss of services that the resource would have provided but for the release and establishing baseline

conditions, estimating recovery periods, and measuring the degree of service losses; and (3) calculating the appropriate compensation for interim loss and determining the cost for restoration of the resource or replacement if restoration is not possible. The Department of the Interior sets out “valuation methodologies” in its regulations pertaining to how to calculate compensable value for interim loss of natural resources. 43 C.F.R. § 11.15; 15 C.F.R. § 990.62. Valuation methodologies are broken down into two fundamental types: market and nonmarket. Market valuation methodologies attempt to gauge “market price” or appraisal value, similar to the real estate market. Nonmarket valuation methodologies are a bit more nebulous and consider factors such as income levels, travel costs, use value, and hedonic pricing. 43 C.F.R. § 11.83. It is these nonmarket valuation methods that are often used to value species and wildlife that may not have any known market value. One of the most widely used (and interesting) nonmarket valuation methodologies is the “contingent valuation” method. Contingent valuation (CV) is a way of measuring the value of a good or resource by eliciting anonymous survey responses noting how much the responder would be willing to pay to preserve the resource and/or minimize injury to it. Anything for which an individual is willing to give up something (“willingness to pay” for, e.g., protection of wildlife), is considered an economic good. See Glenn C. Blomquist and John C. Whitehead, *Existence Value, Contingent Valuation, and Natural Resource Damages Assessment*, 26 GROWTH AND CHANGE 573–589 (2005).

Exxon Valdez: A Case Study

The 1989 *Exxon Valdez* oil spill in Prince William Sound represents the most classic example of widespread wildlife destruction. The species affected by the nearly 11 million gallons of crude oil spilled in the water include dozens of types of fish, sea otters, sea lions, seals, sharks, porpoises, whales, deer, foxes, coyotes, bears, ducks, sea birds, puffins, hawks, crabs, shrimp, and bald eagles. See PLATER, ZYGMUNT J. B. ET AL, ENVIRONMENTAL LAW AND POLICY: NATURE, LAW, AND SOCIETY, Fourth Ed., Aspen Publishers (2010) at 130–137. The State of Alaska sued Exxon to recover for these natural resource damages and ultimately received a settlement awarding \$900 million to a state NRD recovery fund. In the aftermath of the oil spill, industry, regulators, and the general public began to wonder if species preservation was worth the cost—literally.

The purpose of the main study (The 1991 State/Federal Natural Resource Damage Assessment and Restoration Plan for the *Exxon Valdez* Oil Spill), conducted jointly by the state of Alaska and the U.S. government three years after the spill, was to assess the nature and extent of the loss of and injury to resources and set out a plan for restoration. The proposed plan incorporated public comments, and by the time a final version was published Exxon, the state of Alaska, and federal trustees had reached a settlement of all claims. It is important to note that, especially when species are involved, assessment studies are not static. Rather, NRDAs are a dynamic process and are evaluated and reviewed by a team of outside experts several times over. Sometimes assessments go on for years, especially when the long-term alteration of populations is being studied. For example, there were ten separate studies (including those related to birds, marine mammals, land mammals, and fish/

shellfish) that went into the NRDA for the *Exxon* oil spill, exceeding \$35 million in costs. These studies included direct observation of injury (such as counting deceased animals) as well as estimations of effect on population through toxicological indicators (such as the presence of hydrocarbons from oil in the tissue of deceased animals). Studies on seabirds, waterfowl, and bald eagles focused on collecting data on survival and reproductive success in an environment contaminated with hydrocarbons.

Restoration of wildlife can be much more expensive than it appears to be worthwhile. There are arguments that NRD claims, especially those involving wildlife, impose astronomical costs for an uncertain benefit.

In terms of determining and quantifying the injury to species from the oil spill, the *Exxon Valdez* assessment employed different methods for its different studies. For example and with respect to marine mammals, the most obvious injury resulting from the spill related to the large number of dead otters. Beyond that, however, were harms to other species including harbor seals and killer whales. The whale studies used shore-based camps to conduct photo-identification. Field personnel spent ten-hour days on boats searching for whales in “known” whale population areas. The researchers tracked calf births over a twelve-month period in order to highlight any changes in whale abundance, seasonal distribution, continuity of habitat usage, displacement, pod integrity, and/or mortality rates. In order to quantify the injury to migratory birds in Prince William Sound, researchers wanted to determine whether the oil spill caused a decline in the abundance and distribution of water birds. Potential injuries that were investigated included changes in bird behavior, deaths, and decreased productivity. Observers on boats were charged with observing and counting all birds within 100 meters on each side of the boat, during two different seasons. Researchers calculated population estimates and variances for oiled and non-oiled areas of Prince William Sound and compared the results with studies done before the spill. They created maps indicating distribution and abundance of birds to show the differences between areas affected by the spill and control areas. Population trends were also calculated and noted.

