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Cover Page Footnote

J.D. Candidate, May 2017, The Catholic University of America, Columbus School of Law; B.A. 2014, The George Washington University. The author is grateful to Professor Lucia Silecchia, her former supervisors at the Environmental Protection Agency, her family, and colleagues of The Catholic University Law Review for their invaluable guidance and significant time, effort, and support in writing and preparing this Comment for publication.

DOES ONE SIZE FIT ALL? THE IMPORTANCE OF STATE NATURAL RESOURCE DAMAGE ASSESSMENT LAWS

Elizabeth Conti⁺

Imagine almost 200 million gallons of oil flowing into the nation's navigable waters, damaging and destroying most of the natural resources along the way. That is exactly what happened on April 20, 2010, when the Deepwater Horizon oil spill occurred in the Gulf of Mexico.¹ Thousands of dead birds, fish, mammals, insects, and reptiles were collected, and thousands more were adversely affected by the disaster.² Commercial and recreational access to natural resources were severely diminished.³ So, how did the federal and affected state governments assess the damage and plan for restoration and remediation? This is where natural resource damage assessments play a prominent, but often neglected, role in restoring and protecting the environment and human health.

After an oil spill or hazardous substance release, response agencies, such as the U.S. Environmental Protection Agency (EPA), lead efforts to control and clean up the substance in order to eliminate or reduce the risks to human health and the environment.⁴ Typically, these response agencies include federal agencies, states, and Indian tribes that evaluate the impacts of the damages to natural resources. These response agencies—called trustees—are responsible

⁺ J.D. Candidate, May 2017, The Catholic University of America, Columbus School of Law; B.A. 2014, The George Washington University. The author is grateful to Professor Lucia Silecchia, her former supervisors at the Environmental Protection Agency, her family, and colleagues of *The Catholic University Law Review* for their invaluable guidance and significant time, effort, and support in writing and preparing this Comment for publication.

1. Melissa Trosclair Daigle, *The Value of a Pelican: An Overview of the Natural Resource Damage Assessment Under Federal and Louisiana Law*, 16 OCEAN & COASTAL L.J. 253, 253 (2011).

2. *Id.* The evidence and numbers that reflect the affected fish and wildlife were reported to the unified Area Command from the U.S. Fish and Wildlife Service and NOAA. Across the Gulf of Mexico, it was determined that the Deepwater Horizon spill led to the death of 5,000 marine mammals, 1,000 sea turtles, 1 million coastal and offshore seabirds, and an undeterminable number of fish. Alexandra Adams, *Summary of Information Concerning the Ecological and Economic Impacts of the BP Deepwater Horizon Oil Spill Disaster*, NATURAL RES. DEF. COUNCIL 2, 5 (June 2015), <http://www.nrdc.org/energy/gulfspill/files/gulfspill-impacts-summary-IP.pdf>.

3. Adams, *supra* note 2, at 6–7. The Gulf-area fishing industry has, to date, lost \$247 million as a result of closures along the coast, and the commercial tourism industry has an estimated loss of \$22.7 billion through 2013. *Id.*

4. *EPA's Response Techniques*, ENVTL. PROT. AGENCY, <https://www.epa.gov/emergency-response/epas-response-techniques> (last visited Feb. 1, 2017).

for studying the effects of the damages through a process known as Natural Resource Damage Assessment (NRDA).⁵

The NRDA process is both time-consuming and complicated. The main purpose of both NRDA and the ensuing restoration is to revitalize the natural resources and repair any harm to the communities, including the costs of losing the use of those natural resources due to the destruction or damage caused by discharge.⁶ This can be accomplished by (1) returning natural resources to their pre-contaminated condition and (2) providing compensation and damages to the individuals, businesses, states, and the general public “for the loss of use from the time of the spill through the period of recovery.”⁷ Natural resource damages (NRD or NRDs) differ from other forms of damages because they cover the cost of primary restoration, compensatory damages, and the costs associated with assessing those damages, whereas typical damages only consider compensation for injury or loss.⁸

The NRDA process is incorporated in several federal laws, most prominently in the Comprehensive Environmental Response, Compensations, and Liability Act (CERCLA), the Oil Pollution Act (OPA), and the Federal Water Pollution Control Act (Clean Water Act or CWA).⁹ Typically, NRDs are defined as “damages for injury to, destruction of, loss of, or loss of use of, natural resources, including the reasonable costs of assessing the damage, which shall be

5. See Daigle, *supra* note 1, at 256, 259; see also *Kennecott Utah Copper Co. v. U.S. Dep’t of the Interior*, 88 F.3d 1911, 1200 (D.C. Cir. 1996) (explaining that once a trustee assesses the natural resource damages in accordance with the state or, in this case, federal regulations, the NRDA “enjoys a rebuttable presumption in administrative proceedings and in court”); *United States v. Asarco, Inc.*, No. CV 96-0122-N-EJL, 1998 WL 1799392, at *2 (D. Idaho Mar. 31, 1998) (clarifying that the administrative procedures for evaluating recoverable damages is not mandatory, but partaking in an NRDA entitles trustees and their conducted assessments to a “rebuttable presumption” of creditability).

6. See Daigle, *supra* note 1, at 265.

7. *Id.* at 255.

8. See Kenneth O. Corley & Ann Al-Bahish, *Understanding Natural Resource Damages*, 59 ROCKY MT. MIN. L. FOUND., 2013, § 2.02(3). Within those three areas considered in natural resource damages, human and ecological injuries are evaluated. *Id.* § 2.02–2.02(2). Typically, there are two principle methods for calculating natural resource damages: “[T]he principle that damages should be calculated on the basis of restoration costs, and the principle that the contingent valuation method (CVM) should be used to calculate nonuse values.” Dale B. Thompson, *Valuing the Environment: Courts’ Struggle with Natural Resource Damages*, 32 ENVTL. L. 57, 57 (2002). This decision spurred much debate among legal scholars. *Id.* at 62. Many criticized the CVM nonuse value approach. *Id.* They urged that NRDA’s “should focus on restoration costs, not lost use value” because “restoration and replacement are much easier to estimate than diminution of values.” *Id.* On the other side of the argument, other legal scholars accept this approach. *Id.* at 64. They claim it offers the most complete analysis, and although it may overestimate the value of damages, it is better to be overly protective of the environment rather than not have enough money to restore all lost resources. *Id.* at 63.

9. See Federal Water Pollution Control Act, 33 U.S.C. §§ 1251–1387 (2012); Oil Pollution Act, 33 U.S.C. §§ 2701–2762 (2012); Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601–9675 (2012).

recoverable by a United States trustee.”¹⁰ Each federal statute allows collecting money as compensation for NRDs.¹¹ Although these federal statutes do not directly assist individuals affected by an oil spill, nor do they provide punitive damages; state statutes can address these issues.¹²

While these federal statutes provide effective means of assessing NRDs, they are not state specific; thus, they do not consider all factors a state statute might address. Due to the complexity of environmental issues, NRDs are easier to resolve on a smaller scale. Thus, it has become an increasing trend for states to play a more critical role in the prosecution of NRD claims.¹³ This has led state legislatures to pass bills creating their own state NRDA laws, which aim to focus

10. 33 U.S.C. § 2702(b)(2)(A). Federal, state, and tribal natural resource damage trustees partake in a similar role depending on the resources affected by the environmental issue. E. Lynn Grayson & Sarah H. Halpin, *Making Things Right: What Businesses Need to Know About Natural Resource Damage Claims*, AM. BAR ASS’N (Dec. 2002), <http://apps.americanbar.org/buslaw/blt/2002-11-12/grayson.html>. The federal natural resource damage trustee typically considers restoration of federally owned natural resources such as federally owned lands, migratory birds, endangered species, as well as the habitat of those endangered species or migratory birds such as the water, land, vegetation, and sediment. *Id.* State owned natural resources are natural resources owned or controlled by the states. *Id.* Federal and state trustees can hold businesses responsible for natural resource damages. *Id.* To establish a case against a business for NRDs, a trustee needs to prove that a release of a hazardous substance occurred from the responsible party and that there has been some form of an injury, destruction, or loss of natural resources resulting from that release. *Id.*

11. See, e.g., *Restoration Program*, U.S. DEP’T OF THE INTERIOR, <https://www.doi.gov/restoration/authorities> (last visited Feb. 2, 2017).

12. See KRISTINA ALEXANDER, CONG. RESEARCH SERV., *THE 2010 OIL SPILL: NATURAL RESOURCE DAMAGE ASSESSMENT UNDER THE OIL POLLUTION ACT 1* (2010). However, some scholars have noted that there should be a push for private citizens to raise natural resource damages actions in federal environmental law. Berry Breen, *Citizen Suits for Natural Resource Damages: Closing a Gap in Federal Environmental Law*, 24 WAKE FOREST L. REV. 851, 852–53 (1989).

