Lessons from Using RCRA to Seek an Ecosystem-Level Remediation

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INTRODUCTION

This article discusses our experience using the Resource Conservation and Recovery Act ("RCRA")[1] to seek an ecosystem-level remediation in the ongoing case *Maine People's Alliance and Natural Resources Defense Council, Inc. v. HoltraChem Manufacturing Company, LLC, and Mallinckrodt US LLC*.[2] The case, in which we are plaintiffs' principal attorneys, concerns severe mercury contamination throughout a roughly twenty-mile stretch of the Penobscot River estuary in Maine.[3] To the best of our knowledge, it is one of the longest-running applications of RCRA's citizen suit provision. Although we discuss some general aspects of the law governing RCRA citizen suits, this article is not meant to be a

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1. 42 U.S.C. §§ 6901–6992k (2014).

2. Me. People's All. v. HoltraChem Mfg. Co., Civil No. 1:00-cv-00069-JAW (D. Me. filed Apr. 10, 2000).

3. J.W.M. RUDD ET AL., PENOBSCOT RIVER MERCURY STUDY 1-2 (2013) (noting estuary is about 35 km in length); Me. People's All. v. HoltraChem Mfg. Co., Civil No. 1:00-cv-00069-JAW, 2015 WL 5155573, at *28 (D. Me. Sept. 2, 2015) [hereinafter MPA III] (holding that mercury is causing irreparable injury to the Penobscot River estuary).

comprehensive primer on RCRA litigation. Instead, our goal is to share some insights we have gained and challenges we have faced in our efforts to use the RCRA citizen suit provision to its fullest extent possible in order to respond to new environmental challenges.

I. OVERVIEW OF RCRA CITIZEN SUITS

"RCRA is a comprehensive environmental statute that governs the treatment, storage, and disposal of solid and hazardous waste."[4] Its primary purpose "is to reduce the generation of hazardous waste and to ensure the proper treatment, storage, and disposal of that waste which is nonetheless generated, 'so as to minimize the present and future threat to human health and the environment.'"[5] Thus, RCRA differs from the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA" or "Superfund")[6] because "RCRA is not principally designed to effectuate the cleanup of toxic waste sites or to compensate those who have attended to the remediation of environmental hazards."[7] Nevertheless, RCRA contains citizen suit provisions that can be a useful and powerful tool for citizen plaintiffs in some circumstances.

RCRA provides for three different types of citizen suits: those related to (1) violations of "any permit, standard, regulation, condition, requirement, prohibition, or order" under RCRA,[8] (2) "an imminent and substantial endangerment to health or the environment,"[9] or (3) the failure of the Administrator of the United States Environmental Protection Agency ("EPA") to perform any nondiscretionary act or duty under RCRA.[10] In this article, we focus only on the second type, suits related to imminent and substantial endangerments.

With respect to an imminent and substantial endangerment, RCRA provides in full that:

> 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[.][11]

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4. Meghrig v. KFC Western, Inc., 516 U.S. 479, 483 (1996).
5. *Id.* (quoting 42 U.S.C. § 6902(b)).
6. 42 U.S.C. §§ 9601–9675.
7. *Meghrig*, 516 U.S. at 483.
8. 42 U.S.C. § 6972(a)(1)(A).
9. *Id.* § 6972(a)(1)(B).
10. *Id.* § 6972(a)(2).
11. *Id.* § 6972(a)(1)(B).

With regard to jurisdiction and remedy, RCRA further provides that:

> [t]he district court shall have jurisdiction, without regard to the amount in controversy or the citizenship of the parties, . . . to restrain any person who has contributed or who is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste referred to in paragraph (1)(B), to order such person to take such other action as may be necessary, or both . . . .[12]

This provision, which was added to RCRA in 1984, was "intended to allow citizens exactly the same broad substantive and procedural claim for relief which is already available to the United States under [42 U.S.C. § 6973]."[13] Congress specifically noted that "citizens need not exhaust or rely upon other resources or remedies, before seeking relief under these amendments" although "courts should be cognizant of and consider the availability of such alternatives when awarding equitable relief."[14]

In providing for citizen suits to abate imminent and substantial endangerments from solid and hazardous wastes, Congress noted that "the number of potential problem sites exceeds the Government's ability to take action each time such action is warranted."[15] Congress intended citizen suits to help fill this enforcement gap, and also expressed concern that EPA "ha[d] not been diligent in vigorously pursuing a tough enforcement program."[16] Nevertheless, Congress placed limits on citizen suits "to assure that they will complement, and not interfere with, Federal regulatory and enforcement programs."[17]

The principal limitations on RCRA citizen suits are the notice requirement and the possibility that governmental enforcement actions may preempt the citizen suit. Generally, an imminent and substantial endangerment citizen suit cannot be commenced until ninety days after the citizen plaintiffs have given notice of their intent to sue to the Administrator of the EPA, the state where the alleged endangerment is located, and any person alleged to have contributed to the endangerment.[18] This notice requirement gives EPA, the state, and the alleged polluter(s) time to abate any endangerment or, in the case of the agencies, preempt the citizen suit by filing a federal or state enforcement action. EPA or a

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12. *Id.* § 6972(a)(2).

