

TO: The National Coalition on the Human Rights to Water and Sanitation
FROM: Eric Moorman and Moony Qi, student clinicians, UC Berkeley Environmental Law Clinic
DATE: February 22, 2017
RE: **U.S. EPA’s Obligation and Authority to Ensure Access to Affordable Drinking Water under the Clean Water Act and Safe Drinking Water Act**

I. BACKGROUND

The National Coalition on the Human Rights to Water and Sanitation (“the Coalition”) has asked UC Berkeley’s Environmental Law Clinic to identify whether the U.S. Environmental Protection Agency (EPA) has the authority and/or the obligation to ensure that low-income individuals have access to safe and affordable drinking water. In meetings with the Coalition, EPA has indicated that it has no authority under the Safe Drinking Water Act (SDWA) or the Clean Water Act (CWA) to ensure this.

Although neither the SDWA nor the CWA explicitly requires EPA to consider drinking water affordability, both Acts require EPA to protect sources of public drinking water from contamination. Preventing contamination dramatically reduces the level of (expensive) treatment required, making drinking water more affordable. Understanding this connection, Congress has consistently instructed EPA to protect public drinking water sources from contamination, and has given EPA ample authority—and several powerful statutory tools—to do so.

In November 2016, EPA acknowledged that “[t]he SDWA is designed to protect drinking water quality from the source to the tap.”¹ EPA also recognized the critical importance of source water protection, calling for coordinated, voluntary action to protect drinking water to prevent irreversible contamination, rising costs for low-income water consumers and public health crises. But voluntary measures are not enough. EPA should use its Congressional mandate to take proactive steps, including:

- (1) exercising its emergency authority more often and more preventatively;

¹ U.S. EPA, DRINKING WATER ACTION PLAN 10 (2016) [hereinafter 2016 DRINKING WATER ACTION PLAN], https://www.epa.gov/sites/production/files/2016-11/documents/508.final_usepa_drinking_water_action.plan_11.30.16.v0.pdf.

(2) realizing its obligations under the SDWA's Underground Injection Control program to protect current and future underground drinking water sources; and

(3) requiring greater information-sharing between state agencies implementing various SDWA and CWA programs, so that the two Acts work in tandem to protect sources of drinking water. Below we provide recommendations on how EPA can and, in some cases, must use its legal authority to make water affordable by protecting sources of drinking water from contamination.

II. OVERVIEW OF THE SAFE DRINKING WATER ACT AND CLEAN WATER ACT

Two statutes govern water quality at the federal level: the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA). Under both statutes, EPA delegates most routine administration and enforcement authority to the states while retaining substantial oversight authority.

The SDWA 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.² It also requires public water systems to monitor for violations of the standards and provide notice of violation to water consumers. States must additionally perform "source water assessments" to determine the location of drinking water sources within the state and identify potential threats to those sources. Finally, the SDWA requires EPA to establish standards under which states must protect underground sources of drinking water from the underground injection of fluids during oil and gas extraction operations.

The CWA aims to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."³ To this end, the CWA prohibits any person from directly discharging any pollutant into navigable U.S. waters⁴ without a permit, and requires states to establish

² Under SDWA, a "public water system" is "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." Safe Drinking Water Act (SDWA) § 1401, 42 U.S.C. § 300(f)(4) (2012). SDWA covers both public (governmental) and private (corporate or non-governmental) entities that meet this definition. SDWA's drinking water standards do not apply to individual private wells.

³ Clean Water Act (CWA) § 101, 33 U.S.C. § 1251(a) (2012).

⁴ "Navigable waters" under the CWA includes both waters used for navigation, as well as certain tributaries and wetlands adjacent to navigable waters. However, artificially irrigated areas and certain artificial lakes are not included in this definition. U.S. EPA, GUIDANCE TO IDENTIFY WATERS PROTECTED UNDER THE CLEAN WATER ACT

“designated uses” for water bodies within their borders, taking into account the use and value of the water for public drinking water supplies. States must establish Water Quality Standards (WQs) that will support these designated uses (e.g., fishing, drinking water), and develop a list of “impaired” waters that do not currently meet those standards. Once a body of water is listed as impaired, the state must limit discharges until it meets WQs. The CWA also requires states to adopt an anti-degradation policy requiring states to protect and maintain all existing water uses.

III. THE ADVANTAGES OF SOURCE WATER PROTECTION

“Source water protection is a proactive, cost-effective, and sustainable approach to protecting our nation’s drinking water.”

-EPA 2016 Drinking Water Action Plan

As early as 2003, EPA studies showed that the cost of treating contaminated drinking water is, on average, 30 to 40 times (and up to 200 times) greater than preventing contamination.⁵ In a 2005 report, EPA noted that, “preventing contaminants from entering a drinking water supply is more efficient than trying to remove those contaminants later during the treatment process.”⁶ EPA also acknowledged that Congress passed the 1996 SDWA amendments “in recognition that it is often easier and more cost effective to prevent contaminants from getting into a drinking water system than to try to remove them through treatment after the fact.”⁷

In its 2016 Drinking Water Action Plan, EPA underscored the increasing importance of protecting source water under the SDWA:

The SDWA is designed to protect drinking water quality from the source to the tap. Maintaining a focus on drinking water quality across this continuum is essential to the protection of public health. Over the past three years, significant drinking water challenges have emerged, highlighting an urgent need for greater focus at the state and local level on the protection of drinking

(2015) [hereinafter EPA GUIDANCE], <https://www.epa.gov/cwa-404/guidance-identify-waters-protected-clean-water-act>.

⁵ U.S. EPA, INTRODUCTION TO EPA’S DRINKING WATER SOURCE PROTECTION PROGRAMS (2003).

⁶ U.S. EPA, REPORT NO. 2005-P-00021, EVALUATION REPORT: PROGRESS REPORT ON DRINKING WATER PROTECTION EFFORTS 4 (2005).

⁷ U.S. EPA, REPORT NO. 2004-P-00019, EVALUATION REPORT: STATES MAKING PROGRESS ON SOURCE WATER ASSESSMENTS, BUT EFFECTIVENESS STILL TO BE DETERMINED 1 (2004).

water sources. Failure to adequately protect source water has considerable public health and economic consequences.⁸

EPA provided a few examples of “challenges associated with degradation or contamination of source water across the country, underscoring the need for new approaches and intensified source water protection efforts,”⁹ including:

- the January 2014 contamination of the Charleston, West Virginia, water supply with an unregulated contaminant (MCHM), following a release from a leaking tank at a coal washing facility located a mile upstream of the drinking water intake structure for the community, resulting in an estimated economic impact to the state of over \$70 million;
- nitrate contamination of groundwater and surface water drinking sources in states across the country as a result of improper application and management of fertilizers and other agricultural activities;
- contamination of underground sources of drinking water with unregulated perfluorinated compounds such as PFOS and PFOA from airfields and industrial sources in a number of communities across the country; and
- nutrients and other contaminants from agricultural practices and urban storm water that continue to contribute significantly to source water protection challenges.

