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Maui*: A Discernible, Confined, and Discrete Path Forward*

By Susan Parker Bodine

I. INTRODUCTION

The 2020 Supreme Court decision *County of Maui, Hawaii v. Hawaii Wildlife Fund* continues a trend of Supreme Court decisions that suggest the Supreme Court finds environmental law challenging to interpret.[1] In *Maui,* the Court struggled to evaluate the diametrically opposed positions of the government parties (both the County of Maui and the United States) and the Hawaii Wildlife Fund.[2] Both sides focused exclusively on groundwater as a conduit between a point source and a water of the United States.[3] As a result, no party's argument aided in distinguishing between point source discharges of pollutants and pollution from nonpoint sources.

Without addressing that distinction, the *Maui* Court concluded that the prohibition against unpermitted discharges in section 301 of the Clean Water Act (CWA) applies not only to direct discharges from point sources into navigable waters, but also to "functional equivalents" of such direct discharges.[4] The Court created a non-exclusive, seven-factor test for identifying a "functional equivalent."[5] While *Maui* was a groundwater case, lower courts may decide to apply its seven-factor "functional equivalent" test to surface runoff. In fact, the Ninth Circuit has already done so.[6]

Nothing in the *Maui* decision eliminated a point source as a critical element of

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1 Cnty. of Maui, Haw. v. Haw. Wildlife Fund*,* 140 S. Ct. 1462 (2020). *See also, e.g.,* Rapanos v. U.S., 547 U.S. 715 (2006) (two different interpretations of the jurisdictional reach of the CWA in plurality and concurring decisions); Cooper Indus., Inc. v. Aviall Servs., Inc., 543 U.S. 157 (2004) (restricting contribution claims of private parties under section 113(f) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to those who have been sued under CERCLA § 106 or § 107(a)).

2 *See* Cnty. of Maui*,* 140 S. Ct. 1462 (2020).

3 *See id.* at 1469-70.

4 *Id*. at 1476.

5 *Id*. at 1476-77

6 Inland Empire Waterkeeper v. Corona Clay Co., 13 F.4th 917 (9th Cir. 2021) *amended and superseded* by 17 F.4th 826 (9th Cir. 2021) (holding the *Maui* "functional equivalent" test applies to overland flows).

liability under the CWA.[7] To avoid a complete breakdown in the statutory distinction between point sources and nonpoint sources, post-*Maui* courts faced with cases involving an indirect discharge should recognize that the point source must be the conveyance. That is, before evaluating whether an indirect discharge is the functional equivalent of a direct discharge, courts should first analyze whether the facts presented include a discernible, confined, and discrete source that conveys pollutants to a navigable water. Such a conveyance can push pollutants over the land, through the air, or through the groundwater.[8] However, if something other than a point source conveys the pollutants to navigable water, then the result is nonpoint source pollution, which is outside the reach of the CWA's regulatory authority.[9] The legal analysis should be the same for all indirect discharges.

If the facts show the presence of a point source that conveys pollutants over or through a nonpoint source (air, groundwater, or land), then a permit writer or a reviewing court must identify whether that action is the functional equivalent of a direct discharge into navigable waters.[10] That analysis cannot be conducted in the abstract. "Equivalent" is a very strong word. To demonstrate functional equivalency, officials must model the behavior and condition of the pollutants (based on the *Maui* factors) as if delivered directly to the navigable water and then measure the same parameters demonstrated by the actual indirect discharge. It is likely that few, but not zero, indirect discharges will demonstrate equivalency.

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7 *See Cnty. of Maui*, 140 S. Ct at 1468 (concluding that the CWA requires a permit when there is a direct discharge of pollutants from a point source into navigable waters or when there is the functional equivalent of a direct discharge).

8 *See infra* Section III.C.

9 *See infra* n. 13.

10 *Id.* at 1476 (holding that the CWA requires a permit when there is a direct discharge from a point source into navigable waters or when there is the functional equivalent of a direct discharge, such as when the discharge reaches the same result through roughly similar means).

II. DEFINITIONS OF POINT SOURCE AND DISCHARGE OF A POLLUTANT

The CWA does not regulate all pollution of navigable waters. Notwithstanding the sweeping goals of the Act, its regulatory authority extends only to discharges of pollutants from point sources (defined as "any discernible, confined and discrete conveyance") to navigable waters. The definition of point source includes, but is not limited to "any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged."[11] The definition of "discharge of a pollutant" means "any addition of any pollutant to navigable waters from any point source."[12]

These definitions are significant because any source of pollution that falls outside the definition of point source is considered a "nonpoint source" and is not regulated through the EPA's permit process.[13] Similarly, any release from a point source that is not a "discharge of a pollutant" to navigable waters is not regulated. Expanding these definitions expands the regulatory jurisdiction of the CWA.

These definitions appear to be clear and straightforward. However, they have been the subject of much litigation. Courts have held that a discernible, confined, and discrete

11 CWA § 502(14), 33 U.S.C. § 1362(14).

12 *Id.* at (12).

13 Nonpoint source pollution is all "pollution that does not result from the 'discharge' or 'addition' of pollutants from a point source." Or. Nat. Desert Ass'n v. U.S. Forest Serv., 550 F.3d 778, 780 (9th Cir. 2008). EPA has no authority to regulate nonpoint sources through a permitting process. Def. of Wildlife v. Env't Prot. Agency, 415 F.3d 1121, 1124 (10th Cir. 2005); Sierra Club v. Meiburg, 296 F.3d 1021, 1025 (11th Cir. 2002); Nat'l Wildlife Fed'n v. Consumers Power Co., 862 F.2d 580, 588 (6th Cir. 1988).

conveyance includes an aircraft,[14] a plow,[15] and a gun,[16] but maybe not a human being.[17] Courts have split on whether the term includes a pile or basin of mining waste or a coal ash pond.[18] In 2013, the Ninth Circuit rejected a claim that the term includes a utility pole.[19] Before *Maui*, courts also split on whether a discharge of a pollutant requires a direct discharge into waters of the United States, or whether groundwater can be a conduit.[20]

The issue of overland flows has been less controversial. It is generally accepted that

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14 League of Wilderness Defs. v. Forsgren, 309 F.3d 1181, 1185–86 (9th Cir. 2002).

15 Borden Ranch P'ship v. U.S. Army Corps of Engineers, 261 F.3d 810, 815 (9th Cir. 2001), *aff'd*, 537 U.S. 99 (2002) (affirmed by an equally divided Supreme Court).

16 Cordiano v. Metacon Gun Club, 575 F.3d 199, 221 (2d Cir. 2009).

17 U.S. v. Plaza Health Laboratories, 3 F.3d 643 (2d Cir. 1993) (finding the statute ambiguous and applying the rule of lenity to dismiss this case involving placement of vials of blood on the banks of a navigable water by a person).

18 *Compare* Greater Yellowstone Coal. V. Lewis*,* 628 F.3d 1143, 1147, 1153 (9th Cir. 2010*)* (waste rock pits are not point sources); Sierra Club v. Va. Elec. & Power Co., No. 17-1952, 2018 WL 4343513 (4th Cir. Sept. 12, 2018) (coal ash pond is not a point source) *with* Trustees for Alaska v. Env't Prot. Agency*.,* 749 F.2d 549, 557-58 (9th Cir. 1984) (rainwater or snow melt runoff from a mining pond can be a point source); Sierra Club v. Abston Constr., 620 F.2d 41, 45 (5th Cir. 1980) (a mining sediment basin is a point source and rainwater runoff is therefore regulated); Wash. Wilderness Coal. V. Hecla Mining Co*.,* 870 F. Supp. 983, 990 (E.D. Wash. 1994) (a mining tailings pond with rainwater runoff can be a point source).

19 Ecological Rights Found. V. Pac. Gas & Elec. Co., 713 F.3d 502, 509 (9th Cir. 2013).

20 *Compare* Haw. Wildlife Fund v. Cnty. Of Maui, 886 F.3d. 737, 749 (9th Cir. 2018) (regulating a release into groundwater that reaches navigable waters if "fairly traceable" back to a point source and more than de minimis); Upstate Forever v. Kinder Morgan Energy Partners, L.P., 887 F.3d 637, 651-52 (4th Cir. 2018) (regulating releases to groundwater that are "sufficiently connected to navigable waters") *with* Ky. Waterways All. v. Ky. Util. Co*.,* 905 F.3d 925, 934 (6th Cir. 2018) (pollutants must be added directly to navigable water from a point source rather than through some other mechanism, such as groundwater); Tenn. Clean Water Network v. Tenn. Valley Auth., 905 F.3d 436, 444 (6th Cir. 2018) (reversing a district court decision adopting direct hydrologic theory, finding that "any alleged leakages into the groundwater are not a violation of the CWA"); Rice v. Harken Expl. Co*.,* 250 F.3d 264, 271 (5th Cir. 2001) (spilling oil wastes onto dry ground is not regulated under the Oil Pollution Act even if it seeps into the ground and reaches surface water through remote, gradual, natural seepage from contaminated groundwater); Vill. Of Oconomowoc Lake v. Dayton Hudson Corp. 24 F.3d 962, 965 (7th Cir. 1994) ("[T]here was no cognizable CWA claim based on discharges to ground water that may reach jurisdictional surface waters"); Cape Fear River Watch v. Duke Energy Progress*,* 25 F. Supp. 3d 798, 810 (E.D.N.C. 2014) ("[C]ongress did not intend for the CWA to extend federal regulatory authority over groundwater, regardless of whether that groundwater is eventually or somehow 'hydrologically connected' to navigable surface waters.").

unchanneled runoff is nonpoint source pollution.[21] As discussed below, it also is generally accepted that a release of manure from a failed lagoon, or sewage bursting from a manhole, or oil spouting from a well is point source pollution if the source propels the pollutants to navigable waters, even if there is a spatial gap between the release and water.[22]

III. THE *MAUI* CASE

The Supreme Court recently addressed the definition of "discharge of a pollutant" in *County of Maui v. Hawaii Wildlife Fund*.[23] The issue presented to the Court was whether a disposal well that was permitted under the Safe Drinking Water Act's underground injection control program[24] also discharged pollutants to navigable waters within the meaning of the CWA. In *Maui,* wastewater injected into the well subsequently travelled through groundwater and reached the Pacific Ocean. The Ninth Circuit held that a permit was required for any pollution of navigable waters that is "fairly traceable" to a point source.[25] The County of Maui filed a petition for *certiorari*, which the Court granted.[26]

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21 *Cnty. Of Maui,* 140 S. Ct. at 1471 ("[P]ollution collected by unchanneled rainwater runoff is not ordinarily considered point source pollution."). That truism has not stopped EPA from seeking to regulate overland flows originating from a concentrated animal feeding operation (CAFO), which is included in the statutory definition of point source. *See* Alt v. Env't Prot. Agency, 979 F. Supp. 2d 701 (N.D. W.Va. 2013). *Alt* involved an EPA enforcement order against a poultry farm, alleging that feathers and particles of manure, litter, and dander from a fan in a henhouse landed on the farmyard, which EPA alleged was part of the production area of a CAFO. The pollutants that landed in the farmyard washed out of the yard through rainfall, moved over a grass pasture as sheet flow and collected in a ditch at the edge of the field that connected to a stream. EPA alleged these facts established the existence of a discharge of pollutants from a CAFO. The District Court disagreed, holding that the manure that is washed by a precipitation event to a navigable water is an agricultural stormwater discharge and therefore exempt, even if the farmyard is a CAFO. EPA appealed to the Fourth Circuit, but later dropped its appeal. *See* Motion by Appellant US EPA to dismiss appeal, Lois Alt v. Env't Prot. Agency, No. 13-2534 (4th Cir. 2014 Sept. 22, 2014, ECF No. 49).

22 *See infra* Section III.C and notes 49-57.

23 *Cnty. of Maui,* 140 S. Ct. 1462 (2020).

24 *See* Safe Drinking Water Act, § 1421, 42 U.S.C. § 300h.

25 *Haw. Wildlife Fund*, 886 F.3d. at 749. The issue of whether the injection well met the definition of point source was not litigated.

26 Cnty. of Maui v. Haw. Wildlife Fund, et al. (''County of Maui''), No. 18–260 (Aug. 27, 2018), S. Ct. *cert. granted* on Feb. 19, 2019.

A. ORAL ARGUMENT

The oral argument for this case was a comedy and a tragedy in the best tradition of classical theater. The comedy played out with the Deputy Solicitor General of the United States, Malcolm Stewart, asking the justices to consider whether whiskey that is poured from a bottle to a flask to a punch bowl is "from" the bottle or "from" the flask.[27] Justice Alito, expressing surprise that "Mr. Stewart was spiking punch," expanded the analogy by asking counsel for Respondent Hawaii Wildlife Fund to opine on whether the whiskey was "from" a barrel in Scotland.[28] The counsel demurred, claiming he is not a whiskey drinker, and tried to change the hypothetical.[29]

The tragedy played out with the counsels and justices displaying a lack of understanding of both the legal framework of the CWA and of the Environmental Protection Agency's (EPA) technical capabilities. Counsel for County of Maui told the Court that the county's wells are already *regulated* under the CWA's nonpoint source program, a *nonregulatory* program.[30] Counsel for Hawaii Wildlife Fund told the Court that liability under the CWA, a *strict liability* statute, is based on whether a reasonable person believed their point source would discharge to navigable waters.[31] He also told the justices

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27 Transcript of Oral Argument at 22, *Maui*, 140 S. Ct. 1462 (2020) (arguing that the term "discharge of pollutants," which is defined as "any addition of any pollutant to navigable waters from any point source," requires a direct discharge), available at https://www.supremecourt.gov/oral_arguments/argument_ transcripts /2019/18-260_d1oe.pdf (hereinafter "Transcript").

28 *Id.* at 65.

29 *Id.* 65-66. The justices continued to get carried away with their hypotheticals in their opinions to elucidate the word "from." *See* Cnty. of Maui, 140 S. Ct. at 1475 (J. Breyer discussing "John's" taxi, train, and international travel); 140 S. Ct. at 1475 (J. Breyer discussing "Timmy's" bathwater); 140 S. Ct. at 1480 (J. Thomas discussing how to make beef gravy).

30 Transcript, *supra* note 27, at 1; CWA § 319, 33 U.S.C. § 1329.

31 Transcript, *supra* note 27, at 42-43. *Compare* Kelly v. Env't Prot. Agency, 203 F.3d 519, 522 (7th Cir. 2000) ("Civil liability under the Clean Water Act . . . is strict."); Comm. to Save Mokelumne River v.

that there can be no CWA liability for releases from septic systems under the Ninth Circuit's "fairly traceable" test as long as multiple septic systems all contribute the same type of pollutants to the same body of water. These assertions are unsupported. The CWA unequivocally prohibits the discharge of pollutants from point sources to navigable waters except in compliance with a permit.[32] These assertions also ignore the fact that EPA can, in fact, fingerprint pollutants and trace them to their sources.[33]

When discussing whether a toilet is a point source, counsel for Hawaii Wildlife Fund told the justices that the CWA creates a liability exemption for wastewater that goes to a treatment works, asserting "it's not a *hazardous waste*."[34] He appears to have been conflating the domestic sewage exclusion under the Resource Conservation and Recovery Act (RCRA)[35] with the fact that the introduction of pollutants to a treatment works is not a discharge of pollutants to navigable waters under the CWA and no indirect discharger need obtain its own CWA permit.[36] Finally, Hawaii Wildlife Fund's counsel erroneously told

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East Bay Mun. Util. Dist., 13 F.3d 305, 309 (9th Cir. 1993) (recognizing CWA "categorically prohibits any discharge of a pollutant from a point source without a permit"); Sierra Club v. ICG Hazard, LLC, 781 F.3d 281, 284 (6th Cir. 2015) (recognizing "regime of strict liability" under the CWA); Piney Run Pres. Ass'n v. Cnty. Comm'rs of Carroll Cnty., 268 F.3d 255, 265 (4th Cir. 2001) (same); U.S. v. Gulf Park Water Co., Inc., 972 F. Supp. 1056, 1059 (S.D. Miss. 1997) ("[C]compliance with the CWA is a matter of strict liability . . . a [person's] intentions to comply or a good-faith effort to do so does not excuse a violation.").

32 *Compare* Transcript, *supra* note 27, at 44, 52-54; *with* CWA § 301(a), 33 U.S.C. § 1311(a).

33 *See Fingerprint Analysis of Contaminant Data: A Forensic Tool For Evaluating Environmental Contamination*, (2004), available at https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NERL&dirEntryId=99507; *Wastewater Technology Fact Sheet Bacterial Source Tracking*, 832-F-02-010, Env't Prot. Agency (2002) (using DNA analyses), available at https://www3.epa.gov/npdes/pubs/bacsortk.pdf; *Forensic Field Investigations NEIC's Field Support Capabilities*, Env't Prot. Agency, available at https://www.epa.gov/sites/default/files/2018-05/documents/factsheet-neic-field-services.pdf .

34 Transcript, *supra* note 27, at 55-56.

35 RCRA § 1004(27), 42 U.S.C. § 6903(27) (excluding domestic sewage from the definition of solid waste).

36 CWA § 307(b)(1), 33 U.S.C. § 1317(b)(1) (allowing EPA to set pretreatment standards for "introduction of pollutants into treatment works" and enforce against violations of those standards, but that "introduction" of pollutants is not a discharge from a point source); *see also* CWA §§ 309(f) and

the justices that a discharger has no obligation to get a permit if the discharge was not *foreseeable*, apparently believing that accidental discharges are not subject to CWA liability.[37]

While good theater, the oral argument did not help the Court understand the statute.

B. Position of the United States as Amicus

Similarly, the position taken by the United States in its amicus brief in *Maui* did not help the Court.[38] That position was based on the EPA's "Interpretive Statement on Application of the Clean Water Act National Pollutant Discharge Elimination System Program to Releases of Pollutants From a Point Source to Groundwater," which adopted a bright line rule that *any* movement of pollutants through groundwater cuts off jurisdiction.[39] The EPA justified treating releases to groundwater differently from releases to the land by arguing that groundwater is addressed in non-regulatory provisions of the Act and by pointing to legislative history showing that Congress rejected amendments that would have regulated groundwater.[40] The United States' amicus brief and oral argument treated that truism as the end of the inquiry.[41] Responding to Justice Sotomayor's question:

402(b)(8), 33 U.S.C. §§ 1319(f) and 1342(b)(8) (discussing the introduction of pollutants); CWA § 307(c), 33 U.S.C. § 1317(c) (distinguishing between introducing pollutants and discharging pollutants); 40 C.F.R. § 122.2 (2022) (defining "discharge of a pollutant" and stating that "[t]his term does not include an addition of pollutants by any "indirect discharger," which is defined as a nondomestic discharger introducing "pollutants" to a "publicly owned treatment works."); 40 C.F.R. § 122.3(g) (2022) (indirect discharges into privately owned treatment works also do not require a permit).

37 *Compare* Transcript, *supra* note 27, at 60, *with* U.S. v. Earth Sci's., Inc., 599 F.2d 368, 374 (10th Cir. 1979) ("The regulatory provisions of the [CWA] were written without regard to intentionality, however, making the person responsible for the discharge of any pollutant strictly liable.").

38 *See* Brief for the United States as Amicus Curiae Supporting Petitioner, Cnty. of Maui, 140 S. Ct. 1462 (No. 18-260) (Jan. 3, 2019).

39 84 Fed. Reg. 16,810, 16,811 (2019) ("[T]he Agency concludes that the best, if not the only, reading of the CWA is that Congress intentionally chose to exclude all releases of pollutants to groundwater from the NPDES program, even where pollutants are conveyed to jurisdictional surface waters via groundwater") (hereinafter "Interpretive Rule").

40 Interpretive Rule, 84 Fed. Reg. at 16,814-15.

41 U.S. Brief, *supra* note 38, at 10, 16, 18-19.

"What's the difference between the groundwater and the land?," Mr. Stewart erroneously asserted that land, unlike groundwater, is not subject to its own body of distinct federal and state regulation.[42]

While the United States' position applied only to fact patterns where groundwater is the conduit, the justices were clearly concerned about the implications for surface discharges. Some justices expressed grave concern over whether a discharger could avoid regulation by moving a pipe back a few inches or simply burying the final few inches of a pipe.[43] Other justices expressed grave concern over the implications for traditional nonpoint sources, such as septic systems, if the migration of waste through groundwater from the Maui well to the Pacific Ocean is considered a discharge of a pollutant from a point source.[44] Unfortunately, the EPA Interpretive Rule and the United States' amicus brief did not help the Justices apply the statutory language to these fact patterns.

C. Point and Nonpoint Source Practice and Precedents

The argument before the Court may have been more coherent had EPA analyzed a groundwater conduit in the same way as any other nonpoint source. Like land, groundwater is a nonpoint source.[45] The justices and Mr. Stewart all recognized this fact.[46] Mr. Stewart also acknowledged that it is the position of the United States that a release of pollutants from a point source that travels over land before reaching a navigable water may be a

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42 Transcript, *supra* note 27, at 25. Contrary to Mr. Stewart's assertion, land is subject to federal and state regulation. RCRA regulates many types of land disposal of wastes, and the CWA expressly recognizes the rights of states to regulate the development and use of land. RCRA § 3004, 42 U.S.C. § 6924; CWA § 101(b), 33 U.S. C. § 1311(b).

43 Transcript, *supra* note 27, at 24-26.

44 *Id*. at 40-44.

45 *See* Haw. Wildlife Fund v. Cnty. of Maui, 886 F.3d. 737, 746 (9th Cir. 2018) ("the effluent here reaches the Pacific Ocean 'through' groundwater—a nonpoint source"); s*ee also* 33 U.S.C. 1288(a), 1329(h)(5)(D).

46 Transcript, *supra* note 27, at 25 (Sotomayor, J.) ("The land is not a conveyance.").

violation of section 301 of the CWA.[47] Similarly, the EPA Interpretive Statement left in place EPA's ability to determine on a case-by-case basis whether a release that flows over land to a navigable water is a regulated discharge.[48]

EPA does not seek to regulate unchannelized runoff, including movement of pollutants to navigable waters by rain or snow melt. The agency, however, will take CWA enforcement action in some situations where there is physical separation between the source and the receiving water.

For example, EPA may take enforcement action against a discharge that flows from the original source through a series of point sources. After the January 2014 chemical spill into the Elk River, the Department of Justice charged Freedom Industries and several former corporate officials with criminal violations of the CWA.[49] The indictment alleged that "a significant quantity of the leaked [chemical] breached containment, including a dike wall, ran down the riverbank and discharged into the Elk River via at least two discernible, confined and discrete channels or fissures."[50] Similarly, the excessive volume of manure applied to farmland in *Concerned Area Residents for the Environment v. Southview Farm* created its own channel.[51] In *Sierra Club v. Abston Construction Co.,* pollutants in piles of mining overburden reached navigable waters during rainfall, but the facts also showed that

47 *Id.* at 25-26 ("If it goes five feet to the shore and the pollutant travels onto the land, travels across the land and into the water, you know, through its own force, it spews out of the pipe or simply through the force of gravity because you're on an incline, we would say that's covered.").

48 Interpretive Rule, 84 Fed. Reg. at 16,814.

49 U.S. v. Farrell et al, 115 F. Supp. 3d 746, 749 (S.D. W. Va. 2015).

50 Indictment at 4, U.S. v. Farrell et al, 115 F. Supp. 3d 746 (S.D. W. Va. 2015 Dec. 17, 2014) (No. 14-00264).

51 Concerned Area Residents for Env't v. Southview Farm, 34 F.3d 114, 119 (3d Cir. 1994) ("Here, the liquid manure was collected and channelized through the ditch or depression leading to the stream. . . .").

the pollutants traveled through "ditches, gullies and similar conveyances," not sheet flow.[52] In *Parker v. Scrap Metal Processors, Inc*., piles of debris at a scrap yard collected water which then flowed through erosion gullies to a stream.[53]

EPA and the U.S. Department of Justice (DOJ) also may take action against an unpermitted discharge that reaches navigable waters either under its own kinetic force or because of gravity. For example, DOJ charged a dairy and its owner with criminal negligence under the CWA for a release of wastewater from a lagoon that overtopped, breached, and flowed to a canal that fed into a river.[54] DOJ also charged a company with criminal violations of the CWA for releasing drilling fluid onto the ground where it flowed into a creek.[55] These criminal cases involved plea agreements, so they represent practice, not precedent. Civil courts have reached similar conclusions. For example, courts have determined that pollutants that travel to navigable waters from a point source because of kinetic force are subject to the CWA.[56] Courts also have found a discharge from a point source to a navigable water where pollutants reach the water because of gravity.[57]

These fact patterns could have helped the Court find a limiting principle to apply to situations where the release is separated from a navigable water. For example, Justice

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52 Sierra Club v. Abston Constr. Co., 620 F.2d 41, 45 (5th Cir. 1980) (As amicus curiae, the United States agreed there was a point source under these facts and distinguished these facts from a situation where simple erosion over a material surface results in a discharge).

53 Parker v. Scrap Metal Processors, Inc., 386 F.3d 993, 1009 (11th Cir. 2004).

54 U.S. v. 4 Bros. Dairy Inc., 20-cr-00216 (D. Idaho, 2021) (the defendants pleaded guilty).

55 U.S. v. High Performance Prod. Eng'g, 2020 WL 6526002, at *1 (M.D. Ga., 2020) (the defendants pleaded guilty).

56 *See* U.S. v. Earth Sci's., Inc., 599 F.2d 368, 373 (10th Cir. 1979) (breach of system for circulating cyanide for use in processing gold ore resulted in a release of cyanide that flowed into a creek); Reynolds v. Rick's Mushroom Servs., 246 F.Supp.2d 449, 457 (E.D. Pa. 2003) (releases of pollutants from leaks in berms surrounding a wastewater management system are releases from a point source).

57 *See* Peconic Baykeeper, Inc. v. Suffolk Cnty., 600 F.3d 180, 188–89 (2d Cir. 2010) (aerial pesticide spraying); League of Wilderness Defenders/Blue Mts. Biodiversity Project v. Forsgren, 309 F.3d 1181, 1186 (9th Cir. 2002) (same).

Roberts asked counsel for the County of Maui:

> So, if you have a point source under pressure that, you know, just -- that doesn't seep up, kind of shoots the pollutants out, and there, you know, that motion gets to the jurisdictional water, would that be covered? Would that be pollution of the jurisdictional water by that point source?
> * * * *
> I'm envisioning two different things, one where it's -- the pollutant is put in the groundwater and then gradually, you know, seeps into the – into the ocean, and one where it's sort of forcefully expelled, although it goes through the groundwater.[58]

In response, the County's counsel held firm to his position that even if forcefully injected into the groundwater, "the groundwater is what's carrying it" and therefore the pollutants cannot be regulated.[59] He agreed that pollutants that are forcefully expelled from an aboveground pipe into a close body of water are regulated, but rejected Justice Breyer's hypothetical that the same should be true of a pipe that is thirty-five feet away, arguing that "the land is the conveyance," and land is a nonpoint source.[60]

D. THE *MAUI* OPINION

Writing for a six-justice majority in *Maui*, Justice Breyer rejected the statutory interpretations offered by the Ninth Circuit, the Hawaii Wildlife Fund, the County of Maui, and the United States.[61]

Justice Breyer rejected the Ninth Circuit's "fairly traceable" test that allowed

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58 Transcript, *supra* note 27, at 7.

59 *Id.* at 8.

60 *Id.* at 8-9. Counsel for the County appears to embrace the "terminal point source theory" that argues that a pollutant must go directly from a point source to water, with no spatial separation. *See* Brief for Petitioner at 54, *Cnty. of Maui*, 140 S. Ct. 1462 (No. 18-260) (arguing that if there is at least one nonpoint source between a point source and receiving water then there is no CWA regulatory authority over a release). The United States did not embrace that theory. Brief for the United States as Amicus Curiae Supporting Petitioner at 8, 12, *Cnty. of Maui*, 140 S. Ct. 1462 (No. 18-260) (citing EPA Interpretive Statement in support of continuing a case-by-case approach to circumstances where there is an above-ground spatial gap between the point source and jurisdictional surface waters).

61 *Cnty. of Maui*, 140 S. Ct. 1462. Chief Justice Roberts and Justices Ginsburg, Sotomayor, Kagan, and Kavanaugh joined Justice Breyer's opinion.

regulation of any identifiable source of pollutants that find their way to waters of the United States.[62] The Ninth Circuit's interpretation had rewritten the CWA to eliminate the need for a conveyance. The legislative history of the CWA shows that Congress used the inability to identify and control nonpoint sources as a justification for excluding such sources from the regulatory coverage of the Act, despite awareness that such pollution impairs water quality.[63] However, having adopted that policy position, Congress did not allow the EPA to expand its regulatory authority even as the ability to identify and control pollution sources advances with technology.[64] Such an expansion of authority can only come from Congress. Similarly, while the definition of "point source" uses the word "discernible," it does not follow that all discernible sources are point sources. The word "discernible" is used in conjunction with "confined and discrete" and all three adjectives collectively describe the type of "conveyance" that meets the CWA definition of point source. *Maui* should be read to cast doubt on the precedential value of cases in which courts used the identification of a source as the rationale for distinguishing between point and

62 *Id.* at 1471 ("We must doubt that Congress intended to give EPA the authority to apply the word "from" in a way that could interfere as seriously with States' traditional regulatory authority—authority the Act preserves and promotes—as the Ninth Circuit's "fairly traceable" test would."); *see also* S. REP. NO. 94-414, at 78 (1971) ("In order to further clarify the scope of the regulatory procedures in the Act the Committee has added a definition of point source to distinguish between control requirements where there are specific confined conveyances, such as pipes, and control requirements which are imposed to control runoff. The control of pollutants from runoff is applied pursuant to section 209 and the authority resides in the State or other local agency.").

63 S. REP. NO. 92-414, at 39 (1972) ("The Committee recognizes, at the outset, that many nonpoint sources of pollution are beyond present technology of control.").

64 CWA § 301(a); 33 U.S.C. § 1311(a) (prohibiting discharges from point sources only); *see Cnty. of Maui*, 140 S. Ct. at 1470 (2020) (Breyer, J.) ("Given the power of modern science, the Ninth Circuit's limitation, 'fairly traceable,' may well allow EPA to assert permitting authority over the release of pollutants that reach navigable waters many years after their release (say, from a well or pipe or compost heap) and in highly diluted forms.").

nonpoint sources.[65]

The *Maui* Court also rejected the causation standard put forth by the Hawaii Wildlife Fund.[66] Any prior case that used a causation standard to identify a point source similarly is no longer good law.[67] Simply put, the CWA only regulates discharges; it does not regulate sources.[68]

Finally, the *Maui* opinion rejected the position of the County of Maui and the United States that *any* movement of pollutants released from a point source through groundwater severs the regulatory jurisdiction of the CWA. The *Maui* opinion refers to this as the "means of delivery" test, which the Court understands to mean that "if the pollutant must travel through groundwater to reach navigable waters, then it is the groundwater, not the pipe, that is the conveyance."[69]

The position put forth by the County and the United States is neither legally nor factually correct. As a legal matter, the definition of point source does not limit its location

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65 *Compare Cnty. of Maui*, 140 S. Ct. at 1473 (the Ninth Circuit's "fairly traceable" approach is inconsistent with the CWA) *with* Sierra Club v. Meiburg, 296 F.3d 1021, 1025 (11th Cir. 2002) ("Non-point sources cannot be regulated by permits because there is no way to trace the pollution to a particular point, measure it, and then set an acceptable level for that point."); Or. Nat. Desert Assoc. v. Dombeck, 172 F.3d 1092, 1098 (9th Cir. 1998) ("Such runoff could not be traced to any identifiable point of discharge."); Tr. for Alaska v. Env't Prot. Agency, 749 F.2d 549, 558 (9th Cir. 1984); U.S. v. Earth Sci's., Inc., 599 F.2d 368, 373 (10th Cir. 1979) ("We believe it contravenes the intent of [CWA] and the structure of the statute to exempt from regulation any activity that emits pollution from an identifiable point.").

66 *Cnty. of Maui*, 140 S. Ct. at 1470.

67 *See, e.g.,* National Cotton Council of Am. v. Env't Prot. Agency, 553 F.3d 927, 940 (6th Cir. 2009) ("It is clear that but for the application of the pesticide, the pesticide residue and excess pesticide would not be added to the water; therefore, the pesticide residue and excess pesticide are from a "point source.").

68 *See* American Iron & Steel Inst. v. Env't Prot. Agency, 155 F.3d 979, 996 (D.C. Cir. 1997) ("The statute is clear: The EPA may regulate the pollutant levels in a waste stream that is discharged directly into the navigable waters of the United States through a 'point source'; it is not authorized to regulate the pollutant levels in a facility's internal waste stream."); *see also* Nat. Res. Defense Council, Inc. v. Env't Prot. Agency, 859 F.2d 156, 169-70 (D.C. Cir. 1988) ("EPA can properly take only those actions authorized by the CWA -- allowing, prohibiting, or conditioning the pollutant discharge. And, contrary to EPA's assumption, the CWA does not empower the agency to regulate point sources themselves. . . .").

69 *Cnty. of Maui*, 140 S. Ct. at 1473.

relative to a navigable water. Instead, the definition of point source requires the act of conveying and additionally requires that the point source be discernible, confined, and discrete.[70] As a factual matter, as courts have recognized, a discernible, confined and discrete point source can physically convey pollutants over a nonpoint source, such as the ground or the air.[71] The mere physical separation between the point source and the receiving water does not change the physics of the force that is propelling the pollutants.[72] Therefore, it does not mean the land or air between the point source and water automatically becomes the conveyance as a legal or factual matter.[73] There is no reason to treat groundwater differently.

In *Maui*, the question of whether the injection well met the statutory definition of point source was never litigated.[74] The question presented by the County in its petition for certiorari was: "Whether the CWA requires a permit when pollutants originate from *a point source* but are conveyed to navigable waters by a nonpoint source, such as groundwater."[75] Counsel for the County did argue that a point source must be a conveyance. However, he also stated that under the County's "means of delivery" test, a conveyance must be a direct discharge into navigable waters.[76] In the County's brief, the conveyance argument is made by focusing on the interpretation of the word "from," not the definition of a point source.[77]

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70 CWA § 502(14), 33 U.S.C. § 1362(14).
71 *See* cases cited *supra* notes 56-57.
72 *Id.*
73 *Id.*
74 *Cnty. of Maui*, 140 S. Ct. at 1478 (J. Kavanaugh concurring). The question presented by the County in its petition for certiorari was: "Whether the CWA requires a permit when pollutants originate from *a point source* but are conveyed to navigable waters by a nonpoint source, such as groundwater." Petition for Certiorari, *Cnty. of Maui*, 140 S. Ct. 1462 (No. 18-260) (emphasis added).
75 Petition for Certiorari, *Cnty. of Maui*, 140 S. Ct. 1462 (No. 18-260) (Aug. 27, 2018) (emphasis added).
76 Transcript, *supra* note 27, at 3–4.
77 Brief of Petitioner, 140 S. Ct. 1462 (No. 18-260) (May 9, 2019), at 29.

The parties assumed that because wells are listed in the definition of point source, all wells must be point sources. That is an improper assumption. For example, an injection well could be a point source if it forces pollutants through a discrete and defined channel, or pipe.[78] An extraction well can blow out and rain oil onto navigable waters, like the Deepwater Horizon well.[79] However, not all wells will be conveyances. In fact, many wells are designed and permitted to ensure that they contain waste, not convey it.[80]

Having assumed the existence of a "point source," the *Maui* litigants, and therefore the *Maui* Court, focused on the definition of "discharge of a pollutant," rather than the definition of "point source." Concerned about undermining the purpose of the CWA if the term "discharge of a pollutant" meant only a direct discharge, the majority of the Court decided that the CWA regulates not only direct discharges but also "functional equivalents"

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78 This would be an unusual fact pattern similar to cases involving septic systems built in jurisdictional wetlands or that convey sewage to navigable waters through a pipe rather than using a leach field. *See, e.g.,* U.S. v. Lucas, 516 F.3d 316, 332 n.43 (5th Cir. 2008) (noting that NPDES permits are not typically required for septic systems but here the defendant "install[ed] septic systems directly in wetlands that are waters of the United States, thus making a system that is typically a diffuse nonpoint source into a point source"); Friends of the Sakonnet v. Dutra*,* 738 F. Supp. 623, 630-31 (D.R.I. 1990) (town septic system discharging raw sewage by pipe directly into river subject to CWA jurisdiction). In these cases, the court agreed that the septic system was a point source. Similarly, CAFOs are listed in the statutory definition of point source, but if a CAFO does not convey pollutants to navigable waters, it is not a point source and EPA does not have authority to regulate it under the CWA. Nat'l Pork Producers Council v. Env't Prot. Agency, 635 F.3d 738, 751 (5th Cir. 2011) ("[T]here must be an actual discharge into navigable waters to trigger the CWA's requirements and the EPA's authority."); *cf.* Service Oil, Inc. v. Env't Prot. Agency*,* 590 F.3d 545, 550 (8th Cir. 2009) (holding that EPA had no authority to impose a penalty for a violation of section 308 before the facility discharges any pollutants).

79 In the *Deepwater Horizon* case, Department of Justice charged British Petroleum (BP) and Anadarko with violations of section 311 of the CWA, not 301. The identification of a point source is not an element of liability under section 311. That section only requires a release. Despite the text of the statute, BP and Anadarko argued that section 311 requires a direct discharge and because the oil landed on the drilling platform before spilling into the ocean only the owner of the platform (Transocean) could be liable for the release, not the owners of the well. A unanimous Fifth Circuit Court of Appeals rejected that argument. In re Deepwater Horizon, 753 F.3d 570, 573 (5th Cir. 2014), *reh'g denied,* 772 F.3d 350 (5th Cir. 2014).

80 *See* RCRA § 3004(f)(2), 42 U.S.C. § 6924. The RCRA land disposal restrictions allow an exemption for deep well injection only where the operator demonstrates that there will be no migration of hazardous constituents from the injection zone for as long as the wastes remain hazardous. The length of time required for the demonstration has been defined in the regulations as 10,000 years. 40 C.F.R. § 148.20 (2022).

of direct discharges.[81] First, the Court decided that the word "from" in the definition of "discharge of a pollutant" means "origin." Then, the Court created a new, non-exclusive, seven-part test for lower courts to consider when determining "when a point source can properly be considered the origin of pollution that travels through groundwater."[82] The factors are: (1) transit time, (2) distance traveled, (3) the nature of the material through which the pollutant travels, (4) the extent to which the pollutant is diluted or chemically changed as it travels, (5) the amount of pollutant entering the navigable waters relative to the amount of the pollutant that leaves the point source, (6) the manner by or area in which the pollutant enters the navigable waters, and (7) the degree to which the pollution (at that point) has maintained its specific identity.[83] The Court then remanded the case back to the Ninth Circuit to apply this new test. The Ninth Circuit remanded it back to the district court.[84]

IV. POST-*MAUI* IMPLEMENTATION

A. EPA'S *MAUI* GUIDANCE

The *Maui* opinion invited the EPA to establish administrative guidance regarding

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81 *Cnty. of Maui*, 140 S. Ct. at 1475–76. This approach to statutory interpretation is often labeled "purposive." "Purposivism" endorses the concept that a judge may interpret a statute to advance its purpose, even if the resulting interpretation goes beyond the authorities granted by the text. *See generally* O'Scannlain, Remarks, *We are all Textualists Now: The Legacy of Justice Antonin Scalia*, 91 St. John's Law Review 303 (2017) (comparing a purposive approach to a textualist approach to statutory interpretation); Robert A. Katzmann, *Judging Statutes* 31 (2014) (describing the purposive approach favorably). As then Judge Kavanaugh pointed out in his review of *Judging Statutes*, a view that an executive branch agency can do what they wish unless an action is clearly forbidden is a consequence of *Chevron* deference. *See* Brett Kavanaugh, Book Reviews, *Fixing Statutory Interpretation*, 129 Harvard Law Review 2118, 2151 (2016). Despite holding this view, Justice Kavanaugh joined Justice Breyer's *Maui* opinion.