13. BRIAN D. ISRAEL, *STATE-BY-STATE GUIDE TO NRD PROGRAMS IN ALL 50 STATES, ENVIRONMENTAL LAW PRACTICE GUIDE: STATE AND FEDERAL LAW* § 32B.12 (Michael B. Gerrard ed., 2016). Individual states have primary control over resources within their state borders. There are three ways a state can seek damages for pollution or natural resources: the traditional direct ownership theory, the public trust doctrine, and the doctrine of *parens patriae*. Under the traditional theory, states have an interest in the state property damaged by pollution, which includes the land and water within or around the state’s borders. The damages are not only to the land and water, but also living resources such as plants and animals. Charles B. Anderson, *Damage to Natural Resources and the Costs of Restoration*, 72 TUL. L. REV. 417, 426–28 (1997). The second theory, the public trust doctrine, allows for states to seek damages for pollution-related injuries to natural resources. The “public trust doctrine . . . recognizes that some types of natural resources are held in trust by the government for the benefit of the public.” *Id.* This doctrine is particularly important for marine pollution. See *id.* And the resource uses “protected by the doctrine are navigation, commerce, fishing, and certain recreational uses.” *Id.* Thus, the public trust doctrine establishes the foundation of the federal and state governments’ claims for damages to natural resources necessary under statutes like OPA and CERCLA. *Id.* Finally, the doctrine of *parens patriae* allows states to bring claims regardless of whether a proprietary interest is injured. In other words, “[T]he state’s independent interest exists either when ‘the state itself suffers an injury,’ such as pollution damage to state owned lands, or where pollution injures the general welfare of its citizens in the same manner as a public nuisance.” *Id.* at 428 (internal citations omitted).

more on state needs rather than the federal government and they resolve claims more quickly than the federal statutes.¹⁴ NRDs are capable of being performed under traditional means; however, with the rise of environmental awareness and an increasing focus on environmental issues, the federal government and its resources are stretched thin.¹⁵ The federal government must prioritize natural resource damages. Thus, some affected areas may not be immediately addressed, which may cause additional damages and costs to the health of the people and the surrounding environment. By shifting the focus of NRDA to the states, there is a hope that the waiting period to address, assess, and restore the affected area will be minimized.¹⁶ States use a wide variety of methods to implement NRDA. Some have heavy state specific laws while others defer to the federal government. Most states are, however, somewhere in the middle. To best analyze the effectiveness of state NRDA laws, it is easiest to compare and contrast two of the most extremes—California and Pennsylvania.

California is well known for setting practices and standards in various areas that the federal and other state governments attempt to emulate.¹⁷ Currently, California has a robust number of state NRDA laws that are more stringent than other states.¹⁸ A recent case study of the Refugio State Beach oil spill illustrated the effectiveness of California's strong NRDA laws.¹⁹

However, not all states are as progressive with their NRDA laws. For instance, Pennsylvania has very few state NRDA laws. It relies almost exclusively on federal statutes and agencies to assess damages, cleanup and recovery, and issue liability.²⁰ Pennsylvania's lack of NRDA law has led to several issues arising under governance and the NRDA process. One such case that exhibits some of the struggles states face with minimal NRDA laws and lack of resources to conduct those assessments is the Dimock, Pennsylvania fracking blowout in 2009.²¹

14. See Israel, *supra* note 13, § 32B.02(e). States can be quicker because they can respond to local issues faster than the federal government, which has to deploy people and resources to that specific state.

15. See *id.* § 32B.09(2)(g) (discussing the unusually high cost of NRD litigation due in part to the costs of retaining experts and conducting ecological studies).

16. *Id.* § 32B.02(1)(e).

17. For example, the revised Toxic Substances Control Act of 2016 replicated provisions from California Proposition 65—the leading state toxic chemical statute. Compare CAL. HEALTH & SAFETY CODE § 25249.8(a) (West 2016) (explaining that the governor shall publish a list of chemicals known to cause cancer or reproductive toxicity and cause the list to be revised and republished at least once per year thereafter), with 15 U.S.C. § 2603(e)(B) (2012) (explaining that the committee established shall publish a list of chemical substances and mixtures and update the list every six months).

18. See generally Israel, *supra* note 13, § 32B.12(5) (providing an overview of California's state NRD claims process).

19. See *infra* Part II.A.

20. Israel, *supra* note 13, § 32B.12(38). Pennsylvania's major NRDA law, the Hazardous Site Cleanup Act (HSCA), provides authority for NRD claims. *Id.*

21. See *infra* Part II.B.

While traditional federal statutes are sufficient, states know their people and needs better. Having stronger, more stringent state statutes in place will help avoid inefficiencies and confusion. In essence, states should take a more prominent role in managing and governing the NRDA process to avoid inefficiencies.²²

This Comment discusses why there should be more focus on state natural resource damage assessments aside from simply focusing on federal laws. Part I begins with an overview of the major federal NRDA laws including CERCLA, the OPA, the CWA, and state NRDA laws. Part II explores case studies from two different states, California and Pennsylvania, and how applying both state and federal NRDA laws can paint a more descriptive picture of the differences and similarities between the state and federal laws. Part III compares the NRDA laws of California and Pennsylvania, noting the successes and failures of each approach. This Comment concludes by proposing that the existing federal laws governing NRDA are not a one size fits all approach, and instead encourages states to take the initiative in creating and strengthening their own NRDA laws.

I. CURRENT LAWS THAT ASSESS NATURAL RESOURCE DAMAGES

Under federal and state laws, there are typically three stages for the NRDA process. The first is the pre-assessment stage, where injuries are found.²³ The second stage is the restoration planning stage, which identifies restoration projects for the trustees to conduct to remove or remediate the contamination to the natural resource.²⁴ The final stage is the restoration implementation stage,

22. For a discussion of each state's programs, see Israel, *supra* note 13, § 32B.12. Some, for instance, are "fairly robust" whereas others are "currently considering increased NRD activity." *Id.* From this discussion it is clear that when a state takes a more prominent role in managing and governing the process it avoids inefficiencies.

23. See ALEXANDER, *supra* note 12, at 7. The pre-assessment stage is a quick review of all of the easily accessible information regarding the natural resources such as the fact that a hazardous substance was released, quantity and concentration of the release, sufficient data, and whether response actions will sufficiently remedy the situation. Linda B. Burlington, *Advances in Natural Resource Damages*, NAT'L OCEANIC AND ATMOSPHERIC ADMIN. 3, http://www.lawseminars.com/materials/06NRDWA-pre/nrdwa%20m%20oconnor_a.pdf. Responsible parties can and should be involved in all stages of the NRDA process. They can assist in identifying the most at risk natural resources and suggest protective measures and response. See Daigle, *supra* note 1, at 260 n.42. Assessments can also be negotiated between state trustees and the responsible party if they can agree on a particular assessment method. *Id.* at 262 n.60.

24. See ALEXANDER, *supra* note 12, at 8. The assessment plan stage focuses on planning an assessment at a reasonable cost that identifies and records the scientific and economic procedures used or those that should be used in the next stage. Burlington, *supra* note 23, at 8–9.

where trustees strive to implement the plan created in stage two.²⁵ This final stage is also where the settlement agreements occur.²⁶

A. *Analyzing Federal Natural Resource Damage Assessment Laws*

Federal laws dictate what all states must do when assessing natural resource damages. There are three major federal laws that detail the first stage towards the restoration of a natural resource. Those three federal statutes are CERCLA, the OPA, and the CWA.

1. *CERCLA: Abandoned or Closed Sites of Released Hazardous Substances*

CERCLA, commonly known as “Superfund,” was passed in 1980 following the Love Canal disaster.²⁷ It “provides a comprehensive group of authorities . . . [with the] goal to address any release, or threatened release, of hazardous substances, pollutants, or contaminants that could endanger human health and/or the environment” at abandoned or closed hazardous waste sites.²⁸ “The statute also provides authority for assessment and restoration of natural resources that have been injured by a hazardous substance release or response.”²⁹ Under CERCLA, the term “natural resources” is defined as “land, fish, wildlife, biota, air, water, groundwater, 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”³⁰ Congress intentionally excluded purely private property from the NRDA provision of CERCLA, preventing private entities from pursuing CERCLA claims.³¹ However, that does not mean

25. See ALEXANDER, *supra* note 12, at 9. “Expedited assessments can be implemented only when the unauthorized discharge of oil caused only limited observable mortality, the full extent of the damage can be determined within twelve months, and the restoration plan can be implemented with twelve months of completion of the response actions.” Daigle, *supra* note 1, at 262 n.59 (citing LA. ADMIN. CODE tit. 43, xxix, § 121(H)(2) (2007)).

26. ALEXANDER, *supra* note 12, at 9. Traditionally, “NRDA is designed to avoid litigation.” *Id.* at 2. However, there might be some circumstances where it is unavoidable. *Id.* at 13. Overall, “natural resource damages is a statutory cause of action, and is not necessarily constrained by common law precedents.” Craig R. O’Connor, *Natural Resource Damages Under the Comprehensive Environmental Response, Compensation, and Liability Act, and the Oil Pollution Act*, SD67 ALI-ABA 145, 149 (Feb. 1999).

27. Patrick E. Tolan Jr., *Natural Resource Damages Under CERCLA: Failures, Lessons Learned, and Alternatives*, 38 N.M. L. REV. 409, 409 (2008). In 1988 Occidental Chemical Corporation deposited thousands of tons of hazardous chemical wastes into a sixteen-acre landfill in Love Canal, a neighborhood located in Niagara Falls, New York. *United States v. Hooker Chems. & Plastics Corp.*, 123 F.R.D. 3, 4 (W.D.N.Y. 1988).

28. *Natural Resource Damages: A Primer*, ENVTL. PROTECTION AGENCY, <http://www2.epa.gov/superfund/natural-resource-damages-primer> (last visited Jan. 27, 2017).

29. *Id.*

30. 42 U.S.C. § 9601(16) (2012).

31. See *Ohio v. U.S. Dep’t of the Interior*, 880 F.2d 432, 468 (D.C. Cir. 1989) (“The legislative history of CERCLA indicates, however, that Congress intended natural resource damage

that only government-owned properties fall under CERCLA's natural resources definition.³²

CERCLA, which “enables emergency responders to clean up now and collect from responsible parties later[.]”³³ identifies potentially responsible parties (PRP), such as current owners or operators of a piece of property, past owners or operators of the property, and arrangers, or transporters of hazardous wastes.³⁴ Aside from cleanup liability, the statute includes an important provision on damage assessment to “restore natural resources that had been injured or destroyed due to the release of hazardous substances.”³⁵ These NRDA are difficult to conduct “due to the inherently speculative nature of valuing lost resources and the benefits derived from those resources”³⁶ The President allocated authority to the Department of Interior to promulgate regulations under this provision of CERCLA.³⁷

CERCLA's NRDA has two conflicting functions. “On the one hand, the assessment is used for” litigation purposes to allow for trustees to recover the funds crucial to restoring damaged resources.³⁸ On the other hand, the damage assessment identifies “alternatives for restoring injured resources” or obtaining “equivalent resources that best serve the public.”³⁹

CERCLA does not offer a clear standard or process for assessing NRDA, yet there is guidance on the matter.⁴⁰ Under section 301(c)(2), CERCLA requires the NRDA regulations to “identify the best available procedures to determine such damages, including both direct and indirect injury, destruction, or loss, and shall take into consideration factors including, but not limited to, replacement value, use value, and the ability of the ecosystem to recover.”⁴¹ Section

assessments to be ‘accomplished in the most cost-effective manner possible,’ that they be ‘efficient as to both time and cost,’ and that they be the ‘most accurate and efficient for accomplishing the mandates of this legislation.’” (quoting S. REP. NO. 848, at 85–86 (1980)).

