"A Greater Sense of Urgency": EPA's Emergency Authority Under the SDWA and Lessons From Flint, Michigan

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Summary

Section 1431 of the Safe Drinking Water Act (SDWA) grants the U.S. Environmental Protection Agency (EPA) expansive emergency authority to protect public drinking water sources from contamination. Specifically, §1431 authorizes the EPA Administrator to take any action necessary to protect public health where a contaminant posing an "imminent and substantial endangerment" to the public has entered—or is likely to enter—a public drinking water supply, and appropriate state and local authorities have not acted to abate the threat. In enacting §1431, Congress sought to vest EPA with broad enforcement authority to prevent public health crises. Surprisingly, EPA rarely invokes §1431, or—as in the recent water crisis in Flint, Michigan—invokes it too late to achieve Congress' purpose. In the future, EPA must invoke its emergency powers earlier and more frequently to effectuate the SDWA's preventative purpose and protect public health, which will allow EPA to realize its obligation to ensure the public is supplied with safe drinking water.

> These situations should generate a greater sense of urgency. EPA must be better prepared to timely intercede in public health emergencies like that which occurred in Flint.
>
> —U.S. Environmental Protection Agency, Office of Inspector General (2016)[1]

In April 2014, residents of Flint, Michigan, began to notice alarming changes in the quality of their tap water. Many residents reported that their water was dark brown in color, and had a foul taste and smell. These changes in water quality came shortly after the city of Flint switched its water supply from Lake Huron—where the city had drawn its drinking water since 1967—to the heavily polluted Flint River. Testing of the city's water supply shortly after the source water switch revealed dangerous levels of lead and other contaminants, including carcinogens and harmful pathogens such as *E. Coli* and *Legionella*.

Although city, state, and federal officials were aware of this contamination as early as February 2015, it was not until December 2015—nearly a year later—that the city of Flint declared a state of emergency. The state of Michigan followed suit, declaring a state of emergency in Genesee County in January 2016. By that time, however, many of Flint's 100,000 residents had been exposed to harmful levels of lead in their tap water.

Shortly after the city and state declared an emergency, the U.S. Environmental Protection Agency (EPA) issued an emergency order under §1431 of the Safe Drinking Water Act (SDWA) directing the city to take steps to abate the contamination. Section 1431 provides EPA with broad "emergency powers" to take immediate enforcement action,[2] which may include the issuance of administrative orders or the commencement of a civil suit, when the EPA Administrator determines that: (1) a contaminant posing an imminent and substantial endangerment to human health is entering, or likely to enter, a public water system; and (2) the appropriate state and local authorities have not acted to protect public health.

In enacting §1431, the U.S. Congress vested EPA with expansive powers to actively prevent large-scale contamination of public water supplies. Indeed, an in-depth review of the SDWA's legislative history reveals that Congress clearly intended EPA to use its emergency powers to

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1. U.S. EPA, Office of Inspector General, Management Alert: Drinking Water Contamination in Flint, Michigan, Demonstrates a Need to Clarify EPA Authority to Issue Emergency Orders to Protect the Public 8 (2016) (17-P-0004) [hereinafter EPA Management Alert], *available at* https://www.epa.gov/sites/production/files/2016-10/documents/_epaoig_20161020-17-p-0004.pdf.
2. SDWA §1431, 42 U.S.C. §300i.

respond promptly to potential threats to public drinking water sources long before such threats have materialized. EPA's belated invocation of its emergency authority in response to the Flint water crisis frustrated this clear legislative intent, causing serious harm to public health.

Despite EPA's broad authority under §1431, the Agency rarely invokes its emergency powers in the early, preventative manner that Congress intended. In some instances, such as the recent lead crisis in Washington, D.C.,[3] and the widespread nitrate and bacterial contamination of drinking water in Kewaunee County, Wisconsin,[4] EPA failed to invoke its emergency authority altogether, despite receiving ample evidence of a serious threat. In other instances, most recently in Flint, EPA has invoked §1431 authority too late to prevent extensive contamination. In all of these cases, EPA's failure to timely invoke §1431 frustrated the provision's protective purpose, resulting in serious harm to public health.

One explanation for EPA's failure to exercise its emergency powers is that EPA is not aware that it has them. EPA's emergency powers under the SDWA are not well-known or well-studied; very little academic literature has explored §1431 authority in any detail. This conspicuous lack of scholarship, coupled with EPA's historical failure to exercise its §1431 powers in a timely manner, suggests that these powers are not widely recognized, even among EPA officials charged with invoking them. In the future, EPA should invoke its emergency authority under SDWA more frequently and more proactively to prevent serious contamination of public water supplies. Courts have embraced this preventative approach, and there are significant public health benefits to EPA's timely use of emergency authority in appropriate circumstances.

This Article begins by exploring the boundaries of EPA's authority under §1431, concluding that in light of the provision's expansive language and clear preventative purpose, such authority is virtually unlimited once the EPA Administrator makes the threshold findings of endangerment and inadequate state or local action. Second, it explores EPA's historical failure to invoke its §1431 authority even in cases of serious contamination, such as the recent crises in D.C. and Kewaunee County, and describes EPA's failure to timely issue an emergency order during the Flint water crisis despite mounting evidence of contamination and inadequate state and local action. Third, the Article offers two lessons from these crises aimed at improving EPA's response to future emergencies: (1) that the Agency need not wait for incontrovertible proof of contamination before acting under its emergency authority; and (2) that §1431 does not bar the Agency from intervening when a state with SDWA primacy is taking some action to abate the threat. Fourth, it describes the broader national threat to public health posed by lead and other contaminants in drinking water, which affect millions of homes every year in the United States and have significant, far-reaching environmental justice implications. Finally, the Article concludes by observing that the broad political appeal of ensuring public access to clean tap water suggests that future policymakers—regardless of their specific political positions—will likely be receptive to arguments in favor of a more proactive, robust use of EPA's emergency authority.

I. The SDWA's Emergency Powers Provision Vests EPA With Broad Authority to Prevent Imminent Contamination

The federal SDWA, passed on the heels of several high-profile cases of public drinking water contamination, was enacted to "assure that water supply systems serving the public meet minimum national standards for protection of public health."[5] To this end, the Act requires EPA to set minimum standards to protect drinking water, and requires all owners and operators of public water systems to comply with these standards.[6] The Act also requires public water systems to monitor for violations of the standards and to provide notice of violation to water consumers. Under the SDWA, EPA delegates most routine administration and enforcement authority for the Act to states with primary enforcement authority—or "primacy"—but retains substantial oversight authority over state programs.[7]

The SDWA grants EPA broad authority to protect drinking water quality.[8] Section 1431 represents the apex of this

3. Between 2000 and 2004, the drinking water supply of Washington, D.C., was contaminated when lead began leaching from water service lines into the city's water supply. *See* Part II.A.1., *infra*.
4. In 2013, the county's water supply was contaminated by high concentrations of nitrates and bacteria due to runoff from farming operations. *See* Part II.A.2., *infra*.
5. H.R. Rep. No. 93-1185, at 1 (1974). The SDWA was enacted in the wake of several disease outbreaks caused by waterborne contaminants, which "heightened awareness of the inadequacy of the existing regulatory procedures to assure safe drinking water." *See* H.R. Rep. No. 95-338 (1977).
6. 42 U.S.C. §300f. The SDWA defines a "public water system" as "a system for the provision to the public of water for human consumption . . . if such system has at least fifteen service connections or regularly serves at least twenty-five individuals." SDWA §1401, 42 U.S.C. §300(f)(4). The SDWA covers both public (governmental) and private (corporate or nongovernmental) entities that meet this definition. The SDWA's drinking water standards do not apply to individual private wells.
7. Under the SDWA, states may assume primacy for all public water systems within their borders, provided the states meet certain federal criteria. 42 U.S.C. §300g-2. Currently, 55 U.S. states and territories have primacy authority for the public water system supervision program. Mary Tiemann, Congressional Research Service, Safe Drinking Water Act (SDWA): A Summary of the Act and Its Major Requirements 7 (2017), *available at* https://fas.org/sgp/crs/misc/RL31243.pdf.
8. *See*, *e.g.*, SDWA §1421(b)(3)(C), 42 U.S.C. §4300h (requiring EPA to protect current and future underground sources of drinking water from oil-

protective power, vesting EPA with expansive "emergency powers" to prevent imminent and substantial endangerment to human health from drinking water contamination. Under §1431, the EPA Administrator may take "such action as he [or she] may deem necessary" to protect public health when he or she receives information that a contaminant posing an "imminent and substantial endangerment" to public health is present in or likely to enter a public water system, and that state and local entities have not acted to abate the threat.[9] Such federal action may include—but is not limited to—issuance of emergency administrative orders "as may be necessary" to protect threatened users of the water system, or commencement of a civil action, which may include a restraining order or injunction.[10] Any person who "violates or fails or refuses" to comply with an EPA emergency order issued under §1431(a) may be subject to an enforcement action in federal court and fined a maximum of $15,000 "for each day in which such violation occurs or failure to comply continues."[11]

This emergency authority is broad and contains few definite limitations. A survey of the legislative history, internal EPA guidance, and judicial opinions interpreting the scope of §1431 reveals that Congress intended for EPA's emergency powers to be expansive. First, Congress intended §1431 to override all limits on EPA authority contained in other provisions of the SDWA—including variance and permit requirements—to facilitate prompt EPA action during an emergency. Second, consistent with this legislative intent, EPA expansively construes the phrase "imminent and substantial endangerment" in §1431 to allow quick and preventative federal action, even in cases where the Agency cannot offer absolute proof of imminent contamination. Third, §1431 imposes only modest consultation requirements, allowing EPA to exercise its emergency authority without first obtaining permission from—or even consulting with—the state or locality in which the contamination occurs. Finally, the courts have interpreted EPA's emergency authority broadly, deferring to EPA's findings of endangerment and to the legislative history of the SDWA, which emphasizes the Act's preventative purpose.