Focusing on treatment over prevention is also inequitable and inefficient. Under a treatment approach, water utilities—rather than the entities responsible for creating pollution—assume all of the costs of contamination. These costs are passed directly to consumers, who are not responsible for the contamination, and have no ability to limit it. As a result, water users, many of whom are low-income, are forced to subsidize others’ contamination. It also makes limiting contamination difficult, as it gives the polluter no incentive to reduce contamination.

The case of San Jerardo, California demonstrates the inequitable consequences of EPA’s current treatment-based approach, as well as the special hardships this approach imposes on small-system users.

⁸ 2016 DRINKING WATER ACTION PLAN, *supra* note 1.

⁹ *Id.*

San Jerardo: A Case Study

The San Jerardo Cooperative in Salinas, California is a low-income community comprised primarily of Latino farmworkers. Its 64 families and child-care center depend on a local aquifer for water.¹⁰ Agricultural byproducts from neighboring farms contaminated the community's first well in 1990, and their second well in 1993.

In 2001, the community dug three new wells, but could not find any clean water. They put in filters for the third well, which worked for a time. They also begged the neighboring farms to reduce pesticide and synthetic fertilizer use, pointing out that the farms could use ten times less if they simply applied compost or organic fertilizers. Their neighbors, who had a different source of water, ignored their concerns, and in 2005, San Jerardo residents began to report rashes and hair loss. After testing, they discovered that their well was contaminated with nitrates (caused by agricultural runoff) and 1,2,3-Trichloropropane (TCP) (a pesticide byproduct), which made the water unsafe even for showering.

The neighboring farms refused to share their water source, and the City of Monterey stepped in to help community filter the water by reverse osmosis at a cost of \$18,000 a month. Eventually, treatment became too expensive. With no potable water left in their area, the community applied for state funding to dig a fourth new well two miles away in a deeper aquifer.

Completed in October 2010, the new facility cost over \$6 million dollars to build, and has significant operational and power costs to pump the water from that distance to San Jerardo. This has meant a 500% increase in the community's water bills, with the community's very low-income residents paying as much as 8-14% of their income for water. Indeed, the new facility is so expensive to operate that Monterey County wants to sell it to a private company. If that happens, the private company will almost certainly raise the rates, and the community will no longer be able to afford safe water. Community leaders also fear that the unabated contamination will eventually reach this new well, leaving them entirely without water.

Rather than addressing the problem early by requiring the neighboring farms to reduce their contamination of the aquifer, the local government has responded only to symptoms, thereby perpetuating an expensive problem for the community.

¹⁰ We thank the General Manager of the San Jerardo Cooperative, Horacio Amezcua, for his assistance in compiling and verifying the accuracy of this information.

IV. CONGRESS HAS REPEATEDLY INSTRUCTED EPA TO PROTECT DRINKING WATER SOURCES

“The SDWA is designed to protect drinking water quality from the source to the tap.”

- EPA 2016 Drinking Water Action Plan

Even though it recognizes the significant advantages of preventing contamination, EPA has to date focused its resources on treating contaminated drinking water. This is particularly problematic because it has a congressional mandate to prioritize drinking water source protection. Since passing the CWA in 1972 and the SDWA in 1974, Congress has repeatedly instructed EPA to protect sources of drinking water from contamination. Below are just a few examples of this congressional mandate:

- **1972:** “The objective of [the Clean Water Act] is to restore and *maintain* the chemical, physical and biological properties of the Nation’s waters.”¹¹
- **1974:** With respect to drinking water, Congress is “determin[ed] to confer completely adequate authority [on EPA] to deal promptly and effectively with emergency situations which jeopardize the health of persons.”¹²
- **1974:** When it comes to drinking water, EPA’s “[a]dministrative and judicial implementation of emergency authority must occur early enough to prevent the potential hazard from materializing.”¹³
- **1974:** EPA must “effectuate [SDWA’s] preventive and public health protective purposes”¹⁴
- **1974:** EPA must protect underground source 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 and if these sources may be used for such purpose in the future.”¹⁵
- **1977:** Congress “seeks to protect not only currently-used sources of drinking water, but also potential drinking water sources for the future. This may include water sources

¹¹ CWA § 101, 33 U.S.C. § 1251(a) (2012) (emphasis added).

¹² H.R. REP. NO. 93-1185 (1974).

¹³ *Id.* (emphasis added).

¹⁴ *Id.* (emphasis added).

¹⁵ *Id.*

which presently exceed minimum intake water quality requirements or maximum contaminant levels or which are not presently accessible for use as a community drinking water supply source.”¹⁶

- **1977:** EPA may not “subordinate the concern for protection of underground water sources to that of energy production.”¹⁷
- **1996:** The 1996 amendments to SDWA mandated EPA to work with utilities, and local and state governments “*to respond to contamination problems that would otherwise require treatment.*”¹⁸
- **1996:** Criticizing EPA because “protecting the quality of source water to avoid the expense of treating contaminated water has not been a major part of the [current] national program,” under which “the only options typically available to community water systems finding contaminants in their water supply have been treatment or the development of new water supplies.”¹⁹ To remedy this problem, Congress “add[ed] a new section to the Safe Drinking Water Act that provides a means other than treatment for community water systems to address problems or emerging problems of contamination.”²⁰
- **1996:** “[S]ource water protection can be a cost-effective strategy for ensuring safe drinking water supplies. Development of a new water supply may be expensive and time-consuming. *Poor source water supplies also increase the costs of treatment for both large and small water systems.* To address source water protection, [SDWA] creates a new program in which States with primacy will conduct an assessment, coordinated with existing information and programs, to determine the vulnerability of sources of drinking water with State boundaries.”²¹

Congress has made clear that EPA must protect source water from contamination, and has given EPA ample authority and discretion to adopt a preventative approach. EPA should take this

¹⁶ H.R. REP. NO. 95-338 (1977).

¹⁷ *Id.*

¹⁸ S. REP. NO. 104-169 (1996) (emphasis added).

¹⁹ *Id.*

²⁰ *Id.*

²¹ H.R. REP. NO. 104-632 (1996) (emphasis added).

mandate seriously. This requires using its authority to require source water protection, not simply continuing its ineffective strategy of making suggestions for coordinated action by the states.

