
NATURAL RESOURCE DAMAGES FOR THE ENTREPRENEURIAL PRACTITIONER: INNOVATIONS IN NRD ASSESSMENT AND RESTORATION

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I. Introduction

The natural resource damage assessment (NRDA) process has evolved since its inception in the late 1970s. The innovations keep coming. In 2016, a third-party “credit banking” mechanism was used for the first time to settle natural resource damage (NRD) liability. The natural resource trustees (led by the National Oceanic and Atmospheric Administration (NOAA)), the City of Seattle (the potentially responsible party (PRP)), and a third-party environmental restoration group, negotiated a consent decree, under which the third party will carry out restoration projects that generate credits to be purchased by the City of Seattle to settle its NRD liability at the Lower Duwamish Waterway site in Washington State. These credits may also be acquired by other PRPs to resolve their own liability at the site.

Adding credit banking to the trustees’ toolkit represents an important step forward. Shifting the burden of project design, management, and execution (but not ultimate NRD liability) from PRPs to third parties transcends the familiar trustee/PRP dynamic and enhances the flexibility and efficiency of NRD settlements. But the new approach also raises complex questions about program design, credit generation, and allocation of the risk associated with “reopener” provisions in consent decrees. Thinking through these issues is critical to ensuring the long-term success of credit banking as an effective NRD settlement mechanism.

Before addressing some of those issues in the context of the Lower Duwamish settlement in Parts III and IV, Part II charts the historical evolution of NRD assessment and restoration, noting key milestones in the road from traditional NRDA strategies to today’s credit bank scheme.

II. History of Innovation

A. Background

The first statutory authority for NRD claims appeared in the 1977 amendments to the Clean Water Act and the 1980 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). NRD provisions for oil spills are likewise included in the Oil Pollution Act of 1990. Congress envisioned that the natural resource trustees—depending on the site, these might be a combination of NOAA, the U.S. Fish and Wildlife Service (FWS), other federal agencies, state natural resources agencies, and Indian tribes—would conduct damage assessments unilaterally as part of an adversarial process. The PRPs would not participate in the damage assessment, and the end result would be a settlement or court judgement. In this model, the PRP would pay trustees to undertake restoration that would compensate for the loss of the natural resources and services harmed by the PRP’s polluting activities.

In this traditional model of damage assessment, trustees are akin to civil litigants, keeping PRPs at arm’s length and developing settlement proposals that are presented in formal fashion to PRPs. If this back-and-forth fails to yield a resolution—as happened in a few notable instances—the Department of Justice can bring an action in which a PRP’s ultimate liability is determined through judicial proceedings. Given the considerable costs of formal litigation, examples are rare. *See, e.g., United States v. Montrose Chemical Corp. of California*, 883 F. Supp. 1396 (C.D. Cal. 1995);

Coeur d'Alene Tribe v. ASARCO, Inc., 280 F. Supp. 2d 1094 (D. Idaho 2003). Whether the outcome is negotiated or litigated, liability is measured in money damages in the traditional model.

A historical look at damage assessment and restoration models pioneered over the last 40 years reveals that, by and large, successive innovations have been endorsed by trustees and industry alike (and in some cases, are now reflected in regulations). At least five innovations have emerged in the NRD context that emphasize closer engagement with PRPs in devising and executing settlements out of court: (1) cooperative damage assessments, (2) restoration-based settlements, (3) use of regional restoration plans, (4) assessments that combine NRD with the Environmental Protection Agency's (EPA) ecological risk assessment, and (5) early restoration agreements. In general, these new approaches have aimed to lower transaction costs for trustees and PRPs, increase flexibility for parties, and deepen cooperation while achieving the same or greater degree of ecological restoration. Two of the innovations center on the role played by the respective parties, and three more focus on substance and procedure in the NRD process. Each is summarized briefly below. These strategies are not mutually exclusive and are often combined in settling NRD claims.

