



SCHOOL of LAW

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DELIVERY OF FINAL REPORT

To: Frank Dukes; Erin Ling; Dayna Matthew

From: Cale Jaffe, Director of the Environmental and Regulatory Law Clinic,
University of Virginia School of Law

Re: Report on Legal Analysis of Well-Water Contamination and Options for
Remediation

Date: July 1, 2020

Enclosed please find our Final Report on the legal analysis of well-water contamination and options for remediation, which was prepared for the Health Equity and Access Rural Region (HEARR) Project.

The primary authors of the report are Elizabeth Buttitta and Danielle Gibbons, both University of Virginia law students enrolled in the Environmental and Regulatory Law Clinic during the 2019/2020 academic year. As Clinic Director, I supervised their work on this report.

Please forward this report on to the HEARR Steering Committee, which is free to use or disseminate it as it wishes.

I greatly appreciate your individual encouragement and the HEARR Steering Committee's willingness to collaborate with us. I look forward to working with you again in the future.

Sincerely,

A handwritten signature in blue ink that reads "Cale A. Jaffe".

Cale Jaffe
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Report on Legal Analysis of Well-Water Contamination and Options for Remediation

Prepared by the Environmental and Regulatory Law Clinic at the University of Virginia School of Law

June 18, 2020



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I. Executive Summary

The HEARR Water Quality Project (HEARR Project) is a collaboration between Health Equity and Access in Rural Regions (HEARR) and the Virginia Household Water Quality Program at Virginia Tech, and was designed to examine the quality of drinking water in the Piedmont Area of Virginia. The HEARR Project conducted a pilot study during the summer of 2019, which included collecting, analyzing, and reporting data for 143 households in Albemarle, Fluvanna, Buckingham, and Nelson counties, with an emphasis on the Esmont and Scottsville communities in Albemarle (collectively, the “Focus Area”).

As is common in rural areas throughout the Commonwealth, many residents in the Focus Area rely on private well water as their primary source of drinking water. The pilot study revealed samples of private well water that contained significantly higher levels of various contaminants, including lead and *E. coli*, than comparable samples of public (municipal) water supplies. Even though public water supplies are the only water supplies subject to regulation – private wells remain unregulated, both at the federal and state level – it is important to note that no samples taken during the pilot study contained levels of contaminants that were out of compliance with any regulations. Nevertheless, the disparities in water quality between households served by private wells and those served by the public (municipal) system in Scottsville are notable.

This report seeks to assist the HEARR Project by providing both a review of the current legal regime as well as recommendations for how the HEARR Project and associated communities might utilize that regime to remedy water contamination concerns.

A. Review of the Legal Regime and Supporting Resources

Various federal and state laws have been enacted to ensure the quality of water supplies in the United States. The Safe Drinking Water Act (SDWA) guarantees the safety of drinking water taken from public water treatment systems, although it also allows the U.S. Environmental Protection Agency (EPA) to establish measures to protect aquifers that are the sole source of drinking water for a given region. Relatedly, the Clean Water Act prohibits the discharge of any pollutant into federally protected waters without a permit. If a discrete source of contamination is found, the Clean Water Act provides various opportunities for remediation.

Many federal Clean Water Act programs are administered at the state level by the Virginia Department of Environmental Quality (DEQ). The Clean Water Act and related state programs may be especially important, as point and nonpoint sources from various agricultural activities in the region, such as animal feeding operations and large-scale pesticide applications, can contaminate hydrologically connected streams and groundwaters.

Also at the state level, the Virginia Well Construction Act requires the Virginia Department of Health (VDH) to implement private well regulations.¹ These regulations outline where private wells may be located and how they must be constructed. Another important state ally may be found in the Virginia Department of Housing and Community Development (DHCD), which is

¹ Va. Code Ann. Section 32.1-176.1 et seq.; 12 VAC 5-630-20 et seq.

the state agency charged with addressing quality of life concerns for low- to moderate-income citizens, including by investing in development projects focused on providing and/or protecting water services.

Additionally, grant opportunities may be available to assist with remediation efforts. For example:

- Congress authorized the Innovative Water Technology Grant Program in 2018, which distributes grants for projects that address drinking water supply, quality, treatment, or security challenges in areas served by private wells.²
- Additional support comes from EPA through the Small and Disadvantaged Communities Grant Program, which is authorized by the Safe Drinking Water Act.³
- The U.S. Department of Agriculture administers a Household Water Well System Grant Program to distribute grants to private nonprofit organizations for the purpose of supporting the construction, refurbishing, and servicing of individual household water well systems in rural areas.⁴

In addition to the governmental resources outlined above, there are several nonprofit organizations committed to assisting communities in delivering clean drinking water from private wells. The Water Systems Council, headquartered in Washington, D.C., is a national, nonprofit organization that offers services to help homeowners monitor their well water. Southeast Rural Community Assistance Project, Inc. (SERCAP), is a nonprofit organization that is part of the broader Rural Community Assistance Project network. SERCAP, based in Roanoke, Virginia, offers well owners financial assistance in the form of grants and affordable loans, private well assessments, and other services and referrals to additional resources. Even closer to home is the James River Association, which focuses exclusively on protecting the James from its headwaters all the way to the Chesapeake Bay. Organizations like the Chesapeake Bay Foundation similarly work on issues that may affect water quality in the region, such as programs to fence livestock out of rivers and streams.

B. Opportunities for Advocacy

Our review of the resources identified above has helped us see possible opportunities for advocacy. These include:

- Working to increase financial support for private well maintenance, such as increased funding for private well water testing;

² Erik D. Olson and Mae Wu, Natural Resources Defense Council, “New Water Infrastructure Bill: A Positive Step,” *Water Online* (Oct. 11, 2018), <https://www.wateronline.com/doc/new-water-infrastructure-bill-a-positive-step-0001>.

³ U.S. EPA, Office of Ground Water and Drinking Water, “Assistance for Small and Disadvantaged Communities Drinking Water Grant Program,” https://www.epa.gov/sites/production/files/2019-03/documents/assistance_for_small_and_disadvantaged_communities_factsheet_508.pdf (last visited May 5, 2020).

⁴ U.S. Department of Agricultural, Rural Development, “Household Well Water System Grant Program,” <https://www.rd.usda.gov/files/RD-FactSheet-RUS-HWWSGP.pdf> (last visited May 5, 2020).

- Participating in the current revision of existing private well regulations, to ensure the concerns identified by the HEARR Project, such as the safety of drinking water, are prioritized;
- Considering whether it may be valuable to work with the Virginia Department of Environmental Quality to seek creation of a new groundwater management area;
- Review existing Virginia Water Protection permits, and other individual water-related permits, to better understand sources of pollution discharges in the region;
- Work with the agricultural industry and other industries to assess whether they may potentially be inadvertently producing groundwater contaminants, and if so, help coordinate remedial action; and
- Consider the possibility of expanding municipal water supplies to homes currently on private wells, if feasible and equitable.

These opportunities are indicative of the kind of “next steps” that support the HEARR Project’s overarching goal of improving the health of individuals in the region. By continuing to promote private well testing, and by providing residents with guidance as to how they can get their own wells tested, the HEARR Project can help determine which of the legal resources identified in this report may be most immediately beneficial.

II. Local Law

Virginia is a “Dillon Rule” state, meaning that local governments within the Commonwealth are limited to the powers, “expressly granted by the state or those necessarily implied or essential to express powers.”⁵ Fortunately, every locality in Virginia has been granted the power, to, “regulate and inspect public and private water supplies...prevent the pollution of such water supplies...[and] prevent the transmission or distribution of water when it is found to be polluted, adulterated, impure or dangerous.”⁶ Additionally, the Virginia regulations implementing state water control law explain, “Counties, cities, and towns are encouraged to develop regional programs. Local programs shall be designed to...ensure that adequate and safe drinking water is available...”⁷

For some residences, this means receiving water through public water systems. In the Focus Area, the Albemarle County Service Authority supplies water from the Scottsville Water Treatment Plant. That plant, in turn, takes water from the Totier Creek Reservoir. Both the reservoir and the Scottsville plant are maintained by the Rivanna Water and Sewer Authority (RWSA).⁸

Counties in the Focus Area have also adopted ordinances and programs pertaining to private well water—*i.e.*, rules and guidance for those residences who do *not* receive water from a RWSA-managed public water treatment system. Primarily, these ordinances establish a process for granting permits and overseeing construction of new wells. For instance, in Buckingham County, all well-related service goes through the County’s Health Department, including issuing well permits.

III. Overview of Federal Law

A. *The Safe Drinking Water Act (SDWA)*

The Safe Drinking Water Act (SDWA) was enacted in 1974 with the primary purpose of assuring, “the public is provided with safe drinking water,” and implemented a regime of rigorous mandatory monitoring and remediating of drinking water. However, the SDWA applies almost exclusively to public water systems, which are defined as systems that have “at least fifteen service connections or regularly serves at least twenty-five individuals.”⁹ The private wells sampled during the pilot study of the HEARR Project, then, are likely not covered by the Act.