V. EPA HAS NUMEROUS TOOLS TO PROTECT DRINKING WATER SOURCES AND THEREBY IMPROVE AFFORDABILITY

A. EPA Should Better Use its Emergency Authority to Protect Source Water from Contamination and Prevent Public Health Crises

Congress has mandated that EPA take early action to prevent serious contamination of public drinking water sources. Part of this mandate comes in the form of SDWA section 1431 (42 U.S.C. § 300i), which vests EPA with “emergency authority” to address imminent and substantial endangerment to human health from drinking water contamination. Congress instructed EPA to exercise its section 1431 emergency authority “so as to effectuate the *preventive* and public health protective purposes of the Act.”²² This requires EPA to act before the contamination occurs, and without absolute certainty as to the severity—or even the existence—of the contamination. As Congress stated unequivocally, “[a]dministrative and judicial implementation of this authority must occur *early enough to prevent the potential hazard from materializing.*”²³

Section 1431 permits EPA to circumvent ordinary limits to its SDWA powers. Congress explained that “[t]he authority conferred by this section is intended to override *any limitations* upon the Administrator’s authority found elsewhere in [the SDWA].”²⁴ Accordingly, section 1431 allows EPA to take any action it deems necessary—including the issuance of administrative orders or commencement of civil actions—to protect public health if the EPA receives information that a contaminant that has entered or is about to enter a water system may present “an imminent and substantial endangerment” to public health.²⁵ EPA can also use its emergency powers to address contaminants that are not covered under SDWA.

²² H.R. REP. NO. 93-1185 (1974) (emphasis added).

²³ *Id.* at 35 (emphasis added). In fact, EPA has recognized that waiting for such proof would undermine section 1431, because emergency orders “should ideally be issued early enough to *prevent* the potential hazard from materializing.” EPA GUIDANCE, *supra* note 4, at 6 (emphasis in original).

²⁴ H.R. REP. NO. 93-1185, 35 (1974) (emphasis added). This override is captured in section 1431(a), which declares that the EPA Administrator’s emergency authority exists “[n]otwithstanding any other provision of [the SDWA].”

²⁵ SDWA § 1431, 42 U.S.C. § 300i(a) (2012). The CWA contains a similar emergency powers provision, but it is less robust than section 1431 of SDWA. Section 504 of the CWA gives EPA “emergency authority” to bring suit, or

Both EPA²⁶ and the courts²⁷ have acknowledged this mandate to act early and aggressively to protect public drinking water supplies from contamination. Yet EPA rarely invokes these emergency powers, even in clear emergencies.²⁸ The recent public health crisis in Flint underscores the devastating human consequences of EPA's reluctance to invoke its emergency authority in the early, preventative manner that Congress intended.

Flint: A Case Study

In 2014, the city of Flint switched to a new water supply to save money. Between January and June 2015, Flint water sampling revealed elevated levels of lead in the water supply, caused by inadequate corrosion control at the Flint Water Treatment Plant.²⁹ Over the next few months, EPA, city, and state officials received numerous complaints from locals about the city's water quality.

By June 2015, EPA knew that residents of Flint were being exposed to lead-contaminated water, that such exposure was likely to increase, and that the city and state were not taking action

“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. CWA § 504, 33 U.S.C. § 1364 (2012). But Section 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 it has evidence that the polluter “is” currently presenting an imminent and substantial endangerment to public health. JOEL M. GROSS & LYNN DODGE, CLEAN WATER ACT: BASIC PRACTICE SERIES 129 (2006).

²⁶ U.S. EPA, FINAL GUIDANCE ON EMERGENCY AUTHORITY UNDER SECTION 1431 OF THE SAFE DRINKING WATER ACT 3-4 (1991).

²⁷ See, e.g., *Trinity Am. Corp. v. EPA*, 150 F.3d 389, 395 (1998) (citations omitted) (“[C]ourts must ensure that [EPA’s] power under the Act remains ‘relatively untrammelled’... [s]o that EPA can act promptly and effectively when a threat to public health is imminent...”); see also *United States v. Price*, 688 F.2d 204, 211 (3rd Cir. 1982) (noting that in § 1431 Congress “sought to invoke the broad and flexible equity powers of the federal courts in instances where hazardous wastes threatened human health.”); *United States v. Hooker Chemicals & Plastics Corp.*, 749 F.2d 968, 987 (2nd 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 untrammelled.”). For additional details on judicial interpretation of § 1431 of the SDWA, please see Memorandum from Eric Moorman, UC Berkeley Env’t Law Clinic Student Clinician, to Ana Vohryzek and Britton Schwartz, UC Berkeley Law Env’t Law Clinic Teaching Fellows (Oct. 5, 2016) (attached hereto as Appendix 1).

²⁸ “[I]t is rare for a[n] [EPA] region to issue an emergency order to a municipality of a state with primacy.” U.S. EPA, OFFICE OF THE 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 6 (2016) [hereinafter EPA FLINT, MICHIGAN MANAGEMENT ALERT], https://www.epa.gov/sites/production/files/2016-10/documents/_epaig_20161020-17-p-0004.pdf.

²⁹ See Emergency Administrative Order at 2, City of Flint (U.S. EPA Office of Enforcement & Compliance Assurance Jan. 21, 2016), https://www.epa.gov/sites/production/files/2016-01/documents/1_21_sdwa_1431_emergency_admin_order_012116.pdf.

to fix the problem.³⁰ One EPA official sounded the alarm to anyone who would listen.³¹ Ignoring its own employee's call, EPA's Region 5 office simply communicated its concern about Flint's lack of corrosion control, and offered technical assistance to the city in combating the problem.³²

In December 2015, over a year after the change in water source, Flint finally declared a public health emergency.³³ A month later, EPA issued an emergency order, finding that "water provided by the City to residents poses an imminent and substantial endangerment to the health of those persons,"³⁴ and that Michigan and the city of Flint had "failed to take adequate measures to protect public health."³⁵ By that time, nearly 100,000 Flint residents had already suffered from the devastating, irreversible effects of lead poisoning and the city's pipes had corroded to the point that a switch back to a safe drinking water source would no longer solve the problem.³⁶

EPA's belated invocation of its emergency powers in Flint undermined Congress's intent that EPA *prevent* imminent public health crises. In an October 2016 report, the EPA's Office of the Inspector General admonished the agency 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.³⁷ The report urges that situations such as the one in Flint "should generate a greater sense of urgency," and the EPA "must be better prepared and able to timely intercede in public health emergencies."³⁸

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, EPA has a general

³⁰ By June 2015, EPA knew that Flint 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 4 homes in Flint had concentrations of lead in household drinking water that were significantly above the action level of 15 parts per billion. Additionally, by this time EPA had received numerous complaints from Flint residents about drinking water quality. EPA FLINT, MICHIGAN MANAGEMENT ALERT, *supra* note 28, at 5.