B. Innovations in the Parties' Roles

First, cooperative damage assessments bring PRPs into the settlement process at an earlier stage than the traditional model envisioned. Department of Interior regulations require inviting potentially responsible parties to participate in the damage assessment process. 43 C.F.R. § 11.32(a)(2)(iii)(A) (“The Notice [of Intent to Perform an Assessment] shall invite the participation of the potentially responsible party. . . .”); *cf.* U.S. DEP'T OF INTERIOR, *Natural Resource Damage Assessment and Restoration Program*, in BUDGET JUSTIFICATIONS AND PERFORMANCE INFORMATION: FISCAL YEAR 2018, at 14–15 (*DOI 2018 Budget*), https://www.doi.gov/sites/doi.gov/files/uploads/fy2018_nrda_budget_justification.pdf. This typically happens through joint decision-making about data collection,

study plans, and other matters. It also includes cooperating on “development of the type and scope of the assessment and in the performance of the assessment.” 43 C.F.R. § 11.32(a)(2)(iii)(A). Under this model, PRPs have the benefit of participating in restoration planning, and trustees are subsidized earlier for the costs of assessment, which are recoverable in any event as part of the damage assessment process. Thus, all parties enjoy potential cost savings through a more streamlined approach that ideally bypasses litigation. *See, e.g., DOI 2018 Budget* (noting that “constant effort to . . . negotiate Funding and Participation Agreements with responsible parties to the greatest extent possible allows the Department to stretch its discretionary appropriated and recovered assessment funds further, which allows assessments for additional cases it might not otherwise fund”).

Second, restoration- or project-based settlements are mechanisms by which “the responsible party(ies) directly fund and/or implement agreed upon restoration or compensatory projects in accordance with trustee oversight and approval.” DONALD A. WICKHAM, NAT'L OCEANIC AND ATMOSPHERIC ADMIN., ESTIMATING ADMINISTRATIVE AND PROCEDURAL COSTS FOR NATURAL RESOURCE RESTORATION SETTLEMENTS 5 (Apr. 22, 1998), <http://www.habitat.noaa.gov/pdf/costest.pdf>. By shifting the burden of performing the restoration to PRPs themselves, the trustees can conserve resources, while PRPs maintain a strong incentive to achieve the same restoration targets at reduced cost. Of course, trustees retain oversight authority to ensure restoration projects are carried out in accordance with the terms of the settlement.

C. Innovations in Substance and Procedure

Three other innovations have centered on the scope, timing, and content of the NRD assessment process and the ultimate restoration obligations.

First, although restoration planning has historically been site-specific, federal regulations also allow trustees to use regional plans if certain criteria are met. 43 C.F.R. § 11.81(e). Regional restoration plans strive for greater efficiency by consolidating

planning for “all releases, discharges, spills[,] or other incidents, occurrences, or events” in a defined geographic area that “give rise to a claim for natural resource damages” under a single umbrella program. U.S. FISH AND WILDLIFE SERV. ET AL., SOUTHEAST MISSOURI OZARKS REGIONAL RESTORATION PLAN AND ENVIRONMENTAL ASSESSMENT 5 (June 2014), <https://www.fws.gov/midwest/es/ec/nrda/SEMONRDA/pdf/SEMOfinalRestorationPlanJune2014.pdf>. Using this more expansive approach, restoration decisions leverage earlier analyses and public input from previous projects in the same region, saving time and money and permitting restoration of a larger landscape area by pooling several settlements from different sites within the region.

Second, in the CERCLA context, parts of the damage assessment process have sometimes been combined with the ecological risk assessment (ERA) process of the EPA-led remedial investigation, yielding further benefits for trustees and PRPs. The ERA, a component of the remedial investigation phase at CERCLA Superfund sites, is concerned primarily with (1) determining whether harmful effects are likely for wild animals or plants exposed to the site; (2) determining a protective cleanup level that would reduce the risk to wild animals or plants; (3) determining the potential impact of cleanup activities on the habitats, plants, or animals; and (4) providing information for long-term biological monitoring to determine if the cleanup is effective. In the past, for CERCLA sites, NRD-related assessments followed selection of a remedy, and the ERA was performed wholly apart from the NRD damage assessment process. Now, however, it is typical to include trustees in the ERA process, and combining elements of the ERA with the NRD damage assessment is encouraged. When this occurs, the NRD process can proceed in parallel and will not be delayed while the (often lengthy) remedial process runs its course. *See* Society of Env'tl. Toxicology and Chemistry Technical Workshop (Aug. 18–22, 2008), THE NEXUS BETWEEN ECOLOGICAL RISK ASSESSMENT AND NATURAL RESOURCE DAMAGE ASSESSMENT UNDER CERCLA: UNDERSTANDING AND

IMPROVING THE COMMON SCIENTIFIC UNDERPINNINGS, https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=214168.

