

WASHINGTON STATE DEPARTMENT OF HEALTH

HEAL Budgeting & Funding Report

Alternative Drinking Water
Program



September 2024



DOH 300-055 September 2024

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Report Overview

HEAL Budgeting & Funding Obligations



The Department of Health is subject to several obligations under the Healthy Environment for All (HEAL Act), including several related to budgeting and funding per [RCW 70A.02.080](#). DOH must consider environmental justice principles when making decisions about budgets or funding for programs that create environmental benefits or address or cause environmental harms.

1. Primary agency responsible for this action	Washington State Department of Health (DOH)
2. Primary agency staff contact(s)	Sarita Preuss
3. Secondary agency contact(s), if applicable	Brad Burnham
4. Program name	Alternative Drinking Water Program
5. Description of program	<p>Funding is available from ESSB 5187 to develop a program to assist people with homes and businesses on contaminated private wells and Group B systems (defined as small water systems). Program activities aim to provide safe drinking water, and may include water quality sampling, delivering bottled water, and provisioning water treatment units to allow for drinking and cooking.</p> <p>The DOH Alternative Drinking Water Program (ADWP) will provide support to private and Group B well users impacted by regional and specific contamination events.</p> <p>This funding opportunity helps address impacts to drinking water caused by various events and contaminants, such as Per- and polyfluoroalkyl substances (PFAS), nitrate, industrial chemicals, arsenic, and uranium contamination. The ADWP is focused on helping to prevent acute health impacts, sub-acute health impacts and chronic health impacts. This includes reducing or eliminating ongoing or cumulative impacts to members of vulnerable populations.</p>
6. Did you complete an Environmental Justice Assessment for your program? If so, please link to it.	No

Section 1: Determine Environmental Justice Goals & Metrics

1. What are your environmental justice goals and performance metrics for this program?
Please explain how they are calculated and their significance to your program success.

The goal of the DOH [Alternative Drinking Water Program](#) (ADWP) is to assist people with homes and businesses connected to private wells or small water systems that are contaminated by providing access to safe drinking water. Ensuring the program provides equitable access to safe drinking water is an environmental justice issue.

There has been a lack of funding for individual well owners to address contamination in their drinking water. This includes small water systems that are classified as Group B residential systems. These systems serve less than 15 residential connections and less than 25 people per day. The resources available to Group B systems stands in stark contrast to the resources often available to larger water systems. This program aims to address this disparity by funding water testing and providing access to alternative sources of clean drinking water.

Due to lack of communication or no drinking water sampling, individual well owners and Group B systems in areas of Washington State may not know their drinking water is contaminated. It may also be a financial hardship to sample drinking water and to acquire filters to address specific drinking water contamination once it has been identified.

Activities funded through the ADWP may include water quality sampling, supplying alternative water, and provisioning treatment units to allow for drinking and cooking. This is an opportunity for communities to receive support to address impacts to drinking water. The ADWP will provide support for private and Group B well users and associated communities impacted by regional and specific contamination events, focusing on immediate health impacts from coliform and nitrate contamination, long-term health impacts, and ongoing health impacts from contaminants including but not limited to PFAS, nitrate, industrial chemicals, arsenic, and uranium.

In the first year of the ADWP, tribes, local health jurisdictions (LHJ), non-profits and other community organizations were eligible to apply for funding. Contracts were ultimately awarded to fund LHJ services and programs to address drinking water contamination throughout Eastern Washington. Negative health impacts due to water contamination by PFAS, nitrates, and other harmful substances are described below.

Currently, PFAS exposure is being studied. Scientists are learning from toxicology testing in laboratory animals that higher exposure to certain PFAS may lead to increased cholesterol levels, decreased birth weights, decreased immune response to vaccines, changes in liver enzymes that indicate liver damage, increased risk of blood pressure problems during pregnancy, increased risk of thyroid disease, and increased risk of testicular and kidney cancer.^{1,2}

¹ ATSDR PFAS Health effects (2024) - <https://www.atsdr.cdc.gov/pfas/health-effects/index.html>

² National Academies Sciences Engineering and Medicine (NASEM) 2022
<https://nap.nationalacademies.org/resource/26156/PFAS%20Guidance%20Highlights.pdf>

Nitrate contamination can make some individuals more susceptible to health problems if they have certain health conditions.^{3,4} Some studies have found an increased risk of miscarriage or birth defects from drinking water contaminated with nitrates. Ingesting high levels of nitrate reduces the ability of red blood cells to carry oxygen. Because pregnancy increases the oxygen demand of the body, pregnant individuals are at increased risk for methemoglobinemia, a rare disorder (sometimes called “blue baby syndrome”) that limits how blood cells deliver oxygen to cells and tissues. The red blood cells rapidly return to normal in most adults and children, but not in babies. Babies who drink formula mixed with water containing high levels of nitrate (or eat foods made with nitrate-contaminated water) may develop blue baby syndrome.