13. S. REP. NO. 98-284, at 56 (1983).

14. *Id.* at 57.

15. *Id.* at 5.

16. H.R. REP. NO. 98-198, pt. 1, at 20, 53 (1984), *as reprinted in* 1984 U.S.C.C.A.N 5576, 5579, 5612.

17. S. REP. NO. 98-284, at 55 (1983); *see* H.R. REP. 98-198, at 53 (1984), *as reprinted in* 1984 U.S.C.C.A.N. 5576, 5612 ("This expansion of the citizens [sic] suit provision will complement, rather than conflict with, the administrator's efforts to eliminate threats as to public health and the environment, particularly where the government is unable to take action because of inadequate resources.").

18. 42 U.S.C. § 6972(b)(2)(A). There is a limited exception to the ninety-day notice requirement that allows a citizen suit to commence immediately after giving notice if the suit alleges a violation of RCRA Subtitle III, 42 U.S.C. §§ 6921–6939g, which contains various provisions applicable to hazardous waste management.

state can preempt a citizen suit in several ways.[19] These generally include a governmental suit under RCRA or CERCLA, a removal action under CERCLA, a remedial action under CERCLA, and, in the case of EPA, an administrative order under CERCLA.[20]

In addition, certain wastes are not subject to citizen suits because they are expressly excluded from the definition of "solid waste" under RCRA. These include "solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under" the Clean Water Act "or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954."[21] Although EPA has narrowed the definition of "solid waste" even further in its regulations,[22] courts have held that "the statutory definition of solid waste applies to citizen suits brought to abate imminent hazard to health or the environment," while the regulatory definition applies to "permitting violations and other related matters."[23]

Notwithstanding the limitations in RCRA's definition of "solid waste," the terms used in the imminent and substantial endangerment citizen suit provision are generally defined broadly. Apart from its enumerated restrictions, "solid waste" includes "any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities."[24] "Hazardous waste" is defined functionally to mean:

> a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may— (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.[25]

The potential parties in a citizen suit are also broad. A "person" who can sue or be sued includes "an individual, trust, firm, joint stock company, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body and shall include each department, agency, and instrumentality of the United States."[26]

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19. Hallstrom v. Tillamook Cty., 493 U.S. 20, 29 (1989).

20. 42 U.S.C. § 6972(b)(2)(B)–(C). The nuances of precise circumstances in which a citizen suit is or is not preempted are beyond the scope of this article.

21. 42 U.S.C. § 6903(27).

22. 40 C.F.R. §§ 261.1–261.9 (2015).

23. Cordiano v. Metacon Gun Club, Inc., 575 F.3d 199, 206 (2d Cir. 2009).

24. 42 U.S.C. § 6903(27).

25. 42 U.S.C. § 6903(5).

26. 42 U.S.C. § 6903(15).

And the actions for which an entity can be held responsible are defined expansively as well. For example, "disposal" means:

> the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.[27]

Terms including "storage" and "treatment" are also defined broadly.[28] Putting all of these statutory provisions together, the elements that an imminent and substantial endangerment citizen plaintiff generally must prove are:

> (1) that the defendant is a person, including, but not limited to, one who was or is a generator or transporter of solid or hazardous waste or one who was or is an owner or operator of a solid or hazardous waste treatment, storage, or disposal facility; (2) that the defendant has contributed to or is contributing to the handling, storage, treatment, transportation, or disposal of solid or hazardous waste; and (3) that the solid or hazardous waste may present an imminent and substantial endangerment to health or the environment.[29]

Importantly, "[t]he term 'endangerment' means a threatened or potential risk of harm, and does not require proof of actual harm or even risk of harm."[30] The liability standard "is further relaxed because of Congress's use of the word 'may.'"[31] To be "imminent," "there must be a threat which is present now, although the impact of the threat may not be felt until later," which excludes the use of this provision for seeking compensation for past cleanups.[32] And an endangerment is "substantial" if it "involves potentially serious harm."[33] In short, "an imminent and substantial endangerment requires a reasonable prospect of a near-term threat of serious potential harm."[34]

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27. 42 U.S.C. § 6903(3).