A. EPA's Emergency Powers Override Other SDWA Limitations on EPA Authority

In enacting §1431, Congress sought to vest EPA with broad preventative authority to protect public health. The U.S. House of Representatives Committee on Energy and Commerce stated that the SDWA's emergency powers provision "reflects the Committee's determination to confer completely adequate authority [on EPA] to deal promptly and effectively with emergency situations which jeopardize the health of persons."[12] Similarly, EPA itself has acknowledged that §1431 "gives the [EPA] Administrator *broad powers* to take appropriate enforcement action."[13] The provision's expansive language likewise places virtually no constraints on EPA's ability to protect public drinking water sources in an emergency, allowing the EPA Administrator to take "*such actions as he may deem necessary*" to protect the health of persons threatened by imminent contamination.[14] This language is far more sweeping than that of similar emergency provisions in other environmental statutes,[15] placing no definite limits on the EPA Administrator's discretion to intervene promptly in a local emergency.[16]

Consistent with this broad grant of power, Congress intended for §1431 to override all limits on EPA author-

and gas-related injection operations); *see also* H.R. Rep. No. 95-338 (1977) (emphasizing that EPA may not "subordinate the concern for protection of underground water sources to that of energy production"); H.R. Rep. No. 93-1185 (1974) (stating that EPA must protect underground sources of drinking water from contamination "if there is any reasonable likelihood that these sources will be needed in the future to meet the public demand for water").

9. SDWA §1431(a), 42 U.S.C. §300i(a).
10. *Id.*
11. SDWA §1431(b).
12. H.R. Rep. No. 93-1185, at 35 (1974); *see also* U.S. EPA, Final Guidance on Emergency Authority Under Section 1431 of the Safe Drinking Water Act 3-4 (1991) [hereinafter EPA Final Guidance] (emphasis added) (stating that "Section 1431 has a *broad application* and provides EPA with an effective tool for handling public health endangerments concerning public water supplies").
13. EPA Final Guidance, *supra* note 12 (emphasis added).
14. SDWA §1431(a) (emphasis added). Although the provision specifically mentions administrative orders and civil action as prospective actions the Administrator "may" take, it does not limit the Administrator's range of choices to these two enumerated options. *See* §1431(a) (stating that the Administrator "shall not be limited to" issuing administrative orders or commencing civil action). Indeed, once EPA makes the required findings of endangerment, "a very broad range of options is available." EPA Final Guidance, *supra* note 12, at 9. For example, EPA can issue orders requiring the provision of alternate water supplies at no cost to the consumer; public notification of hazards; a study to determine the extent of the contamination; an engineering study; or a study "proposing a remedy to eliminate the endangerment and a timetable for its implementation." *Id.* at 10.
15. Section 1431 is the only emergency powers provision in an environmental statute authorizing EPA action when a contaminant "may present"—rather than "is presenting"—a threat to public health. For example, §504 of the Clean Water Act (CWA) gives EPA "emergency authority" to bring suit, or "take such other actions as may be necessary," against any person causing or contributing to pollution that presents an "imminent and substantial" threat to either the health or economic livelihood of persons. 33 U.S.C. §1364 (CWA §504). However, §504 does not specifically authorize EPA to issue administrative emergency orders directly to polluters to halt their activities, and EPA may only bring suit against a polluter if the agency has evidence that the polluter "is"—rather than "may be"—currently presenting an imminent and substantial endangerment to public health. *See* Joel M. Gross & Lynn Dodge, Clean Water Act: Basic Practice Series 129 (2006). Through the "may present" language in §1431, Congress sought to "expand[ ] the provision to cover an endangerment or a hazardous condition that is not yet existent but is threatening to develop." Richard B. Skaff, *The Emergency Powers in the Environmental Protection Statutes; A Suggestion for the Unified Emergency Provision*, 3 Harv. Envtl. L. Rev. 298, 302 n.27 (1979).
16. The text of §1431 subjects the Administrator's ability to take any action he or she "deems necessary" to prevent imminent contamination of public water supplies to only four restraints. First, before invoking EPA's emergency authority, the Administrator must receive "information" that a contaminant is present in or likely to enter a public source of drinking water. Section 1431(a). Second, he or she must find that the contaminant presents an "imminent and substantial endangerment" to public health. *Id.* Third, he or she must determine that the appropriate state and local officials have not acted to protect the public from the threat. *Id.* Finally, the Administrator must consult with state and local authorities "to the extent . . . practicable" to confirm the correctness of information relating to the imminent contamination and to determine what actions the authorities will be taking. *Id.* None of these requirements, however, is very exacting. As will be described *infra*, Congress intended for EPA to interpret these requirements broadly to allow for quick and decisive federal action during an emergency.

ity contained in other provisions of the SDWA in order to facilitate quick federal action during an emergency. Section 1431(a) sets forth the Administrator's emergency authority "[n]otwithstanding any other provision of the Act."[17] The 1974 House report on §1431 explained that "[t]he authority conferred by this section is intended to override *any limitations* upon the Administrator's authority found elsewhere in the Act."[18] Further, emergency orders under §1431 should be issued and enforced "notwithstanding the existence of any exemption, variance, permit, license, regulation, order or other requirement."[19] Thus, §1431 enables EPA to circumvent the usual regulatory requirements imposed by the SDWA, allowing the agency to act quickly in an emergency.

Additionally, §1431 broadly defines "contaminant" to include contaminants not regulated under the SDWA. In House Report No. 93-1185, Congress stated that §1431 "is intended to be applicable not only to potential hazards presented by contaminants which are subject to primary drinking water regulations, but also to those presented by *unregulated* contaminants."[20] EPA relied on this statement in its 1991 guidance document, asserting that it could exercise its emergency powers to protect source water from a contaminant "even when the contaminant in question is *not* regulated by a National Primary Drinking Water Regulation (NPDWR) under the SDWA."[21] Therefore, Congress intended for §1431 to allow EPA to take emergency action against threats posed by contaminants not designated as such under the SDWA.

Over the years, the legislature has further broadened this expansive authority. In 1986, Congress authorized EPA emergency action not only for contaminants entering "public water systems," but also for contaminants likely to enter "an underground source of drinking water."[22] The 1986 amendments also authorized enforcement action against "any person" who violates, fails, or refuses to comply with an emergency order, rather than one who "willfully" refuses to do so, as the original 1974 section specified.[23]

Congress again broadened EPA's emergency powers in the Public Health Security and Bioterrorism Preparedness Response Act of 2002. The 2002 amendments enhanced EPA's emergency authority under §1431 by authorizing EPA to take action where a "threatened or potential" terrorist attack—or other intentional act aimed at disrupting distribution of safe drinking water to the public—posed an imminent and substantial threat to public health. This amendment effectively eliminated the requirement, at least in cases of threatened terrorist activity, that EPA must wait to obtain some information relating to contamination before exercising its emergency powers.[24]

B. Section 1431 Grants EPA Broad Powers to Prevent Imminent Contamination

In enacting §1431, Congress sought to empower EPA to act promptly to prevent serious contamination of public drinking water supplies. Indeed, the legislative history and EPA guidelines interpreting §1431 are clear: the primary purpose of §1431 is to *actively prevent*—rather than merely respond to—serious contamination. The House Committee on Energy and Commerce repeatedly emphasized this preventative purpose, stating that "[a]dministrative and judicial implementation of [emergency] authority must occur *early enough to prevent* the potential hazard from materializing."[25] The Committee instructed EPA to exercise its §1431 emergency authority "so as to effectuate the preventative and public health purposes of the [Safe Drinking Water] Act."[26] Similarly, EPA guidelines interpreting §1431 repeatedly emphasize that "[t]he purpose of section 1431 actions is to *prevent* harm from occurring."[27]

The text of the Act confirms this preventative approach. Section 1431(a) permits EPA to exercise its emergency powers upon receiving "information" that a contaminant entering or likely to enter a public drinking water system may endanger public health.[28] The Act does not define the manner of receipt of this "information," or how certain the Administrator must be of its veracity before issuing an emergency order.[29] But §1431's tentative language—such as "*likely to enter* a public water system," "*threatened or potential*," and "*may present* an imminent and substantial endangerment to the health of persons"[30]—reflects a clear legislative judgment that §1431 should be invoked preventatively, long before a public health crisis occurs, even in cases where EPA does not possess complete or definite information about the threat.