Additional health conditions that increase the risk for methemoglobinemia in adults are low levels of stomach acids, anemia, cardiovascular disease, lung disease, acidosis, or sepsis, a genetic condition such as reduced NADH diaphorase, cytochrome b5 reductase, pyruvate kinase, methemoglobin reductase, and/or glucose-6-phosphate dehydrogenase. Individuals exposed to arsenic over a long period of time can include diseases that affect the cardiovascular system, kidneys, skin, nervous system, or lead to various forms of cancer.^{5,6}

Individuals exposed to uranium at elevated levels over many years may have an increased risk of kidney damage or getting cancer.^{7,8,9}

Section 2: Identify Overburdened Communities and Vulnerable Populations

1. Identify the geographic area(s) where there may be environmental and health impacts as a result of the agency action.

For the first year of funding availability, four local health jurisdictions applied and were awarded funding. These LHJs and the geographies they focused on within the counties they serve are detailed below.

Benton-Franklin Health District (BFHD)

Figure 1 below shows Nitrate Risk and Social Vulnerability in the central-southern region of Washington. This map combines the Nitrate Priority Areas of Benton and Franklin counties overlaid with the Center for Disease Control’s [2020 WA Social Vulnerability Index](#) (SVI), combined with the primary residences of BFHD Women Infant and Children (WIC) clientele. The data presented show that the majority of BFHD nitrate priority areas overlap with areas of high social vulnerability and that many people who receive BFHD services live within these zones.

³ ATSDR 2017- <https://www.atsdr.cdc.gov/toxfaqs/tfacts204.pdf>;

⁴ Ward et al. (2018) Drinking Water Nitrate and Human Health: An updated Review, Int J Environ Res Public Health. 15(7): 1557 <https://pubmed.ncbi.nlm.nih.gov/30041450/>

⁵ [Arsenic - World Health Organization \(WHO\)](#)

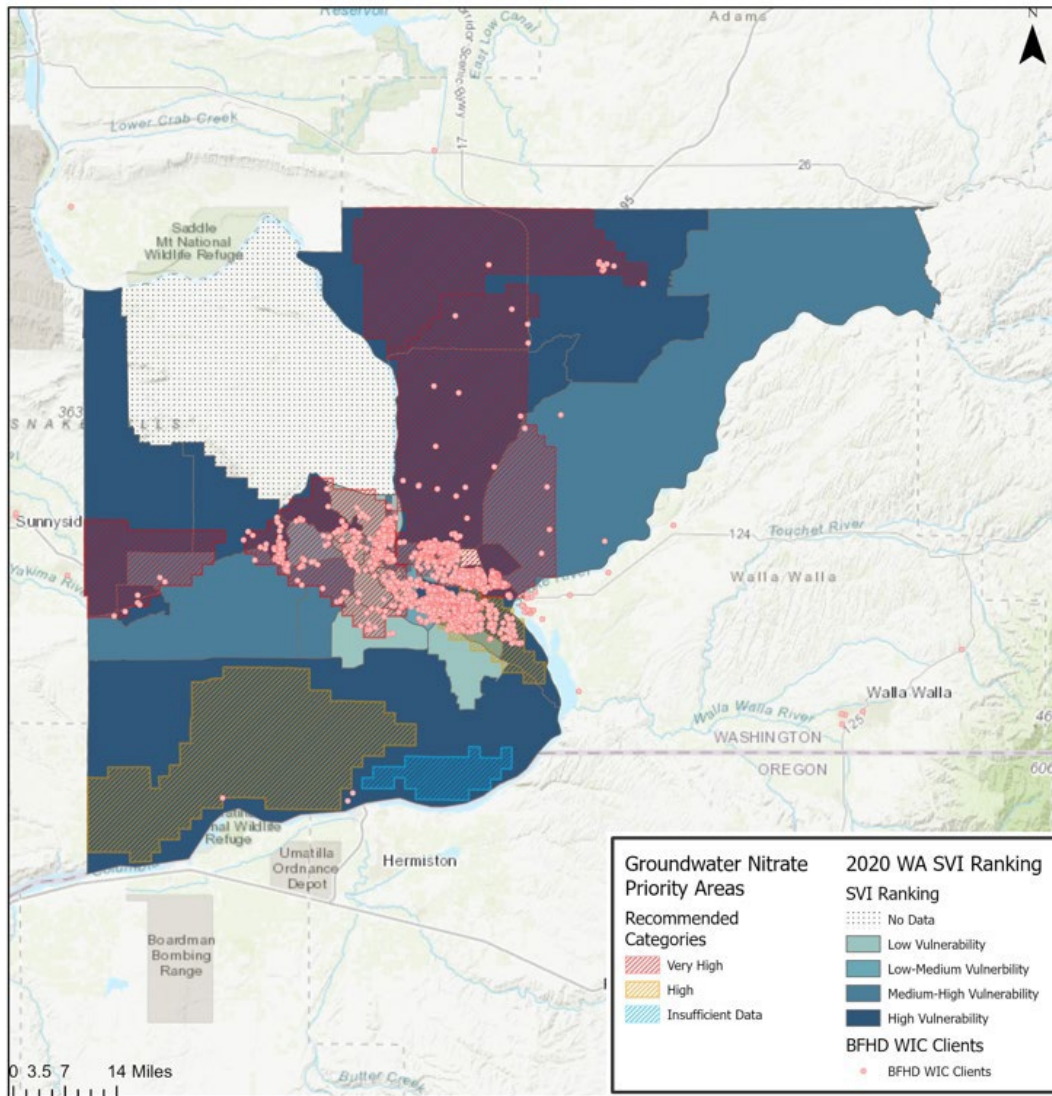
⁶ [ATSDR Arsenic ToxFAQs](#)