28. *See* 42 U.S.C. § 6903(33)–(34).

29. Parker v. Scrap Metal Processors, Inc., 386 F.3d 993, 1014–15 (11th Cir. 2004) (quoting Cox v. City of Dallas, 256 F.3d 281, 292 (5th Cir. 2001)).

30. Little Hocking Water Ass'n, Inc. v. E.I. du Pont Nemours & Co., 91 F. Supp. 3d 940, 966 (S.D. Ohio 2015).

31. Me. People's All. v. Mallinckrodt, Inc., 471 F.3d 277, 288, 296 (1st Cir. 2006) [hereinafter MPA II] (citing Me. People's All. v. HoltraChem Mfg. Co., 211 F. Supp. 2d 237, 146–47 (D. Me. 2002) [hereinafter MPA I]). *See also* Interfaith Cmty. Org. v. Honeywell Int'l, Inc., 399 F.3d 48, 258–59 (3d Cir. 2005); *Parker*, 386 F.3d at 1015; *Cox*, 256 F.3d at 299; Dague v. City of Burlington, 935 F.2d 1343, 1355 (2d Cir. 1991), *rev'd in part on other grounds*, 505 U.S. 557 (1992); United States v. Waste Indus., Inc., 734 F.2d 159, 165 (4th Cir. 1984); United States v. Price, 688 F.2d 204, 213 (3d Cir. 1982).

32. Meghrig v. KFC Western, Inc., 516 U.S. 479, 485–86 (1996).

33. *MPA II*, 471 F.3d at 296; *see id.* at 288 ("With one possible exception, the courts have agreed that the word 'substantial' implies serious harm.").

34. *Id.* at 296.

II. DISCUSSION OF *MAINE PEOPLE'S ALLIANCE V. HOLTRACHEM* AND LESSONS LEARNED

A. BACKGROUND AND PROCEDURAL HISTORY

From 1967 until 2000, various entities operated a chlor-alkali plant in Orrington, Maine, on the banks of the Penobscot River.[35] The original owner and operator of the plant was a corporate predecessor to Mallinckrodt US LLC, the present defendant in the case.[36] The plant used mercury as part of its production process, keeping "approximately [eighty-two] tons of mercury on site at any one time."[37] In the early years of its operation, mercury losses "were a major economic concern for the plant," and a plant employee estimated that it was losing 107 pounds of mercury on average every day.[38] "The plant sent mercury-contaminated brine sludge into its sewer, then through the facility's outfall directly into the Penobscot River, every day, continuously, from December 9, 1967, into June 1970."[39] Mercury discharges then declined, but continued through at least 1982.[40] Overall, "[d]uring the period of its operation, the Plant deposited tons of mercury-laden waste into the Penobscot River."[41]

In 1970, the United States filed suit to stop the direct discharges of mercury into the Penobscot River.[42] In the early 1970s, EPA requested that the plant "remove mercury deposits from the Penobscot River near the site," but no sediment removal or follow-up study was undertaken.[43] More than a decade later, in 1986, "EPA filed a RCRA administrative action" against the operator of the plant, resulting in a consent agreement and side litigation regarding cost sharing among the entities that had operated the plant.[44] Five years later, EPA filed a suit under RCRA alleging failure to comply with the 1986 consent agreement, which resulted in a 1993 consent decree requiring "a site investigation and corrective measures study at the site under the corrective action provisions of RCRA."[45] "Throughout the site investigation process, [the Maine Department of Environmental Protection] and EPA asked and recommended that Mallinckrodt collect data from downriver areas to determine whether mercury . . . was having an

35. *MPA I*, 211 F. Supp. 2d at 241.
36. *Id.*; *MPA III*, 2015 WL 5155573, at *1 n.1.
37. *MPA I*, 211 F. Supp. 2d at 241.
38. *Id.* at 241–42.
39. *Id.*
40. *Id.*
41. *MPA II*, 471 F.3d at 280; *MPA III*, 2015 WL 5155573, at *19 ("According to the Study Panel Report, between 1967 and the early 1970s, the HoltraChem chlor-alkali plant in Orrington discharged between six and twelve tons of mercury into the Penobscot River.").
42. *MPA I*, 211 F. Supp. 2d at 242.
43. *Id.* at 243.
44. *Id.*
45. *Id.*

adverse impact on the river south of the plant."[46] However, "Mallinckrodt took very few steps to collect data bearing on the effects of mercury downriver of the plant," and its failure to undertake adequate sampling "appear[ed] to have been by design."[47] By 2002, "the ongoing RCRA corrective action d[id] not contemplate any remediation for the lower river" and "[t]he remediation plan being considered d[id] not address the Penobscot River south of the plant."[48] Limiting the scope of corrective action was an economic victory for Mallinckrodt.