17. SDWA §1431(a).
18. H.R. Rep. No. 93-1185, at 35 (1974) (emphasis added).
19. *Id.*
20. *Id.* (emphasis added).
21. EPA Final Guidance, *supra* note 12, at 5.
22. Charles de Sallain, *The Use of Imminent Hazard Provisions of Environmental Laws to Compel Cleanup at Federal Facilities*, 27 Stan. Envtl. L.J. 43 (2008).
23. *Id.* U.S. Senate Bill 2019 attempted to even further expand EPA's emergency authority by removing the requirement that EPA determine whether state and local officials have taken adequate action against the public health threat, requiring instead that EPA simply notify state and local officials before taking emergency action. In proposing this amendment, the Senate Committee on Environment and Public Works hoped to "eliminate procedural barriers that might prevent the Administrator from acting swiftly in the face of a public health emergency." S. Rep. No. 103-250, at 38 (1994). The bill, however, did not pass and the original language requiring EPA to determine the adequacy of state and local efforts remained in place.
24. *See* Varun Chilakamarri, *A New Instrument in National Security: The Legislative Attempt to Combat Terrorism Via the Safe Drinking Water Act*, 91 Geo. L.J. 927 (2003) (arguing that the 2002 amendment expands EPA's emergency authority by authorizing EPA to "protect both the water supply and its physical infrastructure . . . from any type of terrorist or other intentional attack, regardless of whether the attack involves a contamination or not," thereby allowing EPA to take emergency action regardless of whether actual contaminants are entering, or likely to enter, the water system).
25. H.R. Rep. No. 93-1185, at 35 (1974) (emphasis added).
26. *Id.* (emphasis added).
27. EPA Final Guidance, *supra* note 12, at 6 (emphasis added).
28. It is significant that §1431 uses the word "information" rather than "evidence," as the term "information" requires a lesser degree of proof. In fact, §1431 is the only emergency provision in an environmental statute to use the word "information" rather than "evidence." *See* Skaff, *supra* note 15, at 302 n.25.
29. SDWA §1431(a).
30. *Id.* (emphases added).

Consistent with this clear preventative purpose, both Congress and EPA have defined the phrase "imminent and substantial endangerment" broadly to allow for prompt federal action, even where EPA is uncertain of the precise nature of the threat. In its final guidance on §1431 authority, EPA defines "endangerment" in §1431 as threatened or potential harm rather than actual harm, noting that "[n]o actual injury need ever occur" to support a §1431 action.[31] Likewise, danger is "imminent" under §1431 "if conditions which give rise to it are present, even though the actual harm may not be realized for years."[32] Further, EPA does not limit its emergency authority to acute health risks; instead, it considers contaminants that have latent health effects after entering drinking water—such as carcinogens—to pose an "imminent endangerment" warranting emergency action under §1431.[33]

In determining whether a threat is "imminent," EPA also considers "the time it may require to prepare orders, to commence and complete litigation, to implement and enforce administrative or judicial orders to protect public health, and to implement corrective action under Section 1431."[34] Thus, EPA may exercise its emergency authority even where a contaminant is not likely to enter a public water system for several months, since such a threat would be considered "imminent" in light of the time it would take EPA to effectively respond to the threat.[35]

Further, because the urgent nature of an emergency typically precludes rigorous and complete investigation, EPA does not require absolute proof of contamination to act under its emergency powers. Both the EPA guidelines and legislative history of the SDWA emphasize the importance of §1431's preventative nature, favoring prompt preventative action even in the absence of indisputable proof of contamination. The Agency has repeatedly stated that to take emergency action under SDWA, it "does not need uncontroverted proof" that contaminants are present in or likely to enter the water supply, or that an imminent and substantial endangerment is present.[36] In fact, waiting for such certainty would undermine the preventative purpose of §1431, because emergency orders "should ideally be issued early enough to *prevent* the potential hazard from materializing."[37]

Indeed, the prompt emergency action prescribed in §1431 requires EPA to act long before contamination occurs, and often without absolute certainty as to the severity—or even the existence—of the contamination. Courts have consistently agreed with this expansive reading of §1431, upholding EPA emergency orders even where EPA has not presented uncontroverted proof that a public water source is or will become contaminated.[38]

Finally, EPA gives a broad reading to the word "emergency" itself, allowing the Agency to exercise its §1431 authority even in situations that do not resemble "traditional" emergencies. The Agency has noted that "Section 1431 does not require an emergency in the ordinary sense of the word,"[39] and that the term "substantial endangerment" as used in §1431 applies to a "range of existing or threatened hazards and *should not be limited to extreme circumstances*."[40] This broad reading of §1431 allows EPA to deploy its emergency powers in a wider set of circumstances than the word "emergency" traditionally implies, such as cases where a contaminant will not reach a drinking water source for several weeks, or cases involving a contaminant that causes latent rather than acute health effects. Such flexibility is essential if EPA is to act expeditiously in preventing drinking water crises.

C. *Section 1431 Grants EPA Broad Authority to Evaluate the Adequacy of a State or Local Response to an Imminent Threat*

In addition to granting EPA broad authority to determine whether a contaminant endangers public health, §1431 vests the EPA Administrator with ultimate discretion to determine whether a state or local government has taken sufficient action to protect public water supplies from contamination—and to intervene if the state or locality has failed to do so. Section 1431 provides that EPA may exercise its emergency powers only when it determines that "appropriate State and local authorities have not acted to protect [public health]."[41] However, the provision does not specifically instruct EPA how to make this determination. Because the text of §1431 includes

31. EPA Final Guidance, *supra* note 12, at 6. Additionally, the U.S. Supreme Court has held that the word "endangerment," when used in a precautionary statute such as the SDWA, does not demand absolute proof of causation. *See* Ethyl Corp. v. Environmental Prot. Agency, 541 F.2d 1, 28, 6 ELR 20267 (D.C. Cir. 1976) ("Where a statute is precautionary in nature . . . we will not demand rigorous step-by-step proof of cause and effect. Such proof may be impossible to obtain if the precautionary purpose of the statute is to be served." When determining "endangerment," under a precautionary environmental statute, the Administrator "may apply [her] expertise to draw conclusions from suspected, but not completely substantiated, relationships between facts, from trends among facts, from theoretical projections from imperfect data, from probative preliminary data not yet certifiable as 'fact,' and the like.").
32. EPA Final Guidance, *supra* note 12, at 6.
33. *Id.* at 7. Congress has endorsed this view, stating that EPA may invoke its emergency powers "where there is an imminent likelihood of the introduction into drinking water of contaminants that may cause health damage *after a period of latency*." H.R. Rep. No. 93-1185 (1974) (emphasis added).
34. EPA Final Guidance, *supra* note 12, at 7.
35. *Id.* This generous interpretation is in accord with congressional intent. *See* H.R. Rep. No. 93-1185 (1974) ("[W]hen determining whether a threat is 'imminent' under §1431, EPA should take into account the time it will take to prepare administrative orders, commence litigation proceedings," and "to permit issuance, notification, implementation and enforcement of administrative or court orders to protect public health.").
36. EPA Final Guidance, *supra* note 12, at 14.
37. *Id.* at 6. EPA has also stated that attempts to determine absolute proof of contamination "could impair attempts to prevent or reduce the hazardous situation" by causing delay. *Id.* at 14. EPA has also noted that before taking action under §1431, it "does not need uncontroverted proof" that (1) contaminants are present in or likely to enter the water supply, (2) that an imminent and substantial endangerment may be present, or (3) that the recipient of the emergency order is actually the entity responsible for the contamination or threatened contamination. *Id.*
38. *See* Part I.D., *infra*.
39. EPA Final Guidance, *supra* note 12, at 4.
40. *Id.* at 8.
41. EPA has not issued regulations interpreting this language.

no standards by which the Administrator may judge the adequacy of a state response to an emergency, the Act leaves this important determination entirely within the Administrator's discretion.

Further, the Administrator may order emergency action even against a state with SDWA "primacy" authority if the state has not used that authority, or has used it ineffectively. Section 1431 authorizes the Administrator to act where "appropriate State and local authorities have not acted" to protect the public.[42] However, §1431 does not bar EPA from intervening merely because a state or local authority has taken *some action*—however token or inadequate—to curb a threat to drinking water. On the contrary, EPA may take emergency action if the Administrator determines that a state or locality has not taken *sufficient* action to protect public health.

In House Report No. 93-1185, Congress authorized EPA's "prompt enforcement" of §1431 if state or local efforts are "not forthcoming in timely fashion or are not effective to prevent or treat the hazardous condition."[43] Similarly, EPA guidelines instruct the Administrator to take action under §1431 if he or she "determines that the [state/local] action is *insufficient* and State and local agencies do not plan to take stronger or additional actions to ensure public health protection[ ] in a timely way."[44] Thus, state or local action directed at addressing the contamination—even when taken by a state with "primacy" under SDWA—is not a jurisdictional bar to EPA emergency intervention under §1431 if the Administrator deems the action insufficient to protect public health.

Additionally, EPA's emergency authority is not limited to situations in which states actively *refuse* to act on an imminent threat to public drinking water. States and local entities may voluntarily elect to defer such authority to EPA for purposes of expediency, or to work jointly with EPA in an emergency. In such cases, EPA may act under §1431 even though states have not in the traditional sense "failed" or refused to combat the threat.[45]

Finally, §1431 does not strictly require that EPA consult with state or local entities before invoking its emergency authority. Such consultation, while desirable, is completely discretionary. Section 1431 directs the EPA Administrator to "consult" with state and local authorities to confirm the accuracy of the information upon which EPA is relying and to determine what actions those authorities plan to take, but the Administrator need only do so "[t]o the extent . . . practicable in light of such imminent endangerment."[46] This optional consultation stands in marked contrast to other environmental statutes, which strictly *require* state and/or local consultation prior to federal action.[47]

D. Courts Have Interpreted EPA's Emergency Powers Broadly

Consistent with SDWA's language and legislative history, courts have interpreted §1431 to confer broad authority on EPA to exercise its emergency authority preventatively, even in cases where EPA cannot offer absolute proof of contamination. Drawing on the legislative history of SDWA, courts have largely deferred to EPA in the exercise of its emergency powers, and have been reluctant to place limits on these powers.