One exception, though, to the SDWA’s lack of applicability to private wells includes the ability of EPA to require persons who have been found guilty of contaminating well water to provide both short-term and long-term safe drinking water alternatives to the people who had been relying on that well water. In *Trinity American Corporation v. EPA*, a North Carolina case raising SDWA-

⁵ *Transduller Ctr., Inc. v. USX Corp.*, 976 F.2d 219, 224 (4th Cir. 1992).

⁶ Va. Code Ann. Section 15.2-2144.

⁷ 9 VAC 25-780-40.

⁸ See *Albemarle County Comprehensive Plan*, Public Water and Sewer Facilities, http://www.albemarle.org/upload/images/Forms_Center/Departments/Community_Development/Forms/Comp_Plan_Round_2/15_9_Water_and_Sewer.pdf (last visited Apr. 7, 2020).

⁹ 42 USC § 300f(4).

based claims, a corporation was found to have contributed to the contamination of groundwater relied upon by surrounding homes for their well water supplies.¹⁰ EPA issued an emergency order pursuant to its authority under the SDWA that required the corporation to perform frequent water testing and, “provide safe drinking water to persons who use the contaminated wells until EPA determines that the well no longer contains unsafe levels of contaminants. If a well cannot consistently provide water that meets EPA standards, Trinity must provide a permanent, alternative source of safe drinking water to the users of that well.”¹¹ This case demonstrates that if water contamination can be traced back to a particular entity, that entity can be held liable, even to the extent of being required to provide alternative sources of drinking water.¹²

Additionally, in *Montgomery County v. EPA*, a Maryland county objected to the designation by EPA of drainage basins as aquifers under the SDWA. The court upheld EPA’s exercise of its statutory authority under Section 1424(e) of the Act, which creates the sole source aquifer program of the SDWA.¹³ Importantly, the court articulated that “people in the area who rely on wells are entitled to immediate protection from contamination, and they should not be denied the safeguards of § 1424(e) simply because surface water may become available to them in the future.”¹⁴

B. The Clean Water Act

While the Safe Drinking Water Act focuses on the level of contaminants in drinking water, the federal Clean Water Act has a wider focus, looking at all “waters of the United States.” Indeed, the purpose of the Clean Water Act is quite broad: “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”¹⁵ Also, the Clean Water Act kicks in at a much earlier stage than the SDWA. Whereas the SDWA requires monitoring (and remediating) contaminant levels already in drinking water, the Clean Water Act requires a permit *before* any pollution is discharged into a water body in the first place.

The broad and relatively straightforward goal of the Clean Water Act is put into effect through a complex series of statutory and regulatory directives. The foremost of these directives makes unlawful “the discharge of any pollutant by any person” except by permit.¹⁶ Federal jurisdiction – which determines when a permit would be required – is limited to “navigable waters,” which is defined in turn as “the waters of the United States.” The Supreme Court of the United States defines this to include waters that are “navigable in fact” along with other, interconnected waters, such as streams, tributaries and wetlands adjacent to navigable waters.¹⁷ The Supreme Court has also recently confirmed that the Clean Water Act’s point source discharge program reaches pollution

¹⁰ *Trinity Am. Corp. v. EPA*, 150 F.3d 389 (4th Cir. 1998).

¹¹ *Trinity Am. Corp.*, 150 F.3d at 394, *see also*, 42 U.S.C. § 300(i)(a).

¹² *See also, McCracken v. Black Diamond Co.*, 2012 U.S. Dist. LEXIS 63096 (W.D. Va. 2012) (defendant corporation was ordered to provide both temporary and adequate, permanent replacements for drinking water after corporation’s actions had resulted in well water contamination).

¹³ *Montgomery County v. EPA*, 662 F. 2d 1040 (4th Cir. 1981).

¹⁴ *Montgomery County*, 662 F. 2d at 1044.

¹⁵ 33 U.S.C. § 1251(a).

¹⁶ 33 U.S.C. § 1311(a).

¹⁷ *Rapanos v. United States Army Corp. of Engineers*, 126 S. Ct. 2208, 2231 (2006).

that is the result of a *direct* discharge into a water body as well as those *indirect* discharges that are the “functional equivalent” of direct contamination.¹⁸

As with the Safe Drinking Water Act, states can elect to oversee effluent limitation permitting within their borders. Virginia has done so, and therefore jointly administers the Clean Water Act in Virginia with the federal government.

C. Additional Federal Acts and Agencies

In addition to the SDWA and Clean Water Act, there are other federal laws with the potential to provide relief in situations of contaminated drinking water from private wells. However, their applicability often depends on the source of water contamination. For example, if the HEARR Project determines well water contamination is due in part to improper solid and/or hazardous waste disposal, the Resource Conservation and Recovery Act (RCRA) may provide legal remedies.¹⁹ Under RCRA a state may take corrective action if a “situation exists which requires prompt action...to protect human health and the environment.”²⁰

Similarly, the United States Department of Agriculture (USDA) might be a resource, especially given the HEARR Project’s pilot study results suggest high levels of contaminants may be due in part to their proximity to livestock and other agricultural sources of contamination. Because illegal discharge of pesticides into national waters, management of animal waste and agricultural runoff as it relates to water pollution, and other such activities are largely covered by the Clean Water Act, most legal remedies available through the USDA come in the form of various assistance programs, grants, and loans, as discussed below.

IV. Implications and Implementation of Federal and State Law

A. Private Well Regulations

In 1986, state legislators enacted the Virginia Private Well Construction Act, codified under Title 32.1, Chapter 6, Article 2.1 of the Code of Virginia. The Act called for private well regulations, which have subsequently been outlined in Title 12, Chapter 630 of the Virginia Administrative Code. The regulations were, in part, promulgated to, “Ensure that all private wells are located, constructed and maintained in a manner which does not adversely affect ground water resources, or the public welfare, safety and health.”²¹ Section 32.1-176.5 requires construction permits and grants local government the authority to require analysis of water quality before, during, and immediately after construction. These private well regulations are usually implemented by local health departments that maintain files on private well permits.²²

¹⁸ *County of Maui v. Hawaii Wildlife Fund*, No. 18-260 (decided Apr. 23, 2020).

¹⁹ 42 USC § 6901 et seq.

²⁰ 42 USC § 6991b (h)(2)(B).

²¹ 12 VAC 5-630-30.

²² There is also a statewide database of private well permits. Email from Scott Vogel, Environmental Health Coordinator, Virginia Department of Health, to Elizabeth Buttitta (Mar. 25, 2020, 13:34 EST) (on file with the authors).

Additionally, the Virginia Department of Health (VDH) houses a Private Well Program in its Office of Drinking Water (the primary agency overseeing drinking water regulation throughout the Commonwealth). The Private Well Program offers many services, including well water testing, but only if there is a particular public health issue.²³ For example, “where an oil release or discharge has been confirmed... [VDH] shall test the water supply of the private well for the presence of oil to determine whether there is risk to public health.”²⁴ Even then, though, “[t]he costs of such tests shall be borne by the person requesting the test, unless [VDH] finds the oil release or discharge poses a potential risk to the health of persons using that private well.”²⁵ None of the counties in the Focus Area offer publicly funded testing at this time.²⁶

Opportunity for Advocacy: There is currently no funding to support a free water testing program directly through local health departments. Scott Vogel, Environmental Health Coordinator for VDH’s Private Well Program, explains, “I currently have no budget for it [private well water testing] but would like to see the program grow as private well water safety is becoming a critical and important issue.”²⁷

However, the Virginia Household Water Quality Program (VAHWQP), part of Virginia Tech and Virginia Cooperative Extension, already has capacity to offer water testing in over sixty counties each year through local Extension offices. Thus, with further support, additional demand for testing, and broad advertising to well owners, VAHWQP could offer testing to at least three times as many people as are currently participating in the program. Advocates may consider working with VAHWQP to help channel more resources into the program to expand its existing water testing services.

In the meantime, residents in the Focus Area can obtain more information about the construction and initial testing of their specific wells by going to their local health departments, which may have copies of each private well construction permit for wells constructed after 1990.

For well owners interested in ensuring their wells were properly constructed in the first place, the Virginia Department of Health has an Information Package that includes the permitting sequence for developing a new groundwater supply (i.e. a new well), as well as required materials and well depth.²⁸

²³ For more information about VDH’s Private Well Program, please contact Scott Vogel, Environmental Health Coordinator for VDH, who has offered to serve as a contact for any issues, questions, and thoughts on how to keep individual water supplies in Virginia safe. He may be reached by phone (804-864-7462) or email (scottm.vogel@vdh.virginia.gov).

²⁴ Va. Code Ann. Section 32.1-176.5:1 (B); *see also*, Albemarle County, Va. Code of Ordinances Sec. 5-500 (“The purpose of this article is to protect the public health, safety, and welfare in areas of the County where there has been a petroleum release or a discharge... that remains an active contamination area by requiring that private ground water wells in these areas be tested for petroleum contamination.”).

²⁵ Va. Code Ann. Section 32.1-176.5:1 (B).