The victory was temporary. As a result of the failure to study and remediate downriver mercury impacts, the Maine People's Alliance and Natural Resources Defense Council filed a RCRA citizen suit in April 2000, alleging "that Mallinckrodt caused an 'imminent and substantial endangerment to health and the environment' as a result of discharging mercury into the Penobscot River."[49] Plaintiffs' "principal prayer for relief was that Mallinckrodt be ordered to fund an 'independent, comprehensive, scientific study to determine the precise nature and extent of the endangerment.'"[50] They also sought an order requiring the development and implementation of an appropriate remediation plan.[51]

The liability phase of the case was determined after a nine-day bench trial in March 2002.[52] The Court held that Mallinckrodt had violated RCRA "with respect to the downriver portion of the Penobscot River south of the plant site."[53] Mallinckrodt was "liable to fund the cost of a necessary independent study to determine if remediation of the conditions existing in the area south of the plant in the Penobscot River is required and/or feasible and, if so, the precise content of the appropriate remediation plan."[54] As a remedy, the Court appointed an independent, three-member scientific "Study Panel" and charged them with answering various questions about the nature and extent of the mercury contamination and the need for and feasibility of a remediation plan.[55]

The Study Panel issued a Phase I Report in January 2008, which concluded that "there is sufficient weight of scientific evidence to conclude that the Penobscot River and estuary are contaminated with [mercury] to an extent that poses endangerment to some wildlife species and possibly some limited risk for human consumers of fish and shellfish."[56] The Panel recommended that the study continue to examine the necessity and feasibility of remediation.[57] The Panel

46. *Id.* at 244.
47. *Id.*; *id.* at n.9; *MPA II*, 471 F.3d at 281.
48. *MPA I*, 211 F. Supp. 2d at 240, 244.
49. *MPA III*, 2015 WL 5155573, at *2.
50. *MPA II*, 471 F.3d at 281.
51. *MPA I*, 211 F. Supp. 2d at 241; *MPA III*, 2015 WL 5155573, at *2.
52. *MPA III*, 2015 WL 5155573, at *2.
53. *MPA I*, 211 F. Supp. 2d at 255.
54. *Id.* at 255.
55. *MPA III*, 2015 WL 5155573, at *2–3.
56. *Id.* at *4.
57. *Id.*

submitted its 1800-page Phase II Report in April 2013, which discussed in detail the extent of the mercury contamination, the harm from the contamination, the rate of natural recovery, and the hydrodynamic processes at play in the Penobscot estuary.[58] The Panel found Mallinckrodt had deposited up to twelve metric tons of mercury into the river, much of it from 1967 to 1970.[59] It further found that surface sediment[60] in the lower river was roughly ten times more contaminated with mercury than sediment in reference areas;[61]that inorganic mercury had methylated to its toxic, organic form (methylmercury);[62] and that methylmercury had entered the food web.[63] Songbirds in a marsh adjacent to the river channel had blood mercury levels higher than any reported in scientific literature.[64] Ninety percent of lobsters in one region of the lower river had mercury in their tails that exceeded Maine's standard for safe human consumption (some exceeded it by up to five times), posing a particular danger to sensitive subpopulations (pregnant and nursing women and young children).[65] Finally, the Panel found that, if left alone, the river ecosystem would take at least six decades, and maybe much longer, to cleanse itself to levels safe for human beings and wildlife.[66] The Report recommended the establishment of a remediation program.[67]

To evaluate whether to order a search for active remedies to speed recovery of the ecosystem, the Court held a four-week bench trial in June 2014. It heard testimony from twenty-three live witnesses, including many of the scientists who had worked on the Study Panel reports and experts working for the parties.[68] The Court held that "the Penobscot River estuary remains unacceptably contaminated with mercury," and that "the Plaintiffs have sustained their burden to justify a continuing injunction, one that mandates further study of the mercury contamination of the Penobscot River caused by Mallinckrodt."[69] The Court ordered "the appointment of an engineering firm, knowledgeable in mercury cleanup, to be recommended by the parties and selected by the Court to develop cost-effective and effective remedies to clean up the remaining mercury in the Penobscot River," in order to "mitigate the current harm to the people, biota, and environ-