In *Trinity American Corp. v. Environmental Protection Agency*, the U.S. Court of Appeals for the Fourth Circuit found that EPA permissibly exercised its emergency authority under §1431 when it ordered the operator of a polyurethane foam plant to sample groundwater near the plant's property and to provide bottled water to anyone living within three-quarters of a mile of the plant until the water samples met federal standards.[48] The plant was located near several aquifers that provided drinking water to approximately 100 homes.[49] Between 1985 and 1989, the state health department cited and fined Trinity for dumping waste containing chromium, latex, and diesel fuel into the ground outside the plant.[50]

After discovering a number of other violations at the plant, the state health department entered into a consent decree with Trinity, under the terms of which Trinity was required to conduct regular water sampling.[51] During an inspection, EPA discovered high levels of chlorinated solvents and petroleum hydrocarbons in private supply wells near the Trinity property.[52] EPA issued an emergency order under §1431, concluding that "current use of the ground water may present an imminent and substantial endangerment to public health," and the state's efforts were "insufficient to protect the public health."[53]

The Fourth Circuit upheld the emergency order, finding it a permissible exercise of EPA's emergency powers under §1431.[54] First, the court noted the broad emergency authority Congress conferred upon EPA in the SDWA.[55] Citing the 1974 House report describing Congress' intention that the EPA Administrator retain broad emergency powers,[56] the court reasoned that "courts must ensure that [EPA's] power under the Act remains 'relatively untrammeled'. . . [s]o that EPA can act promptly and effectively when a threat to public health is imminent."[57] Because of this clear legislative intent that EPA retain flexibility and discretion in issuing emergency orders, the court sought to "approach challenges to an EPA emergency order with circumspection, recognizing such challenges result in a

42. SDWA §1431(a).
43. H.R. Rep. No. 93-1185, at 35 (1974).
44. EPA Final Guidance, *supra* note 12, at 9.
45. *Id.* at 8.
46. SDWA §1431(a).
47. For example, §303(a) of the Clean Air Act mandates federal consultation with state authorities before EPA can take emergency action. *See* Skaff, *supra* note 15, at 304.
48. 150 F.3d 389, 28 ELR 21575 (4th Cir. 1998).
49. *Id.* at 390.
50. *Id.* at 393.
51. *Id.*
52. *Id.*
53. *Id.*
54. *Id.* at 396.
55. *Id.* at 395.
56. *See* H.R. Rep. No. 93-1185 (1974).
57. *Trinity Am. Corp.*, 150 F.3d at 395 (citations omitted).

'diversion of time and resources as well as the risk that a court will err in evaluating the positions of [EPA] . . . on technological and scientific questions at the outer limits of a court's competence.'"[58] Such judicial restraint, the court noted, is appropriate in light of Congress' clear intent that EPA retain flexible authority to act quickly to prevent public health crises.[59]

The court also dismissed Trinity's argument that the emergency order would illegally preempt the state's own authority to protect public health. The state argued that EPA's emergency order illegally displaced its own authority, since the state had taken *some* action to protect drinking water quality near the plant.[60] The court rejected the argument, reasoning that such an argument would imply that "any action by a state—even if minor or ineffective—would strip EPA of its statutory emergency powers," a result that would be "at odds with the clear purpose of the statute—to preserve and protect the public health."[61] On the contrary, §1431 vests EPA, and not the state, with wide discretion to determine if the state's protective efforts were adequate.[62] The court noted the existence of ample evidence to support EPA's determination that the state had not done enough to protect the public from harm.[63]

Finally, the court rejected Trinity's argument that because there was no evidence that people living near the Trinity property were actually drinking contaminated water, there was no "imminent and substantial endangerment" sufficient to trigger federal emergency action. Because the SDWA requires only imminent risk of harm, "EPA need not demonstrate that individuals are drinking contaminated water to justify issuing an emergency order"; it need only "demonstrate the 'imminent likelihood' that the public may consume contaminated water."[64] The court concluded that EPA had clearly demonstrated an imminent threat to public health by finding dangerous levels of contaminants in Trinity's water supply, which provided drinking water for nearly 100 homes.[65]

Several other cases have supported EPA's broad interpretation of its §1431 emergency powers. In *United States v. Price*, the Third Circuit approved EPA's application for a preliminary injunction against owners of a former landfill from which chemicals were leaching into groundwater.[66] As part of the injunctive relief, EPA required the landfill owners to fund a diagnostic study of the threat to the city's water supply posed by toxic substances emanating from the landfill.[67] The court found this injunctive relief proper under §1431, noting that Congress "sought to invoke the broad and flexible equity powers of the federal courts in instances where hazardous wastes threatened human health,"[68] and that "[c]ourts should not undermine the will of Congress by either withholding relief or granting it grudgingly."[69]

Similarly, in *United States v. Midway Heights County Water District*,[70] EPA invoked its emergency powers by issuing a preliminary injunction against a water district whose water supplies exceeded maximum SDWA contaminant levels. The water district argued that EPA had failed to demonstrate that the water system presented an "imminent and substantial" endangerment to public health because EPA had not shown that the water district's noncompliance had *already* caused illness in water district consumers.[71] The court rejected this argument and upheld the injunction, concluding that "[t]he widespread contamination of the system with [harmful microorganisms] presents the imminent and substantial endangerment. This court need not wait to exercise its authority until water district customers have actually fallen ill from drinking Midway Heights water."[72] Other cases have interpreted EPA's §1431 emergency powers very generously.[73]

While courts have largely deferred to EPA in the exercise of its emergency powers under the SDWA—and have been reluctant to place constraints on these powers—this deference is not unlimited. Emergency orders issued under §1431 are not always completely immune from judicial review, and courts may look with skepticism on the factual findings supporting a §1431 order. In *W.R. Grace & Co. v. Environmental Protection Agency*, the U.S. Court of Appeals for the Third Circuit struck down an SDWA emergency order requiring the operator of a fertilizer facility that had released ammonia into a source-water aquifer to take several ammonia-reduction efforts as "arbitrary and capricious."[74] While acknowledging the broad emergency authority Congress conferred on EPA in §1431, the court noted that "the EPA's emergency power is not without limitation."[75] The court vacated EPA's emergency order, finding no rational basis for EPA's determinations that both a particular ammonia cleanup standard and a remediation scheme were necessary to protect public health.[76]

Notably, however, *W.R. Grace* turned not on EPA's broad authority to invoke its emergency powers, but rather on EPA's failure to provide a rational basis for the specific cleanup standard it ordered. In fact, the court took pains to describe the breadth of §1431 emergency powers, stat-

58. *Id.* (citations omitted).
59. *Id.*
60. *Id.* at 397.
61. *Id.*
62. *Id.* at 398.
63. *Id.*
64. *Id.* at 399 (citations omitted).
65. *Id.*
66. 688 F.2d 204, 12 ELR 21020 (3d Cir. 1982).
67. *Id.* at 204.
68. *Id.* at 211.
69. *Id.* at 214.
70. 695 F. Supp. 1072, 19 ELR 20142 (E.D. Cal. 1988).
71. *Id.* at 1076.
72. *Id.*
73. *See, e.g.*, United States v. Hooker Chems. & Plastics Corp., 749 F.2d 968, 987, 14 ELR 20975 (2d Cir. 1984) (recognizing that §1431 "confer[s] 'broad authority' on the Administrator to provide him with substantial flexibility needed to prevent imminent hazards," and that "the proper exercise of this [emergency] authority requires that the Administrator's discretion under this provision be left relatively untrammeled").
74. 261 F.3d 330, 334, 32 ELR 20093 (3d Cir. 2001).
75. *Id.* at 339.
76. *Id.* at 339-43. The court's decision in *W.R. Grace* has been criticized for misapplying the "arbitrary and capricious standards." *See* Andrea Issod, W.R. Grace & Co. v. EPA: *An Arbitrary Outcome*, 30 Ecology L.Q. 409 (2003).

ing that "it is well established from the legislative history and case law that SDWA confers on EPA broad authority to address present and future harm that may substantially threaten the health of persons who use public water systems."[77] Thus, while the case struck down an emergency order, it may be read as further judicial endorsement for a broad interpretation of §1431 emergency authority.

II. EPA Rarely Invokes Its Emergency Powers, Or Does So Too Late to Realize the SDWA's Preventative Purpose

> A safe water supply has always been critical to civilization . . . The Flint water crisis has in effect turned back the clock to a time when people traveled to central water sources to fill their buckets and carry the water home.
>
> —*Concerned Pastors for Social Action v. Khouri* (2016)[78]

Despite the breadth of EPA's emergency powers, as recognized repeatedly in the legislative history of the SDWA and EPA final guidance thereunder, EPA has historically failed to exercise these powers in the active, preventative manner that Congress intended. In many cases, the Agency does not invoke its emergency powers at all, even in dire emergency situations that threaten public health, such as the recent water crises in Washington, D.C., and Kewaunee County, Wisconsin. In other cases, such as the recent water crisis in Flint, Michigan, EPA has invoked its emergency authority far too late to effectuate the preventative purpose that Congress intended. In both cases, the Agency's failure to properly exercise its emergency authority has resulted in serious harm to public health.

