EQUALIZING REMEDIATION

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Environmental harm remediation occurs far less than it should in minority and low-income communities. One in six Americans live within three miles of a designated toxic waste or contaminated site, which causes a variety of health hazards. Frequently, these sites are located within minority or low-income communities. Multinational corporations and even governmental agencies sometimes intentionally or negligently exploit loopholes to escape responsibility, especially when poor or low-income communities are involved. Lead agencies that focus on remediation efforts tend to have fewer resources in poorer areas. By contrast, in affluent communities, offending companies commence remediation efforts much more quickly. Such disparate remediation efforts contravene the principle of environmental justice.

Delayed or inadequate environmental remediation exacerbates harm across the country, and it disproportionately harms numerous underprivileged U.S. communities. Often, environmental justice scholars and advocates focus on equal enforcement of current environmental protection laws. I argue current environmental protection laws leave room for unequal remediation, and equalizing remediation does not lie in the strict enforcement of current environmental protection laws, particularly, when similarly situated communities are involved.

This Article initiates the conversation towards equalizing remediation by highlighting failures to equalize environmental harm remediation activities. It advocates for new policies, which better ensure no community is shortchanged in such activities based on race, geographical location, or income level. It argues for various statutory amendments and distinct regulations capable of better promoting equalized remediation of environmental harms and thereby advancing environmental justice.

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INTRODUCTION

Consider Community A and Community B as a pair of similarly situated communities, each having previously hosted a chemical plant. The aftermath of each plant has contaminated both communities with chemical solvents dangerous to human life. Suppose the Environmental Protection Agency (EPA) opts to clean up the contamination in Community A but not in Community B—a community inhabited primarily by minorities with relatively weak political influence. Similarly, suppose that the EPA plans to deploy a sophisticated and effective remediation method in Community A but uses a cheaper and less effective remediation method in Community B. In both scenarios, the EPA exhibited unequal remediation efforts.

Remediation is the act of restoring polluted land, water, or air to its former state or as nearly as practical.[1] Environmental remediation is "the removal of contaminants from soil, surface water, groundwater, sediment, etc. If there is a risk of environmental damage or the health of humans, environmental remediation is used to reclaim the contaminated area."[2] Unequal remediation is not uncommon in the United States, especially in minority communities and communities of color.[3] It can manifest as disparate or haphazard remediation or as a complete lack of remediation in disadvantaged communities. Environmental advocates and scholars often focus on equal or vigorous enforcement of environmental laws as a solution.[4] However, even current environmental laws leave room for unequal remediation—*i.e.*, equalizing remediation does not lie in strict enforcement of existing laws. Whenever and wherever unequal remediation occurs, environmental injustices also occur.

Historically, there is evidence of EPA using remediation methods that are not protective of human health. For example, in Elizabeth,

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1. *Remediation*, BLACK'S LAW DICTIONARY (11th ed. 2019).

2. *Environmental Remediation: What Is It and How Does It Work?*, AOTC (May 22, 2020), https://a-otc.com/what-is-environmental-remediation [https://perma.cc/G9GE-R76P]; *see also* INT'L ATOMIC ENERGY AGENCY, GETTING TO THE CORE OF ENVIRONMENTAL REMEDIATION 2, https://www.iaea.org/sites/default/files/18/05/environmental_remediation.pdf [https://perma.cc/AX8N-SLGA] (last visited Mar. 3, 2023) ("[Environmental remediation is] more than just eliminating radiation sources; it is about protecting people and the environment against potential harmful effects from exposure to ionizing radiation.").

3. *See* U.S. CONG., OFF. OF TECH. ASSESSMENT, OTA-ITE-362, ARE WE CLEANING UP? 10 SUPERFUND CASE STUDIES 1–7 (1988) [hereinafter ARE WE CLEANING UP?] (detailing historical account of ineffective remedial action undertaken by the EPA under the superfund program); Rebecca Tsosie, *Indigenous Peoples and the Ethics of Remediation: Redressing the Legacy of Radioactive Contamination for Native Peoples and Native Lands*, 13 SANTA CLARA J. INT'L L. 203 (2015) (detailing lack of remediation of uranium mines in the Navajo nation). *See generally* Marianne Lavelle & Marcia Coyle, *Unequal Protection: The Racial Divide in Environmental Law*, 15 NAT'L L.J., Sept. 21, 1992, at S1, S2.

4. *See* Rachel Salcido, *Retooling Environmental Justice*, 39 UCLA J. ENV'T LEGAL & POL'Y 1, 24 (2021) ("The web of environmental laws that restrict the pollution of our environment are the first line of defense against harmful health impacts; thus *equal enforcement of these laws should continue to be a focus for environmental justice advocates.*") (emphasis added); *see also* Robert R. Kuehn, *Remedying the Unequal Enforcement of Environmental Laws*, 9 ST. JOHN'S J. LEGAL COMMENT. 625, 626–27, 648–58, 666–67 (1994); David A. Dana & Deborah Tuerkheimer, *After Flint: Environmental Justice as Equal Protection*, 111 NW. U. L. REV. ONLINE 93, 93–102 (2017); Joshua Ozymy & Melissa L. Jarrell, *Seizing the Political Moment: How the Environmental Protection Agency Can Reimagine Itself and Its Commitment to Environmental Justice*, 14 ENV'T JUST. 372, 376–81 (2021) (discussing avenues to focus compliance and enforcement efforts in environmental justice communities as a way of reducing environmental injustice in communities).

New Jersey, the EPA used unproven solidification technology in place of incineration at the time.[5] In Tulsa County, Oklahoma, the EPA chose capping over incineration, and it was regarded as a cost-effective, permanent cleanup, even though it failed to provide permanent protection comparable to incineration.[6]

A special investigation suggested that disparate remediation may be because of differences in the racial profiles of host communities.[7] Consider the instance of unequal remediation evident in Albuquerque's Fruit Avenue Plume (Fruit Avenue Site) and the North Railroad Avenue Plume Española (North Railroad Site) in Rio Arriba County, New Mexico. Harmful chemical solvents from decades of dry-cleaning services contaminated underground water supplies at both.[8]

The Fruit Avenue site's dry cleaning services occurred from 1924 to 1972.[9] Evidence showed that the dry-cleaning activities used the Stoddard Solvent cleaning process, which involved underground tanks.[10] The sample contained evidence of chlorine solvents in the groundwater.[11] The EPA's Record of Decision (ROD) selected the conventional "pump and treat" system as a remedy, which requires that contaminated groundwater be pumped to the surface, treated with filters, and re-injected into the aquifer.[12] The selected remedy effectively cleaned up the site, and some parts of the site were ultimately redeveloped into a green, sustainable, affordable apartment complex that opened in March 2010.[13]

In contrast, the EPA prescribed a quite different remediation process for the North Railroad Avenue Plume Superfund Site in Española, Rio Arriba County, New Mexico. The previous dry-cleaning activities at that site contaminated the groundwater with

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5. *See* ARE WE CLEANING UP?, *supra* note 3, at 1, 9.

6. *Id.*

7. Lavelle & Coyle, *supra* note 3, at S1, S2.

8. CLIFFORD VILLA ET AL., ENVIRONMENTAL JUSTICE: LAW, POLICY, & REGULATION 300 (3d ed. 2020).

9. *See Superfund Site: Fruit Avenue Plume Albuquerque, NM*, EPA [hereinafter *Fruit Avenue Plume*], https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0604068 [https://perma.cc/DKT5-45PA] (last visited Apr. 8, 2023).

10. *Id.*

11. *Id.*

12. CLIFFORD VILLA ET AL., *supra* note 8, at 300; *see also Fruit Avenue Plume*, *supra* note 9 (noting that the current site's "long-term remedy included salt vapor extraction, hot spot treatment, institutional controls, extraction and treatment of contaminated groundwater, and groundwater monitoring" that took place between 2003 and 2006).

13. *See* VILLA ET AL., *supra* note 8, at 301 (stating that projected cost of the project was about $11,425,000); *see also Fruit Avenue Plume*, *supra* note 9 ("Recent groundwater monitoring results verified that contaminant concentrations are now below the site's remedy or goals.").

trichloroethylene, perchloroethylene, cis-1,2-dichloroethylene, and trans-1,2-dichloroethylene.[14] The groundwater in the aquifer is the sole source of drinking water for 2,400 people in Santa Clara Pueblo, Española.[15] Groundwater contamination was discovered after perchloroethylene was found in two municipal water wells.[16] In collaboration with the New Mexico Environment Department, the EPA commenced work to remediate the site.[17] However, the EPA's ROD, signed on September 27, 2001, recommended an enhanced aquifer remediation system—enhanced reductive dichlorination or bioremediation[18]—instead of a pump-and-treat method like that used in the Fruit Plume site. Bioremediation depends on organisms to break down the contaminants without other active treatment.[19] The treatment ultimately failed, and to date the EPA is still grappling with remediating the site.[20] The EPA's second five-year review of the site uncovered that high levels of unsafe contaminants persisted.[21] A subsequent five-year review revealed that the enhanced reductive dechlorination had been less effective on the four deep-zone groundwater plumes.[22] The method deployed at the North Plume site was cheaper and destined to fail, with no anticipation of meeting any remedial objectives for the decontamination plan within thirty years.[23] Why did disparate remediation plans emerge for cleaning up the same chemical solvent contamination in two sites within the same state?

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14. *Superfund Site: North Railroad Avenue Plume Española, NM, Cleanup Activities*, EPA [hereinafter *North Railroad Avenue Plume Site*], https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.Cleanup&id=0604299#bkground [https://perma.cc/PDA6-FE8L] (last visited Apr. 8, 2023). The chemicals mentioned are all dangerous to human health. According to the EPA, tetrachloroethylene is said to have adverse effects on the human body, "includ[ing] irritation of the upper respiratory tract and eyes, kidney dysfunction, and, at lower concentrations, neurological effects such as reversible mood and behavioral changes, impairment of coordination, dizziness, headache, sleepiness, and unconsciousness." *Tetrachloroethylene (Perchloroethylene)*, EPA, https://www.epa.gov/sites/default/files/2016-09/documents/tetrachloroethylene.pdf [https://perma.cc/FSV4-8248] (last visited Apr. 13, 2023).

15. *North Railroad Avenue Plume Site*, *supra* note 14.

16. U.S. ENV'T PROT. AGENCY, THIRD FIVE-YEAR REVIEW REPORT FOR NORTH RAILROAD AVENUE PLUME SUPERFUND SITE, ESPAÑOLA, RIO ARRIBA COUNTY, NEW MEXICO iii (2020) [hereinafter THIRD FIVE-YEAR REVIEW].

17. *North Railroad Avenue Plume Site*, *supra* note 14.

18. *See id.*; VILLA ET AL., *supra* note 8, at 301 (noting that the bio-remediation process is cheaper and easier, albeit less effective, than pump and treat).

19. VILLA ET AL., *supra* note 8, at 301.

20. *Id.*

21. *See id.* (quoting U.S. ENV'T PROT. AGENCY, SECOND FIVE-YEAR REVIEW REPORT FOR THE NORTH RAILROAD AVENUE PLUME SUPERFUND SITE, ESPAÑOLA, RIO ARRIBA COUNTY, NEW MEXICO 38 (2015)).

22. *See* THIRD FIVE-YEAR REVIEW, *supra* note 16, at iv.

23. *See* VILLA ET AL., *supra* note 8, at 301.

Another study found delays in placing sites in minority communities on the National Priorities List (NPL) when compared to sites in white areas.[24] It further claimed that less effective remediation on average was carried out in minority areas compared to white-populated areas.[25] Another study found bias against sites in Black urban neighborhoods in the superfund programs in the early 1980s.[26]

This Article's goal is to initiate the equalizing remediation conversation by offering a number of policy proposals. This Article does not intend to prescribe a one-size-fits-all standard of equalizing remediation of environmental harms;[27] it strives to underscore that remediation efforts should be inclusive and directed towards the subjective needs of the concerned community, and not otherwise. Those needs may vary and relate to health, social, or even cultural identity. Basing remediation efforts solely on scientific models, without consideration of other needs of the community, may not fit the principle of environmental justice.[28]

This Article proposes several policy strategies for better equalizing the remediation of environmental harms in the United States—especially those caused by hazardous wastes and contaminated sites. The Article analyzes remediation efforts under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA),[29] the Resource Conservation and Recovery Act (RCRA), the U.S. Constitution, and Title VI of the Civil Rights Act.[30] Part I of this Article defines environmental remediation and contextualizes remediation within environmental justice.

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24. *See* Lavelle & Coyle, *supra* note 3, at S2, S6 (noting that the investigation also found that waste dumps in predominantly white communities make it onto the EPA's national Superfund program list nearly one year earlier than the average dump site). For further discussion on the NPL, see discussion *infra* Subsection I.B.1.

25. *Id.*

26. *See generally* Martin Burda & Matthew Harding, *Environmental Justice: Evidence from Superfund Cleanup Durations*, 107 J. ECON. BEHAV. & ORG. 380 (2014).

27. *See, e.g.*, INT'L ATOMIC ENERGY AGENCY, *supra* note 2 (detailing remediation, though in a different context).

28. *See* Shane Epting, *The Limits of Environmental Remediation Protocols for Environmental Justice Cases: Lessons from Vieques, Puerto Rico*, 18 CONTEMP. JUST. REV. 352, 354 (2015) (arguing the recent EPA cleanup efforts in Vieques, Puerto Rico, failed to address cultural and heritage issues and fell short of environmental justice).

29. *See generally* 42 U.S.C. §§ 9601–75.

30. *See generally* 42 U.S.C. §§ 6901–92k. There are other laws that impact remediation of contaminated sites like State Superfund programs. *See, e.g.*, The Water Quality Assurance Revolving Fund, ARIZ. REV. STAT. ANN. § 49–282 (2022); 33 U.S.C. §§ 2701–62. These are beyond the scope of this Article, which focuses on CERCLA and RCRA because both are broadly applicable federal statutes.

Part II of this Article details how cultural norms and other factors engender unequal remediation despite existing legal frameworks designed to prevent unequal application. Part II also examines existing efforts to equalize remediation in the United States and why such efforts are failing to meaningfully advance environmental justice goals. Part III details the pattern of unequal remediation within the United States, the underlying reasons for this pattern, and several factors fueling the problem; it also considers the failures of Equal Protection claims and highlights statutory and judicial hurdles to promoting equal remediation and environmental justice. Part IV advocates specific strategies for equalizing remediation and critically examines avenues for achieving equal remediation. The Article concludes by emphasizing that equal remediation *is* environmental justice.

I. REMEDIATION OF ENVIRONMENTAL HARMS IN THE UNITED STATES

Several U.S. statutes are responsible for the remediation of environmental harms.[31] These laws either compel the state and federal governments, corporate bodies, and perpetrators to remediate or enable citizens to sue to compel the government or the concerned body to remediate. They also detail specific rules that should be followed in the remediation of environmental harms.[32] Domestically, remediation of most environmental harm lies in the hands of the EPA.[33] The Agency's objective "is to protect human health and the environment, and to restore contaminated areas as efficiently as possible."[34] CERCLA remains the major tool the EPA uses in the remediation of environmental externalities. For instance, the EPA enforces cleanup efforts under CERCLA using two major approaches: (1) by removal or

31. *See* Clean Air Act of 1970, 42 U.S.C. §§ 7401–675; Clean Water Act of 1972, 42 U.S.C. §§ 1251–388; Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. §§ 9601–75; Safe Drinking Water Act, 42 U.S.C. §§ 300f to j-27; Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. § 136; Resource Conservation and Recovery Act of 1976, 42 U.S.C. §§ 6901–92k.

32. *See* 40 C.F.R. § 300 (2021) (detailing the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), pursuant to CERCLA, 42 U.S.C §§ 9601–57); *see also* 40 C.F.R. §§ 239–82 (2021) (relating to Solid Wastes, pursuant to 42 U.S.C §§ 6912, 6945).

33. *See Our Mission and What We Do*, EPA, https://www.epa.gov/aboutepa/our-mission-and-what-we-do [https://perma.cc/VE64-27GY] (last visited Mar. 6, 2023). When Congress writes an environmental law, the EPA implements it by writing and enforcing regulations. *Id.*

34. *See Cleanup and Remediation*, EPA, https://www.epa.gov/emergency-response-research/cleanup-and-remediation# [https://perma.cc/2VGF-YJRV] (last visited Apr. 8, 2023).

(2) by remedial means.[35] CERCLA defines remedy or remedial actions as:

> [Those] actions consistent with permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment.[36]

Remedial actions under CERCLA extend to actions at the release location to stop or reduce the adverse impact of the release.[37] On the other hand, removal actions are defined as the removal or cleanup of "released hazardous substances" from the environment.[38] It appears that while removal actions are interim measures, remedial actions are permanent. An effective response to chemical spills often includes both removal and remediation under CERCLA, which requires selecting appropriate "remedial actions that permanently and significantly reduce the volume, toxicity, or mobility of hazardous substances, pollutants, and contaminants."[39] Furthermore, under CERCLA, remedial measures must protect human health, the environment, and be cost-effective.[40] CERCLA expects the selected remedial action to attain a degree of cleanup that assures human health and environment protection.[41]

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35. *See* 42 U.S.C. § 9601(23)–(24).

36. *See* 42 U.S.C. § 9601(24).

37. *Id.* (stating that the terms "remedy" or "remedial action" "include[], but [are] not limited to, such actions at the location of the release as storage, confinement, perimeter protection using dikes, trenches, or ditches, clay cover, neutralization, cleanup of released hazardous substances and associated contaminated materials, recycling or reuse, diversion, destruction, segregation of reactive wastes, dredging or excavations, repair or replacement of leaking containers, collection of leachate and runoff, onsite treatment or incineration, provision of alternative water supplies, and any monitoring reasonably required to assure that such actions protect the public health and welfare and the environment"); *id.* ("The term includes the costs of permanent relocation of residents and businesses and community facilities where the President determines that, alone or in combination with other measures, such relocation is more cost effective than and environmentally preferable to the transportation, storage, treatment, destruction, or secure disposition offsite of hazardous substances, or may otherwise be necessary to protect the public health or welfare; the term includes offsite transport and offsite storage, treatment, destruction, or secure disposition of hazardous substances and associated contaminated materials.").