58. *Id.* at *5.
59. *Id.* at *19.
60. "Surface" sediment is the top three centimeters of the river sediments. RUDD ET AL., *supra* note 3, at 1-9.
61. *Id.*
62. *Id.* at 1-4; *MPA III*, 2015 WL 5155573 at *5.
63. RUDD ET AL., *supra* note 3, at 1-22.
64. *Id.* at 14-60 (Nelson's sparrow), 14-71 (swamp sparrow), 14-76 (red-winged blackbird).
65. *Id.* at 2-5 (noting Maine standard of 200 ng/g mercury to protect health), 14-43 (ninety percent of lobsters at stations near mouth of river exceed Maine standard), 14-116 (data table showing lobster tail samples up to 1,125 ng/g mercury); *MPA I*, 211 F. Supp. 2d at 245–46 (describing human health risks from methylmercury).
66. *MPA III*, 2015 WL 5155573, at *5.
67. *Id.*
68. *Id.* at *6, 18–19.
69. *Id.* at *28, 31.

ment of the Penobscot River estuary."[70] The Court has selected an engineering firm and the engineering study is underway.[71]

B. LESSONS LEARNED

1. Citizens Need Not Wait for Governmental Action or Settle for Partial Governmental Action

Our case illustrates that citizens threatened by hazardous wastes are not necessarily limited to remedies obtained by government agencies. The imminent and substantial endangerment provisions in RCRA "give broad authority to the courts to grant all relief necessary to ensure complete protection of the public health and the environment."[72] RCRA citizen suits are a powerful tool to affect both the timing and the extent of a cleanup.

With respect to timing, serving a notice of intent to sue under RCRA allows citizens to seek a cleanup without waiting for the government to act. Although a citizen suit may be preempted if a state or federal agency takes action before the notice period expires, the notice of intent to sue may prod agencies to move faster and to give higher priority to a site that has received inadequate regulatory attention.[73] And if agencies fail to act, RCRA empowers citizens to seek effective injunctive relief themselves.[74]

As for the extent of a cleanup, our case presents an example of a hazardous waste problem in which government enforcement was too limited. By the time plaintiffs filed suit in 2000, state and federal agencies had been seeking a cleanup of Mallinckrodt's mercury since 1986, but had settled for a plan that did not contemplate any detailed study or remediation of mercury impacts downstream from the plant site.[75] Without action by citizens' groups, no one would have explored the full extent of mercury-related harm in the Penobscot River estuary, and no one would now be looking for ways to remediate it.

A citizen suit, particularly to the extent it generates new scientific data, can even prompt action from agencies that are not typically the lead agency on a contaminated site cleanup. In our case, based on data collected during the Court-ordered studies, the Maine Department of Inland Fisheries and Wildlife

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70. *Id.* at *1, 31.

71. Selection of Phase III Engineering Firm, Me. People's All. v. HoltaChem Mfg. Co., Civil No. 1:00-cv-00069-JAW (D. Me. Jan. 4, 2016), ECF No. 845.

72. United States v. Aceto Agric. Chems. Corp., 872 F.2d 1373, 1383 (8th Cir. 1989) (construing the analogous language in 42 U.S.C. § 6973) (internal quotation marks omitted).

73. *See* Hallstrom v. Tillamook Cty., 493 U.S. 20, 29 (1989) ("[N]otice allows Government agencies to take responsibility for enforcing environmental regulations, thus obviating the need for citizen suits. . . . In many cases, an agency may be able to compel compliance through administrative action, thus eliminating the need for any access to the courts.").

74. 42 U.S.C. § 6972(a)–(b).

75. *MPA I*, 211 F. Supp. 2d at 243–44.

posted a consumption advisory for waterfowl taken from the lower Penobscot River and the Maine Department of Marine Resources closed an area at the mouth of the River to lobster and crab fishing.[76] Thus, the RCRA citizen suit achieved collateral public health benefits, in addition to the remedies directly flowing from the litigation, by supplying actionable data to agencies that otherwise would not have known to act.

2. RCRA Citizen Suits Can Address Large, Complex Problems

Many RCRA citizen suits are focused on localized problems at relatively discrete sites.[77] However, our suit shows that RCRA also can be an effective tool for citizens seeking to remediate a broad, ecosystem-level problem.