The comments the trustees received in the *Exxon Valdez* case are perhaps the most interesting aspect of the entire process. Besides criticizing the trustees in the ways you would expect, such as alleging that the definition of “restoration” and its scope were too broad, and alleging that the studies employed were not scientifically sound, critics claimed that

the NRDA inappropriately integrated the injury determination with the injury quantification and moved forward with the damages determination before the injuries and quantification phases had been completed. (Interestingly, a single section in the NRDA is actually called “Injury Determination/Quantification.”) In addition, critics complained that the studies did not distinguish between reductions in baseline services provided by the resources and changes in the resources themselves, which meant that any attempt to return to a baseline would be invalid because the baseline services were never noted. Significant modifications of the assessment were undertaken without public comment, such as a decision by the trustees to discontinue studies looking at injuries to specific species like fish, crabs, and whales. The trustees used data from one species and extrapolated to other species without presenting evidence that such an extrapolation would be appropriate. Even though the NRDA included a coastal HRA, the assessments did not address the adverse effects of the oil spill on the interactions among different species and different aspects of the ecosystem. The assessment used unnecessarily drastic techniques that included killing additional members of several species. The NRDA did not offer an explanation of how the studies would help the trustees assess the relative benefits of restoration alternatives. The costs of undertaking the assessment were de facto unreasonable because they were not anticipated to be lower than the anticipated damages. There was a lack of coordination between the federal trustees and the state of Alaska that resulted in redundant studies and exorbitant costs. In other words, both the science and the economics involved in NRDA were questioned and challenged. The valuation methods and the cost estimates were criticized. The government tried to respond to these concerns but not always in ways that satisfied the critics of its work.

As a general matter, restoration of wildlife can be much more expensive than it appears to be worthwhile. There are arguments that NRD claims, especially those involving wildlife, impose astronomical costs for an uncertain benefit. As one commentator put it: “An army of biologists can be deployed, sopping up oil with sponges and propagating myriad tiny organisms . . . to rebuild shattered food chains, sands and mud can be imported, floating filtration plants can be installed.” *Id.* at 136. But where does it end? The answer is sometimes at the courthouse steps. Since the inception of CERCLA and the OPA, courts have interpreted the NRD provisions to have what amounts to a “reasonableness” limit. One of the first courts to do so was the First Circuit, in reacting to an oil spill in Puerto Rico in which trustees were seeking nearly \$7 million for the restoration of 92 million organisms. The court held that the costs expended may not be “grossly disproportionate.” See *P.R. v. S.S. Zoe Colocotroni*, 628 F.2d 652, 676–7 (1st Cir. 1980).

Natural resource trustees may also draw on economics literature that explains how to calculate value from “revealed preferences studies.” Revealed preferences depict what people actually do, as opposed to what they say they do. For example, data analyzed could include recreational profits from entrance fees paid at fishing or hunting preserves for a given time period. Because recreation is considered a market good, trustees may use market data to help estimate the value of a given resource. Compare the revealed preference method with the contingent value method discussed above (where trustees rely on data from survey questions in which responders are asked

to choose among scenarios where they pay certain amounts to retain or protect natural goods or services). As one might imagine, PRPs may have a problem with natural resource trustees relying on these valuation methods because they are seen as unpredictable, nebulous, and they may overestimate the value of a resource, thereby leading to additional money companies and PRPs are expected to pay to settle NRD claims. By contrast, there are two approaches to calculating compensable value, which is defined as the amount of money required to compensate the public for the interim loss of the resource or resource services between the time the resource was injured and the time it was restored to its baseline condition or replaced. Under CERCLA, natural resource trustees may use either the “economic value” approach or the “restoration value” approach. The economic value approach measures the economics of both use and non-use value losses. Recall that use values are derived from interacting with the environment (fishing, hiking) and non-use values are those that are not derived from physical interaction with ecosystems (e.g., knowing that an ecosystem or natural resource will be preserved for future generations). The economic value approach assigns value according to the ability of the resource to satisfy human needs. The restoration value approach is fundamentally different. It looks at the costs associated with the actual restoration of the resource back to baseline conditions (including the costs of the environmental assessments themselves).

Although natural resource damages are technically “noneconomic” damages, one benefit of using economic methods to gauge the value of nature is that there is not a strong inherent bias. Economics are not intended to be “pro” environment or “pro” business.