38. 42 U.S.C. § 9601(23).

39. § 9621(b)(1).

40. *Id.*

41. § 9621(d)(1).

A. Contextualizing Remediation

Depending on the context, remediation of environmental harms "may mean different things to different people" and communities.[42] Equalizing remediation is not simply cleaning up the harm but should broadly fit into the meaning and notions of environmental justice. Various entities have attempted to define environmental justice. The EPA defines environmental justice as the "fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations[,] and policies."[43] Fair treatment means that "no group of people should bear a disproportionate share of the negative environmental consequences," while meaningful involvement requires that all people be allowed to participate in a decision which may affect them and contribute to such.[44] However, the EPA definition does not effectively encompass the true nature of what environmental justice should be. Professor Robert Kuehn unsurprisingly presents a more encompassing definition of environmental justice. Using the natural notions of justice, he finds that environmental justice should reflect unifying themes involving social, distributive, procedural, and corrective justice.[45]

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42. *See* RUCHI ANAND, INTERNATIONAL ENVIRONMENTAL JUSTICE: A NORTH-SOUTH DIVISION 122 (2004).

43. *See Learn About Environmental Justice*, EPA, https://www.epa.gov/environmentaljustice/learn-about-environmental-justice# [https://perma.cc/E7R7-DXRC] (last visited Apr. 8, 2023).

44. *Id.*

45. *See* Robert R. Kuehn, *A Taxonomy of Environmental Justice*, 30 ENV'T L. REP. 10681 (2000). Kuehn describes the meaning of environmental justice: "Distributive justice has been defined as 'the right to equal treatment, that is' . . . the equitable distribution of the burdens resulting from environmentally threatening activities or of the environmental benefits of government and private-sector programs." *Id.* at 10683–84. However, "[d]istributive justice in an environmental justice context does not mean redistributing pollution or risk;" rather "distributive justice is achieved through a lowering of risks." *Id.* at 10684. Specifically, Kuehn says it addresses "disproportionate public health and environmental risks borne by people of color" and low-income citizens generally. *Id.* Procedural justice requires the inclusion of all concerned in the decision-making process. *Id.* 10688–90. It focuses on fairness in the decision-making process rather than on its outcome. *Id.* 10688. Procedural justice also considers both post and ante decision-making processes. *Id.* The social justice aspect is highly meaningful to different people in certain contexts. *Id.* at 10698–99. Some have defined it as a communal effort to create and sustain a fair and equal society in which each person and all groups are valued and affirmed while recognizing the legacy of past injustices and promoting restorative justice. *Id.* at 10700. In this context, environmental justice embraces the tenets of social justice. *Id.* at 10699. Environmental justice tends to address the broader systemic cause of environmental injustice and the efforts deployed to counter it, and Kuehn discusses corrective justice in the context of environmental justice. *See id.* "Aristotle referred to this aspect of justice as

It is necessary that remediation of environmental harms fits environmental justice tenets. For instance, North Railroad and Fruit Avenue contaminated sites were remediated.[46] From the standpoint of the environmental laws, both were placed on the NPL and cleanup was completed, but the remediation was unequal.[47] There was compliance with the law, though such compliance fell short of environmental justice expectations.

Whether disparate remediation between similar or different communities, or haphazard remediation, remediation falls short of the environmental justice paradigm and is unequal if it fails the following test: (1) whether remediation fails to eliminate the resultant harm or reduce it to a level safe for human health and the environment; and (2) whether the remediation fails to account for disparate remediation not based on unequal exposures, future land use, or scientific standards required for the cleanup.

As an example, around 2010, officials in Flint, Michigan, explored whether the city could save money by switching its water supply source. The alternatives were whether Flint could build its water supply pipeline to connect to Karegnondi Water Authority (KWA) or stick to the Detroit Water and Sewerage Department.[48] On April 25, 2014, to save costs, the city switched to the Flint River pending completion of the KWA pipeline.[49] The city's action marked the end of the five-decade practice of pumping treated water from Detroit.[50] Tragically, the action resulted in lead contamination of the city's water supply.[51]

Beginning in April 2014, the city's residents complained about discoloration and bad tap water taste and smell.[52] Nothing was done;

'rectificatory' as 'it treats the parties as equals and asks only whether one has done and the other suffered wrong, and whether one has done and the other has suffered damage'"; thus, justice attempts to restore victims to the condition they were in prior to the unjust actions. *Id.* at 10693. According to Kuehn, corrective justice demands "fairness in the way punishments for law-breaking are assigned," and in how "damages inflicted on individuals and communities are addressed." *Id.*

46. *Superfund Sites in Reuse in New Mexico*, EPA, https://www.epa.gov/superfund-redevelopment/superfund-sites-reuse-new-mexico [https://perma.cc/CD69-FJMU] (Jan. 18, 2023).

47. *Id.*

48. Merrit Kennedy, *Lead-Laced Water in Flint: A Step-by-Step Look at the Makings of a Crisis,* NPR (Apr. 20, 2016, 6:39 PM), https://www.npr.org/sections/thetwo-way/2016/04/20/465545378/lead-laced-water-in-flint-a-step-by-step-look-at-the-makings-of-a-crisis [https://perma.cc/MR3G-BNKQ].

49. *Id.*

50. Melissa Denchak, *Flint Water Crisis: Everything You Need to Know*, NRDC (Nov. 8, 2018), https://www.nrdc.org/stories/flint-water-crisis-everything-you-need-know#sec-summary [https://perma.cc/6EJ6-NQZT].

51. *Id.*

52. *Id.*

environmental law protection officers ignored the complaints and warnings from residents.[53] State officials notified the EPA, and residents petitioned the EPA following the results of the independent report.[54] The EPA also failed to remediate.[55] The Michigan Civil Rights Commission noted:

> [R]eviewing the historical governmental actions impacting the living and health conditions of Flint residents, [*i.e.*], the legacy of Flint, was sobering and left a deep impression. We must come to terms with the ongoing effects of "systemic racism" that repeatedly led to disparate racial outcomes as exemplified by the Flint Water Crisis.[56]

Government agencies not only remained indifferent to the plight of Flint residents but also dismissed legitimate concerns.

Juxtapose that with the remediation efforts in the Lower Duwamish Waterway (LDW) Superfund site; there, sediments from industrial activities contaminated the site.[57] Immediately, the EPA investigated and found about forty-one contaminants ranging from Polychlorinated Biphenyls, Carcinogenic Polycyclic Aromatic Hydrocarbons, to arsenic. The EPA quickly commenced removal actions and initiated the remedial processes under CERCLA.[58]

In 1990, the lower section of the Duwamish River[59] was dredged for industrial development, transforming a portion of the river into the

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53. Lenny Bernstein & Brady Dennis, *Flint Water Crises Reveals Government Failures at Every Level*, WASH. POST (Jan. 24, 2016), https://www.washingtonpost.com/national/health-science/flints-water-crisis-reveals-government-failures-at-every-level/2016/01/23/03705f0c-c11e-11e5-bcda-62a36b394160_story.html (discussing how environmental officials ignored the apparent harm being done to the citizens of Flint); *see* Merrit Kennedy, *Independent Investigators: State Officials Mostly to Blame for Flint Water Crisis*, NPR (Mar. 23, 2016, 12:38 PM), https://www.npr.org/sections/thetwo-way/2016/03/23/471585633/independent-investigators-state-officials-mostly-to-blame-for-flint-water-crisis [https://perma.cc/6ENY-BNPG] (discussing the task force report on culpability of state officials in handling the Flint water crisis).

54. Denchak, *supra* note 50.

55. *Id.*

56. MICH. C.R. COMM'N, THE FLINT WATER CRISIS: SYSTEMIC RACISM THROUGH THE LENS OF FLINT (2017).

57. U.S ENV'T PROT. AGENCY, RECORD OF DECISION: LOWER DUWAMISH WATERWAY SUPERFUND SITE (2014) [hereinafter EPA LOWER DUWAMISH WATERWAY RECORD OF DECISION].

58. *Lower Duwamish Waterway: Site History*, WASH. STATE DEP'T ECOLOGY, https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Cleanup-sites/Lower-Duwamish-Waterway/Site-history [https://perma.cc/55X4-4NE3] (last visited Apr. 8, 2023).

59. *Id.* ("The Duwamish [River] begins in the Cascade Mountains of Southeast King County . . . [and] flows into the Puyallup River.").

Lower Duwamish Waterway, an industrial corridor.[60] There were three significant standouts of the remediation process in the Duwamish River: (1) the Environmental Justice analysis (EJ analysis);[61] (2) stakeholder engagement; and (3) community participation.[62] The EJ analysis enabled the EPA and other stakeholders to inculcate remediation alternatives that ensured better cleanup of the contamination. The EPA expanded the number of days required for community engagement and comments and implemented—for the first time under CERCLA—remedial processes EJ analysis.[63] The EJ analysis examined the impacts of the preferred alternatives and other remedial suggestions. EJ analysis is not part of the nine criteria indicated under the National Oil and Hazardous Substances Contingency Plan (NCP)[64] and, in the lower Duwamish case, was opposed by other Potential Responsible Parties (PRPs).[65] However, in that situation, the EPA countered that an EJ analysis was appropriate to enforce Executive Order 12,898, also known as "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations."[66]

B. Overview of Remediation Process Under Current Environmental Law

A plethora of statutes provide for remediation of environmental harms in the United States. The focus here is on environmental statutes relevant in the remediation context. Though they may have shortfalls,

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60. *Id.*

61. Environmental justice analysis is pursuant to Executive Order 12,898, mandating that federal agencies,

> whenever practicable and appropriate, shall collect, maintain and analyze information on the race, national origin, income level, and other readily accessible and appropriate information for areas surrounding facilities or sites expected to have a substantial environmental, human health, or economic effect on the surrounding populations, when such facilities or sites become the subject of a substantial Federal environmental administrative or judicial action. Such information shall be made available to the public, unless prohibited by law.

Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Exec. Order No. 12,898, 3 C.F.R. 859 (1995).

62. *See* 42 U.S.C. § 9617 (requiring public participation and an opportunity for public comments and citizen participation in the remediation process).

63. *See* EPA LOWER DUWAMISH WATERWAY RECORD OF DECISION, *supra* note 57.

64. 40 C.F.R. § 300.430(e)(9)(III).

65. *See* VILLA ET AL., *supra* note 8, at 318 (citing EPA LOWER DUWAMISH WATERWAY RECORD OF DECISION, *supra* note 57, at 125).

66. *See id.*

understanding their scopes and extents is important to contextualizing equal remediation.

1. COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) PROCESSES

When Congress enacted CERCLA, also known as the Superfund Act,[67] its goal was to address a national concern regarding the release of hazardous substances from abandoned waste.[68] Congress subsequently enacted other statutes to supplement CERCLA and the EPA enforcement and cleanup efforts—*e.g.*, Superfund Amendments and Reauthorization Act (SARA)[69] and the Small Business Liability Relief and Brownfields Revitalization Act.[70] For example, SARA requires the EPA to adopt remedial efforts to promote human health and protect the environment.[71]

CERCLA requires the U.S. president to initiate removal and other remedial action "whenever any hazardous substance is released into the environment" that poses a substantial danger to the public health or welfare.[72] CERCLA also requires any person in charge of a vessel or an offshore facility who has knowledge of a release of hazardous substance to immediately notify the National Response Center.[73] The EPA is responsible for addressing enforcement and cleanup actions of contaminated sites and seeking reimbursement from the PRPs.[74]

The Act defines PRPs as including the present or former owner or operator of the vessel or a facility and any person who aids in the disposal or accepts the hazardous substance for disposal.[75] This imposes strict, joint, and several liability and can be applied retroactively.[76]

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67. 42 U.S.C. § 9601.

68. *See* Michael P. Healy, *The Effectiveness and Fairness of Superfund's Judicial Review Preclusion Provision*, 15 VA. ENV'T L.J. 271, 273 (1996).

69. Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601–75 (2006).

70. 42 U.S.C. § 9628(a).

71. 42 U.S.C. § 9621(b)(1).

72. *See* 42 U.S.C. § 9604(a)(1); Thomas R. Ajamie, *Emergency Planning for Hazardous Chemical Accidents: Elements of a Legislative Solution*, 12 J. OF LEGIS. 195, 205 (1985).

73. 42 U.S.C. § 9603 (requiring that, where a hazardous substance is released, "[a]ny person in charge of a vessel or an offshore or an onshore facility shall . . . immediately notify the National Response Center . . . [and the] National Response Center shall convey the notification expeditiously to all appropriate Government agencies").

74. *See* 42 U.S.C. § 9604(a)(1).

75. *See* 42 U.S.C § 9607(a).

76. KATE R. BOWERS, CONG. RSCH. SERV., IF11790, LIABILITY UNDER THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT

Responsible Parties under the Act are liable to the United States for the costs of the removal or remedial action conducted, including damages and health assessment costs.[77] To establish a CERCLA violation, there must be a release or threatened release of a hazardous substance from a facility that caused the incurrence of response costs, and the defendant must fall within one of the categories of the PRP designated by the statute.[78]

Notably, CERCLA excludes petroleum and gas from its definition of hazardous substances.[79] CERCLA provides for two major responses under the Act: removal actions and remedial actions.[80] Remedial actions include long-term solutions while removal actions refer to short-term responses. To commence any remedial action under CERCLA, the proposed site must be listed on the NPL.[81] To do that, the proposed site is subjected to a preliminary site inspection.[82] If the lead agency finds

(CERCLA) (2021); *see also, e.g.*, *United States v. Monsanto Co.*, 858 F.2d 160 (4th Cir. 1988); *Arizona v. City of Tucson*, 761 F.3d 1005 (9th Cir. 2014).

77. 42 U.S.C. § 9607(a)(4).

78. Larry Schnapf, *Cleaning Up Abandoned or Inactive Contaminated Sites*, *in* THE LAW OF ENVIRONMENTAL JUSTICE: THEORIES AND PROCEDURES TO ADDRESS DISPROPORTIONATE RISKS 523, 523 (Michael B. Gerrard ed., 1999).

79. 42 U.S.C. § 9601(14).

80. 42 U.S.C. § 9601(24) ("[Remedial actions are] those actions consistent with permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment. The term includes, but is not limited to, such actions at the location of the release as storage, confinement, perimeter protection using dikes, trenches, or ditches, clay cover, neutralization, cleanup of released hazardous substances and associated contaminated materials, recycling or reuse, diversion, destruction, segregation of reactive wastes, dredging or excavations, repair or replacement of leaking containers, collection of leachate and runoff, onsite treatment or incineration, provision of alternative water supplies, and any monitoring reasonably required to assure that such actions protect the public health and welfare and the environment."); *see also id.* § 9601(23) ("'[R]emove' or 'removal' means the cleanup or removal of released hazardous substances from the environment, such actions as may be necessary taken in the event of the threat of release of hazardous substances into the environment, such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release. The term includes, in addition, without being limited to, security fencing or other measures to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals not otherwise provided for, action taken under section 9604(b) of this title, and any emergency assistance which may be provided under the Disaster Relief and Emergency Assistance Act.").

81. 42 U.S.C. § 9605(a)(8)(B); 40 C.F.R. § 300.425(b)(1).

82. 42 U.S.C. § 9605(d).

any significant hazard, a Remedial Investigation and Feasibility Study (RI/FS) is conducted.[83]

The National Oil and Hazardous Substances Contingency Plan (NCP) lists the remediation processes of a contaminated site under CERCLA.[84] The NCP applies to all discharges into U.S. waters and releases of hazardous substances into the environment.[85] The first step when a hazardous substance is released into the environment is usually a Preliminary Assessment and Site Inspection (PA/SI). The next steps are listing on the NPL, or Site Listing Process, commencement of RI/FS, ROD, Remedial Action and Construction Completion, Post-Construction Completion, NPL deletion, and Site Reuse and Redevelopment.[86]

The PA/SI involves gathering historical information about the site and evaluating the threat it poses to human life.[87] The information collected at this stage describes the kind of release, the probable nature of the release, and a recommendation whether further action is required.[88] Soil from the site is tested to determine the kind of hazardous waste present.[89] The information collected at this stage is used to score the site for potential listing in the NPL, which is the next step.[90] To remediate any site, it must be listed on the NPL.[91] According to NCP, there are three ways in which a site can be listed on the NPL[92]: (1) if the site scores sufficiently high using the Hazard Ranking System attached to the NCP as Appendix A;[93] (2) a state designates the site as a top priority presenting the greatest danger to the public health;[94] or (3) the Agency for Toxic Substances And Disease Registry (ATSDR) recommends "that individuals be isolated from the release of hazardous substances[,] and the EPA also determines that [such] release

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83. 42 U.S.C. § 9604(a)(1).

84. *See* 40 C.F.R. § 300.2 (2021); *see also* 42 U.S.C. § 9605(a)(8)(A).

85. *See* 40 C.F.R. § 300.3(a).

86. *See Superfund Cleanup Process*, EPA, https://www.epa.gov/superfund/superfund-cleanup-process [https://perma.cc/U273-KWPX] (Apr. 15, 2023).

87. *See* 40 C.F.R. § 300.420(a).

88. 40 C.F.R. § 300.420(b)(4).

89. *See* § 300.420(c)(4)(i) (requiring a field sampling to determine the number, type, and allocation of samples, and the type and analyses).

90. *See* 40 C.F.R. § 300.420(c)(5).

91. 42 U.S.C. § 9605(a)(8)(B); 40 C.F.R. § 300.425(b)(1). However, listing on the NPL is not a requirement for a removal action. *Id.* A remedial action is a long-term, permanent solution to a contaminated site compared to removal action. *Id.* 42 U.S.C. § 9605(a)(8)(A) stipulates that the president shall make provisions under the NCP regarding criteria and priorities for determining a course of action.