A. *In Many Cases Involving Serious Contamination, EPA Fails to Invoke Its Emergency Powers Altogether*

Although §1431 vests EPA with expansive authority to prevent imminent contamination of public water supplies, EPA rarely invokes these powers, even in dire emergency situations that threaten public health. As EPA itself has acknowledged, it is rare for the Agency to issue an emergency order to a state—or a municipality within a state—that enjoys primacy under the SDWA.[79] Historically, the vast majority of §1431 emergency orders are issued in the few places where EPA, rather than the state, directly implements the SDWA, such as Wyoming or Indian country.[80] EPA's infrequent use of its emergency authority is striking. Recently, in Washington, D.C., and Kewaunee County, Wisconsin, EPA failed to invoke its emergency powers, despite ample evidence of serious contamination and an inadequate local response.

1. The Washington, D.C., Water Crisis

Between 2001 and 2004, Washington, D.C., experienced a serious water crisis when the U.S. Army Corps of Engineers began using chloramine in place of the standard chlorine to treat water in the Washington Aqueduct, which supplies water for approximately one million people in the Washington, D.C., metropolitan area.[81] The chloramine unexpectedly removed layers of protective mineral coating from water service lines throughout Washington, D.C., causing lead to leach into the tap water of tens of thousands of residents.[82]

The devastating and insidious health effects of lead exposure are well-documented. "Lead makes the mind give way," the Greek physician Dioscorides observed in the 1st century CE.[83] Lead poisoning causes serious and often irreversible health effects, particularly in children, whose developing nervous systems make them more susceptible to lead poisoning than adults.[84] No amount of lead exposure is considered safe; even at very low levels, lead can cause irreversible damage to the rapidly developing nervous systems of young children and infants.[85] The neurological changes associated with lead poisoning—including loss of intelligence, shortening of attention span, and disruption of behavior—are persistent and irreversible, and can often last a lifetime, placing children at higher risk for developmental delay, behavioral disorders, and lower IQ.[86] Even in adults, low-level lead exposure can cause significant damage to the kidneys, as well as the nervous, endocrine, and cardiovascular systems.[87]

During the Washington, D.C., water crisis, local and federal officials repeatedly reassured residents that the water was safe to drink, despite mounting evidence of hazardous levels of lead in the water.[88] Only in 2004—nearly

77. *W.R. Grace & Co.*, 261 F.3d at 339.
78. Concerned Pastors for Soc. Action v. Khouri, No. 16-10277, 2016 WL 6647348, 46 ELR 20124 (E.D. Mich. Dec. 2, 2016).
79. EPA Management Alert, *supra* note 1, at 6, 8 ("Issuing an emergency order to a state or local entity is a rare occurrence at the EPA.").
80. *Id.* at 6.
81. U.S. Army Corps of Engineers, Baltimore District, *Washington Aqueduct*, http://www.nab.usace.army.mil/Missions/Washington-Aqueduct/ (last visited July 3, 2017).
82. Katherine Shaver & Dana Hedgpeth, *D.C.'s Decade-Old Problem of Lead in Water Gets New Attention During Flint Crisis*, Wash. Post, Mar. 17, 2016, https://www.washingtonpost.com/local/dcs-decade-old-problem-of-lead-in-water-gets-new-attention-during-flint-crisis/2016/03/17/79f8d476-ec64-11e5-b0fd-073d5930a7b7_story.html?utm_term=.29989b2f491d.
83. Turuvekere S.S. Dikshith, Hazardous Chemicals: Safety Management and Global Regulations 240 (2013).
84. World Health Organization (WHO), Childhood Lead Poisoning 21 (2010) [hereinafter WHO Report], http://apps.who.int/iris/bitstream/10665/136571/1/9789241500333_eng.pdf?ua=1&ua=1.
85. Jaime Raymond & Mary Jean Brown, *Childhood Blood Levels in Children Aged <5 Years—United States, 2009-2014*, 66 MMWR Surveillance Summaries 1 (2017), *available at* https://www.cdc.gov/mmwr/volumes/66/ss/pdfs/ss6603.pdf.
86. WHO Report, *supra* note 84, at 12.
87. Centers for Disease Control and Prevention, *Adult Blood Lead Epidemiology & Surveillance (ABLES)*, https://www.cdc.gov/niosh/topics/ables/description.html (last updated Dec. 22, 2015).
88. Shaver & Hedgpeth, *supra* note 82. In 2004, the Centers for Disease Control and Prevention published a report claiming that children were not being exposed to harmful levels of lead. *Blood Lead Levels in Residents of Homes With Elevated Lead in Tap Water—District of Columbia, 2004*, 53 MMWR 268 (2004), https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5312a6.htm. A House investigative subcommittee later called the

four years after the crisis began—did the D.C. Water and Sewer Authority (WASA) begin to treat the water with anticorrosion chemicals.[89] Despite the mounting evidence of contamination and inadequate municipal action to protect public health, EPA did not invoke its emergency powers.[90] Between 2001-2004, tens of thousands of Washington, D.C., residents were exposed to unsafe levels of lead, with infants and children experiencing significantly elevated blood lead levels.[91]

2. The Kewaunee County, Wisconsin, Water Crisis

In October 2014, environmental groups petitioned EPA to take prompt action under its emergency powers to abate extensive nitrate and bacterial contamination of an aquifer serving as the primary source of drinking water for Kewaunee County, Wisconsin.[92] The contamination was caused by runoff from the approximately 200 livestock operations in the county.[93] In 2013, nearly one-third of the wells tested in the county contained bacteria, nitrates, or both at levels exceeding state and federal public health standards, and many county residents reported brown and foul-smelling water.[94]

The petition presented evidence that the nitrate and bacteria concentrations in the county's tap water posed an imminent and substantial endangerment to county residents, and that neither the Wisconsin Department of Natural Resources nor Kewaunee County had taken adequate action to abate the threat.[95] Despite this compelling evidence, EPA did not invoke its emergency powers in Kewaunee County. The petitioners wrote EPA a follow-up letter in March 2016, once again urging EPA to intervene.[96] To date, EPA has not done so.

The recent water crises in Washington, D.C., and Kewaunee County are emblematic of EPA's historical failure to invoke its emergency powers in situations where prevention is critical. In both cases, EPA entirely refused to invoke its emergency authority to abate serious contamination, despite mounting evidence that the contamination posed an imminent and substantial endangerment to the public, and that local authorities had not taken sufficient protective action.

B. When EPA Does Invoke Its Emergency Authority, It Often Does So Too Late to Effectuate §1431's Preventative Purpose

While the cases of Washington, D.C., and Kewaunee County demonstrate the dangers of EPA's complete failure to exercise its emergency powers, the recent water crisis in Flint, Michigan, illustrates the devastating consequences of EPA's failure to invoke its emergency authority in the early, preventative manner that Congress intended. In Flint, EPA waited nearly one year after it first became aware of the extensive lead contamination in the city's drinking water to issue an emergency order. This belated invocation of emergency authority frustrated §1431's clear preventative purpose and caused serious harm to public health.

1. The Crisis Unfolds

The city of Flint, Michigan, has a troubled history that long predates the water crisis. Since the 1960s, the city's population has been dramatically declining, and 41.6% of Flint residents currently live below the federal poverty threshold—2.8 times the national poverty rate.[97] Flint exhibits generally poor health outcomes, low quality of life ratings, and high crime rates.[98] The city has also been beset by financial mismanagement. In 2011, Flint faced a $19.1 million general fund deficit and an $8.8 million water fund deficit, due in part to rampant mismanagement by city authorities.[99] In November 2011, in response to these financial difficulties, Michigan Gov. Rick Snyder appointed an emergency manager to oversee financial affairs in Flint.[100]

On April 25, 2014, the city ceased purchasing drinking water from Detroit and began drawing drinking water from the heavily polluted Flint River. The decision was made at the urging of the city's emergency manager, who

report "scientifically indefensible." Carol D. Leonnig, *CDC Misled District Residents About Lead Levels in Water, House Probe Finds*, Wash. Post, May 20, 2010, http://www.washingtonpost.com/wp-dyn/content/article/2010/05/19/AR2010051902599.html.