⁷ ATSDR factsheet (2014) <https://wwwn.cdc.gov/TSP/PHS/PHS.aspx?phsid=438&toxid=77>

⁸ EPA- <https://www.epa.gov/navajo-nation-uranium-cleanup/health-effects-uranium>

⁹ Ma et al (2020) Emerging health risks and underlying toxicological mechanisms of uranium contamination: Lessons from the past two decades. Environment International. Volume 145, P 106107 <https://www.sciencedirect.com/science/article/pii/S0160412020320626>

The DOH and BFHD staff focused on the SVI in the nitrate priority areas to provide educational materials about potential contamination and options for testing and remediation. The objective is to assure those most susceptible to the health effects of nitrates, primarily infants and pregnant mothers, have access to safe drinking water. In addition to financial barriers to managing or understanding nitrates, communities and populations facing health and economic disparities may struggle to navigate complex health systems and utilities systems effectively. They may not be aware they need to seek out nitrate testing services, let alone how to do so. The project aims to provide educational materials and resources to those clients directly and options for immediate access to safe drinking water.



Data: Washington Groundwater Nitrate Priority Areas, WA Dept. of Ecology. Washington SVI Rankings, Centers for Disease Control and Prevention/ Agency for Toxic Substances and Disease Registry/ Geospatial Research, Analysis, and Services Program. CDC/ATSDR Social Vulnerability Index 2020 Database WA. BFHD WIC Clients. Benton-Franklin Health District. Base Map: Sources: Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, and the GIS User Community

Figure 1. Map of Benton-Franklin Health District nitrate priority areas (in pink, yellow, and blue) overlaid with 2020 Social Vulnerability Rank (in shades of blue)

Chelan-Douglas Health District (CDHD)

Within the CDHD project area, outreach about groundwater contamination is taking place in East Wenatchee (98802), Trinidad (98848), Rock Island (98850), Orondo (98843), Waterville (98858), and Bridgeport (98813). Figure 2 depicts these zip codes and cities in relation to the CDHD service area and mapped Overburdened Communities of Washington State.