²⁶ Email from Scott Vogel, Environmental Health Coordinator, Virginia Department of Health, to Elizabeth Buttitta (Feb. 24, 2020, 09:57 EST) (on file with the authors)

²⁷ Email from Scott Vogel, Environmental Health Coordinator, Virginia Department of Health, to Elizabeth Buttitta (Feb. 24, 2020, 09:57 EST) (on file with the authors).

²⁸ *Construction of Public Water Supply Wells: Information Package*, Working Memo 813, Phase II/V Implementation Committee, Division of Water Supply Engineering, Va. Dep’t of Health, Office of Drinking Water (Revised April 7, 2004).

If regulations have been violated, the Virginia State Health Commissioner may issue orders to require compliance. Such orders may include, “(1) The immediate cessation and correction of the violation; (2) Appropriate remedial action to ensure that the violation does not recur; (3) The submission of a plan to prevent future violations to the commissioner for review and approval; (4) The submission of an application for a variance; or (5) Any other corrective action deemed necessary for proper compliance with the chapter.”²⁹

Opportunity for Advocacy: Although this would not necessarily address concerns with older wells, advocates might choose to work with local leaders to educate community members on current standards in order to ensure any new wells that are built adhere to the current regulations. Additionally, as local leaders revise the existing private well regulations, advocates should work with those leaders to voice the concerns identified by the HEARR Project.

B. Water Source Assessment Program

The Safe Drinking Water Act requires states to develop source water assessment programs and submit a plan to EPA for approval. Source water assessment programs create designated areas that “can be defined as the ground and/or surface watershed area upland of a drinking water intake, through which contaminants are reasonably likely to move toward and reach an intake.”³⁰ The type of water protection area most relevant to well water protection is a groundwater management area, which the Virginia Administrative Code defines as, “a geographically defined groundwater area in which the board has deemed the levels, supply or quality of groundwater to be adverse to public welfare, health and safety.”³¹

DEQ has the authority to initiate a proceeding and create a new groundwater management area. Importantly, DEQ may do so, “in its own motion, or, in its discretion, upon receipt of a petition by any county, city or town within the area in question.”³² If DEQ discovers, “ground water in the area has been or may become polluted,”³³ or the existence of other enumerated circumstances, and, “that public welfare, safety and health require that regulatory efforts be initiated, DEQ shall by regulation declare the area in question to be a ground water management area.”³⁴

²⁹ 12 VAC 5-630-150.

³⁰ *Wellhead Protection Plan*, Commonwealth of Virginia, Department of Environmental Quality 8 (April 15, 2005) (internal reference omitted).

³¹ 9 VAC 25-600-10. Another type of water protection area is a surface water management area, defined as a, “a geographically defined surface water area in which the board deemed the levels or supply of surface water to be potentially adverse to public welfare, health, and safety.” Va. Code Ann. Section 62.1-242, 9 VAC 25-220-10. There are currently no surface water management areas in Virginia. *Surface Water Withdrawal Permitting*, Water Withdrawal Permitting and Compliance Program, Va. Dep’t of Env’tl. Quality, <https://www.deq.virginia.gov/Programs/Water/WaterSupplyWaterQuantity/WaterWithdrawalPermittingandCompliance.aspx> (last visited Mar. 10, 2020). Additionally, the Chesapeake Bay Preservation Area is another type of water protection area. Va. Code Ann. Article 2.5, 9 VAC 25-830.

³² Va. Code Ann. Section 62.1-257.

³³ Va. Code Ann. Section 62.1-257(A)(4).

³⁴ Va. Code Ann. Section 62.1-257(B).

At the same time, DEQ believes that “selection of management methods to protect ground water will be determined at the local level”³⁵ and local governments have been granted the authority to make land use decisions, including the ability to designate, “areas for the implementation of reasonable measures to provide for the continued availability, quality, and the sustainability of groundwater and surface water,”³⁶ in their preparation of comprehensive land and zoning plans. Albemarle County, for example, has identified the following goals for its zoning practices: “to promote the public health, safety, convenience, and welfare...[f]acilitate providing adequate...water...and other public requirements...[and] [p]rotect surface water and ground water.”³⁷

Opportunity for Advocacy: Advocates might reach out to DEQ and local governments to learn more about whether establishing a new groundwater management area that encompasses the Focus Area would be appropriate and necessary. Not only would this help protect the quality of groundwater, it would also help ensure safeguards for private wells in the Focus Area because all private wells constructed in a groundwater management area must be registered.³⁸

C. Virginia Pollutant Discharge Elimination System

As discussed above, the Clean Water Act’s primary directive prohibits, without permit, the discharge of pollutants into “navigable waters” by establishing effluent limitations.³⁹ At the state level, Virginia has adopted the Virginia Pollutant Discharge Elimination System (VPDES) to implement this directive. The Virginia DEQ oversees the system,⁴⁰ yet “EPA retains supervisory power to respond, object, or make comments or recommendations to proposed permits.”⁴¹

The Virginia Pollutant Discharge Elimination System expressly incorporates the federal Clean Water Act regulations.⁴² These regulations include the prohibition against discharging certain pollutions into state waters, except by permit.⁴³ Further, Virginia’s applicable regulatory definitions parallel federal definitions. “Discharge of a pollutant,” for example, covers “[a]ny addition of any pollutant or combination of pollutants to surface waters from any point source.”⁴⁴ The Supreme Court has recently confirmed that this statutory directive covers direct discharges into a water body and indirect discharges that are the “functional equivalent” of a direct discharge.⁴⁵

³⁵ *Wellhead Protection Plan*, Commonwealth of Virginia, Department of Environmental Quality 3 (April 15, 2005).

³⁶ Va. Code Ann. Section 15.2-2223 (C)(4).

³⁷ Albemarle County, Va. Code of Ordinances Sec. 1.1. *See also* Fluvanna County, Va. Code of Ordinances Sec. 2-4-3 (similar language regarding development of its Comprehensive Plan).

³⁸ 9 VAC 25-610-42.

³⁹ 33 U.S.C. § 1311.

⁴⁰ *Virginia Pollutant Discharge Elimination System Permit Program*, Va. Dep’t of Env’tl. Quality, <https://www.deq.virginia.gov/programs/water/permittingcompliance/pollutiondischargeelimination.aspx> (last visited Feb. 27, 2020).

⁴¹ *State Water Control Bd. v. Blue Ridge Env’tl. Def. League*, 56 Va. App. 469, 485 (2010).

⁴² 9 VAC 25-31-30.

⁴³ 9 VAC 25-31-50.

⁴⁴ 9 VAC 25-31-10.

⁴⁵ *Cty. Of Maui v. Haw. Wildlife Fund*, No. 18-260, 2020 U.S. LEXIS 2410 (Apr. 23, 2020).

Permits take on two forms: individual permits and general permits. Individual permits are granted to municipal and industrial facilities “on a site specific basis in order to meet applicable water quality standards,” whereas general permits are, “written for a general class of dischargers.”⁴⁶ There are several active individual permits within the Focus Area. A municipal permit has been granted to the Rivanna Water and Sewer Authority in Albemarle County and an industrial permit has been granted to Tenaska Virginia Partners LP for its generating station in Fluvanna County.⁴⁷ Additionally, there are applications being reviewed for reissuance.⁴⁸

DEQ has adopted fourteen (14) general permits, including for discharges of stormwater associated with industrial activity,⁴⁹ potable water treatment plants,⁵⁰ and domestic sewage discharges of less than or equal to 1,000 gallons per day (known as the “single family home” general permit).⁵¹ As of January 2020, within the Town of Scottsville, and in Albemarle County, there are two active general permits for stormwater associated with industrial activity, two active general permits for potable water treatment plants, and one active single family home general permit.⁵²

Opportunity for Advocacy: To the extent these VPDES permits are contributing to unwarranted contamination, advocates could work with permit holders and DEQ to remediate the sites through implementation of management practices and expanding requirements for groundwater monitoring activities during the permit issuance and reissuance stages. Also, advocates could work with DEQ to review the fourteen general permit categories the department has currently adopted to determine whether changes are necessary, or whether some general permits should be withdrawn and individual permits required.

Because the permitting regime is complex, Focus Area residents may need assistance in working with the industries and other dischargers to develop a collaborate approach to address water quality contamination concerns. To use an example that may be particularly relevant to the Focus Area: concentrated animal feeding operations are statutorily defined as a point source.⁵³ So, cattle, chicken, and other animal farms in the Focus Area may be regulated by the federal or state-equivalent permits.

Permitting for confined animal feeding operations is a complex and fact-specific process. Still, because of the Focus Area’s proximity to livestock, this permitting requirement may provide a forum to reach out to leaders in the agricultural industry and work on solutions to protect residents’

⁴⁶ *Virginia Pollutant Discharge Elimination System Permit Program*, Va. Dep’t of Env’tl. Quality, <https://www.deq.virginia.gov/Programs/Water/PermittingCompliance/PollutionDischargeElimination.aspx> (last visited Mar. 9, 2020).

⁴⁷ VPDES Individual Permit Contacts, January 2020 (on file with the authors).