89. Shaver & Hedgpeth, *supra* note 82. As early as the summer of 2001, WASA was aware that the city's drinking water exceeded federal standards for lead, and withheld test results from federal authorities. *Id.*
90. The D.C. water crisis was even longer-lasting than the crisis in Flint, and officials were even slower to respond. One expert estimated that the crisis in Washington, D.C., was "20 to 30 times worse" than the lead crisis in Flint, based on "the number of people, the duration of exposure and the population harmed." *Id.*
91. Marc Edwards et al., *Elevated Blood Lead in Young Children Due to Lead-Contaminated Drinking Water: Washington, D.C., 2001-2004*, 43 Envtl. Sci. & Tech. 1618 (2009), http://pubs.acs.org/doi/pdf/10.1021/es802789w.
92. Petition for Emergency Action Pursuant to the Safe Drinking Water Act, 42 U.S.C. §300i, to Protect the Citizens of Kewaunee County, Wisconsin, From Imminent and Substantial Endangerment to Public Health Caused by Nitrate and Bacteria Contamination of an Underground Source of Drinking Water, and Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §9604, and Resource Conservation and Recovery Act, 42 U.S.C. §6973 (Oct. 22, 2014), http://midwestadvocates.org/assets/resources/Safe%20Drinking%20Water%20Act%20Petition/2014-10-22_Kewaunee_SDWA_Petition_to_EPA.pdf.
93. *Id.*
94. *Id.* at 2-3.
95. *Id.* at 7, 22.
96. Letter from Mark Redsten, President and Chief Executive Officer, Clean Wisconsin et al., to Tinka Hyde, U.S. EPA Region 5 (Mar. 9, 2016), http://www.cleanwisconsin.org/wp-content/uploads/2016/03/030916-KewauneeLetterEPA.pdf.
97. Since 2000, the city has lost more than 20% of its population. Flint Water Advisory Task Force, Final Report to Governor Rick Snyder 15 (2016) [hereinafter Flint Water Advisory Task Force Report], *available at* http://mediad.publicbroadcasting.net/p/michigan/files/201603/taskforce_report.pdf?_ga=1.147700144.609033213.1458749402.
98. In a 2015 study, Genesee County, in which Flint is located, ranked 81st out of 82 Michigan counties in overall health outcomes, and in 2013, Flint's crime index was 811, as compared to the national average of 295. *Id.*
99. *See* Letter from Jason Chaffetz, Chairman, House Committee on Oversight and Government Reform, to Harold Rogers, Chairman, House Committee on Appropriations (Dec. 16, 2016) [hereinafter House Oversight Report].
100. *Id.*

had determined that switching water sources would save the city money.[101] Detroit's water supply, which Flint had used for 47 years, is treated with the corrosion-inhibiting chemical orthophosphate, which prevents lead from leaching into tap water from lead-containing pipes and other plumbing components.[102] Water from the Flint River, however, is highly corrosive,[103] and the city failed to properly treat the water with anticorrosion chemicals at the Flint water treatment plant.[104] Shortly after the source water switch to the Flint River, lead began leaching from thousands of water service lines and into the tap water of Flint residents. Between January and June 2015, city water sampling revealed significantly elevated levels of lead in the water supply.[105]

Shortly after the city switched its water supply to the Flint River, EPA and the city began to receive complaints from residents about the city's water quality. Many residents reported that their tap water was a dark brown color, and had a foul taste and smell.[106] Residents also reported rashes and hair loss after coming into contact with the water.[107] At the invitation of concerned Flint residents, researchers from the Virginia Polytechnic Institute conducted tests on the drinking water in dozens of Flint homes.

The results were shocking. In March 2015, Flint resident LeeAnne Walters learned that her tap water contained 27 times the EPA "action level" for lead, and more than twice the level at which EPA classifies water as hazardous waste.[108] For months since the city switched its tap water source, Walters and her two children had experienced hair loss, rashes, and abdominal pain.[109] Walters had also noticed that her tap had a murky brown color, and an unpleasant odor.[110] Most alarmingly, one of Walters' children experienced a threefold elevation in blood lead levels after the city switched its water source to the Flint River.[111]

Walters was not alone. Hundreds of tap water tests completed in Flint after the source water switch revealed significant and widespread contamination.[112] A study by the Centers for Disease Control and Prevention revealed elevated blood lead levels in children after the source water switch,[113] and one Flint pediatrician found that the percentage of Flint children with elevated blood lead levels had doubled since the city began drawing water from the Flint River.[114]

Despite these alarming reports, state and city officials embarked upon a campaign of public reassurance, insisting that the water was drinkable and discrediting any reports to the contrary. In July 2015, the Flint mayor held a press conference assuring Flint residents that their tap water was safe to drink.[115] The same month, a Michigan Department of Environmental Quality (MDEQ) spokesman stated that "anyone who is concerned about lead in the drinking water in Flint can relax."[116] Another city official stated that "the bottom line is that residents of Flint do not need to worry about lead in their water supply."[117] The Flint Water Advisory Task Force later concluded that "[t]hroughout 2015, as the public raised concerns and as independent studies and testing were conducted and brought to the attention of MDEQ, the agency's response was often one of aggressive dismissal, belittlement, and attempts to discredit these efforts and the individuals involved."[118]

2. The Federal Response

By February 2015, EPA was aware that residents of Flint were being exposed to lead-contaminated water, and that such exposure was likely to increase.[119] Although one EPA official sounded the alarm to anyone who would

101. Flint Water Advisory Task Force Report, *supra* note 97, at 16.
102. Memorandum from Miguel Del Toral, EPA Region 5, to Thomas Poy, Chief, Ground Water and Drinking Water Branch (June 24, 2015) (High Levels of Lead in Flint, Michigan—Interim Report), http://www.aclumich.org/sites/default/files/Original%20EPA%20memo.%20062514.pdf.
103. One study found that the Flint River water was 19 times more corrosive than the water from Lake Huron, where Detroit draws its drinking water. Siddhartha Roy, *Test Update: Flint River Water 19X More Corrosive Than Detroit Water for Lead Solder; Now What?*, Flint Water Study, Sept. 11, 2015, http://flintwaterstudy.org/2015/09/test-update-flint-river-water-19x-more-corrosive-than-detroit-water-for-lead-solder-now-what/.
104. The Michigan Department of Environmental Quality (MDEQ) had determined that corrosion control efforts were not required immediately, and instructed the Flint water treatment plant to refrain from adding anticorrosion chemicals to avoid the costly upgrades necessary to implement a proper corrosion control protocol. *See* Nancy Kaffer, *Why Didn't Flint Treat Its Water? An Answer at Last*, Detroit Free Press, Mar. 30, 2016, http://www.freep.com/story/opinion/2016/03/30/flint-water-crisis/82421546/.
105. *See* U.S. EPA, Emergency Administrative Order in the Matter of: City of Flint, Michigan; Michigan Department of Environmental Quality; and the State of Michigan 2 (Jan. 21, 2016).
106. Flint Water Advisory Task Force Report, *supra* note 97, at 16.
107. Jeremy C.F. Lin et al., *Events That Lead to Flint's Water Crisis*, N.Y. Times, https://www.nytimes.com/interactive/2016/01/21/us/flint-lead-water-timeline.html.
108. Curt Guyette, *Corrosive Impact: A Tale of Leaded Water and One Flint Family's Toxic Nightmare*, ACLU of Mich., July 9, 2015, http://www.aclumich.org/article/corrosive-impact-tale-leaded-water-and-one-flint-family%E2%80%99s-toxic-nightmare.
109. *Id.*
110. *Id.*
111. *See* Del Toral, *supra* note 102, at 3.
112. Studies showed that lead concentration in Flint tap water far exceeded EPA's "action level" for lead of 15 parts per billion (ppb). According to one report, Flint's 90th percentile lead value in August 2015 was 25 ppb, while several samples exceeded 100 ppb and one sample exceeded 1,000 ppb. Siddhartha Roy, *Our Sampling of 252 Homes Demonstrates a High Lead in Water Risk: Flint Should Be Failing to Meet the EPA Lead and Copper Rule*, Flint Water Study, Sept. 8, 2015, http://flintwaterstudy.org/2015/09/our-sampling-of-252-homes-demonstrates-a-high-lead-in-water-risk-flint-should-be-failing-to-meet-the-epa-lead-and-copper-rule/.
113. Chinaro Kennedy et al., *Blood Lead Levels Among Children Aged <6 Years—Flint, Michigan, 2013-2016*, 65 MMWR (2016), https://www.cdc.gov/mmwr/volumes/65/wr/mm6525e1.htm.
114. Mona Hanna-Attisha et al., *Elevated Blood Lead Levels in Children Associated With the Flint Drinking Water Crisis: A Spatial Analysis of Risk and Public Health Response*, 106 Am. J. Pub. Health 283 (2016), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4985856/.
115. EPA Management Alert *supra* note 1, at 5.
116. *Id.* at 2.
117. *Id.*
118. Flint Water Advisory Task Force Report *supra* note 97, at 2.
119. By February 2015, EPA officials knew that Flint tap water exceeded the lead level at which corrosion control is required, and that the city was not using proper corrosion control techniques. EPA was also aware that at least four homes in Flint had concentrations of lead in household drinking water that were significantly above the action level of 15 ppb. Additionally, EPA had received numerous complaints from Flint residents about drinking water quality. EPA Management Alert, *supra* note 1, at 4-5.

listen,[120] the Agency largely ignored him and branded him as a "rogue employee."[121] In October 2015, the Natural Resources Defense Council (NRDC) and several community groups petitioned EPA to take immediate protective action under its emergency powers.[122]

Despite EPA's knowledge that the city and state were not taking any meaningful action to abate the contamination, EPA did not immediately invoke its emergency powers. Instead, EPA officials initially downplayed the threat and cast doubt on the accuracy of the testing results.[123] In June 2015, EPA's Region 5 office communicated its concern about Flint's lack of corrosion control, and offered technical assistance to the city in combating the problem.[124] When the city did not respond, EPA took no further action, despite mounting calls for federal intervention from EPA employees, community groups, and elected officials.[125]

In December 2015, Flint declared a public health emergency, and in January 2016, EPA issued a §1431 emergency order finding that "water provided by the City to residents poses an imminent and substantial endangerment to the health of those persons," and that Michigan and the city of Flint had "failed to take adequate measures to protect public health."[126] Although the order acknowledged that the city had made "some progress" in addressing the drinking water crisis, it noted that "there continue to be delays in responding to critical EPA recommendations and in implementing the actions necessary to reduce and minimize the presence of lead and other contaminants in the water supply both now and in the near future."[127] The order imposed a number of requirements on the city aimed at abating the contamination, such as reporting requirements, submission of sampling plans, adherence to treatment standards, and the formation of an independent advisory panel to make recommendations to the city.[128]