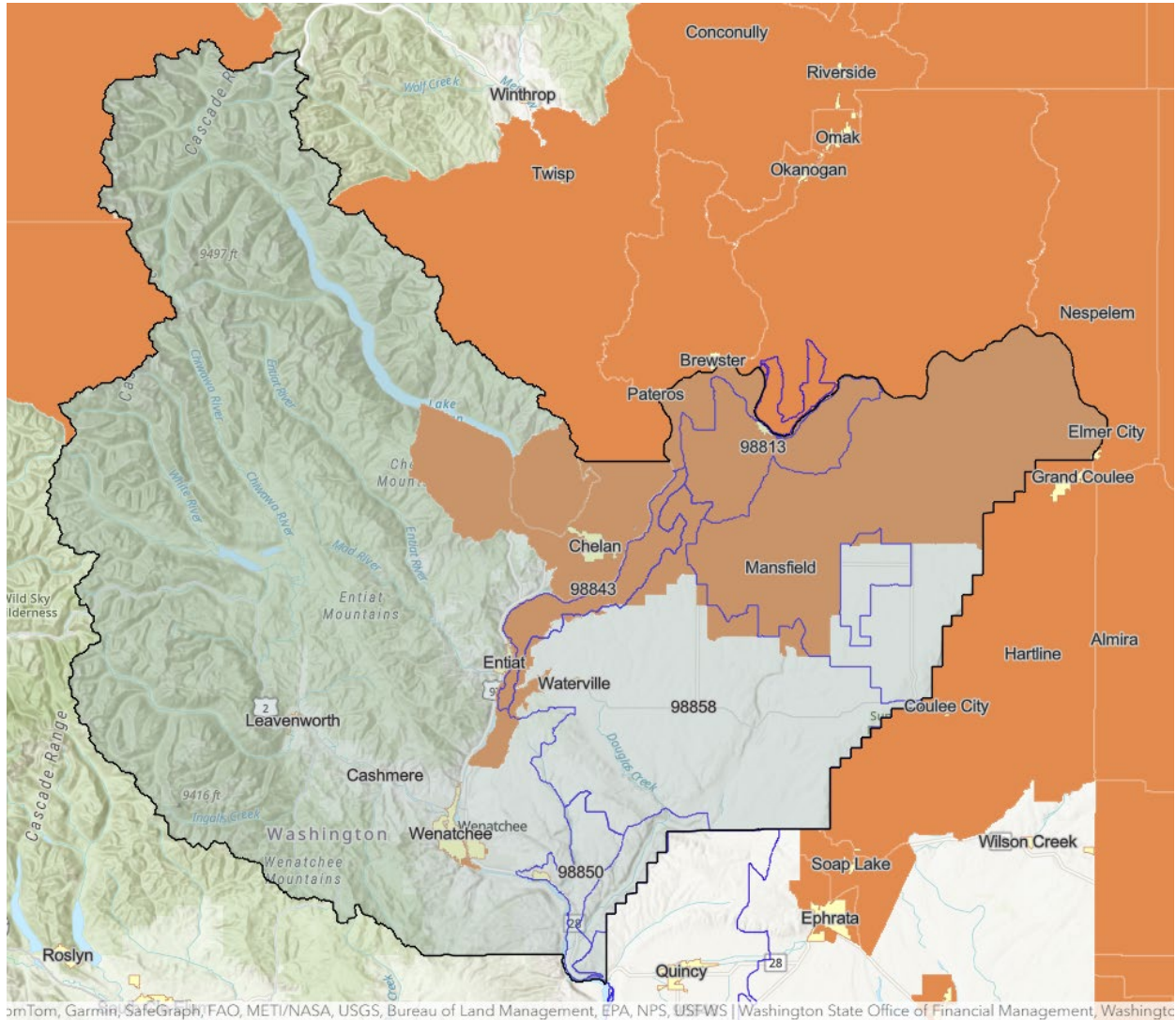


Figure 2. Map of Chelan-Douglas Health District boundary (black), area of CDHD overlap with Overburdened Communities (brown), and Cities-Zip Codes for outreach about groundwater contamination.

Yakima Health District (YHD)

The PFAS Water Sampling and Filter Project is taking place in East Selah, a community facing several challenges. The East Selah neighborhood meets the statutory definition of an overburdened community or vulnerable population due to various factors, including socioeconomic disparities, language barriers, and limited access to healthcare. East Selah ranks at an 8 out of 10 overall on the [WTN EHD map](#) and 10 out of 10 for [Socioeconomic Factors](#). Many of the residents of East Selah may not have the financial

means to install or maintain adequate treatment for PFAS. The community ranks at a 6-7 out of 10 for [minority/race/ethnicity](#) on the EHD Map.

Yakima County - Public Services

Yakima County, in partnership with DOH and the YHD, is responsible for implementation of the Lower [Yakima Valley Groundwater Management Area](#) (LYV GWMA) [Safe Drinking Water Initiative](#). The LYV GWMA is located within the southeastern portion of the lower Yakima valley. Its boundary extends southeast from Union Gap to County Line Road, minus the Yakama Nation (273.7 sq mi.). All households within the project area that are served by a private or shared well (approximately 5600 households) are eligible to participate. Zip codes include 98930 (Grandview), 98944 (Sunnyside), 98938 (Outlook), 98953 (Zillah), 98932 (Granger), 98921 (Buena), and sections of 98951 (Sawyer, Donald), and 99350 (Prosser, east of County Line Road).

The GWMA is divided into 7 implementation phases, based on geography (see Figure 3). Each month, homeowners in a specific targeted phase receive a mailing from the county with the information described above. More information is available on the [LYVGMA website](#). Yakima County only used money from ADWP until June 30, 2024.