³¹ Miguel Del Toral, the regulations manager for the Ground Water and Drinking Water Branch of EPA Region 5, also raised questions about the accuracy of EPA's lead-testing procedures. See Curt Guyette, ACLU, *Corrosive Impact: A Tale of Leaded Water and One Flint Family's Toxic Nightmare* (July 9, 2015), <http://www.aclumich.org/article/corrosive-impact-tale-leaded-water-and-one-flint-family%E2%80%99s-toxic-nightmare>.

³² *Id.*

³³ *Id.* at 5.

³⁴ *Id.* at 7.

³⁵ *Id.* at 8.

³⁶ EPA FLINT, MICHIGAN MANAGEMENT ALERT, *supra* note 28, at 1.

³⁷ *Id.* at 8.

³⁸ *Id.*

institutional reluctance to issuing emergency orders to local entities in states, like Michigan, that have primacy under the SDWA, even where the state response fails to protect public health.³⁹ 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.⁴⁰ This conclusion contravened the text and Congressional intent of SDWA, which requires the EPA to prevent contamination when a state or locality has failed to do so adequately.

The public health crisis in Flint is a cautionary tale for the EPA, and is the source of many of our recommendations. Proactive use of emergency authority is consistent with the text, legislative history, and judicial interpretations of section 1431, and will allow EPA to realize its larger obligation under the SDWA to ensure that the public receives safe drinking water consistently.

Recommendation 1: EPA Should Invoke its Emergency Authority Preventatively. As the recent public health crisis in Flint illustrates, EPA often invokes its emergency powers too late to achieve the preventative effect that Congress intended. The EPA should instead invoke its emergency authority to prevent or mitigate contamination long before an actual public health crisis materializes, even in the face of some uncertainty. Doing so would be entirely consistent with the text of section 1431, Congressional intent, and judicial precedent.

Recommendation 2: EPA Should Use the Threat of Section 1431 to Change State Behavior. In addition to directly invoking section 1431, EPA should use the threat of exercising its emergency powers to encourage reluctant states to act early to prevent contamination of public water supplies. The devastating consequences of delayed state and local action in Flint, as well as the potential loss of delegated federal authority should motivate states and localities to comply.

³⁹ *Id.* at 6. (“[I]t 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 the 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 the EPA were to businesses and federal facilities.”).

⁴⁰ *Id.* at 8.

B. SDWA’s Underground Injection Control (UIC) Program Obligates EPA to Protect Both Current and Future Sources of Underground Drinking Water

EPA should “*protect the nation’s extensive ground water resources through the underground injection control provisions of SDWA.*”

- EPA 2016 Water Action Plan at 24

Groundwater is a critical source of the country’s drinking water. Nearly half of the U.S. population—or approximately 160 million people—rely on groundwater from public water systems or private wells to supply their drinking water. Nearly 90 percent of public water systems draw some or all of their drinking water from underground sources.⁴¹

The SDWA’s Underground Injection Control (UIC) program (SDWA §§ 1421-1424) requires EPA to protect current and future underground sources of drinking water from oil and gas related injection operations. One House Report described EPA’s mandate in this regard as, “protect[ing] not only currently-used sources of drinking water, but also potential drinking water sources for the future. This may include water sources, which presently exceed minimum intake water quality requirements or maximum contaminant levels or which are not presently accessible for use as a community drinking water supply source.”⁴² Another House Report emphasized that EPA is obligated to protect underground source 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 and if these sources may be used for such purpose in the future.”⁴³

The statutory text confirms EPA’s obligation to protect current and future underground source water from contamination. Section 1421 provides that “nothing in this section shall be construed to alter or affect the *duty* to ensure that underground sources of drinking water will not be endangered by any underground injection.”⁴⁴ Underground injection endangers drinking water sources if it “may result” in the presence of any contaminant in underground water, “which supplies or *can reasonably be expected to supply* any public water system.”⁴⁵

⁴¹ U.S. EPA, *New England’s Drinking Water*, https://www3.epa.gov/region1/eco/drinkwater/ne_drinkwater.html (last visited Jan. 12, 2017).

⁴² H.R. REP. NO. 95-338 (1977).

⁴³ H.R. REP. NO. 93-1185, at 32 (1974) (emphasis added).

⁴⁴ SDWA § 1421(b)(3)(C), 42 U.S.C. § 300h (2012) (emphasis added).

⁴⁵ § 1421(d)(2) (emphasis added).

The federal regulations implementing the UIC program also explicitly require EPA to protect future underground source water. Although the regulations allow the EPA to exempt certain aquifers from compliance with the UIC program,⁴⁶ the EPA may exempt aquifers *only if* they do not currently serve as a source of drinking water⁴⁷ *and* “cannot now and will not in the future serve as a source of drinking water.”⁴⁸ According to the EPA, “potential sources of drinking water are protected *as stringently* as those sources currently used for drinking water.”⁴⁹ Similarly, EPA has defined “underground source of drinking water” under the SDWA to include “ground water needed as a drinking water source *in the future*.”⁵⁰

In its 2016 Action Plan, EPA articulated a desire to “protect the nation’s extensive ground water resources through the underground injection control provisions of SDWA.”⁵¹ It has ample statutory authority and a congressional mandate to do just that.⁵² Unfortunately, EPA currently fails to meet this objective and obligation, due to its excessive grants of aquifer exemptions without due regard for the harm posed to drinking water sources.

In light of EPA’s stated 2016 objective and the Congressional mandate to protect current and future underground sources of drinking water from contamination, we make the following recommendations.

⁴⁶ 42 C.F.R. § 144.7(a) (2016).

⁴⁷ § 146.4(a).

⁴⁸ § 146.4(b). Aquifers cannot serve as a current or future source of drinking water for any the following reasons: (1) they are “mineral, hydrocarbon, or geothermal energy producing, (2) are situated in such a way as to make recovery of drinking water “economically or technologically impractical,” (3) are so contaminated “that it would be economically or technologically impractical to render that water fit for human consumption,” or (4) are located in an area “subject to subsidence or catastrophic collapse.” § 146.4(b)(1)-(4).