3. "Too Little, Too Late": EPA's Belated Invocation of Its Emergency Authority

In enacting §1431, Congress clearly intended for EPA to invoke its emergency authority when a public health crisis is "imminent"—before it occurs—rather than after it is already underway. EPA's delay in asserting its emergency powers in Flint frustrated this clear preventative purpose, resulting in serious harm to public health. Although EPA was aware of the contamination of Flint drinking water as early as February 2015, it did not issue an emergency order until nearly one year later. By that time, nearly 100,000 Flint residents had already been exposed to harmful levels of lead in their tap water.[129]

EPA authorities have acknowledged that the Agency's late invocation of emergency authority in Flint caused serious harm.[130] In an October 2016 report, EPA's Office of Inspector General admonished EPA for not acting early enough to avert the crisis, concluding that although Region 5 "had sufficient information to issue an emergency order to Flint as early as June 2015," it failed to do so.[131] The report urges that situations such as the one in Flint "should generate a greater sense of urgency," and EPA "must be better prepared and able to timely intercede in public health emergencies like that which occurred in Flint."[132]

The EPA Inspector General's report flags two primary causes of EPA's failure to invoke its emergency powers in time to prevent a serious public health crisis. First, this failure was due in part to EPA's general institutional reluctance to issue emergency orders to local entities in states, like Michigan, that have primacy under the SDWA.[133] Second, EPA Region 5 mistakenly concluded that it did not have authority to act where Michigan and Flint were taking steps—however minimal and inadequate—to address the issue.[134]

120. In June 2015, Miguel Del Toral, the regulations manager for the Ground Water and Drinking Water Branch of EPA Region 5, which is responsible for overseeing the Michigan drinking water program, wrote a report in which he noted the rising lead levels in Flint's drinking water. In his report, he included the lead sampling results from the Walters home, which he characterized as "especially alarming," and urged EPA to take prompt action. Del Toral, *supra* note 102, at 3. Such high lead levels, he wrote are "to be expected in a public water system that is not providing corrosion control treatment." *Id*. at 2.
121. William Finnegan, *Flint and the Long Struggle Against Lead Poisoning*, New Yorker, Feb. 4, 2016, http://www.newyorker.com/news/daily-comment/flint-and-the-long-struggle-against-lead-poisoning.
122. *See* Petition for Emergency Action Under the Safe Drinking Water Act, 42 U.S.C. §300i, to Abate the Imminent and Substantial Endangerment to Flint, Michigan, Residents From Lead Contamination in Drinking Water (Oct. 1, 2015), https://www.nrdc.org/sites/default/files/wat_15100101a.pdf. The petition noted that "Flint's residents face ongoing endangerment from lead in their drinking water," *id*. at 5, and that neither the city nor the state had taken adequate protective action. *Id*. at 10.
123. Susan Hedman, the EPA Administrator for Region 5, downplayed the findings of the Del Toral report to city officials, stating that immediate action was not necessary; another EPA official characterized the findings in the memo as a "limited drinking water sampling for lead in Flint in response to a citizen complaint." House Oversight Report, *supra* note 99, at 3.
124. *Id*.
125. *Id*. EPA Administrator Gina McCarthy praised EPA's response as "very encouraging" and "great progress." *Id*. at 4.
126. *Id*. at 7-8.
127. *Id*. at 8.
128. *Id*. at 8-17.
129. EPA Management Alert, *supra* note 1, at 1.
130. The Flint Water Advisory Task Force also blamed EPA for failing to intervene when it had the clear authority to do so. Flint Water Advisory Task Force Report, *supra* note 97, at 48. Although the task force concluded that "[p]rimary responsibility for the water contamination in Flint lies with MDEQ," *id*. at 38, "EPA failed to properly exercise its authority prior to January 2016." *Id*. at 52. The task force encouraged EPA to "[e]xercise more vigor, and act more promptly, in addressing compliance violations that endanger public health." *Id*.
131. *Id*. at 8.
132. *Id*.
133. Under the SDWA, Michigan has "primacy" for overseeing and implementing federal drinking water standards. 42 U.S.C. §300g-2. *See* EPA Final Guidance, *supra* note 12, at 6, stating that
> it is rare for a[n] [EPA] region to issue an emergency order to a municipality of a state with primacy. The vast majority of the SDWA Section 1431 emergency orders taken by EPA occurred in Wyoming and in Indian country, where EPA regions directly implement SDWA and there is no "state" entity to consider. Based on the publicly available data, the majority of Section 1431 emergency orders issued by EPA were to businesses and federal facilities.

134. EPA Final Guidance, *supra* note 12, at 8.

III. Lessons From Washington, D.C., Kewaunee County, and Flint

The recent water crises in Washington, D.C., Kewaunee County, and Flint serve as cautionary tales. Two primary lessons can be drawn from these crises that can assist EPA in responding more promptly to future emergency situations. First, §1431 does not require EPA to present "incontrovertible proof" that a contaminant is present and/or presents an imminent and substantial endangerment to public health before the Agency can act under its emergency powers. Second, EPA can intervene under §1431 *whenever* it determines that a state or local response to imminent or ongoing public water contamination is inadequate, regardless of whether the state has primary enforcement authority under the SDWA and has taken some action under that authority.

A. *EPA Need Not Wait for "Incontrovertible Proof" of Contamination Before Acting*

To effectuate the preventative purpose of §1431, EPA must necessarily act before actual contamination occurs, without absolute certainty as to the severity—or even the existence—of the contamination. Indeed, in enacting §1431, Congress recognized that the very nature of emergency prevention precludes the opportunity for rigorous investigation and fact-gathering. Accordingly, §1431 does not require EPA to wait for complete or perfect information before acting under §1431; the Agency need only receive *some* information of endangerment.

In Washington, D.C., Kewaunee County, and Flint, the Agency received ample information of "imminent and substantial endangerment" to act under its emergency powers. In Washington, D.C., and Kewaunee County, EPA was aware that dangerous contaminants—lead and nitrates, respectively—were present in the water supply, but refused to issue an emergency order. Similarly, in Flint, the EPA Administrator received ample information that lead had entered Flint's drinking water supply and posed an "imminent and substantial endangerment" to the city's residents to warrant immediate federal intervention under §1431.

In all of these cases, the Agency had sufficient information to act under its emergency powers. Nonetheless, EPA either failed to invoke §1431 altogether (as in Washington, D.C., and Kewaunee County), or waited nearly one year to do so (as in Flint). In the future, EPA must effectuate the SDWA's preventative purpose by invoking its emergency authority long before an actual public health crisis materializes.

B. *Action by a State With SDWA Primacy Does Not Bar EPA Emergency Action*

During the Flint water crisis, EPA mistakenly believed that it could not invoke its emergency powers because Michigan, a state with SDWA primacy, was taking *some action* to abate the contamination. EPA concluded that such action—however minimal—posed a jurisdictional bar to §1431 intervention.[135]

In drawing this conclusion, EPA clearly misinterpreted the scope of its authority under §1431. The law is clear: §1431 overrides all other limits on EPA authority imposed by the SDWA, allowing EPA to act even where a state with primacy has taken action to address the threat, if EPA first determines that "state action is not protecting the public in a timely manner."[136] In Flint, EPA possessed ample information that the city and state had not taken sufficient action to protect the public from contamination.[137] EPA cannot allow such a misinterpretation of clear law to tie its hands in the future; instead, the Agency should immediately exercise its authority under §1431 whenever the EPA Administrator finds that an imminent threat to a public water supply exists, notwithstanding action by a state with SDWA primacy.

As the recent water crises in Washington, D.C., Kewaunee County, and Flint illustrate, EPA has repeatedly frustrated Congress' efforts to protect public health by either failing to invoke its emergency powers altogether, or otherwise invoking them too late to achieve the preventative effect that Congress intended. The clear preventative purpose of §1431 requires EPA to exercise its emergency authority long before an actual public health crisis materializes, even when it cannot provide absolute proof of contamination, and even in cases where a state has primary enforcement authority under the SDWA. Such proactive use of emergency authority is consistent with the text, legislative history, and judicial interpretations of §1431, and will allow EPA to realize its larger obligation under the SDWA to ensure that the public receives safe drinking water.

IV. Drinking Water Contamination: A Persistent National Problem

EPA's emergency powers are one of the few ways that Congress has authorized EPA to address contamination in an expeditious and unfettered manner. In light of the serious threats posed by contamination of public water sources, EPA must invoke these powers with more frequency and urgency to prevent future public health crises. The Flint and Washington, D.C., water crises are not isolated events; lead exposure through tap water is a recurring and pervasive national problem.