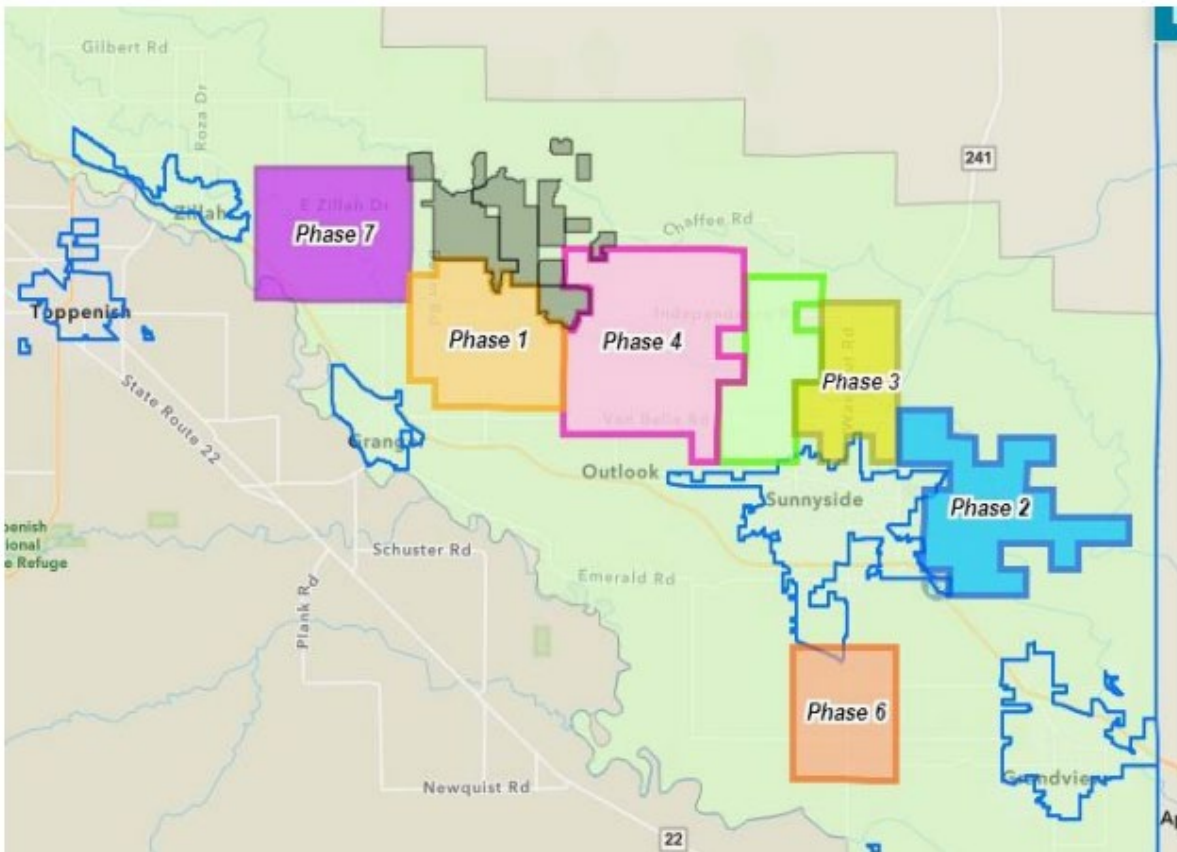


Figure 3. Map of Lower Yakima County Groundwater Management Area and program implementation phases.

2. Describe overburdened communities and vulnerable populations identified within the geographic area(s) where there may be environmental and health impacts as a result of the agency action. For a definition of ‘overburdened communities’ see [RCW 70A.02.010\(11\)](#).

Benton-Franklin Health District

Figure 4, below, shows the Benton-Franklin Health District area (black outline) in relationship to [Overburdened Communities of Washington State](#), as defined in May 2024. The brown area shows direct overlap between the BFHD and OBC.