⁴⁸ VPDES Active Individual Permit Applications, January 2020, <https://www.deq.virginia.gov/Programs/Water/PermittingCompliance/PermitApplicationStatus.aspx> (last visited Mar. 29, 2020).

⁴⁹ 9 VAC 25-151.

⁵⁰ 9 VAC 25-860.

⁵¹ 9 VAC 25-110; *see also*, *Virginia Pollutant Discharge Elimination System Permit Program*, Va. Dep’t of Env’tl. Quality, <https://www.deq.virginia.gov/Programs/Water/PermittingCompliance/PollutionDischargeElimination.aspx> (last visited Mar. 9, 2020).

⁵² VPDES General Permits, January 2020 (on file with the authors).

⁵³ 33 U.S.C § 1362(14).

access to healthy drinking water. Indeed, more generally, there are other ways to use the system to advocate for Focus Area residents.

One possibility for advocacy would be to advocate for expansion of groundwater monitoring requirements that some Virginia Pollutant Discharge Elimination System permits carry.⁵⁴ If included in a permit, an operator must maintain these requirements as part of their permit conditions. Currently, monitoring requirements are included in a permit if certain conditions are met.⁵⁵ Policymakers could expand these conditions to include discharges near groundwaters known to be a source of drinking water, discharges near groundwaters that are particularly vulnerable to stream intake, or some combination of those and other factors.

Of final note, many animal farms and other operations may qualify for programs under the Virginia's Pollution Abatement Permit Program and nonpoint source pollution programs, discussed below.

D. Additional Virginia Water Permitting Regimes

Beyond the required permits already mentioned, there are several other types of permits related to water usage that are required in Virginia. The Virginia Stormwater Management Program (VSMP) Regulations, authorized by the Virginia Stormwater Management Act, allow DEQ to issue “individual and general permits that control stormwater discharges from municipal separate storm sewer systems (MS4s) and construction activities”⁵⁶ VSMP permits are specific only to discharges of stormwater from construction activities; otherwise, permits for stormwater dischargers are simply categorized as VPDES permits.⁵⁷

Permitting routinely includes county-level involvement as well. For example, Albemarle County “is one of several local entities responsible for implementing a municipal stormwater program...to manage stormwater and reduce impacts to waterways,”⁵⁸ even though the program is a product of the NPDES and administered by DEQ.⁵⁹

⁵⁴ Though part of a Virginia Pollutant Discharge Elimination System permit, review of operator implementation of these requirements is overseen by DEQ Land Protection and Revitalization Division. DEPARTMENT OF ENVIRONMENTAL QUALITY, WATER PERMITTING DIVISION, GUIDANCE MEMO NO. 18-2013, VPDES PERMITS WITH GROUNDWATER MONITORING REQUIREMENTS (2013), https://www.deq.virginia.gov/Portals/0/DEQ/Water/Guidance/GM-18-2013_VPDES_GW_Monitoring_Requits_12-20-18.pdf.

⁵⁵ *Id.* Groundwater monitoring activities are currently issued in conjunction with a Virginia Pollutant Discharge Elimination System permit based on site-specific characteristics, and most commonly for “in-ground wastewater units.”

⁵⁶ *Virginia Stormwater Management Program Regulations*, Va. Dep’t of Env’tl. Quality, <https://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits.aspx> (last visited Mar. 9, 2020); *see also*, 9 VAC 25-870.

⁵⁷ 9 VAC 25-870-10.

⁵⁸ *Water Resources Program | MS4 Program*, Albemarle County, <https://www.albemarle.org/departments.asp?department=water&relpage=2981> (last visited Mar. 12, 2020).

⁵⁹ *Water Resources Program | MS4 Program*, Albemarle County, <https://www.albemarle.org/departments.asp?department=water&relpage=2981> (last visited Mar. 12, 2020).

The Virginia Pollution Abatement (VPA) Permit Program regulates various activities such as “[t]he treatment of sewage sludge, storage and land application of biosolids, industrial wastes (sludge and wastewater), municipal wastewater, and animal wastes (manure/litter from livestock and poultry).”⁶⁰ Thus, the VPA Permit Program picks up some of what the Virginia Pollutant Discharge Elimination System leaves off. If granted a VPA permit, an owner may pursue these, “pollutant management activities under prescribed conditions.”⁶¹ As of March 2020, there are seven authorized VPA permits in the Focus Area for the land application of biosolids.⁶² Additionally, there are several applications in the process of being reviewed for VPA permit authorization or renewal.⁶³

Finally, Virginia Water Protection (VWP) permits authorize specific categories of activities otherwise unlawful, such as altering, “the physical, chemical, or biological properties of state waters...”⁶⁴ They relate to, “[p]rojects involving surface water withdrawals from state waters and related permanent structures.”⁶⁵ VWP permits are often issued in conjunction with the U.S. Army Corps of Engineers, under Section 404 of the Clean Water Act and pursuant to a joint permit application.⁶⁶

Opportunity for Advocacy: These various permits cover a broad range of activities related to water usage and quality, including discharges of stormwater, the treatment of sewage sludge, and altering the biological properties of state waters.

As the HEARR Project develops a better sense of what circumstances or activities are causing the water contamination in the Focus Area, these permitting regimes may be helpful in negotiation for implementation of more rigorous review of existing permits and/or granting of new permits in ways that could help prevent continued contamination. The James River Association’s 2019 State of the James Report notes heavier than normal downpours and associated polluted runoff have resulted in high levels of bacteria pollution. Of concern, the Report also notes, “stormwater is the only major source of pollution to our watershed that is not constantly improving.”⁶⁷ Thus, advocacy regarding the VSMP and VPDES permitting regimes may be useful.

⁶⁰ *Virginia Pollution Abatement Permit Program*, Va. Dep’t of Env’tl. Quality, <https://www.deq.virginia.gov/Programs/Water/LandApplicationBeneficialReuse.aspx> (last visited Mar. 9, 2020).

⁶¹ 9 VAC 25-32-10. Animal Feeding Operations and Animal Waste Management, as well as Poultry Feeding Operations and Poultry Waste Management, are covered under 9 VAC 25-192 and 9 VAC 25-630, respectively.

⁶² Email from Christina Wood, Biosolids Guidance and Regulation Coordinator, VADEQ – Water Division, to Elizabeth Buttitta (Mar. 25, 2020, 12:22 EST) (on file with the authors).

⁶³ VPA Permits: Application Status, March 2020, <https://www.deq.virginia.gov/Programs/Water/PermittingCompliance/PermitApplicationStatus.aspx>.

⁶⁴ Va. Code Ann. Section 62.1-44.15:20.

⁶⁵ *Surface Water Withdrawal Permitting*, Water Withdrawal Permitting and Compliance Program, Va. Dep’t of Env’tl. Quality, <https://www.deq.virginia.gov/Programs/Water/WaterSupplyWaterQuantity/WaterWithdrawalPermittingandCompliance.aspx> (last visited Mar. 10, 2020).

⁶⁶ *Regulatory Branch – Joint Permit Application*, U.S. Army Corps of Engineers, <https://www.nao.usace.army.mil/Missions/Regulatory/JPA.aspx>.

⁶⁷ *State of the James 2019 Report*, James River Association, <https://thejamesriver.org/about-the-james-river/state-of-the-james/> (last visited April 10, 2020).

E. Nonpoint Source Pollution Programs

The Clean Water Act requires states to prepare and implement management programs for “controlling pollution added from nonpoint sources to the navigable waters within the State and improving the quality of such waters.”⁶⁸ This provision of federal law requires states to develop a scheme to address water contamination that comes from a variety of hard-to-define, diffuse sources. Federal provisions largely target “point” sources of pollution, which are those discrete conveyances like pipes and wells. Harder to trace sources are called “nonpoint” sources, and largely remain the purview of states.

Virginia has implemented its nonpoint source pollution management program via a network of statutory and regulatory programs.⁶⁹ The Virginia Water Quality Improvement Act of 1997 is at the center of this network, and establishes “cooperative” point and nonpoint source programs in order to “restore and improve the quality of state waters.”⁷⁰ Under the Water Quality Improvement Act, the State Water Control Board (the Water Board) has the delegated duty to promote nonpoint source pollution control.⁷¹ DEQ serves as the lead agency for Virginia’s nonpoint source pollution management, implementing regulations adopted by the Water Board.⁷²

Virginia’s network of regulatory programs and grants is where the rubber hits the road in nonpoint source pollution control. In 2014, DEQ submitted to the EPA an updated Nonpoint Source Pollution Management Plan, which provides an overall summary of Virginia’s program.⁷³ The report outlines the key programs in nonpoint source pollution across the state agencies. Programs that may be applicable to the Focus Area and include:

- The Agricultural Nutrient Management Program, administered by the Department of Conservation and Recreation;
- The Agricultural Stewardship Act, administered by the Department of Agriculture and Consumer Services;
- The Virginia Resource Management Program, administered by the Department of Conservation and Recreation;
- The Resource Extraction Program, administered by the Department of Mines, Minerals and Energy; and

⁶⁸ 33 U.S.C. § 1329(b)(1).