⁴⁹ U.S. EPA, INTRODUCTION TO THE UNDERGROUND INJECTION CONTROL PROGRAM (2003) (emphasis added).

⁵⁰ U.S. EPA, General Information About Injection Wells, <https://www.epa.gov/uic/general-information-about-injection-wells> (last visited Jan. 12, 2017).

⁵¹ 2016 DRINKING WATER ACTION PLAN, *supra* note 1, at 24. The plan, however, does not outline how EPA will use its UIC powers to achieve its objectives.

⁵² For example, EPA has approval authority over a state’s UIC program, and may reject a state’s UIC program proposal and force the state to adopt a federally-developed program under certain circumstances. For additional detail, see Memorandum from Eric Moorman, UC Berkeley Env’t Law Clinic Student Clinician, to Ana Vohryzek and Britton Schwartz, UC Berkeley Law Env’t Law Clinic Teaching Fellows (Oct. 22, 2016) [hereinafter UIC Memo] (attached hereto as Appendix 2).

Recommendation 1: EPA should be more conservative in granting exemptions to underground oil and gas extraction operations.⁵³ Congress has directed EPA to (1) protect current and future underground sources of drinking water, and (2) prioritize protection of source water over oil and gas extraction operations.⁵⁴ Accordingly, when there is scant data as to an extraction operation’s ultimate effects on source water quality, EPA should err on the side of source water protection. It is currently doing the opposite. According to the EPA Aquifer Exemption Database, EPA has approved more than 95% of company requests to exempt aquifers from UIC protections and permit injections (“aquifer exemption requests”).⁵⁵ A 95% approval rate strongly suggests that EPA is not very selective in granting aquifer exemption requests, and is likely failing to discharge its duty under the SDWA to protect underground sources of drinking water.

Recommendation 2: EPA should use more complete scientific data when granting exemptions and demarcating their physical boundaries. Congress directed that “endangerment” with respect to a drinking water source should be “liberally construed so as to effectuate the *preventive and public health protective purposes* of [the SDWA].”⁵⁶ For instance, “endangerment” might occur where “injected material [is] not completely contained within the well, if it may enter either a *present or potential* drinking water source.”⁵⁷ EPA is aware of this requirement. Its regulations for Class I UIC wells note that applicants for exemptions must show with a “reasonable degree of certainty,” that (1) injected fluids will not migrate out of the permitted injection zone within 10,000 years, or (2) there is evidence that before the fluids migrate out of the zone, they will be attenuated to the point at which they are no longer hazardous.⁵⁸ Nevertheless, EPA often makes

⁵³ In this “recommendations” section, “EPA” refers to either the EPA acting directly, or EPA requiring the state to act in a particular way. Because states have primacy under the UIC program, EPA can condition its approval of a state’s UIC program on the state’s willingness to adhere to these recommendations. If a state does not adhere to EPA’s recommendations, EPA may reject the state’s proposed UIC program and force the state to adopt a UIC program developed by EPA.

⁵⁴ Congress intended for the UIC program to “eliminate practices which may reasonably be anticipated to endanger underground water sources, while not imposing unnecessary requirements which would impede or interfere with oil or gas production.” H.R. REP. NO. 95-338, at 11 (1977). Under no circumstances, however, did this balance permit EPA “to subordinate the concern for protection of underground water sources to that of energy production.” *Id.* at 12. For a more detailed analysis of this congressional intent, see UIC Memo, *supra* note 51 (Appendix 2).

⁵⁵ Citizen Petition to Repeal or Amend the EPA’s Aquifer Exemption Regulations to Protect Underground Sources of Drinking Water, app. 3, at 9 (Mar. 23, 2016) [hereinafter NRDC Petition] (attached hereto as Appendix 3).

⁵⁶ H.R. REP. NO. 93-1185, at 32 (1974) (emphasis added).

⁵⁷ *Id.* (emphasis added).

⁵⁸ 40 C.F.R. § 148.20(a)(1) (2016); *see also* NRDC Petition, *supra* note 55, at 37.

aquifer exemption decisions without adequate scientific evidence that these criteria have been met.⁵⁹ To remedy this issue, EPA should modify its practices as follows:

Recommendation 2(A). *Before granting an exemption, EPA should require detailed information about the potential for horizontal or vertical migration of contaminants from exempt wells into non-exempt wells.* EPA's existing rules have allowed horizontal and vertical migration of contaminants from exempt aquifers into non-exempt aquifers that supply drinking water.⁶⁰ For example, uranium migrated from the Kingsville Dome leaching site in Texas into surrounding aquifers that supply drinking water.⁶¹ Similarly, in Nebraska, EPA and the Nuclear Regulatory Commission found a groundwater uranium plume from the Crow Butte mine extended beyond the exempted aquifer boundary into underground sources of drinking water.⁶² Requiring detailed migration studies to support any exemption decisions would prevent this type of occurrence in the future.

Recommendation 2(B). *EPA's determination of geographic boundaries for aquifer exemptions should be based on complete scientific data, not arbitrary figures.* EPA has arbitrarily determined that, for over half of approved aquifer exemptions, no contamination will move beyond one-quarter mile from the point of injection, and therefore a one-quarter mile radius from the injection site is the appropriate exemption boundary distance.⁶³ Scientific evidence does not support this conclusion. In fact, EPA's National UIC Technical Workgroup concluded that a quarter-mile boundary is inadequate, noting several cases in which injection fluids traveled well beyond one-quarter mile from the injection site.⁶⁴ Rather than basing its boundary determinations on

⁵⁹ There is no excuse. The EPA has noted that a "wide range of models" are available to exemption applicants to "analyze pressure buildup, lateral waste migration, vertical fluid permeation...and leakage." Underground Injection Control Program: Hazardous Waste Disposal Injection Restrictions; Amendments to Technical Requirements for Class I Hazardous Waste Injection Wells; and Additional Monitoring Requirements Applicable to all Class I Wells, 53 Fed. Reg. 28,118, at 28,126-27 (July 26, 1988).

⁶⁰ NRDC Petition, *supra* note 55, at 33.

⁶¹ *Id.*

⁶² *Id.* at 34.

⁶³ *Id.* at 35.

⁶⁴ *Id.* at 35-36.

untested assumptions, EPA should use detailed scientific evidence relating to the specific sites in question.

Recommendation 3: EPA should conduct proper monitoring of injection wells to ensure that contamination does not travel beyond the aquifer exemption boundaries. EPA's current regulations governing aquifer exemptions do not require ongoing monitoring for Class II injection wells.⁶⁵ This lack of mandatory monitoring makes it difficult to spot migration of contaminants from exempt to non-exempt wells that may be sources of drinking water.