The Penobscot River "is the second largest river in New England, draining an area of 22,300 [square kilometers] and is the largest estuary in New England with a surface area of about 90 [square kilometers]."[78] The estuary is part of a "highly dynamic and powerful river system" and is tidally-influenced throughout, at least as far north as Bangor.[79] In addition to the main river channel, it includes extensive marsh and mudflat areas, and a wider cove south of Verona Island before the River flows past Fort Point and out into Penobscot Bay.[80]

Even in the face of a contamination problem spread throughout a large and variable ecosystem, the federal courts "are equipped to adjudicate individual cases, regardless of the complexity of the issues involved."[81] RCRA's remedial structure gives courts considerable flexibility to order "such other action as may be necessary" to abate an imminent and substantial endangerment.[82] And courts construing RCRA have "perceive[d] a congressional thumb on the scale in favor of remediation."[83] In our case, notwithstanding the complexity of the Penobscot River estuary, the trial evidence moved the Court to order "an independent study to determine: (1) the extent of the existing harm to the Penobscot River and Bay south of the plant site, (2) the need for a remediation plan, if any, and (3) the elements of, and schedule for, completion of such a remediation plan."[84] By giving courts wide latitude to craft appropriate equitable relief, the RCRA citizen

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76. *MPA III*, 2015 WL 5155573, at *26–27.

77. *E.g.*, Meghrig v. KFC Western, Inc., 516 U.S. 479, 481 (1996) (suit regarding oil contamination in soils at the site of a KFC restaurant); Parker v. Scrap Metal Processors, Inc., 386 F.3d 993, 1000–02 (11th Cir. 2004) (suit regarding contamination of residential property from adjacent junkyard); Little Hocking Water Ass'n v. E.I. du Pont Nemours & Co., 91 F. Supp. 3d 940, 947 (S.D. Ohio 2015) (suit regarding contamination of municipal water wells on a 45-acre property).

78. *MPA III*, 2015 WL 5155573, at *22.

79. *Id.* at *22–23.

80. *See id.* at *22–27.

81. *MPA II*, 471 F.3d at 293.

82. 42 U.S.C. § 6972(a).

83. *MPA II*, 471 F.3d at 297.

84. *MPA I*, 211 F. Supp. 2d at 256.

suit provision leaves courts free to adapt remedies to fit the scope of the problem and citizens should not hesitate to consider using RCRA even in the face of seemingly massive, longstanding endangerments.

3. Credible, Independent Scientific Evidence Is Vital

Throughout the course of our case, we have seen time and again that credible scientific evidence is a crucial foundation for success. Prior to filing suit in 2000, plaintiffs hired an aquatic ecologist to conduct an initial survey of the mercury contamination in the river and review the other data that had been collected to date.[85] Plaintiffs also retained a preeminent expert on the health effects of mercury to testify during the 2002 trial.[86] Although these two witnesses were the core of plaintiffs' case and were outnumbered by the experts stacked up against them, the Court expressly found both experts to be credible, and relied on their opinions and testimony.[87]

Credible science was also at the core of the remedy the plaintiffs sought. By requesting an independent study, funded but not controlled by the defendant, plaintiffs sought to obtain neutral, reliable information about the mercury contamination in the Penobscot River. In this regard, the Study Panel appointed by the Court worked well. The Court allowed each party to nominate one expert to the Study Panel (someone not already retained by the parties), and then the two nominated experts selected a third, neutral chairperson and a consultant to conduct the necessary scientific field work.[88]

Reflecting back on this decision in 2015, after the case had been transferred to a new judge and after hearing the 2014 remedy trial, the Court expressed that it was "profoundly grateful to [the prior judge] for his visionary decision to appoint a Study Panel, consisting of world-class experts, to study the Penobscot River and to make recommendations to the Court."[89] Without the benefit of the independent Study Panel

> the Court would likely have faced dueling, non-neutral experts, hired by the parties, whose scientific opinions may have been difficult to separate from advocacy. Given the rarefied scientific nature of the evidence, the Court's job in distinguishing fact from argument from competing experts would have been arduous at best. Instead, the work of the Study Panel narrowed the range of esoteric scientific issues before the Court and hastened the Court's comprehension.[90]

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85. *MPA II*, 471 F.3d at 281.
86. *MPA I*, 211 F. Supp. 2d at 245.
87. *Id.* at 245, 251.
88. *MPA III*, 2015 WL 5155573, at *18.
89. *Id.* at *18.
90. *Id.*

Based on the success of the independent Study Panel process, and over the defendant's objection, the Court established a similar process for the current engineering study, ordering that the engineering study be carried out by "engineers whose loyalty runs to the Court," rather than by engineers hired and controlled by the defendant.[91]

The Study Panel structure also provided a number of benefits to the plaintiffs. It secured credible scientific information about the mercury contamination in the Penobscot River estuary.[92] However, it did so in a way that shifted the costs of the work to the defendant, while preserving the neutrality and independence of the analyses and recommendations that ensued. Although plaintiffs still felt the need to hire a couple of their own experts,[93] the testimony from the neutral Study Panel scientists reduced the plaintiffs' need to hire expensive scientific experts for the 2014 remedy trial to counterbalance the defendant's bevy of experts. In this way, the Study Panel structure reduced some of the burdens that citizens' groups faced in bringing a lawsuit founded on complex scientific evidence.