⁶⁹ VA. DEP’T OF ENVTL. QUALITY, DIV. OF WATER, VIRGINIA NONPOINT SOURCE MANAGEMENT PROGRAM PLAN 4 (2014), <https://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/NonpointSourcePollutionManagement/NonpointSourceManagementPlan.aspx>, (“Virginia Nonpoint Source Pollution Plan”).

⁷⁰ Va. Code § 10.1-2118. The Virginia Water Quality Improvement Act also establishes the Virginia Water Quality Improvement Fund, which provides grants to “local governments, soil and water conservation districts, state agencies, institutions of higher education and individuals for point and nonpoint source pollution prevention, reduction, and control programs. Va. Code § 10.1-2128.

⁷¹ Va. Code § 10.1-2125.

⁷² Virginia Nonpoint Source Pollution Plan, *supra* note 76 (cover letter).

⁷³ *See id.*

- The Forestry Water Quality Program, administered by the Virginia Department of Forestry.

Opportunity for Advocacy: In order to comprehensively address water contamination concerns throughout the Focus Area, it is important to determine which, if any, land uses are contributing to the contamination. For instance, some land uses potentially problematic to groundwater include lawn maintenance (in the form of unregulated fertilizer and pesticide use), golf courses, and industry. As a starting point, advocates could work with the agricultural industry to assess potential sources of groundwater contamination. Advocates could then facilitate the coordination of local governments, nongovernmental organizations, and industry leaders to implement management practices such as livestock stream exclusion, retention ponds, and vegetative buffers, to protect Focus Area residents' groundwater. State programs could potentially provide funding, technical assistance and planning, and some monitoring, but local governments and nongovernmental organizations would need to make this a coordinated effort.

Some of these programs may be more useful than others for Focus Area residents. For example, the Agricultural Nutrient Management Program, led by the Department of Conservation and Recreation, “works to manage both urban and agricultural nutrients found in fertilizers, manure, biosolids, and other sources.”⁷⁴ Importantly, the Department of Conservation and Recreation provides “direct technical assistance to farmers” through “site-specific nutrient management plans.”⁷⁵ The Nutrient Management Program has a specific program for small agricultural or animal farming operations.⁷⁶ The program provides to cooperating farmers free soil and manure sampling, manure and fertilizer recommendations, nutrient management plans, and cost-sharing for best management practices, among other services. Residents and local governments can advocate for protection of groundwater by encouraging nearby farms to participate in this and other Nutrient Management Programs.

Similarly, the Agricultural Stewardship Program, administered by the Department of Agriculture and Consumer Services, responds to water quality complaints caused by agricultural operations through coordination with Virginia’s Soil and Water Conservation Districts and the agricultural community.⁷⁷ Importantly, this program does not cover those agricultural activities already subject to permitting under programs.⁷⁸ Thus, this program supplements, but does not supplant, the Virginia Pollutant Discharge Elimination System and the Virginia Pollution Abatement program. Further, this program specifically addresses “problems [] caused by nutrients from manure in feed lot runoff...[and] toxins from pesticide runoff,” and other similar issues.⁷⁹ If a complaint is determined to be founded, operators have 18 months to develop a remedial plan.⁸⁰ This program

⁷⁴ Virginia Nonpoint Source Pollution Plan, *supra* note 76, at 12.

⁷⁵ *Id.*

⁷⁶ DEP’T OF CONSERVATION AND RECREATION, NUTRIENT MANAGEMENT ON SMALL FARMS, <https://www.dcr.virginia.gov/soil-and-water/document/nm-small-farm-bro.pdf>.

⁷⁷ Virginia Nonpoint Source Pollution Plan, *supra* note 76 at 15.

⁷⁸ *Agricultural Stewardship | Conservation & Environmental*, Va. Dep’t of Agric. and Consumer Servs., <https://www.vdaacs.virginia.gov/conservation-and-environmental-agricultural-stewardship.shtml> (last visited 4/1/20).

⁷⁹ *Id.*

⁸⁰ *Id.*

could provide a direct path for residents to find relief from any agricultural polluters. Additionally, because this program is solution-focused and non-adversarial,⁸¹ local governments can feel comfortable encouraging the use of this program despite competing interests amongst constituents.

Other programs focus on, among other matters, forest implementation and stream quality monitoring. These programs currently focus on the health of streams. As such, these programs would need to be expanded to include a focus on groundwater health and monitoring, a large undertaking likely to have little effect on well water quality in the short-run. Still other programs focus on the source of contamination to waters, such as the Resource Extraction Program, led by the Department of Mines, Minerals, and Energy,⁸² which addresses runoff from old mines.⁸³ The applicability of programs like these will depend on the HEARR program's findings as to any sources of contamination.

V. Government Assistance and Resources

Even though the EPA has declared that the agency “does not regulate private wells nor does it provide recommended criteria or standards for individual wells,” it does offer “information regarding the importance of testing private wells and guidance on technologies that may be used to treat or remove any contaminants.”⁸⁴ Such information includes when to test private wells, where to obtain local testing services, and best practices to prevent well pollution. Additionally, there are several grant and loan programs available at both the federal, state, and local levels, as outlined below.

A. Federal Grant and Loan Programs

i. Grant and Loan Programs under the Safe Drinking Water Act (SDWA)

Although the SDWA does not generally apply to private wells, the Act does authorize several grant and loan programs, some of which may be available to private well owners. First, the Innovative Water Technology Grant Program was created, “for the purpose of accelerating the development and deployment of innovative water technologies that address pressing drinking water supply, quality, treatment, or security challenges of public water systems, areas served by private wells, or source waters.”⁸⁵ Notably, the grant program includes private wells. There is a monetary limitation to grants authorized under this program, and grants are awarded through a competitive process only to eligible entities.⁸⁶ Overall, though, a project designed to improve the water quality for individuals reliant on contaminated private well water is certainly feasible and could qualify for such a grant.

Second, the Water Infrastructure Improvements for the Nation Act (WIIN Act), which amended the SDWA in 2016, created several grant programs, one of which may arguably be applicable to

⁸¹ *Id.*

⁸² Virginia Nonpoint Source Pollution Plan, *supra* note 76 at 31.

⁸³ Virginia Nonpoint Source Pollution Plan, *supra* note 76 at 27.

⁸⁴ *Private Drinking Water Wells*, Env'tl. Prot. Agency, <https://www.epa.gov/privatewells> (last visited Feb. 22, 2020).

⁸⁵ 42 USC § 300j-1a (b).

⁸⁶ 42 USC § 300j-1a (a), (d), (f), and (i).

the HEARR Project. The Assistance for Small and Disadvantaged Communities Grant Program authorizes the Administrator to, among other things, provide grants to States, on behalf on an “underserved community” to serve that community by providing, “assistance that directly and primarily benefits the disadvantaged community on a per-household basis,”⁸⁷ and establishing, “programs to provide household water quality testing, including testing for unregulated contaminants.”⁸⁸

The statutory definition of “underserved community” is a community that, “has an inadequate system for obtaining drinking water,” and does, “not have household drinking water or wastewater services.”⁸⁹ As long as communities in the Focus Area meet the small or disadvantaged criteria, they qualify for the grant because, “[c]ommunities served by private wells are interpreted as not having household drinking water services, such as services provided by a public water system.”⁹⁰

ii. Grant and Loan Programs under the Clean Water Act

The Clean Water Act authorizes the EPA to develop a diverse array of grant and loan programs to achieve a correspondingly diverse array of clean water goals.⁹¹ Most generally, the Clean Water Act instructs the EPA to, “establish national programs for the prevention, reduction, and elimination of pollution.”⁹² In doing so, the EPA is to conduct and promote research and training related to that goal.⁹³ As such, the EPA is authorized to “make grants to State water pollution control agencies, interstate agencies, other public or nonprofit agencies,” among others.⁹⁴ Further, the EPA is specifically authorized to make grants to qualified nonprofits, “for the repair or replacement of existing individual household decentralized wastewater treatment systems,” in consultation with the state in which the nonprofit would use the funds.⁹⁵

For several years, EPA has sought grantee-applicants for a Training and Technical Assistance Grant. Grantee-applicants could receive funding for projects that demonstrated an ability to provide training and technical assistance for onsite and decentralized wastewater systems, and training and technical assistance for improving the water quality of private well owners.⁹⁶ Some examples of this training and technical assistance include preliminary needs analysis for wastewater systems, outreach to individuals on corrective maintenance techniques for wastewater systems, and training organizations that conduct activity affecting private well owners.⁹⁷

⁸⁷ 42 USC § 300j-19a (b)(2)(B).

⁸⁸ 42 USC § 300j-19a (b)(2)(C).

⁸⁹ 42 USC § 300j-19a (a)(1).

⁹⁰ Email from The WIIN Drinking Water Grants Team, Drinking Water Protection Division, Office of Ground Water and Drinking Water, U.S. Environmental Protection Agency, to Elizabeth Buttitta (Feb. 10, 2020, 08:38 EST) (on file with the authors).

⁹¹ See generally 33 U.S.C. §§ 1255-1301 (*passim*).

⁹² 33 U.S.C. § 1254(a)(1).