In the past three years, roughly 1,400 water systems serving 3.6 million Americans exceeded the federal lead standard.[138] Water usually becomes contaminated with

135. EPA Management Alert, *supra* note 1, at 1.
136. *Id.*
137. By early 2015, EPA knew that Flint tap water exceeded the level at which corrosion control was required, and that the city was not taking proper corrosion control measures. *Id.* at 4-5.
138. Ryan J. Foley & Meghan Hoyer, *US Water Systems Repeatedly Exceed Federal Standard for Lead*, Associated Press, Apr. 9, 2016. Some estimates are significantly higher; a recent NRDC report estimates that as many as 18

lead as it passes through service lines and plumbing fixtures that contain lead components or soldering.[139] Homes built before 1986 are more likely to contain lead pipes, fixtures, or solder.[140] Currently, there are 75 million homes in the United States built before 1980, all of which likely contain some amount of lead plumbing.[141]

Lead exposure through drinking water is a critical environmental justice issue with far-reaching societal impacts. High levels of lead in drinking water can "shift the well-being of an entire community—creating a higher proportion of children in need of additional social and educational services; reducing the community's earning potential," and causing "higher rates of delinquency, teen pregnancy and violence."[142] Childhood lead exposure also carries significant economic ramifications, including high medical and social services costs.[143] Low-income communities and communities of color, which often reside in older structures serviced by aging water pipes, are disproportionately affected.[144]

The Flint Water Advisory Task Force identifies the Flint water crisis as a "clear case of environmental injustice."[145] Nearly 60% of the Flint population is African-American, and 41.6% of Flint residents live below the poverty line—nearly three times the national poverty rate.[146] The Task Force report concluded that "Flint residents, who are majority Black or African American and among the most impoverished of any metropolitan area in the United States, did not enjoy the same degree of protection from environmental health and hazards as that provided to other communities."[147]

Nor is lead the only waterborne contaminant that poses a serious danger to public health. EPA currently regulates 87 contaminants under the SDWA, including microorganisms, disinfectants and disinfectant byproducts, inorganic chemicals, organic chemicals, and radionuclides—all of which can pose significant harm when present in drinking water.[148] Additionally, a number of unregulated contaminants, such as chromium-6, the carcinogen made famous by the film *Erin Brockovich*, can endanger public health, and have been detected in public water systems at harmful levels.[149]

Additionally, EPA's consistent failure to meet its general environmental justice obligations underlines the importance of greater reliance on EPA's protective §1431 authority. In a 2016 report, the U.S. Commission on Civil Rights concluded that EPA's Office of Civil Rights has largely failed to comply with its environmental justice obligations under Title VI of the Civil Rights Act, which prohibits discrimination on the basis of race, color, or national origin in programs or activities receiving federal financial assistance.[150] Given the demonstrated ineffectiveness of EPA's Title VI mechanism, it is particularly important that EPA exercise its §1431 authority to address neglected environmental justice concerns stemming from contamination of public drinking water sources.

In light of the alarming number of public water systems that exceed EPA's standards for lead and other contaminants, the clear environmental justice concerns implicated by contaminated tap water, and the occurrence of several recent serious, systemic incidents of contamination of a municipal water supply, it is critical that EPA respond promptly to future public health crises by exercising its §1431 emergency powers more proactively.

V. Afterword: The Broad Political Appeal of EPA's Emergency Authority

> If confirmed, I will focus on EPA's core missions, including, as appropriate, use of EPA's emergency order authority under the Safe Drinking Water Act.
>
> *—EPA Administrator Scott Pruitt, before the U.S. Senate Committee on Environmental and Public Works (Jan. 18, 2017)*[151]

In §1431 of the SDWA, Congress envisioned an active role for EPA in preventing threats to public drinking water

million Americans were served by water systems with lead violations. Erik Olson & Kristin Pullen Fedinick, NRDC, What's in Your Water? Flint and Beyond: Analysis of EPA Data Reveals Widespread Lead Crisis Potentially Affecting Millions of Americans 5 (2016) [hereinafter NRDC Report], *available at* https://www.nrdc.org/sites/default/files/whats-in-your-water-flint-beyond-report.pdf.

139. U.S. EPA, *Basic Information About Lead in Drinking Water*, https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water (last updated May 10, 2017).
140. *Id.*
141. Alison Young & Mark Nichols, *Beyond Flint: Excessive Lead Levels Found in Almost 2,000 Water Systems Across All 50 States*, USA Today, http://www.usatoday.com/story/news/2016/03/11/nearly-2000-water-systems-fail-lead-tests/81220466/.
142. NRDC Report, *supra* note 138, at 11.
143. One analysis found that the direct medical and indirect societal costs of childhood lead poisoning in the United States amount to $43 billion annually. Philip J. Landrigan et al., *Environmental Pollutants and Disease in American Children: Estimates of Morbidity, Mortality, and Costs for Lead Poisoning, Asthma, Cancer, and Developmental Disabilities*, 110 Envtl. Health Persp. 721 (2002).
144. WHO Report, *supra* note 84, at 35. Low-income, African American, and Latino children consistently have disproportionately high levels of lead in their blood. Amy Vanderwarker, *Water and Environmental Justice*, *in* A Twenty-First Century U.S. Water Policy 52, 58 (Juliet Christian-Smith & Peter H. Gleick eds., Oxford Univ. Press 2012), *available at* http://www2.pacinst.org/wp-content/uploads/2013/02/water_and_environmental_justice_ch3.pdf.
145. Flint Water Advisory Task Force Report, *supra* note 97, at 11.
146. *Id.* at 15.
147. *Id.* at 54.
148. U.S. EPA, *Ground Water and Drinking Water—National Primary Drinking Water Regulations*, https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations (last updated Mar. 21, 2017).
149. A recent study by the Environmental Working Group concluded that the tap water of 218 million Americans contains dangerous levels of chromium-6. David Andrews & Bill Walker, *"Erin Brockovich" Carcinogen in Tap Water of More Than 200 Million Americans*, Envtl. Working Group, Sept. 20, 2016, http://www.ewg.org/research/chromium-six-found-in-us-tap-water.
150. U.S. Commission on Civil Rights, Environmental Justice: Examining the Environmental Protection Agency's Compliance and Enforcement of Title VI and Executive Order 12898 (2016), *available at* http://www.usccr.gov/pubs/Statutory_Enforcement_Report2016.pdf.
151. *Nomination of Attorney General Scott Pruitt to Be Administrator of the U.S. Environmental Protection Agency: Hearing Before the Senate Comm. on Environmental and Public Works*, 115th Cong. 63-64 (2017) [hereinafter *Scott Pruitt Hearing*] (testimony of Scott Pruitt), https://www.epw.senate.gov/public/_cache/files/6d95005c-bd1a-4779-af7e-be831db6866a/scott-pruitt-qfr-responses-01.18.2017.pdf.

sources. EPA's embrace of its role as a protector of public health through the vigilant exercise of its emergency powers would likely enjoy broad political support. Unlike other environmental issues that are subject to frequent contestation in the political arena, such as global warming or hydraulic fracturing, the importance of clean drinking water and sanitation cuts across traditional political lines, and is virtually immune from attack.

Following the Flint crisis, condemnation of EPA's failure to protect public health under its emergency powers came swiftly from both sides of the aisle. "There should have been a more rapid response," opined Scott Pruitt, then-nominee for EPA Administrator, when asked about the crisis during his confirmation hearing.[152] Pruitt went on to state that "the Flint tragedy was a failure at every level of government," and promised that "[i]f confirmed and faced with a similar situation, I would inform the state that EPA will take action if they refuse to do so, and use EPA's emergency authority if the state fails to act."[153]

Similarly, Rep. Jason Chaffetz (R-Utah), chairman of the House Committee on Oversight and Government Reform, which had been tasked with investigating the federal response to the crisis, concluded in a letter to the Committee on Appropriations that the Flint water crisis was caused by "a series of failures at all levels of government," including EPA.[154] The bipartisan embrace of the value of preventing public health crises caused by waterborne contamination indicates that a more robust, proactive exercise of EPA's emergency powers would likely enjoy broad political support among future policymakers.

VI. Conclusion

Congress created expansive federal emergency authority with few express limits in §1431 of the SDWA. The provision reflected a clear legislative intent that EPA exercise broad and flexible emergency powers to prevent contamination of drinking water sources where state and local governments have failed to do so. The courts and EPA itself have interpreted §1431 to confer expansive authority on EPA to act promptly to protect sources of drinking water from imminent contamination, and both the text and legislative history of §1431 amply support this broad reading. However, as the recent water crises in Washington, D.C., Kewaunee County, Wisconsin, and Flint, Michigan, illustrate, EPA has often frustrated this legislative intent by either failing to invoke its emergency powers altogether, or invoking them too late to achieve the preventative effect that Congress intended.

Nonetheless, §1431 remains a powerful enforcement tool with which EPA can protect drinking water sources in the face of state and local inaction. Given the critical and far-reaching social, economic, and health implications of contaminated drinking water, EPA should not hesitate to do so.

152. David Weigel, *In Scott Pruitt Hearing, Flint Water Crisis Emerges as GOP Wedge Against Obama EPA*, Wash. Post, Jan. 18, 2017, https://www.washingtonpost.com/news/powerpost/wp/2017/01/18/in-scott-pruitt-hearing-flint-water-crisis-emerges-as-gop-wedge-against-obama-epa/?utm_term=.5c7b0f159e92.

153. *Scott Pruitt Hearing*, *supra* note 151. Pruitt also stated that he was "particularly disturbed that EPA did not take action until long after [it] became aware of the elevated lead levels in Flint drinking water," *id.*, and "[i]f confirmed, I will return EPA's focus to carrying out its core missions, including . . . use of EPA's emergency order authority under the Safe Drinking Water Act." *Id.* at 150.

154. House Oversight Report, *supra* note 99, at 1.