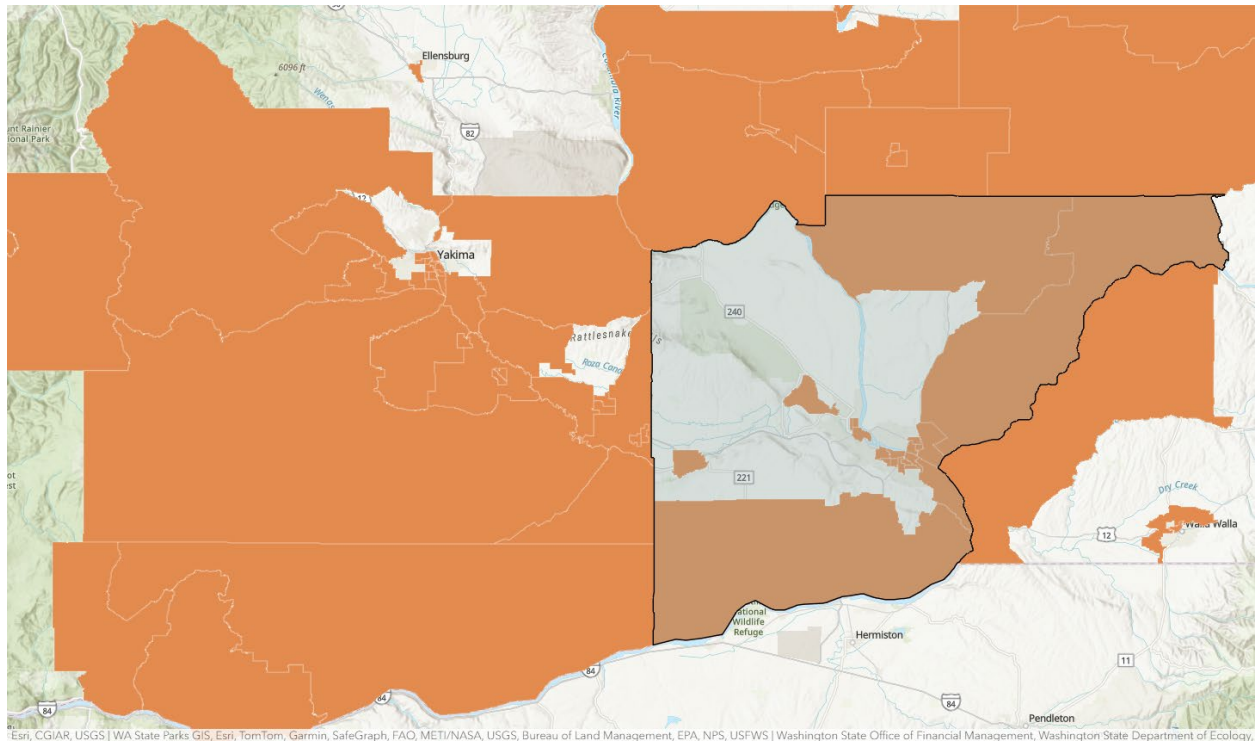


Figure 4. Map of Overburdened Communities (orange) and overlap with areas served by the BFHD (brown area)

The BFHD project focused on high [2020 Social Vulnerability Rank](#) for people and communities served by the LHJ. Partnerships were created with existing programs, described below, to maximize the potential for connection with members of vulnerable populations and overburdened communities served by the BFHD. Women, Infants & Children (WIC), Nurse Family Partnership (NFP), and First Steps are community health programs aimed at providing a variety of health education, nutrition support, resources, and connection services for eligible residents. Their client-base primarily includes pregnant and breastfeeding women, infants, and children. Further, eligibility for these programs is screened based on household size and income, as well as various other factors indicative of support needs, like enrollment in Medicaid, Temporary Assistance for Needy Families (TANF), Basic Food, foster care, or military status. WIC clients are below 185% of the federal poverty level and NFP clients are Medicaid eligible. This client base presents an audience that is both at high-risk of poor health effects from nitrates and facing socioeconomic disparities.

Allocating these funds to collaborate with other Health District programs will not only serve immediate objectives but also contribute to the enhancement and promotion of other essential public health programs. If the program's implementation proves successful and, pending future funding opportunities, BFHD could explore expansion of this initiative through partnerships with other community programs, or Health District programs that serve populations susceptible to nitrates, such as the Healthy Aging Program.

Chelan-Douglas Health District

The CDHD is shown outlined in black in Figure 5, below. The area in brown shows the direct overlap between the area served by the CDHC and [Overburdened Communities of Washington State](#). The city of Bridgeport in Douglas County is mapped as an OBC within the CDHD. One system in the city of Bridgeport had arsenic and nitrate over the MCL. The city of Bridgeport provided a public notice and health data information for arsenic and nitrate in English and Spanish. This is a community that is vulnerable due to a language barrier, lack of funding and technical capacity. Residents simply don't have the means to purchase or maintain a treatment system nor to find an additional clean water source. As in the BFHD, CDHD is leading community engagement and using a community survey as the basis for additional follow-up.