Recommendation 4: EPA should reassess outdated and inaccurate assumptions about the value of groundwater. Existing EPA regulations do not require EPA to consider the economic or social value of groundwater. As a result, EPA often underestimates its value.⁶⁶ With dwindling surface water supplies, groundwater is an increasingly important source of drinking water. Severe drought and agricultural contamination have exacerbated drinking water supply problems.⁶⁷ EPA accordingly must begin to better prioritize source water protection over oil and gas extraction by updating its assumptions about the value of groundwater.

Recommendation 5. EPA should reexamine its assumption that oil is always more economically valuable than drinking water. In addition to recognizing that water has more than a simply economic value, EPA must recognize that oil does not always have more economic value than water. As the San Jerardo example shows, serving a community's drinking water needs when groundwater is contaminated can be extraordinarily expensive. Further tilting the scale, the value of oil is diminishing. In early 2016, for example, oil was cheaper than bottled water.⁶⁸ In light of this trend, EPA has a strong economic incentive on top of a clear Congressional mandate⁶⁹ to refrain from subordinating source water quality and source water protection to underground oil extraction activities.

⁶⁵ *Id.* at 41.

⁶⁶ *Id.* at 51.

⁶⁷ *Id.* at 199-200.

⁶⁸ Richard Morgan, *Oil is Now Cheaper than Water*, NEW YORK POST: BUSINESS (Jan. 7, 2016, 11:43 PM), <http://nypost.com/2016/01/07/oil-is-now-cheaper-than-water/>.

⁶⁹ See UIC Memo, *supra* note 51 (Appendix 2). Congress has mandated that under the UIC program EPA may not subordinate source water protection to underground injection activities aiding in oil and gas extraction.

Recommendation 6: *EPA should ensure that the affected public is notified of potential aquifer exemptions.* EPA should establish or require states to establish a notice-and-comment process for aquifer exemptions that ensures notice to all interested parties and gives these parties an adequate opportunity to raise claims challenging the proposed aquifer exemption at issue. Notice should extend to the entire population living within a certain distance of the injection activities whose sources of drinking water might be impacted. This provides individuals directly affected by any potential aquifer exemption an opportunity for prior input.

Recommendation 7: *EPA should increase transparency of the aquifer exemption process by developing a complete public database of all aquifer exemptions.* EPA should also update the database frequently to reflect changes in exemption boundaries. Such a database—coupled with an adequate notice-and-comment process—will ensure that the public is aware of the precise location of exempted areas, and will help water users to avoid drilling drinking water wells in the vicinity of injection sites.

C. EPA Can Minimize the Use of Variances and Exemptions by Focusing on Contamination Prevention

In 1986, Congress amended the SDWA to provide for variances and exemptions, which relieve water utilities from compliance with certain water quality standards where the system either cannot afford the treatment costs, or the raw water quality makes treatment impossible.⁷⁰ These changes stemmed from a 1980 economic analysis finding that only 50% of water utilities could afford to comply with EPA's water quality standards, and nearly 40% could not afford to meet operations and maintenance costs even with 100% grant funding.⁷¹ This problem is particularly salient in water systems serving less than 10,000 individuals, as the costs of treatment pass directly to a small pool of consumers.⁷²

⁷⁰ Small system variances permit utilities serving 10,000 people or less to meet lower water quality standards when they cannot afford to comply with normal standards. General variances permit utilities of any size to circumvent standards for specific contaminants where the raw water quality is too bad for adequate treatment and there is no alternative water supply. 40 C.F.R. 142.40-50 (2016).

⁷¹ David W. Schnare, *Environmental Rationality and Judicial Review: When Benefits Justify Costs Under the Safe Drinking Water Act Amendments of 1996*, 5 HASTINGS W.-NW. J. ENV'T/L. & POL'Y 65 (1998).

⁷² *Id.*

Variations and exemptions are a problem created by states' and EPA's failure to protect source water. Many small systems could afford to treat water adequately if it were less contaminated. Rather than preventing contamination, which is the root of the problem, EPA has created a costly solution that forces small communities to trade off water quality for affordability. Additionally, where water quality is so poor as to render water nonpotable, EPA's inattention may be unlawful (see Section D, below).

Recommendation 1: *Where public water systems apply for variances or exemptions, EPA should work with states to remediate source water contamination and/or address ongoing water quality problems. Where water systems apply for variances and exemptions, EPA should protect the source water or move to alleviate the burden on the water systems. No utility should face a situation where the source water quality renders its water unusable. Nor is it fair to make utilities shoulder the financial burden of abating contamination over which they have no control. The burden certainly should not fall on end users, who are forced to drink contaminated water or have no water at all.*

Recommendation 2: *EPA should prioritize funding for water systems that apply for variances or exemptions, including through the State Revolving Funds. A discussion of the State Revolving Fund and other funding mechanisms is beyond the scope of this memorandum. Nevertheless, as indicated below under "Further Research," it is a ripe area for additional inquiry.*

D. EPA Should Require Greater Information-Sharing between CWA and SDWA Programs to Protect Drinking Water Sources

Both the CWA and SDWA seek to improve water quality. Although EPA implements both regulatory regimes, and they overlap significantly when it comes to drinking water quality protection, the CWA and SDWA programs do not appear to share mutually relevant information. EPA recently recognized the importance of harmonizing its implementation of the two Acts as "necessary to advance source water protection."⁷³ In its 2016 Drinking Water Action Plan, EPA

⁷³ 2016 DRINKING WATER ACTION PLAN, *supra* note 1, at 13.

promoted “[a] holistic and coordinated approach between CWA and SDWA regulatory programs—particularly at the state level.”⁷⁴ According to EPA, key opportunities to better connect these programs include:

- Creating better Water Quality Standards (WQSs) for drinking water;
- Prioritizing development of total maximum daily loads (TMDLs) based on source water protection needs;
- Showcasing the importance consumers place on safe drinking water;
- A CWA/SDWA collaboration initiative and toolkit;
- Coordination with the Superfund program to prioritize remediation of contaminated sites that threaten drinking water; and
- Reducing urban storm water run-off through green infrastructure.⁷⁵

Below we provide specific recommendations consistent with these goals. We further suggest that better coordination is not simply voluntary. Rather, EPA and implementing states have an obligation to better incorporate drinking water protections into the CWA.