82 *Id.* at 1476. The usage was no doubt unintentional, but the term "pollution" applies only to nonpoint sources; s*ee* CWA § 502(19), 33 U.S.C. § 1362(19) (defining pollution without referencing a discharge); s*ee also* CWA § 502(12), 33 U.S.C. § 1362(12) (defining discharge of a pollutant as coming from a point source).

83 *Cnty. of Maui*, 140 S. Ct. at 1476 –77 (noting that time and distance are the most important factors in most cases but not all).

84 Haw. Wildlife Fund v. Cnty. of Maui, 807 Fed. Appx. 695 (9th Cir. 2020).

the applicability of the *Maui* decision.[85] On January 14, 2021, EPA acted on that invitation and issued a guidance memorandum titled, "Applying the Supreme Court's *County of Maui v. Hawaii Wildlife Fund* Decision in the Clean Water Act Section 402 National Pollutant Discharge Elimination System Permit Program."[86] First, the January 2021 guidance points out that *Maui* did not alter the threshold conditions that must be met before a CWA permit is required: there must be an actual discharge of a pollutant to a water of the United States and the discharge must be from a point source.[87] Second, the guidance points out that only a subset of pollutants that are released to groundwater and reach waters of the United States will be the "functional equivalent" of a direct discharge.[88] For example, the guidance notes that if the pollutant composition or concentration is materially different when it reaches a water of the United States, it might not be the functional equivalent of a direct discharge.[89] Finally, the EPA added an eighth factor for permit writers to consider when determining whether a discharge is the "functional equivalent" of a point source discharge: system design and performance.[90] This eighth factor responds to concerns expressed by water managers and utilities such as the National Water Resources Association (municipal and agricultural water suppliers), the National Association of Clean Water Agencies (publicly owned wastewater and stormwater utilities), the WateReuse Association (water utilities

85 *Cnty. of Maui*, 140 S. Ct. at 1477.

86 Guidance memorandum from Anna Wildeman, Acting Assistant Administrator, Env't Prot. Agency Office of Water on Applying the Supreme Court's County of *Maui v. Hawaii Wildlife Fund* Decision in the Clean Water Act Section 402 National Pollutant Discharge Elimination System Permit Program 8 (Jan. 14, 2021), https://www.regulations.gov/document/EPA-HQ-OW-2020-0673-0127. This guidance, which has since been withdrawn, only applied to pollutants that reach navigable water through groundwater.

87 *Id.* at 3–4.

88 *Id.* at 6.

89 *Id.*

90 *Id.* at 7.

and their partners who manage water recycling projects), and the Western Urban Water Coalition (water utilities in eighteen major metropolitan areas in the West), about potential negative impact on green infrastructure, water reuse, groundwater recharge, septic systems, and other projects designed to eliminate direct discharges into navigable waters.[91]

On September 15, 2021, the Assistant Administrator for EPA's Office of Water signed a memorandum rescinding the January 14, 2021, guidance to CWA permit writers on implementing the *Maui* decision.[92] This memorandum purports to foreclose consideration of whether a system has a storage, treatment, or containment design, claiming that such consideration "is not consistent with the Clean Water Act or the Supreme Court decision."[93] EPA makes this claim despite the fact that the Court's test is based on function and the Court invited consideration of additional factors that may be relevant.[94] The EPA further alleges the January 2021 guidance introduces "an element of intent."[95]

It is not clear why function should not be a consideration when applying a "functional equivalent" test. As noted by water management agencies in comments on the proposal for the January 2021 *Maui* memorandum, many water management units are

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91 *See, e.g.*, Comments of the Nat'l Ass'n of Clean Water Agencies and the WateReuse Ass'n on the U.S. Env't Prot. Agency's Draft Guidance Memorandum (Jan. 10, 2021) (hereinafter Water Association Comments), https://downloads.regulations.gov/EPA-HQ-OW-2020-0673-0090/attachment_1.pdf.

92 Applying the Supreme Court's *County of Maui v. Hawaii Wildlife Fund* Decision in the Clean Water Act Section 402 National Pollutant Discharge Elimination System Permit Program, 86 Fed. Reg. 53,653 (Sept. 28, 2021), https://downloads.regulations.gov/EPA-HQ-OW-2020-0673-0129/content.pdf.

93 U.S. Env't Prot. Agency, Rescission of the January 2021 Guidance Document, "Applying the Supreme Court's County of Maui v. Hawaii Wildlife Fund Decision in the Clean Water Act Section 402 National Pollutant Discharge Elimination System Permit Program" (Sept. 15, 2021) (hereinafter Recission Memo), https://www.epa.gov/system/files/documents/2021-09/maui-rescission-memo_final-09.15.2021.pdf.

94 *Compare* Env't Prot. Agency, Guidance Memorandum on Applying the Supreme Court's County of *Maui v. Hawaii Wildlife Fund* Decision, *supra* note 86 (designating "system design and performance" as an additional consideration for permit writers).

95 *See* Recission Memo, at 1.

designed to contain, not convey, pollutants.[96] How units are designed and function are not *mens rea* elements. These are facts directly relevant to the *Maui* factors relating to the movement and condition of pollutants.

EPA's press release announcing the new policy position takes the Court's purposive approach to the next extreme. In the press release, EPA alleges that the factor allowing consideration of design "could *reduce* the number of discharges requiring a National Pollutant Discharge Elimination System (NPDES) permit" and therefore is inconsistent with the CWA and the *Maui* decision.[97] This new policy position invites courts to find that additional factors are only relevant if they expand the regulatory reach of the CWA, not if they lead to a conclusion that no permit is needed. Despite EPA's new policy position, such a finding by a district court would be inconsistent with the seven factors identified by the Court in *Maui*, which are outcome neutral, and likely would be reversed on appeal.

The purposive approach in the *Maui* decision does not give regulators or lower courts a license to add to the EPA's CWA authority relying on the goals of the Act. The CWA does not give EPA omnibus authority to tackle water pollution. The CWA regulates point source discharges only, leaving much contamination of navigable waters to state regulation. The *Maui* opinion expressly recognizes this fact.[98] As regulators and courts implement *Maui*, they must avoid the fallacy of assuming that if a source of water quality impairment is not excluded from regulation, it must be included.[99]

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96 Water Association Comments, *supra* note 91 (noting a range of purposes across water management unit designs, especially between units intended to contain and to convey).

97 Env't Prot. Agency, "EPA Rescinds Previous Administration's Guidance on Clean Water Act Permit Requirements" (Sept. 16, 2021), https://www.epa.gov/newsreleases/epa-rescinds-previous-administrations-guidance-clean-water-act-permit-requirements (emphasis added).

98 *Cnty. of Maui,* 140 S. Ct. at 1471–72 (2020).

99 Nonpoint sources are not defined, not included in the definition of "point source," and therefore are *not* regulated. *See supra* note 13 and accompanying text.

B. *MAUI* ON REMAND

On remand, both the County of Maui and the Hawaii Wildlife Fund filed motions for summary judgment. The decision of the District Court for the District of Hawaii granting summary judgment to Hawaii Wildlife Fund demonstrates how the Supreme Court's seven-factor test can be misconstrued to eliminate the need for a point source when establishing liability under section 301 of the CWA.[100]

The court evaluated the *Maui* factors and considered an additional factor: the volume of pollutants reaching navigable water.[101] However, volume is irrelevant to liability, so it should not be relevant to determining whether a groundwater conduit is equivalent to a point source.[102]

The facts recited by the district court demonstrate that a discernible, confined, and discrete conveyance was absent from this case. Instead of looking for such a conveyance, the court found that the County of Maui's injection well requires a CWA permit based on testimony stating that the wastewater "finds its way"[103] and "travels" as "diffuse flow"[104] that will "eventually reach"[105] or "ultimately find[] its way to the Pacific Ocean," although in a diluted form.[106] It "travels through the groundwater to the sea."[107] Based on these facts, the District Court reaffirmed its earlier position that "[i]f the point of emission is readily identified, and the transmission path to the ocean is clearly ascertainable, the discharge is

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100 Haw. Wildlife Fund v. Cnty. of Maui, 550 F. Supp. 3d 871 (D. Haw. 2021).
101 *Id.* at 891.
102 *See* Reynolds v. Rick's Mushroom Servs., 246 F. Supp. 2d 449, 454 (E.D. Pa. 2003) ("It should be noted from the outset that whether a point source discharge creates a net increase in the level of pollution is irrelevant to the liability issue in this case.").
103 *Haw. Wildlife Fund*, 550 F. Supp. at 873, 874, 874..
104 *Id.* at 875, 876, 877, 887, 888, 890.
105 *Id.* at 875.
106 *Id*. at 882.
107 *Id.* at 883.

functionally one into navigable water."[108] The court did so even though it agreed that the wastewater became diffuse flow as it passed through rock and other substances and changed chemically as it moved through the aquifer.[109] According to the U.S. District Court for the District of Hawaii, these facts did not preclude a determination that the discharge is the functional equivalent of a direct discharge into navigable waters.[110]

This holding is a clear error. It is a reaffirmation of the district court's 2014 position that "liability under the Clean Water Act is triggered when pollutants reach navigable water, regardless of *how* they get there."[111] Even the Ninth Circuit found that test to be too broad and narrowed it.[112] And the Supreme Court found the Ninth Circuit's test to be too broad and narrowed it further.[113] Yet, the district court returned to its original analysis.

A groundwater aquifer is not a point source.[114] It is neither discrete nor confined. As the district court noted, the flows through groundwater in the *Maui* matter are diffuse.[115] There could be a fact pattern where pollutants are injected into an underground river that is not diffuse. However, that fact pattern is not presented in the *Maui* case.

The District Court denied the County's motion for reconsideration.[116] The County did not appeal the District Court's decision to the Ninth Circuit.

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108 *Id.* at 884 (citing Haw. Wildlife Fund v. Cnty. of Maui, 24 F.Supp.3d 980, 998 (D. Haw. 2014)).
109 *Id.* at 889.
110 *Id*. at 893.
111 Haw. Wildlife Fund v. Cnty. of Maui, 24 F. Supp. 3d at 1000.
112 Haw. Wildlife Fund v. Cnty. of Maui, 886 F.3d 737, 749 (9th Cir. 2018) (rejecting the District Court's interpretation that liability is triggered regardless of how pollutants reach navigable water).
113 Cnty. of Maui v. Haw. Wildlife Fund, 140 S. Ct. 1462, 1470 (2020).
114 *See supra* note 45.
115 *Haw. Wildlife Fund*, 886 F.3d at 34 ("It is impossible to track each finger of water percolating through groundwater or sand or dirt."); *id.* at 36 ("[W]ith diffuse flow, it is not even clear where the wastewater is entering the ocean."); *id.* at 41 (noting that whether entering the ocean diffusely or through identified seeps "the precise area in which the wastewater enters the ocean is not entirely discernible.").
116 Haw. Wildlife Fund v. Cnty. of Maui, No. 12-00198, slip op. at *1 (D. Haw. Oct. 10, 2021).

C. PRE-*MAUI* PERMITTING PRECEDENTS

EPA has no consistent practice that facility owners, permit writers, and courts can examine to determine if a CWA permit is needed for polluted groundwater that recharges to surface water. As a result, contrary to the claims of some, all stakeholders are faced with what is essentially a blank regulatory slate.

The Brief for *Amici Curiae* Former Administrators of the EPA in Support of Respondents alleges that EPA has for decades issued permits under the CWA for point source discharges to surface waters through hydrologically connected groundwater.[117] That claim is overstated. In support, the brief cites EPA's 2001 *proposal* to include technical standards to prevent releases to groundwater from manure lagoons in its general permit for concentrated animal feeding operations (CAFOs), unless the permittee demonstrated the absence of a direct hydrological connection.[118] Threatened with litigation, EPA dropped this provision from the final permit, stating that EPA will require permit coverage on a case-by-case basis.[119] To date, NPDES permit writers have not identified such a "case" and have not required CAFOs to obtain CWA permits for groundwater contamination.[120] The brief also cites general statements in Federal Register preambles regarding coverage under EPA-issued general permits for "directly connected surface waters"[121] or "a direct and

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117 Brief for *Amici Curiae* Former Administrators of the U.S. Environmental Protection Agency in Support of Respondents, at 1, Haw. Wildlife Fund v. Cnty. of Maui, 886 F.3d 737 (2021) (No. 18-260).

118 *Id.* at 7.

119 National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitation Guidelines and Standards for Concentrated Animal Feeding Operations, 68 Fed. Reg. 7,176, 7,216 (Feb. 12, 2003).

120 *Compare* Administrative Order on Consent, In the Matter of Yakima Valley Dairies, No. SDWA-10-2013-0080 (the EPA has issued enforcement orders under the Safe Drinking Water Act, not the CWA, where a CAFO contaminated groundwater that was a source of drinking water).

121 1991 Final Rule Addressing Water Quality Standards on Indian Lands, 56 Fed. Reg. 64,876, 64,892 (Dec. 12, 1991).

immediate hydrological connection" via groundwater.[122] Again, the relevant fact patterns suggested by these general statements have not arisen at facilities covered by these general permits.

The Former Administrators' brief cites only two actual permits issued by EPA for a known or suspected discharge that occurred through groundwater, both for tribal facilities.[123] EPA Region 5 issued a September 22, 2016, permit to the Menominee Indian Tribe of Wisconsin for a treatment facility that utilized a treatment train of two aerated cells followed by seepage cells.[124] EPA Region 10 issued a second such permit in 2015 (and renewed it in 2021) to the Quinault Tribe for their treatment system consisting of a rapid infiltration basin that, "is *believed* to discharge into a tidally influenced water table with a hydrologic connection to the Quinault River," even though "[t]he exact interaction of the discharge with the river is *not known*."[125] The legal basis for these permits was not challenged by any party so they should not be considered precedent-setting. The third permit cited in the brief did not in fact involve the addition of pollutants to a navigable water through a groundwater conveyance. The referenced New Mexico permit authorizes a direct discharge to surface waters of seepage from a mine tailings facility that is collected before discharge, not the migration of seepage through groundwater. In fact, in response to a comment EPA noted that the NPDES permit limitations and/or monitoring requirements

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122 Reissuance of NPDES General Permits for Storm Water Discharges from Construction Activities, 63 Fed. Reg. 7858, 7881 (Feb. 17, 1998).

123 Brief for *Amici Curiae* Former Administrators of the U.S. Environmental Protection Agency in Support of Respondents, at 20, Haw. Wildlife Fund v. Cnty. of Maui, 886 F.3d 737 (2021) (No. 18-260). EPA is generally the permitting authority in Indian Country.

124 NPDES Permit No. WI0073059, available at https://www.epa.gov/system/files/documents/2021-09/wi0073041-3_lco-reserve-lagoon-pnper_20210920.pdf.

125 NPDES Permit No. WA0023434, Fact Sheet, at 7, available at https://www.epa.gov/sites/default/files/2021-05/documents/r10-npdes-taholah-wa0023434-fact-sheet-2021.pdf?VersionId=P6aOM30_2ZZLxBbO3FtLdwVANwKBz4wi (emphasis added).

in the permit "apply to surface water discharges since that is what is being authorized by this permit."[126]

The Brief of Maryland, *et al*. as amici adds one more EPA permit to the list.[127] In the Fact Sheet for this permit issued by EPA Region 9 to an Indian tribe alleges that the infiltration basins at issue in the permit are subject to regulation because they have the "*potential* to result in surface water discharges."[128] While this permit was never challenged by the tribe, the claim that EPA has CWA authority to regulate a *potential* discharge rather than an actual discharge has been rejected by the Second, Fifth, and Eighth Circuits.[129] Moreover, post-*Maui,* it is difficult to see how EPA could demonstrate that a *potential* discharge is functionally the same as an actual direct discharge.

The EPA has issued one other permit for pollutants that traveled through groundwater; the amici did not cite this permit. However, it too should not be considered precedent setting. EPA Region 6 issued a permit for pollutants from waste rock piles at the New Mexico Molycorp molybdenum mine that contaminated groundwater and resurfaced from seeps that discharged into the Red River.[130] EPA took the position that the rock piles

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126 U.S. ENV'T PROT. AGENCY, NPDES PERMIT NO. NM0022306 Response To Comments, at 12 (2016), available at https://www.env.nm.gov/wp-content/uploads/sites/25/2019/10/NM0022306-Chevron-Questa.pdf. EPA noted that groundwater was being addressed under CERCLA.

127 Brief for *Amici Curiae* Maryland, *et al.,* Haw. Wildlife Fund v. County of Maui, Civ. No. 12-00198. The one state permit listed in the brief are not dispositive of authority under federal law, as states are free to be more stringent in their own CWA programs.

128 NPDES Permit Fact Sheet: Hollywood Casino Waste Water Treatment Plant; NPDES Permit CA0084284 (08/02/2017), at 2 (emphasis added), available at https://www.epa.gov/npdes-permits/ca0084284-jamul-indian-village-hollywood-casino-wastewater-treatment-plant-jamul-ca

129 Nat'l Pork Producers Council v. Env't Prot. Agency, 635 F.3d 738, 751 (5th Cir. 2011); Service Oil, Inc. v. Env't Prot. Agency, 590 F.3d 545, 550 (8th Cir. 2009); Waterkeeper All., et al. v. Env't Prot. Agency, 399 F.3d 486, 505 (2d Cir. 2005).

130 Amigos Bravos v. Env't Prot. Agency, 324 F.3d 1166, 1169-70 (10th Cir.2003). The EPA is the permitting authority in New Mexico as that state has not sought authorization. *See* Env't Prot. Agency, NPDES Program Authorizations (July 2019), https://www.epa.gov/sites/default/files/2021-02/documents/authorized_states_2021.pdf.

were not point sources and did not require a CWA permit.[131] However, after Molycorp was faced with a citizen suit, the EPA issued a permit for the seeps, and the citizen suit was then dismissed as moot.[132] Given this history, the Molycorp permit should not be considered a strong statement of either EPA policy or CWA law.

When faced with a specific fact pattern involving nitrogen pollution in Buzzard's Bay that was traceable to septic systems on Cape Cod via a discharge to sandy soils that percolated into a groundwater aquifer, the EPA took the position that those septic systems were not point sources.[133] This issue arose in litigation against EPA brought by the Conservation Law Foundation.[134] In continuing to reserve the authority to find that individual septic systems were point sources if the discharge was direct and immediate enough to merit NPDES permit requirements, the EPA refused to make this finding under the facts presented.[135] The EPA noted that it was unaware of any reported cases finding that septic systems were point sources unless built in wetlands or "where the effluent was discharged directly to surface waters through a pipe or similar conduit."[136]

V. APPLYING *MAUI* ON A CASE-BY-CASE BASIS

The question of whether a hydrologic connection is present arises more often in

131 *Amigos Bravos,* 324 F.3d at 1169.
132 *Id.* 1170.
133 Complaint for Declaratory and Injunctive Relief, Conservation Law Found. v. Env't Prot. Agency, No. 10-11445 (D. Mass., Aug. 24, 2010), alleging in Count 1 that EPA's approval of the Massachusetts Cape Cod total maximum daily loads was arbitrary and capricious for failing to treat septic systems as point sources.
134 *Id.* at 15.
135 Memorandum in Support of Defendants' Motion for Summary Judgment, Conservation Law Found. v. Env't Prot. Agency, No. 10--11445 (D. Mass. Sept. 21, 2012), at 19.
136 *Id. See* cases with such fact patterns cited in n. 78, *supra.*,. The court did not rule on the merits; it dismissed the Conservation Law Foundation complaint for failure to establish standing. Memorandum and Order, Conservation Law Found. v. Env't Prot. Agency, No. 10-11445 (D. Mass. Aug. 29, 2013).

citizen suit litigation than in permitting.[137] Thus, it is unlikely that post-*Maui* cases will present the development of a robust record, such as a record supporting issuance of a permit, of the sort that Justice Breyer assumed.[138] That leaves owners or operators with no recourse other than the courts to find out if they have remained within statutory bounds. This uncertainty over the regulatory reach of the CWA may also now apply to surface runoff. In fact, the Ninth Circuit has already held that the *Maui* seven-factor "functional equivalent" test must be applied to surface runoff.[139]

A. POST-*MAUI* COMMENTARY

A few commenters have offered opinions on how to interpret the *Maui* decision and how permitting decisions should be made and CWA liability established post-*Maui.* Most of this commentary ignores the opinion and the statute.

In the November 2020 edition of the Pace Environmental Law Review Damien Schiff and Glenn Roper of the Pacific Legal Foundation propose a "hallmarks" test that asks whether pollution that reaches navigable waters through an indirect discharge "look[s] like it came from a point source."[140] Citing *Maui*, these commenters propose the use of a direct discharge as a reference point and then identify generic criteria associated with a direct discharge and the indirect discharge.[141] The proposed next steps are less grounded in the statute or the opinion. They propose to focus on the "hallmarks" of the discharge in

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137 *See* cases cited *supra* note 20.

138 *Cnty. of Maui*, 140 S. Ct. at 1477 (suggesting EPA can provide guidance through grants of individual permits).

139 Inland Empire Waterkeeper, *supra* n. 6.

140 Damien M. Schiff & Glenn E. Roper, *The Hallmarks of a Good Test: A Proposal for Applying the "Functional Equivalent" Rule from* County of Maui v. Haw**.** Wildlife Fund, 38 PACE ENV'T L. REV. 1, 40 (2020).

141 *Id.* at 41-44 (asking what pollutants from point sources look like and what pollution from nonpoint sources looks like and then comparing those generic attributes to the actual discharge at issue).

question rather than on Justice Breyer's seven factors.[142] "The focus should not be on function per se but rather on comparing the effects of the discharges, a comparison based on the extent to which the pollution bears the marks of having come from a point source."[143] Under their test, the deciding factor is whether the "hallmarks" of the pollutants at issue are "equivalent" to the hallmarks of directly discharged pollutants.[144] Without citing any support for this proposition in the *Maui* opinion, Schiff and Roper suggest that "'equivalent' means that the discharged pollution has the same effect, or bears the same hallmarks, that one would expect to see from a direct point-source discharge."[145] Finally, citing *Maui*, they propose that the purpose of federalism can overcome the results of their test.[146]

In April 2021, Steven L. Hoch of Clark Hill and three employees of Langan Engineering and Environmental Services offered a technical perspective on how functional equivalency might be demonstrated.[147] These commenters describe Justice Breyer's decision as "a new metric for evaluating nonpoint sources," even though the justices and litigants all assumed the Maui well was a point source.[148] They then propose a technical test based on "demonstrating how water and chemicals (pollutants) are transported through the subsurface and that this transport process is fairly traceable," even though Justice

142 *Id.* at 44.
143 *Id.* at 46-47.
144 *Id.* at 45-47.
145 *Id.* at 47.
146 *See id*. at 47-48, 50. An alternative reading of *Maui* is that the test itself addresses the federalism concerns and a federalism check cannot overturn the results of the test.
147 Steven L. Hoch, et al., *Functional Equivalency? Assessing Groundwater Discharges Under County of Maui*, 51 ENV'T L. REP. 10289 (2021), available at https://www.elr.info/sites/default/files/article/2021/03/51.10289.pdf
148 *Id.* at 10,290.

Breyer rejected the Ninth Circuit's "fairly traceable" test.[149] Finally, like Schiff and Roper, these commenters suggest that functional equivalency could be evaluated based on whether the indirect discharge produces, "a similar effect or result as a direct discharge."[150]

Carol Miller of Missouri State University and Bonnie Persons and John Meyer of California State University provide their own view of *Maui* in an article published in the Spring of 2021 by the Vermont Journal of Environmental Law.[151] While making policy statements on a number of environmental issues, including the remarkable statement that "[j]urisdictional nuances should not obstruct the goal of minimizing pollutants that contaminate water," they recommend the adoption of the "hydrologic connection" standard that the *Maui* court rejected through regulatory policy and statutory language.[152]

Another recent article treated the *Maui* case as if it were about a nonpoint source, similar to the treatment in the Hoch article, and also made recommendations for statutory change, like the Miller article.[153] Other commentators have conflated CWA jurisdiction with a determination whether a pollutant is "from" a point source and argued that *Maui* supersedes *Rapanos* and even stands for the proposition that the CWA regulates sources rather than discharges.[154]

B. POST-*MAUI* CASES

To date, very few courts have applied the *Maui* test. One is the remand of the *Maui*

149 *Id.* at 10,291.
150 *Id.* at 10,293.
151 Carol J. Miller, Bonnie B. Persons & John C. Meyer, *Wading Through the Groundwater of CWA Jurisdiction: Maui's "Functional Equivalent" Standard*, 22 VT. J. ENV'T L. 26 (2021).
152 *Id.* at 66. No court will ignore "jurisdictional nuances" unless they want to be reversed on appeal.
153 Robin M. Rotman et al., *Realigning the Clean Water Act: Comprehensive Treatment of Nonpoint Source Pollution*, 48 ECOLOGY L. Q. 115, 147, 153-163 (2021).
154 James Pollack & Frank Sturges, *Struggling to Find a* Rapanos *Nexus*: Maui *and the Expansion of Clean Water Act Regulation*, 48 ECOLOGY L. Q. 49, 86-87, 94-107 (2021).

case itself, discussed above.

In a second post-*Maui* case, the Black Warrior River-Keeper filed a citizen suit the in the District Court for the Northern District of Alabama against a mine operator alleging that acid mine drainage that reached surface water through groundwater required a CWA permit.[155] The court had previously held that the refuse piles and the ditches, channels, gullies, basins, and dams that form the drainage system for a mining site were point sources, so the only question remaining was whether the discharge to groundwater that reached surface water was the functional equivalent of a direct discharge.[156] The court was persuaded that the groundwater discharges at issue in the case functioned like a subsurface pipe by discharging to surface water located just a few feet away and reaching such waters in as little as a day and a half. As this is a fact pattern discussed in the *Maui* opinion as an example of where "the permitting requirement clearly applies" the court granted the River-Keeper's motion for summary judgment.[157]

In a third post-*Maui* case, the Conservation Law Foundation filed a citizen suit against the Town of Barnstable, Massachusetts, alleging that the Town's wastewater treatment facility and the sand beds onto which it discharges are unpermitted CWA point sources.[158] Granting the town's motion to dismiss, the District Court for the District of Massachusetts ruled that under the facts presented (transit time of over 21 years and a

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155 Black Warrior River-Keeper, Inc. v. Drummond Co., 2022 U.S. Dist. LEXIS 6046 (N. Dist. Ala. Jan. 12, 2022).

156 *Id*. at *8.

157 *Maui*, 140 S. Ct. at 1476; *Black Warrior River-Keeper, Inc.*, 2022 U.S. Dist. LEXIS 6046 at *12, *23, *29.

158 Complaint for Declaratory and Injunctive Relief and Civil Penalties, Conservation Law Found. v. Town of Barnstable, Mass., No. 21-10258, at paragraph 174 (D. Mass. Feb. 16, 2021). The effluent percolates into sandy soil and ultimately reaches groundwater. Memorandum in Support of Defendant Town of Barnstable's Motion to Dismiss, No. 21-10258, (D. Mass. Oct. 1, 2021), at p. 7.

distance of a mile and a half) "the Facility's discharge is too remote to implicate the permitting requirements of the CWA."[159] The court was particularly concerned that requiring a permit for pollutants that take so long to reach surface water would be a return to the "fairly traceable" test rejected by the Supreme Court and would undermine state regulation of groundwater discharges.[160]

Each of these cases arose from a citizen suit and the resolution focused primarily on how long it took for pollutants to reach surface water and distance traveled. None of these cases evaluated the CWA definition of point source.

C. A Discernible, Confined, and Discrete Path Forward

Fortunately, it is not necessary to resort to policy arguments or pleas for Congress to act to resolve the issues presented by indirect discharges. A roadmap for post-*Maui* cases is present in the *Maui* opinion itself. Thus, rather than suggest statutory changes or additions to the opinion, the analysis below follows the directives in the CWA and the *Maui* opinion to offer a path forward to implement that decision.

Given the limited focus of *Maui*, a court may determine that the CWA regulatory program does not apply to an indirect discharge without ever evaluating the *Maui* factors. If a discernible, defined, and discrete conveyance that propels the pollutants to navigable waters is absent, then the "point source" element of liability has not been met and a court does not need to address the "from" element of liability that is the subject of the *Maui* decision. If, on the other hand, the facts show there is a discernible, confined and discrete source that is conveying pollutants over land, though the air, or through groundwater, then

159 Conservation Law Found., Inc. v. Town of Barnstable, 2022 U.S. Dist. LEXIS 128506, at *16 (D. Mass. July 20, 2022).
160 *Id.* at *24.

Justice Breyer's opinion provides direction on how to determine whether that action is the functional equivalent of a direct discharge into navigable waters.

1. WHAT'S THE POINT (SOURCE)?

The presence of a point source is an element of liability under the CWA.[161] Notwithstanding the tendency of some commenters to conflate them, the question of whether there is a "point source" is a separate question from whether a pollutant is "from" a point source.[162] In interpreting the term "discharge of a pollutant," the *Maui* Court held that the word "from" means "origin." The Court could not and did not redefine the statutory term "point source" to mean "origin" rather than "conveyance." Thus, nothing in the *Maui* opinion eliminates the need for a plaintiff to first plead and, if not admitted, then prove that there is a discernible, confined, and discrete source that conveys pollutants to navigable water. If there is no point source, then the question of whether the conveyance of pollutants through groundwater or over land or through the air is the functional equivalent of a direct discharge never arises.

According to the Merriam-Webster Dictionary, the noun "conveyance" means "a means or way of conveying." The verb "convey" means "to bear from one place to another." The Supreme Court acknowledged this aspect of the definition in *South Florida Water Management District v. Miccosukee Tribe of Indians,* noting that a point source does

161 *See* Nat'l Wildlife Fed'n v. Gorsuch, 693 F.2d 156, 165 (D.C. Cir. 1982); *see also* Comm. to Save Mokelumne River v. East Bay Mun. Util. Dist., 13 F.3d 305, 308-09 (9th Cir. 1993) (citing *Gorsuch*), *cert. denied*, 513 U.S. 873 (1994); *see also* Ky. Waterways All. v. Ky. Utils. Co, 905 F.3d 925, 932 (6th Cir. 2018) (citing *Gorsuch*).

162 *Compare* Carol J. Miller, Bonnie B. Persons, & John C. Meyer, *Wading Through the Groundwater of CWA Jurisdiction:* Maui*'s "Functional Equivalent" Standard*, 22 VT. J. ENV'T L. 26, 54 (misstating that *Maui* stands for the proposition that "[w]hen groundwater is the conduit (instead of the point source), it does not have to be "confined and discrete," if there is the "functional equivalent of a direct discharge," eliminating the requirement that the point source be the conveyance).

not need to be the origin of a pollutant; a point source "need only convey the pollutant to 'navigable waters."[163] Absent the unusual fact patterns identified above, in most cases pollution that travels though groundwater that recharges to surface water will not be a point source discharge. Flows conveyed by point sources over land or through the air are more common. Examples where EPA has asserted jurisdiction over these fact patterns are discussed above in Part III.C.

In *Kentucky Waterways Alliance v. Kentucky Utilities Co*., the Sixth Circuit provides a useful discussion of this issue. As noted by the court, a point source is a separate and necessary element of liability that must be present.[164] The court rejected both the theory that groundwater is itself a point source and that the ash ponds at issue in the cases were point sources.[165] The court found that groundwater may be a conveyance, but is by its very nature a diffuse medium so neither groundwater nor a karst formation is "discernible," "confined" or "discrete."[166] The court also rejected the hydrological connection theory, holding that a discharge must always be direct and could not pass through a nonpoint source like groundwater.[167] *Maui* only overturns the court's holding regarding hydrologic connections; its discussion of point sources remains good law and is binding in the Sixth Circuit. As stated by the court, "[i]t bears noting that even if there were some legal basis for the hydrological connection theory, Plaintiffs would still be required to identify a point source. . . . A point source, by definition, is a 'conveyance.'.... 'Conveyance' is a well-

163 S. Fla. Water Mgmt. Dist. v. Miccosukee Tribe of Indians, 541 U.S. 95, 105 (2004).
164 *Ky. Waterways All*., 905 F.3d at 932 ("A CWA claim comes to life when five elements are present: '(1) a pollutant must be (2) added (3) to navigable waters (4) from (5) a point source.") (quoting Nat'l Wildlife Fed'n v. Gorsuch, 693 F.2d 156 (D.C. Cir. 1982)).
165 *Id.* at 933.
166 *Id*. at 933-34.
167 *Id.* at 934.

understood term; it requires a channel or medium—i.e., a facility—for the movement of something from one place to another."[168]

A textual analysis comparing the elements of liability under sections 311 and 301 of the CWA provides a useful example of the choices Congress made when drafting the CWA. Section 311 defines the term "discharge" as follows: "'discharge' includes, but is not limited to, *any* spilling, leaking, pumping, pouring, emitting, emptying or dumping" (excluding certain authorized discharges)."[169] This definition does not require a point source. In contrast, section 301 of the CWA defines the term "discharge" as both a "discharge of a pollutant" and a "discharge of pollutants" and those terms are defined as "(A) any addition of any pollutant to navigable waters *from any point source*, (B) any addition of any pollutant to the waters of the contiguous zone or the ocean from *any point source* other than a vessel or other floating craft."[170] Section 311 also differs from section 301 and 402 in that Section 311 authorizes EPA to regulate sources to *prevent* discharges.[171] Thus, unlike section 301, section 311 gives EPA authority to regulate a source itself, not just a discharge. Post-*Maui* courts must be careful to avoid reading Justice Breyer's opinion to grant CWA permitting authority over sources, whether or not they are a discernible, defined, and discrete conveyance. As discussed above, the permitting provisions of the CWA apply only to discharges from point sources. To read differently drafted sections of the CWA as if they grant the same scope of authority to EPA would violate the "omitted-case" principle of statutory interpretation that says nothing is to be

168 *Id.* at 934 n.8 (citing dictionary definitions).
169 CWA § 311(a)(2), 33 U.S.C. § 1321.
170 CWA §§ 502(12), (16), 33 U.S.C. §§ 1352(12), (16) (emphasis added).
171 *Compare* sections 502(12), 301, and 401, 33 U.S.C. §§ 1352, 1311, 1341, *with* section 311(a)(2), (b)(3) and (j)(1)(C), 33 U.S.C. §§ 1321(a)(2), (b)(3), and (j)(1)(C).

added to what the text states (*casus omissus pro omisso habendus est*).[172]

Courts also should not be tempted by the purposes of the CWA to take the *Maui* decision further than Justice Breyer's decision. Justice Breyer employed a purposive rationale when interpreting the word "from" to mean "origin." The word "from" is itself an element of CWA liability, but all five elements must be present. Nothing in the purposes of the CWA can change that fact. As noted by the Supreme Court multiple times, no statute pursues its purpose at all costs, and courts are not free to create new authorities not granted by Congress to advance a purpose.[173] Thus, lower courts should not take Justice Breyer's purposive rationale for interpreting the word "from" as an invitation to eliminate or redefine the term "point source."

Recognizing that a "point source" must be a conveyance does not give rise to the fact patterns that concerned some of the Justices during the *Maui* oral argument. Justice Roberts and Justice Breyer were concerned about a pressurized waste stream that is forcefully expelled into a navigable water by the pressure from the point source even if it moves over a nonpoint source.[174] Justice Kagan also questioned why a pipe that releases pollutants with a force that pushes them over land and into water should be treated differently than a pipe that applies the same force to push pollutants through groundwater.[175] Additionally, Justice Breyer was concerned with creating a road map for

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172 *See* Antonin Scalia and Byron A. Garner, *Reading Law, The Interpretation of Legal Texts*, 93 (2012). *But see* Nat'l Cotton Council of Am. v. Env't Prot. Agency, 553 F.3d 927, 939 (6th Cir. 2009) (erroneously claiming that, because the legislative history of the definition of waters of the United States cites the need to control pollution at the source, the CWA therefore confers upon EPA the authority to regulate sources).

173 Rapanos v. U.S., 547 U.S. 715, 752, 755–56 (2006); Director, Off. of Workers' Comp. Programs v. Newport News Shipbuilding & Dry Dock Co., 514 U. S. 122, 135-36 (1995); Rodriguez v. United States, 480 U.S. 522, 526 (1987).

174 Transcript, *supra* note 27, at 7–9.

175 *Id.* at 26.

evading regulation under the CWA by allowing a facility to cut off a pipe five feet from navigable water or move it underground for the last five feet even though the pipe still spews the pollutants.[176] Under these fact patterns, the source that created the pressure conveyed the pollutants. Therefore, it is a point source and potential CWA liability is not evaded.

Nothing in Justice Scalia's *Rapanos* opinion suggests a different conclusion. While the Ninth Circuit cited this opinion as support for asserting jurisdiction over indirect discharges, in fact Justice Scalia merely made the observation that a non-jurisdictional watercourse can itself be a point source when it is a *conveyance* and pollutants can move through a series of *conveyances* before reaching navigable water.[177] Given that the statutory definition of "point source" includes examples of non-jurisdictional water courses such as ditches, channels, and discrete fissures, this observation is unremarkable.[178] Justice Scalia's quote bolsters the fact that under the CWA a point source must be a conveyance; the fact pattern presented is a series of point sources so the quote does not refer to an indirect discharge and is not relevant to the fact pattern presented in *Maui*.

176 *Id.* at 9.

177 Haw. Wildlife Fund v. Cnty. of Maui, 886 F.3d 373, 748 (9th Cir. 2018) (stating that Justice Scalia recognized that "from the time of the CWA's enactment, lower courts have held that the discharge into intermittent channels of any pollutant that naturally washes downstream likely violates § 1311(a), even if the pollutants discharged from a point source do not emit 'directly into' covered waters, but pass 'through conveyances' in between" and that somehow eliminates the need for a point source conveyance) (citing Rapanos v. U.S., 547 U.S. 715, 743 (2006)). Justice Scalia's *Rapanos* discussion of point sources merely reflects the black letter law that once contained in a channel that conveys it to surface water, polluted runoff becomes regulated under the CWA. For example, stormwater runoff is not regulated until it is captured in a channel, like a storm sewer system. Nothing in this discussion suggests that a conveyance is not an element of liability for an unpermitted discharge under the CWA. Justice Kavanaugh followed the Ninth Circuit in misconstruing this discussion as relevant to the *Maui* case. 140 S. Ct. at 1478.