32. William D. Brighton, *Natural Resource Damages Under CERCLA*, ALI-ABA COURSE OF STUDY: HAZARDOUS SUBSTANCES, SITE REMEDIATION & ENFORCEMENT 331, 335 (2006).

33. Tolan, *supra* note 27, at 409.

34. *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/comprehensive_environmental_response_compensation_and_liability_act_cercla (last visited Jan. 25, 2017).

35. Tolan, *supra* note 27, at 410.

36. *Id.*

37. DANIEL A. FARBER, *ENVIRONMENTAL LAW IN A NUTSHELL* 246 (9th ed. 2014).

38. O'Connor, *supra* note 26, at 158.

39. *Id.*

40. Brighton, *supra* note 32, at 346.

41. *Id.* (quoting 42 U.S.C. § 9651(c)(2) (2012)). While Congress does not require state-of-the-art methodologies in conducting natural resource damage assessments, it does require assessments to reflect the “best available procedures.” *Colorado v. U.S. Dep’t of the Interior*, 880 F.2d 481, 489–90 (D.C. Cir. 1989); *see also* *Ohio v. U.S. Dep’t of the Interior*, 880 F.2d 432, 468 (D.C. Cir. 1989) (determining that Congress intended CERCLA's natural resource damage assessments “to be ‘accomplished in the most cost-effective manner possible,’ that they be ‘efficient as to both time and cost’”).

107(f)(1) compels “natural resource trustees to use all sums recovered as damages to restore or replace the injured resources.”⁴² Typically, a CERCLA NRD claim provides for the recovery of residual injuries to natural resources after the “completion of remediation, as well as compensatory value for that resource during remediation and recovery.”⁴³ CERCLA natural resource damage recoveries are used only to “restore, replace, or acquire the equivalent of” the affected resources.⁴⁴ Prior to 1989, CERCLA’s original NRDA regulations asserted that the proper measure of natural resource damages is the “lesser of” rule, noting that NRDs were the “lesser of” the recoveries.⁴⁵ However, *Ohio v. United States Department of the Interior*⁴⁶ struck down the “lesser of” rule in 1989.⁴⁷ The D.C. Circuit held that “CERCLA unambiguously mandates a distinct preference for using restoration cost as the measure of damages, and so precludes a ‘lesser of’ rule which totally ignores that preference.”⁴⁸ Now, the damage assessments fully cover all aspects of a loss as Congress intended.⁴⁹ *Ohio v. United States Department of the Interior* did allow for a controversial but accepted notion of exemption under CERCLA—“CERCLA permits [DOI] to establish a rule exempting responsible parties in some cases from having to pay the full cost of restoration of natural resources.”⁵⁰ Essentially, this allows responsible parties to avoid the cost of restoration if restoration is impossible or if the costs of restoration are “grossly disproportionate to the use value of the resource.”⁵¹

42. Brighton, *supra* note 32, at 346 (citing 42 U.S.C. § 9607(f)(1)).

43. Patrick H. Zaepfel, *The Reauthorization of CERCLA NRDS: A Proposal for a Reformulated and Rational Federal Program*, 8 VILL. ENVTL. L.J. 361, 371 (1997); *see also* Key Tronic Corp. v. United States, 511 U.S. 809, 819 (1994) (finding that plaintiffs cannot recover reimbursement for their attorneys’ fees from the responsible party of natural resource damages); Price v. U.S. Navy, 39 F.3d 1011, 1017, 1020 (9th Cir. 1994) (holding that plaintiffs may not recover compensation for devalued property or individual medical monitoring).

44. 33 U.S.C. § 2706(c), (f) (2012).

45. Brighton, *supra* note 32, at 346. This rule was in accordance with the common law tort damages. *Id.*

46. 880 F.2d 432 (D.C. Cir. 1989).

47. *Id.* at 444.

48. *Id.*

49. *Id.* at 463. The accepted minimum measure of damages is “the costs of restoring natural resources to the condition they would have been in absent the hazardous substance release” Brighton, *supra* note 32, at 347.

50. *U.S. Dep’t of the Interior*, 880 F.2d at 443.

51. *Id.* at 446; *Puerto Rico v. SS. Zoe Colocotroni*, 628 F.2d 657, 675 (1st Cir. 1980) (“There may be circumstances where direct restoration of the affected area is either physically impossible or so disproportionately expensive that it would not be reasonable to undertake such a remedy. Some other measure of damages might be reasonable.”); *see Utah v. Kennecott Corp.*, 801 F. Supp. 553, 571 (D. Utah 1992) (“If . . . restoration is feasible, the State would be obliged to follow and apply the statutory preference for restoration in assessing costs and damages, unless exceptional circumstances would warrant adoption of a different measure of damages.”).

In total, CERCLA was the first major federal law that created regulations addressing natural resource damages and their assessments. It set the stage for subsequent NRDA provisions within both state and federal statutes toward restoring injured resources and services while compensating the public for a loss.

2. *The Oil Pollution Act: Oil Spills and Leaks*

The OPA applies to spills, leaks, or “discharges of oil into or on . . . navigable waters” and shores.⁵² Analogous to CERCLA, the National Oceanic and Atmospheric Association (NOAA) handles damage assessments to natural resources under the OPA.⁵³ Congress passed the OPA in 1990 in response to the Exxon Valdez spill, which caused extensive natural resource damage to the Alaskan waterway. Here, the CWA’s existing oil provisions for NRDA inhibited cleanup response time.⁵⁴ Overall, OPA provides for oil pollution liability and compensation as well as for the federal government to direct and manage oil spill cleanups.⁵⁵ The OPA allows for the assessment and restoration of natural resources that could have been contaminated by the discharge or threatened discharge of oil.⁵⁶

The OPA definition for natural resources is almost identical to CERCLA. The OPA defines natural resources as “land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States, . . . any State or local government, or Indian tribe, or any foreign government.”⁵⁷ Additionally, the OPA allows for the use of ecosystem services involving natural resources, and allows the inclusion and measurement of an ecosystem’s role in protection from future storms or disasters.⁵⁸ The federal statute also offers some additional general guidance on how to measure damages to natural resources. Similar to CERCLA, the OPA provides a comparable assessment of damages for “injury to, destruction of, loss of, or loss of use of, natural resources including

52. ALEXANDER, *supra* note 12, at 1. OPA was enacted, in part, as a result of the infamous Exxon Valdez oil spill of 1989, which was the largest oil spill in the United States at the time, discharging over 10.8 (millions?) gallons of oil into the ocean. William H. Rodgers Jr. et al., *The Exxon Valdez Reopener: Natural Resources Damage Settlements and Roads Not Taken*, 22 ALASKA L. REV. 135, 136 (2005).

53. See O’Connor, *supra* note 26, at 161; *Thanks Oil Pollution Act: 25 Years of Enabling Environmental Restoration After Oil Spills*, U.S. DEP’T OF COMMERCE (Aug. 20, 2015), <http://response.restoration.noaa.gov/about/media/thanks-oil-pollution-act-25-years-enabling-environmental-restoration-after-oil-spills.ht>.

54. Rodgers, *supra* note 52, at 141–42, 187.

55. 33 U.S.C. § 2701 (2012).

56. *Id.*

57. *Id.* § 2701(20). The major difference is that the OPA addresses oceanic oil spills that cross into international boundaries whereas CERCLA is primarily responsible for hazardous substance releases affecting only the United States. *Id.*

58. Daigle, *supra* note 1, at 255–56.

the reasonable cost of assessing the damage”⁵⁹ The OPA further provides that a damages claim for “injury to, or economic losses resulting from destruction of, real or personal property”⁶⁰ Lastly, the OPA provides for the reclamation of damages for “loss of subsistence use revenues; profits and earning capacity; and public services.”⁶¹

“[L]iability under [the] OPA is strict, and joint and several.”⁶² The responsible party includes any vessel or owner or operator of a vessel that causes a discharge, any onshore facility or person owning a facility that discharges oil except for a Federal agency or the State, or any offshore facilities or owners of offshore facilities that cause a discharge.⁶³

3. *The Clean Water Act: Cleaning Contaminated Waters*

While the OPA handles coastal and oceanic oil spills, the CWA tackles any water source within the United States that becomes contaminated. The CWA established a means for regulating discharges of pollutants into the waters of the United States.⁶⁴ Specifically, the NRDA provisions seek to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”⁶⁵ Congress intended the CWA to ensure there are “no discharges of oil or hazardous substances into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone . . . which may affect natural resources.”⁶⁶

For purposes of the CWA, the term “responsible party” has the same meaning as the OPA.⁶⁷ As soon as any person in charge of the facility or vessel has knowledge of a release of a hazardous substance, that person must immediately notify the appropriate agency, which is typically the EPA.⁶⁸ Within eighteen

59. O’Connor, *supra* note 26, at 149 (quoting 33 U.S.C. § 2702(b)(2)(A) (2012)).

60. *Id.* (quoting 33 U.S.C. § 2702(b)(2)(B)).

61. *Id.* (quoting 33 U.S.C. § 2702(b)(2)(C)-(F)).

62. ALEXANDER, *supra* note 12, at 2. “*Joint and several liability* means that where there are multiple responsible parties, each is potentially liable for the whole amount of the damages, regardless of its share of blame. *Strict liability* means liability is assigned regardless of fault or blame.” *Id.* at 6.