Recommendation 1: EPA Must Ensure that Drinking Water Sources Are Properly Designated Under the CWA. EPA must ensure that state CWA designations reflect a water body’s use as public drinking water source. The CWA requires states to establish “designated uses” for all surface waters within their borders, taking into account the “use and value of the water for *public water supplies*, protection and propagation of fish and other marine life, recreation, agricultural, industrial and other purposes.”⁷⁶ States must then develop water quality criteria to protect these designated uses.⁷⁷ Designated uses must reflect the existing water use: if a water body is currently used for drinking water, it must be designated as such. This requirement stems from

⁷⁴ *Id.*

⁷⁵ *Id.*

⁷⁶ 40 C.F.R. § 131.10 (2016) (emphasis added).

⁷⁷ CWA § 303(c)(2)(B), 33 U.S.C. § 1313 (2012); CWA § 307(a)(1), 33 U.S.C. § 1317 (2012); 40 C.F.R. § 131 (2016).

CWA's anti-degradation policy. Under this policy, states cannot allow water quality to fall below the level necessary to support *any existing uses*.⁷⁸

SDWA programs are often the best source of information regarding a water body's use as a drinking water source, and should serve as a trigger for designation under the CWA. EPA recently required every state to perform source water assessments pursuant to its Source Water Assessment Program (SWAP) for all public water systems within their borders.⁷⁹ These assessments delineate source waters within the state, identify contaminants within the source waters, and assess the source's susceptibility to those contaminants.⁸⁰ If EPA finds that a body of water identified as a drinking water source under the SWAP program is not designated as a public drinking water source under the CWA, this information should trigger immediate CWA designation and protection as a public source of drinking water.

A water utility request for a variance under SDWA should also trigger immediate designation under the CWA. Utilities request general variances where they are unable to meet water quality standards based on the raw source water. This means two things: (1) the water body in question is being used as drinking water, and (2) it is not meeting those standards. Accordingly, immediate CWA designation is required.

Recommendation 2: When Setting Water Quality Standards under the CWA, States Must Ensure that These Are Consistent with SDWA Maximum Contaminant Levels. The CWA requires states to develop Water Quality Standards (WQS) for all bodies of water within their boundaries.⁸¹ In establishing WQSs, states must take into account, among other factors,⁸² a water body's use and value as a public water supply, as well as public health and general welfare.⁸³ Once a body of

⁷⁸ 40 C.F.R. § 131.12(a)(2) (2016) (emphasis added); see also U.S. EPA, *Anti-degradation, in WATER QUALITY STANDARDS HANDBOOK 4-1* (1994). "Existing uses" are defined as "those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards." 40 C.F.R. § 131.3(e) (2016).

⁷⁹ SDWA § 1453, 42 U.S.C. § 300j-13 (2012).

⁸⁰ § 1453(a).

⁸¹ CWA § 303(c), 33 U.S.C. § 1313 (2012).

⁸² When establishing WQSs for surface water bodies, states must generally consider "their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes, and also taking into consideration their use and value for navigation." § 303(c)(2)(A).

⁸³ § 303(c)(2)(A).

water is designated as a drinking water supply, therefore, its applicable WQSs must be stringent enough to preserve that water body's use for that purpose.

To ensure that WQSs actually protect a water body's use as a drinking water supply, EPA must require states to set WQSs for drinking water supplies consistent with the maximum contaminant levels (MCLs) set by EPA under the SDWA. Failure to set sufficiently protective water quality standards violates the CWA's anti-degradation policy, because states cannot allow water quality to fall below the level necessary to support *any existing uses*.⁸⁴ This WQA/MCL equivalency requirement could be paired with EPA standard setting efforts outlined in its 2016 Action Plan.⁸⁵

Setting appropriate standards is also critical where a water utility has requested a variance based on raw water quality constraints, for the reasons outlined in Recommendation 1 above.

Recommendation 3: States Must Prioritize Restoration of "Impaired" Water Bodies used as Drinking Water Sources. One of the reasons water body designation and WQSs are so important is that they help determine when a body of water is impaired, which is the trigger for CWA's protective mechanisms. The CWA requires states to submit lists of "impaired" waters to the EPA.⁸⁶ In developing the impaired waters list, states must "assemble and evaluate all existing and readily available water quality-related data and information."⁸⁷ If a drinking water source becomes impaired, states have an obligation under the CWA's anti-degradation policy (see Recommendation 1 to restore that body of water so that it complies with the WQSs for a drinking water source.

EPA should ensure that states prioritize restoration of impaired waters used as drinking water sources over restoration of water bodies with less sensitive use designations. In fact, a state's failure to take measures to restore impaired source waters quickly would trigger EPA's emergency authority to intervene to restore water quality to drinkable levels, as a CWA impaired water listing would easily qualify as "information" regarding current or imminent contamination required to invoke emergency powers under the SDWA.

⁸⁴ See Section D, Recommendation 1, above.

⁸⁵ 2016 DRINKING WATER ACTION PLAN, *supra* note 1, at 12-13.

⁸⁶ "Impaired" waters are those that do not currently meet the applicable WQSs. CWA § 303(d), 33 U.S.C. § 1313 (2012).

⁸⁷ 40 C.F.R. § 130.7(b)(5) (2016).

In developing impaired waters lists, the EPA should also require states to consult and use information obtained in the SDWA's source water protection program, as well as any variance or exemption requests or MCL violations discovered through SDWA monitoring of public water systems.

Recommendation 4: EPA Must Ensure that States Set TMDLs that Are Sufficiently Protective of Drinking Water. The CWA requires states to establish a total maximum daily load (TMDL) for each body of water it has identified as “impaired.”⁸⁸ A TMDL represents a state's estimate of the level of a particular pollutant that a body of water can receive and still attain its designated uses.⁸⁹

EPA plans to “prioritize development of total maximum daily loads (TMDLs) which identify water quality-based limits on pollution loads for a given water body — based on source water protection needs.”⁹⁰ That is a good first step. In this vein, EPA should encourage state water quality agencies to use the results of source water assessments to assist the TMDL development and assessment process. The SWAP provisions require states to perform a “source water assessment” for all public water systems in their boundaries, which involves identifying (1) public drinking water sources within a state's boundaries, (2) contaminants likely to affect the quality of those sources, and (3) the susceptibility of the sources to those contaminants.⁹¹ All of this information is valuable to state agencies in the TMDL assessment process, which requires development of TMDLs for particular pollutants or stressors.⁹²

State TMDLs, in turn, can provide useful information for source water assessments. For example, information from the CWA's “impaired waters” lists about waters that do not meet water quality standards due to a particular pollutant will help state agencies identify particular

⁸⁸ CWA § 303(d)(1)(C), 33 U.S.C. § 1313 (2012). States must develop and submit to EPA a list of “impaired waters” that do not currently meet the applicable WQSs. CWA § 303(d)(1). States must then establish a priority ranking for such waters, “taking into account the severity of the pollution and the uses to be made of such waters.” 40 C.F.R. § 130.7 (2016). States then develop TMDLs based on this list, in order to bring the listed waters into attainment with WQSs.