178 CWA § 502(14), 33 U.S.C. § 1362(14).

2. WHAT IS "EQUIVALENT?"

Once it is demonstrated that the pollutants were conveyed indirectly to a navigable water by a point source then it becomes relevant to ask whether the pollutants that reach navigable water are "from" that point source.[179] Under *Maui*, "from" means a direct discharge or the "functional equivalent" of a direct discharge.[180] Justice Breyer explained how to apply his test as follows:

> The object in a given scenario will be to advance, in a manner consistent with the statute's language, the statutory purposes that Congress sought to achieve. As we have said (repeatedly), the word "from" seeks a "point source" origin, and context imposes natural limits as to when a point source can properly be considered the origin of pollution that travels through groundwater. That context includes the need, reflected in the statute, to preserve state regulation of groundwater and other nonpoint sources of pollution. *Whether pollutants that arrive at navigable waters after traveling through groundwater are "from" a point source depends upon how similar to (or different from) the particular discharge is to a direct discharge.*[181]

These directions make it clear that the first step when evaluating functional equivalence is to model the performance and condition of a hypothetical direct discharge of the pollutants at issue in the case looking at (1) transit time, (2) distance traveled, (3) the nature of the material through which the pollutant travels, (4) the extent to which the pollutant is diluted or chemically changed as it travels, (5) the amount of pollutant entering the navigable waters relative to the amount of the pollutant that leaves the point source, (6) the manner by or area in which the pollutant enters the navigable waters, and (7) the degree to which the pollution (at that point) has maintained its specific identity. The next step is to measure

179 *See Cnty. of Maui*,140 S. Ct. at 1468.
180 *See id.*
181 *Id.* at 1476 (emphasis added).

the actual performance and condition of the pollutants in the indirect discharge against the same factors.[182] The final step is to compare the two data sets.[183]

The *Maui* opinion offers the following guidelines for making a determination whether pollutants are "from" a point source based on that comparison: "an addition falls within the statutory requirement that it be 'from any point source' when a point source directly deposits pollutants into navigable waters, or when the discharge reaches the *same result* through *roughly similar means*."[184] The *Maui* opinion directs that the "means," *i.e.*, the means by which a pollutant is conveyed from a point source evaluated under factors (1), (2), (3), and (6) must be "roughly similar" to a direct discharge. The *Maui* opinion directs that the "result," *i.e.*, the resulting condition and character of the pollutants evaluated under factors (4), (5), and (7) must be "the same." If the data for the modeled direct discharge and the actual indirect discharge are the same for factors (4), (5), and (7) and are roughly similar for factors (1), (2), (3), and (6) then the indirect discharge is the functional equivalent of a direct discharge.

In addition to being compelled by the *Maui* opinion, the approach outlined above is consistent with how courts have strictly interpreted statutory language that compels an outcome or a comparison. For example, section 3004(m) of RCRA requires the standards promulgated by EPA for the treatment of hazardous waste before land disposal achieve the following outcome: "short-term and long-term threats to human health and the environment are minimized."[185] In 1989, the D.C. Circuit upheld EPA's interpretation that the word

182 *Id*.
183 *Id.*
184 *Id.* (emphasis added).
185 RCRA § 3004(m)(1), 42 U.S.C. § 6924(m)(1).

"minimize" is a technical achievability test and it is permissible to require treatment beyond other health-based standards.[186] Section 118 of the CWA requires EPA to make a comparison when approving state water quality standards applicable to the Great Lakes. In that section, Congress required EPA to establish water quality guidance for the Great Lakes System and required state water quality standards to be "consistent" with that guidance.[187] Under this authority, EPA issued a rule adopting uniform basin-wide standards and required state standards to be the same or more stringent than EPA's standards.[188] The D.C. Circuit upheld this approach.[189]

Following the direction given by Justice Breyer in the *Maui* opinion to make a functional equivalency determination also does not give rise to the fact patterns that concerned some of the Justices during the *Maui* oral argument, thereby avoiding a roadmap for evasion of CWA regulation.[190] When pollutants are conveyed to navigable water from a point source and travel over or through a nonpoint source, the means of conveyance is likely to be "roughly similar" to the forces involved in a direct discharge, *i.e.,* pressure in the case of a direct discharge involving a pipe that is placed in a navigable water or gravity in the case of a direct discharge from a pipe that hangs above a navigable water.

And, like the definition of "point source" discussed above, nothing in Justice Scalia's opinion in *Rapanos* leads to a different conclusion. That opinion did not interpret

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186 Hazardous Waste Treatment Council v. Env't Prot. Agency, 886 F.2d 355, 365 (D.C. Cir. 1989), *cert. denied*, 111 S. Ct. 139 (1990).
187 CWA §§ 118(c)(2)(A) and (C), 33 U.S.C. §§ 1268(c)(2)(A) and (C).
188 Procedures for adoption and EPA review, 40 C.F.R. § 132.5(g) (2022).
189 Am. Iron & Steel Inst. v. Env't Prot. Agency, 115 F.3d 979, 988 (D.C. Cir. 1997).
190 *See supra* notes 174-76.

the term "from" in the CWA definition of "discharge of a pollutant" and provides no relevant direction on how that term should be interpreted post-*Maui*.

VI. CONCLUSION

When the *Maui* opinion was released, my first impression was that the opinion created great uncertainty for both regulators and the regulated community and would be used by litigants to advance a goal of expanding CWA authority to solve all water quality problems. Upon closer reading, however, the *Maui* opinion is not so open-ended. Respecting the boundaries of the question addressed by the Justices (interpreting the word "from" after a point source is identified) and the direction provided by Justice Breyer regarding how to apply the opinion, it may prove to be a workable solution that avoids the opportunities for evading regulation feared by the justices while also respecting the fact that Congress left the regulation of nonpoint source pollution to states.

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Warranted but Precluded Designations and "Contrived" Rationale

By Tanner Baird

I. INTRODUCTION

The preservation of imperiled species remains a cornerstone of environmental activism today. One of the most important legal tools used to protect imperiled species is the Endangered Species Act (ESA). The ESA is unique both in its breadth and its authority, but its structure occasionally creates a contradiction. On one hand, the ESA's operative language serves a singular purpose—to preserve imperiled species, whatever the cost might be. The ESA reflects this principle through its plain language[1] and legislative history,[2] as shown in the Supreme Court's analysis in *Tennessee Valley Authority v. Hill*.[3] On the other hand, the ESA's implementation is trusted to executive agencies, namely the National Oceanic and Atmospheric Agency (NOAA)—in the Department of Commerce—and the United States Fish and Wildlife Service (USFWS)—in the Department of the Interior.[4] Although Congress regularly delegates lawmaking authority to the President—who, in turn, delegates again to an agency—the broad authority conferred by the ESA paired with significant agency deference gives Executive Branch policymakers an opportunity to implement the ESA in a way that departs from its mandate.[5]

An example of this tension is USFWS's listing process. The process of listing species under the ESA is not self-executing. That is, imperiled species do not automatically

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1 *See* 16 U.S.C. §§ 1531, 1532(2) (directing agencies to employ all necessary "methods and procedures" to preserve listed species).

2 *See* Tenn. Valley Auth. v. Hill, 437 U.S. 153, 185 (1978) ("In addition, the legislative history undergirding § 7 reveals an explicit congressional decision to require agencies to afford first priority to the declared national policy of saving endangered species.").

3 *Id.* at 184 ("The plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost.").

4 U.S. Dep't of Justice, *Implementation of ESA and Related Litigation* (May 15, 2015), https://www.justice.gov/enrd/endangered-species-act.

5 *See* Amy Sinden, *In Defense of Absolutes: Combating the Politics of Power in Environmental Law*, 90 IOWA L. REV. 1405, 1498-1507 (2005).

receive protection under the ESA. Instead, USFWS must first make a finding that protection of a species is warranted under the ESA and choose to "list" a species as threatened or endangered before that species can receive any protection.[6] Even under a deferential review of agency decision-making, courts may still overturn a decision by the USFWS not to list a species if that decision contradicts clear environmental science.[7] If scientific evidence clearly shows that a species is in jeopardy, the USFWS can still decline to list it by designating the species as "warranted but precluded" from listing under the ESA.[8] Because only species that the USFWS lists as threatened or endangered can receive any legal protection from the ESA, and because the decision to rank another species as a higher-priority candidate is a determination of USFWS, this regulatory tool can be abused to disastrous effect for imperiled species.[9] Effectively, it allows USFWS to keep a species off the list indefinitely, so long as a higher-priority species is not listed either.

Although courts evaluate USFWS's administration of the ESA through the ultra-deferential framework of the Administrative Procedure Act (APA), a path may still exist to prevent the agency from keeping species under the "warranted but precluded" status indefinitely.[10] The Center for Biological Diversity (CBD) filed a lawsuit in 2021 against USFWS arguing that the agency abused its discretion and acted arbitrarily and capriciously

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6 16 U.S.C. § 1538.

7 *See* Ctr. for Biological Diversity v. Zinke, 900 F.3d 1053, 1074 (9th Cir. 2018) (instructing USFWS to reassess a species as an endangered or threatened species based on scientific and commercial data available); *see also* Conner v. Burford, 848 F.2d 1441, 1454 (9th Cir. 1988) (noting that USFWS cannot ignore available biological information).

8 16 U.S.C. § 1533(b)(3)(B)(iii)(I).

9 *See* Wildwest Inst. v. Kurth, 855 F.3d 995, 1005 (9th Cir. 2017) (reasoning that this system may not actually provide any protection to the species).

10 Ctr. for Marine Conservation v. Brown, 917 F. Supp. 1128 (S.D. Tex. 1996); *see also* Native Ecosystems Council v. Dombeck, 304 F.3d 886, 891 (9th Cir. 2002) (specifying that judicial review of agency decisions under the ESA are governed by the APA).

by continuing to subject imperiled species to "warranted but precluded" determinations.[11] This paper will examine the legal claims offered by CBD to rein in administrative deference to USFWS in declining to list species and examine the likelihood of CBD succeeding on those claims. Finally, this paper will explore recent rulings by the Supreme Court in *Department of Commerce v. New York* and *Trump v. Hawaii* to posit a new approach for environmental litigation against USFWS when the agency's actual rationale for its decision-making steps outside the bounds of consideration authorized by Congress in the ESA.[12]

II. BACKGROUND

The ESA was, when passed, the "most comprehensive legislation for the preservation of endangered species ever enacted by any nation."[13] President Nixon signed the ESA into law in 1973 during public outcry in support of conservation[14] and, in the ensuing decades, the USFWS mostly used the ESA for its exact purpose: to reverse the trend toward extinction. Presidents of both political parties delegated power to USFWS and NOAA to pursue an aggressive campaign to protect imperiled species.[15] Today, the ESA remains one of the strongest legal tools available for conservation and protects over

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11 Complaint at 16, Ctr. for Biological Diversity v. U.S. Fish & Wildlife Serv., No. 1:21-cv-00884 (D. D.C. April 1, 2021).

12 *See* Dep't of Commerce v. New York, 139 S. Ct. 2551 (2019); Trump v. Hawaii, 138 S. Ct. 2392 (2018).

13 Tenn. Valley Auth. v. Hill, 437 U.S. 153, 180 (1978).

14 Andrew Glass, *Nixon Signs Endangered Species Act, Dec. 28, 1973*, POLITICO (Dec. 28, 2017, 12:00 AM), https://www.politico.com/story/2017/12/28/nixon-signs-endangered-species-act-dec-28-1973-319102.

15 Noah Greenwald, *Lawsuit Attacks Trump Failure to Protect 241 Species from Extinction*, CTR. FOR BIOLOGICAL DIVERSITY (Feb. 27, 2020), https://biologicaldiversity.org/w/news/press-releases/lawsuit-attacks-trump-failure-protect-241-species-extinction-2020-02-26-2020-02-27/ (highlighting the role presidents play in using USFWS to identify and classify endangered species).

1,600 plant and animal species.[16] Perhaps the ESA's greatest accomplishment has been preventing the extinction of listed species as ninety-nine percent of the species listed under the ESA have avoided extinction.[17] Proponents of the ESA trace this success to a steadfast commitment from Congress and the American public to halt and reverse the trend toward species extinction, whatever the cost.[18]

However, a new trend within USFWS has surfaced recently. While Courts recognize that the ESA makes manifest the plain intent of Congress to end extinction, the ESA still allows USFWS broad discretion when determining which species will receive protection.[19] This issue is most prevalent in the listing process. While many members of the public rightly recognize that the ESA is effective at preventing extinction for listed species, they may not know that the ESA has no legal effect for species until USFWS decides to list them as threatened or endangered.[20] Because the listing process is within the discretion of USFWS, different presidential administrations can significantly alter that process through careful political appointments. Alarmingly, data on species listing by administration shows that presidents are beginning to do just that, sometimes in contradiction of the ESA's original purpose.

A study of USFWS listing decisions going back to President Reagan reveals a move away from the ESA's original bipartisan support. In the eight years of the Reagan

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16 Jasmine Aguilera, *The Trump Administration's Changes to the Endangered Species Act Risks Pushing More Species to Extinction*, TIME (Aug. 14, 2019, 7:55 PM), https://time.com/5651168/trump-endangered-species-act/.

17 *Id.*

18 Tennessee Valley Authority, 437 U.S. at 184.

19 *See e.g.*, Nw. Ecosystem All. v. U.S. Fish & Wildlife Serv., 475 F.3d 1136, 1140 (9th Cir. 2007) ("We review the Service's decision on the Washington gray squirrel under the APA, which . . . . is highly deferential, presuming the agency action to be valid and affirming the agency action if a reasonable basis exists for its decision.").

20 16 U.S.C. § 1538(a).

Administration—during the height of the Cold War and a massive military buildup—USFWS still managed to list 254 species as threatened or protected.[21] The USFWS under George H.W. Bush took an even more aggressive listing approach, protecting a total of 231 species as threatened or endangered under the ESA in only four years.[22] President Clinton's administration saw another 522 species added to the list of those protected by the ESA, but things changed with the next Bush administration.[23] George W. Bush, with eight years in office, oversaw a USFWS that added only 62 species to the list of those with legal protections under the ESA during his tenure in office.[24] Although President Obama resumed a normal listing schedule, adding 360 new species as threatened or endangered during his administration, President Trump's USFWS reversed that progress, adding only 29 species in four years.[25]

What accounts for these discrepancies and how does the ESA allow them? One potential explanation is that public perception of the ESA is beginning to change. The original public outcry over species extinction largely centered on the risk of losing unique, charismatic megafauna that the public closely associated with the nation's cultural heritage.[26] Species like the humpback whale, bald eagle, peregrine falcon, grizzly bear, and American alligator are all still widely associated with the ESA and touted as success stories

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21 Greenwald, *supra* note 15.

22 *Listing Species Under the Endangered Species Act*, CTR. FOR BIOLOGICAL DIVERSITY, https://www.biologicaldiversity.org/programs/biodiversity/endangered_species_act/listing_species_under_the_endangered_species_act/index.html.

23 *Id.*

24 *Id.*

25 Anna V. Smith, *Obama's mixed impact on endangered species*, High Country News (Dec. 26, 2016), https://www.hcn.org/issues/48.22/obamas-mixed-impact-on-endangered-species.

26 *Endangered Species Act*, U.S. FISH & WILDLIFE SERV (Jan. 30, 2020), https://www.fws.gov/endangered/laws-policies/.

by the USFWS.[27] However, the fight over species listing today is not centered on the same charismatic megafauna of previous decades; the USFWS has largely listed those species, and in many cases they have recovered to stable populations that no longer need ESA protections.[28]

Instead, the fight over listing species now revolves around lesser-known animals that differ from most recovered species in two ways. First, the species are generally less charismatic. Insects, mussels, small fish, and plants dominate the USFWS's current candidate species list.[29] Although Congress intended to preserve the biological diversity of all species great and small, public support for a small mussel named the "Texas pimpleback" may understandably be stagnant.[30] Second, these species often require the conservation of greater areas of land due to their disbursement and migration patterns, which in turn pose a greater threat to development than other candidates. For example, the monarch butterfly is a species that requires the conservation of a large migration corridor and the preservation of certain plants, such as native milkweed.[31] Additionally, obstacles like highways and physical barriers at the United States' southern border could prevent the

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27 *See* Jeremy M. Norman, *Richard Nixon Signs the Endangered Species Act of 1973*, History of Information, https://www.historyofinformation.com/detail.php?id=2210 (showing graphic from USFWS that depicts charismatic species to represent the success of the ESA on its 40th anniversary).

28 *FWS-Listed U.S. Species by Taxonomic Group - All Animals*, Env't Conservation Online Sys., U.S. FISH & WILDLIFE SERV., (May 4, 2021) https://ecos.fws.gov/ecp/report/species-listings-by-tax-group?statusCategory=Listed&groupName=All%20Animals; Laura Beans, *10 Success Stories Thanks to the Endangered Species Act*, ECOWATCH (Dec. 7, 2013, 6:37 PM), https://www.ecowatch.com/10-success-stories-thanks-to-the-endangered-species-act-1881837279.html.

29 *Candidate Species Report*, U.S FISH & WILDLIFE SERV., https://ecos.fws.gov/ecp/report/table/candidate-species.html (last visited Apr. 14, 2022).

30 Species Assessment & Listing Priority Assignment Form: TEXAS PIMPLEBACK, US. FISH & WILDLIFE SERV. (2015), https://ecos.fws.gov/docs/candidate/assessments/2016/r2/F04F_I01.pdf.

31 *Monarch Butterfly Migration and Overwintering*, U.S. FOREST SERV., U.S. DEP'T OF AGRIC., https://www.fs.fed.us/wildflowers/pollinators/Monarch_Butterfly/migration/.

monarch from successfully migrating.[32] Assisting monarch butterflies in their migration would not only require the preservation of land tracts free from these barriers, but would also call for a rollback in pesticide use and the cultivation of milkweed, which could damage industry, infrastructure, and agriculture.[33]

The changing public sentiment of the ESA's listing function is a particular problem for conserving imperiled species for two reasons. First, USFWS is a subsidiary of the executive branch, which is arguably the branch least politically insulated from public opinion. Second, the ESA does not grant any protection to species until the USFWS lists them. The irony of Congress delegating a high degree of discretion to USFWS to make the listing decision is that although Congress intended the ESA to act as a bulwark against the march of extinction, it left the execution to the whims of political decision-makers without a meaningful check.

Still, one should not confuse broad listing discretion with unreviewable agency action. In fact, even when USFWS determines that listing a species is "not warranted," the USFWS's decision is still subject to judicial review.[34] Although courts apply the ultra-deferential "arbitrary and capricious" or "abuse of discretion" standards under the APA, courts will still set aside decisions by USFWS when the agency ignores clear science that

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[32] *See generally* Lindsay Eriksson & Melinda Taylor, "*The Environmental Impacts of the Border Wall Between Texas and Mexico,*" in OBSTRUCTING HUMAN RIGHTS: THE TEXAS-MEXICO BORDER WALL, THE RAPOPORT CTR. FOR HUM. RTS. & JUST. AT THE UNIV. OF TEX. AT AUSTIN (2008), https://law.utexas.edu/humanrights/borderwall/analysis/briefing-The-Environmental-Impacts-of-the-Border-Wall.pdf; Laura Muntean, *Millions of MonarchBbutterflies Killed on Texas Highways*, AGRILIFE TODAY (Nov. 4, 2019), https://agrilifetoday.tamu.edu/2019/11/04/millions-of-monarch-butterflies-killed-on-texas-highways/.

[33] *See* Carl Stenoien et al., *Monarchs in Decline: A Collateral Landscape-Level Effect of Modern Agriculture*, 25 INSECT SCI. 528 (2018).

[34] Ctr. for Biological Diversity v. Zinke, 900 F.3d 1053, 1060 (9th Cir. 2018).

listing a species is warranted.[35]

USFWS is not, however, limited to a "not warranted" finding if it wishes to prevent listing a species as threatened or endangered under the ESA. Even if the best science available supports listing the species, the agency can still label a listing as "warranted but precluded."[36] This status essentially means that USFWS does not contest that the species is at risk of extinction and would benefit from a favorable listing, but the agency still chooses to exercise discretion and decline listing that species due to higher listing priorities.[37] The result is a regulatory twilight zone where species that warrant listing under the ESA wait without any protections from the ESA. Although Congress originally designed the "warranted but precluded" zone as a system to prioritize helping the most imperiled species, it can function as a means to avoid listing species without risking a court setting aside a "not warranted" finding that contradicts clear environmental science.[38]

At the conclusion of the Trump Administration, USFWS listed ten species as "warranted but precluded" under the ESA: the Texas fatmucket,[39] Texas fawnsfoot,[40]

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35 *Id.*

36 Wildwest Inst. v. Kurth, 855 F.3d 995, 1002 (9th Cir. 2017)

37 *Id.* at 1005.

38 *Id.*

39 U.S. Fish & Wildlife Serv. Species Assessment & Listing Priority Assignment Form: TEXAS FATMUCKET, U.S. FISH & WILDLIFE SERV. (2016) https://ecos.fws.gov/docs/candidate/assessments/2016/r2/F04I_I01.pdf.

40 U.S. Fish & Wildlife Serv. Species Assessment & Listing Priority Assignment Form: TEXAS FAWNSFOOT, U.S. FISH & WILDLIFE SERV. (2015) https://ecos.fws.gov/docs/candidate/assessments/2016/r2/F04E_I01.pdf.

Texas pimpleback,[41] longfin smelt,[42] bracted twistflower,[43] monarch butterfly,[44] peñasco least chipmunk,[45] magnificent ramshorn,[46] northern spotted owl,[47] and gopher tortoise.[48] This means the USFWS conceded that all ten of these species warrant listing under the ESA, but declined to grant protections at the time.

III. THE CENTER FOR BIOLOGICAL DIVERSITY CHALLENGES USFWS'S USE OF THE "WARRANTED BUT PRECLUDED" DESIGNATION

Even though USFWS implements the ESA, environmental public interest groups often play an important role in encouraging action from the USFWS. A recent lawsuit by the CBD challenged USFWS over the USFWS's use of the "warranted but precluded" zone of "regulatory limbo."[49] Specifically, CBD alleged that the USFWS had not made "expeditious progress" in listing species as required under the ESA to justify keeping

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41 U.S. FISH & WILDLIFE SERV., supra note 30.

42 U.S. Fish & Wildlife Serv. Species Assessment & Listing Priority Assignment Form: TEXAS LONGFIN SMELT, U.S. FISH & WILDLIFE SERV. (2017) https://ecos.fws.gov/docs/candidate/assessments/2019/r8/E0BC_V02.pdf.

43 U.S. Fish & Wildlife Serv. Species Assessment & Listing Priority Assignment Form: BRACTED TWISTFLOWER, U.S. FISH & WILDLIFE SERV. (2015) https://ecos.fws.gov/docs/candidate/assessments/2016/r2/Q1R7_P01.pdf.

44 Endangered and Threatened Wildlife and Plants; 12 Month Finding for the Monarch Butterfly, 50 Fed. Reg. 81,813, 81,813 (Dec. 12, 2020) https://www.govinfo.gov/content/pkg/FR-2020-12-17/pdf/2020-27523.pdf#page=1.

45 U.S. Fish & Wildlife Serv. Species Assessment & Listing Priority Assignment Form: PEÑSACO LEAST CHIPMUNK, U.S. FISH & WILDLIFE SERV. (2015) https://ecos.fws.gov/docs/candidate/assessments/2016/r2/A08G_V01.pdf.

46 U.S. Fish & Wildlife Serv. Species Assessment & Listing Priority Assignment Form: MAGNIFICENT RAMSHORN, U.S. FISH & WILDLIFE SERV. (2016) https://ecos.fws.gov/docs/candidate/assessments/2019/r4/G02R_I01.pdf.

47 Endangered and Threatened Wildlife and Plants; 12 Month Finding for the Northern Spotted Owl, 84 Fed. Reg. 60,371, 60,371 (Nov. 8, 2019). https://www.federalregister.gov/documents/2019/11/08/2019-24336/endangered-and-threatened-wildlife-and-plants-12-month-finding-for-the-california-spotted-owl.

48 Endangered and Threatened Wildlife and Plants; 12 Month Finding for the Gopher Tortoise, 85 Fed. Reg. 73,164, 73,164 (Nov. 16, 2020). https://www.federalregister.gov/documents/2020/11/16/2020-24198/endangered-and-threatened-wildlife-and-plants-review-of-domestic-species-that-are-candidates-for#h-19.

49 Complaint at 3, Ctr. for Biological Diversity v. U.S. Fish & Wildlife Serv. (D. D.C. Apr. 1, 2021) (No.1:21-CV-00884).

species in the "warranted but precluded" limbo state and had failed to conform to its role in implementing the ESA.[50]

CBD identified all ten species that USFWS listed as "warranted but precluded," arguing that there was no legal justification for the USFWS's delay in listing them.[51] In doing so, CBD asked for an immediate listing of those species as threatened or endangered on the basis that the best scientific evidence supported listing.[52] CBD's complaint can be bifurcated into two distinct legal arguments: that USFWS has improperly shown preclusion by a higher-listing priority,[53] and has failed to meet the expeditious progress of listing higher-priority species to justify leaving ten species in the "warranted but precluded" category.[54]

On the issue of preclusion, CBD argues that USFWS has not satisfied the statutory language of the ESA because it "failed to detail what higher priority species preclude 'the immediate proposal and timely promulgation of a final' listing determination for each of the ten species."[55] Instead, CBD argues, USFWS issued vague statements of higher-priority activities but never showed how that work precluded listing the species at issue.[56] Furthermore, CBD notes that USFWS failed to implement work plans that might preclude listing these species, as statutorily required.[57] CBD argues that the USFWS may not hide behind a preclusion finding for the ten species that it has already evaluated.[58]

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50 *Id.* at 2.
51 *Id.* at 2–3.
52 *Id.* at 16.
53 *Id.* at 13–14.
54 *Id.* at 12–13.
55 *Id.* at 13 (quoting 16 U.S.C. § 1533(b)(3)(B)(iii)(I)).
56 *Id.*
57 *Id.* at 13–14.
58 *Id.* at 13–14.

Finally, CBD argues that the preclusion finding was legally insufficient because the USFWS did not show that an immediate listing of the species was precluded by listing another higher-priority species.[59] The USFWS had justified its decision not to list based on its development of proposed and final critical habitat regulations.[60] CBD argues this is not a legal justification under the ESA and that immediate listing of those ten species could only be precluded "by pending proposals to determine whether any species is an endangered species or a threatened species"—not by just any other work the USFWS deemed a higher priority.[61]

Even if USFWS had appropriately shown why the ten species were precluded from listing by an appropriate higher-priority species, CBD argues that the USFWS *still* acted contrary to its authority under the ESA by failing to expeditiously add imperiled species to the list of those protected under the ESA.[62] CBD emphasizes language in the ESA that only allows the USFWS to use the "warranted but precluded" label if the USFWS is making significant progress in listing new species.[63] CBD argues that USFWS cannot claim it was faithfully fulfilling this provision because—under the Trump Administration—it listed fewer species on average than at any other point in the ESA's existence.[64] Furthermore, USFWS cannot blame funding problems or the priority of delisting species as the cause of its failure to list the species at issue.[65] CBD cites data showing USFWS had previously listed more species under a similar budget and argues that delisting species is not subject

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59 *Id.*
60 *Id.*
61 *Id*. at 14 (quoting 16 U.S.C. § 1533(b)(3)(B)(iii)(I)) (alteration in original).
62 *See id.* at 12–14.
63 *Id.* at 12.
64 *Id.* at 12.
65 *Id.* (citing 85 Fed. Reg. at 73,169, 81,818)

to the same budgetary concerns and cannot serve as an appropriate predicate to listing species.[66]

CBD's lawsuit isn't a new tactic. In 2011, another group by the name of "WildEarth Guardians" filed a similar suit against USFWS.[67] WildEarth Guardians describes itself as a public interest group whose goal is to protect the environment; in their own words, they are "a Force for Nature."[68] WildEarth Guardians, like CBD, was distressed by using the "warranted but precluded" finding by USFWS. To urge the USFWS to act, they filed multidistrict lawsuits with substantially similar claims as CBD[69] with the intent of moving 253 imperiled species out of the "warranted but precluded" category.[70] The lawsuit was a success. In the end, WildEarth Guardians and USFWS settled the case, stipulating that the USFWS would list or make a not-warranted finding for all 253 imperiled species within two years of the settlement.[71]

Likewise, the CBD lawsuit against USFWS has already partially succeeded. After President Biden took office, USFWS reached a partial settlement agreement with CBD. The agency agreed to list five of the ten challenged species as endangered under the ESA.

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66 *Id.* at 12–13.

67 *Candidate Settlement Milestone*, WILDEARTH GUARDIANS, https://wildearthguardians.org/wildlife-conservation/endangered-species-act-protections/candidate-settlement-milestone/ (last visited Apr. 14, 2022).

68 *About Us*, WILDEARTH GUARDIANS, https://wildearthguardians.org/about-us/ (last visited Apr. 14, 2022).

69 WildEarth Guardians v. Salazar, Civ. No. 4:10-420 (D. Ariz.); WildEarth Guardians v. Guertin, Civ. No. 1:10-1959 (D. Colo.); WildEarth Guardians v. Salazar, Civ. No. 1:10-2129 (D. Colo.); Biodiversity Conservation All. v. Kempthorne, Civ. No. 04-2026 (D. D.C.); W. Watersheds Project v. Salazar, Civ. No. 4:10-229 (D. Idaho).

70 *Federal Court Approves Historic Species Agreement: Settlement between WildEarth Guardians and Interior Benefits Hundreds of Imperiled Plants and Animals*, WILDEARTH GUARDIANS (Sept. 9, 2011), http://wg.convio.net/site/News2?page=NewsArticle&id=7177.

71 In re Endangered Species Act Section 4 Deadline Litigation, 17, No. 10-377 (D. D.C. May 17, 2011).

Specifically, the bracted twistflower,[72] peñasco least chipmunk,[73] Texas fawnsfoot,[74] Texas fatmucket,[75] and Texas pimpleback have all been listed.[76] However, the USFWS has still declined to list five other species designated as "warranted but precluded" under the Trump Administration. Because the deadline to file a settlement has now passed, litigation over the remaining species seems likely to proceed.[77]

A. THE LEGAL CLAIMS AT STAKE

To properly analyze the merits of CBD's case, we should first turn to the level of deference owed to USFWS under the ESA and how that standard interacts with the listing criteria articulated in the ESA. Courts have long recognized that the plain intent of the ESA is to halt and reverse the trend toward species extinction—whatever the cost.[78] To that end, Congress enumerated five criteria that the USFWS should consult when making a listing decision.[79] However, although Congress intended the ESA to stand as a bulwark against extinction, it did not articulate a less deferential standard under which courts should evaluate challenges to USFWS's implementation of the ESA. Instead, courts rely on the

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72 Endangered and Threatened Wildlife and Plants; Threatened Species Status With a Section 4(d) Rule for Bracted Twistflower and Designation of Critical Habitat, 86 Fed. Reg. 62,668 (proposed Nov. 10, 2021) (to be codified 50 C.F.R. 17).

73 Endangered and Threatened Wildlife and Plants; Endangered Species Status for the Peñasco Least Chipmunk and Designation of Critical Habitat, 86 Fed. Reg. 53,583 (proposed Sept. 28, 2021) (to be codified 50 C.F.R. 17).

74 Endangered and Threatened Wildlife and Plants; Endangered Species Status With Critical Habitat for Guadalupe Fatmucket, Texas Fatmucket, Guadalupe Orb, Texas Pimpleback, and False Spike, and Threatened Species Status With Section 4(d) Rule and Critical Habitat for Texas Fawnsfoot, 86 Fed. Reg. 47,916 (proposed Aug. 26, 2021) (to be codified 50 C.F.R. 17).

75 *Id.*

76 *Id.*

77 *See* Minute Order, Ctr. for Biological Diversity v. Bernhardt, No. 1:20-cv-00573 (Nov. 19, 2021) (explaining that "[i]f no settlement of this case is reached prior to February 12, 2022, the parties shall file a joint report and recommendation for further proceedings by no later than February 12, 2022.").

78 Tenn. Valley Auth. v. Hill, 437 U.S. 153, 153 (1978).

79 16 U.S.C. § 1533(a)(1)(A)–(E).

APA for guidance on evaluating the USFWS's implementation of the ESA.[80]

Specifically, the APA provides three avenues for reversing a decision from the agencies tasked with implementing the ESA.[81] Courts may set aside agency action that is arbitrary and capricious, hold that the agency abused its discretion in implementing or refraining from implementing an action, or hold that the agency's action is not otherwise in accordance with law.[82] The "abuse of discretion" and "arbitrary and capricious" prongs are the common standard when groups challenge listing decisions from USFWS. For that reason, this section will explore those standards in practice and how they interact with the criteria that Congress provided for USFWS to consider when making a listing decision.

B. USFWS IS BOUND BY ENUMERATED CRITERIA

The ESA gives five criteria for USFWS to consider when making a listing decision: "the present or threatened destruction, modification, or curtailment of the species' habitat or range; overutilization for commercial, recreational, scientific, or educational purposes; disease or predation; the inadequacy of existing regulatory mechanisms; or other natural or manmade factors affecting the species' continued existence."[83]

Noticeably absent from this list is any criterion to balance the protection of imperiled species with the concerns of cost to industry. Instead, the ESA asks the USFWS to consider a single element when deciding to list an imperiled species: the status of that species itself. This should come as no surprise when one considers the animating spirit of the ESA.[84] In fact, the early history of the ESA makes this principle explicit. In *TVA*, the

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80 Ctr. for Marine Conservation v. Brown, 917 F. Supp. 1128, 1143 (S.D. Tex. 1996); Native Ecosystems Council v. Dombeck, 304 F.3d 886, 891 (9th Cir. 2002).

81 5 U.S.C. § 706(2)(A).

82 *Id.*

83 16 U.S.C. § 1533(a)(1)(A)–(E).

84 *See* Tenn. Valley Auth., 437 U.S. at 153.

first ESA case to ever reach the Supreme Court, Chief Justice Burger delivered an opinion explicitly rejecting the idea that the USFWS should weigh the cost to industry when deciding whether to protect a listed species.[85]

Although *TVA* delivered a landmark win for environmentalism at the Supreme Court, the holding only applies to species that the USFWS has decided to list.[86] Because the USFWS receives highly deferential review by courts, a deeper look at the APA is necessary.

C. Previous Applications of the Arbitrary and Capricious and Abuse of Discretion Review

When reviewing whether an agency decision was arbitrary or capricious, a court asks whether the agency considered the relevant factors and "articulated a rational connection between the facts found and the choices made."[87]

> [A]n agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important part of the problem, offered an explanation for its decision that runs counter to the evidence before the agency[,] or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.[88]

In practice, this means that a court will not set aside an agency action if the USFWS "considered the relevant factors and articulated a rational connection between" those factors and USFWS's decision.[89] However, considering relevant factors does not mean the USFWS must accord them any weight. The USFWS is better able to evaluate scientific evidence, so courts will defer to the expertise of the USFWS when it has discounted the

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85 *Id.* at 169.
86 *See id.* at 172 ("The Secretary of Interior is vested with exclusive authority to determine whether a species such as the snail darter is "endangered" or "threatened . . . .").
87 Greater Yellowstone Coal., Inc. v. Servheen, 665 F.3d 1015, 1023 (9th Cir. 2011).
88 Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983).
89 Am. Rivers v. Fed. Energy Regul. Comm'n, 895 F.3d 32, 45 (D.C. Cir. 2018).

results of a study as not representing the best scientific evidence.[90] Ultimately, the agency must implement the "best available science" when making a determination under the ESA, even if courts owe a degree of deference as to what the best available science is.[91]

Case law suggests that the legal arguments advanced in CBD's complaint are likely meritorious. The "arbitrary and capricious" standard makes it difficult to argue why a listing decision by the USFWS could not be the result of their unique expertise in the field. Often, when the USFWS declines to list a species, it must only have *considered* the scientific studies that show the species warrants listing; it is not bound by them.[92] Here, CBD does not rely on an argument that USFWS made an impermissible decision to accept one study over another. Instead, CBD notes that the USFWS itself concluded that listing the ten challenged species was "warranted" under the ESA. Furthermore, CBD makes a strong textual argument that the ESA itself requires the USFWS to make significant progress in listing species if it wishes to use the "warranted but precluded" determination, which it has not made. Finally, the USFWS may not consider factors outside of those which Congress intended them to weigh when making a listing decision. CBD's argument that USFWS did exactly that by prioritizing delisting over listing in order to protect industry may be enough to set aside USFWS's decision to not list the species at issue.[93] If CBD can prove that USFWS's listing decision relied on factors outside of those explicitly contemplated by Congress, then they are likely to succeed in setting aside the USFWS's determination.

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90 Home Builders Ass'n of Northern Cal. v. U.S. Fish and Wildlife Serv., 529 Supp. 2d 1110, 1121 (N.D. Cal. 2007).

91 Consol. Delta Smelt Cases, 717 F. Supp. 2d 1021, 1060 (E.D. Cal. 2010).

92 *See, e.g.*, Home Builders Ass'n of N. Cal., 529 F. Supp. 2d at 1117.

93 *See* Motor Vehicle Mfrs. Ass'n, 463 U.S. at 43.

IV. A NEW PATH FOR APA REVIEW

Although CBD may very well succeed in reversing USFWS's "warranted but precluded" determination, litigating against the USFWS through the ultra-deferential standard of review articulated in the APA remains a very difficult task. This level of deference often allows the USFWS to step outside the faithful application of the ESA by doing nothing more than articulating a rational connection between the data the USFWS considers and the decision it reaches. However, recent cases from the Supreme Court may suggest that courts should apply the APA to USFWS decisions more stringently. If these cases are correct, then a new avenue to set aside agency action may open for environmental litigants.

A. THE *DEPARTMENT OF COMMERCE* "CONTRIVED" STANDARD MAY GIVE TEETH TO APA REVIEW

In *Department of Commerce v. New York*, the Court considered whether the Secretary of Commerce had acted according to law and within his discretion when he decided to reinstate a question about citizenship on the 2020 census.[94] The Court examined the Secretary's actions under the APA and concluded that he had not.[95] It did so by looking beyond the admittedly adequate rationale offered by the Secretary and examining evidence that the Secretary's offered rationale was not genuine but "contrived."[96] According to the concurring Justices, this "holding reflect[ed] an unprecedented departure from [the Court's] deferential review of discretionary agency decisions . . . . [that] would transform administrative law."[97] But to determine the full weight of *Commerce*, a look at the facts is

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94 Dep't of Commerce v. New York, 139 S. Ct. 2551, 2561 (2019).
95 *Id.* at 2567–68.
96 *Id.* at 2575.
97 *Id.* at 2576 (Thomas, J., concurring in part and dissenting in part).

warranted.