92. *See* 40 C.F.R § 300.425(c).

93. 40 C.F.R. § 300.425(c)(1).

94. 40 C.F.R. § 300.425(c)(2).

poses a significant threat to public health, and that a remedial action will be more cost-effective than a removal action."[95]

The NCP prescribes the lead agency to conduct a remedial site evaluation before the commencement of remedial action.[96] This is the RI/FS, also known as site characterization.[97] The RI/FS requires the lead agency to "[e]liminate from further consideration sites that pose no threat to public health or the environment" and set priorities for inspection to determine if there is a further need for removal action.[98] If further remedial action is necessary, "the lead agency shall initiate [a] removal evaluation" program.[99] The evaluation allows the EPA to determine the severity, nature, and extent of contamination at the site and the kind of technologies that can be deployed to clean up the site.[100] The lead agency here has the opportunity to assess the site conditions and evaluate remedial alternatives. Developing and conducting remedial investigation and feasibility studies includes several steps, such as project scoping, data collection, risk assessment, treatability studies, analysis of alternatives, and tailoring the activities to the nature and complexity of the problem and response alternatives being considered.[101] There are also opportunities for community involvement during RI/FS.

Subsequently, the lead agency issues a ROD.[102] The ROD explains the remedial alternatives that will be used at the site.[103] It contains information such as "site history, site description, site characteristics, community participation, enforcement activities, past and present activities, contaminated media, contaminants present, description of the response actions to be taken, and the remedy selected for the cleanup."[104] After the Final ROD is issued, EPA prepares a Remedial Design/Remedial Action, (RD/RA).[105] The RD/RA delineates the final

95. LAWRENCE P. SCHNAPF, ENVIRONMENTAL ISSUES IN REAL ESTATE AND CORPORATE TRANSACTIONS 45–46 (2003), https://www.environmental-law.net/wp-content/uploads/2011/09/Env-Issues-in-Bus-Trans-CLE-03.pdf [https://perma.cc/SB25-NBD2]; *see also* 40 C.F.R. § 300.425(c)(3).

96. 40 C.F.R. § 300.420(a)–(b)(1).

97. 40 C.F.R. § 300.430(a)(2).

98. 40 C.F.R. § 300.420(b)(1).

99. 40 C.F.R. § 300.420(b)(3).

100. *See* 40 C.F.R § 300.430; *see also* § 300.430(a)(1).

101. 40 C.F.R. § 300.430(a)(2).

102. 40 C.F.R. § 300.430(f)(3)(i)(F).

103. 40 C.F.R § 300.430(f)(3)(A)–(B).

104. JILLIAN GORDNER, U.S. PIRG EDUC. FUND, SUPERFUND UNDERFUNDED: HOW TAXPAYERS HAVE BEEN LEFT WITH A TOXIC FINANCIAL BURDEN 9 (2021), https://pirg.org/wp-content/uploads/2022/07/USP_AME_SuperfundUnderfunded_1-3.pdf [https://perma.cc/7VX4-47PG]; *see also* 40 C.F.R. § 300.430(f).

105. 40 C.F.R. § 300.435(a)–(b).

design for the anticipated cleanup of the site.[106] Once this is done, the lead agency publishes the final RD/RA fact sheet, and if it substantially differs from the record of decision, the agency will have to explain the difference or propose an amendment detailing the differences.[107]

After the RD/RA phase, the lead agency begins the construction of the remedy.[108] This phase takes care of the required cleanup of the entire site and implementation of all remediating requirements. Subsequently, the post-construction completion is carried out, ensuring that selected cleanups provide for permanent protection of human health and the environment.[109] At this stage of the remediation, EPA regularly reviews "the site to make sure that the cleanup continues to be effective," and that the technologies at the site are in working order, while "enforcing necessary restrictions to minimize potential for human exposure to contamination."[110] Operation and maintenance measures in this case are initiated after the remedy has been achieved under CERCLA and becomes operational and functional one year after construction is complete or when the remedy is determined concurrently by the EPA to be functioning properly and performing as designed.[111] After this stage, the site is deleted from the NPL, signifying that a cleanup has been completed and the anticipated goals reached.[112]

2. Resource Conservation and Recovery Act (RCRA) Processes

The remediation process under the RCRA is slightly different and takes a more nuanced process, usually called corrective action.[113] The EPA is responsible for RCRA enforcement, which empowers the EPA to take a broad range of actions if there is evidence of a "past or present handling" of "solid waste or hazardous waste [that] present[s] imminent and substantial endangerment to health or the

106. *See id.*

107. *See id.* § 300.435(a)–(c).

108. *See id.* § 300.435(a).

109. *See id.* § 300.435(f).

110. *About The Superfund Cleanup Process*, EPA, https://www.epa.gov/superfund/about-superfund-cleanup-process [https://perma.cc/52RH-65K5] (last visited Apr. 15, 2023); *see also* 40 C.F.R. § 300.435(f).

111. *See About the Superfund Cleanup Process*, *supra* note 110; 40 C.F.R. § 300.435(f).

112. 40 C.F.R. § 300.425(e)(1).

113. *See* 42 U.S.C. § 6942 (specifying items to be included in a state guideline plan); *see also* 42 U.S.C. § 6924(u) (describing a RCRA corrective action as a requirement that facilities treat, store, or dispose of hazardous wastes).

environment."[114] This provision is similar to the CERCLA provision: it can be used to compel responsible parties to clean up contaminated sites. However, RCRA's jurisdiction extends to non-hazardous solid waste.[115]

RCRA governs the management, generation, storage treatment, and disposal of hazardous waste to ensure protection of human health.[116] RCRA governs both hazardous[117] and non-hazardous waste.[118] Whenever any information causes the EPA to determine "that there is or has been a release of hazardous waste into the environment from a facility authorized to operate under Section 6925(e) of" RCRA, the EPA "may issue an order requiring corrective action or such other response measure as [the administrator] deems necessary to protect human health," or the environment, or to commence a civil action in the federal court in the district in which the facility is located for relief, including a temporary or permanent injunction.[119]

The RCRA corrective action under Section 6928 is narrowly applied to facilities permitted for treatment, storage, or disposal of hazardous wastes.[120] The corrective action process takes the following steps: initial site assessment, site characterization, interim actions, evaluation of remedial alternatives, remedy implementation, tracking progress, and long-term care.[121]

Site assessment is a process where "EPA technicians gather information on site conditions, releases, potential releases, and exposure pathways to determine" what kind of cleanup is needed and how to proceed.[122] It is followed by a site characterization where the EPA determines the cleanup decisions and the appropriate remedies to be implemented on the site to decontaminate the exposure.[123] Before a final remedy is selected, facilities are encouraged to implement interim actions, which are used to abate any ongoing harm to human health and the environment in anticipation of a final remedy selection.[124] After

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114. 42 U.S.C. § 6973(a).

115. *See* 42 U.S.C. § 6903(27).

116. *See generally* 42 U.S.C. § 6902 (providing objectives for the RCRA).

117. 42 U.S.C. §§ 6921–39. *See generally* 40 C.F.R. §§ 260–73.

118. 40 C.F.R. §§ 239–59; *see also* 42 U.S.C. § 6903(5).

119. *See* 42 U.S.C. § 6928(h)(1); U.S. Env't Prot. Agency, Memorandum on Interpretation of Section 3008(h) of the Solid Waste Disposal Act (Dec. 16, 1985). Section 6925(e) talks about the interim status before obtaining a final permit for a treatment, storage, or disposal facility.

120. *See Learn About Corrective Action*, EPA, https://www.epa.gov/hw/learn-about-corrective-action# [https://perma.cc/B28F-S5FN] (Apr. 15, 2023).

121. *Id.*

122. *Id.*

123. *Id.*

124. *Id.*

that, the EPA evaluates all the remedial alternatives available and the pros and cons in relation to site-specific conditions—usually called corrective action measures.[125] Next, the remedy is implemented and then followed by progress tracking used to measure the cleanup progress on site.[126] Long-term care follows. This corrective action is the last step that ensures long-term protection after the facility has completed cleanup, ensuring the integrity of the remedy implemented on the site and preventing unlimited and unrestricted exposure to the site.[127]

II. ONGOING ENVIRONMENTAL INJUSTICE DEMANDS EQUALIZING REMEDIATION

Several ongoing environmental injustices and their disproportionate impacts on minority communities intensify the need to equalize remediation. Juxtaposing environmental harms and remediation in the United States reveals a sharp contrast.[128] Even with ongoing remediation regulations and efforts, the divide is not closing. It is not a healthy development for the environmental justice movement and citizens' well-being. The ineffective remediation of lead-contaminated water in Flint, Michigan, and the North Railroad Site, present typical examples of the kinds of injustice this Article addresses. "Millions of Americans live in housing" overburdened with unremedied "environmental problems, including older housing with lead-based paint."[129] Some also live in communities with congested freeways, industries that emit dangerous pollutants, or abandoned areas with toxic waste.

In fact, numerous studies show a disproportionate exposure based on race and income.[130] Data also show that environmental inequities

125. *Id.*

126. *Id.*

127. *Id.*

128. The level at which environmental harms are occurring is not commensurate with the remediation. *See, e.g.*, Fiona Harvey, *Humans Damaging the Environment Faster Than It Can Recover*, GUARDIAN (May 19, 2016, 12:56 PM), https://www.theguardian.com/environment/2016/may/19/humans-damaging-the-environment-faster-than-it-can-recover-report-finds [https://perma.cc/V4H6-G3KF] (describing worsening environmental degradation despite efforts to combat it).

129. Janet Phoenix, *Getting the Lead Out of the Community*, *in* UNEQUAL PROTECTION: ENVIRONMENTAL JUSTICE AND COMMUNITIES OF COLOR 77, 77–79 (Robert D. Bullard ed., 1994).

130. Robert D. Bullard, *Environmental Justice for All*, *in* UNEQUAL PROTECTION: ENVIRONMENTAL JUSTICE AND COMMUNITIES OF COLOR 3, 12 (Robert D. Bullard ed., 1994).

persist in the United States.[131] Despite both national and global environmental justice movements, instances of environmental injustice abound in the United States.[132] Because of the greater exposure to environmental harm, the need for remediation is urgent, not yet forthcoming. Several factors exacerbate environmental injustice in the United States.

A. Harmful Land Practices

A number of harmful land practices heighten these environmental inequalities in the United States. Typically, minority and Black communities are "exposed to pollutants in their homes and workplaces," causing various illnesses.[133] In addition, "poor indoor and outdoor air quality, poor diet," and stress prevalent in these communities compound the impact of minor illnesses occasioned by the toxicity in the environment.[134] People in these communities have less open space per person than do residents of middle-income or affluent areas.[135] Harmful land practices like zoning, economic vulnerability, and racism exacerbate environmental injustice and injury.[136] These harmful tools have been used to invite contamination sources into minority neighborhoods.

It is ironic that zoning is one of the contributing factors exacerbating environmental injustice in the United States, because zoning was established to promote urban order and health by policing nuisances and hazardous land uses.[137] Expulsive zoning is a subset of

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131. *Id.* (describing close alignment between race and exposure to environmental harms).

132. Natalie Colarossi, *10 Egregious Examples of Environmental Racism in the US*, INSIDER (Aug. 11, 2020, 3:35 PM), https://www.insider.com/environmental-racism-examples-united-states-2020-8 [https://perma.cc/KTQ8-3R4T]; *see also* Mustafa Santiago Ali, *Environmental Injustice Is Rising in the US. Minorities and the Poor Pay the Price*, GUARDIAN (Dec. 3, 2017, 4:41 PM), https://www.theguardian.com/commentisfree/2017/dec/03/environmental-injustice-rising-in-america-minorities-low-income [https://perma.cc/T7QA-A8CU].

133. Hilda L. Solis, *Environmental Justice: An Unalienable Right for All*, 30 HUM. RTS. 5, 5 (2003).

134. *Id.*

135. *Id.*

136. Idna G. Castellón, *Cancer Alley and the Fight Against Environmental Racism*, 32 VILL. ENV'T L.J. 15, 16 (2021); Julia Mizutani, Note, *In the Backyard of Segregated Neighborhoods: An Environmental Justice Case Study of Louisiana*, 31 GEO. ENV'T L. REV. 363, 364, 372–74 (2019).

137. Abigail York et al., *Zoning and Land Use: A Tale of Incompatibility and Environmental Injustice in Early Phoenix*, 36 J. URB. AFFS. 833, 834 (2014); Sacoby Wilson, Malo Hutson & Mahasin Mujahid, *How Planning and Zoning Contribute to Inequitable Development, Neighborhood Health, and Environmental Injustice*, 1 ENV'T JUST. 211, 211 (2008). *See generally Buchanan v. Warley*, 245 U.S. 60, 82 (1917)

the general zoning problem and involves the deployment of zoning as a tool to invite into Black neighborhoods "disruptive[,] incompatible uses" known to undermine "the character, quality, and stability of Black residential areas."[138] The incompatible uses generate pollution and other toxic wastes that harm and endanger the community. Ample evidence supports the contention that, historically, Black and brown neighborhoods and other low-income residential areas are most commonly designated for industrial and commercial use.[139] Using zoning to invite these toxic industries into minority neighborhoods and subsequently failing to remediate the harm is a typical example of environmental injustice. Some studies and scholars say toxic industries are based on race and low income.[140] Others argue that toxic and harmful industries within communities of color are not based on race

(striking down a zoning ordinance that prohibited a person of color from inhabiting a house in an area majority occupied by white people as unconstitutional under the Fourteenth Amendment).

138. Yale Rabin, *Expulsive Zoning: The Inequitable Legacy of* Euclid, *in* ZONING AND THE AMERICAN DREAM 101, 101 (Charles M. Haar & Jerold S. Kayden eds., 1989); *see also* Mizutani, *supra* note 136, at 364–72 (highlighting that expulsive zoning and other land use practices lead to hazards in poor communities and communities of color).

139. Rabin, *supra* note 138, at 112–13 (discussing the expulsive zoning that occurred in Jackson, Tennessee, where South Jackson, with a majority of Black inhabitants, was designated for industrial use until the mid-1960s, leading to extensive blighting).

140. COMM'N FOR RACIAL JUST., UNITED CHURCH OF CHRIST, TOXIC WASTES AND RACE IN THE UNITED STATES: A NATIONAL REPORT ON THE RACIAL AND SOCIO-ECONOMIC CHARACTERISTICS OF COMMUNITIES WITH HAZARDOUS WASTE SITES 15–16 (1987); *see also* U.S. GEN. ACCT. OFF., GAO/RCED-83-168, SITING OF HAZARDOUS WASTE LANDFILLS AND THEIR CORRELATION WITH RACIAL AND ECONOMIC STATUS OF SURROUNDING COMMUNITIES 1 (1983) (stating that all four toxic waste dumps in eight southern states are in economically depressed communities). On the local level, studies of particular cities have found that poorer people live closer to toxic waste sites than wealthier people. *See* THE SOCIAL BURDENS OF ENVIRONMENTAL POLLUTION: A COMPARATIVE METROPOLITAN DATA SOURCE 570–71 tbl.8.3 (Brian J.L. Berry ed., 1977) (reporting that solid waste sites in Chicago are distributed by income). *See generally* ROBERT D. BULLARD, PAUL MOHAI, ROBIN SAHA & BEVERLY WRIGHT, TOXIC WASTES AND RACE AT TWENTY 1987–2007, at 43 (2007) (discussing study comparing the racial and socio-economic status of residents of the zip codes surrounding 415 commercial hazardous waste facilities to those of zip codes that did not have such facilities). The study found that:

> Host neighborhoods of commercial hazardous waste facilities are 56% people of color[,] whereas non-host areas are 30% people of color. Percentages of African Americans, Hispanics/Latinos and Asians/Pacific Islanders in host neighborhoods are 1.7, 2.3 and 1.8 times greater (20% vs. 12%, 27% vs. 12%, and 6.7% vs. 3.6%), respectively. Poverty rates in the host neighborhoods are 1.5 times greater than non-host areas.

Id. at X.

but rather purely economic factors—predominantly market forces.[141] Various reports and studies have rejected this claim, all emphasizing the central role of race and income in the disproportionate siting of environmental harms.[142] A 2021 study also confirmed that race continues to be an independent predictor of the location of the nation's hazardous waste sites.[143] According to Robert Bullard, "environmental vulnerability still maps closely with race."[144] "The conclusion drawn from tragic anecdotes—that the poor suffer disproportionately from environmental hazards[,]" as environmental lawyer Luke Cole wrote, "is confirmed in local and national studies of the impacts of toxic products and their disposal as well as garbage dumps, air pollution, lead poisoning, pesticides, occupational hazards, noise pollution, and rat bites."[145]

B. Initial Efforts to Address Unequal Remediation

One of the ways scholars and activists have approached environmental injustice in the United States is by championing equal enforcement of the law. Prior to the current environmental laws, environmental justice advocates used traditional common law claims to address unequal remediation.

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141. Paul Mohai & Robin Saha, *Racial Inequality in the Distribution of Hazardous Waste: A National-Level Reassessment*, 54 SOC. PROBS. 343, 345 (2007); *see also* Vicki Been, *Locally Undesirable Land Uses in Minority Neighborhoods: Disproportionate Siting or Market Dynamics?*, 103 YALE L.J. 1383, 1385–86 (1994).

142. *See* AFR. AM. ENV'T ASS'N, OUR UNFAIR SHARE 3: RACE & POLLUTION IN WASHINGTON, D.C. (2000) (finding that the cleanest area in Washington, D.C., is Ward 3, 88% of whose residents are white, whereas 66% of the overall population of the city is Black); AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, U.S. DEP'T OF HEALTH & HUM. SERVS., THE NATURE AND EXTENT OF LEAD POISONING IN CHILDREN IN THE UNITED STATES: A REPORT TO CONGRESS I-15 tbl.I-2 (1988) (highlighting childhood blood lead levels have been disproportionately impacted by race and income, with race independent of class); James T. Hamilton, *Testing for Environmental Racism: Prejudice, Profits, Political Power?*, 14 J. POL'Y ANALYSIS & MGMT. 107, 129 (1995) (explaining that levels of political activism, not race, were negatively associated with the probability of expansion, controlling for socioeconomic and other factors, demonstrating that companies, when calculating where to expand hazardous waste processing capacity, are more likely to target areas with lower levels of potential political activity).