63. 33 U.S.C. § 2701(a)(32)(A)–(C). The OPA allows states to impose “additional liabilities and requirements with respect to the discharge of oil.” These additional requirements can be used as “a liability scheme for oil pollution”; however, they do not “regulate vessel operation, design, or manning.” *United States v. Locke*, 529 U.S. 89, 104–05 (2000).

64. 33 U.S.C. § 1251 (2012).

65. *Id.* § 1251(a).

66. *Id.* § 3121(b)(1). “To recover for natural resource damages, the trustees also must provide evidence quantifying those damages and connecting the injuries at issue with damages. Most federal natural resource activity occurs under CERCLA authority but other statutory authorities exist as well.” Grayson & Halpin, *supra* note 10.

67. Compare 33 U.S.C. § 1321(c)(6) with 33 U.S.C. § 2701.

68. *Id.* § 1321(b)(5); see *United States v. M/V Cosco Busnan*, 557 F. Supp. 1058, 1065 (N.D. Cal. 2008) (holding that the federal government could sue under CWA prior to the removal of oil from a spill or prior to the completion of natural damage assessments).

months of the disclosure of a discharge, the EPA Administrator will conduct a study and report on “methods, mechanisms, and procedures to create incentives to achieve a higher standard of care in all aspects of the management and movement of hazardous substances.”⁶⁹ The statute calls for the immediate removal of the discharge and mitigation of a threatened discharge of a hazardous substance that affects natural resources.⁷⁰ Costs of removal and mitigation in connection with a discharge of a hazardous substance within a water source “shall be recoverable from the owner and operator of the source of the discharge.”⁷¹

Differing from CERCLA and the OPA, the CWA initiates litigation following the conduction of an NRDA to the affected waters.⁷² The CWA does so by including a section on judicial review following the assessment, and by referencing the regulations pertaining to civil penalties.⁷³ While federal statutes preempt state laws, many states also have NRDA provisions.

B. Analyzing State Natural Resource Damage Assessment Laws

First and foremost, states must follow federal laws. CERCLA, the OPA, and the CWA all apply even if a state establishes its own NRDA provisions.⁷⁴ However, states have the authority to enact their own laws provided that those laws do not conflict with federal laws.⁷⁵ Some states have taken the lead in expanding and honing NRDA that go beyond the federal laws.⁷⁶ Although “there is great variation in the content and scope of the [s]tate [NRD] programs,” most of these provisions are located within the states’ hazardous cleanup laws in order to address recovery of natural resource damages.⁷⁷ Although a number of states have passed their own state-specific NRDA laws, there has not been substantial litigation under these provisions.⁷⁸

69. 33 U.S.C. § 1321(b)(2)(B). This damage assessment should include liability for damages, penalties, and prevention plans. *Id.*

70. *Id.* § 1321(c)(1).

71. *Id.* § 1321(b)(9)–(10).

72. *Id.* § 1321(b)(6)(G).

73. *Id.*

74. See 1 KENNETH A. MONASTERY & DANIEL P. SELMI, STATE ENVTL. L. § 9:9 (2016).

75. *Id.*

76. See, e.g., MINN. STAT. ANN. § 115B.20 (West 2016).

77. See MONASTERY & SELMI, *supra* note 74, at n.1.

78. *Id.*

The States’ programs range from having the legal authority to recover NRDs, to using State funds for natural resource restoration, to having full-time staff devoted to overseeing NRD Agreements. Several States—such as Arizona, Hawaii, Maryland, and Tennessee—report that they have natural resource damages programs, but have not actually pursued any NRD claims or undertaken any recovery actions.

ENVTL. LAW INST., AN ANALYSIS OF STATE SUPERFUND PROGRAM: 50-STATE STUDY, 1993 UPDATE 33 (1993).

California and Pennsylvania illustrate the different approaches states may take when passing NRDA laws. California has a set of very extensive NRDA provisions amongst various state statutes, and it has the resources and funds to conduct those assessments.⁷⁹ Additionally, environmental protection is one of the top political priorities in California.⁸⁰ Pennsylvania, on the other hand, has only one state NRDA statute and otherwise relies solely on federal law.⁸¹ Environmental protection and the resources allocated to that protection are a low priority in Pennsylvania. Most other states that have NRDA laws fall somewhere on the spectrum with California and Pennsylvania representing the utmost extremes in terms of state NRDA laws.⁸²

1. California: State NRDA Laws

California has some of the most extensive and robust state NRDA laws in the United States.⁸³ These statutes address liability to a greater degree than the federal statutes, implement plans for both the individuals and communities harmed, as well as assess damages to the contributor of the natural resource damage.⁸⁴ Under section 8670.7 of California's Government Code, California's definition of natural resources includes "wildlife, fisheries, wildlife or fisheries habitat, beaches, and coastal areas."⁸⁵

Section 8670.56.5 of California's Government Code addresses the liability of responsible parties and recoverable damages in response to oil spills and

79. See generally *infra* Part I.B.1.

80. See generally CAL. GOV'T CODE § 8670.7 (West 2016).

81. *Infra* Part I.B.2.

82. For example, Montana and Colorado are two states that have their own NRDA laws that in many ways mirror the federal statutes but have slight, unique differences such as a state injunctive authority, expanded remedies, and responsible party exclusions. MONASTERY & SELMI, *supra* note 74.

83. Israel, *supra* note 13, § 32B.12(5).

84. *Fireman's Fund Ins. Co. v. City of Lodi*, 302 F.3d 928, 944–45 (9th Cir. 2002) (holding that a local law that allows for individuals to recover for natural resource damages is not preempted by state law if it does not conflict with either state or federal laws); *Isaac v. City of Los Angeles*, 77 Cal. Rptr. 2d 752, 760 (Cal. Ct. App. 1998) (holding that every city within California may enact and enforce within the city limits, ordinances that do not come into conflict with general laws).

85. CAL. GOV'T CODE § 8670.7(h)(2)(A) (West 2016). The statute goes further to explain the process and involvement of California's natural resource damage assessments.

The administrator shall ensure that, as part of the response to any significant spill, biologists or other personnel are present and provided any support and funding necessary and appropriate for the assessment of damages to natural resources and for the collection of data and other evidence that may help in determining and recovering damages. The administrator shall coordinate all actions required by state or local agencies to assess injury to, and provide full mitigation for injury to, or to restore, rehabilitate, or replace, natural resources.

Id. § 8670.7(h)(1)–(2).

contingency planning.⁸⁶ Within this statute are three applicable provisions that specifically tackle natural resource damages. Section 8670.56.5(a) states “a responsible party . . . shall be absolutely liable without regard to fault for any damages incurred by any injured [party] that arise out of, or are caused by a spill.”⁸⁷ Section 8670.56.5(h)(1)-(7) discusses damages that the responsible party is liable, such as the cost of containment, cleanup, removal, monitoring, and contingency planning as well as any injury, destruction, or loss of use and enjoyment for natural resources.⁸⁸ Finally, section 8670.56.5(i) maintains that liability is joint and several, which is similar to CERCLA, the OPA, and the CWA.⁸⁹

California passed Section 2014 of California’s Fish and Game Code to conserve natural resources and prevent the destruction of the state’s fish and wildlife.⁹⁰ It measures damages and determines compensation for the destruction of natural resources, fish, and game.⁹¹ Unlike CERCLA and the OPA, this statute measures NRDs based on destruction to only “birds, mammals, fish, reptiles, or amphibia.”⁹² Section 12011 goes further by discussing additional penalties for polluting water sources. It specifies that NRDs will be assessed by “an amount equal to the reasonable costs incurred by the state or local agency for cleanup and abatement and to fully mitigate all actual damages to fish, plant, bird, or animal life and habitat.”⁹³ Finally, section 12016 considers

86. *Id.* § 8670.56.5

87. *Id.* § 8670.56.5(a). A “responsible party” is defined as “the owner or transporter of oil or a person or entity accepting responsibility for the oil” or “the owner, operator, or lessee of, or a person that charters by demise, a vessel or facility, or a person or entity accepting responsibility for the vessel or facility.” *Id.* § 8670.3(y)(1)–(2).

88. *Id.* § 8670.56.5(h)(1)–(7). Any person adversely affected by a hazardous discharge may seek compensation due to the release of that substance, in California, under the following conditions:

The source of the release of the hazardous substance, or the identity of the party liable for damages in connection therewith or responsible for the costs of removal of the hazardous substance, is unknown or cannot, with reasonable diligence, be determined; [or]

The loss was not compensable pursuant to law . . . because there is no liable party or the judgment could not be satisfied, in whole or part, against the party determined to be liable for the release of the hazardous substance; [or]

The person has presented a written demand for compensation . . . to the party which the person reasonably believes is liable for [the loss], the person has presented [the board] with a copy of the demand, and, within 60 days after presenting the demand, the party has either rejected, in whole or in part, the demand . . . or has not responded to the demand.

MONASTERY & SELMI, *supra* note 74, § 9:40 (quoting CAL. HEALTH & SAFETY CODE § 25372 (West 2016)).

89. CAL. GOV’T CODE § 8670.56.5(i) (West 2016).

90. CAL. FISH & GAME CODE § 2014(a) (West 2016).

91. *Id.* § 2014(b).