⁹³ *Id.*

⁹⁴ 33 U.S.C. § 1254(b)(3); see also 40 C.F.R. 40.110 (b)(1).

⁹⁵ 33 U.S.C. §§ 1254(b)(8), 1383(c)(12).

⁹⁶ ENVTL. PROT. AGENCY, OFFICE OF WATER, OFFICE OF GROUNDWATER AND DRINKING WATER, REQUEST FOR APPLICATIONS, FUNDING OPPORTUNITY NUMBER EPA-OW-OGWDW-19-03, 11-12 (2019), https://www.epa.gov/sites/production/files/2019-09/documents/epa-ow-ogwdw-19-03_rfa_fy2019_-_092619_final.pdf.

⁹⁷ *Id.* at 12-14.

For any federal grant, there are many technical requirements to be eligible. More generally though, this Training and Technical Assistance Grant demonstrates the EPA's priority for "national priority" programs.⁹⁸ In other words, the EPA sought, and in the future would likely continue to seek, grantees whose project could "mak[e] training and technical assistance available nationally."⁹⁹ Because of this, focusing on federal funding that flows through the state-level may allow a more local focus. What may be even more useful and efficient, though, is for the HEARR Project to partner with a more broadly focused non-governmental organization to obtain funding, rather than apply for federal grants on its own. For example, VAHWQP currently partners with and receives funding from the Rural Community Assistance Partnership (RCAP), a national network of non-profits and the recipient of the Training and Technical Assistance Grant for several years. More information about RCAP is discussed below in the non-government assistance and resources section.

So-called "Section 106" grants are available to states (or interstate agencies) for, "administering programs for the prevention, reduction, and elimination of pollution."¹⁰⁰ Section 106 grants are annual allocations to states, and can be used for monitoring and assessing water quality and protecting source waters, among others.¹⁰¹ Additional funds, called Monitoring Initiative funding, are also allocated specifically for the purpose of expanding water quality monitoring.¹⁰² Importantly, Section 106 grant money may not be used for projects funded by other federal grants.¹⁰³ These funds are allocated directly to states for use within grant parameters. Local governments and advocates could lobby for some of these funds to be used for greater groundwater quality monitoring and improvement.

Similarly, "Section 319" grants are grants to state for implementation of nonpoint source pollution plans. These grants can be used by states, "to control pollution from a variety of sources such agricultural runoff, mining activities, and malfunctioning onsite septic systems," including individual septic systems (though individuals may not directly receive the funds).¹⁰⁴ Currently, however, Virginia only uses Section 319 grants for funding "Total Daily Maximum Loads" (TMDL's) implementation.¹⁰⁵

⁹⁸ *Id. passim.*

⁹⁹ *Id.*

¹⁰⁰ 33 U.S.C. § 1256.

¹⁰¹ *Learn About the Water Pollution Control (Section 106) Grant Program*, Env'tl. Prot. Agency, <https://www.epa.gov/water-pollution-control-section-106-grants/learn-about-water-pollution-control-section-106-grant> (last visited Apr. 20, 2020).

¹⁰² *Monitoring Initiative Grants under Section 106 of the Clean Water Act*, Env'tl. Prot. Agency, <https://www.epa.gov/water-pollution-control-section-106-grants/monitoring-initiative-grants-under-section-106-clean> (last visited Apr. 20, 2020).

¹⁰³ *Grants for State and Interstate Agencies under Section 106 of the Clean Water Act*, Env'tl. Prot. Agency, <https://www.epa.gov/water-pollution-control-section-106-grants/grants-state-and-interstate-agencies-under-section-106#stateeligible> (last visited Apr. 20, 2020).

¹⁰⁴ *Funding for Septic Systems*, Env'tl. Prot. Agency, <https://www.epa.gov/septic/funding-septic-systems> (last visited Apr. 21, 2020).

¹⁰⁵ *Programs | Water | Clean Water Financing and Assistance | Nonpoint Source Funding*, Dep't of Env'tl. Quality, <https://www.deq.virginia.gov/Programs/Water/CleanWaterFinancingAssistance/NonpointSourceFunding.aspx> (last visited Apr. 21, 2020).

The Clean Water Act also established the Clean Water State Revolving Fund, another funding program primarily overseen at the state level with federal oversight and contribution.¹⁰⁶ This funding can be used for implementation of nonpoint source pollution management plans, as well as for the repair or replacement of individual household decentralized wastewater treatment systems, among others.¹⁰⁷ Though federal funding comes in the form of grants to states, funding to end users is usually in the form of low-interest loans.¹⁰⁸

In Virginia, the Virginia Clean Water Revolving Loan Fund has several “programs,” or types of projects eligible for funding. These include low interest loans and grants for implementation of agricultural management practices such as stream exclusion and retention ponds,¹⁰⁹ and loans to local governments for the purchase of lands in fee simple or easement, for the purpose of conserving land and preventing the pollution of state waters.¹¹⁰

iii. Grants and Programs under the United States Department of Agriculture (USDA)

Most potential legal remedies available through the USDA come in the form of various assistance programs, grants, and loans. For example, the National Water Quality Program, executed by USDA’s National Institute of Food and Agriculture, “includes regional water quality coordination projects and associated direct-funded projects to support integrated, multifunctional agricultural research, extension, and education activities,” that revolve around themes such as animal manure management, pollution assessment and prevent, and most relevant in this Report, drinking water and human health.¹¹¹

Also, the USDA offers Household Water Well System Grants, which are, “grants to private nonprofit organizations for the purpose of providing loans and subgrants to eligible individuals¹¹² for the construction, refurbishing, and servicing of individual household water well systems.”¹¹³ This grant program may be useful regardless of whether agriculture runoff is determined to be a significant source of contamination in the Focus Area. For instance, if corrosive pipes are contributing to the water contamination concerns, the grants could potentially provide the

¹⁰⁶ 33 U.S.C. 1381(a).

¹⁰⁷ 33 U.S.C. 1383(c).

¹⁰⁸ See 33 U.S.C. § 1383(d); *Programs | Water | Clean Water Financing & Assistance | Programs Overview*, Va. Dep’t of Env’tl. Quality, <https://www.deq.virginia.gov/Programs/Water/CleanWaterFinancingAssistance.aspx> (last accessed Apr. 20, 2020).

¹⁰⁹ See *Programs | Water | Clean Water Financing & Assistance | Agricultural BMP*, Dep’t of Env’tl. Quality, <https://www.deq.virginia.gov/Programs/Water/CleanWaterFinancingAssistance/AgriculturalBMP.aspx> (last visited Apr. 20, 2020); Va. Code Ann. § 62.1-229.1. These funds are available to both individual producers and local governments. Va. Code Ann. § 62.1-229.1.

¹¹⁰ See *Programs | Water | Clean Water Financing & Assistance | Land Conservation*, Dep’t of Env’tl. Quality, <https://www.deq.virginia.gov/Programs/Water/CleanWaterFinancingAssistance/LandConservation.aspx> (last visited Apr. 20, 2020).

¹¹¹ *National Water Quality Program*, National Institute of Food and Agriculture, USDA, <https://nifa.usda.gov/program/national-water-quality-program> (last visited March 26, 2020).

¹¹² The statutory definition of “eligible individual” is “an individual who is a member of a household the members of which have a combined income...that is not more than 60 percent of the median nonmetropolitan household income for the State or territory in which the individual resides.” 7 USC § 1926e (a).

¹¹³ 7 USC § 1926e (b); see also, <https://www.rd.usda.gov/programs-services/household-water-well-system-grants> (last visited Feb. 7, 2020).

necessary funding to refurbish and service the private well systems. Although subject to change, the grant program has currently been authorized appropriation up to \$20,000,000 for each fiscal year from now through 2023.¹¹⁴

B. State and Local Agency Programs

Both DEQ and the Virginia Department of Health (VDH) try to help localities with funding to implement programs to manage groundwater quality and other water-related issues. For example, DEQ allocates its Clean Water Act Section 106 Ground Water Protection Grant among localities and VDH supports localities through the Drinking Water State Revolving Fund Program.¹¹⁵ Both agencies occasionally provide additional funding as they receive it. For example, in early 2020 EPA, “awarded the Virginia Department of Environmental Quality (DEQ) a \$437,900 grant to protect the commonwealth’s water quality.”¹¹⁶ This grant will hopefully be used effectively and have a beneficial impact on the well water quality in the Focus Area.

Additionally, the Virginia Department of Housing and Community Development (DHCD) is a state agency that partners with local governments, nonprofits groups, state and federal agencies, among others, to improve the quality of life for low- to moderate-income citizens in Virginia’s communities, namely by investing in housing and community development projects.¹¹⁷ Some of these projects are focused on providing and/or protecting water services. For example, “DHCD administers the Community Development Block Grant (CDBG) program that annually funds work such as improved water and waste-water capacity for needy communities.”¹¹⁸

One such project is the CDBG Construction-Ready Water and Sewer Fund (CRWSF) program that, “supports the construction of community facility projects providing public water or sewer service to communities,” with a high percentage of low- to moderate-income households.¹¹⁹ If certain households in the Focus Area need to find an alternative water source, rather than continue to rely on their private wells, this program could potentially provide assistance.