In March of 2018, Secretary of Commerce Wilbur Ross issued a memorandum reflecting his decision to reinstate a 2020 census question that asked respondents whether they were a citizen of the United States.[98] In that memorandum, Ross stated that he was doing so at the request of the Department of Justice (DOJ).[99] DOJ purportedly asked for a citizenship question so that it could more effectively enforce the Voting Rights Act with more accurate data of voting citizen statistics.[100] In response to this request, Ross stated that he would reinstate the citizenship question.[101]

Two separate groups of plaintiffs challenged this action:[102] a compilation of cities, states, and municipalities, and a group of non-governmental organizations representing immigrant and minority communities.[103] Both groups consolidated their lawsuits in the district court and challenged Secretary Ross's actions as violations of the APA, the Enumeration Clause of the Constitution, and the Fourteenth Amendment's equal protection guarantee.[104]

Before trial, the plaintiffs reviewed the administrative record offered by the Department of Commerce and stumbled across a letter which suggested there had been additional communications between the defendant and the DOJ. On that basis, the plaintiffs were able to compel the inclusion of an additional 12,000 pages of previously undisclosed information.[105] Plaintiffs contended that this additional information revealed bad faith by

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98 *Id.* at 2562.
99 *Id.*
100 *Id.*
101 *Id.*
102 *Id.* at 2563.
103 *Id.*
104 *Id.*
105 *Id.* at 2564.

the Department of Commerce.[106] Plaintiffs requested, and were granted, the opportunity to compel additional discovery from Secretary Ross and the DOJ's Civil Rights Division.[107]

The disclosure of these additional documents showed that Ross entered his role at the Department of Commerce determined to reinstate a citizenship question on the 2020 census.[108] The record showed that Ross instructed his staff to find a way to reinstate this question, even inquiring with the United States Attorney General whether DOJ would be willing to formally ask that the question be reinstated.[109] The decision by Ross to reinstate the question occurred "well before" any request from DOJ to do so and predated the rationale that doing so would help enforcement of the Voting Rights Act.[110]

Contrary to the Secretary's explanation, the Court found that Ross went to extreme lengths to solicit a request from DOJ for the inclusion of the citizenship question.[111] Therefore, the sole reason the Department of Commerce offered for its decision to include the question "seem[ed] to have been contrived."[112] Under the Court's view, this contrivance did not meet even the APA's deferential standard of review. As the Court noted, "[o]ur review is deferential, but we are 'not required to exhibit a naiveté from which ordinary citizens are free.'"[113]

The ruling in *Commerce* is significant to ESA regulation—and agency deference more broadly—for several reasons. First and foremost, "[i]n the plain terms, the Chief Justice had publicly declared that a Cabinet official was deceiving Congress, the Court,

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106 *Id.*
107 *Id.*
108 *Id.* at 2574.
109 *Id.*
110 *Id.*
111 *Id.* at 2575.
112 *Id.*
113 *Id.* (quoting United States v. Stanchich, 550 F.2d 1294, 1300 (2d Cir. 1977) (Friendly, J.)).

and the American people."[114] This deception did not go unnoticed and, in fact, served as the basis for overturning agency action under the APA.[115] Second, if the dissenting justices are correct, the "contrived" standard articulated by the Chief Justice interprets the APA with a greater level of bite for future litigants. As Justice Thomas argued, "the Court . . . opened a Pandora's box of pretext-based challenges in administrative law."[116] Justice Thomas also predicted that "[o]pponents of future executive actions can be expected to make full use of the court's new approach."[117]

However, whether the Court's opinion in *Commerce* represents a departure from—or a faithful interpretation of—the APA should be of relatively little concern to future litigants. What matters is whether the rule articulated by the controlling opinion of Chief Justice Roberts will be faithfully applied by the Court to future administrative decisions. It seems that all Justices believe that it can have the most bite regarding litigation under the ESA.

As discussed above, the ESA provides its own roadmap for agency officials making listing decisions. These criteria accord with the ESA's legislative intent—as declared by the Supreme Court in *TVA*—to end the trend toward extinction, whatever the cost. Although the ESA allows agency officials to stall on listing warranted species through the ESA "warranted but precluded" label, even this action is only within the fair bounds of the ESA when the USFWS is fulfilling its obligation to list other species. Yet, different administrations take different approaches to listing species as threatened or endangered

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114 Benjamin Pomerance, *The King in His Court: Chief Justice John Roberts at the Center*, 83 ALB. L. REV. 169, 222 (2020).
115 *Department of Commerce*, 139 S. Ct. at 2575.
116 *Id.* at 2583.
117 *Id.*

under the ESA.[118] One need not be a strict legal realist to recognize that presidential administrations have diverse views toward balancing environmental protections with environmental conservation.

Why is any of this a problem? Presidential campaigns run on policy platforms and exercise what many refer to as a "national mandate" when they enter office; but, insofar as these mandates run counter to the listing criteria enumerated in the ESA, potential legal trouble brews. If an official at USFWS wants to decline listing a species because of countervailing concerns of industry, he may find himself in a catch-22.[119] The official could admit that his recommendation stems from concerns outside those contemplated by the ESA, thus prompting an immediate reversal of his action as an abuse of discretion, or he might "contrive" a basis that comports with the ESA's listing criteria but runs counter to the actual reason for the action. In either case, a faithful application of *Commerce* would likely reverse the decision.

B. *TRUMP V. HAWAII* DOES NOT FORECLOSE THE "CONTRIVED" STANDARD

Before concluding with the rule articulated in *Commerce*, it is worth noting that a counterexample may exist in the case of *Trump v. Hawaii*.[120] The two opinions offer different views of how deferential the Court may be to executive action with pretextual goals, depending on how one reconciles the two opinions.

In *Trump v. Hawaii*, the Court considered whether President Trump had acted properly within the authority conferred by Congress through the Immigration and

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118 *See supra* notes 19–25 and accompanying text.

119 *See generally* JOSEPH HELLER, CATCH-22 (1961) (depicting a fictionalized account in which the main character's story is characterized by a continual paradox of difficult choices).

120 Trump v. Hawaii, 138 S. Ct. 2392 (2018).

Nationality Act (INA) when he issued an executive order banning entry into the United States of foreign nationals of several Muslim-majority countries.[121] The INA authorizes the President to restrict the entry of aliens when he finds that such entry "would be detrimental to the interests of the United States."[122] Acting pursuant to this authority, President Trump issued Executive Order 1 (EO-1) to suspend the entry of foreign nationals arriving from Iran, Iraq, Libya, Somalia, Sudan, Syria, and Yemen.[123] A federal district court issued a temporary restraining order against implementing EO–1, and the Ninth Circuit refused a request to stay that order. In response, Trump revoked EO–1 and issued a more narrowly tailored executive order in "EO–2," which reinstated travel bans to the original countries, apart from Iraq, but provided the opportunity for case-by-case waivers.[124]

By the time the underlying challenges against EO–2 reached the Supreme Court, the order had expired and the Court summarily dismissed them as moot.[125] However, following the expiration of the order and before the Supreme Court examined the legality of the travel bans, Trump issued Proclamation No. 9645 titled "Enhancing Vetting Capabilities and Processes for Detecting Attempted Entry Into the United States by Terrorists or Other Public-Safety Threats" (the Proclamation).[126] The Proclamation resulted from a study conducted by the Department of Homeland Security (DHS), which evaluated data concerning the "information-sharing practices" of all foreign governments

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121 *Id.* at 2403.
122 *Id.* (quoting 8 U.S.C. § 1182(f)).
123 *Id.*
124 *Id.* at 2404.
125 *Id.*
126 *Id.*

to determine which nations met DHS's baseline of acceptability.[127] DHS determined that sixteen countries had deficient information-sharing practices and another thirty-one countries were at risk of failing to meet the acceptable baseline as well.[128] The State Department then engaged diplomatically with deficient or near-deficient foreign governments, encouraging them to improve their information-sharing practices.[129] After fifty days of State Department engagement with these countries, DHS concluded that eight countries remained deficient in their information-sharing practices: Chad, Iran, Iraq, Libya, North Korea, Syria, Venezuela, and Yemen.[130] The Acting Secretary of DHS then formally "recommended that the President impose entry restrictions on . . . nationals from all of those countries except Iraq."[131] Additionally, DHS requested that the President add Somalia to the list of countries with restrictions due to its failure to manage identities and the threat of terrorism within that country.[132] In the end, the Proclamation issued by President Trump imposed a range of travel restrictions—with exceptions for lawful permanent residents and individuals to whom the United States had granted asylum—on the eight countries determined by DHS to pose security risks to the United States.[133] According to statements from the President at the time, these restrictions would encourage cooperation with foreign nations and would serve to protect the United States.[134]

In a dissent joined by Justice Ginsburg, Justice Sotomayor summarized the majority opinion's view that the Proclamation was constitutional because the President believed that

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127 *Id.* at 2405.
128 *Id.*
129 *Id.*
130 *Id.*
131 *Id.*
132 *Id.*
133 *Id.*
134 *Id.* at 2405–06.

the affected foreign nationals posed a threat to national security.[135] But, in the case before the Court, she argued that President Trump's stated reason for invoking the Proclamation was merely a pretext to his actual motivation.[136] Justice Sotomayor argued that President Trump's actual motivation for the Proclamation was an impermissible religious animus, not national security.[137]

Justice Sotomayor started with the premise that "'[w]hen the government acts with the ostensible and predominant purpose' of disfavoring a particular religion, 'it violates that central Establishment Clause value of official religious neutrality.'"[138] To answer whether the Proclamation met this test, Justice Sotomayor applied what resembled the contrivance test used a year later in *Commerce*. She employed a four-factor test, which considered the historical background of the Proclamation, the events that predicated it, its legislative or administrative history, and contemporaneous statements made about the Proclamation by the President.[139]

Applying this test, Justice Sotomayor painted a picture that an ulterior motive was at stake in the Proclamation. The Justice noted that President Trump originally called for a complete ban on Muslim immigration into the United States, going so far as to make disparaging comments about Muslim immigrants:[140]

> Without looking at the various polling data, it is obvious to anybody the hatred is beyond comprehension. Where this hatred comes from and why we will have to determine. Until we are able to determine and understand this problem and the dangerous threat it poses, our country cannot be the victims of the horrendous attacks by people that believe only in Jihad, and

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135 *Id.* at 2440–45.
136 *Id.* at 2433–40.
137 *Id.* at 2433.
138 *Id.* at 2434 (citing McCreary Cnty. v. Am. C.L. Union of Ky., 545 U.S. 844, 860 (2005)).
139 *Id.* at 2434–35 (citing Church of the Lukumi Babalu Aye, Inc. v. City of Hialeah, 508 U.S. 520, 540 (1993); *McCreary Cnty.*, 545 U.S. at 862).
140 *Id.* at 2435.

> have no sense of reason or respect of human life. If I win the election for President, we are going to Make America Great Again.[141]

For some time, Trump maintained that he would enact a complete ban against Muslim immigration into the United States. On a presidential debate stage in 2016, Trump responded "no" when asked if he would reconsider "banning Muslims from entering the country."[142] In the following months, Trump stated his belief that "Islam hates us" and said, "[w]e're having problems with the Muslims, and we're having problems with Muslims coming into the country."[143]

Yet, in the final months of his campaign, then-candidate Trump seemed to reframe his immigration ban. He moved away from language suggesting that the ban would categorically exclude any person of the Muslim faith and instead pivoted to a national security-centric view of the restrictions. In June of 2016, Trump offered a narrower policy that would suspend immigration only from countries "where there's a proven history of terrorism."[144] He did not cast the problem that his ban would solve in terms of categorical statements about Muslims, but instead in the possibility of "importing radical Islamic terrorism to the West through a failed immigration system."[145] Finally—a mere month before the presidential election—Trump rolled back the plan even more, explaining that his ban had "morphed into a[n] extreme vetting [procedure] from certain areas of the world."[146]

The history of the Proclamation is important because of the weight it lends to

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141 *Id.*
142 *Id.*
143 *Id.* at 2436.
144 *Id.*
145 *Id.*
146 *Id.*

Justice Sotomayor's conclusions that "[b]ased on the evidence in the record, a reasonable observer would conclude that the Proclamation was motivated by anti-Muslim animus" and that "repackaging [the Proclamation] does little to cleanse [it] of the appearance of discrimination that the President's words have created."[147] At first blush, *Hawaii* seems hard to reconcile with *Commerce*. In *Hawaii*, the President spoke directly, on the record, about his illicit motivations for his travel ban. In *Commerce*, Secretary Ross explained his motivations off the record and publicly offered an acceptable rationale for his actions. In *Hawaii*, the Justices agreed that a blanket ban against Muslims would be unconstitutional. In *Commerce*, the Justices agreed that Secretary Ross *could* include a citizenship question on the 2020 Census. If anything, it appears that *Hawaii* is a more explicit example of a pretextual rationale than *Commerce*.

A comparison between Chief Justice Roberts's majority opinions in both cases may reconcile these positions and provide a new avenue for litigation under the APA. In *Hawaii*, the Chief Justice made much of the distinction between candidate and President Trump. He noted that after entering office, President Trump acted as though the Proclamation rose above mere animus and served a national security interest. The fact that the President removed three Muslim-majority countries from the ban once they complied with requested vetting procedures suggested that the President targeted the listed countries for national security reasons, not religious animus.[148] Even before the President removed these countries from the list, the Proclamation that reached the Supreme Court was not a complete ban on immigration from Muslim-majority countries because it allowed

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[147] *Id.* at 2433.
[148] *Id.* at 2422.

expansive exceptions for certain individuals. Chief Justice Roberts noted that "the Proclamation include[d] significant exceptions for various categories of foreign nationals.[149] He concluded that "[u]nder these circumstances, the Government has set forth a sufficient national security justification"[150] for "a facially neutral policy denying certain foreign nationals the privilege of admission"[151] under a statute that "exudes deference to the President in every clause."[152]

Taken as a whole, Chief Justice Roberts's opinion seems to be easily reconcilable with *Commerce*. It is not that *Hawaii* forecloses setting aside executive action justified by a "contrived" rationale; instead, Chief Justice Roberts suggests that President Trump's stated rationale—that national security demanded information sharing from foreign countries—was indeed genuine. So, the controlling opinion in *Hawaii* still considered whether President Trump's rationale was contrived, it just concluded that it was not. The Chief Justice makes as much explicit in his opinion:

> Plaintiffs therefore ask the Court to probe the sincerity of the stated justifications for the policy by reference to extrinsic statements—many of which were made before the President took the oath of office. *These various aspects of plaintiffs' challenge inform our standard of review*.[153]

Groups challenging actions taken by USFWS should take note.

V. CONCLUSION

The ESA is vital for the conservation of imperiled species. Even with its shortcomings, the ESA remains a cornerstone of legislation for the preservation of wildlife.

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149 *Id.*
150 *Id.* at 2423.
151 *Id.*
152 *Id.* at 2408.
153 *Id.* at 2418 (emphasis added).

Unfortunately, the bipartisan support that the ESA once enjoyed is now eroding. Groups that care about preserving wildlife diversity—or anyone who cares about the faithful execution of this law—should be concerned with the increasing politicization of implementing the ESA. This concern should be even greater because of the high degree of deference courts give to agencies implementing the ESA and because of the ability of future presidents to make significant changes in its implementation.[154]

The lawsuit by CBD challenging USFWS's perpetual designation of some species as "warranted but precluded" from listing puts forward legal claims that are likely meritorious. CBD rightly notes that USFWS is bound to act within the letter of the ESA and may not consider factors outside the ones enumerated in the ESA. The discrepancy of listing data between Republican and Democratic administrations suggests that administrative policymakers are now considering factors outside of those Congress outlined in the text of the ESA. Although CBD likely filed suit during the Biden Administration as a strategy to encourage a settlement with USFWS, the suit is now heading to trial. USFWS's confession that it has prioritized delisting species over listing species, and its refusal to quickly designated new species as threatened or endangered under the ESA may contravene its authority to implement the ESA. The USFWS could very likely not overcome even the deferential treatment its actions will receive under the APA.

Yet even if CBD succeeds on its claim against USFWS, any change in the USFWS's behavior is unlikely to be long-term. In the future, the USFWS could refrain from stating its actual rationale not to list a species and instead offer a plausible

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[154] *See supra* note 19 and accompanying text.

alternative—turning on agency expertise—to explain its decision to preclude listing a species. This would trigger a more deferential standard of scrutiny and could keep more species off the threatened or endangered list. If CBD or other environmental activist groups want to see more substantial change in the way USFWS implements the ESA, they should take advantage of recent cases from the Supreme Court that apply the APA to agency actions. Doing so may force USFWS to move species from its candidate list onto its list of threatened or endangered species.

Chief Justice John Roberts may have expanded the scope of the APA in 2019 to prevent the Department of Commerce from asking about citizenship on the 2020 census. Alternatively, he may have faithfully applied an already existing standard to an extreme set of facts. Either way, Chief Justice Roberts opened the door for future environmental litigants to bring statements outside of the administrative record to bear on decision-making in USFWS. If the Court applies this same standard to litigation under the ESA, it could have significant impacts on listing. When USFWS offers a rationale that is "contrived," courts should set aside those actions under the APA as arbitrary and capricious, forcing the USFWS to list more species.

Although at first blush *Hawaii* may seem to weigh against the probability of applying this standard outside the census scenario, that conclusion is likely wrong. In *Hawaii*, the majority opinion contemplated President, and even candidate, Trump's statements about his travel ban. It considered disparaging comments made about Muslim immigrants and asked whether these statements colored the Proclamation banning immigration from several countries that eventually reached the Court. The Court concluded that the statements did not. In the end, it decided that the Proclamation did not act as an

impermissible discrimination on the basis of religion. The Proclamation instead served a national security interest germane to the one offered by the President. Although *Hawaii* emphasized that a "contrived" rationale must be extreme to overturn executive action, it still considered whether the President did contrive a rationale.

To be sure, the Trump era was an anomaly in American politics. As such, some will dismiss the precedential value of *Commerce* and perhaps even cynically suggest that the "contrived standard" will not carry into the next administration. This would be a mistake by the Court. At a time when Justices are openly worrying about the Court's institutional credibility, a key imperative to retain that credibility is the equal application of the law. Failing to hold President Biden to the same standards applied to President Trump would all but concede that the "contrived" standard was itself contrived as an ends-based test.

It is for this reason that CBD and other public interest groups should take full advantage of the standard set forward in *Commerce*. Doing so might not only result in successfully listing imperiled species, but could change the behavior of USFWS in the long run. By forcing the USFWS to state the actual reasons for its actions and stay within the bounds of Congress's enumerated criteria for listing a species, future plaintiffs could force USFWS to more faithfully apply the ESA's original purpose—to end the extinction of species.

Emerging Trends in PFAS Litigation

By Nicholas “Hoo” Ray

I. INTRODUCTION

Per- and polyfluoroalkyl substances (PFAS) are a family of man-made compounds that have been widely used for decades. However, growing evidence suggests that these chemicals are harmful to human health. Considering the large number of potential plaintiffs, there has been relatively little litigation over these chemicals. Two regulatory determinations, an agreement between potential defendants on sharing PFAS liability, and a plaintiff-friendly medical monitoring precedent suggest that there will be a rapid increase in the PFAS litigation in the coming years. PFAS litigation that has already occurred, namely the Ohio C8 litigation, MDL 2433, provides several lessons for future plaintiffs and defendants of PFAS claims.

II. WHAT ARE PFAS AND WHAT DO THEY DO?

PFAS have been in use since the 1940s.[1] PFAS contain chains of strong carbon-fluorine bonds, which make them highly resistant to water, oil, and heat.[2] These properties make PFAS useful in a wide variety of commercial and industrial applications.[3] PFAS can also bioaccumulate and are highly environmentally persistent. Persistent chemicals degrade very slowly or not at all, which extends the period during which they can bioaccumulate and affect human and environmental health.[4] For example, PFAS were still detectable on an Air Force base twenty years after the use of firefighting foam containing

1 *Basic Information on PFAS*, ENV'T PROT. AGENCY, https://web.archive.org/web/20181223025822/https://www.epa.gov/pfas/basic-information-pfas (last updated Dec. 6, 2018).
2 ENV'T PROT. AGENCY, EPA 823R18004, EPA'S PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) ACTION PLAN 9 (2019) [hereinafter ACTION PLAN].
3 *Id.* at 9–12.
4 *Id.* at 9.

PFAS.[5] Because of their widespread use and environmental persistence, PFAS have contaminated practically everything and everyone. Based on representative blood serum testing, an estimated 99% of people in the US have PFAS in their blood.[6] The problem is not confined to America, though. PFAS have also been detected across the globe—even in locations as remote as the Arctic Circle and the Tibetan Plateau.[7]

People are exposed to PFAS in a variety of ways.[8] For example, PFAS enter homes through nonstick cookware and water- and stain-resistant textiles.[9] PFAS are used in industrial processes and fire suppression systems.[10] Groundwater is contaminated with PFAS by sources like landfills and land exposed to firefighting foams.[11] People are also exposed through their diets; some PFAS bioaccumulate in plants and animals, including livestock.[12] Even breastmilk is an exposure vector for PFAS in infants.[13]

PFAS are associated with a variety of negative health effects; however, those health effects are highly dependent on the specific chemical makeup, dosage, exposure timing and co-contaminants.[14] PFAS affect puberty, birth weight, immune functioning, thyroid activity, and can cause liver disease and testicular and kidney cancer.[15] Despite their complex etiologies and potentially lethal effects, "for most PFAS[,] there is limited or no

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5 Danni Cui et al., *Occurrence, fate, sources and toxicity of PFAS: What we know so far in Florida and major gaps.* 130 TRAC TRENDS IN ANALYTICAL CHEM. 115976 (2020).
6 ACTION PLAN, *supra* note 2.
7 Jianjie Fu et al. *Occurrence, temporal trends, and half-lives of perfluoroalkyl acids (PFAAs) in occupational workers in China* 6 SCI. R.38039 (2016).
8 ACTION PLAN, *supra* note 2, at 12.
9 *Id.*
10 *Id.*
11 *Id.*
12 *Id.*
13 *Id.*
14 *Id.* at 13.
15 *Id.*

toxicity information."[16] Even with the best studied PFAS—PFOA and PFOS—emerging research suggests that different isomers of the same chemicals affect the human body and bioaccumulate preferentially.[17]

PFAS present a distinct regulatory challenge compared to other contaminants because the Environmental Protection Agency (EPA) regulates specific chemicals, not classes or families of chemicals.[18] Therefore, the agency may only address PFAS one chemical at a time. Although regulators may address the most used compounds, manufacturers may simply substitute less-understood PFAS in their place.[19] Regulators are aware of this challenge but have thus far failed to overcome it.[20]

Congress is attempting to address this problem by requiring individual PFAS to be gradually incorporated into regulation, with the National Defense Authorization Act (NDAA) for Fiscal Year 2020 providing a framework.[21] The Emergency Planning and Community Right-to-Know Act (EPCRA) requires polluters to report releases of Toxic Release Inventory Substances (TRIS) above a threshold quantity.[22] EPCRA does not place any regulations on how much or how frequently TRIS may be released; it merely requires disclosures.[23] EPCRA is surprisingly effective at reducing emissions events, despite the

16 *Id.* at 10.
17 Yingxue Liu et al., *Exposure Characteristics for Congeners, Isomers, and Enantiomers of Perfluoroalkyl Substances in Mothers and Infants*, ENV'T INT'L 144 (2020).
18 *See* 15 U.S.C. § 2605.
19 Ryan Felton, *Solvay Workers Found to Have Unregulated PFAS in Their Blood, Documents Show,* CONSUMER REPORTS 3 (2020).
20 *See, e.g.*, *Are BPA Substitutes Any Safer Than BPA?*, ENV'T PROT. AGENCY (Sept. 11, 2017), https://www.epa.gov/sciencematters/are-bpa-substitutes-any-safer-bpa.
21 National Defense Authorization Act for Fiscal Year 2020, Title 73, S.1790, 116th Cong. (2019).; *EPA Continues to Take Action on PFAS to Protect the Public*, ENV'T PROT. AGENCY, (June 10, 2021), https://www.epa.gov/newsreleases/epa-continues-take-action-pfas-protect-public.
22 42 U.S.C. § 11023.
23 *Id.*

absence of penalties, which may be attributed to reputational pressure.[24]

However, EPCRA also generates foundational information that may aid regulators and plaintiffs in the future. For example, the National Defense Authorization Act (NDAA) added an acid known as "PFBS" to the Toxic Release Inventory, and reporting will begin in 2022.[25] Released information may be used by plaintiff firms to identify areas with potential claimants under the Resource Conservation and Recovery Act's (RCRA) "imminent and substantial endangerment" cause of action. If PFBS is designated a "hazardous substance" under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), plaintiff firms and regulators could use the Toxic Release Inventory to identify priority areas. Currently, the EPA is evaluating the designation of PFBS as a "hazardous constituent" under RCRA.[26]

From a practical standpoint, listing specific toxic substances such as PFBS will have little impact on the widespread problems associated with PFAS. While the NDAA will drive EPCRA forward and spur EPA action on PFAS, adding three individual PFAS to the Toxic Release Inventory per year will make only marginal progress towards comprehensive PFAS regulation. Under the 2021 PFAS Strategic Roadmap, the EPA is researching "whether and how to address groups or categories of PFAS."[27] The agency

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24 Bradley C. Karkkainen, *Information as Environmental Regulation: TRI and Performance Benchmarking, Precursor to a New Paradigm*, 89 GEO. L. J. 257, 328 (2001).

25 *Chemicals Added to the Toxics Release Inventory Pursuant to Section 7321 of the National Defense Authorization Act*, ENV'T PROT. AGENCY (2022), https://www.epa.gov/system/files/documents/2022-01/tri_non-cbi_pfas_list_1_21_2022_final_0.pdf.

26 Response to New Mexico Governor Lujan Grisham's Petition Requesting PFAS be Listed as a Hazardous Waste Under RCRA (Oct. 26, 2021), https://www.epa.gov/system/files/documents/2021-10/oct_2021_response_to_nm_governor_pfas_petition_corrected.pdf.

27 PFAS STRATEGIC ROADMAP, EPA-100-K-21-002, ENV'T PROT. AGENCY 7 (2021), https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf) [hereinafter ROADMAP].

may request comments on regulating groups or categories of PFAS in forthcoming CERCLA rulemaking and is researching group and category regulation for drinking water standards.[28] Tackling groups of PFAS on a broader scale may allow the EPA to make significant progress towards regulating the thousands of PFAS currently in production.

III. PFAS LITIGATION IN THE NEAR FUTURE

A. BI-PARTISAN CONSENSUS ON PFAS CONTAMINATION

President Biden promised to take serious action against PFAS during his 2020 campaign, pledging to "tackle PFAS pollution by designating PFAS a hazardous substance, setting enforceable limits for PFAS in the Safe Drinking Water Act . . . and accelerating toxicity studies and research on PFAS."[29] His administration material steps towards fulfilling those promises, markedly a Fiscal Year 2022 Budget request for $75 million to fund toxicity studies and research on PFAS to inform regulatory decisions.[30]

President Biden also displayed a commitment to addressing PFAS pollution by nominating Michael S. Regan as EPA Administrator. Regan was previously the head of the North Carolina Department of Environmental Quality.[31] There, he led negotiations to protect the Cape Fear River from further PFAS contamination.[32] As EPA Administrator, he has quickly taken action on PFAS.[33] Administrator Regan convened the EPA Counsel on PFAS—a council of career EPA officials from across the Agency to strategize on

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28 *Id.* at 15, 17

29 *The Biden Plan To Secure Environmental Justice And Equitable Economic Opportunity*, https://joebiden.com/environmental-justice-plan/ (last visited May 13, 2021).

30 Letter from Shalanda D. Young, Acting Director of the Env't Prot. Agency, to Patrick Leahy, Chair, US Senate Committee on Appropriations (Apr. 9, 2021), https://www.whitehouse.gov/wp-content/uploads/2021/04/FY2022-Discretionary-Request.pdf.

31 Press Release, Env't Prot. Agency, Michael S. Regan Sworn in as 16th EPA Administrator EPA (Apr. 3, 21), https://www.epa.gov/newsreleases/michael-s-regan-sworn-16th-epa-administrator.

32 *Id.*

33 *Id.*

addressing PFAS.[34] The Council's first task was to develop recommendations for a five-year strategy to protect public health against PFAS contamination.[35] In October, 2021, the Council released the "PFAS Strategic Roadmap: EPA's Commitment to Action 2021–2024."[36]

This 2021 Roadmap exceeds the 2019 PFAS Action Plan in both its breadth and depth. The 2021 Roadmap reiterates several commitments from the previous plan, e.g., designating certain PFAS as "hazardous substances" under the CERCLA, and setting Safe Drinking Water Act (SDWA) standards for several PFAS.[37] The Roadmap also outlines additional regulatory pathways and a series of technological and research objectives to allow effective future regulation.[38] The EPA will use Effluent Limitation Guidelines, leverage existing NPDES permits, and create a PFAS Stewardship Program.[39] It will also conduct several research projects focused on allowing future regulation. The agency will develop validated detection procedures, explore PFAS air emissions, and characterize health effects of PFAS exposure in humans and fish.[40] The EPA also plans to study the occurrence of twety-nine PFAS chemicals under the Unregulated Contaminant Rule.[41] Furthermore, the Commission issued a final determination to regulate the specific chemicals PFOS and PFOA under the Safe Drinking Water Act.[42] Thus, EPA leadership

34 Memorandum from Michael S. Regan, Admin., Env't Prot. Agency to Env't Prot. Agency regarding Per- and Polyfluoroalkyl Substances, 2 (April 27, 2021), https://www.epa.gov/sites/production/files/2021-04/documents/per-and_polyfluoroalkyl_substances.memo_.signed.pdf.
35 *Id.*
36 *See generally* Roadmap, *supra* note 27.
37 *Compare id.*, *with* ACTION PLAN, *supra* note 2.
38 *Id.*
39 ROADMAP, *supra* note 27.
40 *Id.*
41 Revisions to the Unregulated Contaminant Monitoring Rule (UCMR5) for Public Water Systems, 46 Fed. Reg. 13,846 (Mar. 11, 2021).
42 Final Regulatory Determinations for Contaminants on the Fourth Drinking Water Contaminant Candidate List, 40 Fed. Reg. 12,272 (Mar. 3, 2021).

appears committed to addressing PFAS contamination.

Whatever the specific contours of regulation, EPA's commitment to reducing PFAS contamination will inevitably lead to litigation. PFAS manufacturers and other sophisticated actors who understand their potential exposure to PFAS liabilities may try to delay regulation by challenging specific rulemaking. Federal and state regulators will likely bring enforcement actions against polluters.[43] Ultimately, the 2021 Roadmap may have the longest lasting impacts in private litigation. RCRA, CERCLA, and SDWA all have statutory causes of action available for private claimants following certain rulemakings proposed in the Roadmap.[44] The research projects outlined in the Roadmap will also facilitate common law claims ranging from trespass to product liability. Consolidated public health information on PFAS and validated testing procedures may mitigate information asymmetries that hamper mass tort proceedings and provide a neutral factual foundation upon which to build consensus.

B. SDWA: ENFORCEABLE DRINKING WATER STANDARDS FOR PFAS

The Safe Drinking Water Act was passed into law in 1974 to ensure "water supply systems serving the public meet minimum national standards for protection of public health."[45] SDWA directs the EPA to prioritize contaminants that pose risks to public health and establish Maximum Contaminant Levels (MCLs) for those contaminants.[46] These MCLs create an enforceable standard to which all public water systems must comply.

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43 Response to New Mexico Governor Lujan Grisham's Petition Requesting PFAS be Listed as a Hazardous Waste Under RCRA (Oct. 26, 2021)), https://www.epa.gov/system/files/documents/2021-10/oct_2021_response_to_nm_governor_pfas_petition_corrected.pdf.

44 ROADMAP, *supra* note 27.

45 Christine L. Rideout, *Where are All the Citizen Suits: The Failure of Safe Drinking Water Enforcement in the United States*, 21 HEALTH MATRIX 655, 662 (2011), https://scholarlycommons.law.case.edu/cgi/viewcontent.cgi?article=1144&context=healthmatrix

46 *Id.*

Importantly, SDWA does not apply to private wells. While EPA sets drinking water standards, states have been delegated the task of implementing regulations to ensure compliance with drinking water standards.[47] These implementing regulations are subject to EPA review.[48]

Regulators can also take actions against public water supplies in violation of MCLs. Regulatory actions have been the primary source of litigation under SDWA, but the statute also has a citizen suit provision that allows individuals to sue to enforce SDWA rules.[49] However, relatively few citizen suits have been brought under this mechanism.[50]

Most federal environmental laws include citizen suit provisions, including the Clean Air Act (CAA), Clean Water Act (CWA), and CERCLA.[51] Citizen suits are designed to allow citizens to take an active role in enforcement.[52] Such suits are not designed for private redress, as they do not allow citizens to seek compensatory damages.[53] Citizen suit provisions typically preserve tort claims, which are often the appropriate vehicle for private redress and remuneration.[54] Claims under citizen suit provisions are also subject to constitutional standing requirements, but the provisions create a cause of action for broad classes of plaintiffs against a similarly broad class of potential defendants.[55]

Between 1995 and 2000, there were 252 actions brought under the CWA and zero

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47 *Id.*
48 *Id.* at 665.
49 Safe Drinking Water Act, 42 U.S.C. § 300j-8.
50 Rideout, *supra* note 45, at 677–78.
51 CAA, 42 U.S.C. § 7604; CWA, 33 U.S.C. § 1365; CERCLA, 42 U.S.C. § 6972.
52 E. Roberts & J. Dobbins, *The Role of the Citizen in Environmental Enforcement*, ENV'T L. INST., https://www.enviro-lawyer.com/The_Role_of_the_Citizen_in_Environmental_Enforcement.pdf (last visited Apr. 3, 2022).
53 Batton v. Georgia Gulf, 261 F.Supp.2d 575, 598 (M.D. La. 2003)
54 *See*, *e.g.*, SDWA, 42 U.S.C. § 300j-8 (e) ("Nothing in this section or in any other law of the United States shall be construed to prohibit, exclude, or restrict any State or local government from . . . bringing any action or obtaining any remedy or sanction in any State or local court . . . .").
55 Rideout, *supra* note 45, at 679.

brought under SDWA.[56] Scholars attribute this disparity to unfamiliarity with the provision. However, the publicity surrounding SDWA regulation of PFAS may mitigate this. Setting an enforceable drinking water standard is a pillar of the 2019 PFAS Action Plan released by the Trump administration and endorsed by the Biden administration.[57] The 2021 Roadmap also committed to setting National Primary Drinking Water Regulations for certain PFAS.[58] The EPA is currently expanding PFAS monitoring in public water systems.[59] The data generated by the monitoring program may allow for more effective regulatory change in the future, but it will also create a source of information for potential litigants and the public. As a result, SDWA citizen suits may play a larger role in private litigation regarding PFAS than with previous contaminants.[60] Thus, the sheer pervasiveness of PFAS naturally leads to the conclusion that MCLs for these chemicals may create substantial litigation. However, other barriers remain.

Unlike other environmental statutes, the SDWA citizen suit provision does not include civil penalties for violators.[61] Other environmental laws allow citizens to seek civil penalties, likely because penalties deter noncompliance.[62] Under SDWA, only state and federal regulators have the authority to level fines on noncompliant public water systems.[63] Citizens may only seek injunctive relief to compel public water systems to comply with a

56 *Id.*
57 ACTION PLAN, *supra* note 2, at 21–23; ROADMAP, *supra* note 27, at 5, 12–13.
58 ROADMAP, *supra* note 27.
59 Fifth Unregulated Containment Monitoring Rule, ENV'T PROT. AGENCY, https://www.epa.gov/dwucmr/fifth-unregulated-contaminant-monitoring-rule (last visited April 2, 2022).
60 SDWA citizen suits on PFAS may create a "snowball effect." As attorneys and the public become more familiar with SDWA claims on PFAS, they will likely explore SDWA claims on other contaminants.
61 Rideout, *supra* note 45, at 688.
62 *Id.* at 691.
63 *Id.* at 667–68.

SDWA MCL.[64] Plaintiffs' attorneys may be awarded attorney's fees, but they are not able to bring SDWA suits on a contingency basis.[65] Plaintiffs likely (and understandably) hesitate to bring SWDA claims when they will bear the cost of litigation pending the resolution of their cases.

Other factors may reduce the number of SDWA actions. For example, SDWA does not allow citizens to bring actions based on "imminent endangerment," unlike a statute such as RCRA. Citizens may only sue when there is a violation of an EPA-set drinking water standard. Therefore, EPA must lay the groundwork before citizens can protect their interests through SDWA. Notice requirements may also reduce the number of SDWA cases. Under SDWA, citizens must provide defendants sixty days' notice before bringing suit.[66] If a state or federal regulator is diligently pursuing an action against the defendant for the SDWA violation, the citizen is precluded from bringing suit, although they nonetheless may intervene.[67] If this notice effectively induces compliance or regulatory action, then the affected citizens will never actually file suit.[68] However, other environmental statutes like CERCLA and CAA have notice requirements, so the explanatory power of this requirement is limited.[69]

All things being equal, while citizen suits under the SDWA are rare, they provide a potentially potent tool to address drinking water contamination. This potency can only be expected to increase as standards are set, given the pervasiveness of contamination.

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64 *Id.* at 678.
65 Rideout, *supra* note 45, at 679.
66 *Id.* at 678–79.
67 *Id.*
68 *Id.*
69 *See* 42 U.S.C. § 9601; 42 U.S.C. § 7401.

Thus, community and environmental groups may use SDWA citizen suits to compel effective water treatment once an enforceable PFAS standard has been set, assuming other barriers can be overcome.

C. CERCLA: PFAS AS "HAZARDOUS SUBSTANCES"

CERCLA created a regulatory regime to address hazardous waste sites and releases of pollutants into the environment.[70] CERCLA is an expansive law, including the creation of the "Superfund" to clean up abandoned hazardous waste sites. It also allows private citizens to recover the cost of remediation when they clean up hazardous waste sites from Potentially Responsible Persons (PRPs).