92. *Id.*

93. *Id.* § 12011(a)(2)

civil liabilities for deposits or discharges of a hazardous substance. A person is liable for any “deleterious substance” that threatens to enter or has entered California waters.⁹⁴ Those persons are responsible for all actual damages and for the practical costs of cleanup.⁹⁵

Section 25189.1 of California’s Health and Safety Code covers the civil liability for costs incurred by the state or a local agency. This section assesses short-term damages to any natural resource.⁹⁶ It also seeks to “[r]estore, rehabilitate, replace, or acquire the equivalent of, any natural resource injured, degraded, destroyed, or lost as a result of the disposal of the hazardous waste.”⁹⁷

Aside from state statutes, California also has an agreement with other West Coast states regarding potential natural resource damages along the coast and cooperative measures in natural resource damage assessments.⁹⁸ This agreement is referred to as the West Coast Joint Assessment Team (JAT), which includes the mainland West Coast states, as well as Alaska, Hawaii, and parts of Canada.⁹⁹ Factors considered when creating this collaborative development effort included the political priorities, economic ability, environmental concerns, location, and natural resources shared amongst JAT member states.¹⁰⁰ JAT meets three times a year and addresses not only NRDA’s that have already taken place but also future problems and how to handle them effectively.¹⁰¹ Collaborative development efforts allow for the states to share information and experiences related to NRDA’s and to use this varied knowledge to discuss how best to improve the process of cooperative assessments.¹⁰² NOAA promotes and encourages cooperative assessments such as JAT across the United States due to JAT’s success with “expeditious and cost-effective” NRDA’s.¹⁰³

94. *Id.* § 12016(a). A “deleterious substance” does not include permissible discharges authorized by the state of California. *Id.* § 12016(b).

95. *Id.* § 12016(a); *People v. Union Pac. R.R. Co.*, 47 Cal. Rptr. 3d 92, 108–09 (Cal. Ct. App. 2006) (finding that California’s verbal reporting requirements under California’s Health and Safety Code with respect to a release or threatened release of hazardous materials were not preempted by federal law).

96. CAL. HEALTH & SAFETY CODE § 25189.1(a)(1) (West 2016).

97. *Id.* § 25189.1(a)(2).

98. *Recommendations for Conducting Cooperative Natural Resource Damage Assessment*, WEST COAST JOINT ASSESSMENT TEAM (Apr. 2007), <http://www.nrdarpracticeexchange.com/documents/West%20Coast%20JAT%20Cooperative%20NRDA%20Doc.pdf>

99. *Id.* JAT began in 1995, when the natural resource trustees and industrial companies got together to provide a regional forum to discuss the NRDA process. JAT allows for easy communication and information between the state governments and the “industries on natural resource damage practice and related issues.” *Key Activities and Meetings*, NRDA PRACTICE EXCHANGE, <http://www.nrdarpracticeexchange.com/activities.htm> (last visited Jan. 25, 2017).

100. See Marty Cramer et al., *Collaborative Development of Recommendations for a Cooperative NRDA*, INT’L OIL SPILL CONFERENCE PROCEEDINGS 1141, 1142 (2008).

101. *Id.*

102. See WEST COAST JOINT ASSESSMENT TEAM, *supra* note 98, at 1–2.

103. *Id.* at 1–1 (“One of the key factors to a successful cooperative assessment is obtaining agreement from all parties on the principles that will guide the assessment process.”).

2. Pennsylvania: State NRDA Laws

Pennsylvania defines natural resources as “land, fish, wildlife, biota, air, water, groundwater, drinking water supplies and other resources belonging to, managed by, held in trust by, appertaining to or otherwise controlled by the United States, the Commonwealth or a political subdivision.”¹⁰⁴ The state also asserts that the responsible party is “[a] person responsible for the release or threatened release of a hazardous substance.”¹⁰⁵ However, if that person is the Federal Government or a financial institution of the Federal Government, liability is waived.¹⁰⁶

Pennsylvania is an example of a state that does not have the most stringent or plentiful statutes addressing NRDA outside of federal laws like CERCLA and the OPA. Pennsylvania has two statutes that address natural resource damages: the Hazardous Waste Cleanup Act (HWCA),¹⁰⁷ and the Oil Spill Responder Liability Act.¹⁰⁸

Specifically, under the HWCA, the response party for the state is the Pennsylvania Department of Environmental Protection (DEP). The DEP investigates and implements temporary or remedial response actions for potential releases of hazardous contaminants.¹⁰⁹ The cleanup standards are simply to meet all of the requirements that are “legally applicable or relevant and appropriate under the circumstances presented by the release or threatened release of the hazardous substance or contaminant” as promulgated under CERCLA.¹¹⁰ The costs and natural resource damage attributed to recovery include administrative and legal costs sustained during the investigation.¹¹¹ However, CERCLA dictates the costs of the actual damage assessment.¹¹²

104. 35 PA. STAT. AND CONS. STAT. ANN. § 6020.103 (West 2016).

105. *Id.*

106. *Id.*

107. *Id.* § 6020.901.

108. *Id.* § 6023.1.

109. *Id.* § 6020.501(a).

The department shall undertake or cause to be undertaken by the owner, operator or any other responsible person as permitted under subsection (a), investigations, monitoring, surveys, testing and other similar activities necessary or appropriate to identify the existence and extent of the release or threat of release, the source and nature of the hazardous substances or contaminants and the extent of danger to the public health or welfare or the environment. The department may also undertake planning, legal, fiscal, economic, engineering, architectural and other studies or investigations necessary or appropriate to plan and direct a response action, to recover the costs of the response action and to enforce the provisions of this act.

Id. § 6020.501(d).

110. *Id.* § 6020.504(a).

111. *Id.* § 6020.507(b) (“The amount attributable to administrative and legal costs shall be 10% of the amount paid for the response action or the actual costs, whichever is greater.”) Punitive damages as well as civil penalties are addressed within this section. *Id.* § 6020.507(c), (e).

112. *Id.* § 6020.507(d).

Similarly, the Oil Spill Responder Liability Act directs the DEP to follow the requirements under CERCLA and the OPA.¹¹³

Overall, Pennsylvania illustrates an alternative approach that states can take if they do not want to go as far as California. Pennsylvania has its own NRDA laws but it does not stray too far nor does it try to be stricter than the federal laws.

II. CALIFORNIA V. PENNSYLVANIA: ANALYZING HOW DIFFERENT STATES HANDLE NRDAS

A. *What Oil? California's Success with Refugio State Beach Oil Spill*

The Refugio State Beach oil spill in Santa Barbara, California is one of the most recent California NRDA cases to occur. On May 19, 2015, a 24-inch pipeline, maintained and controlled by Plains All America Pipeline, Inc. (Plains), ruptured near Refugio State Beach, causing significant damage to California's natural resources.¹¹⁴ It was estimated that 100,000 gallons of crude oil leaked from the pipeline into the inland water and surrounding beach and land.¹¹⁵ Approximately 500 barrels, or 21,000 gallons of oil, flowed into the Pacific Ocean and across the aquatic environment.¹¹⁶ The oil was spread out over "20 miles of coast and up to 5 miles offshore."¹¹⁷ The spill caused damage to beaches and fisheries, "birds, marine mammals, fish, and marine invertebrates" as well as their habitats.¹¹⁸

"Although [Plains] was required to notify the National Response Center" following a potentially disastrous incident such as an oil spill, the rupture was first reported through a 911 call to a local fire department.¹¹⁹ Once made known to the proper authorities, there was immediate response from multiple state and federal agencies, followed by the application of multiple state and federal

113. *Id.* § 6023.3. Like Pennsylvania, other states have gained inspiration from the federal NRDA provisions of CERCLA for various NRDA issues. One such example is Colorado, which "[i]n the absence of a State superfund enforcement statute, Colorado has used the Federal authorities provided in CERCLA for enforcement at seven sites." ENVTL. LAW INST., ENHANCING STATE SUPERFUND CAPABILITIES: A NINE-STATE STUDY 11 (1990). Colorado uses the "CERCLA natural resource damages provision, and its development of an expanded range of remedies—including injunctive authority—against [responsible parties] under that provision." *Id.*

114. NOAA Joins Response to Pipeline Oil Spill at Refugio State Beach Near Santa Barbara, California, U.S. DEP'T OF COMMERCE (May 21, 2015), <http://response.restoration.noaa.gov/about/media/noaa-joins-response-pipeline-oil-spill-refugio-state-beach-near-santa-barbara-california.html> [hereinafter *NOAA Joins Response to Pipeline Oil Spill*].

115. *Refugio Beach Oil Spill*, U.S. DEP'T OF COMMERCE, <https://darrp.noaa.gov/oil-spills/refugio-beach-oil-spill> (last updated Mar. 30, 2017) [hereinafter *Refugio Beach Oil Spill*].

116. See NOAA Joins Response to Pipeline Oil Spill, *supra* note 114.

117. *Id.*

118. See *Refugio Beach Oil Spill*, *supra* note 115.

119. Angela Neville, *Plains Hit with Shareholders' Class Action over Pipeline Spill*, TEX. LAWYER, Aug. 24, 2015, at 6.

statutes to assess damages to the beach, coastal environment, and human health caused by the oil spill.¹²⁰ Specifically, California's Department of Fish and Wildlife was the first on the scene to begin the NRDA process.¹²¹ Because the incident was an oil spill, the federal statute (the OPA) and California's Government Code were the statutes primarily applicable to the NRDA in this case.

Applying both federal and state law can prove to be a challenge. For instance, under the OPA, a greater variety of natural resources are included within the definition, as opposed to California's Government Code, which includes more locally based concerns such as animals, habitats, land, and water.¹²² However, liability is similar between the OPA and California's laws. Applying California's Government Code section 8670.56.5(a), (h)(1)–(7), the party liable for damages incurred by the natural resources affected during this oil spill was Plains.¹²³ Under the OPA, the oil company, as the operator and owner of the facility, was similarly liable as California's statute dictated. The OPA strictly applies joint and several liability, just like in California where each party responsible for an oil spill is liable for removal costs and damages.¹²⁴ California also has a specific formula for calculating natural resource damages.¹²⁵ Damages under the OPA are capped, whereas California has no cap allowing more money to be spent on restoring and recovering the natural resources.¹²⁶

While the OPA and California's Government Code remain fairly comparable, California laws go beyond simply looking at the damages from an oil spill. The state uses NRDA's in regard to specific damages the spill or contamination has on fish, wildlife, and their habitats, as well as the costs incurred by state or local agencies through California's Fish and Game Code and California's Health and Safety Code.¹²⁷ The application of section 2014 of California's Fish and Game Code furthers the OPA and California Government Code by measuring the natural resource damages and determining compensation based on the

120. See NOAA Joins Response to Pipeline Oil Spill, *supra* note 114.

121. *Id.*

122. CAL. GOV'T CODE § 8670.56.5(h)(3) (West 2016).

123. *Id.*

124. 33 U.S.C. § 2701 (2012).