143. Michael Mascarenhas, Ryken Grattet & Kathleen Mege, *Toxic Waste and Race in Twenty-First Century America: Neighborhood Poverty and Racial Composition in the Siting of Hazardous Waste Facilities*, 12 ENV'T & SOC'Y 108, 115, 121 (2021).

144. Robert Bullard, *Environmental Justice—Once a Footnote, Now a Headline*, 45 HARV. ENV'T L. REV. 243, 246 (2021).

145. Luke W. Cole, *Empowerment as the Key to Environmental Protection: The Need for Environmental Poverty Law*, 19 ECOLOGY L.Q. 619, 622–24 (1992).

1. TRADITIONAL COMMON LAW CLAIMS

Several common law claims can be used to address remediation of environmental harms. "Up until the 1970s," environmental advocates used "a patchwork of state laws, local ordinances, and common law nuisance protections" to address remediation.[146] "Traditionally, the public has looked to the judiciary to settle disputes and redress injuries."[147] Examples include negligence and negligence per se, trespass, strict liability, nuisance, and damages.[148] Some litigants have recorded incredible success using common law remedies to seek remediation of environmental harms in their communities. Recently, the Supreme Court said that state law common lawsuits are not barred, despite an ongoing CERCLA remediation.[149] However, if the suit will require an amendment or challenge to an ongoing CERCLA removal or removal remedial action, Section 113(h) of CERCLA applies to bar such suit.[150] In addition to this drawback, these common-law claims are daunting and difficult to win: the "cornerstone of common law tort actions is the concept of fault," and plaintiffs face a challenging task in proving causation.[151] In nuisance law, courts are bound to balance the utility of the action against the harm produced. In many cases, plaintiffs usually lose.[152]

In addition, legal expenses may be alarmingly high, considering the length of the trial and discovery involved. Cost presents a barrier for low-income communities pursuing these lines of action to equalize remediation of harms. Also, under the various common law remedies, litigants must prove causation and other doctrinal requirements of tort law instead of showing that the offending body violated a regulatory permit issued by an agency.[153]

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146. Jonathan H. Adler, *When Is Two a Crowd?: The Impact of Federal Action on State Environmental Regulation*, 31 HARV. ENV'T L. REV. 67, 67 (2007) (citing Robert V. Percival, *Environmental Federalism: Historical Roots and Contemporary Models*, 54 MD. L. REV. 1141, 1147 (1995)).

147. Judy A. Johnson, Comment, *Hazardous Waste Disposal: Is There Still a Role for Common Law*, 18 TULSA L.J. 448, 451 (1983).

148. Alexandra B. Klass, *CERCLA, State Law, and Federalism in the 21st Century*, 41 SW. L. REV. 679, 692–98 (2012).

149. *See Atl. Richfield Co. v. Christian*, 140 S. Ct. 1335 (2020).

150. *See* discussion *infra* Section III.A.

151. Johnson, *supra* note 147, at 451.

152. *See, e.g.*, *Boomer v. Atl. Cement Co.*, 257 N.E.2d 870 (N.Y. 1970) (holding that the utility of cement company's business outweighed the harm suffered by residents).

153. VILLA ET AL., *supra* note 8, at 476.

2. VIGOROUS ENFORCEMENT OF THE LAW AND UNEQUAL ENFORCEMENT OF ENVIRONMENTAL LAWS

Advocating vigorous enforcement of environmental laws to reduce unequal remediation is not uncommon. Due to widespread non-compliance with environmental laws,[154] and unequal enforcement,[155] Professor Robert Bullard opined that current environmental protection laws offer greater protection and benefits to "middle- and upper-income whites while shifting the burden to poor people of color."[156] "The dominant environmental protection paradigm," Professor Bullard said, "institutionalizes unequal enforcement and trades human health for profit," while placing "the burden of proof on victims and not on the polluting industry."[157] In addition, it legitimizes human exposure to harmful substances, exploits vulnerable communities, delays remedial efforts, and ignores prevention, which should be the mainstay of any environmental protection strategy.[158] Shea Diaz noted that unequal enforcement manifests in two ways: "(1) unequal detection speed and penalties for non-compliance and (2) unequal enforcement resulting from compliance bias."[159] Similarly, Professor Robert Kuehn advocated for vigorous enforcement of the law as part of the solution to inequitable treatment of some communities.[160]

The question remains: Is unequal enforcement prevalent and significant? Numerous studies answered in the affirmative. For

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154. Kuehn, *supra* note 4, at 626; *see also* R. Shea Diaz, *Getting to the Root of Environmental Injustice: Evaluating Claims, Causes, and Solutions*, 29 GEO. ENV'T L. REV. 767, 777 (2017) (saying that unequal enforcement of environmental laws exacerbates environmental harm in the United States); Cynthia Hamilton, *Coping with Industrial Exploitation*, *in* CONFRONTING ENVIRONMENTAL RACISM: VOICES FROM THE GRASSROOTS 63 (Robert D. Bullard ed., 1993).

155. Robert D. Bullard, *Leveling the Playing Field Through Environmental Justice*, 23 VT. L. REV. 453 (1999); Lavelle & Coyle, *supra* note 3, at S1–S3.

156. Robert D. Bullard, *Introduction*, *in* UNEQUAL PROTECTION: ENVIRONMENTAL JUSTICE AND COMMUNITIES OF COLOR xv, xv–xvi (Robert D. Bullard ed., 1994).

157. *Id.* at xvi.

158. *Id.* at xvii.

159. Diaz, *supra* note 154, at 777. Other scholars support Diaz's view that the EPA discriminates in cleanup decisions in minority communities. *See* Lavelle & Coyle, *supra* note 3, at 1.

160. Kuehn, *supra* note 4, at 642 ("Where environmental agencies do not appear to be enforcing environmental laws sufficiently or in an equal manner, at least three different types of legal remedies are available under existing laws: civil rights laws; forcing the government to undertake mandatory enforcement duties; and challenging inadequate government enforcement actions."). "Citizens have a right not only to expect that environmental laws will be vigorously enforced, but also a right to expect that when the government does enforce the laws, it will do so in a fair and equitable manner." *Id.* at 626.

example, in a study examining whether state governments systematically perform fewer enforcement actions as a part of federal pollution control programs—the Clean Air Act (CAA), the Clean Water Act (CWA), and the RCRA—from 1985 to 2000 in communities of color, the author answered, "Yes."[161] The study found strong evidence that state enforcement of the CAA declined as "the percentage of the county population below the poverty line increase[d]."[162] In addition, "[t]he relationship between median household income and state CAA enforcement [was] consistent with the environmental inequity hypothesis," as county median household income increased, so too does state "enforcement of the CAA in wealthier counties."[163]

For the CWA, Professor Konisky found that the results were "similar but not identical" to CAA enforcement.[164] Overall, he noted a "strong relationship between poverty and state enforcement" of the CWA: "[S]tates conduct fewer enforcement actions in counties with more residents below the poverty line."[165] Contrary to state CAA enforcement, he observed that there was "no statistically significant relationship between median household income and state CWA enforcement."[166] Professor Konisky noted that for each percentage increase in a county's poverty rate there was a 2.3% "decrease in the number of actions conducted by states to enforce the federal clean air regulations."[167] Generally, he noted that the effect of median household income was also substantial: each increase or decrease beyond $1,000 in median weekly household income saw a 3.3% increase or decrease in the number of state enforcements of the CAA.[168] The results of the RCRA are not substantially different.[169] Other studies have shown proof of unequal enforcement on account of race, income, or employment.[170]

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161. David M. Konisky, *Inequities in Enforcement? Environmental Justice and Government Performance*, 28 J. POL'Y ANALYSIS & MGMT. 102, 103 (2009) (citing David M. Konisky & Christopher Reenock, *Compliance Bias and Environmental (In)Justice*, 75 J. POL. 506, 507 (2013)).

162. *Id.* at 111.

163. *Id.*

164. *Id.* at 113.

165. *Id.*

166. *Id.*

167. *Id.* at 114.

168. *Id.*

169. *Id.*

170. *See* John T. Scholz & Cheng-Lung Wang, *Cooptation or Transformation? Local Policy Networks and Federal Regulatory Enforcement*, 50 AM. J. POL. SCI. 81, 91 (2006) ("[V]oter turnout, census response, college graduates, income, and urban and rural runoff all increase inspections and decrease violations, although they differ in their significance across the two equations [while] [t]he heterogeneity indicators—percent Black and Hispanic—decrease inspections and increase violations, consistent with the hypothesis that heterogeneity reduces the effectiveness of policy networks.");

A previous study by the National Law Journal also found fewer enforcements in minority communities. After a comprehensive analysis of every U.S. environmental lawsuit from 1985 through March 1991, the National Law Journal Report 1992 study concluded that penalties for pollution law violators in minority areas are lower than those for violators in majority white areas.[171] Executive Order 12,898 was also designed to help remedy unequal enforcement of environmental laws.[172]

Civil enforcement of environmental laws tends to run into structural racism.[173] Public enforcement of environmental laws is easier due to the hurdles posed by private prosecution of such claims and the costs attached, as most bearers of environmental harms will lack the financial resources necessary to pursue a claim. Even then, there is always resistance to environmental regulation and enforcement.[174] Scholars who observe that environmental regulations are vigorously enforced in some communities while disregarded in others[175] may agree that, if equally enforced, these laws would sort out unequal remediation.[176] Professor Kuehn suggests ways to ensure additional or more equitable government enforcement of environmental laws: using civil rights remedies, forcing government compliance with enforcement and cleanup duties, and challenging decisions not to take enforcement action like forcing cleanup of waste sites.[177]

If we accept the hypothesis that vigorous enforcement is the panacea to equalizing remediation, has enforcement equalized

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see also Konisky & Reenock, *supra* note 161, at 507 (stating that there was bias in enforcement behaviors in Hispanic communities but not in African-American communities). This study reasoned that the disparities may be a result of growing environmental justice movements in African-American communities:

> It is worth noting that this result would have been masked had we just considered minorities collectively, which is often done in the literature. What might explain this pattern, and particularly the lack of bias in firm and regulatory compliance decisions toward firms located in African American communities? The simplest interpretation, of course, is that there is no systematic bias.

Id. at 517.

171. Lavelle & Coyle, *supra* note 3, at S1–S12.

172. Part of the goal of the Executive Order was to promote non-discrimination in federal programs that affect human health and the environment. Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Exec. Order No. 12,898, 3 C.F.R. 859 (1995).

173. *See supra* Part II.

174. Robin Kundis Craig, *Valuing the Public Health Aspects of Environmental Enforcement: Qualitative Versus Quantitative Evaluations of Enforcement Effort*, 33 S. ILL. U. L.J. 403, 404 (2009).

175. BULLARD, *supra* note 155, at xv–xvi, xviii.

176. *See* Kuehn, *supra* note 4, at 642–43; *see also* Lavelle & Coyle, *supra* note 3, at S1–S12.

177. Kuehn, *supra* note 4, at 642–44.

remediation? Even if vigorously and equally enforced across all communities, do environmental protection laws engender equalized remediation? Are there loopholes in the laws that allow the EPA or other agencies to discriminate in remediation? Moreover, even when they discriminate, do the current laws afford impacted communities the opportunities to seek redress for such? I will argue that the current law does not afford impacted communities' adequate opportunities to seek redress in all cases.

III. UNEQUAL REMEDIATION AS ENVIRONMENTAL INJUSTICE

As discussed above, scholars like Professor Kuehn have suggested that strict and vigorous enforcement can equalize remediation or cleanup.[178] However, most current environmental laws, even if vigorously or equally enforced, may not engender equalized remediation of environmental harms. Whether disparate from one community to another, delayed, haphazard, or altogether absent, the result is unequal remediation. Unequal remediation of environmental harm leaves communities alone to incur the associated pain and suffering.[179]

Evidence of unequal remediation or lack of remediation abounds in the United States.[180] Typical examples include North Railroad Avenue Plume—where unequal remediation was deployed—and Agriculture Street Landfill—in the city of Gordon, where an ineffective remediation method was deployed.[181] Conversely, contamination remediation in the LDW continues to be a leading example of what effective remediation looks like,[182] because the EPA in some way worked outside extant rules in remediating the harm. Scholars have noted evidence that the delays in treating Superfund sites and citing environmental violations in communities of color are hardly coincidental.[183] Several reasons for the

178. *See id.* at 627.

179. *See* Darryl Fears, *Gordon Plaza Was Sold as a Dream for Black Home Buyers. It Was a Toxic Nightmare*, WASH. POST (Apr. 1, 2022, 9:16 AM), https://www.washingtonpost.com/climate-environment/2022/04/01/new-orleans-gordon-plaza-epa/.

180. *See supra* Introduction for a discussion of the North Railroad Site and Fruit Avenue Site cases.

181. Fears, *supra* note 179 (city of New Orleans failed to clean up a site and instead covered it with soil and redeveloped the area while inviting Black and low-income families to purchase properties).

182. VILLA ET AL., *supra* note 8, at 319 (discussing the effectiveness of the EPA remediation because of increased stakeholder participation and effective remediation methods).

183. Kuehn, *supra* note 4, at 633 (first citing Daniel O'Connor, *Leaking Underground Storage Tanks and Urban Neglect*, 3/4 RACE, POVERTY & ENV'T 31, 32 (1993) ("[R]eview of government enforcement files lead to conclusion that suburban

delayed remediation of environmental harms have been identified, such as "inadequate funding for cleanup[,] lack of political will for cleanup[,] insufficient information about the scope of contamination[,] infighting among responsible polluters[,] corruption[,] turnover in government enforcement offices[,] and polluter recalcitrance."[184] I argue that these reasons are not solved by equal or vigorous enforcement of environmental laws at this time.

A. Current Environmental Laws Providing Remediation Avenues

Some federal environmental laws in the United States, such as the National Environmental Policy Act (NEPA), fail to provide a substantive standard of remediation—the laws deal more with the procedure.[185] Thus, vigorous enforcement may not solve the problem. Although a few statutes have substantive provisions dealing with remediation of environmental harm, the provisions are mostly inadequate. No national standards for cleanup of hazardous waste sites exist, and agencies are left to decide what is just and fair in any situation.

A couple of issues that run across most environmental laws involve the permissive language guiding agencies to remediate. For example, under RCRA, an agency may issue an order or commence a civil action if "the administrator determines that any person has violated the

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gas stations with leaking underground storage tanks were given more attention by California Water Quality Board than leaking tanks at inner city sites."); then citing ROBERT D. BULLARD, DUMPING IN DIXIE: RACE, CLASS, AND ENVIRONMENTAL QUALITY 66–68 (1990); then citing Robert D. Bullard, *Race and Environmental Justice in the United States*, 18 YALE J. INT'L L. 319, 332–33 (1993) ("The city finally took action after a series of articles on lead appeared in the local Dallas newspapers. . . . Dallas was clearly lax in its enforcement of health and land use regulations in the African American community."); then citing *Poor, Minorities Want Voice in Environmental Choices*, CONG. Q., Aug. 21, 1993, at 2257 ("Local residents, who are predominantly poor and Hispanic, last March sued the federal and state government, charging that bureaucrats were intentionally lax in cleaning up the toxic aftermath because West Dallas is a minority community."); then citing John Gonzalez, *Texas Groups Force Cleanups by Pulling the Right Strings*, FORT WORTH STAR-TELEGRAM, Mar. 1, 1993, at 1 ("'There is no doubt in my mind that the reason we have been so slow in solving this is that it hasn't affected the population as a whole, only the minority community,' Odessa NAACP President Gene Collins said."); and then citing Charles Lee, *Developing Working Definitions of Urban Environmental Justice*, 8 EARTH ISLAND J. 39 (1993)).

184. Margot J. Pollans, *A "Blunt Withdrawal"?: Bars on Citizen Suits for Toxic Site Cleanup*, 37 HARV. ENV'T L. REV. 441, 442 (2013) (discussing the delays associated with toxic cleanup of sites).

185. *See* 42 U.S.C. §§ 4321–47. Most statutes are lacking in what is a standard of remediation. A host of other statutes do not delineate standards of remediation of environmental harms.

[A]ct."[186] Similarly, a provision under CERCLA allows the EPA to assess penalties if there is a violation.[187] The permissiveness is not ideal for equal remediation. A look at the enforcement procedure under selected Superfund sites shows a lack of uniform adherence to the remediation process, which depends on the discretion of the regional office in charge of the given site.[188]

1. CERCLA

CERCLA has significant provisions for cleanup of a contaminated site, as does the NCP. However, simply enforcing these provisions is not enough. The NCP "outlines CERCLA's implementing regulations."[189] The NCP is the guiding light for oil spills, release of hazardous substances, and remediation; agencies are required to follow its guidelines.[190] The NCP's key provisions include establishing the National Response Team that plans and coordinates responses and provides guidance to the Regional Response Teams.[191] NCP also designates various steps to follow in undergoing remedial or removal actions.[192]

At the outset, under CERCLA, Superfund remediation may not be conducted unless the site is added to the NPL, and simply following the NPL process has problems.[193] The EPA defines the NPL as the "list of sites of national priority among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories."[194] CERCLA requires

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186. Kuehn, *supra* note 4, at 651; *see also* 42 U.S.C. § 6928(a)(1).

187. 42 U.S.C. § 9609(a)–(c).

188. Kuehn, *supra* note 4, at 641 (citing Paul R. Portney & Katherine N. Probst, *Cleaning Up Superfund*, 114 RES. 2, 4 (1994)).

189. *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) And Federal Facilities*, EPA, https://www.epa.gov/enforcement/comprehensive-environmental-response-compensation-and-liability-act-cercla-and-federal [https://perma.cc/CKR7-QFNG] (last visited Apr. 15, 2023).