Finally, the early restoration model involves agreements between PRPs and trustees to perform restoration early in the process, before resources are expended to investigate the damages comprehensively—and certainly before any resources are spent on disputing damages in litigation. As with cooperative damage assessments, the efficiencies brought about by acting early are shared by trustees and PRPs, and the resource benefits by accelerated restoration. *See* Deepwater Horizon Natural Resource Damage Assessment Trustees, *Restoration*, <http://www.gulfspillrestoration.noaa.gov/assessment/restoration> (website maintained by NOAA).

III. The Latest Twist: Credit Banking to Resolve NRD Liability

In the classic approach to NRD liability, the PRP (through a settlement or in satisfaction of a judgment) pays a dollar amount commensurate with the cost of restoring natural resources and compensating for the interim loss of the resources and the services they provide. Trustees, in turn, carry out the restoration in accordance with a restoration plan. Of all the historical innovations summarized above, only restoration-based settlements change who is responsible for performing restoration activities by shifting that responsibility to PRPs. But even here, restoration does not go beyond the trustee/PRP relationship.

A recent agreement at the Lower Duwamish Waterway site in Washington State alters this equation and brings in a new player. Under an agreement between NOAA (acting on behalf of itself and other trustees of the Elliott Bay Trustee Council) and a private company, Bluefield Holdings, Inc. (Bluefield), Bluefield is authorized to conduct approved restoration projects in order to generate “Natural Resource Damages Credits.” NATURAL RESOURCE RESTORATION AND ENHANCEMENT CREDIT PROTOCOL ¶ 3, <https://casedocuments.darrp>.

noaa.gov/northwest/lowerduwamishriver/pdf/Bluefield%20Protocol.Executed%20052409.pdf. Those NRD Credits can then be purchased by PRPs as a way of resolving their NRD liability under CERCLA for the Lower Duwamish Waterway site. While the protocol agreement between NOAA and Bluefield has been in place for many years, in 2016, for the first time, a settling PRP (the City of Seattle) resolved its NRD liability through a credit purchase.

If properly scaled, and if there is appropriate nexus to injury, NRD credit banking affords a broad range of potential benefits to stakeholders, PRPs, and the public. It gives the outside restoration party a direct financial incentive to bring PRPs to the table and urge them to enter settlements. It reduces risks associated with restoration projects, since credits are generated by scaling existing projects pre-approved by trustees. And it takes advantage of economies of scale by selling credits to multiple PRPs and assigning restoration work to self-selected experts rather than PRPs who may have little restoration experience. The approach can also be attractive to settling PRPs. Since it lowers overall transaction costs, it has the potential to achieve the same results at less cost than an equivalent project administered by either trustees or PRPs. Crucially, NRD credit banking can bring about not only fiscal but ecological benefits. NOAA itself observes that it “can potentially produce more diverse and robust environmental benefits with greater ecological function” by pursuing remediation in larger, integrated sites that are more conducive to species regeneration than smaller, piecemeal restoration efforts. NAT’L OCEANIC AND ATMOSPHERIC ADMIN., GUIDANCE FOR RECOGNITION AND USE OF RESTORATION BANKS IN NATURAL RESOURCE DAMAGE ASSESSMENTS 3 (Dec. 1, 2016) (*NOAA Guidance*) (discussing advantages of credit banking noted above).

To be sure, the idea of a credit bank to address adverse environmental effects is hardly new. Since the early 1990s, it has been an increasingly prominent feature of major regulatory schemes.

Granted, the contexts are different. In the permitting processes where credit banking has been used, impacts to natural resources from permitted activities are both quantified and sanctioned in advance. In the NRD context, by contrast, liability arises from conduct which is not—and cannot be—sanctioned in advance. Still, these programs offer a helpful backdrop to understand NRD credit banking. Consider, for example, EPA’s “mitigation banking” program under Section 404 of the Clean Water Act (CWA). Proponents wishing to obtain permits to fill wetlands can fulfill their compensatory obligations by purchasing “compensatory mitigation credits.” These credits are generated by a third party at an off-site “mitigation bank,” defined as a “wetland, stream, or other aquatic resource area that has been restored, established, enhanced, or (in certain circumstances) preserved” for compensatory purposes. ENVTL. PROT. AGENCY, *Section 404 of the Clean Water Act: Mitigation Banking Factsheet*, <https://www.epa.gov/cwa-404/mitigation-banking-factsheet>. Under an analogous “conservation banking” mechanism administered by FWS under the Endangered Species Act (ESA), third parties conserve and permanently manage lands for endangered and threatened species. That work generates credits that developers buy as a permit condition for projects that have an adverse impact on species. FWS describes this program as a “market enterprise” that offers a “simple, economical alternative for developers and other project proponents” that “saves time and money and provides regulatory certainty.” U.S. FISH AND WILDLIFE SERVICE, *CONSERVATION BANKING: INCENTIVES FOR STEWARDSHIP* (Aug. 2012), https://www.fws.gov/endangered/esa-library/pdf/conservation_banking.pdf.