The scope and standard of liability for any costs recoverable . . . shall be the scope and standard of liability set forth in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. § 6901 et seq.), or any other provision of state or federal law establishing responsibility for cleanup of hazardous waste sites.

CAL. GOV'T CODE § 53314.7(b). In establishing a strict liability standard that addresses the federal standards in CERCLA and the OPA, California strengthens its own state law. See Israel, *supra* note 13, at 32B.01[1].

125. CAL. FISH & GAME CODE § 12011(a)(2) (West 2016).

126. See *id.*; ALEXANDER, *supra* note 12, at 6.

127. § 12011; CAL. HEALTH & SAFETY CODE § 25189.1(a)(2) (West 2016).

destruction of a range of specific fish and wildlife that the federal statute considers.¹²⁸

California's Fish and Game Code also penalizes Plains for polluting the water source, in this case the Pacific Ocean, rather than just for the damages and cost of recovery and mitigation.¹²⁹ A civil penalty is also applied for the oil discharge that entered California's waters. Moreover, California's Health and Safety Code imparts civil penalties upon Plains for the costs that California's state agencies incurred while trying to restore and rehabilitate the damages to natural resources.¹³⁰

By applying both state and federal laws, recovery of the Refugio State Beach was remarkably quick.¹³¹ As of July 17, 2015, a mere two months following the oil spill, the beach was reopened to the public and deemed safe for both humans and the environment.¹³²

Although NRDA's are designed to mitigate litigation, class actions in cases such as Refugio State Beach are common since personal claims are not addressed under NRDA's, either under the federal laws or California laws. Currently, there is one class action lawsuit between Plains and fishers, fish buyers, and other affected businesses, and another between Plains and its shareholders.¹³³ The complaint filed by Jacksonville Police and Fire Pension

128. 33 U.S.C. § 2701(20) (1988); CAL. FISH & GAME CODE § 2014(a)–(b).

129. CAL. FISH & GAME CODE § 12011.

130. CAL. HEALTH & SAFETY CODE § 25189.1(a)(2).

131. In comparison, on January 17, 2015, a Montana pipeline spilled over 50,000 gallons of diesel oil into Yellowstone River. Christina Nunez, *Ice Hampers Cleanup in Yellowstone's Rare Winter Oil Spill*, NAT'L GEOGRAPHIC (Feb. 1, 2015, 3:10 PM), <http://news.nationalgeographic.com/news/energy/2015/01/150130-yellowstone-river-oil-spill-ice-cleanup/>. Two months after the spill, only about 1,700 gallons from the river, or five percent of the overall spill, was recovered. *Id.* However, weather conditions and frozen water greatly slowed down the recovery period. *Id.* Recovery time from an oil spill or any other hazardous leak or exposure varies depending on how much is released, what the released substance is, where the release occurred, and what the weather is like during the release and subsequent exposure. *Environmental Effects of Oil Spills*, ITOPE, <http://www.itopf.com/knowledge-resources/documents-guides/environmental-effects/> (last visited Jan. 13, 2016).

132. Javier Panzar, *Refugio State Beach to Reopen Two Months After Oil Spill*, L.A. TIMES (July 10, 2015, 5:00 AM), <http://www.latimes.com/local/lanow/la-me-ln-refugio-beachreopen-20150709-story.html>.

133. Lief Cabraser, *Class Action Lawsuit filed in Refugio Santa Barbara Oil Spill*, LIEFF CABRASER CIVIL JUSTICE BLOG (July 6, 2015), <https://www.lieffcabraser.com/2015/07/class-action-lawsuit-filed-in-refugio-santa-barbara-oil-spill/>. Currently, the California Superior Court has only included closed hearings for the forty six criminal counts against Plains. Ginana Magnoli, *Noozhawk: Fall Hearing Date Set in Refugio Oil Spill Criminal Case, Class Action Suit Advances Against Plains*, <http://cappellonoel.com/noozhawk-fall-hearing-date-set-in-refugio-oil-spill-criminal-case-class-action-suit-advances-against-plains/> (last visited Apr. 26, 2017). However, a separate action was raised by fisheries and individual fisherman. The U.S. District Court has so far only ruled on the certified members to be included within the class action. The class action may include "persons or entities who owned or worked on a vessel that landed seafood within the California Department of Fish & Wildlife fishing block . . . as well as persons or entities who owned

Fund alleges that Plains' executives made "false and misleading statements concerning the company's pipeline monitoring, maintenance[,] and spill response measures, as well as compliance with federal regulations governing its pipeline operations."¹³⁴ Specifically, the complaint notes that Plains was aware of the corroded pipeline yet took no action to solve the problem.¹³⁵ However, at the time of publication, no hearing has been scheduled in connection to the lawsuit.¹³⁶

Aside from the pending litigation, California's expansive state NRDA laws, political priorities, resource availability, and overall environmental concern coupled with federal laws made for a quick recovery.

B. The Lessons Learned from Dimock, Pennsylvania's Fracking Blowout

One case study that presents an illustrative picture of Pennsylvania's state NRDA laws is a 2009 fracking blowout case in the rural town of Dimock, Pennsylvania. Underneath Pennsylvania is one of the largest Marcellus Shale gas deposits.¹³⁷ In September 2009, Dimock's water well spontaneously combusted and released an estimated 8,000 gallons of fracking fluid into nearby creeks and groundwater, contaminating it with methane and other pollutants.¹³⁸ Drinking water turned brown and animals began balding, allegedly due to exposure to the fracking fluid present in the creeks.¹³⁹ Fracking operations by the responsible party, Cabot Oil & Gas Corporation (Cabot), were determined to be the cause of the release.¹⁴⁰

Pennsylvania's DEP quickly responded to the fracking failure by investigating the spill pursuant of HWCA section 6020.501(a)–(b).¹⁴¹ However, the DEP determined that any "potentially harmful chemicals were sufficiently diluted,

or worked on a vessel that landed ground fish." *Id.* It also specifies that those persons and entities must have been in operation as of May 19, 2015. *Id.*

134. See Neville, *supra* note 119.

135. *Id.*

136. *Id.*

137. Stephanie Scott, *Who "Shale" Regulate the Fracking Industry?*, 24 VILL. ENVTL. L.J. 189, 189–90 (2013). "[A] large portion of Marcellus Shale lies underneath Pennsylvania's surface, pushing the state to the forefront of this modern-day gold rush." *Id.* at 190.

138. *Id.* at 208–09. One extreme example occurred at Norma Fiorentino's home when stray gas from a drilling rig slowly leaked into her backyard, which caused her water well to blow up. Fortunately Ms. Fiorentino was not home at the time of the explosion. *Dimock, PA: "Ground Zero" in the Fight Over Fracking*, STATEIMPACT PA, <https://stateimpact.npr.org/pennsylvania/tag/dimock/> (last visited Apr. 26, 2017) [hereinafter "*Ground Zero*" in the *Fight Over Fracking*].

139. Scott, *supra* note 137, at 208. Several dozen families were affected by heavy concentration of methane in their drinking water, and fifteen families filed a lawsuit against the company allegedly responsible. See "*Ground Zero*" in the *Fight Over Fracking*, *supra* note 138.

140. Scott, *supra* note 137, at 208. At the time of the blowout, Cabot had over 130 drilling violations at its Dimock wells, but insisted that the gas leak was a result of the naturally occurring migration of methane gas not from fracking. See "*Ground Zero*" in the *Fight Over Fracking*, *supra* note 138.

141. Scott, *supra* note 137, at 208–09.

and therefore not harmful to the nearby residents.”¹⁴² In November 2009, the DEP and Cabot agreed to a consent order that stated Cabot was responsible for the cleanup of ten affected water sources and the restoration of clean water to the affected residents.¹⁴³ The DEP also fined Cabot “more than \$360,000 and ordered Cabot to suspend drilling as punishment for contaminating Dimock’s groundwater and failing to fix the leaks that caused the problems.”¹⁴⁴ Nonetheless, DEP’s efforts to ensure cleanup of Dimock’s water was weak because DEP did not force Cabot to clean up the contaminated water or provide clean water to the affected residents.¹⁴⁵ Therefore, the EPA stepped in and took action.¹⁴⁶ Pennsylvania failed to adequately apply the CWA and CERCLA requirements and neglected their own state laws in the process.

The CWA was the federal statute applied to the Dimock fracking blowout because the discharge of hazardous substances occurred in a nearby creek.¹⁴⁷ Under the CWA and Pennsylvania’s HWCA, the responsible party in this case was Cabot.¹⁴⁸ However, under the CWA both Cabot and the DEP failed to immediately notify the appropriate federal agency—in this case EPA.¹⁴⁹ Under HWCA, the DEP investigated the damages and put temporary remedial measures in place in order to lessen contamination.¹⁵⁰ The DEP found that the gas posed “no health threat,”¹⁵¹ but when the EPA tested the ground water, it

142. *Id.*

143. *Id.* at 209. Many residents refused to have Cabot install the DEP-approved water treatment systems because they lacked trust and confidence in Cabot’s installation abilities. *See* “Ground Zero” in *the Fight Over Fracking*, *supra* note 138. The residents also noted that the water was contaminated with more than just high levels of methane. *Id.* They argued that the filtration systems provided by Cabot would not remove other harmful chemicals that were found after the water was tested by the EPA. *Id.*

144. Scott, *supra* note 137, at 209 (“Under the consent order, the DEP forced Cabot to deliver portable water to ten affected households, improve its drilling procedures, and develop a plan to restore clean water sources to the affected residents.”).

145. *Id.* at 209–10.

146. *Id.* at 209.

147. Scott, *supra* note 137, at 202–08.

148. 33 U.S.C. § 1251(b)(2)(B) (2012); 35 PA. STAT. AND CONS. STAT. ANN. § 6020.103 (West 2016).