190. 40 C.F.R. § 300.3(a) (2021). Jefferey Gaba and Mary Kelly describe the NCP provisions as the "heart of CERCLA." Jeffrey M. Gaba & Mary E. Kelly, *The Citizen Suit Provision of CERCLA: A Sheep in Wolf's Clothing?*, 43 SW. L.J. 929, 940 (1990).

191. 42 U.S.C. § 9615; 40 C.F.R. § 300.110.

192. *See* 40 CFR § 300.425(d).

193. *Id.* § 300.425(b)(1).

194. *See Superfund: National Priorities List (NPL)*, EPA, https://www.epa.gov/superfund/superfund-national-priorities-list-npl [https://perma.cc/6EVR-NMEY] (last visited March 3, 2023); *see also* 40 C.F.R. § 300.5 ("NPL means the list, compiled by EPA pursuant to CERCLA section 105, of uncontrolled hazardous substance releases in the United States that are priorities for long-term remedial evaluation and response.").

that the EPA score a site before the site can make its way into the NPL.[195] The EPA generates a numerical score for each site using the Hazard Ranking System (HRS) based on a combination of factors.[196] The HRS is a numerical scoring system that contemplates information from site assessments, inspections, and investigations to assess the threats potential sites pose to human health or the environment.[197]

Despite this, the HRS scores do not determine the priority for NPL purposes.[198] Critics say that the ranking system is flawed because rankings are determined by scores which, in turn, are "based almost entirely on the amount of information available about a particular site and on how many people live near the site, rather than the degree of danger a site poses."[199] The implication is that less dangerous contamination may be remediated before more toxic chemical contamination. In addition to this, the EPA never releases the scores for each site. For example, several uranium contaminated sites in Navajo Nation do not make the NPL despite the severe health effects posed by the unremedied mines.[200]

Additionally, placing a site on the Superfund NPL does not necessarily lead directly to remediation. There are 1335 sites on the Superfund NPL and another 37 proposed sites.[201] All of them are awaiting remediation. Approximately 200 million people, (about sixty percent of the U.S. population) live within three miles of sites such as a Superfund remedial site and an RCRA corrective action.[202] While the NPL has decreased, the size of the population living around Superfund sites has increased.[203] The result is that more citizens are now exposed to environmental harm owing to a lack of equalized remediation.

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195. 45 U.S.C. § 9605(c). Generally, sites are expected to score above 28.5 to make it into the NPL.

196. 40 C.F.R. § 300.425(c).

197. *Hazard Ranking System (HRS)*, EPA, https://www.epa.gov/superfund/hazard-ranking-system-hrs [https://perma.cc/B4AB-PJFP] (last visited Apr. 9, 2023).

198. *Id.*; *see also* 40 C.F.R. § 300.425(b)(2).

199. Robert W. McGee, *Superfund: It's Time for Repeal After a Decade of Failure*, 12 UCLA J. ENV'T L. & POL'Y 165, 168 (1993).

200. Tsosie, *supra* note 3, at 204.

201. *See Superfund: National Priorities List*, *supra* note 194.

202. *OLEM Programs Address Contamination at Superfund, Brownfields and RCRA Corrective Action Sites Near 63 Percent of the U.S. Population*, EPA, https://www.epa.gov/cleanups/olem-programs-address-contamination-superfund-brownfields-and-rcra-corrective-action-sites# [https://perma.cc/4E8E-6S7C] (last visited Feb. 25, 2023).

203. *See* Keely Maxwell, Brittany Kiessling & Jenifer Buckley, *How Clean Is Clean: A Review of the Social Science of Environmental Cleanups*, 13 ENV'T. RSCH. LETTERS 1 (2018), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7029711/pdf/nihms-1553353.pdf [https://perma.cc/9TVE-NEVU]. In the United States, there are 1,345 sites on the NPL

Further, studies have identified delays associated with listing on the NPL. Some cases have suggested that rural communities were placed on the NPL list at half the pace of other sites.[204] One study found disparities between minority and white communities in placing sites on the Superfund list.[205] Also, some sites on the NPL list have been there since the program's inception, and the lead agencies are battling with remediation of the harms. For example, certain sites have been on the NPL since 1983 when the procedure was first introduced.[206] Others have found that the EPA deferred eligible NPL sites to other remediation programs—outside the Superfund program—without any assurance of an efficient oversight by the EPA's regional bodies.[207] These delays worsen the incidence of ill health and disease.

After listing on the NPL, CERCLA requires remedial investigation and Feasibility Study (FS);[208] there are problems at this stage, too. This process "determine[s] the nature and extent of contamination."[209] The FS evaluates nine statutory criteria in determining cleanup options. These include: (1) degree of protection of human health and environment; (2) compliance with applicable or relevant appropriate requirements; (3) long-term effectiveness; (4) permanence; (5) reduction of toxicity, mobility, and volume through treatment; (6) short-term effectiveness; (7) ease of implementation; (8) cost; and (9) state and community acceptance.[210] According to Attorney Larry Schnaff, "[t]he nine statutory criteria are not equally weighted," and

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and an estimated 450,000 contaminated Brownfields. Approximately fifty-three million people (17% of the U.S. population) live within three miles of a Superfund site. *Id.* at 1.

204. *See* Lynn E. Blais, *Environmental Racism Reconsidered*, 75 N.C. L. REV. 75, 89 & n.54 (citing CLEAN SITES, HAZARDOUS WASTE SITES AND THE RURAL POOR: A PRELIMINARY ASSESSMENT 48–51 (1990)); Rae Zimmerman, *Social Equity and Environmental Risk*, 13 RISK ANALYSIS 649, 660–63 (1993) .

205. *See* Lavelle & Coyle, *supra* note 3, at S14. Kuehn noted: "[t]he study found that sites in minority areas took 20% longer to be placed on the NPL than sites in white areas—white areas waited 4.69 years from the date of discovery of the site until its listing on the NPL, while minority areas waited 5.63 years." Kuehn, *supra* note 4, at 634.

206. *National Priorities List (NPL) Sites—by Listing Date*, EPA (Apr. 15, 2023), https://www.epa.gov/superfund/national-priorities-list-npl-sites-listing-date [[https://perma.cc/KQ9B-P3PB].

207. U.S. GOV'T. ACCOUNTABILITY OFF., GAO-13-252, SUPERFUND: EPA SHOULD TAKE STEPS TO IMPROVE ITS MANAGEMENT OF ALTERNATIVES TO PLACING SITES ON THE NATIONAL PRIORITIES LIST 36 (2013).

208. *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) And Federal Facilities*, *supra* note 189.

209. *Id.*

210. 40 C.F.R. § 300.430(e)(9)(iii); *see also* Erik Claudio, Comment, *How the EPA May Be Selling General Electric Down the River—A Law AND Economics Analysis Of The $460 Million Hudson River Cleanup Plan*, 13 FORDHAM ENV'T L. REV. 409, 418 (2002).

the cardinal environmental justice aspect of state and community acceptance is treated last.[211]

Although CERCLA allows for community involvement[212] and the EPA has developed several opportunities and avenues to get the community involved in the site remediation process,[213] it appears that community feedback is not prioritized or given much weight in determination of final remedy alternatives.[214] The importance of community involvement cannot be overemphasized,[215] and it is particularly helpful in determining community needs to make informed choices.[216]

During this process, CERCLA's lack of remedial standards exacerbates unequal remediation. Cleanup standards stipulated by CERCLA recommend remedial actions that can "permanently and significantly reduce[]" the volume and toxicity of the hazardous substances.[217] The Act further provides that the remedial actions

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211. *See* Schnapf, *supra* note 78, at 531.

212. *See* 42 U.S.C. § 9617. The section provides:

> Before adoption of any plan for remedial action [is] undertaken, . . . [the] State . . . shall take both of the following actions: (1) Publish a notice and brief analysis of the proposed plan and make such plan available to the public. (2) Provide a reasonable opportunity for submission of written and oral comments and an opportunity for a public meeting at or near the facility at issue regarding the proposed plan. . . . The notice and analysis published under paragraph (1) shall include sufficient information as may be necessary to provide a reasonable explanation of the proposed plan and alternative proposals considered.

Id. "The notice and analysis published under paragraph (1) shall include sufficient information as may be necessary to provide a reasonable explanation of the proposed plan and alternative proposals considered." *Id.*; *see also* 40 C.F.R. § 300.430(f)(1) (2021); *Wilson Road Dev. Corp. v. Fronabarger Concreters, Inc.*, 209 F. Supp. 3d 1093 (E.D. Mo. 2016) (explaining the importance of meaningful public participation as an NCP element).

213. For a discussion on the community involvement in Superfund site remediation, see generally Josephine M. Balzac, *Public Engagement Reach in, Reach Out: Pursuing Environmental Justice by Empowering Communities to Meaningfully Participate in the Decision-Making Processes of Brownfields Redevelopment and Superfund Cleanups*, 9 FLA. A&M U. L. REV. 347 (2014).

214. 40 C.F.R. § 300.430(f)(4)(i) (using permissive language to indicate that the lead agency may prompt lead agency to modify the aspects of the preferred alternatives).

215. *See Superfund Community Involvement*, EPA, https://www.epa.gov/superfund/superfund-community-involvement [https://perma.cc/8AM9-LYY9] (last visited Apr. 8, 2023) ("Community involvement is the process of engaging in dialogue and collaboration with community members."). It is important to environmental justice that communities take part in the decision-making process to bring diverse stakeholders to engage with remediation efforts.

216. Balzac, *supra* note 213, at 366.

217. 42 U.S.C. § 9621(b)(1); *see also* 40 C.F.R. § 300.430(f)(1) (specifying criteria for selection of remedy under the NCP).

selected attain "a degree of cleanup" that, "at a minimum," ensures "protection of human health and the environment."[218] CERCLA also defers to other standards whether under federal or state law that may be more stringent than those provided under CERCLA.[219] The NCP's preamble also mentions adhering to standards that engender environmental remediation over costs, but costs play a major role in determining what kind of remediation is applied.[220] While the CERCLA provisions speak of "permanently and significantly reducing the volume and toxicity or mobility of hazardous substances,"[221] there is no guarantee that any EPA cleanup action under CERCLA will effectively clean up the harm in question.

Since CERCLA lacks any defined standard of remediation, using other supplemental avenues to achieve the desired Environmental Justice standard (EJ standard) is attractive. However, when states or other parties seek to implement other stringent EJ standards, CERCLA Sections 113(h) and 122(e) prove to be obstacles.[222] This is problematic, because, without a doubt, a remediation that achieves a desired EJ standard ensures public safety and outcomes desired by all interested parties.

CERCLA Section 113(h) permits private-enforcement actions.[223] Essentially, private citizens get to act as private attorneys general and enforce CERCLA.[224] However, under CERCLA, citizens cannot initiate private suits until the EPA "initiates an action to clean up a contaminated site . . . ."[225] This is because, unless the EPA initiates a cleanup action, there are no requirements for any of the PRPs to violate because, CERCLA, itself, does not prohibit release of hazardous substances.[226] This enforcement mechanism is dissimilar to other

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218. 42 U.S.C. § 9621(d)(1).

219. 42 U.S.C. § 9621(d)(2)(A).

220. *See Michigan v. EPA*, 576 U.S. 743 (2015); *see also* Sean Reilly, *Trump's New Cost-Benefit Rule Will Curb EPA's Regulatory Power*, SCI. (Dec. 9, 2020), https://www.science.org/content/article/trump-s-new-cost-benefit-rule-will-curb-epa-s-regulatory-power [https://perma.cc/GT8G-RQ8C]. For a discussion of how politics may affect EPA use of cost-benefits analysis in implementing its programs, see Cass R. Sunstein, *Cost-Benefit Analysis and the Environment*, 115 ETHICS 351 (2005) (discussing how politics may affect EPA usage of cost-benefits analysis in implementing its programs).

221. 42 U.S.C. § 962l(b)(1).

222. *See infra* notes 218–57 and accompanying text.

223. 42 U.S.C. § 9659(a).

224. Sarah Matsumoto, *Environmental Justice for Food System Workers: Heat-Illness Prevention Standards as One Step Toward Just Transition*, 40 PACE ENV'T L. REV. 88, 96 (2022).

225. Eileen Gauna, *Federal Environmental Citizen Provisions: Obstacles and Incentives on the Road to Environmental Justice*, 22 ECOLOGY L.Q. 1, 60–61 (1995).

226. *Id.* at 61.

environmental laws that allow citizen enforcement of current or potential dangers.[227] Therefore, it appears that cleanup under CERCLA is a discretionary duty and citizens cannot compel the EPA to act—*i.e.*, simply enforcing CERCLA is not enough.

CERCLA also permits citizens or community organizers to file intervention lawsuits.[228] This may be to challenge the settlement or any other issue to which they may have an interest. The right to intervene is also qualified under the Federal Rules of Civil Procedure.[229] Intervention is an appreciable provision because it allows citizens to challenge negotiations or even settlement proceedings that are harmful to them in the remediation of the Superfund site.

Nevertheless, citizens still face hurdles when trying to use these provisions to enforce remediation and cleanups. An example of such an obstacle is 42 U.S.C. § 9613—*i.e.*, CERCLA Section 113(h). With some exceptions, this provision strips federal courts of jurisdiction to review challenges to remedial actions under the Act or challenges to any other order issued by the EPA under CERCLA Section 106 until the remedial work is completed..[230] CERCLA excepts suits brought to recover response costs,[231] or actions to enforce an order or recover a penalty for violation,[232] or an action for reimbursement of cleanup expenses,[233] or actions in which the federal government has moved to compel a remedial action.[234] CERCLA also provides an exception that allows citizen suits challenging implementation of a remedial order that violates any requirement of the Act.[235]

The implication here is that this provision denies residents the opportunity to challenge remediation efforts which are not protective of human health. Even though Section 113(h)'s purpose is to eliminate

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227. *See* Pollans, *supra* note 184, at 447 (citing Gaba & Kelly, *supra* note 190, at 937) ("The legislative history of section 310 suggests that Congress did not intend section 310 to provide a direct action against PRPs to compel cleanup. In earlier House versions, section 310 expressly authorized citizen suits to abate an 'imminent and substantial endangerment' to health or the environment. This element of the CERCLA citizen suit was deleted in conference because the amendment, as described in the Conference Report, did not add to authority already contained in RCRA.").

228. 42 U.S.C. § 9613(i)

229. FED. R. CIV. P. 24(a)(2) (requiring that the intervenor show the motion is timely, they have a protectable interest in the suit, the disposition of the suit without them may impair their interest, and that interest is not adequately protected by the existing parties).

230. 42 U.S.C. § 9613(h); *see also, e.g.*, *Clinton Cnty Comm'rs v. EPA*, 116 F.3d 1018, 1022–23 (3d Cir. 1997).

231. 42 U.S.C. § 9613(h)(1).

232. *Id.* § 9613(h)(2).

233. *Id.* § 9613(h)(3).

234. *Id.* § 9613(h)(5).

235. *Id.* § 9613(h)(4).

remediation delays, courts have construed it broadly without regard toward whether the intended suit would cause a delay in remedy.[236]

In several decisions, courts have reinforced this ban.[237] In *Concerned Citizens of Agricultural Street Landfill v. Browner*,[238] the EPA selected its final remedy, which divided the entire 95-acre Superfund site into six phases. (OU1, OU2, OU3, OU4, OU5 and OU6). The EPA's final remedial action, memorialized in its ROD, recommended no remedial action for OU4, a part of the site that housed a school, and OU5, the groundwater for the entire site. The plaintiffs filed suit, seeking to enjoin the defendants from continuing remedial actions at the site.[239]

At oral argument, the plaintiffs raised, for the first time, a challenge to the completed ROD, because the EPA has decided that no further action was required at OU4 and OU5.[240] The EPA countered that, as an ongoing remedial action, any challenge was barred by Section 113(h). In response, the plaintiffs argued that CERCLA Section 113's bar does not apply since the remediation was conducted in phases and, therefore, challengeable.[241] The court rejected the plaintiffs' argument that they could maintain a challenge to the two distinct phases of the remediation efforts on procedural grounds.[242] The court held that the pleadings only sought relief from future action, and that the plaintiffs could not amend their pleadings because they failed to meet the jurisdictional notice requirement.[243] In this case, the plaintiffs assumed that splitting up the remediation into distinct phases would sway the court—some courts had been persuaded by CERCLA's legislative history, holding that "the phrase 'removal or remedial action taken' [was] not intended to preclude judicial review until the total response action is finished if the response action proceeds in distinct and separate phases."[244]

Similarly, in another case, even when plaintiffs attempted to bring suit to challenge Department of Housing and Urban Development

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236. Pollans, *supra* note 184, at 443.

237. *See, e.g.*, *Clinton Cnty. Comm'rs v. EPA,* 116 F.3d 1018 (3d Cir. 1997); *Residents of Gordon Plaza, Inc. v. Cantrell*, No. 20-1461, 2020 WL 6503618 (E.D. La. Nov. 5, 2020).

238. No. Civ.A. 98–0124, 1998 WL 104656 (E.D. La. Mar. 9, 1998).

239. *Id.* at *1.

240. *Id.* at *2.

241. *Id.* at *3 (noting that the plaintiffs made this argument for the first time during oral argument and did not raise it in their pleadings).

242. *Id.* *3–4.

243. *Id.* at *4–6.

244. *Id.* at *3; *see Neighborhood Toxic Cleanup Emergency v. Reilly*, 716 F. Supp. 828, 832 (D.N.J. 1989) ("Any challenge under this provision to a completed stage of a response action shall not interfere with those stages of the response action which have not been completed.").