Opportunity for Advocacy: Advocates should inquire into the feasibility and utility of connecting households in the Focus Area to the public water supply. Such an inquiry would need to include an analysis of the cost of constructing and operating these systems. An important question to ask is who would bear the financial burden, especially in sparsely populated areas or areas where the terrain would make construction and maintenance difficult and more expensive? Also, would homeowners be forced to pay a hefty connection fee and a monthly water bill or a different fee to refuse to connect to the system?

¹¹⁴ 7 USC § 1926e(d).

¹¹⁵ *Wellhead Protection Plan, Commonwealth of Virginia*, Va. Dep’t of Env’tl. Quality 1-3 (April 15, 2005).

¹¹⁶ *DEQ Receives Grant Funding to Improve Water Quality in the Commonwealth*, Va. Dep’t of Env’tl. Quality, <https://www.deq.virginia.gov/ConnectWithDEQ/NewsReleases/DEQReceivesGranttoImproveWaterQuality.aspx> (last visited Mar. 10, 2020).

¹¹⁷ *About*, Va. DHCD, <https://www.dhcd.virginia.gov/about-dhcd> (last visited Mar. 10, 2020).

¹¹⁸ *Wellhead Protection Plan, Commonwealth of Virginia*, Va. Dep’t of Env’tl. Quality 14 (April 15, 2005).

¹¹⁹ *CDBG Construction-Ready Water and Sewer Fund*, Va. DHCD, <https://www.dhcd.virginia.gov/cdbg-construction-ready-water-and-sewer-fund> (last visited Mar. 10, 2020).

Another relevant state agency is the Virginia Department of Agriculture and Consumer Services (VDACS). Although VDACS primarily, “promotes the economic growth and development of Virginia agriculture, provides consumer protection and encourages environmental stewardship”¹²⁰ it is still relevant to the HEARR Project because, “[a]griculture is a major user of ground water in Virginia...[and] can also affect ground water as a result of activities involving pesticides, fertilizers, animal wastes, and other materials.”¹²¹ One way VDACS works to mitigate negative effects to ground water is by administering a Pesticide Collection Program to promote the proper disposal of unwanted pesticides.¹²²

Virginia has also establishes soil and water conservation districts “to develop comprehensive programs and plans to conserve soil resources, control and prevent soil erosion, prevent floods and conserve, develop, utilize and dispose water.”¹²³ The Thomas Jefferson Soil and Water Conservation District (TJSWCD) is one such district that serves many of the counties in the Focus Area, including Albemarle, Fluvanna, and Nelson Counties. TJSWCD’s work mainly relates to agricultural and residential water quality improvement and the district does not have any programs that specifically address private wells. Nevertheless, TJSWCD’s work to improve surface water can have an indirect positive impact of groundwater, and thus well water quality.¹²⁴

Finally, it is important to keep in mind that the Virginia Department of Health provides a lot of information about various resources available to private well owners. For instance, even though VDH does not itself provide water testing services, it is mandated to, “maintain and make available...a list of various private companies located throughout the Commonwealth that possess the technical expertise to analyze water samples,”¹²⁵ and its website contains a link to all certified laboratories that do.¹²⁶ VDH staff is always available, “for consulting and troubleshooting well owner’s questions and issues.”¹²⁷ VDH also provides well owners with information about proper monitoring and maintenance of wells.¹²⁸

¹²⁰ *About VDACS*, Va. Dep’t of Agriculture and Consumer Services, <https://www.vdacs.virginia.gov/about-vdacs.shtml> (last visited Mar. 10, 2020).

¹²¹ *Wellhead Protection Plan*, Commonwealth of Virginia, Va. Dep’t of Env’tl. Quality 14 (Apr. 15, 2005).

¹²² *Pesticide Collection*, Va. Dep’t of Agriculture and Consumer Services, <https://www.vdacs.virginia.gov/pesticide-collection.shtml> (last visited Mar. 10, 2020).

¹²³ *Virginia’s Soil and Water Conservation Districts*, Va. Dep’t of Conservation and Recreation, <https://www.dcr.virginia.gov/soil-and-water/swcds> (last visited Mar. 13, 2020); *see also*, Va. Code Ann. Section 10.1 – 500 et seq.

¹²⁴ Email from Chris Gyurisin, Conservation Technician, Thomas Jefferson Soil and Water Conservation District, to Elizabeth Buttitta (Mar. 11, 2020, 11:37 EST) (on file with the authors); *see also*, Thomas Jefferson Soil and Water Conservation District, <https://www.tjswcd.org/assistance-to-our-localities/> (last visited Mar. 13, 2020).

¹²⁵ Va. Code Ann. Section 32.1-176.5:1 (B).

¹²⁶ *Septic System and Private Well Service Providers*, Va. Dep’t of Health, <http://www.vdh.virginia.gov/environmental-health/onsite-sewage-water-services-updated/septic-system-and-private-well-service-providers/> (last visited Mar. 13, 2020).

¹²⁷ Email from Alan Mazurowski, Environmental Health Supervisor, Onsite Sewage & Private Well Programs, Thomas Jefferson Health District, to Elizabeth Buttitta (Mar. 26, 2020, 08:28 EST) (on file with the authors).

¹²⁸ *See e.g., Private Well Water Information*, Va. Dep’t. of Health, <http://www.vdh.virginia.gov/environmental-health/onsite-sewage-water-services-updated/organizations/private-well-water-information/> (last visited Feb. 8, 2020), *see also*, Water and Wastewater Services, Va, Dep’t of Health, <http://www.vdh.virginia.gov/environmental-health/onsite-sewage-water-services-updated/> (last visited Mar. 13, 2020).

On a more local level, the Thomas Jefferson Health District (TJHD) website also contains some information on where, when, and how private well owners should get their water tested.¹²⁹ County offices may also be helpful resources. For example, although Fluvanna County’s website does not offer guidance for private well owners, if visited in person or called, the Health Department provides referrals for laboratories that offer well water testing.¹³⁰ Additionally, the Health Department has an Environmental Specialist who can provide customized guidance and support to individuals whose water is found to be contaminated.

Opportunity for Advocacy: The HEARR Project could reach out to the Columbia Area Renewal Effort (CARE) Task Force of Fluvanna County. CARE Task Force seeks, “to advise, assist, support, and advocate for positive change and renewal efforts in the Columbia area [a subset of Fluvanna County]...[and] shall develop a list of proposed action steps to...support renewal and clean-up efforts...advocate for improved public safety awareness and positive actions.”¹³¹ As of March 2020, “the CARE Task Force has focused on the sewer system in Columbia but not the quality of well water.”¹³² Advocates, then, could seek to expand the focus of CARE to include well water quality.

VI. Non-Government Assistance and Resources

There are numerous additional resources outside of government agencies available to private well owners. The Virginia Household Water Quality Program (VAHWQP) remains one of the most highly regarded and credible resources for individuals seeking affordable water testing, interpretation of results, and recommendations for addressing problems through local Extension offices every year. The following is non-exhaustive list of additional resources the HEARR Project may consider working with and/or providing as references for individuals in the Focus Area:

- The Water Systems Council (WSC) is a national, nonprofit organization that offers services to help homeowners monitor their well water. WSC maintains a hotline well owners can call to have their questions about any topic related to wells answered. Additionally, their website allows individuals to post questions and access information sheets with, “detailed information on various topics including basic water well information, well water testing, maintenance, potential groundwater contaminants and well water treatment.”¹³³

¹²⁹ Environmental Health Forms & Information, Thomas Jefferson Health District, Va. Dep’t of Health, <http://www.vdh.virginia.gov/thomas-jefferson/environmental-health/> (last visited Mar. 13, 2020).

¹³⁰ The laboratories the Health Department recommends include: Oakwood Scientific Laboratory, Aqua-Air Laboratory, Inc., and Farmville WTP-Town of Farmville, all of which are also on VDH’s list of state approved water labs. None of the testing services are free, and are often priced on a per contaminant basis. Telephone Interview with Fluvanna County Health Department Reception (Mar. 13, 2020).

¹³¹ *Columbia Area Renewal Effort (CARE) Task Force*, Fluvanna County, <https://www.fluvannacounty.org/bc-care> (last visited Mar. 11, 2020).

¹³² Email from Caitlin Solis, Executive Assistant to the County Administrator/Clerk for the Board of Fluvanna County, Fluvanna County, to Elizabeth Buttitta (Mar. 11, 2020, 17:57 EST) (on file with the authors).

¹³³ *Wellcare® Well Owners Network*, Water Systems Council, <http://www.watersystemscouncil.org/water-well-help/join/> (last visited March 23, 2020).