149. 33 U.S.C. § 1321(b)(5).

150. *See* Scott, *supra* note 137, at 209.

151. Scott, *supra* note 137, at 209. Some states exempt certain liable parties if the accident or NRDA-triggering event is foreseeable. For example, Montana’s NRDA provision “contains an exclusion for damages which [were] foreseen and identified by a final environmental analysis or report.” MONASTERY & SELMI, *supra* note 74, § 9.9. The Montana statute notes:

[U]nless the impaired natural resources were specifically identified as an irreversible and irretrievable commitment of natural resources in an approved final state or federal environmental impact statement or other comparable approved final environmental analysis for a project or facility that was the subject of a governmental permit or license and the project or facility was being operated within the terms of its permit or license.

found “elevated levels of barium, arsenic, and other hazardous substances.”¹⁵² Not surprisingly, DEP and Cabot opposed these findings.¹⁵³

Eventually the DEP cancelled its consent order with Cabot allowing them to avoid some liability and costs.¹⁵⁴ This violated both Pennsylvania’s HWCA cleanup standard, which looks to CERCLA’s requirement to restore or replace affected resources, as well as the CWA’s requirement that immediate removal and mitigation of a hazardous substance in a water source be carried out by the owner or operator of the pipeline.¹⁵⁵

Although, the EPA was able to conduct a study and assess damages to natural resources and the public’s health, the lack of immediate notification caused several Dimock residents to fall ill due to the contaminated drinking water.¹⁵⁶ Removal and mitigation under the CWA was defective especially because Cabot was spared some of the liability, forcing EPA to cover the cost of water contamination cleanup.¹⁵⁷

This botched NRDA led to fierce litigation between Cabot and the residents of Dimock. The litigation began in 2009 with forty-four landowners claiming they had suffered property damage and injuries as a result of Cabot’s fracking operations in Dimock.¹⁵⁸ Since that time, most landowners have come to settlement agreements with Cabot—only ten plaintiffs remain. At the time of this Comment, *Ely v. Cabot* includes claims raised by the remaining Dimock residents who have not yet settled.¹⁵⁹ The suit, led by Nolan Scott Ely and his family, allege that Cabot’s drilling spoiled a well on their property with methane and other contaminants.¹⁶⁰ They also assert that if Cabot exercised due care, it

MONT. CODE ANN. § 75-10-715(2)(b) (West 2016). On the other hand, Massachusetts also has a NRDA provision that any responsible party must contribute to damages “without regard to fault.” See MASS. GEN. LAWS ANN. ch. 21E, § 5(a) (West 2016).

152. Scott, *supra* note 137, at 209.

153. *Id.*

154. *Id.*

155. 33 U.S.C. § 1321(b)(7) (2012); see Brighton, *supra* note 32, at 346.

156. See Abrahm Lustgarten, *Pa. Residents Sue Gas Driller for Contamination, Health Concerns*, PROPUBLICA (Nov. 20, 2009, 9:00 AM), <https://www.propublica.org/article/pa-residents-sue-gas-driller-for-contamination-health-concerns-1120>.

157. See “Ground Zero” in the Fight Over Fracking, *supra* note 138.

158. *Ely v. Cabot Oil & Gas Corp.*, 38 F. Supp. 3d 518, 519 (M.D. Pa. 2014).

159. *Id.* Because the case is about nuisance and negligence claims, there are no natural resource damages available. Brighton, *supra* note 32, at 337–38. Had the state trustees such as the DEP raised a claim, NRD’s could have been awarded. *Id.* at 334. However, nuisance and negligence claims fall under CWA’s punitive damages but not in the NRDA section. *Id.* at 333. “The CWA’s text and the legislative history indicate that Congress intended the Act to supplement private remedies by enhancing the federal government’s ability to deter and clean up oil and other water pollution.” Howard A. Learner, Commentary, *Clean Water Act Does Not Preclude Punitive Damages Under Common Law*, JURIST (Mar. 1, 2008, 7:15 PM), <http://www.jurist.org/hotline/2008/03/clean-water-act-does-not-preclude.php>.

160. *Ely*, 38 F. Supp. 3d at 521.

could have eliminated the risk of the drilling operations all together.¹⁶¹ The claims are narrower than the original case's claims. Judge Jones noted that

The Ely's have provided evidence indicating the Cabot's negligently conducted drilling activities may have negatively impacted the Ely's water supply, may have caused injury to the property and caused the Elys to suffer damages, and may further have caused the Elys to resort to obtaining portable and usable water from outside vendors and sources at their own expense.¹⁶²

Judge Jones narrowed the claims to negligence and nuisance claims dismissing the plaintiffs other claims.¹⁶³

On remand, the Magistrate Judge determined "whether the parties would consider mediation before taking what's left of their case to trial."¹⁶⁴ The jury awarded the Ely's over \$4 million in damages for the private nuisance claim, which on appeal, the judge found that there was insufficient evidence to justify an award of that size.¹⁶⁵ The court vacated the jury's verdict in favor of the plaintiffs and ordered a new trial if the parties could not reach a mutual settlement agreement.¹⁶⁶ Nevertheless, this is a prime example of the need for better applied and regulated state NRDA laws.

III. ONE SIZE DOES NOT FIT ALL, SO WHAT ARE THE ALTERNATIVES?

California and Pennsylvania show the utmost extremes of how state NRDA laws demonstrate the advantages and disadvantages of state regulations. They also provide insight for other states when drafting NRDA laws. For one thing, it is important to note that one size does not fit all. Not all states will have the same issues or abilities when it comes to creating NRDA laws, nor will they possess the various players, resources, and funds needed to carry them out appropriately.¹⁶⁷ Additionally, not all states maintain the same political

161. *Id.* at 523. Cabot argues that the economic value to the community of the fracking outweighs any dangers posed by Cabot's gas drilling operations. *Id.* at 524-25.

162. Lance Duroi, *Cabot Oil Dodges Bulk of Pa. Drilling Pollution Suit*, LAW360 (Jan. 14, 2015, 7:51 PM), <http://www.law360.com/articles/611638/cabot-oil-dodges-bulk-of-pa-drilling-pollution-suit>.

163. Gina Passarella, *Drilling Contamination Case Narrows Cabot in Susquehanna County*, PITTSBURGH POST-GAZETTE (Jan. 20, 2015, 12:00 AM), <http://www.post-gazette.com/business/legal/2015/01/20/Drilling-contamination-case-narrowed-against-Cabot-in-Susquehanna-County/stories/201501200019> ("Judge Jones dismissed claims against Cabot for breach of contract, lost royalties, fraudulent inducement, negligence per se, medical monitoring, personal injury and certain negligence claims involving minors.").

164. *See* Duroi, *supra* note 162.

165. *Ely v. Cabot Oil & Gas Corp.*, No. 3:09-CV-2284, 2017 WL 1196510, at *20 (M.D. Pa. 2017).

166. *Id.* at *21.

167. For example, in 2007, New Jersey filed around 120 lawsuits against polluters who harmed or destroyed the state's natural resources. Tolan, *supra* note 27, at 410. These lawsuits could result in hundreds of millions of dollars in compensation showing how assertive New Jersey has become

priorities towards environmental issues. Thus, it is important for states to reasonably acknowledge the most pressing problems they face along with the resources and funds they have available to make state NRDA laws as effective as possible.

This “one size does not fit all” mentality is also why it is important for states to acquire their own NRDA laws. Federal laws can only go so far, and each federal statute that addresses NRDA cannot be designed for the necessities of each state. Therefore, it is of the utmost importance for states to individualize their own NRDA laws by addressing specific issues to accomplish the specific needs of the states when the federal NRDA laws leave them wanting.

Each state knows its own people, resources, priorities, and greatest threats more so than the federal government. However, it is also important to note that not all states have the same priorities when it comes to the environment. This could be for political, economic, social, or environmental reasons.¹⁶⁸ Furthermore, not all states have to be as concerned for NRDA in regards to specific sources. For example, oil spills may not be a Midwestern state’s top concern. For the states along the Gulf Coast, however, oil spills are an ever-present worry.¹⁶⁹ Furthermore, some states lack the economic ability to contribute additional resources, personnel, and funding for NRDA; thus, they must rely on the federal government to address these problems.¹⁷⁰

Looking to California and Pennsylvania as examples, a combination of the two appears to be the best recommendation for other states. Like California, it would be beneficial for states to break down NRDA laws categorically rather

in terms of “waking the sleeping giant” or NRDA. *Id.* at 410–11. However, other states have lost numerous lawsuits and billions of dollars due to the inability to properly quantify or assess natural resource damages. *Id.* at 443–44. As was the case in New Mexico, the state did not have the resources or expertise to assess the proper amount in damages. *Id.* at 432–33. It claimed that a number of industrial facilities contaminated the waters of South Valley, near Albuquerque, and that damages amounted to \$2 billion, an amount mainly speculative in nature and not supported by evidence. *Id.* It later became known that the state alleged the multi-billion dollar damages without having ever conducted an NRDA in accordance with CERCLA. *Id.*

168. *See, e.g., id.* at 426–38 (discussing “how not to pursue natural resource damages” by exploring a New Mexico case study).

169. *See, e.g., Daigle, supra* note 1, at 253–54 (discussing the enactment of legislation by coastal states in response to oil spills).