(HUD) discriminatory practices near a Superfund site, the court rejected the suit as a challenge to a Superfund site, and, therefore, the court lacked subject-matter jurisdiction.[245] The court held:

> [T]he injury alleged by the plaintiffs is that Broward Gardens was established pursuant to City and HUD policies and practices of de jure segregation, but a review of the complaint shows that the plaintiffs' claims are, in their essence, challenges to the cleanup procedures adopted in *United States v. City of Ft. Lauderdale*.[246]

Accordingly, CERCLA's Section 113(h) is so wide that it withdraws federal jurisdiction even if the suit is brought under a different statute, so long as a CERCLA response action has commenced.[247] Further, in *Atlantic Richfield*,[248] the Supreme Court held that "§ 113 applies to all challenges to removal or remedial action that make their way into federal court, whether through § 113 or some other route unless it falls under the recognized exceptions."[249]

Moreover, even though the Supreme Court recognized the exceptions provided in Section 113(h)(1)–(5) and Section 9613, the Court did not specifically overrule the previous case that interpreted Section 113(h)(4). To highlight, the section states:

> An action under section 9659 of this title (relating to citizens suits) alleging that the removal or remedial action taken under section 9604 of this title or secured under section 9606 of this title was in violation of any requirement of this chapter. Such an action may not be brought with regard to a removal where a remedial action is to be undertaken at the site.[250]

From the tenor of the provision, citizens can challenge CERCLA remedial actions that violate the statute's provisions. But the Act quickly withdraws the authorization if a remedial action is ongoing. In a litany of cases, courts have followed suit and construed Section 113(h) broadly. In *Clinton County Commissioners v. EPA*,[251] the Third Circuit held "that the plain language and legislative history of §

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245. *Broward Garden Tenants Ass'n v. EPA*, 157 F. Supp. 2d 1329 (S.D. Fla. 2001).

246. *Id.* at 1338.

247. *See Oil, Chem. & Atomic Workers Int'l Union v. Richardson*, 214 F.3d 1379, 1382–83; *Clinton Cnty. Comm'rs v. EPA,* 116 F.3d 1018, 1027 (3d Cir. 1997).

248. *See infra* notes 248–54 and accompanying text.

249. *Atl. Richfield Co. v. Christian*, 140 S. Ct. 1335, 1351 n.6 (2020).

250. 42 U.S.C. § 9613(h)(4).

251. 116 F.3d at 1022–23.

9613(h)(4) compel the conclusion that Congress intended to prohibit federal courts from exercising subject matter jurisdiction over *all* citizens' suits challenging incomplete EPA remedial actions under CERCLA . . . ."[252] Similarly, in an earlier suit, *Farmers Against Irresponsible Remediation (FAIR) v. EPA*,[253] the plaintiffs alleged that the EPA, in approving the remediation plan, violated CERCLA and NEPA.[254] The Northern District of New York held that the reassessment study sought by the plaintiffs could not be implemented until the EPA had concluded the remediation.[255]

These decisions do not favor equal remediation of environmental harms, because they leave the EPA with opportunities to deviate from a ROD or decide not to remediate at all. And even in such an instance, citizens cannot bring any action to correct the EPA's deviations. Although the principle behind decisions precluding judicial review of the remedial processes is meant to speed up cleanup delays, a critical arm of the environmental justice movement, the concept creates a much bigger public health issue if unremedied environmental harm can linger for years following an ineffective remedial process. Though effective, the preclusion undercuts healthy initiatives.[256] Strict enforcement of Section 113(h) is not enough to equalize remediation.

CERCLA Section 122(e)(6) also bars other remedial action once a PRP, the EPA, or any agency has commenced remedial action.[257] When a site is idling away on the NPL, which is usually the case, no other supplemental remediation effort can be undertaken without EPA approval. In *Atlantic Richfield Co. v. Christian*,[258] the Supreme Court relied on this provision to hold that the Act prohibits the taking of a remedial action by landowners who are responsible parties without EPA approval.[259] Here, the landowners sued Atlantic Richfield on common law nuisance, trespass, and strict liability grounds, seeking restoration damages. The landowners sought restoration damages to clean up the property beyond standards prescribed or required by the EPA,

252. *Id.* at 1025.

253. 165 F. Supp. 2d 253 (N.D.N.Y. 2001).

254. *Id.* at 257.

255. *Id.* at 259–60.

256. Healy, *supra* note 68, at 339 (stressing that precluding review is harmful to human health as the feared harm may have occurred).

257. *See* 42 U.S.C. § 9622(e)(6) ("When either the President, or a potentially responsible party pursuant to an administrative order or consent decree under this chapter, has initiated a remedial investigation and feasibility study for a particular facility under this chapter, no potentially responsible party may undertake any remedial action at the facility unless such remedial action has been authorized by the President.").

258. 140 S. Ct. 1335 (2020).

259. *Id.* at 1352.

including removal of arsenic to a level of 15 parts per million (PPM), rather than the 250 PPM required by the EPA.[260] They also planned to excavate contaminated soil beyond the EPA requirement and to carry out a groundwater treatment remedy.[261] Atlantic Richfield raised an objection to the suit, but the trial court granted summary judgment to the landowners and allowed the suit to continue.[262] On appeal, the Montana Supreme Court held that Section 122 does not strip the Montana courts of jurisdiction over the landowners' scheme: the landowners were not potentially responsible parties and, thus, were not prohibited from taking remedial action without EPA approval based on Section 122(e).[263]

According to the Supreme Court, the measures sought by the landowners exceeded those necessary to protect human health and the environment by the EPA.[264] On the issue of whether state courts have jurisdiction to determine other claims, the Court agreed that § 113 does not strip state courts of jurisdiction to determine the state-law claims like nuisance, trespass, or strict liability, which must arise under Montana law and not under CERCLA.[265] The Supreme Court's decision effectively foreclosed any supplemental remediation efforts that could be conducted on any remedial site by other parties except on state-law claims. The danger that the decision portends is that landowners may pursue supplemental remediation under state law claims and parties may face remediation under the different fronts, thus putting the finality of remediation in doubt. On the other hand, this section precludes environmental justice advocates from the opportunity to challenge remedial actions through citizens suits.[266] The restrictions in CERCLA's provisions engender unequal remediation, either by encouraging haphazard remediation or disparate remediation—enforcing the law is not enough.

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260. *Id.* at 1347–48.

261. *Id.* at 1348.

262. *Id.* at 1336.

263. *Id.* at 1343.

264. *Id.* at 1342–43.

265. *Id.* at 1343.

266. In *Atlantic Richfield*, the Supreme Court said that "§ 113(h) applies to all 'challenges to removal or remedial action' that make their way into '[f]ederal court,' whether through § 113(b) or some other route. § 9613(h). That includes state law challenges arising by way of diversity jurisdiction or supplemental jurisdiction as well as federal law challenges arising under sources of law other than the Act. The exceptions in § 113(h) are thus necessary to delineate which of these challenges may proceed in federal court and which may not." *Id.* at 1351 n.6.

2. RCRA

In remediation of environmental harms, RCRA's goal is prospective in nature.[267] RCRA empowers the EPA to order corrective action or "commence a civil action in the United States district court in the district in which the violation occurred for appropriate relief" if it determines that "a release of hazardous waste into the environment from a facility authorized to operate" has occurred.[268]

Unlike CERCLA, citizens can bring direct action to enforce a RCRA-citizen-enforcement suit[269] or citizen-endangerment suit.[270] Citizen suits are permitted against an agency administrator empowered to act under the Act to perform any non-discretionary duty.[271] However, there are exceptions. A citizen-enforcement suit is barred if there is no notice.[272] On the other hand, a citizen-endangerment suit is barred if the government has commenced and is diligently prosecuting a suit or remedial action under CERCLA, has incurred costs in initiating a RI/FS under CERCLA, or "has obtained a court order" including a consent decree.[273] Simply put, citizen suits are barred if a responsible party is diligently conducting a removal action or prosecuting an enforcement action under CERCLA. If there is no diligent prosecution or removal, or if the remediation efforts are stalled, or if the remedial actions are not being conducted under CERCLA, a citizen can still file suit under RCRA.[274] However, CERCLA Section 113 bars such suits because they amount to a response action even though RCRA would not ban such a suit. For example, if negotiations are stalled, or in the cleanup of a hazardous waste site under CERCLA, the suit could

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267. Healy, *supra* note 68, at 295 (citing ROBERT. V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 215 (1992)).

268. *See* 42 U.S.C. § 6928(a)(1), (h)(1); § 6928(d) (imposing criminal penalties on any person "who knowingly transports, treats, stores, disposes of, or exports any hazardous waste identified or listed under this subchapter . . . who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury").

269. 42 U.S.C. § 6972(a)(1)(A).

270. *Id.* § 6972(a)(1)(B) ("Any person may commence a civil action on his own behalf . . . against any person, including the United States and any other governmental instrumentality or agency, to the extent permitted by the eleventh amendment to the Constitution, and including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility, who has contributed or who is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment.").

271. *Id.* § 6972(a)(1)(2).

272. *Id.* § 6972(b)(1)(A), (2)(A).

273. *Id.* § 6972(b)(2)(B), (C).

274. *See* Pollans, *supra* note 184, at 449.

proceed under RCRA, but most courts have held that because it challenges a response or removal action under CERCLA the suit is barred.[275]

In *United States v. Colorado*,[276] the court allowed an RCRA action to proceed despite a Section 113 challenge. The court held that, "[w]hile CERCLA citizen suits cannot be brought prior to the completion of a CERCLA remedial action, RCRA citizen suits to enforce its provisions at a site in which a CERCLA response action is underway can be brought prior to the completion of the CERCLA response action."[277] It appears that this decision does not have the force of law in light of the Supreme Court decision in *Atlantic Richfield*, which restated that "[c]hallenges to remedial actions under federal statutes other than the act, for example, are barred by § 113(h)."[278] Potentially, the implication is that citizen suits to supplement remedial actions under RCRA are barred. Overall, coupled with the delays in executing actions under the Superfund, the local communities bear the brunt of such inaction.

Some courts have tried to distinguish what amounts to a remedial action or response action. In *Resident of Gordon Plaza Inc., v. Cantrell*,[279] the Fifth Circuit held that operation and maintenance activities on a Superfund site amounted to ongoing removal action.[280] In this case, the city of New Orleans built residential public housing on a former garbage dump site—Agriculture Street Landfill—twenty years after it ceased being a dump site.[281] The city was accused of targeting Black buyers when selling the housing and failing to disclose that the location was a former dump site.[282]In 1994, the EPA listed the site as a Superfund site after it found high levels of arsenic, lead, and polynuclear aromatic hydrocarbon.[283] In 2008, the EPA announced, under a consent decree, it had completed remedial action on the site with the city of New Orleans that required the city take certain actions to "protect the remedy."[284]

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275. *Schalk v. Reilly*, 900 F.2d 1091, 1098 (7th Cir. 1990); *see also Camillus Clean Air Coal. v. Honeywell Int'l Inc.*, 947 F. Supp. 2d 208 (N.D.N.Y 2013).

276. 990 F.2d 1565 (10th Cir. 1993).

277. *Id.* at 1577 (cleaned up).

278. *Atl. Richfield Co. v. Christian*, 140 S. Ct. 1335, 1351 (2020).

279. 25 F.4th 288 (5th Cir. 2022).

280. *Id.* at 301–02.

281. *Id.* at 293.

282. *Id.*

283. *Id.*

284. *Id.* at 293–94 ("'[R]emedy' is defined as 'the excavation of 24 inches of soil, placement of a permeable geotextile mat/marker on the subgrade, backfilling the excavated area with clean fill, covering the clean fill with grass sod, landscaping and yard restoration, driveway and sidewalk replacement, and final detailing.' Because the

The resident brought a citizen suit under Section 6972(a)(1)(B), alleging that the site remained hazardous and left residents with all manner of diseases including cancer.[285] The residents sought to compel a declaration of imminent and substantial danger and further remediation of the site.[286] The issue before the court was whether the city's action of maintaining the turf amounted to an ongoing removal action and as such was barred by the RCRA statutory bar on citizen suits under Section 6972(b)(2)(B)(iv).[287] The court answered in the affirmative.[288] The court held that the operation and maintenance activities carried out by the city, in this case, mowing grass and maintaining turf, amounted to an ongoing removal action and thus precluded supplemental remediation or challenges to remediation.[289] Failure to require supplemental remediation foisted hardship on residents of Gordon Plaza. Although the residents have sought relocation, that has not yet occurred.[290] In this case, there is no equalized remediation. Avenues through which the Gordon Plaza residents might have gotten some respite were blocked due to ongoing removal efforts to reduce the environmental harms in the community.[291] Again, strict enforcement of the current law failed to engender environmental justice and equal remediation.

B. Constitutional Protections and Other Civil Rights Legislation

The U.S. Constitution and civil rights legislation provide opportunities to address discriminatory practices in environmental harm remediation. The drawback is that, in most cases, discrimination claims require high levels of proof that reduce the claims' chances of success.

'soil cap and geotextile mat covering the Site could be breached or degraded by excavation . . . or by the failure to maintain the vegetative cover of the soil cap,' the Decree requires the City 'to maintain the [soil] cap' at the Site. Specifically: The [City] will mow vegetation at least twice per year, and otherwise maintain[] its right of ways . . . in order to maintain a stable vegetative cover. Because lack of mowing/maintenance by private owners of land within the Site is likely to damage the subsurface geotextile mat, the City will use its available authorities to (a) require that landowners mow and otherwise maintain the grass vegetation on their properties, or (b) undertake the necessary maintenance directly.").

285. *Id.* at 294.

286. *Id.*

287. *Id.*

288. *Id.*

289. Fears, *supra* note 179.

290. *Id.*

291. *Id.*

1. EQUAL PROTECTION CLAIMS

The Equal Protection Clause remains the obvious authority to address concerns of disparate treatment of racial minorities in the environmental justice context.[292] The Equal Protection Clause guarantees equal protection of environmental laws. One may say that the discriminatory dumping of toxic waste in communities of color or the zoning of minority communities as the locus of industries causing environmental harm violates the Equal Protection Clause.[293] However, that is not the case. The Supreme Court held that, to succeed on an equal protection claim, plaintiffs must prove a defendant's discriminatory intent.[294] Decrying this requirement, Professor Shannon Roesler opines that it makes the equality jurisprudence ineffective, "because it adopts ideas of colorblindness and neutrality that limit the remedies political and judicial actors can offer."[295]

In the Fruit Avenue Plume example, the affected residents would have been unlikely to succeed with an equal protection claim since they could not show intentional discrimination in choosing the final ineffective remedy. Understanding the Equal Protection Clause's implications and required proof is important. The constitutional requirements for proving discrimination under the Equal Protection Clause are difficult to prove. The U.S. Supreme Court has rejected equal protection claims with nothing more than racially disproportionate impact.[296] This stance does not engender environmental justice.

In *Village of Arlington Heights v. Metropolitan Housing Development Corporation*,[297] the Supreme Court held that a showing of discriminatory intent or purpose is required to prove a violation of the Equal Protection Clause.[298] Due to this requirement, several cases brought before courts to enjoin discriminatory government practices that resulted in disproportionate impacts on minority communities failed.[299] Based on the Supreme Court's decision, the Equal Protection

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292. VILLA ET AL., *supra* note 8, at 124.

293. *See* U.S. CONST. amend. XIV, § 1 ("No state shall . . . deny to any person within its jurisdiction the equal protection of the laws.").

294. *Washington v. Davis*, 426 U.S. 229, 239–42 (1976).

295. Shannon Roesler, *Racial Segregation and Environmental Injustice*, 51 ENV'T L. REP. 10773, 10777 (2021).

296. *Washington*, 426 U.S. at 239.

297. 429 U.S. 252 (1977).

298. *See also Washington*, 426 U.S. at 239–42; Dana & Tuerkheimer, *supra* note 4, at 99–100.

299. *See e.g.*, *Bean v. Sw. Waste Mgmt. Corp.*, 482 F. Supp. 673, 677–78, 680 (S.D. Tex. 1979) (holding that the siting of a solid waste facility near a high school was not motivated by purposeful racial discrimination in violation of 42 U.S.C. § 1983).

Clause can easily stop facially discriminatory laws. However, facially discriminatory laws are fading in our race-conscious society today.[300] As Professor Alice Kaswan wrote: "[i]t is inconceivable that a government body would declare that all landfills shall be sited in minority neighborhoods."[301] In any case, the government may provide a race-neutral reason for its action. This apparent neutral reason for discriminatory actions obfuscates the real problem behind the Supreme Court's interpretation of the Equal Protection Clause—although courts draw inferences from various actions to prove discriminatory intent, it is not an easy standard to satisfy. The difficulty in proving the race-neutral reason and satisfying the *Arlington Heights* factors has led to the unsuccessful use of the Equal Protection Clause to equalize remediation of environmental harms.

2. CIVIL RIGHTS ACT

The Civil Rights Act, specifically Title VI, offers another way for environmental justice advocates to remedy environmental injustice.[302] "No person in the United States shall on grounds of race, color, or national origin, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity . . . ."[303] For a period of time, there had been no clear understanding whether the bar included actions not discriminating on race but perpetuating disparate impacts. Ordinarily, this provision could be used to enjoin state or government-sanctioned actions resulting in disparate impacts on minority communities, but the Supreme Court has held that a successful claim requires proving intentional discrimination.[304]

Enforcement of the Title VI provision lies in the withdrawal of government funds. Environmental justice advocates resorted to filing administrative petitions with the EPA to enforce disparate impacts

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300. Alice Kaswan, *Environmental Laws: Grist for the Equal Protection Mill*, 70 U. COLO. L. REV. 387, 408 (1999); *see also* Charles Lawrence III, *The Id, the Ego, and Equal Protection: Reckoning with Unconscious Racism*, 39 STAN. L. REV. 317, 349–55 (1987) (discussing that proving conscious racism may be difficult because of the likelihood that such racism is hidden in what may appear to be race-neutral justifications).

301. Kaswan, *supra* note 300, at 408; *see Bean*, 482 F. Supp. at 677.

302. *See* Civil Rights Act, 1964, 42 U.S.C. § 2000(d); 42 U.S.C. § 1983 (enforcing 42 U.S.C. § 2000(d)).

303. 42 U.S.C. § 2000(d).