PRPs are statutorily defined as the owner or operator of a facility contaminated by hazardous waste, the owner or operator of a facility at the time of disposal, persons who arranged for hazardous waste to be disposed at the facility, or persons who transported hazardous waste to the facility.[71] PRPs are liable for the cost of remediating hazardous waste contamination consistent with the national contingency plan, loss of natural resources, and the cost of health assessments or studies.[72] PRPs are jointly and severally liable for those costs.[73] In practice, a landowner may perform remediation on a site that is consistent with the national contingency plan.[74] The landowner may sue any PRP for the entire cost of the remediation, like manufacturers who arranged for hazardous waste to be disposed of at the site.[75] The manufacturer could then seek contributions from other PRPs. PRPs may be able to escape joint and several liability if they can show that the harm was

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70 Burlington N. & Santa Fe Ry. Co. v. United States, 556 U.S. 599, 602 (2009)
71 42 U.S.C.A. § 9607(a).
72 *Id.*
73 *Id.*
74 42 U.S.C. § 9607(a)(4)(B).
75 *Id.* § 9607(a).

divisible.[76]

Like the SDWA, citizens may not access CERCLA remedies until there is a regulatory determination. Under CERCLA, plaintiffs can only recover costs or compel remediation when the contaminants at issue have been declared "hazardous substances."[77] Because PFAS have not yet been declared "hazardous substances," citizens cannot use CERCLA to recover cleanup costs.[78]

The Biden Administration has expressed a desire to designate the specific chemicals PFOA and PFAS "hazardous substances." This designation would give citizens access to remedies under CERCLA.[79] In the PFAS Action Plan and in remarks by EPA Administrator Scott Pruitt at the PFAS summit in 2018, the agency expressed an intent to designate PFOA and PFOS as hazardous substances.[80] The EPA's PFAS Action Plan update of February 2020 reiterated that it was moving forward in the process of designating PFOA and PFAS as hazardous substances.[81] For several years, the EPA has ostensibly made progress in the administrative procedure to designate PFOS and PFOA, so a hazardous substance declaration should be imminent. Once declared hazardous, PFOA and PFOS would "create considerable litigation risk" for defendants with deep pockets, including chemical manufacturers and the U.S. government.[82]

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76 Matter of Bell Petrol. Servs. Inc., 3 F.3d 889, 895 (5th Cir. 1993).
77 42 U.S.C. § 9601(14).
78 *Id.*
79 EPA PFAS ACTION PLAN: UPDATE, PUB. NO. 100K20002, ENV'T PROT. AGENCY (Feb. 2020) [hereinafter EPA PFAS ACTION PLAN: UPDATE].
80 *Aggressively Addressing PFAS at EPA*, ENV'T PROT. AGENCY (Jan. 7, 2020) https://www.epa.gov/newsreleases/aggressively-addressing-pfas-epa; EPA, ADMINISTRATOR PRUITT'S REMARKS AT PFAS SUMMIT, YOUTUBE (May 22, 2018), https://www.youtube.com/watch?v=FDV715VSbYs&feature=youtu.be&t=177.
81 EPA PFAS ACTION PLAN: UPDATE, *supra* note 79 at 9.
82 *Id.*; Sharon Lerner, *Did The White House Stop The EPA from Regulating PFAS?*, THE INTERCEPT (Sept. 29, 2020) https://theintercept.com/2020/09/29/epa-white-house-pfas-pfoa-pfos/.

Because PFOA and PFOS are not designated as hazardous substances, their presence does not trigger Superfund liability and obligations, and many affected communities have been unable to access the remedies available under the Superfund.[83] For example, the Air Force has refused to clean up contamination from PFOA and PFOS firefighting foam in Georgia, New Mexico, and Michigan because—they assert—PFOA and PFOS are not "hazardous."[84] The Navy also successfully moved to dismiss a suit for medical costs in Pennsylvania by arguing that, because PFOA and PFOS were not hazardous substances, the plaintiff had no cause of action under CERCLA.[85]

Because PFOA and PFOS are environmentally persistent, until contaminated land is remediated, it can continue to cause negative health impacts. Designating PFOA and PFOS as hazardous substances will allow affected communities to use CERCLA to help clean up contamination. However, remediation is expensive, and contamination is widespread. PRPs will rigorously work to avoid liability under CERCLA. Because there are so many contaminated sites, sophisticated PRPs will likely recognize that favorable results in early cases will result in more favorable results across the board. PRPs are highly incentivized to deploy disproportionately large amounts of resources in defending early cases. As the Biden Administration has expressed an intent to declare PFOA and PFOS "hazardous substances," defense and plaintiff bars are already preparing for protracted fights on CERCLA liability.[86]

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83 Lerner, *supra* note 82.
84 *Id*.
85 *Id.*
86 *PFAS: Expected Litigation Trends,* DECHERT LLP (Apr. 6, 2021), https://www.dechert.com/knowledge/onpoint/2021/4/pfas--expected-litigation-trends.html.

D. MANUFACTURER LIABILITY

Manufacturers of PFAS have already paid out large sums of money and are preparing to pay much more. For example, DuPont was a producer of PFOA and PFOS. It phased out production of PFOA under the voluntary 2010/2015 PFOA Stewardship Program.[87] However, there is evidence that Dupont continues to release PFOA from a facility in West Virginia.[88] In 2015, DuPont spun-off Chemours, which took on DuPont's environmental liabilities. DuPont merged with Dow Chemical in 2017, and in 2019 split into three companies: DuPont, Corteva, and Dow.[89] On January 22, 2021, DuPont, Chemours, and Corteva came to a binding memorandum of understanding regarding liabilities from legacy PFAS claims.[90] The memorandum established the corporations' contribution to future expenses: Chemours would pay 50%, and DuPont and Corteva would split the other half.[91] The memorandum establishes the share of future expenses for a maximum of $4 billion.[92] The memorandum creates a $1 billion fund in escrow for future liabilities, with a clause for a one-time replenishment if the fund falls below $700 million at the end of 2028.[93]

This memorandum gives some insight into what PFAS manufactures expect with

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87 *Fact Sheet: 2010/2015 PFOA Stewardship Program*, ENV'T PROT. AGENCY https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/fact-sheet-20102015-pfoa-stewardship-program (last updated Mar. 4, 2021).

88 Melanie Benesh, *Why Are DuPont and Chemours Still Discharging the Most Notorious 'Forever Chemical'?*, EWG (Oct. 24, 2020), https://www.ewg.org/news-insights/news/why-are-dupont-and-chemours-still-discharging-most-notorious-forever-chemical.

89 Conrad Bolston et al., *PFAS and the Transition To The Biden Administration: A Round-Up Of Recent PFAS Activity*, JD SUPRA (Feb. 26, 2021), https://www.jdsupra.com/legalnews/pfas-and-the-transition-to-the-biden-4206939/.

90 Press Release, DuPont, *DuPont, Corteva, and Chemours announce resolution of legacy PFAS claims* (Jan. 22, 2021), https://www.dupont.com/news/dupont-corteva-chemours-announce-resolution-legacy-pfas-claims.html.

91 *Id.*

92 *Id.*

93 *Id.*

regard to future litigation.[94] First, they anticipate a large amount of liabilities arising from the conduct of legacy PFAS.[95] Second, they anticipate litigation for many years to come.[96] If in the next eight years $300 million is paid out, only 7.5% of the maximum liability covered by the agreement, the replenishment obligation will be triggered.[97] This is a small amount compared to the total considered in the agreement, which suggests that the companies expect the bulk of liabilities to accrue in 2029 and beyond.[98] Finally, the use of the escrow suggests that there is a desire among the companies for security in the face of uncertain liabilities.[99]

In the context of mass torts, $4 billion is not that unusual for liabilities from products liability.[100] For example, a Johnson & Johnson subsidiary settled product liability claims over hip replacements for $4 billion.[101] Bayer agreed to pay $10 billion to settle cases involving the pesticide Roundup and allegations that it caused no-Hodgkin's lymphoma.[102] Compared to the total cost of asbestos litigation, $4 billion is a drop in the bucket. For example, $54 billion was spent on asbestos litigation and could reach as high as $265 billion.[103] The final number of plaintiffs may be between 1.2 and 3 million

94 *See id.*
95 *See* The Chemours Co., Memorandum of Understanding (Exhibit 10) (Jan. 22, 2021).
96 *See id.*
97 *Id.*
98 *See id.*
99 *See id.*
100 Barry Meier, *Johnson and Johnson Agree to 4 Billion Settlement Over Hip Implants*, THE NEW YORK TIMES (Nov. 13, 2011), https://www.nytimes.com/2013/11/13/business/johnson-and-johnson-said-to-agree-to-4-billion-settlement-over-hip-implants.html.
101 *Id.*
102 Patricia Cohen, *Roundup Maker to Pay $10 Billion to Settle Cancer Suits*, THE NEW YORK TIMES (June 24, 2020), https://www.nytimes.com/2020/06/24/business/roundup-settlement-lawsuits.html.
103 David R. Francis, *Asbestos and the Future of Mass Litigation*, NBER (July 2004), https://www.nber.org/digest/jul04/asbestos-and-future-mass-litigation#:~:text=Estimates%20of%20the%20eventual%20cost,%24200%20billion%20to%20%24265%20billion.

people.[104] One commentator notes that "asbestos is very unusual as a mass tort because it was used in thousands of products, exposing millions of plaintiffs to harm." Moreover, thousands of defendants and hundreds of insurers were potentially liable."[105] The same could be said for PFAS, which may be even more pervasive.[106]

PFAS is more like asbestos than litigation concerning medical devices and Roundup because of the number of plaintiffs and potential defendants. Furthermore, the federal government's failure to regulate PFAS may inflate liabilities because "the worse the regulators' failure, the stronger the courts' reaction is likely to be."[107] Because the government has failed to adequately regulate PFAS, juries and courts may be harsher on defendants.

E. MEDICAL MONITORING CLAIMS

Every American may be a potential plaintiff because every American has detectable quantities of PFAS in their blood. Detectable quantities of PFAS in blood serum may be sufficient injury to sustain a medical monitoring claim. In *Benoit v. Saint Gobain Performance Plastics Corp.*, sixteen village residents sued the current and previous owners of a manufacturing facility that released the acid PFOA and contaminated the area's water supply.[108] Some of the plaintiffs did not yet display any symptoms of a condition that could be attributed to PFOA, but they had detectable levels of PFOA in their blood.[109] The group

104 *Id.*
105 *Id.*
106 *PFAS Contamination of Water*, STATE OF R.I. DEP'T OF HEALTH, https://health.ri.gov/water/about/pfas/, ("Studies show that human exposure to PFAS is widespread and most people in the United States and in other industrialized countries have measurable amounts of PFAS in their blood.").
107 Francis, *supra* note 103 ("[T]he worse is the regulators' failure, the stronger the courts' reaction is likely to be.").
108 Benoit v. Saint-Gobain Performance Plastics Corp., 959 F.3d 491, 495–96 (2d Cir. 2020).
109 *Id.* at 497.

sued on a number of grounds, including for personal injury "in the nature of accumulation of PFOA in the blood, thereby increasing risks of various types of illness" and for medical monitoring.[110] The plaintiffs who did not allege any present illness but nonetheless requested medical monitoring still succeeded in their claims. This outcome may signal a new wave of claimants. *Benoit* may establish that the accumulation of PFOA in the blood is sufficient to prevail on a claim for medical monitoring—without any allegations of illness—over a motion to dismiss for failure to state a claim.

For decades, the defendants in *Benoit* applied PFOA to fabric and dumped the leftover solution into a storm drain.[111] PFOA seeped into the ground, where it then leaked into the water supply of the village.[112] The groundwater near the facility contained PFOA at a concentration of 18,000 parts per trillion (ppt), and the private wells used by some of the plaintiffs contained PFOA at a concentration of up to 412 ppt. EPA states that health effects begin to manifest at 70 ppt, and the Commission advised the village residents not to drink or cook with their water.[113] But the EPA advisory came too late, and blood tests showed that the plaintiffs had "elevated levels of PFOA" in their bodies.[114]

Nonetheless, defendants raised a Federal Rule of Civil Procedure12(b)(6) motion to dismiss for failure to state a claim.[115] Against the personal injury claimants, and particularly the claimants who did not allege other illnesses, the defendants argued that "threats of future harm" are not sufficient to maintain an action and that "present physical

110 *Id.* at 494.
111 *Id.* at 495.
112 *Id.*
113 *Id.*
114 *Id.*
115 *Id.*

injury" is necessary for a personal injury claim.[116] Ultimately, while the plaintiffs who did not allege any illness could not recover an award for personal injury, they could maintain a claim for medical monitoring.[117] The district court held, and the Second Circuit affirmed, that the accumulation of a toxic substance in the body can support a claim for medical monitoring costs because it meets the relevant test laid out in two earlier New York cases, *Caronia v. Philip Morris USA, Inc.* (2013) and *Abusio v. Consolidated Edison Co. of New York* (1997).[118] According to that test, a personal injury claim can be maintained when there is an allegation of an observable or "clinically demonstrable presence of toxins."[119] Thus, *Benoit* may be setting the stage for a future wave of litigation.

IV. LESSONS FROM MDL 2433

The Multidistrict Litigation (MDL) process allows for the consolidation of pretrial proceedings of individual cases to maintain judicial economy in the face of numerous cases with many factual similarities.[120] Actions across several jurisdictions will be transferred to a judge for consolidated pretrial and discovery proceedings.[121] However, unlike a class action under Federal Rule of Civil Procedure 23, the individual actions are preserved so that they can be remanded to their original court for trial.[122] In 1968, Congress established the Judicial Panel on Multidistrict Litigation to coordinate the consolidation of cases into

116 *Id.* at 496.
117 *Id.* at 501.
118 *Id.* (citing Caronia v. Philip Morris USA, Inc., 22 N.Y.3d 439, 982 N.Y.S.2d 40, 5 N.E.3d 11 (N.Y. 2013); Abusio v. Consolidated Edison Co., 238 A.D.2d 454, 656 N.Y.S.2d 371 (N.Y. 2d Dep't 1997), *lv. denied*, 90 N.Y.2d 806, 664 N.Y.S.2d 268, 686 N.E.2d 1363 (N.Y. 1997))
119 *Id.*
120 *See* 28 U.S.C. § 1407(a); Martin H. Redish & Julie M. Karaba, *One Size Doesn't Fit All: Multidistrict Litigation, Due Process, and the Dangers of Procedural Collectivism*, 95 BOSTON L.J. 109, 117 (2015).
121 *See* 28 U.S.C. § 1407(a) (consolidation of pretrial proceedings "[w]hen civil actions . . . are pending in different districts").
122 Redish & Karaba, *supra* note 120, at 112 ("while the collective adjudicatory procedure in class actions will end in a final resolution…the same is not true in the case of MDL").

MDL.[123] Initially, antitrust and securities litigation dominated MDL dockets.[124] However, mass torts now dominate MDL. As of 2015, over ninety-five percent of the total actions consolidated as MDL are mass tort claims.[125] This rise may be the result of *Ortiz v. Fibreboard Corp*. (1999) and *Amchem Prods., Inc. v. Windsor* (1997) which severely limited the utility of Rule 23 class actions.[126] Although *Ortiz* and *Amchem* were generally received as favoring defendants, the history of PFOA litigation shows that class actions may be preferable for plaintiffs in some circumstances.[127]

Although MDL is designed for pretrial proceedings, the Judicial Panel on Multidistrict Litigation and the judges that oversee MDL prefer resolving cases rather than remanding them to their original courts.[128] Cases are typically resolved through settlements.[129] Judges will sometimes use "bellwether trials" to facilitate the settlement of all cases in an MDL.[130] Bellwether trials are a series of trials designed to provide plaintiffs and defendants a "sufficient number of representative verdicts and settlements to enable the parties and the court to determine the nature and strength of the claims" and value claims may have.[131] Bellwether plaintiffs are purposely chosen to inform the parties about the value of claims as a whole, so the most severely injured or sympathetic plaintiffs are

123 Thomas Metzloff, *The MDL Vortex Revisited*, 99 JUDICATURE 27, 38 (Autumn 2015) https://judicialstudies.duke.edu/sites/default/files/centers/judicialstudies/judicature/vol99-no2-metzloff_reprint.pdf.
124 *Id.*
125 *Id.* at 41.
126 Thomas E. Willging & Shannon R. Wheatman, Fed. Judicial Ctr., Attorney Reports on the Impact of Amchem and Ortiz on Choice of a Federal or State Forum in Class Action Litigation (2004) (citing Ortiz v. Fibreboard Corp., 527 U.S. 815 (1999); Amchem Products, Inc. v. Windsor, 521 U.S. 591 (1997)).
127 *See* infra Part 2.
128 Metzloff, *supra* note 123, at 39.
129 *Id.* at 39.
130 In re E. I. Du Pont de Nemours & Co. C-8 Pers. Inj. Litig., No. 2:17-CV-998, 2021 WL 1165083 (S.D. Ohio Mar. 29, 2021).
131 The Manual for Complex Litigation, § 22.315 (4th ed.).

excluded from the bellwether process, as they would "frustrate the bellwether procedure's purpose."[132]

A. THE NEW PARADIGM OF PFAS LITIGATION

MDL 2433 is the latest stage of a dispute originating in 2000. The litigation centers around a DuPont facility in West Virginia. In 1951, DuPont began using PFOA in the manufacture of Teflon™ at the Facility.[133] Although the PFOA manufacturer, 3M, suggested that PFOA was to be incinerated or sent to chemical waste facilities, DuPont released the chemical into the Ohio River or left it in unlined "digestion ponds."[134] Hundreds of thousands of pounds of PFOA was released directly into the Ohio river, and 7,100 tons of contaminated sludge was left in the digestion ponds where PFOA seeped into the ground.[135] Eventually, the entire water table was contaminated with PFOA.[136] In total, 70,000 people across six water districts were drinking water contaminated with elevated levels of PFOA.[137]

While the scope of contamination alone was egregious, much worse was that DuPont did not reveal to the public for decades internal research suggesting that PFOA was harmful for human health.[138] In the 1960s, DuPont conducted animal studies; in the 1970s, DuPont discovered elevated levels of PFOA in the blood of factory workers; in the

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132 In re E. I. Du Pont de Nemours & Co. C-8 Pers. Inj. Litig., 529 F. Supp. 3d 720 (S.D. Ohio 2021) (DuPont I).
133 Nathaniel Rich, *The Lawyer Who Became DuPont's Worst Nightmare*, THE N.Y. TIMES (Jan. 6, 2016), https://www.nytimes.com/2016/01/10/magazine/the-lawyer-who-became-duponts-worst-nightmare.html.
134 *Id.*
135 *Id.*
136 *Id.*
137 *Id.*
138 Rich, *supra* note 133.

1980s, DuPont found PFOA was present in the local water supply.[139] However, DuPont declined to make any of this information public or inform the EPA.[140] After setting an internal safety limit for PFOA in drinking water, DuPont discovered the drinking water in a local district exceeded that limit by a factor of three.[141] Again, the company failed to inform the public.[142] By the 1990s, DuPont knew that PFOA caused cancerous tumors in lab animals and found an elevated risk for prostate cancer among its factory workers.[143] Although DuPont developed an alternative to PFOA, it continued to use PFOA to maintain profits.[144] This decades-long policy of nondisclosure likely led to numerous unnecessary injuries.[145]

A farmer brought the first suit against DuPont because of the harm PFOA exposure had caused his cattle.[146] DuPont settled the case, but it sought a gag order from the court to prevent the farmer's counsel from alerting the EPA about his findings of corporate malfeasance and the dangers of PFOA.[147] The plaintiffs then brought a class action against DuPont.[148] The class was composed of tens of thousands of individuals who had depended on water with more than 0.05 parts per billion of PFOA.[149] However, general causation posed a hurdle for the plaintiffs. DuPont's research looked primarily at its factory workers, and plaintiffs worried that DuPont would be able to effectively argue that its findings could

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139 *Id.*
140 *Id.*
141 *Id.*
142 *Id.*
143 *Id.*
144 *See id.*
145 *Id.*
146 *Id.*
147 *Id.*
148 *Id.*
149 *Id.*

not be generalized to people who did not work in their facilities.[150] DuPont and plaintiffs negotiated and agreed to the *Leach* settlement, which reduced the number of plaintiffs to about 3,500 and decertified the class, but the defendants agreed not to dispute general causation and to preserve several causes of action.[151] The remaining cases were centralized in the Ohio C-8 personal injury MDL 2433.[152]

Following consolidation, there were extensive pretrial proceedings, from discovery to motions for summary judgment. MDL 2344 suggests that global partial motions for summary judgment are likely unavailable in MDL proceedings.[153] DuPont moved for partial summary judgment on eight causes of action, claiming that there was not a single plaintiff who could maintain any of the eight claims.[154] In support of its motion, DuPont attached "representative complaints," which it argued would be applicable to all plaintiffs.[155] The court denied the motion as it applied globally.[156] However, the court largely granted the motion as it applied to each of the complainants that DuPont used as "representatives."[157] Although the court was interested in encouraging a global settlement to resolve the MDL, it still scrupulously respected due process rights. If the 3,500 plaintiffs were certified as a class, DuPont's motion for partial summary judgment could not have been denied on the same grounds.[158]

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150 *Id.*
151 In re E. I. Du Pont de Nemours & Co. C-8 Pers. Inj. Litig., 529 F.Supp.3d, 724 (S.D. Ohio 2021) (DuPont I).
152 *Id.* (Pre-trial Order No. 51 Consolidation of Cases for Trial)
153 In re E.I. du Pont de Nemours & Co. C-8 Pers. Inj. Litig., No. 2:13-MD-2433, 2015 WL 4092866, at *4 (S.D. Ohio July 6, 2015).
154 *Id.* at *2.
155 *Id.* at *3.
156 *Id.* at *4.
157 *Id.* at *25-*26.
158 DuPont I, 529 F.Supp.3d at 725

MDL 2433 encouraged a global settlement by using bellwether trials. [159] The court had heard two bellwether trials and two non-bellwether trials.[160] Plaintiffs won the first three.[161] The third trial, a non-bellwether trial, resulted in a $12.5 million award of $2 million compensatory and $10.5 million punitive damages.[162] DuPont settled before the fourth bellwether trial was complete.[163] DuPont and plaintiffs entered into the first global settlement of the 3,500 cases for $670.7 million, approximately $190,000 per plaintiff.[164]

Since the first global settlement, more than 100 cases have been filed.[165] The first of these cases to go to trial was *Abbot*, which resulted in a large award.[166] The award came shortly before the DuPont, Chemours, and Corteva Memorandum. In addition to establishing cost sharing, the memorandum settled "approximately" 95 of these cases for $83 million, roughly $870,000 per case.[167] This is another instance where class certification may have benefited defendants. A mandatory class certification could have given the defendants certainty after the first global settlement, instead of facing a trickle of cases until statutes of limitations fully ran.

B. *ABBOT* AND THE ROLE OF INDIVIDUAL PLAINTIFFS

Abbot resulted in exceptional damages and shows the importance of conventional litigation. Mr. and Mrs. Abbot made their cases in a consolidated trial with *Angela Swartz*

159 *Id.* at 740–41
160 *Id.*
161 *Id.* at 725.
162 *Id.* at 742.
163 *Id.*
164 *Id.*
165 *Id.* at *725.
166 *Id.*
167 Press Release, DuPont, Dupont, Corteva, and Chemours announce resolution of legacy PFAS claims (Jan. 22, 2021), https://www.dupont.com/news/dupont-corteva-chemours-announce-resolution-legacy-pfas-claims.html.

and Teddy Swartz v. E. I. du Pont.[168] Mr. and Mrs. Abbot brought a variety of common law and personal injury claims against DuPont including loss of consortium.[169] Mr. Abbot twice developed testicular cancer as a result of his exposure to PFOA from the DuPont West Virginia facility.[170] The medical procedures necessary to address the testicular cancer, among other procedures, rendered him infertile.[171] As the court remarks, "it is an unchallenging endeavor to consider and conclude that Mr. Abbott's case is extraordinary considering the type of injuries, the severity of the injuries, the permanent lifelong effects of the injuries, the plaintiff's age at the time of the injuries, and his familial status at the time of the injuries."[172] The case went to trial for over a month, including summary judgement motions from both sides.[173] The jury trial resulted in a verdict against DuPont, awarding Mr. and Mrs. Abbot $40 million and $10 million, respectively.[174] On appeal, Mrs. Abbott's award was reduced to $250,000 under The Ohio Tort Reform Act; however, Mr. Abbott's award survived several arguments that the damages were excessive.[175] This is an instance where class certification would have likely aided defendants, as a special master would have likely been in charge of the Abbots claims, rather than a sympathetic jury.

Although the vast majority of PFAS claims will likely be resolved through the MDL process, plaintiffs and defendants alike should remember that individual plaintiffs with

168 Swartz v. E. I. du Pont de Nemours & Co. (In re E. I. du Pont de Nemours & Co. C-8 Pers. Injury Litig.) Civil Action 2:13-md-2433 (S.D. Ohio 2019) (Dupont II).
169 *Id*. at *1.
170 *Id.*
171 DuPont I, 529 F.Supp.3d at 727–28.
172 *Id.* at 736.
173 *Id.*
174 *Id.*
175 *Id.* at 727–28.

extraordinary claims will still be relevant. For plaintiff attorneys, claimants with dramatic claims present a lucrative opportunity. Unlike a "normal" high value personal injury case, plaintiffs with PFAS-related claims may take advantage of the pretrial work conducted by an MDL.[176] Mr. Abbot took advantage of the work conducted before the first global settlement and the scientific work conducted by the Science Panel during the *Leach* settlement. Defendants should attempt to include as many extraordinary plaintiffs in global settlements as possible. Settlements are informed by bellwether trials of unexceptional claims. Therefore, exceptional claims will likely be settled at a discount if defendants can convince plaintiff attorneys to include them in global settlements.

C. *LEACH* AND THE ROLE OF SETTLEMENTS

1. BACKGROUND

The *Leach* settlement that made MDL 2433 possible may serve as a blueprint for future settlements. In a toxic tort lawsuit, the plaintiff's burden of proof regarding causation has two parts: general causation and specific causation.[177] The standard for general causation is "whether a substance is capable of causing a particular injury or condition in the general population."[178] Specific causation is "whether a substance actually causes a particular individual's injury."[179] In the class action preceding MDL 2433, the plaintiffs alleged that PFOA exposure caused a myriad of conditions. While there was evidence of those conditions, research on the effects of PFOA exposure was relatively immature, so establishing causation was a significant hurdle for plaintiffs. The process of establishing

176 *Id.* at 725.
177 Broussard v. Multi-Chem Grp., LLC, 2017-985, 255 So. 3d 661, 683 (La. App. 3 Cir. Oct. 22, 2018), *writ denied*, 256 So. 3d 258 (La. Nov. 14, 2018).
178 *Id.*
179 *Id.*

and contesting general causation for all of the alleged conditions would be very costly for both plaintiffs and for defendants, requiring hours of expert testimony and extensive motions practice.

The plaintiff and defendant came to an agreement to avoid the legal costs of litigating general causation and to create some certainty in the proceedings. Together, they convened the "C-8 Science Panel" to study the link between PFOA and human health conditions.[180] The plaintiffs and defendants agreed to be bound by the findings of the Science Panel regarding general causation.[181] The Science Panel published its findings of "probable link" and "no probable link" for the alleged conditions.[182] The defendants agreed not to dispute general causation for any condition for which the science panel found a probable link.[183] In exchange, class members who exhibited conditions for which no probable link were found would be forever barred from brining any claims regarding damages from PFOA.[184]

After years of study, the Science Panel found a probable link for kidney cancer, testicular cancer, thyroid disease, ulcerative colitis, diagnosed high cholesterol, and pregnancy-induced hypertension and preeclampsia.[185] However, the panel found no probable link for over forty other human conditions.[186] These findings reduced the class to

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180 C-8 SCIENCE PANEL, PROBABLE LINK EVALUATION OF PRETERM BIRTH AND LOW BIRTHWEIGHT (Dec 5, 2011), http://www.c8sciencepanel.org/pdfs/Probable_Link_C8_Preterm_and_LBW_birth_5Dec2011.pdf.

181 *In re* E.I. du Pont de Nemours & Co. C-8 Pers. Inj. Litig., No. 2:13-MD-2433, 2015 WL 4092866, at *1 (S.D. Ohio July 6, 2015).

182 *Id.*

183 *Id.*

184 *Id.*

185 DuPont, 2015 WL 4092866, at *1.

186 *Id.*

about 4% of its original size, from 80,000 to 3,500.[187]

The *Leach* settlement is a novel approach to addressing scientific uncertainty in the courtroom, but it reveals the limits of scientific and legal compatibility. Science is an iterative process. Refining or overturning previous findings is a natural and necessary part of developing scientific fact. The courts do not have that liberty. The legal system requires reliable and efficient factual determinations to underpin judgments. Courts do not typically return to a case as new studies emerge—decisions are made with the science available at the time.[188]

However, the *Leach* settlement extended beyond a normal legal determination. The settlement barred plaintiffs who did not suffer from a disease with a probable link from ever pursuing a claim against DuPont based on PFOA exposure.[189] The *Leach* settlement bound people's claims to the science of 2012.[190] Since then, additional evidence has appeared which, if it had been available previously, may have reversed the panel's no-probable-link determination. For instance, the panel determined that there was no probable link for low birth weight.[191] However, EPA now lists low birth weight as an effect of PFAS exposure.[192] It is possible that further research will reveal that more conditions are linked to PFOA exposure than the panel found. Nonetheless, the *Leach* settlement precludes plaintiffs from taking any actions against DuPont, even if it becomes clear that the scientific

187 *Id.* at 2.
188 *See* FED. R. EVID. 702; *see also* Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 593 (1993).
189 DuPont, 2015 WL 4092866, at *2.
190 *Id.*
191 C-8 SCIENCE PANEL, *supra* note 180.
192 *Our Current Understanding of the Human Health and Environmental Risks of PFAS*, ENV'T PROT. AGENCY, https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas (last visited Apr. 17, 2022).

committee wrongly found "no probable" link to a condition.[193]

However, the *Leach* settlement drove scientific development rather than merely using independently published science. In many toxic torts, plaintiffs and defendants must wage "a war of experts," often revealing that more research is necessary.[194] Frequently, there is "insufficient evidence of cause and effect" in the base of informative research.[195] The Science Panel provided an innovative approach that tailored its investigations to the needs of litigation and deployed the sizable resources of the parties.[196] The study cost $35 million, which is "far more than . . . federal funding."[197] It came to a dramatic amount of conclusions compared to published materials on PFOA at the time. In the years since the report, panel members have published over two dozen peer reviewed studies on PFOA.[198] The report was on the cutting edge of science at the time. A literature review of PFOA as an emerging drinking water contaminant published in 2012—the same year the Panel released its report—reveals the scientific community did not fully appreciate the effects of PFOA on human health.[199]

The Science Panel was independent; however, it still had disagreements with the parties and the judge. The *Leach* settlement recognized that the panel needed to be independent and unbiased.[200] The parties had joint oversight of the panel.[201] The tension

193 *Leach v. E.I. du Pont de Nemours & Co. & Related Cases (Re PFOA Exposure & Contamination in the US)*, HARV. L. & INT'L DEV. SOC'Y 5 (Mar. 16, 2020), https://media.business-humanrights.org/media/documents/files/documents/Dupont_case.pdf.
194 Kyle Steenland et al., *Commentary: Class Action Lawsuits Can They Advance Epidemiologic Research?*, 22 EPIDEMIOLOGY 167, 168 (Mar. 2014),
195 *Id.*
196 *Id.*
197 *Id.*
198 *Id.*
199 *See generally* Gloria B. Post et al., *Perfluorooctanoic Acid (PFOA), an Emerging Drinking Water Contaminant: A Critical Review of Recent Literature.* 116 ENV'T RSCH. 93–117 (2012).
200 Steenland et al, *supra* note 194, at 168.
201 *Id.*

between the plaintiffs' and defendants' interests in influencing the outcome of the research insulated the panel from both parties.[202] The parties initially envisioned a two-phase study, beginning with a screening phase that would trigger a more detailed investigation in the event that results were positive.[203] The panel also convinced the parties to use a different approach that would decrease the likelihood of false positives and negatives and include longitudinal and cohort studies.[204] However, the Science Panel was not able to convince the parties to include some factors in the baseline study, such as height, weight, and hypertension.[205] The parties and the judge were frustrated by the speed of the panel's work.[206] Its initial studies took five years, and the judge became so frustrated that he suggested the parties fire the panelists and hire new researchers.[207]

The panel tailored its findings to the needs of the C-8 litigation. The researchers were instructed to determine whether it was "more likely than not" that PFOA could cause a particular condition.[208] This criterion was based on common law notions of causation in civil disputes.[209] The findings of the panel were not in terms of dosage, only in terms of conditions.[210] Therefore, a plaintiff with a very small dosage who exhibits a condition with a probable link can take advantage of the *Leach* settlement. The defendant may not use the "limits" of the panel's report to question the ability of PFOA to cause a condition in a low-dosage plaintiff[211] even if the data that underpins the probable link determination suggests

202 *Id.*
203 *Id.*
204 *Id.*
205 *Id.*
206 Steenland, *supra* note 194, at 168.
207 *Id.*
208 DuPont, 2019 WL 6894069 at *6.
209 Steeland, *supra* note 194, at 167.
210 DuPont, 2019 WL 6894069 at *6.
211 *Id.* at *1.

that a low dose could not cause disease.[212] Defendants must instead focus solely on the specific causation.[213] Defendants who take advantage of a *Leach*-style settlement should be aware of the fidelity of a science panel's finding and may want to require probable link determinations to include a dosage component.

2. *LEACH*-STYLE SETTLEMENTS IN FUTURE PFAS LITIGATION

The *Leach* settlement effectively resolved scientific uncertainty, allowing the efficient trial of cases and the significant reduction of the number of plaintiffs. PFOA is one of thousands of PFAS chemicals, and it is one of the best studied. Future plaintiffs, like the original West Virginia class, may allege that a wide variety of conditions were caused by a less-understood PFAS. In such a situation, it may be in both parties' best interest to enter into and fund a *Leach*-style settlement. A *Leach*-style settlement is characterized here as a settlement that: (1) funds independent research for litigation purposes, (2) binds plaintiffs such that the results of the research would reduce the number of conditions or injuries on which plaintiffs may make a claim, and (3) binds defendants such that they will not contest an element of those claims, such as general causation, for the remaining conditions or injuries.

The nature of scientific discovery creates different incentives and bargaining power for plaintiffs and defendants confronting issues of chemical contamination. Plaintiffs will primarily be concerned with the present state of research on a chemical, while defendants will be concerned with the trajectory of research.

Research of a chemical develops over many years. Ideally, research will generate

212 *Id.* at *6.
213 *Id.* at *6, *10.

more certain conclusions as it eliminates confounding variables, discovers etiologies, and develops a dosage curve. Early research will likely include, for example, animal studies and a few worrying links to diseases but no conclusions on causality.[214] At this phase, plaintiffs want to use stipulation to establish general causation. Experts will have the ability to confidently testify that a chemical can cause a condition or injury. Defense experts will likely rebut the weak plaintiff experts. Plaintiffs may be interested in a *Leach*-style settlement because arguing on general causation would involve significant risks and costs. At this point, plaintiffs dramatically reduce their claimant pool. Defendants on the other hand would likely be uninterested in a *Leach*-style settlement because it would potentially remove their best arguments at this stage and require an expensive epidemiological study.

As research progresses, researchers find wide-ranging links to medical conditions. Researchers may conduct longitudinal studies to determine the effect of PFAS on humans. Researchers may find a probable link between a chemical and specific health conditions and evidence to suggest there may be more. At this point in the research timeline, both plaintiffs and defendants should be interested in *Leach*-style settlements. For plaintiffs, a *Leach*-style settlement would clarify which conditions have a probable link without waiting for research to develop. The settlement would also ensure that the research form satisfies the preponderance standard. For defendants, a *Leach*-style settlement would create certainty in the court room and preemptively remove some classes of plaintiffs.

At maturity, researchers establish causation between a chemical and associated conditions. Dosage curves will likely be developed and confounding variables eliminated.

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214 *See generally*, Kyle Steenland et al, *Epidemiological Evidence on the Health Effects of Perfluorooctanoic Acid (PFOA)*, ENV'T HEALTH PERSP. (Apr. 27, 2010), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2920088/.

At this stage, the only benefit of a *Leach*-style settlement is a reduction in litigation costs because all other benefits, such as certainty, would have already been accomplished by available research.

At the outset, the trajectory of research may also play a large role in structuring incentives for defendants and plaintiffs. If research finds a stronger link between PFAS and disease, defendants may want a *Leach*-style settlement to "freeze" the science in place for the purpose of general causation and to exclude as many claimants as possible. However, if research rules out potential adverse effects or identifies alternative explanations, plaintiffs may also want to "freeze" science to keep as many claimants as possible.

The *Leach* settlement took place in the early stage of research into PFOA, where research primarily focused on animal studies or a limited analysis of factory workers. However, the Science Panel moved into the middle stage, establishing probable links. Although the early stage presents few incentives for a defendant, the research had a trajectory which suggested that there may be more conditions linked to PFOA as time progressed. Because the *Leach* settlement provided concrete benefits to plaintiffs and defendants by addressing scientific uncertainty, we should expect similar settlements in the future.

3. Lubbock County: a Potential Application of *Leach*-style Settlements

A prime location for PFAS litigation is in Lubbock County, Texas. The people of Lubbock County were exposed to PFHxS—a PFAS—by the frequent release of Aqueous Film Forming Foam (AFFF) from a nearby Air Force base that used the AFFF for

firefighting purposes.[215] While the majority of the population of Lubbock County had PFOA serum levels above the general population, 86% had PFHxS above the average level. In the tested community, PFHxS blood serum levels were approximately 6 µg/L, while the general population level was 1.2 µg/L.[216]

The people of Lubbock County may be able to bring successful a medical monitoring claim.[217] If the court follows *Benoit* and allows mere contamination to sustain a medical monitoring claim, defendants may use a *Leach*-style settlement not to address general causation, but to limit the kind of medical monitoring necessary.

PFHxS today is analogous to PFOA in 2000.[218] PFHxS is poorly understood compared to PFOA and PFOS. For comparison, The EPA uses the Health and Environmental Research Online (HERO) database to conduct literature reviews before compiling risk assessments of potential toxins. For PFHxS, HERO contains 2,869 references.[219] In contrast, for PFOS and PFOA, HERO contains 6,177 references.[220] Much like PFOA in the 2000s, scientists currently know little about the effects of PFHxS. In animal models, PFHxS is associated with decreased thyroid hormone levels and changes

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215 *Lubbock County, TX PFAS Exposure Assessment Community Level Results*, AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY (Dec. 7, 2020), https://www.atsdr.cdc.gov/pfas/activities/assessments/sites/lubbock-county-tx.html; INTERSTATE TECH. REG. COUNCIL, *AQUEOUS FILM-FORMING FOAM (AFFF)*, (Apr. 2020), https://pfas-1.itrcweb.org/fact_sheets_page/PFAS_Fact_Sheet_AFFF_April2020.pdf.

216 *CDC/ATSDR PFAS Exposure Assessment Community Level Results: Lubbock County (TX) near Reese Technology Center*, AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY (Nov. 17, 2020), https://www.atsdr.cdc.gov/pfas/communities/factsheet/Lubbock-County-Community-Level-Results-Factsheet.html.

217 Benoit v. Saint-Gobain Performance Plastics Corp., 959 F.3d 491, 501 (2nd Cir. 2020).

218 Jennifer Lee, *E.P.A. Orders Companies to Examine Effects of Chemicals*, N.Y. TIMES (Apr. 15, 2003), https://www.nytimes.com/2003/04/15/science/epa-orders-companies-to-examine-effects-of-chemicals.html.

219 H*ealth and Environmental Research Online*, ENV'T PROT. AGENCY, https://hero.epa.gov/hero/index.cfm/search/index.

220 *Id.*

in liver weight and function.[221] A *Leach*-style settlement would create certainty for plaintiffs and defendants in Lubbock County.

V. CONCLUSION

Waves of PFAS litigation are on the horizon. PFAS manufacturers are bracing for billions in liabilities. Imminent CERCLA and SDWA regulatory determinations will open up statutory causes of action, and some courts are expanding medical monitoring claims. MDL 2433 shows an effective approach to dealing with scientific uncertainty in the court room through *Leach*-style settlements, while Mr. Abbott's case reveals the continuing importance of individual plaintiff's claims and jury trial findings. Defense and plaintiff attorneys alike should prepare for a future of Teflon-coated dockets.