⁸⁹ CWA § 303(d), 33 U.S.C. § 1313 (2012); 40 C.F.R. § 130.7(b)(4) (2016).

⁹⁰ 2016 DRINKING WATER ACTION PLAN, *supra* note 1, at 13.

⁹¹ SDWA § 1453(a)(1), 42 U.S.C. § 300j-13(a) (2012).

⁹² STATE-EPA INITIATIVE, OPPORTUNITIES TO PROTECT DRINKING WATER SOURCES AND ADVANCE WATERSHED GOALS THROUGH THE CLEAN WATER ACT 35 (2014), http://www.gwpc.org/sites/default/files/CWA-SDWA_11_10.pdf; *see also* U.S. EPA, STATE SOURCE WATER ASSESSMENT AND PROTECTION PROGRAMS: FINAL GUIDANCE, at 5-12 (Aug. 1997) (hereinafter U.S. EPA, FINAL SWAP GUIDANCE).

contaminants of concern for sources of drinking water,⁹³ and TMDLs for particular water bodies provide detailed information about potential sources of source water pollution.⁹⁴ Additionally, the data developed in the TMDL assessment process can assist states in implementing local source water protection programs.⁹⁵ EPA has recognized the importance of such information sharing, noting that, “[o]ne of the first steps in any SWAP needs to be review of relevant, available sources of existing data . . . at the federal, state and local levels.”⁹⁶

Recommendation 5: NPDES Permit Requirements Must Reflect WQSs for Drinking Water. The CWA requires point-source waste dischargers to obtain a National Pollution Discharge Elimination System (NPDES) permit before discharging pollutants into navigable U.S. waters, and establishes standards for issuing these permits.⁹⁷ Because these permits provide the only enforceable regulatory requirement under CWA,⁹⁸ they are the primary means of controlling contaminants that threaten source waters.

To protect drinking water quality, EPA must set or require states to set NPDES discharge limits that ensure that water bodies are able to meet WQSs for public supplies of drinking water. This requires that states and EPA (1) properly designate drinking water sources, (2) set appropriate WQSs for drinking water sources, and (3) monitor the water body for impairment. In other words, effective drinking water protection requires EPA to implement all of the recommendations above, so that it can ensure proper NPDES permitting limits.

⁹³ U.S. EPA, FINAL SWAP GUIDANCE, *supra* note 92, at 5-11, 5-12.

⁹⁴ *Id.* at 5-12.

⁹⁵ *Id.*

⁹⁶ *Id.* at 2-9. EPA has also noted that states should use previously-existing information, such as TMDLs and impaired water listings, to improve efficiency and avoid duplication: “Source water assessments are not intended to involve substantial amounts of new, ambient monitoring. Any monitoring undertaken for assessments must be economical and effective; cooperative work with existing state monitoring programs will ensure that duplication of monitoring effort is not occurring, and that any new data that are collected are appropriate and credible.” *Id.* at 5-7, 5-8.

⁹⁷ CWA § 402, 33 U.S.C. § 1342 (2012). The NPDES permit is typically issued by states that have obtained EPA approval to issue these permits; otherwise, if a state has not obtained such approval, NPDES permits are issued directly by the EPA Regional office. *See* Eric Moorman, UC Berkeley Env’t Law Clinic Student Clinician, to Ana Vohryzek and Britton Schwartz, UC Berkeley Law Env’t Law Clinic Teaching Fellows (Sept. 22, 2016) (attached hereto as Appendix 4). NPDES permits rely on technology-based pollution discharge limits, as well as monitoring and reporting requirements. If a water body is still impaired after application of the technology-based pollution discharge standards in the permit, the permitting agency may add more stringent water quality-based limitations. *Id.*

⁹⁸ U.S. EPA, FINAL SWAP GUIDANCE, *supra* note 92, at 5-18.

Additionally, EPA should encourage states to use information gathered for NPDES permits to enhance larger statewide source water protection efforts. NPDES permits often contain detailed information and requirements—such as effluent, ambient and biosolids monitoring requirements—that are critical in identifying the presence and origin of contaminants that might threaten source water.⁹⁹ Thus, the NPDES program can assist states and localities in conducting source water assessments and implementing source water protection programs.

EPA clearly anticipated that there would be extensive information sharing between the CWA and SDWA regulatory programs used to enhance source water protection efforts. However, this information sharing does not appear to be happening. Therefore, EPA should do everything it can to facilitate and encourage such cooperation and information sharing between SDWA and CWA regulatory programs.

VI. CONCLUSION

Congress has repeatedly directed EPA to protect public drinking water sources from contamination, and has given EPA broad legal authority to do so under the SDWA and CWA. Despite this clear legislative intent and abundant legal authority, EPA currently employs a costly treatment-based approach that effectively compels low-income people to pay high prices for drinking water and thereby subsidize pollution for which they are not responsible. This approach is inequitable and inconsistent with the intent and the text of the CWA and the SDWA. Moreover, EPA has frequently failed to exercise its legal authority under these statutes to protect source water in the preventative way that Congress intended, resulting in irreversible contamination of drinking water and rising costs for low-income water consumers.

EPA must realize its legal obligation to protect source water quality by, among other things, (1) exercising its emergency authority more aggressively, (2) protecting both current and future sources of underground drinking water, and (3) encouraging greater information sharing between the SDWA and CWA programs. By exercising its authority under the SDWA and CWA to protect source water in the proactive and preventative way that Congress intended, EPA can

⁹⁹ *Id.* at 5-17.

help ensure affordable access to drinking water for low-income individuals, while protecting the public—and the environment—from irreversible harm.

VII. FUTURE RESEARCH

This report offers recommendations based on EPA's authority to improve drinking water affordability for low-income water users through its obligations under the SDWA and CWA. There are other legal mechanisms besides the CWA and SDWA, however, through which EPA can potentially improve drinking water affordability that we have not addressed here. These include (1) funding under the Clean Water State Revolving Fund and the Safe Drinking Water State Revolving Fund, federal-state partnerships that provide states with money to fund water infrastructure projects, and (2) the use of consent decrees, which could allow the EPA to impose conditions requiring water polluters to improve the quality of source water and limit a water utility's ability to pass compliance or punitive costs onto water users. We recommend that the Coalition investigate these additional avenues of EPA authority as a further research area.