304. *See Guardians Ass'n v. Civ. Serv. Comm'n*, 463 U.S. 582 (1983) (holding that § 601 of Title VI requires proof of intentional discrimination and that federal grant agencies may enact regulations under § 602 prohibiting recipient state agencies from engaging in actions that result in discriminatory impacts).

under Section 602 using the EPA interim guidance.[305] However, for more than twenty years the EPA has not issued final guidance to determine how to resolve administrative complaints under Section 602.[306]

The Supreme Court restated in *Alexander v. Sandoval*[307] that Title VI of the Civil Rights Act did not create a private right of action to enforce disparate impacts of government action.[308] Suits under Section 602 of the Act must be routed through a government agency. The Supreme Court further held that citizens intending to file suit under Section 601 need to show proof of intentional discrimination.[309] As a result, citizens are left with filing complaints with the responsible agency under Title VI regulations. That leaves the duty to investigate and act with the responsible agency. The agency may or may not investigate but will have to render an administrative decision on the complaint if they do. Although some legal scholars have argued that "while *Sandoval* . . . stripped Title VI regulations of both an implied right of action and § 1983 enforceable rights, EPA's Title VI regulations still remain valid federal law under well-established principles of judicial deference to administrative interpretations of ambiguous statutes."[310]

The issue with the Civil Rights Act is that it limits access to remediation of environmental harms, in that the courts impose the high burden of intentional discrimination. On the other hand, private rights of action are not extended to disparate impact claims under Section 602. Communities making a disparate impact claim under Section 602 must rely on the relevant government agency. The bulk of administrative complaints under the Title VI regulations take an exceedingly long time to address. Bureaucracy, coupled with delayed action in government agencies delays remediation processes.[311] Strict enforcement of the current civil rights laws does not further equal remediation and environmental justice.

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305. VILLA ET AL., *supra* note 8, at 141.

306. *Id.*

307. 532 U.S. 275 (2001).

308. *Id.* at 293.

309. *Id.*

310. E. Matthew Comer, *Constitutional Rights and Environmental Justice—A Comparative Analysis*, 8 J. ANIMAL & ENV'T L. 94, 120 (2016) (quoting David J. Galalis, *Environmental Justice and Title VI in the Wake of* Alexander v. Sandoval*: Disparate-Impact Regulations Still Valid Under* Chevron, 31 B.C. ENV'T AFFS. L. REV. 61, 65 (2004)).

311. Letter from Lilian S. Dorka, Dir., External C.R. Compliance Off., U.S. EPA Off. of Gen. Couns., to Heidi Grether, Dir., Mich. Dep't of Env't Quality (Jan. 19, 2017), https://www.epa.gov/sites/default/files/2017-01/documents/final-genesee-complaint-letter-to-director-grether-1-19-2017.pdf [https://perma.cc/2JSV-HGVW] (highlighting a complaint which took the EPA twenty-five years to resolve).

C. Politics as a Contributor to Unequal Remediation

Politics and changes in administration contribute to unequal remediation of environmental harms. Where politics gets involved, agency administrators can easily exploit discretionary loopholes to avoid remediation under current law. CERCLA provides that the U.S. president shall give high priority to remediation of environmental harms, especially when hazardous substances contaminate the drinking water supply.[312] That, however, was not the case in Flint, Michigan. What could have accounted for this? Corruption, lack of political will, or racism? At the federal level, each administration comes in with a different focus on how to address environmental injustice in the United States.

The Clinton Administration enacted the first environmental justice executive order.[313] The goal of the executive order was to focus attention on environmental and human health impacts of federal actions on minority and low-income populations. Also, each federal agency was required to develop a strategy to address these shortcomings.[314] This appeared to be a good move that could catalyze equal remediation of environmental harms, because it also incentivized federal agencies to consider the disproportionate impact on minority communities. However, the focus on minority communities was short-lived.

In the Bush Administration, the EPA, under Christine Todd Whitman, changed the focus and meaning of environmental justice in a memo, which said "environmental justice means fair treatment of people of all races, cultures, and incomes with respect to the development, implementation and enforcement of all environmental laws and policies and their meaningful involvement in the decision-making processes of the government."[315] In addition, the memo emphasized that environmental justice is not limited to communities of color or minority communities but is achieved when "everyone, regardless of race, culture, or income, enjoys the same degree of protection from environmental hazards."[316] Criticizing this shift, the

312. 42 U.S.C. § 9618.

313. Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Exec. Order No. 12,898, 3 C.F.R. 859 (1995); Albert Huang, *The 20th Anniversary of President Clinton's Executive Order 12898 on Environmental Justice*, NRDC (Feb. 10, 2014), https://www.nrdc.org/experts/albert-huang/20th-anniversary-president-clintons-executive-order-12898-environmental-justice [https://perma.cc/Z347-U8UD].

314. Exec. Order No. 12,898 § 1-103.

315. Press Release, Christine Whitman, Adm'r, EPA, Administrator Whitman Reaffirms Commitment to Environmental Justice (Aug. 21, 2001), https://archive.epa.gov/epapages/newsroom_archive/newsreleases/41a2df9798d627a185256aaf0067e435.html [https://perma.cc/NX78-PPY5].

316. *Id.*

Office of the Inspector General noted that because the EPA's mission before the issuance of Executive Order 12,898 was to protect people from environmental hazards, the purpose of the executive order was to focus attention on minorities disproportionately affected by the current environmental risks.[317] Changing the language and the focus on environmental justice also implied a deemphasis on the disproportionate impact on minority communities.[318] I argue here that the political decisions' impact also extends to deemphasized remediation in minority communities.

For example, a Bush-era EPA report disregarded evidence "that poor and disadvantaged populations reside in areas with higher concentrations of pollutants, or that the distribution of environmental burdens is based on race, income, and political power."[319] The EPA's report was heavily criticized by environmental justice advocates, the reason being that de-emphasizing race tends to shift focus on remediation efforts in minority communities which are already disproportionately impacted.[320] In response to the criticism, the EPA explained that the use of race classifications was problematic, relying on *Grutter v. Bollinger*[321] and *Adarand Constructors Inc. v. Pena*[322] to argue that racial classifications should not be a basis for any government decision.[323] That principle is misguided: environmental justice does not classify people based on race but rather focuses attention on people most in need. Removing the minority-community

317. OFF. OF THE INSPECTOR GEN., REP. NO. 2004-P-00007, EVALUATION REPORT: EPA NEEDS TO CONSISTENTLY IMPLEMENT THE INTENT OF THE EXECUTIVE ORDER ON ENVIRONMENTAL JUSTICE (2004).

318. *See generally* ENVIRONMENTAL JUSTICE AND ENVIRONMENTALISM: THE SOCIAL JUSTICE CHALLENGE TO THE ENVIRONMENTAL MOVEMENT 12 n.18 (Phaedra C. Pezzullo & Ronald Sandler eds., 2007) ("[T]he Bush [A]dministration has yet put in place a comprehensive strategic plan for realizing the order, has yet to establish performance measures for addressing implementation, has yet to make Executive Order 12898 part of the EPA's core mission (and has instead deemphasized the disproportionate exposure of minority and low-income communities in its approach to addressing environmental hazards) . . . .") (citing U.S. COMM'N ON C.R., OFF. OF C.R. EVALUATION: REDEFINING RIGHTS IN AMERICA: THE CIVIL RIGHTS RECORD OF THE GEORGE W. BUSH ADMINISTRATION, 2001–2004, at 72–79 (2004)).

319. DAVID E. NEWTON, ENVIRONMENTAL JUSTICE 194 (2d ed. 2009) (citing U.S. ENV'T PROT. AGENCY, EPA'S DRAFT REPORT ON THE ENVIRONMENT 4–12 (2003)); *see also* U.S. COMM'N ON C.R., *supra* note 318, at 77 (2004).

320. *See* Racheal Salcido, *Reviving the Environmental Justice Agenda*, 91 CHI. KENT L. REV. 115, 121 (2016) (citing David W. Case, *The Role of Information in Environmental Justice*, 81 MISS. L.J. 701, 708–09 (2012)).

321. 539 U.S. 306 (2003).

322. 515 U.S. 200 (1995).

323. *See* VILLA ET AL., *supra* note 8, at 367 (citing U.S. ENV'T PROT. AGENCY, DRAFT ENVIRONMENTAL JUSTICE STRATEGIC PLAN: THEMATIC RESPONSE TO COMMENTS (2005)).

component means that poor and minority communities that have long suffered disproportionate environmental harms may not get speedy remediation. Similarly, a congressional committee recapped how the Bush Administration weakened the EPA.[324]

With the advent of the Obama Administration, environmental justice came to the forefront. The administration promulgated a rule, EJ Plan 2014, recognizing that pollution disproportionately overburdens communities of color.[325] The action developed a roadmap for integrating environmental justice in programs and policies.[326]

Overall, the vacillation in considering environmental justice initiatives between administrations is antithetical to equalizing remediation of environmental harms. Though the Biden Administration is committed to environmental justice and restated this through several executive orders,[327] without changes in the current law all the efforts are susceptible to political interference.

D. Uncooperative Federalism

Under current law, lack of constructive collaboration between federal and state governments in remediation of environmental harms also contributes to unequal remediation. Due to the nature of environmental laws, effective cooperation between states and the federal government is expedient for equalizing remediation of environmental harms, but uncooperative federalism portends dangers. Cooperative federalism refers to a system where state governments implement national standards with federal oversight,[328] and it has been deployed in the environmental sphere as well.[329] An example of cooperative-environmental federalism is where "Congress charges a

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324. *Bush Administration Environmental Record at Department of Interior and Environmental Protection Agency: Hearing Before the S. Comm. on Env't & Pub. Works*, 110th Cong. (2008).

325. Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,662, 64,670, 64,677 (Oct. 23, 2015) (codified at 40 C.F.R. Part 60); *see also* EPA, PLAN EJ 2014 (2011), https://nepis.epa.gov/Exe/ZyPDF.cgi/P100DFCQ.PDF?Dockey=P100DFCQ.PDF [https://perma.cc/T3GC-SG7V] [hereinafter PLAN EJ 2014]. (EJ plan 2014 was a four-year plan to deepen the strides made by Exec. Order No. 12,898)

326. *See* Salcido, *supra* note 320, at 123.

327. Executive Order on Tackling the Climate Crisis at Home and Abroad, Exec. Order No. 14,008, 3 C.F.R. 477 (2022); Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, Exec. Order No. 13,990, 3 C.F.R. 427 (2022) (requiring federal agencies to prioritize environmental justice, especially where the federal government has failed to meet its commitment in the past).

328. *See* Percival, *supra* note 146, at 1145.

329. *See* DENNIS C. CORY & TAUHIDUR RAHMAN, ENVIRONMENTAL JUSTICE AND FEDERALISM 12 (2012).

federal agency, often the EPA, with the task of setting national standards, but authorizes the agency to delegate implementation and enforcement authority to state agencies, subject to federal oversight."[330] Several environmental laws encourage these kinds of delegation of powers to the state to enforce and regulate.[331]

In the spirit of cooperative federalism, states and the federal government collaborated in regulating environmental harm by implementing some specialized environmental justice initiatives.[332] For example, the Obama Administration aimed to deepen cooperative federalism by integrating environmental justice into other environmental programs.[333] The EJ 2014's major goals were (1) to "protect the environment and health in overburdened communities," (2) to "empower communities to act to improve their health and environment," and (3) to "establish partnerships with local, state, tribal, and federal governments and organizations to achieve healthy and sustainable communities."[334]

Some questions remain: What happens when federalism is uncooperative?[335] What are the consequences when instead of co-operating, states and the federal government are locked in lawsuits across the country?[336] In a number of lawsuits, states have "clashed

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330. Shannon M. Roesler, *Federalism and Local Environmental Regulation*, 48 U.C. DAVIS L. REV. 1111, 1145–46 (2015).

331. *See* 42 U.S.C. §§ 6926(b)–(c) (state government administration of RCRA); 42 U.S.C. § 9621(f)(1) (state enforcement of CERCLA).

332. *See* CORY & RAHMAN, *supra* note 329, at 9–10. The authors describe extensive efforts between various state government and federal government initiatives. Rhode Island enacted the Industrial and Property Remediation and Reuse Act, which requires:

> [T]he Department of Environmental Management to consider the effects of remediation on the surrounding population, particularly for low-income and racial minority populations . . . the Kansas Department of Health and Environment has a Brownfield Targeted Assessment program that prioritizes properties that have EJ issues. . . . the Wisconsin Department of Natural Resources provides low-cost loans for brownfield remediation projects at landfills, sites or facilities where contamination has affected or threatens to affect water or surface water.

Id.

333. *See* PLAN EJ 2014, *supra* note 325, at 4.

334. *Id.* at i. The Plan EJ 2014 was put together to mark the twentieth anniversary of the signing of E.O. 12,898 on environmental justice. *Id.*

335. Uncooperative federalism is a phenomenon where states resist federal mandates. *See* Albert C. Lin, *Uncooperative Environmental Federalism: State Suits Against the Federal Government in an Age of Political Polarization*, 88 GEO. WASH. L. REV. 890, 898 (2020) (citing Jessica Bulman-Pozen & Heather K. Gerken, *Uncooperative Federalism*, 118 YALE L.J. 1256, 1263 (2009)); *see also* Robert B. Ahdieh, *Dialectical Regulation*, 38 CONN. L. REV. 863, 865 (2006) .

336. *See generally* Lin, *supra* note 335, at 899 (describing this as one of the examples of uncooperative federalism).

with the federal government" over who has the jurisdiction to address aspects of environmental law.[337] Confusion or conflict over the delegation of powers has led to buck-passing and a lack of clarity about who is ultimately responsible for remediation. Politically motivated opposition between state and federal agencies rears its head frequently in environmental harm remediation cases.

This was evident in the water crisis afflicting Flint, Michigan. As Professor Konisky wrote, "[t]he circumstances that resulted in the contamination of Flint's drinking water supply with lead were particularly egregious."[338] State and federal government officials were debating who should remediate the harm when an EPA chemist, Miguel Del Toral, shared a memorandum, dated June 24, 2015, raising alarm about high levels of lead in the Flint water supply.[339] Apparently, a concerned resident leaked the memo to a representative of the American Civil Liberties Union.[340] Instead of addressing the problem, EPA Administrator Susan Headman responded by saying that a report

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337. Lin, *supra* note 335, at 905; *see also, e.g.*, *California v. Wheeler*, 467 F. Supp. 3d 864, 864–65 (N.D. Cal. 2020) ("[S]tates brought Administrative Procedure Act (APA) action against the Environmental Protection Agency (EPA) and Army Corps of Engineers for declaratory and injunctive relief, alleging that administrative rule which would narrow definition of 'waters of the United States' subject to federal regulation under Clean Water Act (CWA) was not in accordance with law and was arbitrary and capricious. States moved for preliminary injunction, or order under APA, to stay effective date of rule."); *California v. EPA*, 940 F.3d 1342 (D.C. Cir. 2019); *Utah v. EPA*, 750 F.3d 1182, 1182 (10th Cir. 2014) ("State and affected company petitioned for review of Environmental Protection Agency's (EPA) partial rejection of state's revised plan for reducing emission of air pollutants under the Clean Air Act (CAA)."); *Oklahoma v. EPA*, 723 F.3d 1201, 1202 (10th Cir. 2013) ("Petition was filed seeking review of final decision of the Environmental Protection Agency (EPA) rejecting Oklahoma's plan to limit the emissions of sulfur dioxide at utility power plants and replacing it with its own more stringent regulations under Clean Air Act (CAA), which petitioners contended usurped the state's authority and would require sizable expenditures on unnecessary technology.").

338. David Konisky, *Flint, Federalism, and Environmental Justice in the United States*, MIT PRESS (Feb. 10, 2016), https://mitpress.mit.edu/blog/flint-federalism-and-environmental-justice-united-states/ [https://perma.cc/BL4N-WDRK].

339. On June 24, 2015, EPA chemist Miguel Del Toral shared a memorandum with EPA managers and local leaders identifying "high lead levels in Flint, Michigan." Memorandum from Miguel A. Del Toral, EPA Reguls. Manager, to Thomas Poy, EPA Chief 1–2 (June 24, 2015), https://mediad.publicbroadcasting.net/p/michigan/files/201602/Miguels-Memo.pdf [https://perma.cc/6JDL-6CCR] ("Recent drinking water sample results indicate the presence of high lead results in the drinking water, which is to be expected in a public water system that is not providing corrosion control treatment. The lack of any mitigating treatment for lead is of serious concern for residents that live in homes with lead services lines . . . which are common throughout the City of Flint.").

340. Email from Susan Hedman, EPA Adm'r, to Dayne Walling, Mayor of Flint, Michigan (July 1, 2015, 6:46 PM), http://flintwaterstudy.org/wp-content/uploads/2015/10/Virginia-Tech-FOIA-EPA.pdf [https://perma.cc/B6LE-MVR8].

detailing the contamination in Flint should not have been released to the public.[341] Rather than moving to remediate the harm, the EPA decided the problem belonged to Flint and Michigan.[342]

But when the new EPA administrator "direct[ed] Michigan and the City of Flint take immediate action 'to address serious and ongoing concerns with the safety of Flint's water system,'" the Michigan Department of Environmental Quality challenged the EPA's legal authority to require a state to act.[343] The EPA's failure to act quickly, coupled with Michigan's adversarial stance, aggravated the Flint Water Crisis's lack of remediation.[344]

Additionally, Professor Konisky argued that the Obama Administration's failure to compel state agencies to implement environmental justice alongside each policy and procedure was a significant flaw.[345] According to Professor Konisky, because the EPA is based on a model of cooperative federalism where the agency generally sets all the standards and delegates implementation of its compliance inspections to the states, it is necessary to put in place some level of compulsion.[346] Even though there are measures like the National Environmental Performance Partnership System, whereby "[t]he EPA and states share responsibility for environmental and human health" protection, evidence shows that the states, in the absence of any form of compulsion, may fail to act.[347] Under the National Environmental Performance Partnership System, states and the EPA strive to improve the cooperative federal system's efficiency.[348] Using partnership agreements,[349] has yet to yield the desired results. Accordingly,

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341. *Id.* at 3.