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221 *PFHxS and Groundwater*, MINN. DEP'T OF HEALTH (Apr. 2019), https://www.health.state.mn.us/communities/environment/risk/docs/guidance/gw/pfhxsinfo.pdf.

Chemical Disasters: An Urgent Environmental Justice Issue in Texas

By Liam Veazey

I. INTRODUCTION

Today, millions of people in America live within a three-mile radius of facilities that have onsite large quantities of extremely hazardous substances. These facilities span a wide range of industries, but share a common connection—the operational risks they pose to the health of workers and the surrounding communities. Accidental releases of these chemicals, which may result from process upsets, fires, and explosions, release these hazardous chemicals into the air exposing the surrounding areas and communities. People exposed to these chemicals can be at risk of severe acute and chronic health effects. Considering that accidental releases are not uncommon and climate change increases these threats, prevention and mitigation of accidental chemical releases must become a major public health and environmental policy priority of the federal government. This article covers: the threats posed by accidental releases of hazardous substances to fenceline communities; a discussion of how certain environmental justice legal tools can be utilized to protect fenceline communities from accidental releases; a survey and analysis of some

of the current federal policy response to this problem; and finally, an overview of policy recommendations for how to address this problem more adequately in the future.

II. CHEMICAL DISASTERS AND ENVIRONMENTAL JUSTICE

This section begins with a discussion of recent incidents in Texas and their impacts on fenceline communities, framing these phenomena as an environmental justice issue. This section then lays out a high-level policy framework for thinking about this issue and the appropriate regulatory response.

A. CHEMICAL RELEASES AND EXPLOSIONS IN TEXAS: A NEW NORMAL

1. THE PROBLEM

Environmental pollution can have acute and chronic health impacts on people, especially on marginalized communities, who face multitude social, economic, and environmental stressors. While many environmental laws, policies, and discussions focus on routine releases of pollutants, an urgent environmental and public health crisis caused by the accidental release of toxic and hazardous chemicals and substances looms large. Today, millions of people live within a few miles of large industrial facilities that operate with these chemicals.[1] Currently, the Environmental Protection Agency (EPA) maintains a list of 770 individual chemicals and 33 chemical categories that are known to cause "cancer or other chronic human health effects, significant adverse acute human health effects or significant adverse environmental effects."[2] Facilities across the country operate, store, process, and produce these chemicals in quantities significant enough to have major

1 *Life at the Fenceline,* ENV'T JUST. HEALTH ALLIANCE FOR CHEM. POL'Y REFORM, 1, 3 (Sept. 2018).
2 *See generally, Toxic Release Inventory Program: TRI-Listed* Chemicals, ENV'T PROT. AGENCY https://www.epa.gov/toxics-release-inventory-tri-program/tri-listed-chemicals (last updated Mar. 24, 2022).

impacts on the health of surrounding communities.

This article focuses on the accidental release of hazardous air pollutants. According to EPA, hazardous pollutants "also known as toxic air pollutants or air toxics, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects."[3]

Hazardous substances generally are a great concern to human health, especially the health of "fenceline communities," communities within a three-mile radius of the facility. But there is an important distinction between routine and accidental releases. A routine release, exactly as the name suggests, is an expected, recurring release from a facility. An accidental release is an "unanticipated emission of a regulated substance or other extremely hazardous substance into the ambient air from a stationary source."[4]

Accidental releases, which could be caused by human error, natural disasters, severe weather or even sabotage, can be extremely dangerous to fenceline communities. Accidental releases could encompass explosions or fires that lead to the sudden release of toxic substances and chemicals into the air.[5] These toxic emissions could impact the surrounding communities and create severe acute and chronic health effects. Overall, accidental releases of hazardous substances into the air are a major concern for communities across the country who live, work, and go to school near industrial facilities that contain hazardous chemicals and substances.

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3 *What are Hazardous Air Pollutants?*, ENV'T PROT. AGENCY, https://www.epa.gov/haps/what-are-hazardous-air-pollutants (last updated Jan. 5, 2022).

4 CAA, 42 U.S.C. § 7412(r)(2)(A).

5 *See, e.g.*, 40 C.F.R. § 1604.2 (2021) ("*Accidental release* means an unanticipated emission of a regulated substance or other extremely hazardous substance into the ambient air from a stationary source."); *see also, Chemical Incidents Overview*, WORLD HEALTH ORG., https://www.who.int/health-topics/chemical-incidents#tab=tab_1 (last visited Feb., 11, 2022).

2. RECENT INCIDENTS

From 2001 to October 2018, there were 9,406 incidents involving hazardous chemical releases or explosions, an average of roughly 1.5 incidents per day. Ten percent of these occurred in Texas, with an additional twenty percent elsewhere along the Gulf Coast.[6]

In April 2013, an explosion at a fertilizer facility in West, Texas killed 15 first responders, injured 200 others, damaged 350 homes, and caused over 100 million dollars in physical damage.[7] This explosion was the result of a fire that ignited over 300,000 tons of ammonium nitrate, a flammable chemical used to make fertilizer.[8] This explosion led to the Obama Administration issuing a rule known as the "Chemical Disaster Rule" under section 112(r) of the Clean Air Act (CAA).[9] This rule increased chemical hazard planning requirements and increased public access to information. The rule, however, was challenged by multiple states, including Texas, and the Trump Administration largely dismantled it.[10]

In August 2017, amid the natural disaster Hurricane Harvey, Houston found itself also experiencing "a toxic onslaught" of manmade disasters in the form of hazardous chemical releases.[11] One of the most egregious of these releases occurred at the Arkema

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6 Susan C. Anenberg & Casey Kalman, *Extreme Weather, Chemical Facilities, and Vulnerable Communities in the U.S. Gulf Coast: A Disastrous Combination*, 3 GEOHEALTH 122, 123 (2019).**Error! Hyperlink reference not valid.**

7 *What We Know About the West Fertilizer Explosion*, NPR: STATEIMPACT, https://stateimpact.npr.org/texas/tag/west-fertilizer (last visited Oct. 17, 2020); *see also West Fertilizer, Off The Grid: The Problem of Unidentified Chemical Facilities:* Hearing Before the H. Subcom. *on Cybersecurity, Infrastructure Prot., and Sec. Tech.*, 113th Cong. (2013).

8 *Id.*

9 Kiah Collier, *Trump EPA Eases Safety Requirements enacted After West Explosion*, TEX. TRIB., (Nov. 21, 2019), *https*://www.texastribune.org/2019/11/21/west-texas-fertilizer-explosion-spurred-safety-rules-trump-rescinding.

10 *Id.*

11 Frank Bajak & Lise Olsen, *Silent Spills Part 1: In Houston and beyond, Harvey's spills leave a toxic*

Crosby facility, located less than 25 miles from downtown Houston along Highway 90. Over the course of several days, nine trailers containing over 350,000 pounds of organic peroxide combusted—shutting down a crucial route for hurricane recovery efforts (Highway 90) and forcing over 200 residents to evacuate.[12] In addition, approximately two days before the fires broke out, the facility released up to 18,000 gallons of storm water laced with approximately 23,000 pounds of organic material, without communicating that fact to the surrounding community.[13]

On March 17, 2019, an 80,000-barrel (3.36 million gallon) petrochemical tank erupted in flames at the Intercontinental Terminals Company storage terminal located along on the Houston ship channel.[14] This fire spread, eventually igniting six additional petrochemical tanks.[15] After the fire raged for three days, emergency responders finally extinguished the initial blaze.[16] Yet, the situation was not under control. Two days later the facility's dike wall failed, sending a toxic mixture of petrochemicals and firefighting foam into the surrounding waterways and ultimately to the Houston Ship Channel.[17] Further, the

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legacy, HOU. CHRON., https://www.houstonchronicle.com/news/houston-texas/houston/article/In-Houston-and-beyond-Harvey-s-spills-leave-a-12771237.php (last updated Mar. 5, 2019) (reporting over one hundred Hurricane Harvey-related toxic releases, most of which went unpublicized).

12 Investigation Report: Organic Peroxide Decomposition, Release, and Fire at Arkema Crosby Following Hurricane Harvey Flooding, 2017-08-I-TX, U.S. CHEM. SAFETY AND HAZARD INVESTIGATION BD. 8 (May 2018).

13 *Id.* at 52; Alex Stuckey, *Silent Spills Part 2: For Crosby Residents, a 'Bitter Taste' About Arkema, and Little Help from the Government,* HOU. CHRON., https://www.houstonchronicle.com/news/houston-texas/houston/article/For-Crosby-residents-a-bitter-taste-about-12771298.php (reporting that the 18,000-gallon spill went without notice to residents); *Air Emission Event Report Database Incident 267578*, TEX. COMM'N ON ENV'T QUALITY (Sept. 12, 2017), https://www2.tceq.texas.gov/oce/eer/index.cfm?fuseaction=main.getDetails&target=267578 (documenting report filed with the government about the flood).

14 U.S. CHEM. SAFETY AND HAZARD INVESTIGATION BD., Factual Update: Storage Tank Fire at Intercontinental Terminals Company, LLC (ITC) Terminals 1, 5 (Oct. 30, 2019).

15 *Id.* at 12.

16 *Id.*

17 *Id.*

facility experienced a secondary fire, which was ultimately extinguished within hours.[18] In addition to causing untold environmental harm, these releases forced the Deer Park community into a shelter-in-place multiple times and local schools and businesses to close or modify operations.[19]

Less than two weeks after the fires at ITC were extinguished, another explosion and fire rocked Harris County at the KMCO chemical facility in Crosby, Texas. A mechanical failure resulted in what was described as "a two-foot river" of highly flammable gas running through the facility.[20] This vapor cloud violently exploded—killing one employee, seriously burning two others, injuring thirty workers, and forcing the surrounding community into a shelter-in-place.[21]

Later in 2019, one day before Thanksgiving, multiple explosions at the TPC facility rocked the city of Port Neches. Port Neches issued a mandatory evacuation order for fear of further explosions. Over the course of the next six days, fires continued to rage at the facility, setting off a string of further explosions. Upon returning to their homes, residents were placed under a shelter-in-place order due to the high concentrations of butadiene (a carcinogenic chemical)[22] in the air.[23]

Just in the time between the initial promulgation of the Chemical Disaster Rule in 2017, at the end of the Obama Administration, and the end of the legal battle to implement

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18 *Id.*
19 *Id.* at 14.
20 U.S. CHEM. SAFETY AND HAZARD INVESTIGATION BD., Factual Update: Explosion and Fire at KMCO Chemical Facility, 8 (September 17, 2019).
21 *Id.* at 5.
22 *1,3-Butadiene*, *Nat'l Cancer Inst*., https://www.cancer.gov/about-cancer/causes-prevention/risk/substances/butadiene (last updated Jan. 31, 2019).
23 Kiah Collier & Jolie McCullough, *County ends voluntary evacuation of Port Neches, the second since last week's plant explosion*, TEX. TRIB. (Dec. 5, 2019), https://www.texastribune.org/2019/12/05/port-neches-plant-explosion-prompts-evacuation-order-one-week-later/.

the rule, November 2018, there were seventy-three publicly known incidents at industrial facilities involving leaks, fires, and explosions of hazardous chemicals.[24] Whether due to human error, structural design flaws, natural disaster, severe weather, or sabotage, chemical disasters are real, imminent, and already impacting communities everywhere, especially so-called fenceline communities—often low-income, predominately-minority communities living within a few miles of facilities handling these hazardous chemicals.

3. CLIMATE CHANGE: RAISING THE THREAT

In addition to the ever-present threat of accidents, human error, and unscrupulous neglect, the threat of climate change, such as increased storm surges and flooding, heighten the risk that facilities containing hazardous chemicals pose to surrounding communities. The uncertainty attendant with climate change makes disaster risks difficult to assess and plan for, as present weather and climate conditions are not expected to hold into the future.[25] Therefore, effective planning requires accounting for the range of threats that will be created or exacerbated by climate change-induced disasters. There is always the risk of underpreparing and being exposed when the next hundred-year storm hits an ill-prepared area. In these situations, fenceline communities are bound to bear the brunt of the consequences.

The "U.S. Climate Normals," a National Oceanic and Atmospheric Administration analysis of U.S. weather trends in thirty-year periods, suggests that the period 1990-2020

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24 *A Disaster in the Making*, EARTHJUSTICE, https://earthjustice.org/features/toxic-catastrophes-texas-national-chemical-disaster-rule#timeline (last updated Dec. 2, 2019) (timeline of incidents).

25 *See generally* Robin Kundis Craig, *Stationarity Is Dead - Long Live Transformation*, 34 Harv. Env't L. Rev. 10 (2010); J.B. Ruhl, *Climate Change Adaptation and the Structural Transformation of Environmental Law*, 40 VAND. L. REV. 363 (2010).

were significantly warmer and wetter than the previous thirty-year period.[26] This trend is almost assuredly going to continue. As the Intergovernmental Panel on Climate Change (IPCC) concludes, the changing climate will likely cause more frequent extreme weather events. For example, the IPCC has concluded that it is "likely that the frequency of heavy precipitation or the proportion of total rainfall from heavy rainfalls will increase in the twenty-first century."[27] Also, the IPCC finds it "very likely that mean sea level rise will contribute to upward trends in extreme coastal high water levels in the future."[28]

There are 2,500 chemical facilities in the Houston-area alone.[29] Within 50 miles of the Hurricane-prone Gulf Coast, stretching from Florida to Texas, there are 872 facilities labeled highly hazardous.[30] Approximately 4,374,000 people, 1,717 schools, and 98 medical facilities are within 1.5 miles of these facilities.[31] Texas is expected to lead the nation in flood damage attributable to climate change.[32]

These chemical releases can move through air, water, and ground. As an example, when rising floodwaters move through industrial sites, the water picks up toxics, such as oil, sewage and carcinogenic chemicals, and carries them to nearby communities.[33] The

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26 *The New U.S. Climate Normals Are Here. What Do They Tell Us about Climate Change?*, NAT'L OCEANIC & ATMOSPHERIC ADMIN. (May 4, 2021), https://www.noaa.gov/news/new-us-climate-normals-are-here-what-do-they-tell-us-about-climate-change.

27 Sonia I. Seneviratne & Neville Nicholls et al., *Changes in Climate Extremes and their Impacts on the Natural Physical Env't, in* Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation 109, 113 (C.B. Field et al. eds., 2012) https://www.ipcc.ch/site/assets/uploads/2018/03/SREX-Chap3_FINAL-1.pdf.

28 *Id.*

29 Ana Parras, *No One Should Have to Breathe These Chemicals*, N.Y. TIMES (Dec. 6, 2019), https://www.nytimes.com/2019/12/06/opinion/port-neches-tx-explosion.html.

30 Anenberg & Kalman, *supra* note 6, at 122.

31 *Id.*

32 *Id.*

33 Noah M. Sachs, *Toxic Floodwaters: Strengthening the Chemical Safety Regime for the Climate Change Era*, 46 COLUM. J. ENV'T. L. 73, 74 (2020); Nicholas Santella et al., *Petroleum and Hazardous Material Releases from Industrial Facilities Associated with Hurricane Katrina*, 30 RISK ANALYSIS 635, 639-43 (2010).

impacts of these "toxic floodwaters" on communities persists well-beyond the end of the storm. After Harvey floods caused the explosion and the release of carcinogenic chemicals such as ethylbenzene, later soil tests revealed elevated levels of metals, dioxins, and other contaminants.[34] These toxics can contribute to both long-term and short-term effects negative health effects. Adding in the fact that fenceline communities are more likely to be overburdened by multiple environmental stressors, these communities are at great risk of experiencing severe health impacts as a result of these exposures.[35] Unfortunately, there are gaps in public health research regarding the full scope of health impacts on fenceline communities created by the release of toxic chemicals and contaminants.

4. WHY CHEMICAL DISASTERS ARE AN ENVIRONMENTAL JUSTICE ISSUE

Chemical disasters impact many people and pose risks to most of the people living in America, but they will continue to impact fenceline communities the most severely. Additionally, a disproportionate percentage of fenceline communities are black, brown, and poor communities ("marginalized communities"). Therefore, it is imperative that the threats posed by chemical disasters be recognized as an environmental justice issue, and that there be legal and policy changes to address it.

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,

34 Dianna Wray, *Arkema Released Thousands of Pounds of Chemicals in Air and Water, New Lawsuit Says*, HOUS. PRESS (Oct. 5, 2017), https://www.houstonpress.com/news/arkema-residents-say-they-were-hit-by-chemical-releases-in-both-air-and-water-during-hurricane-harvey-9847626.

35 *See generally* Amanda Starbuck & Ronald White, *Living in the Shadow of Danger: Poverty, Race, and Unequal Chemical Facility Hazards*, CTR. FOR EFFECTIVE GOV'T (2016), https://www.foreffectivegov.org/sites/default/files/shadow-of-danger-highrespdf.pdf.

and policies."[36] EPA implicitly recognizes that its definition is an ideal, not a reality. EPA asserts that environmental justice "will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision‐making process to have a healthy environment in which to live, learn, and work."[37] Environmental justice emerged and continues as a movement based on the fundamental reality that communities of color, and poor communities, are disproportionately burdened by exposure to environmental pollution and other environmental and public health risks. The goal of the environmental justice is to eliminate these inequalities by increasing the power and voice of directly impacted communities in the environmental decision-making process, mitigating the health impacts of legacy pollutants, reducing the burdens of present pollution, and preventing future pollution and environmental degradation.

In the context of this paper, accidental chemical releases and chemical disasters are environmental justice issues. Industrial facilities containing hazardous substances are often located near low-income communities and communities of color. These fenceline communities are at greater risk of exposure and experiencing the health impacts of exposure to chemical disasters. These communities suffer a greater risk of developing cancer and respiratory illnesses, among other health impacts.[38] New and legacy pollutants, coupled with climate change, present unique health risks to communities living near industry due to the release of toxic chemicals. Cumulative impacts from multiple stressors

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36 *Environmental Justice*, ENV'T PROT. AGENCY, https://www.epa.gov/environmentaljustice (last visited Apr. 9, 2021).

37 *Id.*

38 *See* Jill Johnston & Lara Cushing, *Chemical exposures, Health and Environmental Justice in Communities Living on the Fenceline of Industry*, 7 CURRENT ENV'T HEALTH REP. 48–57 (2020), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7035204/.

faced by environmental justice communities may amplify these adverse effects.[39]

Over 12,500 facilities in the United States use or store large enough quantities of extremely hazardous chemicals that they must submit a "Risk Management Plan" (RMP) to EPA for responding to chemical disasters. Nearly 23 million people, about 7.5% of the U.S. population, live within one mile of an RMP facility;[40] about 124 million people, 39% of the U.S. population, live within 3 miles of an RMP facility.[41] Forty-five percent of the nearly 125,000 schools in the U.S. are located within 3 miles of RMP facilities, putting more than 24 million children at risk of a catastrophic chemical facility incident.[42] In all, 11,000 medical facilities, 39% of the total, are vulnerable to chemical disasters within fenceline zones.[43]

Additionally, these areas are disproportionately Black, Latino, and low-income.[44] People of color are nearly twice as likely as white people to live near dangerous chemical facilities.[45] Generally, the percentage of Black and Latino people living within three miles of an RMP facility in a particular county is higher than the Black and Latino population percentage of that county, state, and the U.S. overall.[46]

Compounding these statistics about the location of facilities, a disproportionate number of chemical facility incidents occur in neighborhoods that are predominantly populated by people of color; one incident per six facilities in communities of color as

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39 *Id.*
40 STARBUCK & White, *supra* note 35, at 1.
41 *See Life at the Fenceline*, *supra* note 1.
42 *Id.*
43 *Id.*
44 *Id.*
45 *Id.* at 1.
46 *See id.* at 19.

compared to one incident in per eleven facilities generally.[47] Thus, not only are communities of color more likely to be near facilities with hazardous chemicals, they are more likely to be exposed to an incident of chemical release and exposure than white communities living near a facility with hazardous chemicals.[48]

Looking at these data, the risks posed by chemical disasters are a major problem that put most, if not all, people residing in America at risk. However, as is the case with most environmental and public health concerns, marginalized communities—particularly black, brown and poor communities—face greater risks and are likely to be more widely and severely impacted by chemical disasters. This is why the threat of chemical disasters must be acknowledged and analyzed as an environmental justice issue, and should, in effect, also be built into our legal and regulatory responses to this present and rising threat.

B. Important Questions for Drafting the Right Policy Response

In the previous section, the problem of accidental chemical releases and subsequent impacts on fenceline communities was presented. The next question is what to do about this massive problem. Crafting a policy response that adequately address problems as large and urgent as the risks posed by chemical facilities is no easy task. Therefore, before discussing and analyzing the existing laws and regulations that serve as the current policy response, it is important to lay out the pertinent questions and policy tools available for responding to this problem.

After identifying a problem that should be regulated, the question is how should this problem be regulated? Answering this question requires identifying the desired results

47 *Id*. at 2.
48 *See id*.

or goals of regulation and then analyzing how to best achieve or effectuate this goal or desired result. In the space of regulating hazardous chemicals and accidental release prevention and response, this decision is challenging. Below is a brief discussion of some of the pertinent policy considerations.

a. Why?

Generally, before choosing the policy tools for regulating accidental hazardous substance release, the goals of the policy must be identified. One fundamental goal is to prevent hazardous chemical accidents and releases. Knowing that completely eliminating accidental releases may not be practical, mitigating the impacts of these accidental releases when they do occur should likewise be a goal for policymakers. Finally, policies should be designed with the goal of remedying any harm created by these events, studying them and ensuring that necessary changes are implemented to help prevent similar incidents in the future.

b. Who?

After identifying the goals of the policy ("the why")— the inquiry shifts to who to regulate. Industrial and commercial actors is the obvious answer. But what industries, chemicals and processes are specifically regulated? Section 112(r) of the CAA, Accidental Release Prevention, applies only to "stationary sources," [49] So, only on-site activities are subject to regulation.[50]

Should any distinction be made between large and smaller facilities? In fact, many

49 Van R. Delhotal, *The General Duty to Prevent Accidental Releases of Extremely Hazardous Substances: The General Duty Clause of Section 112(r) of the Clean Air Act*, 13 J. ENERGY NAT. RES. L. 61 (1993).
50 *Id.*

of the existing regulations apply only when used, stored, or handled in excess of a threshold quantity.[51] Determining the proper threshold quantity can be a difficult line drawing exercise, where scientific uncertainty exists. Nevertheless, these decisions are critical in determining how well protected communities are from accidental releases. Under-regulation can leave communities more vulnerable and at the mercy of facilities that are essentially self-regulated.

c. What?

Deciding what to regulate can be an incredibly important part of the decision-making process. Certain chemicals are sufficiently toxic or hazardous by themselves to easily warrant regulation.[52] But other chemicals might not be toxic in certain quantities or by themselves, and instead are toxic at certain large quantities, points in an industrial process, or even when mixed with other chemicals or substances.[53] Additionally, some chemicals are not toxic but are highly reactive or flammable.[54] A large debate exists about the need to extend the list of covered chemicals in section 112(r)(7) of the CAA (Risk Management Program), which regulates accidental releases, to cover reactive chemicals

51 ENV'T PROT. AGENCY, Clean Air Act Section 112(R): Accidental Release Prevention/Risk Management Plan Rule 1, 2 (2020), https://www.epa.gov/sites/production/files/2020-03/documents/caa112_rmp_factsheet_march_2020_final.pdf.

52 *What You Know Can Help You—An Introduction to Toxic Substances*, N.Y. STATE DEP'T OF HEALTH (Oct. 2013), https://www.health.ny.gov/environmental/chemicals/toxic_substances.htm#:~:text=Chemicals%20can%20be%20toxic%20because,or%20death%2C%20it%20is%20toxic.

53 *Dangers of Mixing Household Chemical Cleaners*, VILLAGE OF SKOKIE, https://www.skokie.org/1023/Dangers-of-Mixing-Household-Chemical-Cle#:~:text=Though%20this%20may%20seem%20like,the%20mixing%20of%20household%20chemicals (last visited Feb. 6, 2022).

54 *Reactive Chemicals*, UNIV. OF MONT., https://www.umt.edu/risk-management/safety-compliance/safety-fact-sheets/reactive-chemicals.php# (last visited Apr. 22, 2022).

such as organic peroxides.[55]

d. When?

When dealing with the issue of chemical disasters, there are three distinct time periods that regulations can target: first, before an accidental release, focused on planning and preventing a chemical release; second, during a release, which usually includes reporting and response requirements; and third, after accidental, unauthorized releases, which involve assessing liabilities, investigating the event, and other remedies and corrective actions.[56] Ideally, all three of these stages support the ultimate goal of preventing releases and mitigating impacts when releases do occur.

e. How?

A helpful starting place is with the "five P's" of environmental policy tools: prescriptive regulation, payments, penalties, property rights, and persuasion. In many cases, there is not a neat division among these policy tools, and many environmental laws employ a combination of these tools.[57]

Prescriptive regulations, also known as command and control, impose requirements, obligations, and prohibitions on the regulated entity.[58] Most environmental laws, such as the CAA and Clean Water Act, are prescriptive laws at their core. Prescriptive regulations are the most common and most directly effective mode of environmental

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55 *See* Lauren Mulhern, *The Arkema Chemical Facility Incident: How the Regulation of Reactive Chemicals and the Incorporation of Climate Change Risks in Emergency Response Planning Could Mitigate and Prevent Future Accidental Chemical Releases*, 30 COLO. NAT. RESOURCES, ENERGY & ENV'T L. REV. 143, 152 (2019).

56 Jeff Civins & Michael Scanlon, *Environmental Issues Associated with Disaster Planning and Response*, AM. BAR ASS'N SECTION ENV'T, ENERGY, & RES. 1, 5 (June 11, 2019).

57 James Salzman, *Teaching Policy Instrument Choice in Environmental Law: The Five P's*, 23 DUKE ENV'T L. & POL'Y F. 363, 363–64, 376 (2013).

58 *Id.* at 364–65

regulation (not considering efficiency and other considerations) from the perspective that they draw a clear line about what actions and behaviors are required and prohibited. For example, prescriptive regulations in the area of chemical safety, would ban the use of certain chemicals or place strict reporting and safety requirements on facilities using certain chemicals and substances.

Second, payments involve using subsidies to incentivize regulated parties to adopt certain beneficial activities.[59] Payments can be used to capture positive externalities and make negative externalities more expensive. An example of this in the context of hazardous chemical regulation is providing subsidies to facilities that choose to use and manufacture alternative chemicals and substances that are less toxic or hazardous. Payments can be a powerful incentive for industry. However, a potential detractor of using subsidies is paying regulated actors to take an action that they either would adopt anyways, without the subsidy, or that could be implemented in a less-costly way. Some make the normative argument that government should not be using public money to pay regulated actors to take actions that they should be willing or compelled to adopt without being paid to do so.

Third, penalties—the flip side of payments—through taxes, charges or liabilities, can be harnessed to make the regulated actor's negative behavior and activities more costly. This forces the actor to internalize the negative externalities of their behavior.[60] This could look like imposing greater taxes on the production and procurement of more hazardous chemicals or imposing greater liabilities on facilities using more hazardous chemicals for accidental releases. To further effectuate penalties, they could be used in conjunction with

59 *Id.* at 372.
60 *Id.* at 370–72.

payments (subsidies) made to facilities that operate with safer chemicals. In this way, it doubles the incentive and encourages regulated actors to use safer chemicals without explicitly requiring that they use them.

Next, property rights privatize resources or allocates share to certain actors that give them the right to exclude others from using this resource.[61] This method of regulation is most commonly cited as a solution to the tragedy of the commons problem where resources are depleted because each actor is incentivized to maximize their use at the expense of the overall resource because they get the full benefits of overuse but pass on or share the costs of doing so with others. Property right can come in the form of a tradeable permit system where facilities are given permission to emit or discharge a certain amount of pollution. They can either use all of their permitted emissions or can use less and trade the rest to another facility that needs more room. In essence, it becomes a market in and of itself, driven by considerations of profit maximization.

Finally, the "softest" form of regulation, persuasion, often require information production and dissemination.[62] Examples of this are reporting requirements and public information provisions. The National Environmental Policy Act (NEPA) is a perfect example of a law that employs persuasion as its chief regulatory tool. NEPA, of course, requires certain federal actions to conduct environmental studies of the impacts of certain projects. The studies themselves can be long and costly and have strict procedural and public involvement obligations, but ultimately NEPA measures and assesses impacts but imposes no substantive requirements on the federal government to take specific actions

61 *Id.* at 367–69.
62 Salzman, *supra* note 57, at 373–75.

after the NEPA analysis is complete. In essence, a project could be determined to have significant environmental impacts, yet the project can still go forward. The power of persuasive environmental laws is that these laws give decision-makers, communities and the public valuable information to assess the benefits and burdens of projects and provide information that communities can organize around. An example of this persuasive tool in the context of chemical safety is when facilities are required to report, and make publicly available, the amount of toxic chemicals that the facility has released. Providing community-right-to-know provisions in laws is a use of the persuasive policy tool.

In all, these tools, the five P's, are often used together in statutes and regulations, to create the most effective policy response to the problem.[63] Nevertheless, the scale, intensity, and balance of these tools can have a strong influence on how well the regulations work in effectuating their policy goals. The following sections will discuss the laws and regulations that employ a number of these policy tools in attempting to prevent and mitigate accidental chemical releases.

III. CATALOGUING LEGAL PROTECTIONS FOR FENCELINE COMMUNITIES

In 1994, President Clinton signed Executive Order 12898: *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (the Order).[64] The Order represented a major step forward for the environmental justice movement and directed federal agencies to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and

63 *Id.* at 363.

64 *Summary of Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, ENV'T PROT. AGENCY, https://www.epa.gov/laws-regulations/summary-executive-order-12898-federal-actions-address-environmental-justice (last visited Apr. 30, 2021).

adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."[65] But, the Order does not "create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity by a party against the United States, . . . or any person[] . . . [nor] any right to judicial review involving the compliance or noncompliance of the [U.S. government]."[66] Instead, the Order was "intended only to improve the internal management of the executive branch."[67]

Courts have interpreted this language strictly. For example, the First Circuit Court of Appeals, in rejecting a community group's challenge of EPA's issuance of a Prevention of Significant Deterioration (PSD) permit for a new facility, dismissed the group's argument that permit violated the Order because the Order plainly bars judicial review under it.[68]

Given the Order's limitations, environmental justice advocates have found other ways to leverage existing laws and regulations to advance the goals of environmental justice. Fenceline communities can harness many of these same legal tools to protect them from the impacts of accidental chemical releases. The following section will outline and briefly explain a few of these legal tools and how these tools could be applied to achieve the specific aims of protecting fenceline communities from accidental releases of chemicals and hazardous materials.

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65 Exec. Order No. 12,898, 59 Fed. Reg. 76,29, 7,629 (Feb. 11, 1994).
66 *Id.* at 7,632.
67 *Id.*
68 *See.* Sur Contra La Contaminacion v. E.P.A., 202 F.3d 443, 449 (1st Cir. 2000) (reasoning that "[t]he Order, however, was 'intended only to improve the internal management of the executive branch'; by its own words, the order 'shall not be construed to create any right to judicial review.'").

A. CHALLENGING PERMITS

One tool commonly used by environmental justice advocates and community groups is the challenging of environmental permits. In particular, groups often try to influence the issuance of air permits for new and (modified) existing facilities. Challenging permits could potentially lead to favorable outcomes for environmental justice communities—through either the outright denial of the permit or a negotiated settlement between communities and the permit applicant that leads to more stringent standards, community protections or community benefits like community health centers, fenceline air monitors, or public parks.

The CAA delegates power to implement the Act through State Implementation Plans (SIPs).[69] States with approved SIPs have the authority, and obligation, to issue air-quality permits for new and modified major facilities under the New Source Review program.[70] The public has the right to participate in permitting decisions through written comments or oral statements at public hearings.[71]

Specifically, when states issue Title V operating permits, anyone who commented on the permit during the notice and comment period can petition EPA to object to the issuance of the permit.[72] EPA then has sixty days to grant or deny the petition.[73] Petitions are granted on the grounds that the Title V permit issued by a state permitting authority does not comply with the CAA or EPA's Title V permit implementing regulations.[74] Facially, this is a valuable tool for impacted communities attempting to resist the siting or

69 42 U.S.C. § 7407(a).
70 *Id.* § 7475(a).
71 *Id.* § 7475(a)(2).
72 *Id.* § 7661d(b)(2); 40 C.F.R. §§ 70.1–70.14 (2022).
73 42 U.S.C. § 7604(a)(2).
74 *Id.*

expansion of polluting facilities that bring possible chronic and acute health threats.

For example, in 1997, environmental groups challenged the Title V permit for a chemical plant proposed by Shintech Inc. near a low-income, minority community in Convent, Louisiana.[75] For the first time since the CAA Amendments of 1991 were promulgated, EPA granted the groups' petition and denied the permit, overruling the Louisiana Department of Environmental Quality (LDEQ) for its proposed new polyvinyl chloride (PVC) plant. Most significantly, this was an environmental justice community able to challenge the new construction of a chemical plant to be sited near their community.

Although EPA objected to the permit for technical reasons—not environmental justice concerns—this represented a major win for the community, and a signal to the environmental justice community that challenging permits, specifically air permits, could be an effective legal tool to shield environmental justice communities from added pollution exposure and health threats.[76] To be successful, however, environmental justice communities would need to find that the permit had technical problems, such as that the permit did not regulate all potential sources of pollution.[77] Concerns of disparate impact would not be a recognized challenge in a petition to EPA.

At the state level, in Texas, when individuals and community groups can show that they are an "affected person" (similar to Article III standing), they can request and participate in a "contested-case hearing" on environmental permit applications before an Administrative Law Judge (ALJ) at the State Office of Administrative Hearings (SOAH).[78]

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75 W. Richard Bidstrup et al., Clean Air Permits: Manager's Guide to the 1990 Clean Air Act § 917 (2003).
76 *Id.*
77 *See id.*
78 *See* Tex. Health & Safety Code § 382.056(n).

An "affected person" is "a person who has a personal justiciable interest related to a legal right, duty, privilege, power, or economic interest affected by the administrative hearing."[79] A contested-case hearing is a trial-like proceeding that hears issues of fact that were raised during the public comment period and are "relevant and material" to the decision on the application for permit.[80] The ALJ conducts the hearing and then prepares a "proposal for decision" that the Texas Commission on Environmental Quality (TCEQ) commissioners can adopt, reject, or amend.[81]

A contested-case hearing gives environmental justice communities, and anyone who can show affected person status, the opportunity to further challenge applications for environmental permits. The process, though straightforward, can be difficult given the level of discretion the TCEQ commission has to ultimately decide whether to grant or deny the permit. In this way, the amount of public scrutiny on a given permitting case could impose significant weight on the Commissioners' decision-making process. Nevertheless, the number of contested-case hearings has declined due to the increased standards for achieving affected person status.[82] Therefore, community groups must be ready to meet the onerous affected person standard to have access to a contested-case hearing.

In sum, challenging permits is a powerful tool for fenceline communities because

79 Tex. Water Code § 5.115(a).
80 *Id.* § 5.556(d).
81 Tex. Gov't Code § 2003.047(e)–(m); Tex. Health & Safety Code § 361.0832.
82 *See* Tex. Comm'n on Env't Quality v. Sierra Club, 455 S.W.3d 228 (Tex. App. 2014) (holding that the TCEQ's decision to deny Sierra Club's request for a contested-case hearing is supported by the administrative record); *see also* Shrimpers & Fishermen of RGV v. Tex. Comm'n on Env't Quality, 968 F.3d 419, 421 (5th Cir. 2020) (explaining TCEQ denial of petitioners request for contested-case hearing on liquified natural gas facility permit on basis that local fishers and shrimpers that live and recreate near facility were not affected persons).

permits are sought before the facility is allowed to begin operation, which provides great leverage. The time, energy, resources, and opportunity cost expended during the permitting process when the permit is challenged incentivizes the applicant to make concessions in order to expedite approval. This can lead to stricter permitting requirements, community benefit agreements (between permit applicant and community), or outright denial of permits, effectively blocking construction until an applicant meets CAA permitting requirements.

Facilities need permits before beginning construction or making modifications to their facilities. In many cases, of course, permits are not denied, but agreements can be reached that add permit requirements and secure beneficial community outcomes.

Applied to the context of fighting the risks of accidental chemical releases, prevention of the siting of facilities near environmental justice communities is the ideal scenario. This makes common sense when recognizing that the most effective way to reduce the risks that chemical releases pose to fenceline communities is to prevent facilities from ever being sited near communities in the first place. After all, some argue, reasonably, that facilities operating with hazardous chemicals can never be made completely safe to fenceline communities, and therefore the best policy should be to prevent the siting of these facilities near residential areas, whenever practical. Challenging permits is one tool that fenceline communities have for attempting to safeguard communities from living within the vulnerability zone of facilities with hazardous substances.

B. Title VI of the Civil Rights Act

Another key tool for environmental justice communities is Title VI of the Civil Rights Act. It states: "[n]o person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be

subjected to discrimination under any program or activity receiving Federal financial assistance."[83]

Under Title VI, "any program or activity" includes all of the operations of or any part of which has received Federal financial assistance.[84] "Federal financial assistance" includes grants, loans, and donations of federal funds or property; sales and leases of federal property; and federal agreement or contract intended to provide assistance.[85] This means that most local and state governments and agencies are considered recipients, and even private individuals or institutions that receive, directly or indirectly, federal assistance.[86]

Title VI allows individuals and groups to file administrative complaints with the federal agencies providing financial assistance or to file lawsuits in federal court.[87] Title VI complaints are directed at the recipients of federal financial assistance, not the agencies themselves. Title VI authorizes federal departments or agencies that gives financial assistance to issue rules and regulations pursuant to Title VI.[88] Additionally, agencies are authorized to ensure compliance with Title VI by terminating or refusing to grant funding.[89]

In the context of environmental justice, communities of color and other protected classes have been able to file administrative complaints with EPA's Office of Civil Rights (OCR). These communities claim that permitting decisions, like a state agency's issuance of air permits to new facilities in their community, where they are already overburdened

83 42 U.S.C. § 2000d.
84 40 C.F.R. § 7.25.
85 *Id.*
86 *Id.*
87 42 U.S.C. § 2000d-2.
88 *See id.* § 2000d-1.
89 *Id.*

by pollution, will have an adverse disparate impact (i.e., discriminatory effect) on the basis of race. One advantage of filing Title VI administrative complaints is that to prove discrimination, EPA, and many other federal agencies, only require a showing of disparate impact.[90] Whereas to prevail in a Title VI discrimination claim in federal court, the party must ultimately prove discriminatory intent.[91] In *Alexander v. Sandoval,* the Supreme Court held that Title VI provides a private right of action under section 601, but it "prohibits only intentional discrimination."[92] Meanwhile, section 602 of Title VI allows complaints and subsequent enforcement actions by agencies on a finding of disparate impact, but section 602 does not confer on individuals a private right of action.[93]

Even with the burdensome standard of proving discriminatory intent Title VI claims in federal court, Title VI administrative complaints remain a powerful tool for environmental justice communities. Whenever an action is taken by states—such as issuing a permit through one of the federal environmental laws—pursuant to a federal program that creates an adverse disparate impact on environmental justice communities, a person or group would have a strong case for a Title VI administrative complaint. Applied to facilities operating with toxic chemicals and hazardous substances, fenceline communities, particularly if they are minority communities, could file a Title VI complaint with EPA's OCR.