CERCLA provides guidance on what types of valuation methods are favored in NRDA. The guidance gives a list of considerations for the trustees to consider when choosing a method to calculate the appropriate value of the lost resource. Reviewing the report disclosed in discovery discussing the chosen method can be thought of as a *Daubert*-type inquiry. The questions to consider in choosing the method are, in no particular order (1) Is the method in question subject to standards? (2) Has it been tested for reliability? (3) Is it generally accepted by experts in the field? (4) Has it been peer reviewed? (5) Is the method appropriate and useful for the particular injury? (6) Does it appropriately address the degree and nature

of the injury? and (7) Are any assumptions the method makes supported? It is extremely important for companies to know what sorts of considerations natural resource trustees will be taking into account in formulating NRDA's for two main reasons. First, if companies know how natural resource damages are likely to be calculated, they can minimize the risk of surprise if they face an NRD action, because they will be familiar with the concepts and armed with the tools to appropriately and effectively respond. Second, if companies have a working knowledge of the approved methods of calculating the value of the natural resource in question, they have information that could be used to challenge the determination. In addition, both CERCLA and the OPA provide limited defenses to NRD claims as a whole; if the damages were the result of an act of God, an act of war, or an act or omission of a third party, the PRP may not be liable. 33 U.S.C. § 2703(a) (1994); 42 U.S.C. § 9607(b) (1994).

Why Does Any of This Matter?

Although natural resource damages are technically “noneconomic” damages, one benefit of using economic methods to gauge the value of nature is that there is not a strong inherent bias. Economics are not intended to be “pro” environment or “pro” business. Economic valuation methods are designed to give as accurate of a picture as possible of how much the resource in question is demanded. That said, natural resource trustees have a vested interest, as do all parties in litigation. There is nothing that stops trustees from selecting the valuation method that best maximizes their damages. Further, just because NRD claims do not receive as much attention as wide-reaching CERCLA cleanups, does not mean they should not be well understood and planned for. Companies should educate themselves about what trustees focus on, how they calculate damages, and what methods they use to restore resources long before companies find themselves in the position of needing to know these things. Natural resource trustees have the ability, the tools, and the authority to hit business, insurance companies, and even federal agencies with huge liabilities that entail substantial transaction costs and potential damages. Because NRDA's are provided for in the Superfund scheme, the broad categories of persons facing liability under CERCLA (owners, operators, lessees) are also squarely at risk for NRD claims. And because CERCLA imposes a retroactive liability scheme, a company could be tagged for damages for activities it engaged in at a time when those activities were legal and commonplace. The potential for and scope of NRD

retroactivity is the topic for an entirely separate article. And because trustees have discretion in calculating the measure of damages—note that even this brief overview of the valuation methods available to natural resource trustees can make your head spin—companies cannot be sure that trustees will not choose especially aggressive methods.

Trustees are not required by any statute, law, or regulation to choose the most cost-effective method of restoration. PRPs have complained for decades that contingent valuation methods are not reliable and in some cases are punitive. And, although natural resource trustees (state, federal, and tribal) are supposed to coordinate with each other and with EPA and any other agencies that have an interest in the cleanup, breakdowns in communication happen and can lead to more lengthy cleanups with increased associated costs. Therefore, companies and PRPs should make sure they are in communication with all involved agencies to ensure that the coordination that is supposed to be happening is indeed happening. Finally, as one would expect, trustees have an interest in maximizing NRDA's because the OPA and CERCLA statutory schemes allow the trustees to spend those funds on restoration without any further congressional appropriation. Because of these aggravating factors, as it were—NRD claims as a sort of repeat of early CERCLA actions—many of the same challenges, wide-ranging liability, delay, cost, and confusion can rear their ugly heads.

Successfully Defending NRD Claims

Before anyone gets too discouraged, however, realize that in the natural NRD context, knowledge really is power. Anticipation is the single greatest tool companies have to successfully defend an NRD claim. Because each part of the process through which trustees go to assess the measure of damages for injury to a natural resource is complex and potentially controversial, it would behoove PRPs to retain experienced counsel early. Inside and outside counsel should work together to ensure that they are playing an active role in the process wherever possible. The “better safe than sorry” maxim strongly applies in this context; preparation spent learning about how the government assigns a price to nature will not be wasted—if not before a company receives notice of a pending CERCLA action, at least as soon as it does. The best thing companies can do to evaluate and hopefully minimize their risk is to prepare themselves early and often to challenge the technical assumptions, empirical data, valuation methodologies, and evidentiary conclusions on which trustees may rely in future litigation against them. 🌳