- The Rural Community Assistance Partnership (RCAP) is a network of non-profits that provides, “technical assistance, training, resources, and support to rural communities across the United States,”¹³⁴ including for, “community and non-community water and wastewater systems, private wells and septic systems and economic development.”¹³⁵
 - RCAP helps fund WellOwner.org, which is a comprehensive website that offers information for well owners on water quality and well maintenance. Additionally, the website directs well owners to certain resources that can help those individuals interpret water test results. This free online tool allows a well owner to input their well test results and receive explanations about potential health risks, treatment options, and more.¹³⁶
 - The non-profit within the RCAP network that serves Virginia is the Southeast Rural Community Assistance Project, Inc. (SERCAP). Part of SERCAP’s mission is to ensure, “all residents of the southeastern United States have adequate access to clean, safe drinking water.”¹³⁷ Not only does SERCAP offer financial assistance in the form of grants and affordable loans for low-income owners of individual household wells to help them repair and/or replace their wells, its, “Private Well program provides individual homeowners with private well assessments that examine the health of the well and the possibility of contamination...[and] refers the homeowner to VAHWQP) for water testing, and to potential financial resources if needed.”¹³⁸
- The James River Association may be a helpful ally in the HEARR Project’s work towards improving water quality. The James River Association (JRA) acts as an advocate for the James River by promoting, “conservation and responsible stewardship of its natural resources...[and] JRA monitors the river, responds to problems, seeks policy changes, and implements on-the-ground projects to restore the river’s health.”¹³⁹ JRA’s mission is driven

¹³⁴ *National Programs*, Rural Community Assistance Partnership, <http://www.rcap.org/about/> (last visited March 21, 2020).

¹³⁵ *Getting Assistance*, Rural Community Assistance Partnership, <http://www.rcap.org/assistance/> (last visited March 21, 2020).

¹³⁶ *Interpret Your Water Test Results*, WellOwner.org, <http://wellowner.org/interpret-water-test-results/> (last visited March 23, 2020). Although RCAP’s website links to this specific Water Test Interpretation Tool developed by The Ohio State University Extension, Virginia has its own version of this tool as well. It is called The Well Informed Virginia Drinking Water Interpretation Tool and is available at <https://www.wellwater.bse.vt.edu/well-informed-virginia.php>.

¹³⁷ *Who SERCAP Serves*, SERCAP, Inc., <http://sercap.org/about-sercap/who-sercap-serves> (last visited March 21, 2020).

¹³⁸ *Water & Wastewater*, SERCAP, Inc., <http://sercap.org/services/water-wastewater> (last visited March 21, 2020).

¹³⁹ *About the James River Association*, James River Association, <https://thejamesriver.org/about-the-james-river-association/> (last visited April 9, 2020).

in part by the fact that, “2.7 million people rely on the James River for water, making it Virginia’s largest source of drinking water,” and their approach is multi-faceted.¹⁴⁰

- Finally, the HEARR Project might inquire into whether any homeowners in the Focus Area who are experiencing well water contamination have homeowner’s insurance policies that may be able to provide some relief. Some insurance policies cover “physical losses” that may include water contamination in some circumstances.¹⁴¹

VII. Water Quality: Approaches in Other States

This report obviously focuses on Virginia and protections for water quality in the Focus Area. At the same time, the issues at stake here have been approached slightly differently across the country. California has among the most robust protections and has recognized a human right to water. California Water Code Section 106.3 establishes that, “every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.”¹⁴² Additionally, to help ensure this right is protected, cleanup and/or abatement orders will be issued for the benefit of public or private well owners when those wells have been contaminated by discharged waste.¹⁴³ This is just one example of how California rule makers have demonstrated their commitment to the human right to water.

Another useful example of a state’s approach to private wells comes from Rhode Island. The state has established an office of private well water contamination that is mandated to, in part, “[a]dvice private well owners, public officials and others on applicable federal and state policies, regulations, and standards relative to private well contamination,”¹⁴⁴ and require testing of private wells for specified contaminants.¹⁴⁵

VIII. Equity concerns

During the pilot study, HEARR Project researchers collected demographic information along with water quality data. The demographics suggest that disparities in water quality may be racially and socioeconomically skewed. There is some case law suggesting that if essential, utility-like services are provided unequally, and especially when the disparity exists along racial lines, a locality may be required to provide a remedy.¹⁴⁶ More information is needed before legal remedies on the basis of discrimination can be recommended.

¹⁴⁰ *Benefits of a Healthy River*, James River Association, <https://thejamesriver.org/about-the-james-river/state-of-the-james/> (last visited April 10, 2020).

¹⁴¹ *Motorists Mut. Ins. Co. v. Hardinger*, 131 F. App’x 823 (3d Cir. 2005). Although this is a case from the Third Circuit, it has been cited by Virginia courts. *See e.g.*, *TRAVCO Ins. Co. Ward*, 715 F. Supp. 2d 699, 709 (E.D. Va. 2010).

¹⁴² Cal Wat Code § 106.3.

¹⁴³ Cal Wat Code § 13304.

¹⁴⁴ R.I. Gen. Laws Section 23-1-5.3(3).

¹⁴⁵ R.I. Gen Laws Section 23-1-5.3(6).

¹⁴⁶ *See Reid Dev. Corp. v. Parsippany-Troy Hills Tp.*, 10 N.J. 229 (1952) (holding respondent abused its discretion in not extending a water main); *see also*, *Ammons v. Dade City*, 783 F. 2d 982 (1986) (holding unconstitutional the provision of disparate services by a city and officials with discriminatory intent).

Nevertheless, environmental justice concerns may still be particularly important in both shaping and promoting the work of the HEARR Project. EPA defines environmental justice (EJ) as, “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies.”¹⁴⁷ President Clinton issued an executive order directing all federal agencies to consider environmental justice in their decision making¹⁴⁸ and EPA especially has explicitly committed to advancing EJ. EPA sets yearly EJ Action Agendas and one of EPA’s EJ 2020 Priority Areas is Community-Based Work, which includes building stronger partnerships between EPA and communities to make it easier for EPA to share its resources in order to assist communities in addressing critical environmental and public health issues that impact them.¹⁴⁹

Additionally, EPA has developed an Environmental Justice Collaborative Problem-Solving Cooperative Agreement Program that encourages local communities to utilize the Collaborative Problem-Solving (CPS) Model to, “achieve lasting solutions to local environmental and/or public health issues or concerns.”¹⁵⁰ The CPS Model revolves around building partnerships and involving all stakeholders in addressing local concerns. The Program also, “provides financial assistance to eligible organizations working on or planning to work on projects to address local environmental and/or public health issues in their communities.”¹⁵¹

At the state level, Virginia Governors have created advisory councils on environmental justice via executive order.¹⁵² Just this past legislative session, the Virginia General Assembly went a step further and embedded the council in the Virginia Code.¹⁵³ The now-permanent of Virginia Council on Environmental Justice is charged with “advis[ing] the Governor and provid[ing] recommendations that maintain a foundation of environmental justice principles intended to protect vulnerable communities from disproportionate impacts of pollution.”¹⁵⁴ The HEARR Project Steering Committee might seek to raise concerns about water quality in the Focus Area with the Virginia Council. Additionally, other organizations, such as SERCAP (mentioned above) and the Virginia Environmental Justice Collaborative,¹⁵⁵ may be able to provide guidance and support.

¹⁴⁷ *Learn About Environmental Justice*, Environmental Justice, Env'tl. Prot. Agency, <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice> (last visited May 13, 2020).

¹⁴⁸ Exec. Order 12,898, 3 C.F.R. 859 (1995), *reprinted in* 42 U.S.C. § 4321 (1994).

¹⁴⁹ *Community-Based Work*, EJ 2020 Priority Areas, Env'tl. Prot. Agency, <https://www.epa.gov/environmentaljustice/ej-2020-priority-areas#community> (last visited May 13, 2020).

¹⁵⁰ *Chapter 3: The Collaborative Problem-Solving Model*, in EPA’s Environmental Justice Collaborative Problem-Solving Model (June 2008).

¹⁵¹ *The Environmental Justice Collaborative Problem-Solving Cooperative Agreement Program*, Environmental Justice, Env'tl. Prot. Agency, <https://www.epa.gov/environmental-justice/environmental-justice-collaborative-problem-solving-cooperative-agreement-0> (last visited May 13, 2020).

¹⁵² *See, e.g.*, Governor Northam, Executive Order 29 (Jan. 22, 2019), <https://www.governor.virginia.gov/media/governorviriniagov/executive-actions/EO-29-Establishment-Of-The-Virginia-Council-On-Environmental-Justice.pdf>.

¹⁵³ 2020 Va. Acts of Assemb. Chapter 113 (approved March 3, 2020), <https://lis.virginia.gov/cgi-bin/legp604.exe?201+ful+CHAP0113>.

¹⁵⁴ Va. Code 2.2-2699.9.

¹⁵⁵ More information about the Virginia Environmental Justice Collaborative is available at: www.vaejc.com

IX. Conclusion

This Report has analyzed the federal, state, and local laws and programs that pertain to water quality in private wells. It has also included recommendations for how individuals and communities more work to remediate contaminated wells. These recommendations have been noted throughout the report as “opportunities for advocacy.” These opportunities are not meant to be exhaustive; there are surely other avenues the HEARR Project and other interested parties may pursue. Nevertheless, our hope is that this Report serves to further the overarching goal of improving the health of individuals in the Focus Area.