4. Citizen Voices Can Help

The citizen suit is a fundamentally democratic provision of law because it empowers citizens to hold private polluters accountable, correct ill-advised government inaction, and seek restoration of public resources.[94] Scientific evidence in RCRA citizen suits can be technical and complex. In our case, the remedy trial featured nineteen live, technical witnesses, whose testimony consumed around ninety-eight percent of the trial transcript.[95] But in addition, we sought to put a human face on mercury contamination in the Penobscot estuary. Over the defendant's objection, the Court admitted evidence from local citizens who have been affected by the mercury the defendant deposited in the river.[96]

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91. *Id.* at *29.

92. *See id.* at *18.

93. *See id.* at *8, *11–12, *20–21, *26 (referring to testimony of plaintiffs' experts Dr. Driscoll and Dr. Grandjean).

94. *See* Barton H. Thompson, Jr., *The Continuing Innovation of Citizen Enforcement*, 2000 U. ILL. L. REV. 185, 198; Eric Dannenmaier, *Environmental Law and the Loss of Paradise*, 49 COLUM. J. TRANSNAT'L L. 467, 488–90 (2011) (reviewing OLIVER A. HOUCK, TAKING BACK EDEN: EIGHT ENVIRONMENTAL CASES THAT CHANGED THE WORLD (2009)).

95. The trial transcript totaled 3,544 pages and included testimony from twenty-three witnesses. *See generally* Transcript of Proceedings, Vols. I-XIX, Me. People's All. v. HoltraChem Mfg. Co., Civil No. 1:00-cv-00069-JAW (D. Me. June 3–27, 2014), ECF Nos. 755, 757, 759, 761, 763, 765, 767, 770, 772, 775, 778, 782, 784, 786, 788, 790, 792, 794, 800. Four witnesses were factual witnesses, whose testimony totaled sixty-five pages. *See id.* Vol. X at 1658–79, 1753–62 (D. Me. June 16, 2014), ECF No. 775 (testimony of Robert S. Duchesne & Richard Judd); *id.* Vol. XI at 1830–62 (D. Me. June 17, 2014), ECF No. 778 (testimony of Kenneth Wyman, Jr. & Reuben Butch Phillips).

96. Oral Order Denying Motion to Exclude Fact Witness Testimony, Me. People's All. v. HoltraChem Mfg. Co., Civil No. 1:00-cv-00069-JAW (D. Me. Feb. 28, 2014), ECF No. 722; *see supra* note 95, citations to fact witness testimony.

One witness was an elder from the Penobscot Nation, who described the spiritual connection his people enjoy with the river, and the ways in which mercury contamination diminishes that connection.[97] A second witness was a lobster fisherman who has fished for twenty-six years in the Penobscot waters the State of Maine closed.[98] He testified to the economic harm to him from the closure, calling it "devastating."[99] But he said the more difficult part was knowing that for twenty-six years he had been feeding contaminated lobster and crab to his neighbors, to passersby, and to his family, including his pregnant daughter-in-law and young grandchildren.[100] He said the Penobscot River and Bay do not belong to him: "That belongs to the public. That belongs to every resident in the state of Maine. . . . That's—it's not for me solely. It needs to be cleaned up, if there is a way of cleaning it up. It most certainly does."[101]

Unwittingly, the fisherman had summarized an essential purpose of the RCRA citizen suit. The Court cited his testimony in its remedy opinion.[102]

5. RCRA Citizen Suits Can Be Drawn-Out and Resource Intensive

Although RCRA's citizen suit provisions give citizen plaintiffs useful legal tools, seeing a citizen suit through to completion is no small feat. As much as it has been a success story so far, our case also illustrates that RCRA litigation can move slowly and require patience, persistence, and substantial resources.

With respect to timing, our clients brought suit in 2000 and now, nearly sixteen years later, the case has not yet been entirely decided. In the intervening years we have achieved significant successes in the form of the Court's liability ruling[103] and in the information gained from the scientific studies performed to date. The data gathered so far provide significant redress in and of themselves, allowing the plaintiff groups, their members, and the general public to "tailor their behavior to the actual condition of the lower Penobscot."[104] The data have also improved public health protections by spurring the closure of the fishery and the creation of a waterfowl consumption advisory.[105] However, there is still much to do, including the engineering study and recommendation of a remedy, the Court's

97. Transcript of Proceedings, Vol. XI at 1848–62, Me. People's All. v. HoltraChem Mfg. Co., Civil No. 1:00-cv-00069-JAW (D. Me. June 17, 2014), ECF No. 778 (testimony of Reuben Butch Phillips).