Now, credit banking has caught on in the NRD context. To get NRD credit banking right, the devil is in the details that trustees must closely scrutinize. The Lower Duwamish context offers an especially instructive case study to identify areas of concern and promising strategies to address them.

IV. Getting Credit Banking Right: Key Challenges

A. Generating and Using Credits

One fundamental set of questions relates to rules for credit generation. Under the “Credit Protocol” for the Lower Duwamish site, Bluefield must first obtain approval from the trustees in order for a project to yield credits that PRPs can purchase. Furthermore, eligible projects are expected to be “located in or proximate to the Site.” Credit Protocol ¶ 2.1. The trustees also retain authority to (1) determine the final number of credits each project yields and (2) withdraw recognition of credit upon unsatisfactory completion of the project. *Id.* ¶ 3.3.

Another conceivable mechanism to generate credits might be to permit PRPs (instead of or in addition to a non-liable, third-party bank) to perform more extensive restoration than is needed to address their liability. The additional credits could, in turn, be sold to other PRPs at the same site. Such an approach could yield both the ecological advantages inherent in larger, more integrated approaches to habitat restoration, as well as economies of scale that would come from having multiple participating PRPs.

NRD credit banking could also adopt a less localized form, at least in the compensatory restoration context. Natural resource damages are based, in part, on the costs of restoring injured natural resources to “baseline”—that is, the condition those resources would have been in “but for” a PRP’s release. Restoration to baseline is “primary” restoration. In addition to primary restoration, PRPs may also be required to fund or perform “compensatory” restoration. The measure of compensatory restoration is based on the lost use of the injured resources and services from the time of release to the time of recovery to baseline. Generally, restoration—whether primary or compensatory—consists of restoring, replacing, or acquiring the equivalent of the injured natural resource. (Natural resource damages also include the reasonable costs of assessment.)

Assuming primary restoration at the original site is complete, PRPs could fulfill their compensatory restoration obligations by buying credits from off-site projects with a sufficient “nexus” to the injury. By extending credit banking in this way, trustees can consolidate compensatory restoration for multiple sites into a single project that can bring about procedural simplification, lower transaction costs, enhanced economies of scale, and myriad ecological advantages.

Recent Louisiana legislation, meanwhile, illustrates a variation on credit banking that takes a more permissive approach with respect to the timing of credit generation by allowing for *prospective* NRD credit generation. Louisiana’s Natural Resource Damage Banking Program establishes a system under which polluters can discharge liability specific to oil spills under the Oil Pollution Act of 1990 and Louisiana Oil Spill Prevention and Response Act of 1991. Louisiana’s scheme allows credits generated by third parties in advance of an oil spill to offset NRD caused by a future spill. Speaking on behalf of federal trustees, NOAA’s guidelines, by contrast, expressly rule out this kind of carry-forward approach, noting that “[t]rustees . . . will not agree to accept any NRDA restoration bank credits that are generated prior in time to the injuries to which they are intended to apply.” *NOAA Guidance* at 5. Louisiana’s prospective credit regime creates a policy concern that the deterrent value of a NRD provision is diminished if parties know in advance that credits exist for purchase if they cause resource damage. Nevertheless, the model Louisiana has adopted merits closer attention as it evolves.

B. Allocating Future Responsibility

When considering NRD credit banking, trustees must also grapple with how to allocate ongoing responsibilities and the ever-present risk of “reopeners.” A “reopener” refers to the circumstances in which trustees can revisit a PRP’s liability after a settlement has been signed. CERCLA, for example, obliges trustees to reserve their right (absent “extraordinary circumstances”) to hold PRPs liable for, among other things,

conditions unknown at the time of settlement or for an increase in anticipated impacts based on assumptions that may have underestimated NRD. 42 U.S.C. § 9622(f)(6).