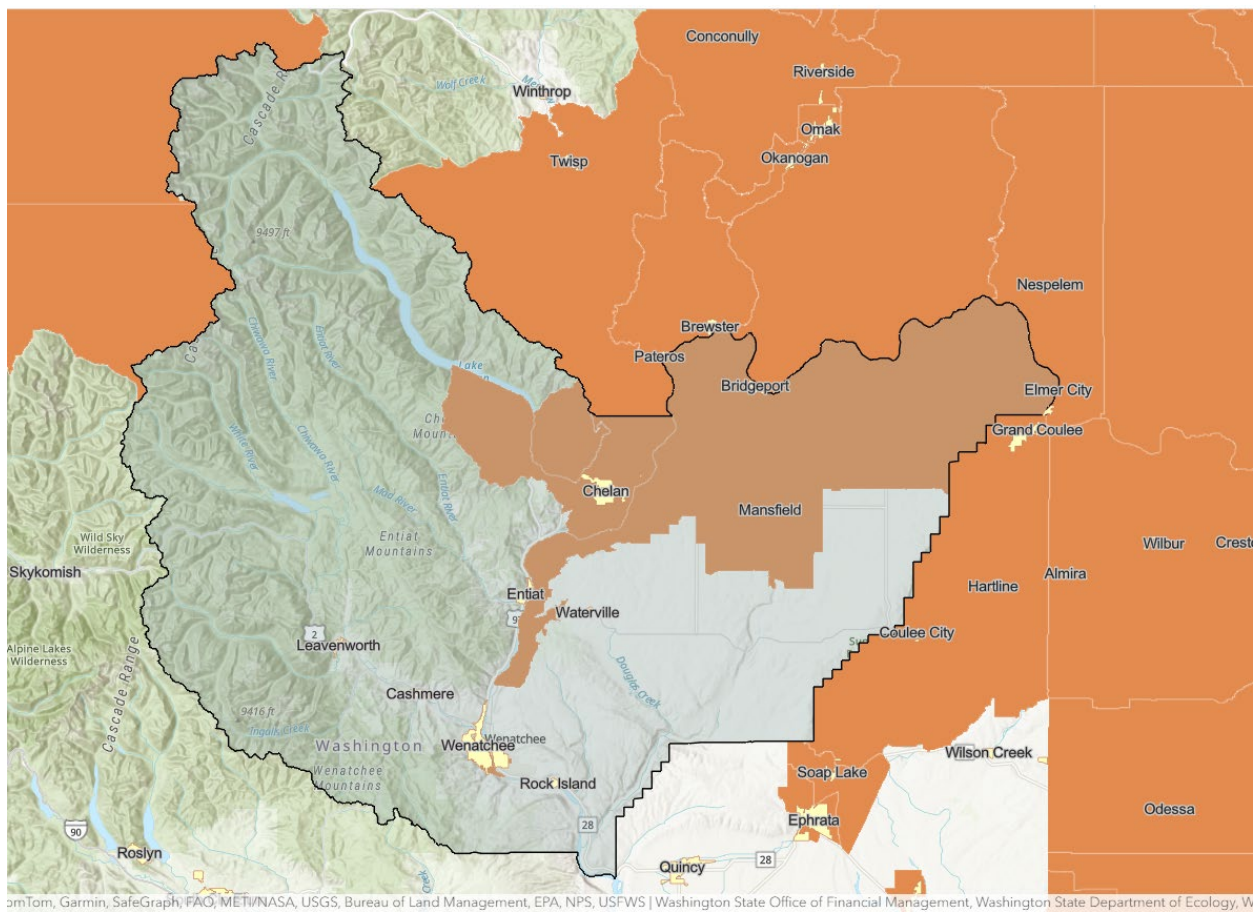


Figure 5. Map of Overburdened Communities (orange) and overlap (brown) with areas served by the CDHD.

Yakima Health District and Yakima County - Public Services

As noted previously, Yakima County oversees implementation of the Safe Drinking Water program in the Lower Yakima Valley, an area of focus for ambient groundwater monitoring due to nitrate contamination.¹⁰ The LYV GWMA is located entirely within the YHD service area. Figure 6 shows there is direct overlap among the YHD service area, the LYVGWMA and [Overburdened Communities of Washington State](#). As mentioned before, East Selah meets the statutory definition of an overburdened community due to various factors, including socioeconomic disparities, language barriers, and limited access to healthcare. East Selah also ranks 8 out of 10 overall on the [WTN EHD map](#) and 10 out of 10 overall for [Socioeconomic Factors](#). Many of the residents of East Selah may not have the financial means to install or maintain adequate treatment for PFAS. The community ranks at a 6-7 out of 10 for [minority/race/ethnicity](#) on the EHD map.