170. *See Tolan, supra* note 27, at 443–44 (explaining that “even though NRDA is the key to the vault of NRDA, many trustees cannot afford the costs of this key”). A possible solution to that problem from a policy perspective could be the federal issuance of incentive programs for states to establish their own NRDA laws. For environmental initiatives, there are typically two types of incentive programs: the traditional regulatory approach and the economic incentive or market-based policies. *Economic Incentives*, ENVTL. PROTECTION AGENCY, <https://www.epa.gov/environmental-economics/economic-incentives> (last visited Feb. 4, 2017). For regulatory incentives, the federal government could mandate certain control technologies on the states or set performance standards for cleanup of a contaminated site. *Id.* However, these tend to be voluntary in nature making them less effective than economic incentives. Economic incentive programs could include liability assignments, taxes, fees, or charges to states that fail to address NRDA quick enough, or loan programs that aim to revitalize cleanup initiatives within states. *Id.*

than simply have a general statute.¹⁷¹ This could include separate statutes on oil spills, hazardous waste disposal, water contamination, natural disaster responses, and air or land discharges.¹⁷²

Next, states should define “natural resources” like Pennsylvania did under the HWCA.¹⁷³ Unlike California, natural resources should be defined in a manner similar to federal laws so that there is no confusion or difference in calculating or considering NRDs amongst states and the federal government.¹⁷⁴ A different definition could lead to more litigation to address inconsistent damages between state and federal assessments. Ultimately, natural resource issues are state-specific. And although it can be argued that incorporating more specific animals, habitats, or terrain within a natural resource definition, as California exhibited, may be beneficial, it may not be the same for other states.¹⁷⁵

Like California, naming the specific items for which the responsible party is liable is useful, and may limit some litigation from the responsible party against others who believe that the responsible party should have done more to remove or mitigate the problem.¹⁷⁶ California does a good job covering all the bases in its Government Code, such as addressing liability for the costs of containment, cleanup, removal, monitoring, and contingency planning, as well as injury, destruction, and loss of use and enjoyment of natural resources.¹⁷⁷

Again, liability should be similar to federal statutes so as to not create further confusion. Therefore, strict joint and several liability is preferable like California dictates.¹⁷⁸ Joint and several liability has the apparent problem of leading to

171. See *supra* Part I.B.1.

172. See *supra* Part I.B (comparing the approach to NRDA laws taken by California and Pennsylvania).

173. 35 PA. STAT. AND CONS. STAT. ANN. § 6020.103 (West 2016).

174. Compare CAL. GOV'T CODE § 8670.7 (h)(2)(A) (West 2016) (“[W]ildlife, fisheries, wildlife or fisheries habitat, beaches, and coastal areas . . .”), with 42 U.S.C. § 9601(16) (2012) (“The term ‘natural resources’ means land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources . . .”).

175. CAL. GOV'T CODE § 8670.56.5.

176. *Id.* § 8670.56.5(a), (h).

177. See *supra* Part I.B.1. For instance, New Jersey has the Spill Compensation and Control Act, which creates a fund for victims including individuals and industries such as the tourist and recreation industries. MONASTERY & SELMI, *supra* note 74, § 9:40. The original legislative intent was to protect the tourist and recreation industry. *Id.* Since then, the aim has changed to protect the environment and all affected individuals and industries by providing cleanup and compensation to all direct and indirect damages, “no matter by whom sustained.” *Id.* The fund covers “eligible personal injury” and “eligible property damage.” *Id.* For personal injury, it must be a confirmed chronic or advanced illness or condition such as cancer, nervous system disorders, reproductive deformities, or death that “manifests itself rapidly after a single exposure or limited exposures.” *Id.* Property damage includes “damage to real property in Minnesota owned by a claimant . . .” *Id.* Property damage is compensated if damage resulted from a harmful substance released from a facility. However, the claimant cannot be the responsible party for the substance release. *Id.*

178. Most states take this approach, holding the responsible parties such as “certain property owners and operators, generators, transporters, and other designated persons” liable regardless of

excessive unfairness to the responsible party because it will end up bearing the brunt of the costs.¹⁷⁹ Thus, one could argue that Pennsylvania's requirement of assigning liability to the current responsible party is a better method because it allows for a responsible party to prove its proportional contribution to the discharged hazardous substance, thereby limiting liability.¹⁸⁰ However, Pennsylvania's provision also may lead to additional litigation since the main responsible party may sue others for contributing to the discharge.¹⁸¹

One of the most difficult aspects of NRDA's under federal law is determining the proper method for calculating damages.¹⁸² To address this issue, states,

the fault for the costs of cleanup. MONASTERY & SELMI, *supra* note 74, § 9:7. Advantages of strict liability include:

Where liability is strict the agency's job is simplified; it need only establish that a release has occurred or is threatened and that the PRP contributed to that release. Evidence of the release is likely to be obtainable through public records, testing and other traditional methods of investigation that yield objective results. This contrasts with the type of investigation that may be needed to prove fault since that evidence is often within the control of the PRP or is more subjective. Thus, strict liability allows a state to concentrate more of its resources on activities directly related to cleaning up the site, such as site assessment, RI/FS, and remedial design, rather than proving that the RPs' actions that contributed to the release of hazardous substances met some standard of fault.

Id.

179. *Id.* § 9:20. Most states have strict, joint, and several liability, although some also include a proportionality provision. ENV'T. LAW INST., AN ANALYSIS OF STATE SUPERFUND PROGRAM: 50-STATE STUDY, 2001 UPDATE 103 (2001). Massachusetts, for example, under the Oil and Hazardous Release Prevention and Response Act, includes a provision that if a responsible party "who established by a preponderance of the evidence that only a portion of such costs or damages is attributable to a release . . . for which he is included as a party . . . shall be required to pay only for such portion." MASS. GEN. LAWS ANN. ch. 21E, § 5(b) (West 2016). Alaska and Michigan have very similar statutes. Alaska notes in its cleanup provisions that damages by a PRP "is divisible and [if] there is a reasonable basis for apportionment of costs and damages to that person." MONASTERY & SELMI, *supra* note 74, § 9:20. Similarly the Michigan Act "places 'the burden of proof as to the divisibility of the harm and . . . apportionment of liability' on a PRP who seeks to limit liability 'on the ground that the entire harm is capable of division.'" *Id.* Michigan's statute is much more detailed in regards to the necessary criteria for portioning the damages and to the procedures. And the harm will be deemed indivisible if the PRP fails to satisfy the burden to prove that the liability is capable of being apportioned. *Id.* Although there are some disadvantages to apportionment, the main concern is that apportionment does not merely cover recovery or compensation costs, but also considers reimbursement or contribution among PRP's. *See id.* ("[T]he apportionment issue arises under provisions allowing reimbursement, or contribution, among PRPs, either at the time of initial resolution of the plaintiff's claim or in separate proceedings thereafter.").

180. *Id.* This leaves out any questionable parties that may or may not have contributed to a discharge of a hazardous material. *See id.*

181. David Montgomery Moore, *The Divisibility of Harm Defense to Joint and Several Liability Under CERCLA*, 23 E.L.R. 10529, 10535 (1993) ("Confusion surrounding the parameters of the defense has led defendants to raise a number of erroneous divisibility of harm arguments . . .").

182. MONASTERY & SELMI, *supra* note 74, § 9:9.

including California and Pennsylvania, have relied on their own individual formulas when assessing the damage amount.¹⁸³ California has a formula under its Government Code as discussed previously.¹⁸⁴ Pennsylvania also contains a provision that mirrors CERCLA, but asserts that any state calculation made during the NRDA process governs the amount in damages.¹⁸⁵ The federal government sets the minimum requirements for calculating damages. However, states have the ability to go beyond the minimum, as California has done. Generally, it is preferable for states to follow the federal requirements and only implement state-specific requirements when there are circumstances unique to only the state, which should be taken into account. This would avoid inconsistencies or discrepancies between states in the calculation of damages unless there is a situation distinct to a specific state.

Finally, in order to avoid another Deepwater Horizon Oil Spill, it would be extremely beneficial for states in similar geographic areas to team up in a way similar to the JAT program.¹⁸⁶ Although this is more of an implementation mechanism rather than a law per se, it is a beneficial regulatory or policy tool that encourages cooperation amongst states.¹⁸⁷ Cooperation leads to more expedient results should the need for a large scale or interstate natural resource damage assessment arise.¹⁸⁸ The states should have similar NRDA laws if or when conducting NRDA's across state boundaries. And not only would a program like this be useful for the states but also for the federal laws, which would ensure efficiency and cooperation.

These are just the essential requirements for other states to consider when drafting their own NRDA laws based on the examples set forth by California and Pennsylvania. Although it may be a more costly route, it would be useful for states to adopt their own NRDA laws to enable a quick, efficient, and effective NRDA process. States know their needs and issues and are better equipped to handle local problems; therefore, they are more effective in the NRDA process.

183. *Id.*

184. CAL. FISH & GAME CODE § 12011(a)(2) (West 2016).

185. MONASTERY & SELMI, *supra* note 74, § 9:9. Per the relevant Pennsylvania statute:

A determination or assessment of damages to natural resources for the purposes of this act, the Federal Superfund Act, or section 311 of the Federal Water Pollution Control Act . . . made by the department or other trustee shall have the force and effect of a rebuttable presumption on behalf of the department or other trustee in an administrative or judicial proceeding under this act, the Federal Superfund Act or section 311 of the Federal Water Pollution Control Act.

35 PA. STAT. AND CONS. STAT. ANN. § 6020.507(d) (West 2016).

186. *See* WEST COAST JOINT ASSESSMENT TEAM, *supra* note 98, at 1–2.

187. *See id.*

188. *Id.* at 1–2.

IV. CONCLUSION

The overall importance of NRDA laws is increasing, as exhibited by the Deepwater Horizon Oil Spill. Although there are well-thought out and effective federal NRDA laws, such as the provisions in CERCLA, the OPA, and the CWA, states should take on a more prominent role in the NRDA process. As noted above, a combination of California's expansive NRDA laws and Pennsylvania's more general but federally compatible NRDA laws would be an ideal alternative to states that lack their own NRDA provisions. State NRDA laws can go further than the federal government in many respects such as addressing personal liability or devoting full-time staff to NRDA. States taking the lead in NRDA is recommended as environmental laws and problems become more complex and the states are closer to the adversely impacted resources. While it is important to recognize that not all states will voluntarily conduct sufficient NRDA, nor will they be always able to handle large-scale environmental problems, at least some form of state intervention is appropriate and necessary.

In total, state NRDA laws have the ability to make the NRDA process quicker, more efficient, and more effective. But only time will tell if more states will become active participants in the NRDA process.