Unfortunately, however, EPA's OCR has a poor history of adequately investigating

90 *Id.* § 2000d.
91 *Id.*
92 Alexander v. Sandoval, 532 U.S. 275, 280 (2001).
93 *Id.*

and enforcing violations.[94] A Deloitte report commissioned by EPA in 2011 found that the Office of Civil Rights had not adequately adjudicated Title VI complaints.[95] In fact, the report found that over fifty percent of Title VI cases took longer than one year to be accepted versus EPA's target twenty-day turnaround.[96] EPA had only accepted or rejected six percent of the Title VI complaints filed within the twenty-day limit. This created a heavy backlog of complaints.

EPA's failure to meet its regulatory deadlines resulted in litigation. For example, the Ninth Circuit, in *Rosemere Neighborhood Association v. EPA*, where a community organization sought an injunction compelling EPA to timely process the organization's Title VI complaints and complete its investigation of another, the court said the plaintiff's "experience before EPA appears, sadly and unfortunately, typical of those who appeal to OCR to remedy civil rights violations."97

Additionally, between 1996 and 2013, of 265 known Title VI complaints filed with OCR, 162 were rejected, 38 were had not been reviewed, and 64 cases were accepted.[98] Of the accepted cases, some were referred to other agencies and some were resolved with voluntary informal agreements with the recipient of the federal assistance.[99] This shows an institutional problem—that EPA is not enforcing its nondiscrimination mandate under Title

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94 DELOITTE CONSULTING LLP, EVALUATION OF EPA OFFICE OF CIVIL RIGHTS 2 (2011), https://archive.epa.gov/epahome/ocr-statement/web/pdf/epa-ocr_20110321_finalreport.pdf; Marianne Engelman Lado, *No More Excuses: Building A New Vision of Civil Rights Enforcement in the Context of Environmental Justice*, 22 U. PA. J.L. & SOC. CHANGE 281 (2019).

95 Deloitte Consulting LLP, *supra* note 94.

96 *Id.* at 25.

97 Rosemere Neighborhood Ass'n v. U.S. Env't Prot. Agency, 581 F.3d 1169, 1175 (9th Cir. 2009).

98 Kristin Lombardi et al., *Environmental Racism Persists, and EPA is One Reason Why*, CTR. FOR PUB. INTEGRITY (Sept. 4, 2015), https://www.publicintegrity.org/2015/08/03/17668/environmental-racism-persists-and-epa-one-reason-why.

99 *Id.*

VI. Thus, while Title VI complaints could be a powerful tool for fenceline communities, the reality is that it is unlikely to preventing the siting of hazardous chemical facilities near their homes. Nevertheless, with structural and institutional reforms at the Office of Civil Rights, Title VI could become an effective tool for communities of color that are adversely and disproportionately burdened by pollution and fenceline communities could benefit.

C. Land Use Protections: Zoning and Restrictive Covenants

Local land use decisions, primarily through zoning, have shaped the development patterns of cities. The effect of past zoning policies has racially segregated cities, where the allocation of services, community assets, and investments are unequal. In many cities these inequalities are clearly demonstrated by the disparities in life expectancy across zip codes. For example, in Dallas County, the life expectancy of the predominantly white and wealthy zip code of 75204 is 90.3 years.[100] Meanwhile, about a 15-minute drive from Highland Park, in the zip code of 75215, the predominantly black neighborhood of Bonton in South Dallas has an average life expectancy of 67.6 years.[101] These stark disparities in life expectancy are result from a myriad of compounded inequalities, but the disproportionate exposures to health hazards and environmental pollution burdening by low-income, communities of color are a major aspect of this inequality. These disparities in life expectancy hold true for most of the country and correspond closely with the starkly racist development patterns of the past—namely, redlining, racial zoning, racially restrictive covenants, and exclusionary zoning. This section will not focus on these

100 *New interactive map first to show life expectancy of Texans by ZIP code, race, and gender*, UT Southwestern Medical Center: Newsroom (Feb. 27, 2019), https://www.utsouthwestern.edu/newsroom/articles/year-2019/life-expectancy-texas-zipcode.html.

101 *Id.*

destructive policies of the past but will instead outline how zoning and local land use laws can create greater environmental justice, and specifically, how they can protect communities from the severe risks of accidental chemical releases.

1. ZONING CHANGES

While local land use decisions have been a major contributor to health disparities, they can also be utilized to undo them. Zoning and other land use restrictions are a potential solution to the threats posed by hazardous chemical facilities to fenceline communities.[102] Many policy ideas exist for putting zoning and local land use rules to work for reducing and preventing the furthering of disproportionate environmental and health burdens imposed on low-income communities of color

Tightening zoning restrictions in certain areas by banning certain land uses—namely, industries deemed harmful to public health and the environment, could go a long way to protecting these communities' public health. In particular, if local zoning banned the siting of these facilities near residential areas, then the potential threats to communities from the accidental release of hazardous chemicals would also be reduced. These bans would prevent the siting of locally unwanted land uses in areas where land value is already depressed, and where there are already existing concentrations of polluting industrial sources. Outright bans can be implemented by local government's asserting their general police powers to protect human health and quality of life.[103] A city's zoning code can be

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102 *See* Ana Isabel Baptista, *Local Policies for Environmental Justice: A National Scan*, THE TISHMAN ENVIRONMENT AND DESIGN CENTER AT THE NEW SCHOOL (Feb. 2019), https://www.nrdc.org/sites/default/files/local-policies-environmental-justice-national-scan-tishman-201902.pdf (providing a "comprehensive look at recent efforts in 23 cities, three counties and two utilities across the United States to address environmental injustices through innovative reforms of zoning, land use, and other local policies.").

103 *Id.* at 16.

amended to deem certain uses incompatible with a particular zone or to pass stand-alone bans on certain uses deemed undesirable.[104]

For example, in 2014 the city of Chicago passed a stand-alone ban on the development or expansion of petroleum coke and coal facilities within the city.[105] Additionally, Chicago banned new manganese handling facilities from opening and existing facilities form expanding.[106] Manganese is used in the production of steel and is a healthy nutrient in small amounts but a neurotoxin in excess amounts.[107] Other cities—Seattle, Portland, Baltimore, and Oakland—have used specific land use bans to prevent the storage and infrastructure expansion of fossil fuels.[108]

Moreover, land use ordinances banning specific uses could further protect overburdened and vulnerable low-income communities of color from being further exposed to health risks. A benefit of this strategy is that bans can be highly location-specific, tailored to the local needs and conditions of the municipality. After all, the threats posed to communities, especially in the context of hazardous chemicals, can depend on the region of the country. This localized approach allows local governments to avoid the potential issues of broader federal and state regulatory programs—such as the concern of being overly restrictive on land uses that do not pose significant local threats while not being restrictive enough for the undesirable land uses affecting local communities in specific locales.

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104 *Id.*
105 Chicago, Ill., Zoning Ordinance, Use Standards § 17-9-0117-B Coke & Coal Bulk Material Uses.
106 *Id.* § 17-9-0117-D Manganese-bearing Material Operation Uses.
107 *What You Need to Know About Manganese,* CITY OF CHICAGO PUBLIC HEALTH DEP'T: HEALTHY COMMUNITIES, https://www.chicago.gov/city/en/depts/cdph/supp_info/healthy-communities/what-you-need-to-know-about-manganese.html (last visited Apr. 11, 2022).
108 Ana Isabel Baptista, *supra* note 102, at 16–17.

Another benefit of using local land use processes to ban specific uses posing public health threats is the ability of the locality to balance competing interests, including economic and health considerations and the desires of the community.

Yet outright bans can be legally problematic. Bans on specific land uses, especially ones that attempt to aggressively go beyond existing protections under federal and state law, can be challenged in court on the grounds that: cities are preempted from regulating certain industries by state law; that the ban interferes with interstate commerce (dormant commerce clause); or that the ban represents a "taking" of property without just compensation.[109] Industries that have a strong economic incentive to challenge municipal land use bans and will often do so. For example, fossil fuel industries have challenged the ordinances banning fossil fuel storage and infrastructure expansion.[110]

Where specific land use bans are not the right local land use solution for addressing environmental justice concerns, many other zoning policy approaches exist to protect low-income communities of color. A softer solution—following the information-gathering, persuasion tool of environmental policy—would entail incorporating a mandatory environmental justice review process as part of rezoning and development proposals.[111] Many municipalities already have a review process, but explicitly requiring an environmental justice impact assessment would provide overburdened communities an added procedural protection.[112] The review could focus on studying the direct, indirect, and cumulative impacts of development proposals on environmental justice communities. To

109 *Id.*
110 *Id.*
111 *Id.* at 19.
112 *Id.*

give this review process enforcement teeth, if the assessment resulted in a determination that these developments would disproportionately harm the health of environmental justice communities, then the city could have the authority to reject the development proposal or require mitigation measures.[113] An example of this is the city of Cincinnati's Environmental Justice Ordinance, which required any proposed project in Cincinnati to have an environmental justice permit administered by the Cincinnati Office of Environmental Quality to operate.[114] Fulton County, Georgia requires Environmental Impact Reports for all rezoning or permit petitions, which includes an Environmental Site Analysis and Environmental Impact Report.[115]

Notably, however, local resistance to these types of environmental justice review processes can be fierce. In Cincinnati, many businesses opposed the new ordinance.[116] The Regional Chamber of Commerce even created a task force to conduct studies regarding the financial and economic impacts of the ordinance.[117] Ultimately, the pressure was so strong and the city did not implement the environmental justice ordinance, resulting in its repealing it in 2010.[118] So, even though local review processes are softer than the specific-use bans, these can still engender strong opposition.

Other notable "soft" reforms that could increase protections for environmental justice communities through local land use include more robust and meaningful opportunities for public participation in the development of municipalities' comprehensive

113 *Id.* at 19.
114 *Id.*; Cincinnati, Oh., Env't Code § 1041 (repealed 2010).
115 Fulton County, Ga., Mun. Code § 28.4.
116 Baptista, *supra* note 102, at 21.
117 *Id.*
118 *Id.*

land use plans and other proactive city planning decisions.[119] Comprehensive land use plans set out the local government's policy guide to decisions about the physical development of the city and it communities.[120] This allows local governments a chance to look broadly at development decisions regarding housing, economic development and other programs.[121]

Incorporating the views, experiences, and preferences of environmental justice communities into the comprehensive land use plan could influence how they may be impacted by future development. The current norm of holding one or two public meetings for community members to provide comments is not sufficient. Instead, to ensure more active involvement of impacted communities, especially those from low-income communities of color, individual members of communities should be appointed to the planning and zoning boards.

More substantive measures to advance environmental justice in the proactive planning process include overlay districts or green zones that explicitly seek to address environmental justice.[122] Overlay zones create special zoning districts over existing base zones that create additional regulations or incentives to guide development and protect specific resources.[123] As an example, East Austin has an overlay that reduces the concentration of industrial activities near residential areas and mitigate the impacts of existing industrial pollution.[124] Green zones are special use designations that seek to

119 Patricia E. Salkin, *Environmental Justice and Land Use Planning and Zoning*, 32 REAL EST. L.J. 429 (2003).
120 *Id.* at 433.
121 *Id.*
122 Baptista, *supra* note 102, at 23.
123 *Id.* at 24.
124 *Id.*

enhance public health and local economic development for environmental justice communities.[125] Green zones attempt to prevent and reduce existing pollution burdens by targeting investments, attracting greener developments, and the involving the community.[126]

2. RESTRICTIVE COVENANTS AND PUBLIC NUISANCE LAWS

Houston, a city famously without zoning, is also the site of many industrial facilities that store, use and process hazardous substances. This means that the city does not mandate the separation of commercial, residential, and industrial developments. However, this lack of zoning belies the existence of land use restrictions. The city of Houston has ordinances regulating public nuisances and health hazards.[127] Most notably, deed restrictions or restrictive covenants play a large role in regulating land use in ways that largely serve the same function as zoning. Restrictive covenants are agreements among property owners regulating how they can and cannot use property in each neighborhood or area.[128] Restrictive covenants are legally binding and enforceable. Whereas enforcement is usually the property owners' responsibilities, in Houston, the state legislature and city council have given the city authorization to enforce recorded deed restrictions.[129]

Deed restrictions can be an effective way for residential communities to keep out health hazards and other nuisances. In Houston, any resident of Houston may lodge a complaint with the city's Deed Restriction Enforcement Team.[130] This is favorable for

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125 *Id.* at 24.
126 *Id.*
127 *See generally* Houston, Tex., Code of Ordinances § 10; *see also id.* § 21.
128 *See Restrictive Covenants,* Cornell Law School: Legal Information Institute, https://www.law.cornell.edu/wex/restrictive_covenant (last visited May 5, 2021).
129 *Deed Restrictions – Frequently Asked Questions*, City of Houston, Tex. Legal Dep't, https://www.houstontx.gov/legal/dr-faq.html (last visited May 9, 2021).
130 *Id.*

communities and individuals, especially low-income and marginalized communities, because they can utilize the enforcement power of the city rather than shouldering the burdens of filing lawsuits to enforce covenants. In theory, environmental justice communities should be able to use restrictive covenants to prevent the siting of hazardous industrial facilities near their communities.

Of course, challenges exist. First, similar to zoning, even with a restrictive covenant, facilities could be sited in a location just outside the bounds of the covenant. This would remove the community's ability to use the restrictions to prevent the siting of the facility while still exposing them to the fenceline exposure risks. Also, restrictive covenants might not work retroactively when industrial facilities are already sited near communities. Finally, restrictive covenants are difficult to set up. They require signatures from at least fifty percent of owners in an area must sign.[131] To modify restrictions at least seventy percent of owners must sign.[132] Even with a strong community, reaching consensus can be challenging. In marginalized communities, many people are renters, not owners. Therefore, renters do not have voting power to form a restrictive covenant. Also, in marginalized communities, high residential turnover can lead to community fragmentation, which makes coordinating the formation of restrictive covenants challenging. Nevertheless, restrictive covenants remain a promising way for local communities in Houston, and elsewhere, to further prevent and restrict exposure to hazardous chemical facilities.

In sum, many potential local land use legal tools, including zoning changes and restrictive covenants, could help effectuate the goals of environmental justice communities.

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131 Tex. Prop. Code §§ 201.006(a), (b).
132 *Id.*

Reducing and preventing industrial pollution sources near environmental justice communities will also effectively reduce the number of risks posed by hazardous chemical facilities. Therefore, pursuing environmental justice through the local land use process will also help address the acute threats of accidental chemical releases and their potentially devastating impacts on low-income communities and communities of color.

IV. LAWS GOVERNING HAZARDOUS CHEMICALS AND EMERGENCY PREPAREDNESS

This section will discuss two federal statutory and regulatory schemes, section 112(r) of the CAA and the Emergency Planning and Community Right-to-Know Act (EPCRA), that regulate accidental releases of hazardous chemicals. Each takes a different policy approach to regulation, utilizing a range of policy tools. This section discusses the details of these regulatory schemes, analyzes the protections they provide fenceline communities, and discusses the limitations and contested issues.

A. CAA 112(R): PREVENTION OF ACCIDENTAL RELEASES

As part of the 1990 CAA amendments, Congress passed section 112(r): "Prevention of Accidental Releases" in response to several high-profile chemical accidents that harmed workers, fenceline communities, and the environment.[133] The purpose of section 112(r) is "to prevent the accidental release and to minimize the consequences of any such release of any substance . . . ["known to cause or may reasonably be anticipated to cause death, injury, or serious adverse effects to human health or the environment"] or any other extremely hazardous substance.[134] An "accidental release" is an "unanticipated emission of a regulated substance or other extremely hazardous substance into the ambient air from a

133 *See* 136 Cong. Res. S16,899, S16,926–27 (1990) (Conf. Rep.); *see also* Air All. Hous. v. Env't Prot. Agency, 906 F.3d 1049, 1053 (D.C. Cir. 2018).
134 42 U.S.C. §§ 7412(r)(1), (3).

stationary source."[135]

Section 112(r) tasks EPA with implementing the RMP program to protect the community and the environment.[136] Meanwhile, OSHA adopted the Process Safety Management standard to protect workers at these facilities.[137] This article focuses on the RMP program.

Section 112(r) of the CAA and its implementing regulations set out a general duty for companies handling regulated substances to design and maintain a safe facility to prevent releases of hazardous chemicals and to minimize the consequences of any accidental releases.[138] In addition, it created the Chemical Safety Board, set out hazard assessment, prevention, and emergency response requirements, and required covered facilities using extremely hazardous substances to develop an RMP.[139]

1. GENERAL DUTY CLAUSE

Section 112(r) of the CAA imposes a general duty on each owner or operator of facilities that pose accidental release risks to identify, prevent and minimize the risk of these releases.[140] Specifically, this general duty obliges owners and operators of these facilities to: identify hazards that may result from accidental release of listed or unlisted extremely hazardous substances using appropriate hazard assessment techniques; to "design and maintain a safe facility taking such steps as are necessary to prevent releases"; and "minimize the consequences of accidental releases which do occur."[141]

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135 *Id.* at § 7412(r)(2).
136 *Id.* at (r)(6)(K).
137 *See* Process Safety Mgmt., 29 C.F.R. § 1910.119.
138 42 U.S.C. § 7412(r)(7).
139 *Id.*
140 *Id.* § 7412(r)(1).
141 *Id.*

When passed in 1990, the general duty requirement represented a major shift in policy away from a hands-off approach toward imposing a general obligation (and burden) on all facilities using hazardous chemicals and substances in their operations and processes.[142] This obligation required facilities to demonstrate that adequate engineering practices and hazard assessment principles have been used in the design, construction, maintenance, and operations of the facility, protecting the public from the risk of accidental chemical releases.[143]

The general duty has the express purpose of "prevent[ing] releases, and minimize[ing] the consequences of accidental releases which do occur."[144] This applies to stationary sources "producing, processing, handling or storing" either a regulated substance or any other extremely hazardous substance.[145] The duty arises when no specific regulation is applicable, and likely also when a specific regulation is known to not be adequate to control the specific risk of accidental release.[146]

Section112(r)'s general duty clause imposes the same requirements on owners and operators of facilities as the general duty clause found in the Occupational Safety Hazard Act (OSH Act).[147] The legislative history supports this conclusion, as it makes repeated reference to the applicable section of OSH Act.[148] The Senate Committee even indicated that the same general elements applicable for establishing a violation of OSH Act's general duty clause are applicable in the general duty clause of section 112(r).[149] These elements

142 *See Delhotal*, *supra* note 49, at 63–65.
143 *Id.*
144 42 U.S.C. § 7412(r)(1).
145 *Id.*
146 *Id.*
147 *Id.*; 29 U.S.C. § 654(a)
148 *See* S.Rep. No. 228, 101st Cong., 1st Sess. 209 (1989), reprinted in 1990 U.S.C.C.A.N. 3385, 3594.
149 *Id.*

are: (1) the employer failed to render its workplace free of a hazard; (2) the hazard was recognized either by the cited employer or generally within the employer's industry; and (3) the hazard was causing or was likely to cause death or serious physical harm.[150]

EPA has brought enforcement actions against industry for violations of the general duty clause. For example, EPA brought enforcement actions against a fertilizer and methanol manufacturer after an explosion occurred at its ammonium nitrate plant in Port Neal, Iowa.[151] The explosion killed four workers, injured eighteen others, and released 4,200 tons of anhydrous ammonia and 100 tons of nitric acid.[152] Through a settlement agreement, the company agreed to pay a civil fine of $500,000 and spend $100,000 on supplemental environmental projects to benefit the local communities.[153]

Recently, in *re Hazlehurst Wood Pellets*, the Sierra Club challenged the Title V permit of a wood pellet facility for failure to specifically incorporate the general duty clause into the facility's permit.[154] Therefore, Sierra Club argued the exclusion violated the general duty clause, justifying a citizen suit.[155] EPA rejected Sierra Club's claim, stating that the general duty clause precludes citizen suits based on violations of this provision.[156] The duty is "self-implementing" and independently enforceable, meaning that it applies even if not included in an air permit.[157] Further, the general duty clause is a "fluid" duty,

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150 *See* Duriron Co. v. Sec'y of Labor: U.S. Occupational Safety & Health Rev. Comm'n, 750 F.2d 28, 30 (6th Cir. 1984) (reaffirming the three elements of general duty clause).
151 Kevin Johnson, *Mandatory Compliance Required with the Clean Air Act's "General Duty" Clause*, 7 MO. ENV'T. L. & POL'Y REV. 122, 122–23 (2000).
152 *Id.*
153 *Id.*
154 *Hazlehurst Wood Pellets, LLC*, 86 Fed. Reg. 13,716 (Dec. 31, 2020); Mark A. Thimke & Peter A. Tomasi, *Revival of General Duty Clause,* NAT'L L.R. (Jan. 29, 2021), https://www.natlawreview.com/article/revival-general-duty-clause.
155 Thimke & Tomasi *supra* note 154.
156 *Id.*
157 *Id.*

requiring facilities to review and adopt the latest recognized industry practices and standards.[158] This recent decision seems to open the door for EPA to rely on the general duty clause to monitor facilities and bring enforcement actions even where other regulatory provisions do not apply.

Thus, the general duty clause acts as a catchall provision, imposing duties on stationary sources where other provisions do not apply. In a sense, the general duty clause creates a broadly applicable floor for facilities operating with hazardous substances. With an active EPA on this issue, the general duty clause could provide a powerful protective regulation for fenceline communities.

2. Risk Management Plan Program

The RMP regulations cover industrial processes involving the use, storage, manufacturing, or handling of listed chemical substances.[159] Under the RMP regulations, section 112(r) rules apply to all stationary sources, such as an industrial facility, with processes that contain more than a threshold amount of one of the listed substances.[160] Any covered facility must submit a single RMP that includes: a Hazard Assessment that details the potential effects of an accidental release; an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; a prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and an emergency response program that spells out emergency health care, employee

158 *Id.*

159 40 C.F.R. § 68.3 ("*Process* means any activity involving a regulated substance including any use, storage, manufacturing, handling, or on-site movement of such substances, or combination of these activities").

160 *See* 40 C.F.R. § 68.10(a) ("Except as provided . . . a stationary source that has more than a threshold quantity of a regulated substance in a process . . . shall comply with the requirements of this part[.]"); *see also* David Wooley & Elizabeth Morss, Clean Air Act Handbook § 6:46 (2020).

training measures, and procedures for informing the public and response agencies (e.g. the fire department) should an accident occur. [161]

Under the RMP program, covered facilities are divided into Programs 1, 2, and 3, based on the potential for offsite consequences associated with a worst-case accidental release, the accident history, and whether the facility is subject to OSHA safety requirements.[162] Program 1, those facilities with no potential impacts on the public in the case of an accidental release, are subject to the least stringent requirements.[163] Program 3, or processes in industry sectors that have significant accident histories or are required to implement OSHA safety standards, are most stringently regulated and must implement comprehensive risk management programs.[164] All other processes and facilities are subject to a streamlined prevention program under Program 2.[165]

All covered facilities must include in their RMPs a worst-case analysis, five-year accident history, its accidental release prevention and emergency response policies, its emergency response program, planned changes to improve safety, and registration form.[166] Not all facilities are required to maintain an emergency response plan as part of their RMP, however. If a facility does not maintain staff to respond to accidental releases, but it has coordinated with either its local fire department or its Local Emergency Planning Committee (as required by EPCRA), then the facility does not need to maintain its own emergency response plan.[167] These non-responding sources with toxic substances above

161 42 U.S.C. § 7412(r)(7)(B)(ii); 40 C.F.R. pt. 68.
162 Michael Francis, *Risk-management programs under § 112(r) of the Clean Air Act*, *in* Hazard Comm. Handbook: A right-to-know compliance guide § 10:5 (2020).
163 *Id.*
164 *Id.*
165 *Id.*
166 40 C.F.R. §§ 68.15–68.220.
167 *See id.* § 68.90(b).

the threshold quantities must be included in the community comprehensive emergency response plans developed pursuant to EPCRA.[168] Non-responding sources with only flammable substances above the threshold quantities must have coordinated response actions with the local fire department.[169] Non-responding sources must also perform annual emergency response coordination activities and document the names of individuals involved, the dates and the nature of such coordination activities.[170]

3. CHEMICAL DISASTER RULE

In 2013, in response to several major chemical accidents, like the West explosion, President Obama issued an executive order directing federal agencies to improve safety and security at chemical facilities.[171] The order instructed federal agencies to ensure that state and local partners have access to key information to prevent, prepare for, and respond to chemical incidents.[172] Also, the order directed federal agencies, including EPA, to improve chemical safety regulations and determine if additional chemicals should be covered by federal regulatory programs.[173]

In 2014, approximately fifteen years after publishing the RMP regulations, EPA requested information to assist it in deciding whether to revise and update the rules.[174] EPA sought input on: updating the list of regulated substances; adding/revising risk management

168 *Id.* § 68.90(b)(1).
169 *Id.* § 68.90(b)(2)
170 *Id.* §§ 68.90(b)(4)–(5).
171 Exec. Order No. 13,650, 78 Fed. Reg. 48,029 (Aug. 1, 2013).
172 *Id.* at 48,031.
173 *Id.* at 48,032.
174 Accidental Release Prevention Requirements: Risk Management Programs Under CAA, Section 112(r)(7), 79 Fed. Reg. 44,604 (July 31, 2014) (to be codified in 40 C.F.R. pt. 68) (action for request for information).

program elements;[175] evaluating updates to applicable recognized and generally accepted good engineering practices; extending mechanical integrity requirements to cover any safety critical equipment; requiring owners/operators to manage organizational change; and requiring third-party compliance audits.[176]

After notice and comment, the final amendments were published in January 2017, right before Obama left office.[177] With respect to accident prevention, EPA revised the rules to require all facilities with Program 2 or 3 processes to conduct a root cause analysis after any incident that resulted or could have resulted ("near misses") in a catastrophic release.[178] In addition, any Program 2 or 3 facility that had a RMP reportable incident was required to use an independent third party that met certain regulatory criteria to conduct or oversee its next scheduled audit.[179] Finally, Program 3 facilities were required to evaluate safer production alternatives as part of their hazard assessment, although implementation of the changes identified was not required.[180]

EPA also revised the rule's emergency response provisions to require facilities with Program 2 or 3 processes to coordinate with local emergency agencies at least once a year to clarify response needs, emergency plans, and roles and responsibilities.[181] Subject to various exceptions, EPA also required these facilities to conduct emergency notification exercises annually, field exercises at least every ten years, and tabletop exercises at least

175 *E.g.*, stop work authority, ultimate work authority (requiring employers to identify who has ultimate authority for operational safety issues), role of contractors, and method for conducting process hazard analyses. *Id.*
176 *Id.*
177 Accidental Release Prevention Requirements: Risk Management Programs Under Clean Air Act, 82 Fed. Reg. 4,594 (Jan. 13, 2017) (to be codified in 40 C.F.R. pt. 68) (action for final rule).
178 *Id.* at 4,666.
179 *Id.* at 4,675.
180 *Id.* at 4,632.
181 40 C.F.R. § 68.93.

every three years.[182] Finally, the rule required all RMP facilities to provide certain basic information to the public upon request and hold a public meeting within ninety days of a reportable accident.[183] However, EPA dropped a proposal to require a subset of facilities to provide local emergency response authorities with summaries of certain key program components.[184] Instead, facilities were expected to share certain information during the annual coordination meetings.[185]

a. *Chemical Disaster Rule Delay and Challenge*

Immediately after taking office, President Trump promulgated a rule that delayed by two years the date that the Chemical Disaster Rule would take effect.[186] According to EPA, the extension would "allow EPA to conduct a reconsideration proceeding and to consider other issues that may benefit from additional comment."[187]

This decision to delay the effective date of the rule was challenged by several groups, including Air Alliance Houston, under the Administrative Procedure Act for being arbitrary and capricious and contrary to law.[188] Plaintiffs' main arguments were the following: (1) that EPA lacked authority to promulgate the Delay Rule because the CAA confined EPA's power to stay the effectiveness of a rule pending reconsideration to a single three-month period;[189]and (2) that CAA 112(r) specifically provides that rules promulgated under it "shall have an effective date . . . assuring compliance as expeditiously as

182 *Id.* at §§ 68.90(b)(5)–68.96.
183 *Id.* at §§ 68.210(b), (e); 82 Fed. Reg. at 4,596.
184 82 Fed. Reg. at 4,666.
185 *See* 40 C.F.R. § 68.93.
186 Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act; Further Delay of Effective Date, 82 Fed. Reg. 27,133 (June 14, 2017).
187 *Id.*
188 Air All. Houston v. Env't. Prot. Agency, 906 F.3d 1049 (D.C. Cir. 2018).
189 *Id.*

practicable."[190]

The Court of Appeals for the District of Columbia Circuit sided with Air Alliance Houston, rejecting EPA's two-year delay of the effective date of the RMP rule revisions.[191] The court concluded that the extension violated the CAA, which limits stays of the effective date of CAA regulations pending reconsideration to three months.[192] The court said: "EPA may not employ delay tactics to effectively repeal a final rule while sidestepping the statutorily mandated process for revising or repealing that rule on the merits."[193] The court then found EPA's promulgation of the delay rule arbitrary and capricious, pointing to the fact that the delay rule's preamble failed to provide any rationale for EPA's departure from its stated reasons for setting the original effective date and compliance dates.[194]

After the ruling in *Air Alliance v. EPA*, EPA was no longer able to delay the Chemical Disaster rule from going into effect. Seven days later, a group of environmental groups and Democratic state attorneys general called on the court to bypass the traditional fifty-two-day waiting period to enforce the ruling and to issue an expedited mandate to immediately put the rule into effect.[195] The group argued that "[p]etitioners and the public have a strong interest in the court's mandate issuing promptly, due to the serious and irreparable harm and imminent threats to public health and safety that EPA's Delay Rule is causing."[196] The group emphasized the urgency of implementing and enforcing the law

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190 *Id.;* 42 U.S.C. § 7412(r)(7).
191 *See* Air All. Houston, 906 F.3d at 1049.
192 *Id.*
193 *Id.* at 1065.
194 *Id*. at 1066–69.
195 Amanda Doyle, *Attempt to Hasten Compliance with Chemical Safety Law Overruled*, CHEM. ENGINEER (Sep. 10, 2018), https://www.thechemicalengineer.com/news/attempt-to-hasten-compliance-with-chemical-safety-law-overruled/.
196 *Id.*

because of the hurricane season and its potentially devastating impacts on the Gulf Coast, the major hub for oil refineries and chemical facilities.[197] The D.C. Circuit granted the motion, but then reversed its decision after business groups and Republican state attorneys general argued that the parties were given insufficient time to oppose the motion. Therefore, the rule did not go into effect until December 2018. From the date that the Chemical Disaster Rule was scheduled to go into effect until the date it went into effect, there were seventy-three known incidents of major chemical releases at facilities that would have been regulated by the Chemical Disaster Rule.[198]

b. *Rollback of Chemical Disaster Rule*

Finally, in December 2019, EPA officially rescinded any of the amendments made to the Risk Management program under Obama, known as the Chemical Disaster Rule. The rule rescinded the provisions requiring a root cause analysis and independent third party audit following major incidents at facilities with Program 2 or 3 processes.[199] EPA also rescinded the requirement that certain facilities (paper manufacturing, petroleum and coal products manufacturing, and chemical manufacturing) evaluate safer production alternatives as part of their hazard assessments.[200] The agency continued to require field exercises to improve coordination with local emergency responders, it eliminated the minimum frequency requirements and gave facilities greater flexibility with respect to the content of these exercises and supporting documentation.[201] EPA also rescinded the

197 *Id.*
198 *See* EARTHJUSTICE, *supra* note 24.
199 *See generally* Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, 84 Fed. Reg. 69,834 (Dec. 19, 2019).
200 *Id.* at 69,835.
201 *See id.* at 69,837.

requirement that all RMP facilities provide certain basic information to the public upon request and significantly delayed various compliance dates.[202]

As a result, the RMP rule was nearly back to its pre-Obama form, which the Obama-EPA had found inadequate to prevent chemical disasters from certain facilities and protect communities from the resulting harm. In effect, this rollback made fenceline communities less safe and less able to know the risks associated with living near hazardous chemical facilities.

c. *RMP Limitations*

Currently, and as the Obama-Administration concluded, the biggest challenge with the Risk Management Plan provisions is that they are not adequate to prevent chemical disasters and the serious impacts of these accidental releases on fenceline communities. The lack of third-party audits, root cause analysis, and public disclosure of information ensure that there are limited opportunities for external scrutiny of a facility's operations. In effect, these facilities can self-regulate and operate without significant accountability measures. Any attempt to make the RMP program more effective should begin with the Obama-era regulations.

B. EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW ACT

EPCRA was passed in response to concerns over the environmental and safety hazards posed by storage and handling of toxic chemicals. This concern was a direct response to the chemical disaster in Bhopal, India where more than 15,000 people were killed and over 600,000 were exposed by the release of methyl isocyanate from the Union

202 *Id.* at 69,885.

Carbide pesticide plant.[203] The accident was one of the worst chemical accidents of the twentieth century. The fact that a facility owned by Union Carbide, an American company, was the source of this disaster, and considering that Union Carbide had a similar facility in West Virginias led Congress to pass EPCRA.

The statute's purpose is to inform communities of chemical hazards in their areas and help communities prepare for chemical emergencies.[204] EPCRA consists of three main parts. The first part concerns emergency planning and notification.[205] The second part concerns reporting requirements, including material safety data sheets, emergency hazardous chemical inventory forms, and toxic chemical release forms.[206] The third part contains procedures for enforcement and provides for the dissemination of information subject to trade secret provisions.[207]

1. SERCs, Emergency Planning Districts, and LEPCs

EPCRA directs states to create state emergency response commissions (SERCs).[208] SERCs are responsible for appointing, supervising, and coordinating local emergency planning committees.[209] Additionally, the SERCs are responsible for "establish[ing] procedures for receiving and processing requests from the public for information . . . ."[210]

SERCs must establish emergency planning districts and emergency planning

203 Alan Taylor, *Bhopal: The World's Worst Industrial Disaster, 30 Years Later,* ATLANTIC (Dec. 2, 2014), https://www.theatlantic.com/photo/2014/12/bhopal-the-worlds-worst-industrial-disaster-30-years-later/100864.
204 *See Emergency Planning and Community Right-t-Know Act (EPCRA),* ENV'T PROT. AGENCY, https://www.epa.gov/epcra (last updated Feb. 22, 2022).
205 *See* Emergency Planning and Community Right-to-Know Act, 42 U.S.C. §§ 11001–11050.
206 42 U.S.C. §§ 11021–11023.
207 *Id*. §§ 11041–11050.
208 *Id.* § 11001(a).
209 *Id.*
210 *Id.*

committees.[211] The districts are meant to "facilitate preparation and implementation of emergency plans."[212] For each emergency planning district, the SERC must appoint members of a Local Emergency Planning Committee (LEPC).[213] LEPCs must:

> …include, at a minimum, representatives from each of the following groups or organizations: elected State and local officials; law enforcement, civil defense, firefighting, first aid, health, local environmental, hospital, and transportation personnel; broadcast and print media; community groups; and owners and operators of facilities subject to the requirements of this subtitle.[214]

LEPCs are required to create rules of operation, which, specifically, include "provisions for public notification of committee activities, public meetings to discuss the emergency plan; public comments, response to such comments by the committee, and distribution of the emergency plan[] . . . [and] for receiving and processing requests from the public for information . . . ."[215]

2. COMPREHENSIVE EMERGENCY PLANS

LEPCs are also required to prepare "[c]comprehensive emergency response plans" and review them "once a year, or more frequently as changed circumstances in the community or at any facility may require."[216] These plans must include: identification of covered facilities, routes likely to be used in transportation of substances on the list of extremely hazardous substances, methods and procedures for responding to a chemical release, designation of a community emergency coordinator and facility emergency coordinators, methods for determining the occurrence of a release and the likely affected

211 *See id.* § 11001(b).
212 *Id.*
213 *Id.* § 11001(c).
214 *Id.*
215 *Id.*
216 *Id.* § 11003.

population, description of emergency equipment, evacuation plans, and training programs (among other things).[217]

When the LEPC completes the emergency response plan, it must submit a copy to the SERC.[218] The SERC should then review the plan and make recommendations to the committee on revisions of the plan necessary to ensure coordination with emergency response plans of other emergency planning districts.[219]

3. EPCRA Reporting Requirements

a. Material Safety Data Sheets or Chemical Lists

Facilities must submit either a Material Safety Data Sheet (MSDS) for each hazardous chemical or a list of such chemicals grouped by category to the appropriate LEPC, the SERC, and any fire department with jurisdiction over the facility.[220] Additionally, these MSDS or lists must be made available to the public, by way of the LEPC, upon request.[221] Facilities must revise the MSDS or lists and update LEPCs within three months following discovery of new significant information concerning an aspect of a hazardous chemical.[222]

b. Emergency and Hazardous Chemical Inventory Forms

If a facility is required to prepare or have available a material safety data sheet, then it also must prepare and submit an emergency and hazardous chemical inventory form to its LEPC, the SERC, and fire departments with jurisdiction over the facility. These "inventory forms" contain Tier I (hazardous chemicals in categories of health and physical

217 *See id.* § 11003(c).
218 *Id.* § 11003(e).
219 *Id.*
220 *Id.* § 11021(a).
221 *See id.* § 11021(c).
222 *Id.* § 11021(d)(2).

hazards as set forth under OSHA) and Tier II information (information about each hazardous chemical present at the facility). Tier II information must include chemical names, an estimate of the average daily amount and maximum amount of the hazardous chemical present at the facility at any time during the preceding calendar year, and a description of the storage of the hazardous chemical.[223]

c. Toxic Chemical Release Forms

Third, covered facilities must complete a toxic chemical release form for each toxic chemical listed that was manufacture, processed, or otherwise used in quantities above the threshold quantity. This form must "contain data reflecting releases during the preceding calendar year."[224] These forms must be submitted to EPA and to an official designated by the Governor.[225] This requirement is "intended to provide information to the Federal, State, and local governments and the public, including citizens of communities surrounding covered facilities."[226]

4. COMMUNITY ACCESS TO INFORMATION UNDER EPCRA

EPCRA provides that "[e]ach emergency response plan, material safety data sheet, . . . inventory form, toxic chemical release form, and follow up emergency notice shall be made available to the general public. . . during normal working hours…"[227] The provision does permit withholding the "location of any specific chemical . . . contained in an inventory form as tier II information."[228] Additionally, "[e]ach local emergency planning committee shall annually publish a notice . . . that the emergency response plan, material

223 *See id.* § 11022(2)(a)–(f).
224 *See id.* § 11023(a).
225 *See id.*
226 *Id*. § 11023(h).
227 *Id.* § 11044(a).
228 *Id.*

safety data sheets, and inventory forms have been submitted under this section."[229]

The SERC and LEPC is responsible for making "[a]ll information obtained from a[] [covered facility's] owner or operator in response to a request . . . [and] [a]ny requested Tier II information or MSDS . . . otherwise in possession of the SERC or the LEPC[]" available if a person requests it.[230] This broad language, theoretically, allows the public to have access to everything that EPCRA mandates the LEPC and SERC be provided from covered facilities.