342. *See id.* ("The preliminary draft report should not have been released outside the agency. When the report has been revised and fully vetted by EPA management, the findings and recommendations will be shared with the City and MDEQ and MDEQ will be responsible for following up with the City. In the meantime, if you think it would helpful, I can recommend two EPA experts on lead and drinking water distribution systems to work with the Flint Advisory Committee to complement Dr. Wright's TTHM expertise. If you are interested, I can provide their bios tomorrow.").

343. Brie D. Sherwin, *Pride and Prejudice and Administrative Zombies: How Economic Woes, Outdated Environmental Regulations, and State Exceptionalism Failed Flint, Michigan*, 88 U. COLO. L. REV. 653, 703 (2017) (quoting Letter from Gina McCarthy, Adm'r, EPA, to Rick Snyder, Governor of Mich. (Jan. 21, 2016), https://www.epa.gov/sites/default/files/2016-01/documents/letter_to_governor_snyder_1-21-16.pdf [https://perma.cc/5HPU-7P82]).

344. *Id.* at 707.

345. Konisky, *supra* note 338.

346. *Id.*

347. CORY & RAHMAN, *supra* note 329, at 90–91, 93.

348. *Id.* at 90–91.

349. *See id.* at 12 ("Elements of a [Performance Partnership Agreement] typically include a description of environmental conditions, performance measures for

uncooperative federalism augments unequal remediation under current law.

E. Lack of Social Capital

Underdeveloped social capital in minority communities and communities of color can contribute to the increase in detrimental facilities in those communities. Social capital refers to the relations amongst people within a community that can be used for purposive actions.[350] Further, "[s]ocial capital theory posits that social networks and norms can help individuals and societies achieve better outcomes."[351] Conversely, a lack of social capital may exacerbate environmental harms among certain U.S. populations.

This occurred in Cushing, Oklahoma, at the site of the former Hudson Refinery. The Hudson Refinery operated from 1922 to 1982.[352] The aftermath of refinery operations left a massive quantity of environmental contamination at the site.[353] The refinery was abandoned in 1982, after the Hudson Oil Company filed for bankruptcy.[354] Subsequently, the Department of Justice filed a complaint alleging violation of the RCRA provisions, eventually being granted a consent decree that required the Hudson Refinery to commence corrective actions on the site.[355] When the corrective action fund was depleted, Hudson filed for a release from the consent decree, which was granted even though the court found that the requirement of the final consent decree had not been met. The site was still contaminated.[356] No other remedial action was carried out at the site until April 1998.[357] One study found that part of the reason for the lack of remediation was

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evaluating progress, a process for joint state-EPA evaluation, mutual accountability, and a clear specification of environmental priorities.").

350. Nan Lin, Yang-Chih Fu & Ray-May Hsung, *The Position Generator: Measurement Techniques for Investigations of Social Capital*, *in* SOCIAL CAPITAL: THEORY AND RESEARCH 57, 58 (Nan Lin, Karen Cook & Ronald S. Burt eds., 2001).

351. John N. Tye & Morgan W. Williams, *Networks and Norms: Social Justice Lawyering and Social Capital in Post-Katrina New Orleans*, 44 HARV. C.R.-C.L. L. REV. 255, 255 (2009).

352. *See* U.S. ENV'T PROT. AGENCY, OKD0082471988, RECORD OF DECISION: HUDSON REFINERY SUPERFUND SITE 1, 6–8 (2007), https://semspub.epa.gov/work/06/823720.pdf [https://perma.cc/P69M-BMST].

353. *Id.* at 6.

354. *Id.* at 7–8.

355. *Id.* at 7.

356. *Id.*

357. *Id.*

acquiescence by the community.[358] The study further noted that "cases of chronic remediation can disempower" residents' ability to organize.[359] The residents were largely complacent until local middle school students started writing letters to get public officials to investigate the abandoned Hudson Refinery; that forced the EPA to act.[360] This underscores the crucial importance of mobilizing and organizing in the face of untreated toxic sites in local communities. In sum, a lack of social capital, in tandem with enforcement of current law, exacerbates unequal remediation.

IV. A TOOLBOX FOR EQUALIZING REMEDIATION

Equalizing remediation requires a potpourri of tools that complement each other in removing disparities in environmental harm remediation. Unequal remediation is a complex issue, and one law review article is not enough to articulate all solutions. However, I intend to drive the conversation by proposing a number of suggested actions. Some scholars and advocates have suggested a green amendment or a constitutional right to a healthy environment,[361] but considering the political climate, those ideas are untenable. Other proposals are easier to implement, and opening access for citizens to compel government agencies and responsible parties to act can be a good check against disparities in environmental harm remediation. Here, I suggest various tools to achieve this objective. Hence, I tag it as the "equalizing remediation toolbox."

A. Centering Environmental Justice.

One of the problems identified in this Article is the lack of environmental justice tenets in environmental harm remediation. Centering environmental justice in remediation of environmental harms, and inclusion of the EJ analysis, is key to equalizing remediation. EJ analysis is effective in integrating community needs in remediation of the environmental harms—it worked in the Lower Duwamish Waterway remediation and ensured remediation acceptable to the community. The

358. Thomas E. Shriver, Chris M. Messer, Jared R. Whittington & Alison E. Adams, *Industrial Pollution and Acquiescence: Living with Chronic Remediation*, 29 ENV'T POL. 1219, 1233 (2020) (noting minimal efforts to organize among residents).

359. *Id.* at 1235.

360. *See id.* at 1227.

361. *See generally* JAMES R. MAY & ERIN DALY, GLOBAL ENVIRONMENTAL CONSTITUTIONALISM (2015); Maya K. van Rossum & Kacy C. Manahan, *Constitutional Green Amendments: Making Environmental Justice a Reality*, 36 NAT. RES. & ENV'T 27 (2021); Sam Kalen, *An Essay: An Aspirational Right to a Healthy Environment?*, 34 UCLA J. ENV'T L. & POL'Y 156 (2016).

EJ analysis prioritizes stakeholder participation as a critical voice in the remediation process. It enables localized voices to advocate for remediation that best suits their needs. Increased stakeholder participation leads to better outcomes.[362] Increased stakeholder participation is critical in equalizing remediation of environmental harms in the United States. Effective public participation injects "critical local knowledge" and informs policies that "solve environmental justice problems."[363]

Considering environmental justice in the remediation of harms means encompassing the tenets of environmental justice like social, distributive, procedural, and corrective justice. This effectively takes care of the lack of social capital in minority and low-income communities.

For example, brazen deference to the EPA and other lead agencies as to "Hazard Ranking Score" should be eliminated and agencies should adhere strictly to the "Numerical Score." The NCP language fails to stipulate strict adherence to the Hazard Ranking system. The implication is the sites that rank higher on the system may never get to the NPL. For example, the legacy uranium contamination in the Navajo Nation has gone unremedied.[364] This lack of remediation persists even though the toxic contamination has been poisoning Navajo indigenes for decades.[365] Streamlining and consistently applying the Hazard Ranking Score is necessary to remove the apparent disparities that result therefrom. However, doing so requires an NCP amendment.

The goal of the remedial action selected must be channeled toward reduction of environmental harms and serving community needs, thereby promoting environmental justice. In some cases, EPA regulations remediate to acceptable levels, yet those acceptable levels are not fair to the communities involved.[366] This Article has detailed

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362. *See* Karen Bradshaw, *Stakeholder Collaboration as an Alternative to Cost-Benefit Analysis*, 2019 BYU L. REV. 655, 671–73 (2019) (describing the benefits of stakeholder participation versus cost benefit-analysis and how it leads to better outcomes).

363. Dorothy M. Daley & Tony G. Reames, *Public Participation and Environmental Justice: Access to Federal Decision Making*, *in* FAILED PROMISES: EVALUATING THE FEDERAL GOVERNMENT'S RESPONSE TO ENVIRONMENTAL JUSTICE 143, 143 (David M. Konisky ed., 2015).

364. Cody Nelson, *'Ignored for 70 Years': Human Rights Group to Investigate Uranium Contamination in Navajo Nation*, GUARDIAN (Oct. 27, 2021, 6:20 AM), https://www.theguardian.com/environment/2021/oct/27/human-rights-group-uranium-contamination-navajo-nation [https://perma.cc/WVP3-VYXA].

365. Mary F. Calvert, *Toxic Legacy of Uranium Mines on Navajo Nation Confronts Interior Nominee Deb Haaland*, PULITZER CTR. (Feb. 23, 2021), https://pulitzercenter.org/stories/toxic-legacy-uranium-mines-navajo-nation-confronts-interior-nominee-deb-haaland [https://perma.cc/5L57-P7UH].

366. *See* ARE WE CLEANING UP?, *supra* note 3, at 1.

ways in which CERCLA remedial provisions do not engender equalized remediation—a central tenant of environmental justice.

B. Codifying the Tenets of Environmental Justice

The lack of codified environmental justice tenets contributes to unequal remediation of environmental harm. Several environmental justice bills are before Congress and have yet to be passed. They include the Environmental Justice for All Act,[367] Environmental Justice Act of 2021,[368] and others.[369] This Article focuses on these two because they provide detailed solutions to equalize remediation. The Environmental Justice for All Act proposes "several environmental justice requirements, advisory bodies, and programs to address the disproportionate adverse human health or environmental impacts of federal laws or programs on communities of color, low-income communities, or tribal and indigenous communities."[370] Significant among the provisions of the bill is an amendment to Section 601 of the Civil Rights Act to prohibit disparate impacts on the basis of race, color, or national origin as discrimination.[371]

> The bill proposes that discrimination based on disparate impact is established if "an entity subject to [the bill] . . . has a program, policy, practice, or activity that causes a disparate impact on the basis of race, color, or national origin and the covered entity fails to demonstrate that the challenged program, policy, practice, or activity is related to and necessary to achieve the non-discriminatory goal of the program, policy, practice, or activity alleged to have been operated in a discriminatory manner."[372]

This amendment reduces the tremendous hurdle before citizens in proving intentional discrimination to challenge unremedied environmental harm. For example, in the context of the Superplume scenarios, local communities could challenge the disparate remediation

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367. *See* S. 872, 117th Cong. (2021); H.R. 2021, 117th Cong. (2021).

368. S. 2630, 117th Cong. (2021); H.R. 2434, 117th Cong. (2021).

369. *See* Environmental Justice Mapping and Data Collection Act of 2021, S. 101, 117th Cong. (2021); Environmental Justice for Communities Act of 2021, S. 1347, 117th Cong. (2021).

370. Minutes, Las Virgenes—Triunfo Joint Powers Authority Agenda 51 (Feb. 7, 2022), https://www.triunfowsd.com/wp-content/uploads/2022/02/2022-02-07-JPA-Packet.pdf [https://perma.cc/8QUF-C68Z]; *see also* S. 872, 117th Cong. §§ 1, 8, 18, 19, 21 (2021).

371. *See* S. 872 § 4.

372. *Id.* § 4(2)(b)(1)(A)(i); *see also supra* Section IV.A.

in Fruit Avenue and North Railroad remediation by the EPA. In addition, the amendment proposes that agencies follow certain procedures to promote environmental justice. For example, agencies must prepare statements and reports that assess their actions' community and environmental impacts on environmental justice communities under certain circumstances.[373]

The Environmental Justice Act of 2021 essentially codifies significant provisions of the E.O. 12,898, thereby giving it statutory flavor.[374] It further proposes to codify the 1997 guidance by the Council on Environmental Quality, titled "Environmental Justice: Guidance Under the National Environmental Policy Act," which assists federal agencies with effectively addressing environmental justice concerns.[375] The entire objective of the bill, judging from its provisions, is to center environmental justice as the goal of each federal environmental agency. The implication of passing these bills and equalizing remediation is that the laws would mandate agencies to incorporate environmental justice in all their actions.

C. Amending CERCLA, RCRA, and the NCP

Loopholes and statutory hurdles in CERCLA, RCRA and NCP contribute to unequal remediation. Scholars have advocated for CERCLA's repeal,[376] suggesting that the Superfund did not achieve its task but may have worsened matters.[377] This Article does not advocate a repeal of CERCLA or RCRA; however, it advocates for several improvements. The improvements envisaged here eliminate avenues that cause disparities and slow remediation of environmental harm.

First, the citizens-suit provisions in CERCLA Sections 113(b) and (h) should be amended. A look at CERCLA Section 113(h) shows "none of the exceptions explicitly provides a means for challenging a removal or remedial plan between the time the plan is ordered and the time it is completed."[378] The impact of this is that, even if remediation efforts or the remedial plan selected meets EPA standards but falls

373. *See* S. 872 § 14(c).

374. *See* S. 2630, 117th Cong. § 5 (2021); Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Exec. Order No. 12898, 3 C.F.R. 859–861 (1995).

375. S. 2630 § 5(a)(6)(A); COUNCIL ON ENV'T QUALITY, ENVIRONMENTAL JUSTICE: GUIDANCE UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT 8–11 (1997).

376. *See* Robert McGee, *Superfund: It's Time for Repeal After a Decade of Failure*, 12 UCLA J. ENV'T L. & POL'Y 165 (1993).

377. *Id.* at 165.

378. Lucia Ann Silecchia, *Judicial Review of CERCLA Cleanup Procedures: Striking a Balance to Prevent Irreparable Harm*, 20 HARV. ENV'T L. REV. 339, 348 (1996).

short of providing effective remediation protective of human health, affected community residents have no recourse. To fix this, Section 113(h) should allow challenges, in the interest of public health, when there is deviation from the specified ROD.[379] Healy calls these challenges "nonliability based CERCLA claims."[380] He divides "nonliability-based CERCLA claims" into two categories—one that its implementation harms public health and one that "completed cleanups will not sufficiently protect human health."[381] While Healy agrees that pre-completion review of the first set of claims is unfair due to the dangers it poses, he does not agree that the second set of claims presents same concerns.[382] This may not be entirely true because it is hard to predict how the completed cleanup will turn out.

Additionally, the Section 113(h) exception should not apply to cases where remediation is stalled. For example, several cases have been stuck on the Superfund site because the government has not been able to delist.[383] Until the EPA delists a site, remediation under CERCLA is ongoing and Section 113(h) applies, barring private-enforcement actions. To remedy this, one scholar suggested that courts should not construe Section 113 broadly.[384] Furthermore, a fair reading of CERCLA Section 113 should not bar endangerment suits under RCRA. Overall, application of the citizen-suit provisions must be fixed.

Second, states or other agencies should provide stricter and safer standards. Section 113(h) exceptions recognize enforcement that conforms to state standards even though the state will be financially responsible for that.[385]

Third, the lack of mandated deadlines and the phrasing of the NCP beleaguers equalizing remediation. Mandating deadlines for cleanup and remediation ensures that bias and political interference do not creep into the remediating agency's decision. The lack of openness and lax

379. *See* Healy, *supra* note 68, at 339 (suggesting that some impact of the CERCLA preclusion clause may be unfair due to a grave concern for public health).

380. Healy, *supra* note 68, at 340. These are claims that are not seeking to find or impose liability but to compel additional cleanups. *Id.* at 340–41.

381. *Id.* at 340–41

382. *Id.*

383. *See generally National Priorities List (NPL) Sites—by Listing Date*, *supra* note 206 (listing 1,335 ongoing cases as of February 24, 2023, over 250 of which extend back to 1983).

384. *See* Pollans, *supra* note 184, at 443. Instead of having a total ban on all challenges to ongoing remediation, § 113(h) should be amended to allow challenging the remediation if it engenders disparate impact. Currently, citizens suits cannot proceed under RCRA or CERCLA if there is an ongoing remedial or removal process, although RCRA creates an exception. *Id.*

385. It appears, however, that such remediation may be impossible. *See Atl. Richfield Co. v. Christian*, 140 S. Ct. 1335 (2020).

adherence to the numerical score on the Hazard Ranking Score facilitates unequal remediation.

Fourth, time periods between the NCP's required reviews should be shortened. Currently, the NCP stipulates a five-year review of selected remedial action.[386] That is untenable considering the impact of hazardous substances on the environment and human health. For example, in the North Railroad and Fruit Plume scenarios, the EPA only reviews a remedial method selected at a site every five years.[387] In a situation where a selected remedial decision proves ineffective, as in the Fruit Avenue Plume case, it portends danger to human health. Shortening the five-year review period enhances effective monitoring and remediation to eliminate lingering disparities. Additionally, the reviews should focus on the effectiveness of the chosen remedial plan to eliminate disparities.

CONCLUSION

Equalizing remediation of environmental harm does not lie in strict or vigorous enforcement of the current environmental laws. Equalizing remediation demands more than just compliance[388] or vigorous enforcement. The current environmental protection law framework does not equalize remediation due to its apparent loopholes. More scholarship identifying and describing the loopholes within the current environmental law framework is needed. I encourage a shift in the dialogue about unequal remediation of environmental harms in the United States. It is critical to equalizing remediation.

The toolbox I offer here provides numerous ways to start the conversation on equalizing remediation of environmental harms. Future scholarship may examine other toolbox ingredients. Amendments to the law and allowing supplemental remediation efforts are necessary. The sooner environmental justice scholars recognize that the current law is inadequate, and refocus their lens on the issue, the closer we get to achieving environmental justice.

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386. 40 C.F.R. § 300.430(f)(4)(ii) (2021) ("If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after initiation of the selected remedial action.").

387. *See Site Status Update: North Railroad Avenue Plume Superfund Site*, N.M. Env't Dep't 1 (July 2021), https://www.env.nm.gov/gwqb/wp-content/uploads/sites/9/2021/09/NRAP-July-2021-Fact-Sheet_rev_8_16_21.pdf [https://perma.cc/KB5E-H6PT].

388. Sara Colangelo, *Forging Complete Justice: Equitable Relief in Environmental Enforcement*, 46 HARV. ENV'T L. REV. 315, 364 (2022).

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