98. *Id.* at 1830–47 (testimony of Kenneth Wyman, Jr.).

99. *Id.* at 1843.

100. *Id.* at 1841, 1843.

101. *Id.* at 1844.

102. *MPA III*, 2015 WL 5155573, at *27.

103. The district court's liability ruling was affirmed by the First Circuit, which applied for the first time within its jurisdiction a liberal threshold for proving liability. *MPA II*, 471 F.3d at 286–96.

104. *MPA II*, 471 F.3d at 283 n.5.

105. *MPA III*, 2015 WL 5155573, at *26–27.

decision on whether to adopt the engineering recommendation, and whatever work may follow from the Court's decision, such as work to implement an active remedy and monitoring of the system to ensure that it recovers as expected. RCRA provides a powerful lever to set a remedial process in motion, but the wheels of justice may turn slowly.[106]

Our case also illustrates the significant resources required to prosecute such an action. Before even filing their complaint, plaintiffs invested tens of thousands of dollars in an initial scientific survey of the Penobscot River to confirm the existence of a mercury problem.[107] The development and prosecution of the case over seventeen years and two trials has, so far, required over 19,000 hours of attorney and paralegal time, and over $670,000 in costs and expenses, including expert witness fees.[108] Although RCRA provides for fee recovery for successful plaintiffs,[109] and we recently moved for an award of fees and costs, as of this writing no such award has been made.[110] In short, plaintiffs must be prepared for lengthy, resource-intensive litigation in order to gain the environmental and health benefits provided in RCRA's citizen suit provision.

CONCLUSION

As our experience in *Maine People's Alliance v. HoltraChem, LLC* has demonstrated, RCRA imminent and substantial endangerment citizen suits offer a valuable tool for addressing large-scale environmental contamination problems. Such suits are particularly useful to fill gaps in governmental enforcement and are flexible enough to take on problems ranging from small, discrete contaminated sites to large-scale contaminated ecosystems. Successful RCRA claims often depend on effective presentation of credible scientific evidence, which can be facilitated through independent, court-supervised scientific studies

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106. Incidentally, the progress of our RCRA citizen suit compares favorably to the timeline for the government effort to clean up the plant site that was the source of the mercury. Government efforts to get the plant site cleaned up began in 1986. *MPA I*, 211 F. Supp. 2d at 243. By 2002, state and federal regulators had twice rejected the defendant's site investigation report. *Id.* at 244. The defendant subsequently appealed the state's remedial order all the way to the Supreme Judicial Court of Maine, which affirmed the state's remedy in 2014. Mallinckrodt US LLC v. Dep't of Envtl. Prot., 90 A.3d 428, 430 (Me. 2014). As of this writing, nearly thirty years after EPA first reached a consent agreement to clean up the site, the cleanup was underway but not yet complete. *See Phases of Site Cleanup*, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, http://www.maine.gov/dep/spills/holtrachem/phases.html (last visited Mar. 27, 2016).

107. *See MPA I*, 211 F. Supp. 2d at 248, 250–51; Pls.' Mot. for Att'ys' Fees and Costs and Supp. Mem. of Law, Civil No. 1:00-cv-00069-JAW (D. Me. Dec. 15, 2015), ECF No. 842 at 24.

108. Pls.' Mot. for Att'ys' Fees and Costs and Supp. Mem. of Law, Civil No. 1:00-cv-00069-JAW (D. Me. Dec. 15, 2015), ECF No. 842 at 15, 25.

109. 42 U.S.C. § 6972(e).

110. *See* Pls.' Mot. for Att'ys' Fees and Costs and Supp. Mem. of Law, Civil No. 1:00-cv-00069-JAW (D. Me. Dec. 15, 2015), ECF No. 842, which has not yet been resolved. Plaintiffs also moved for an award of fees and costs in 2007, but the motion was denied. Order Dismissing Pls.' Mot. for Att'ys' Fees and Costs, Civil No. 1:00-cv-00069-JAW (D. Me. Apr. 20, 2007), ECF No. 356.

as the first phase of a remedy process. Although RCRA provides for fee recovery for successful plaintiffs, RCRA citizen suits can take many years and substantial resources to resolve. Ultimately, RCRA gives citizens a powerful tool to hold private polluters accountable, counter government inaction, and improve their communities by compelling the cleanup of unaddressed contamination that threatens human health and the environment.