Reopeners can be complicated enough in the traditional model in which PRPs negotiate with trustees and agree to carry out or pay for additional restoration. Adding a third party to the equation—the restoration bank, which comes to the table with no preexisting obligations or liabilities—only serves to introduce additional concerns. On the one hand, a PRP will not wish to remain on the hook via a reopener for a credit banker’s restoration missteps. On the other hand, a company like Bluefield will be far less likely to conduct restoration in exchange for credits if, by doing so, it would take on additional, latent liability subject to a reopener. A careful balance must be struck to give PRPs and credit-generating third parties adequate incentives to cooperate in a credit banking scheme that fairly distributes upsides and risks.

The credit protocol between NOAA and Bluefield makes Bluefield responsible for maintenance and performance monitoring for completed projects. It further provides that the trustees and Bluefield will meet every three years, for up to nine years, to address the need for changes based on that performance monitoring. Credit Protocol ¶¶ 2.3, 2.7. (The trustees also retain authority to adjust the number of credits awarded for a project based on post-completion performance. *Id.* ¶ 2.7.) Bluefield is likewise a full-fledged party to the consent decree that resolves Seattle’s NRD liability. *United States v. Seattle*, Case No. CV-16-1486, Consent Decree (Sept. 22, 2016), https://www.justice.gov/sites/default/files/enrd/pages/attachments/2016/09/23/consent_decree.pdf. The decree imposes numerous maintenance and monitoring obligations on Bluefield. For example, its selection of contractors requires Trustee approval (¶ 34); it must allow the Trustees onto the restoration project site to carry out further work as the trustees see fit (so long as it does not interfere with Bluefield’s work) (¶ 32); it must reimburse trustees for the costs of oversight

and monitoring of the completed project (¶ 27); and Bluefield is liable for a daily penalty for non-compliance with the Decree (¶ 63a). It is notable that Bluefield, a non-liable party, willingly assumed the extensive legal duties outlined above (among others). On the flip side, however, the City of Seattle (the beneficiary of the consent decree’s covenant not to sue) is the party exposed to the potential reopener. The city also remains liable for as much as \$125,000 per day in liquidated damages for any interference it causes with the ecological function of restoration projects performed by Bluefield. Consent Decree ¶ 55.

The Lower Duwamish case study presents a promising blueprint for allocating benefits and burdens in an NRD credit banking scheme. The division of ongoing responsibility strikes a reasonable balance: Bluefield must satisfactorily execute the restoration project while the City of Seattle is subject to the risk of reopener. The price of credits will almost certainly capture this dynamic. The value of an NRD credit reflects the amount a PRP is willing to pay for the covenant not to sue, reopener and all. Thus, a credit bank like Bluefield must price into the cost of credits the fact that the customer buys peace of mind on the known, but not the unknown, conditions at the site. This pricing will be crucial to the success of NRD credit banking.

There is also risk that, as between PRPs, a credit banking scheme will give rise to inequities in how restoration is paid for. Due to economies of scale, credits for a given site might become cheaper over time, potentially allowing future PRP settlers to pay less to resolve the same, or even a greater, degree of NRD liability than similarly situated PRPs that settle earlier. Furthermore, because restoration is already under way or fully performed, the value of a compensatory claim would be diminished for late settlers. It is possible, then, that a credit banking approach would disincentivize early settlement. The parties would need to think about whether this raises fairness concerns, or whether there is a way to offer early settlers a discount for resolving liability sooner.

While the City of Seattle is the only PRP thus far to reach a settlement utilizing the credit banking option, it is noteworthy that trustees at the Lower Duwamish site have agreed to help finance a part of a Bluefield project currently under way from previous settlement funds. In so doing, the trustees are effectively retiring a portion of the credits that the project will generate and that would otherwise be available to future settling PRPs.

V. Conclusion

The use of credit banking to resolve NRD liability signals another milestone in the continuing evolution of damage assessment and restoration models. Like previous innovations, NRD credit banking provides incentives for early restoration, greater coordination, more ecologically valuable restoration projects, and overall efficiency in project execution. While PRPs, prospective banks, and trustees will need to work through numerous complications in structuring a credit banking system tailored to the needs of particular sites and parties, the approach adopted at the Lower Duwamish offers a useful template for working out thorny questions about the mechanics of NRD credit generation and the allocation of risk and future responsibility.

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