However, courts have interpreted these provisions narrowly, applying a strict textualist reading, particularly when requests are made for Tier II data. For example, the U.S. District Court for the Western District of Pennsylvania held that any written request for access to Tier II data must identify a specific facility.[231] The pertinent language is "[a]ny such request shall be in writing and shall be with respect to a specific facility."[232]

The court dismissed a suit filed by a group seeking access to Tier II data from a Pennsylvania state agency because their request did not identify a specific facility for which it was requesting this information.[233] The court ruled that the plaintiffs failed to request the information in accordance with the requirements set forth in EPCRA.[234]

In another, earlier Pennsylvania case (this time in state court) involving the same parties, the court concluded that EPCRA's language did not establish the public nature of Tier II information.[235] Specifically, the court read EPCRA's provision regarding the public

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229 *Id.* §11044(b).
230 40 C.F.R. § 370.63.
231 PublicSource v. Pa. Dept. of Lab. & Indus., No. 15–358, 2015 WL 4956636, at *1 (W.D. Pa. Aug. 19, 2015).
232 42 U.S.C. § 11022(e)(3)(A).
233 PublicSource, 2015 WL 4956636 at *1.
234 *Id.*
235 Dept. of Labor & Industry v. Heltzel, 90 A.3d 823, 830 (Pa. Commw. Ct. 2014).

availability of Tier II information as not being the same as establishing this information as public.[236] The court reasoned that "[t]he phrase 'availability to public,' imposes a duty on an agency to provide public access to certain records as that agency sees fit to fulfill its duty."[237] Therefore, "EPCRA sets forth a means of requesting reports under that statute." But, according to the court, "[n]owhere does EPCRA state that Tier II information 'shall be public,' or the like."[238]

These cases suggest some courts applying a narrow, strict textualist reading of the EPCRA public availability provisions.

Another section of EPCRA provides exceptions to this broad right-to-know rule. When the facility can establish a specific chemical as a trade secret in accordance with trade secrecy requirements of EPCRA, then the name of the specific chemical can be withheld when submitting MSDS.[239] Nevertheless, the generic class or category of chemical must be reported, and the withheld information must still be submitted to EPA.[240]

Additionally, a facility "may request that the SERC or LEPC not disclose to the public the location of any specific chemical required to be submitted in Tier II information."[241] Still, LEPCs, SERCs, and local fire departments must be given the specific locations of hazardous chemicals, and fire departments must be allowed to conduct on-site facility inspections.[242]

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236 *Id.* at 831–32.
237 *Id.* at 832.
238 *Id.* at 826.
239 40 C.F.R. § 370.64(a) (2020); *See generally* 40 CFR § 350 (specifying requirements for a successful trade secrecy claim).
240 40 C.F.R. § 370.64(a).
241 *Id.* § 370.64(b).
242 *Id.* § 370.65(a)–(b).

5. ENFORCEMENT UNDER EPCRA

EPCRA grants EPA authority to issue administrative penalties and to take civil and criminal enforcement actions against facilities for violations of EPCRA's reporting requirements.[243] EPCRA gives EPA authority to seek civil penalties against covered facilities for failure to comply with emergency planning provisions (section 11002 and 11003), administrative penalties, and criminal penalties against facilities failing to comply with emergency notification requirements (section 11004) and those requiring reporting of Emergency and Hazardous Chemical Inventory forms (section 11022), as well as failures to report Toxic Chemical Release forms (section 11023).[244]

Under EPCRA, there are basically two categories of violations: Emergency Response violations and Emergency Preparedness/Right-to-Know violations.[245] An example of an Emergency Response violation is a company's failure to notify the SERC(s) and LEPC(s) in its jurisdictions after a hazardous substance is released.[246]An example of an Emergency Preparedness/Right-to-Know violation is a facility's failure to provide required Tier I and Tier II chemical information.[247]

Specifically, under section 11045(a) of EPCRA, EPA Administrator may order a facility to comply with the emergency planning notification provisions, such as providing notice that the facility is subject to EPCRA and notice of the staff person responsible for participation in emergency planning.[248] These orders can be enforced by the U.S. district

243 42 U.S.C. §§ 11045 (a)–(f).
244 *Id.* §§ 11045(a)–(c).
245 Off. of Regul. Enf't, Env't Prot. Agency, Enforcement Response Policy for Sections 304, 311, and 312 of the Emergency Planning and Community Right-to-Know Act 1, 10 (1999), https://www.epa.gov/sites/production/files/documents/epcra304.pdf.
246 *Id.* at 10.
247 *Id.* at 11.
248 42 U.S.C. § 11045(a); *see id.* § 11002(d); *id.* § 11003(d).

court for the district in which the facility is located.[249] If the order is violated, a civil penalty "of not more than $25,000 for each day" of the violation can be imposed.[250]

The enforcement provisions further provide EPA Administrator the authority to assess Class I administrative penalties, Class II administrative penalties and even criminal penalties for violations of section 11004's requirement to report releases of hazardous substances.[251] In sum, EPCRA provide EPA enforcement authority against covered facilities for various violations of EPCRA but does not provide EPA enforcement against a governor, SERC, or LEPC for noncompliance.[252]

EPCRA also includes a citizen suit provision.[253] The provision authorizes any person to bring suit against: (1) a facility for the failure to comply with reporting requirements, (2) the EPA Administrator for the failure to perform certain mandatory actions (such as publishing a toxic chemical release form), (3) the Administrator, a Governor, or a SERC for the failure to provide a mechanism for public availability of information as required by EPCRA, or (4) a Governor or SERC for the failure to respond to a request for Tier II information within 120 days.[254]

6. LIMITATIONS OF EPCRA

EPCRA's ability to provide meaningful protections to fenceline communities has been significantly reduced by several key limiting factors. First, EPCRA's anti-preemption provision, giving states the opportunity to adopt their own emergency planning and community right to know laws without concern that EPCRA, will preempt them if they

249 *Id.*
250 *Id.* (the maximum penalty amount is adjusted for inflation).
251 *Id.* § 11045(b); *see id.* § 11004.
252 *Id.*
253 42 U.S.C. § 11046.
254 *Id.*

establish less stringent rules and standards. Second, the fact that EPCRA does not provide federal funding to states means that SERCs and LEPCs must find other funding or operate in limited, financially-strapped ways. Third, homeland security laws, passed after 9/11, have carved out exceptions to public information and community-right-to-know laws that have limited the community right-to-know provisions of EPCRA. Fourth, although EPCRA does provide enforcement measures, EPA does not have significant authority to oversee the implementation of EPCRA by state and local governments. This section will discuss how these factors influence the operation of EPCRA in Texas.

a. *Anti-Preemption Clause*

EPCRA, in outlining its relationship to other laws, states: that "[n]othing in this title shall—preempt any State or local law[]" except for the requirement that Material Safety Data Sheets "be identical in content and format to the data sheet required under [EPCRA] . . .."[255] According to EPA, while EPCRA does not supersede state or local laws, its requirements are intended to be minimum standards.[256]

The federal preemption doctrine originates from the Supremacy Clause of the U.S. Constitution and provides that federal laws constitutionally enacted by Congress supersede conflicting state laws.[257] The question whether a specific state action is preempted by federal law depends upon congressional intent.[258] This case-by-case preemption analysis will usually find that federal law preempts state law when one of three factors is present.

255 42 U.S.C. §§ 11041(a)(1)-(b).
256 *Can State and Local Laws Suprsede ECPRA*?, ENV'T PROT. AGENCY, https://www.epa.gov/epcra/can-state-and-local-laws-supersede-epcra (last updated May 3, 2021).
257 U.S. Const. art. VI, cl. 2.
258 Retail Clerks Int'l Ass'n, Local 1625 v. Schermerhorn, 375 U.S. 96, 103 (1963) ("The purpose of Congress is the ultimate touchstone" for preemption analysis).

First, the federal law expressly preempts state law.[259] Second, absent express preemption, the federal statutory scheme is so comprehensive that an inference can be drawn that Congress intended to foreclose state participation.[260] Third, when state and federal laws conflict, a court will likely find implied preemption.[261]

EPCRA's plain meaning does not provide for EPCRA to preempt state law. The legislative history suggests a plausible reading of the clause suggests EPA's concern for allowing states and localities to have final say in designing community right to know programs.[262] However, part of the reasoning for EPCRA was to create uniform expectations and standards to avoid regulatory gaps from state to state. The legislative history of EPCRA says "after studying the patchwork of state and local right-to-know laws, the Committee determined that the Nation desperately needed a comprehensive federal program."[263]

Additionally, the House Report stated the "Committee's ardent belief that any federal right-to-know law should establish a floor rather than a ceiling to state and local efforts in this area."[264] Importantly, the Report reasoned that "[c]ommunities must have the flexibility to impose greater requirements when presented with greater needs than those specifically addressed in Title III [of EPCRA]."[265]

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259 *See* Fidelity Fed. Sav. & Loan Ass'n v. de la Cuesta, 458 U.S. 141, 152–53 (1982).
260 Michigan Canners & Freezers Ass'n v. Agricultural Mktg. & Bargaining Bd., 467 U.S. 461, 469 (1984).
261 Perez v. Campbell, 402 U.S. 637, 649 (1971).
262 H.R. Rep. No. 99-253 pt. 5 at 1, 97 (1986).
263 Tarah Heinzen, *Stopping the Campaign to Deregulate Factory Farm Air Pollution*, 17 N.Y.U. ENV'T L.J. 1482, 1501 (2009).
264 H.R. Rep. No. 99-253 pt. 5; Committee on Public Works and Transportation, H.R. 2817, 5 U.S. Code Cong. and Admin. News 3220 (1986).
265 *Id.*

b. Lack of Federal Funding

EPCRA states that "[t]he Governor may designate as the State emergency response commission one or more existing emergency response organizations that are State-sponsored or appointed.[266] In Texas, the SERC is synonymous with the Texas Division of Emergency Management ("TDEM").[267] Two hundred eighty-one LEPCs were active in Texas as of October 2020. [268] LEPCs are described as "volunteer organizations" on the TDEM website. [269]

EPCRA does not provide federal funding to SERCs or LEPCs. Without direct federal funding, states, more specifically LEPCs, are left on their own to fund their operations. For many of the LEPCs, funding comes from grants and the industry that EPCRA regulates. Texas has a LEPC grant program.[270] The statutory requirements for Tier II Chemical Reporting program, found in Texas Health and Safety Code sections 505.016(d), 506.017(d), and 507.013(d), authorize up to twenty percent of chemical reporting fees to be awarded as grants to the LEPCs to assist them in fulfilling their responsibilities under EPCRA.[271] These funds are appropriated to TCEQ, and subject to change, annually.[272] The total amount available for all awards is $200,000.[273] The lack of consistent funding means that LEPCs receive most of their funding from the industries that

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[266] 42 USC § 11001.

267 Tex. Comm'n on Env't Quality: State Emergency Response Comm'n, https://www.tceq.texas.gov/response/serc (last updated Aug. 24, 2021).

268 *See* Tex. Comm'n on Env't Quality:, Tex. Local Emergency Planning Comm., https://www.tceq.texas.gov/permitting/tier2/local-emergency-planning-committee.html (Mar. 8, 2022).

269 *Id.*

270 *Texas Emergency Planning Grant Program*, TEX. COMM'N ON ENV'T QUALITY, https://www.tceq.texas.gov/response/security/LEPC_Grant (Sept. 8, 2020).

271 *Id.*

272 *Id.*

273 *Id.*

are regulated by EPCRA.[274] For example, Bexar County's sponsors are NuStar, one of the largest oil and gas terminal and pipeline operators in the nation, Flint Hills, an oil and gas manufacturer, refiner, and distributor, HEB, and ExxonMobil.[275] Without consistent public funding, LEPCs realistically cannot operate without private funding, usually by industry.

c. *National Security Concerns*

The Texas Homeland Security Act makes certain information confidential if it is deemed to fall within one of seven provisions, codified in the Texas Government Code, intended to prevent public disclosure of government information that deals with terrorism or related criminal activity. For example, section 418.176 makes confidential certain information related to emergency response providers when it "is collected, assembled, or maintained by or for a governmental entity for the purpose of preventing, detecting, responding to, or investigating an act of terrorism or related criminal activity."[276] These provisions of the Texas HSA, section 418.176–418.182, have exempted information, that, prior to the passage of the law, likely would have been subject to public disclosure under the Texas Public Information Act.

Each provision specifies that it applies to "information collected, assembled, or maintained by or for a government entity for the purpose of preventing, detecting, responding to, or investigating an act of terrorism or related criminal activity."[277] In addition the Texas HSA protects confidential information of emergency response providers

274 Matt Dempsey & Mark Collette, *EPA's Fix on Chemical Safety is Already Broken*, HOU. CHRON. (May 21, 2016), https://www.houstonchronicle.com/news/investigations/article/EPA-s-fix-on-chemical-safety-is-already-brokenThe-8053061.php.
275 Bexar County LEPC, https://bexarcountylepc.org/ (last visited April 22, 2022).
276 Tex. Gov't Code § 418.176(a).
277 *Id.* §§ 418.176–418.182.

involved in "preventing, detecting, responding to, or investigating an act of terrorism or related criminal activity."[278] The other relevant provisions include protections for government information that is: related to an assessment of the risk or vulnerability of persons or property, including critical infrastructure, to an act of terrorism or to related criminal activity,[279] as well as information "more than likely to assist in the construction or assembly of an explosive weapon or a chemical, biological, radiological, or nuclear weapon of mass destruction."[280]

After the terrorist attacks on September 11, 2001, homeland security concerns regarding industrial infrastructure, such as chemical facilities, grew. The idea that they could be a target was enough to restrict public access to information about these facilities. Many states, like Texas, passed laws that carve out exemptions to state public information laws and community right-to-know laws.[281] EPCRA, due to the lack of a preemption clause, has seen its right-to-know provisions greatly restricted by these public information carve outs to the detriment of fenceline communities.

d. EPA's Limited Oversight

One point of concern rests on the seeming lack of express federal oversight over EPCRA's implementation at the state level. The statute grants EPA enforcement power over covered facilities. However, the statute does not provide EPA enforcement power over the SERCs or LEPCs.[282] SERCs must submit certain information to EPA, such as toxic chemical release forms. But EPA has little enforcement authority to ensure that SERCs and

278 *Id.*
279 Tex. Gov't Code § 418.177.
280 *Id.* § 418.178.
281 *Id.* §§ 418.176–418.182.
282 *See generally* 42 U.S.C. § 11045.

LEPCs comply with the requirements of EPCRA, particularly the public disclosure requirements. SERCs have direct supervisorial authority of LEPCs. With respect to the emergency response plans, LEPCs must submit these plans to the state.[283] Nevertheless, where a SERC decides to not comply with sections of EPCRA, EPA lacks enforcement authority to assure compliance.

The fact that EPCRA has no federal funding, an anti-preemption provision, and very little federal oversight, has resulted in the adoption of laws, regulations, and policies that conflict with EPCRA. Texas is no exception. The state has several laws that both complement and duplicate EPCRA's requirements, but there remain a number of regulatory gaps, including a lack of meaningful public disclosure provisions. Texas claims its public information exceptions enable LEPCs to provide the public with access to the information required to be made available under EPCRA. Yet EPA's lack of enforcement authority over LEPCs means there is little assurance that Texas LEPCs do or will comply with EPCRA's requirements.

V. POLICY REFORM RECOMMENDATIONS

A. BIDEN'S POLICY IDEAS AND PROPOSALS

The Biden-Harris Administration promised to make environmental justice a key policy priority of their administration.[284] In fact, in their campaign platform**,** they laid out several policies, such as establishing an environmental and climate justice division within the Department of Justice, overhauling EPA's external civil rights compliance office, and

283 42 U.S.C. § 11001(a) ("The State emergency response commission shall appoint local emergency planning committees under subsection (c) of this section and shall supervise and coordinate the activities of such committees.").

284 *The Biden Plan to Secure Environmental Justice and Equitable Economic Opportunity*, BIDEN-HARRIS CAMPAIGN, https://joebiden.com/environmental-justice-plan/ (last visited Apr. 22, 2022).

assessing and addressing risks to communities from the next public health emergency.[285] With respect to hazardous chemical facilities and fenceline communities, the campaign pledged to mandate new monitoring in frontline and fenceline communities, to require real-time community notification when industries producing hazardous and toxic chemicals accidentally release chemicals, and to address climate disasters and reduce risks of climate change.[286]

So far, the Administration has signaled an intention to follow through on these commitments. On January 27, 2021, President Biden signed Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*, setting forth a broad strategy for addressing climate change.[287]

This executive order also addresses environmental justice, stating the Administration's policy is to "secure environmental justice and spur economic opportunity for disadvantaged communities that have been historically marginalized and overburdened by pollution and underinvestment in housing, transportation, water and wastewater infrastructure, and health care."[288] To effectuate this broad policy goal, the Order further provides Agency responsibilities, including for EPA to "create a community notification program to monitor and provide real-time data to the public on current environmental pollution, including . . . toxins, in frontline and fenceline communities—places with the most significant exposure to such pollution."[289]

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285 *Id.*
286 *Id.*
287 Tackling the Climate Crisis at Home and Abroad, Exec. Order No. 14,008, 86 Fed. Reg. 7,619 (Jan. 27, 2021).
288 *Id.* at 7,629.
289 *Id.* at 7,631.

While the Biden Administration and the current EPA have taken many promising, broad steps toward addressing environmental justice, no specific actions, aside from the Order, have yet been taken to directly address risks that fenceline communities face from hazardous chemical facilities. The following sections will suggest some (not all) of the policy changes that the Biden Administration and future Administrations should implement to address the risks to fenceline communities that accidental releases of hazardous chemicals create.

B. General Policy Recommendations

Fenceline communities currently face major threats to their health and safety because of their proximity to facilities operating with significant supplies of hazardous chemicals. The current laws and regulations are insufficient to provide fenceline communities adequate protections. Congress and EPA must close these and expand existing programs, fill gaps, fix structural flaws with how current laws are operating, and create new laws and regulations that expand the protections provided. This section explores what some of these reforms could and should be.

a. *Requiring safer chemicals and technologies when feasible*

Perhaps the most effective, and even practicable way, to protect fenceline communities from the health impacts of accidental releases and chemical disasters is for facilities to substitute safer chemicals, processes, and technologies for the hazardous chemicals that these facilities currently use, store, and process. This is known as Inherently Safer Chemicals and Technologies ("IST") and is recognized as an important step for chemical process designers to take at the process design stage, but that also can be applied

to existing chemical processes.[290]

While a range of controls and safeguards can be implemented to increase safety of facilities, identifying and implementing "inherently safer approaches" should be prioritized.[291] These approaches can include substitution, minimization, moderation, and simplification.[292] Substitution, focuses on the use of non-hazardous or less-hazardous chemicals and processes. This could include facilities replacing a flammable solvent with water or using less toxic refrigerants.[293] Many industries have this substitution capability. For example, facilities storing agricultural chemicals for fertilizers could substitute anhydrous ammonia, a toxic and reactive starting material for ammonium nitrate, for the safer alternative of liquefied ammonia or dry urea fertilizer.[294]

Minimization entails using smaller quantities of hazardous materials.[295] This could include simple steps like reducing the quantity of hazardous substances stored at a facility any one time.[296] It could also mean reducing the amount of hazardous substance being processed, which could require technical and process changes.[297] Moderation approaches mean reducing hazards by dilution, refrigeration, or process alternatives that operate at less-risky conditions.[298] Finally, simplification eliminates the unnecessary complexity of process or chemistry to decrease the chance of controls and safeguards failing.[299]

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290 Env't Prot. Agency & Occupational Safety & Health Admin., Chemical Safety Alert: Safer Technology and Alternatives 2 (June 2015), https://www.epa.gov/sites/default/files/2015-06/documents/alert_safer_tech_alts.pdf.
291 *Id.*
292 *Id.* at 3.
293 *Id.*
294 Starbuck & White, *supra* note 35, at 16
295 Env't Prot. Agency & Occupational Health & Safety Admin., *supra* note 290 at 3.
296 *Id.*
297 *Id.*
298 *Id.* at 4.
299 *Id.*

In effect, facilities have several ways to increase the safety of their operations and decrease the safety and health threats that fenceline communities face just by assessing whether inherently safer chemicals and technologies are available. This part of the regulatory framework for safeguarding communities from chemical disasters is crucial. The federal government has the regulatory tools at its disposal to ensure that ISTs are widely adopted.

Through section 112(r), EPA could promulgate a rule under the General Duty clause, or even under an RMP, to require that facilities assess inherently safer chemicals, processes, and technologies. Then adoption of these safer chemicals and technologies could be required to receive Title V operating permits. To rebut this mandate, facilities could present evidence that adoption of the ISTs are not feasible. But this feasibility standard should be based on a clear and convincing standard that the technology is not economically and technologically feasible.

A softer regulatory approach could mandate IST assessment, but not require adoption. Instead, the federal government could provide subsidies for new and existing facilities to adopt ISTs to incentivize owners and operators. To make this effective, however, the government would probably need to provide substantial subsidies to incentivize the facilities that would not otherwise adopt ISTs. A potential downside of this approach is that subsidies might go to facilities that already had an incentive to adopt ISTs, such as reducing the risks of liability from accidental releases and local resistance to the facility's siting.

There are other regulatory and legal approaches that the federal government could use to promote the implementation of inherently safer chemicals and technologies. In the

end, the policy is, itself, beneficial enough to warrant the federal intervention to either mandate or strongly incentivize its implementation. After all, the risks of accidental chemical releases and subsequent disasters are a nationwide concern.

b. *Expanding Regulations of Reactive Chemicals*

EPA should expand its list of covered chemicals under the RMP program to include reactive chemicals. In addition to covering self-reactive chemicals, the RMP program should cover process-specific reactions. This would enhance the safety of chemical facilities operating with reactive chemicals and further safeguard fenceline communities.

Reactive chemicals are chemicals that become unstable at certain temperatures and pressures.[300] Reactive hazards are the "dangers associated with uncontrolled chemical reactions in industrial processes."[301] Uncontrolled releases can lead to fires, explosions, and toxic gas releases.[302] According to the Chemical Safety Board, between 1980 and 2001, 167 serious reactive accidents caused 108 deaths in the U.S.[303] Ammonium nitrate, the substance that caused the explosion at the West Fertilizer facility in 2013, and organic peroxide, the substance that caused the incident at Arkema, are two examples of highly reactive chemicals.[304] The consequences of these uncontrolled releases can be catastrophic for fenceline communities.

Unfortunately, the safeguards provided by the RMP program under section 112(r) currently do not apply to many highly reactive chemicals. As discussed, the CAA

300 Mulhern, *supra* note 55, at 152.
301 *Reactive Hazards*, CHEM. SAFETY & HAZARD INVESTIGATION BD., https://www.csb.gov/reactive-hazards/ (last visited Apr. 22, 2022).
302 *Id.*
303 *Id.*
304 *Id.*

Amendments of 1990, section 112(r), required EPA to develop regulations preventing the accidental release of chemicals and hazardous substances that could have serious adverse public and environmental effects.[305] These amendments covered reactive chemicals.[306] However, when EPA promulgated the Accidental Release Prevention Requirements, and specifically the Risk Management Program, EPA's initial 130 covered chemicals were chosen for their toxicity and flammability, not for reactivity.[307]

The Chemical Safety Board, having studied the occurrences and impacts of incidents stemming from reactive chemicals, concluded that "[r]eactive incidents are a significant chemical safety problem."[308] Moreover, the Chemical Safety Board concluded that EPA's Accidental Release Prevention Requirements "have significant gaps in coverage of reactive hazards."[309] The Chemical Safety Board asserts that "[g]iven the impact and diversity of reactive hazards, optimum progress in the prevention of reactive incidents requires both enhanced regulatory and nonregulatory programs."[310]

Hence, the Chemical Safety Board recommends that the RMP program be amended to "explicitly cover catastrophic reactive hazards that have the potential to seriously impact the public, including those resulting from self-reactive chemicals and combinations of chemicals and process-specific conditions."[311] Expanding the RMP program to cover more chemicals, such as organic peroxide, could make a significant impact by forcing facilities to assess the hazards of reactive chemicals in their hazard assessments and include reactive

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305 U.S. Chem. Safety & Hazard Investigation Bd., Hazard Investigation: Improving Reactive Hazard Management, 2001-01-H, 2 (Oct. 2002), https://www.csb.gov/improving-reactive-hazard-management/.
306 *Id.*
307 *See* 40 C.F.R. § 68.130.
308 U.S. Chem. Safety& Hazard Investigation Bd., *supra* note 305, at 10.
309 *Id.*
310 *Id.* at 11.
311 *Id.* at 14.

chemicals in the reporting, prevention, and planning requirements of RMP.

For example, if organic peroxides had been covered by RMP, then the Arkema facility would have had a hazard assessment showing the potential effects of an accidental release of reactive chemicals, a five-year accident history, a worst-case scenario evaluation, and alternative accidental release scenarios for the reactive chemicals.[312] This likely would have included an assessment of the potential impacts of a flood and the loss of power or equipment malfunction. Also, Arkema would have been required to develop a prevention program for the release of reactive chemicals. This would have included creating safety precautions, monitoring, and employee training. Last, if organic peroxide had been covered by the RMP program, Arkema would have had an emergency response program that mandated greater disclosure of the types of chemicals located at the site and the corresponding health impacts to emergency responders.

In all, expanding the RMP program to cover more reactive chemicals would create greater baseline protections for fenceline communities. Currently many facilities are not forced to account for the threats posed by reactive chemicals in the way that RMP requires. Mandating that these facilities follow the RMP could keep fenceline communities healthier and safer.

c. *Incorporating Climate Change Threats into RMPs and Hazard Assessments*

Climate Change is a threat multiplier. As previously discussed, it can lead to more frequent extreme weather events, including hurricanes and major floods. These threats will continue to test the resilience of infrastructure and the sufficiency of emergency and risk planning and management. Although real and imminent, the impacts of climate change

312 Mulhern, *supra* note 55, at 156.

remain uncertain. One certainty is that assumptions of what constitutes adequate safety protections and emergency planning based on historical weather and climate patterns are faulty. As the Chemical Safety Board investigator, Mark Wingard said, "[hurricane] Harvey shows that companies can't rely on past experience."[313] Wingard recommends that since "more severe weather events are possible . . . [c]ompanies need to test past assumptions."[314] Chemical Safety Board recognized that Arkema did emergency planning but that it was not enough.[315]

Given the reality of a changing climate and the impacts it brings, climate change threats on facilities operating with hazardous chemicals and substances must be studied and necessary safety protections must be taken. Risk assessments and emergency response plans must incorporate more than historical data about weather and its impacts. Facilities should be required to include future climate and weather modeling into their risk assessments and emergency response plans. This modeling should be given equal or greater weight than the historical weather data.

Known and potential climate impacts must be evaluated at all stages of the emergency prevention and planning process and revaluated when new data and trends become available. Therefore, annual or biannual reassessments of climate impacts should be made at all levels of risk assessments and emergency planning. This should include the review of facility Risk Management Plans (under section 112(r)) and Emergency Response Plans (under EPCRA). In effect, studying climate change impacts and incorporating these

313 Jeff Johnson, *The chemical industry must plan better for severe weather, U.S. Chemical Safety Board says*, CHEM. & ENG'G NEWS (Nov. 17, 2017), https://cen.acs.org/articles/95/i46/chemical-industry-must-plan-better.html.
314 *Id.*
315 *Id.*

impacts into the risk assessments and emergency plans must be only one piece of a larger, nationwide effort to begin planning for the imminent threats posed by climate change. Giving specific prescriptive recommendations, beyond the need for incorporation of the consideration of climate concerns is challenging, because these recommendations will need to be highly location and context specific.

The benefits of requiring the study and consideration of climate change in risk assessments allows a more realistic analysis. Looking at historical data might suggest a risk is low, such as the risks presented by hundred-year floods on the storage of reactive chemicals. Yet, looking at future climate projections and their potential severe weather impacts might increase this risk and warrant a more precautionary approach to planning. In essence, if the risks assessments do not incorporate climate change considerations, then the emergency plan, based on historical weather assumptions, will be less effective. Ultimately, without beginning to identify the potential impacts of climate change, facilities, local communities, employees, and first responders will be ill-equipped to prevent and mitigate accidental chemical releases.

d. *Requiring formal assessments of special threats to fenceline Communities*

The federal government should mandate that states and localities conduct formal assessments of the risks, threats, and impacts of chemical facilities to fenceline communities. These assessments should study the impacts of accidental releases, the risks and impacts of serious incidents such as explosions, and cumulative impacts on the health of fenceline communities. Then, mitigation measures should be identified and implemented when the assessment finds that the project is likely to impose adverse impacts on fenceline communities.

This would force corporations and the government to acknowledge the risks and impacts and take steps to minimize the impacts. Requiring formal assessments and mitigation plans would further protect fenceline communities, often environmental justice communities, that are likely already exposed to other environmental and health risks. These assessments could provide a meaningful check on corporate and government decision-making in the siting of industrial facilities, which often disproportionately burdens marginalized communities.

As part of these assessments impacted communities should be given the opportunity to fully engage in the assessment process. This should include early and regular community stakeholder meetings, community outreach and education about the proposed project, ample opportunities to give written and verbal comments on the scope of the assessment and the proposed assessment. Finally, impacted community members and groups should be given the opportunity to appeal the final assessment if certain factors were not studied or the assessment seemed insufficient.

This step could also change the politics around siting facilities by giving marginalized communities an opportunity to have the information they need to decide whether the facility will be a net benefit or net negative to their community. This assessment will give communities an active role in the decision-making process and arm them with the information they need to fight the project, if needed.

Additionally, the study of the impacts of accidental releases should be mandated because it currently is not included in the formal permitting process under the CAA or under the NEPA review process. These processes only consider the impacts of planned, routine releases. As previously discussed, the impacts of accidental releases can be severe

and create major health and safety consequences. These risks should be fully assessed just as routine releases should be assessed.

If the impacts and risks of accidental releases on fenceline communities is not adequately assessed, then states, and EPA, should be given the authority to deny permits, revoke existing permits, and bring enforcement actions against offending facilities and their owners.

C. FEDERAL STATUTORY CHANGES

Many changes are needed to address the problems presented by hazardous chemical facilities. The reality, however, is that many of the changes that will occur in the short-term will be through administrative rules pursuant to existing statutes like the CAA and the Emergency Planning and Community-Right-to-Know Act. With this in mind, the following proposals attempt to make the existing federal laws and regulations more effective and do not address wholly new federal statutes that are unlikely to be passed anytime soon.

a. *Reissue the Obama-Era Chemical Disaster Rule*

The Obama Administration's Chemical Disaster rule, amending the RMP program and which was rescinded by the Trump Administration, should be reissued. This rule, as discussed, included: accident prevention requirements; information disclosure requirements; and emergency response requirements.[316] Additionally, the rule set requirements to develop a root cause analysis during incident investigations, third party compliance audits, mandatory consideration of safer technology and alternatives, and an

316 82 Fed. Reg. 4,594 (Jan. 13, 2017); Mark Duval, et. al., *EPA Releases Final RMP Rule Amendments*, BEVERIDGE & DIAMOND (Jan. 5, 2017), https://www.bdlaw.com/publications/epa-releases-final-rmp-amendments/.

expanded scope of facility information made available to the public.[317] These RMP rules could provide fenceline communities a powerful tool to complement the right-to-know provisions of EPCRA.

Critically, better training for workers, emergency response coordination, and expansion of community information would likely save lives.[318] In addition, the rule required three sectors—oil refineries, pulp and paper mills and chemical manufacturers—to identify and utilize, when practicable, safer chemicals, technologies, and processes.[319] Overall, the Obama-era rule, although not perfect, laid the regulatory groundwork for more stringent regulations of these hazardous chemical facilities. Given the work that has already been done, the Biden administration should use the Obama-era rule as a baseline and build upon it with some of the policies mentioned in the previous section.

b. *Increase Enforcement under 112(R) and EPCRA*

EPA currently possesses several enforcement hooks that could incentivize facility compliance with existing mandates and send a message that this issue will be a priority moving forward. A few suggested ways that EPA can increase enforcement actions are listed here, but these are by no means exhaustive.

The CCA general duty clause provides a more broadly applicable enforcement measure for EPA to monitor and enforce hazardous chemical safety at stationary facilities even when those facilities are not required to follow the RMP program. As noted in an earlier section, EPA has signaled that the general duty clause is a "fluid" duty that requires

317 *Id.*
318 *Why The Chemical Disaster Rule Is Important*, EARTHJUSTICE (Dec. 2, 2019), https://earthjustice.org/features/toxic-catastrophes-texas-national-chemical-disaster-rule#timeline.
319 *Id.*

facilities to review and, when appropriate, adopt the latest recognized industry practices and standards.[320] This gives EPA greater room to ensure that facilities are doing all that they can to prevent accidental releases.

EPA should also look to work closer with the Chemical Safety Board. As briefly mentioned, the Chemical Safety Board is charged with investigating industrial chemical accidents.[321] The reports issued by the Chemical Safety Board include root cause investigations of chemical accidents and recommendations for how to safeguard the facility from future incidents. EPA could use the findings from these investigations as the basis for enforcement action based on the incident being investigated or for future enforcement actions if the facility fails to adopt the recommendations and has another accidental release.

Additionally, EPA could become more active in bringing enforcement actions against noncompliant facilities under EPCRA. Section 11045 of EPCRA provides that EPA can order compliance with EPCRA and impose civil penalties for failure to comply with certain reporting requirements. This could create a ripple effect, leading facilities, LEPCs, and SERCs to be more active in complying with EPCRA.

Overall, enforcement will be an important part of changing how facilities behave. Consistent enforcement will deter future violations and incentivize more robust safety measures to prevent and mitigate accidental releases. In turn, this will better protect fenceline communities. Additionally, consistent and robust enforcement will take the burden off fenceline communities to police and monitor facilities.

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320 *Id.*

321 *Mission*, Chem. Safety & Hazard Investigation Bd., https://www.csb.gov/about-the-csb/mission/ (last visited Apr. 22, 2022).

c. *Provide Consistent, Substantial Federal Funding for EPCRA, LEPCs, and Local Disaster Planning*

If the federal government intends to make EPCRA's statutory mandates more workable, it should provide regular funding to states and localities to carry out its many requirements. In particular, providing LEPCs consistent federal funding that is significant enough to reduce their reliance on industry should be an important goal of any EPCRA reform effort. This would allow LEPCs to operate with a greater level of independence. Currently, the state of Texas provides minimal grant funding that LEPCs can apply for.[322] As previously mentioned, up to twenty percent of an LEPC's chemical reporting fees can be awarded as grants to assist them in fulfilling EPCRA requirements.[323] But the total grant money available for Texas LEPCs is capped at $200,000.[324] Without consistent funding, states and LEPCs realistically cannot be expected to fulfill their statutory mandates under EPCRA.

d. *Promulgate Rules Pursuant to EPCRA that Mandate LEPCs to Identify Environmental Justice Communities within each Emergency Planning District*

LEPCs should be required to identify environmental justice communities within their District and conduct outreach to these communities to ensure that they are informed about their statutory rights under EPCRA and are apprised of local emergency planning information. This requirement would provide a more focused effort to narrow the information gap and provide communities with the information that EPCRA intended. In

322 Tex. Comm'n on Env't Quality, Texas Local Emergency Planning Committee Grant Program, https://www.tceq.texas.gov/response/security/LEPC_Grant.
323 *Id.*
324 *Id.*

an ideal situation, these outreach and education programs for environmental justice communities would provide crucial knowledge about the chemical risks and hazards in the area and lead to greater involvement from these communities in the LEPC and its broader emergency planning process.

e. *Improve EPCRA's Community Reporting Requirements*

EPCRA's community right-to-know provisions, when complied with, are meaningful tools for communities to know the risks posed by facilities dealing with chemicals and hazardous materials. Nonetheless, EPCRA's community right-to-know provisions are only meaningful if communities know they have a right to access this information, know where and how to access it, and have a means of making sense of what the disclosed information means.

The Biden Administration from its early actions (e.g., Executive Order number 14008) seems committed to following through on increasing community reporting requirements by providing real-time community notification of releases. In addition, the Biden Administration should look carefully at how to ensure communities are able to access this information, including disaster response plans, well in advance of any accidental release.

f. Make EPCRA information available online and in multiple physical locations

EPCRA must provide better means of disseminating information to communities. EPCRA should not limit the public's ability to access this information by only making this information available at designated locations during normal working hours (as the law currently provides). For many people who work during the day, especially people who occupy blue collar or service industry jobs, taking time off during working hours is

difficult. Also, traveling to a location may pose additional restrictions, given the limitations of public transportation or the costs associated with travel.

EPCRA section 11044 should be amended to expand public availability. This could be done by requiring that LEPCs and SERCs list the information on their websites. In addition to listing the information online, emergency response plans, among other information, should be made available at more locations, such as local libraries, community centers, police and fire stations, outside of normal working hours.

g. *Include Information about the Public's Rights under EPCRA and Practical Information about where to access information in community outreach programs*

Mandatory community outreach should be a condition of receiving federal funding. LEPCs should be required to conduct more community outreach and education programs—utilizing multiple platforms, such as local television, phone calls, text messages, presentations at schools, worksites, and places of worship. Ultimately, there are many innovative ways that LEPCs could conduct community outreach if they were required to do so. In the long run, this would ensure that communities are more informed and engaged in local emergency planning.

h. *Clarify that EPCRA requirements are a "floor"*

Issue an Interpretive Rule that clarifies that section 11041 (Relationship to Other Law), "nothing in this chapter shall—preempt any State or local law," means that EPCRA requirements are minimum requirements, which states can go beyond, but cannot fall below. If a state law does conflict directly with EPCRA, then the preemption doctrine should apply. This would prevent states such as Texas from passing and implementing laws, such as the Texas Disaster Act, which attempt to regulate in the space occupied by

EPCRA, but with less stringent community right-to-know requirements. With this clarification from EPA on the preemption question, states would not be able to stand on solid legal footing in defending laws that conflict with EPCRA.

VI. CONCLUSION

Fenceline communities face urgent and extreme risks from industrial facilities operating with hazardous substances and chemicals. Although there are many positive elements of the existing regulatory response to this issue, these are not sufficient to meet the rising (especially in the face of rising climate threats) and potentially catastrophic threats these facilities present. Through President Biden's early commitment to environmental and climate justice, the federal government is prioritizing the concerns of fenceline communities by fortifying the existing regulatory response and offering new policies that go well beyond existing federal laws or regulations. Continuing down this path is essential to avoid compromising the health and safety of millions of Americans who live within eyesight of these facilities.

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Texas. He hopes to craft a career as a movement lawyer.