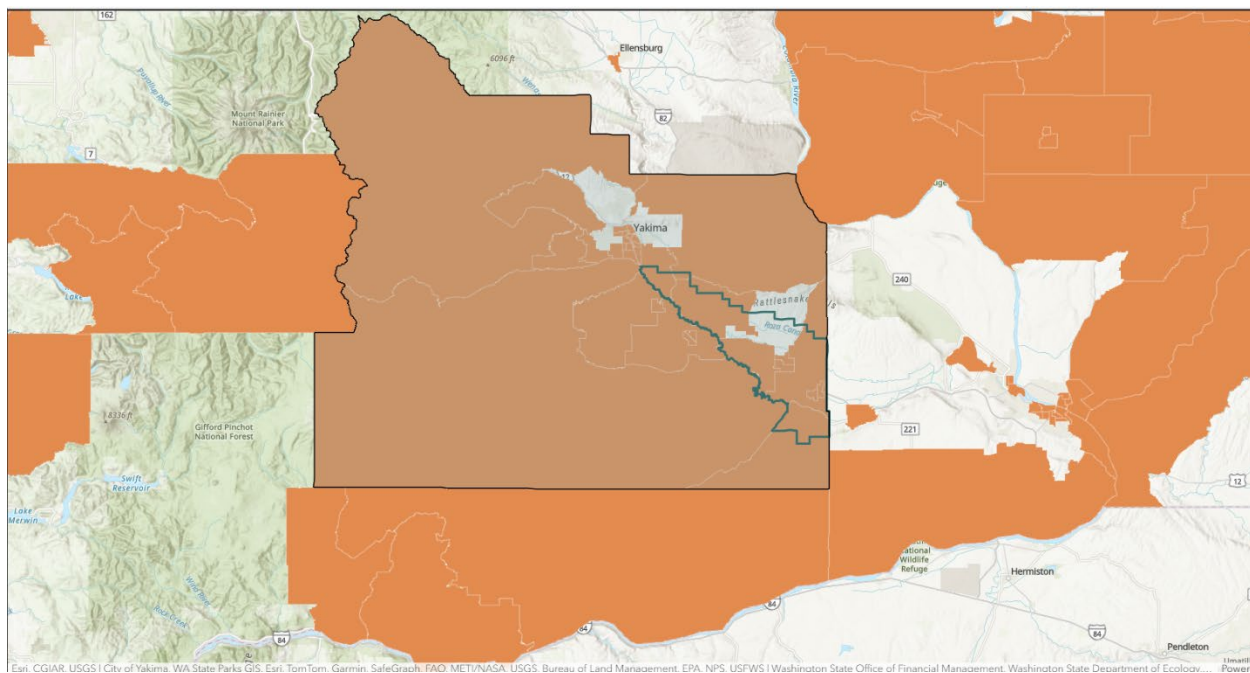


Figure 6. Map depicting Overburdened Communities in Washington (May 2024; orange) and direct overlap with the YHD project area (brown) and the LYVGWMA, contained within the YHD.

The nitrate treatment project in East Selah is focused on addressing nitrate contamination in LYV, which is recognized as an EJ Community by the Environmental Protection Agency.^{11,12} This designation reflects a multitude of challenges, including socioeconomic disparities, language barriers, and limited access to healthcare.¹³ Residents in both Selah and the LYV area lack the resources to test their water or install sufficient treatment systems, underscoring the urgent need for intervention and support.

¹⁰ [Eyes Underground: Lower Yakima Valley \(arcgis.com\)](#)

¹¹ [Evaluation of Risk from Exposure to Nitrate Contamination in the Groundwater of the Lower Yakima Valley, Washington](#)

¹² [EJScreen \(epa.gov\)](#)

¹³ [Washington Environmental Health Disparities Map | Washington State Department of Health](#)

Section 3: Community Engagement Summary

1. Summarize engagement with people from overburdened communities and vulnerable populations to date.

Benton-Franklin Health District

As noted above, DOH did not engage directly with overburdened communities and vulnerable populations. However, communication about this project has been handled on a 1:1 basis by the health district with clients of Women Infants and Children (WIC) and Nurse Family Partnerships (NFP), as the project is exclusively available to that audience at this time. Discussions between BFHD staff and community members occur during their routine clinic appointments.

Chelan-Douglas Health District

The CDHD staff has connected with community members who may be in need of drinking water assistance, using a variety of methods. A summary of engagement is presented below.

- 54 letters were sent by the CDHD to Douglas County Group B Water systems on or by January 23, 2024. Six of these were returned as undeliverable.
- Phone numbers listed on Water Facilities Inventory (WFI) forms were called. Many of these were no longer active numbers but a few were.
- To date, conducted 13 site visits with approximately another 8 scheduled to be completed by June 30, 2024.
- Several of these systems appear to be farmworker housing or owned by an agriculture business. CDHD staff will reach out to these through corporate offices in May.
- 4 systems found to be transitioning to a Group A public water system.
- One system so far needs expansion approval over 9 connections.

Yakima Health District

For the PFAS Water Sampling and Filter Project, YHD staff will connect with households within the sampling area through mail, online platforms, and community leaders. Additionally, project information will be shared with community partners and local businesses. Since the initiation of the LYV Drinking Water Pilot Project in March 2022, YHD has maintained consistent engagement with participating households via telephone, mail, and community events. Communication has involved the coordination of bottled water deliveries and updates on project timelines.

Yakima County - Public Services

- As of April 2024, the YHD mailed or hand delivered direct mail [packets](#) to 1,066 households; Follow-up phone calls and/or emails are attempted to nonresponsive households. If contact cannot be made, the residence is moved to the door-to-door outreach list for a final contact attempt. Door to door outreach to approximately 200 homes was launched in March. Over half could not be reached due to physical barriers (no trespassing posted, gates, unsafe conditions) or no one answered. [Educational packets](#) were left with residents and at non-responsive households.

- [Bilingual news releases](#) were issued via the Washington Department of Health adwp@doh.wa.gov listserv
 - [Letters to local newspaper editors](#) from Yakima County Commissioner Linde were sent to English/Spanish news outlets:
 - [Paid advertising](#) and radio program participation were utilized
 - [Flyers and notices](#) were issued to multiple community partners
2. Summarize information received from people from overburdened communities and vulnerable populations.

Benton-Franklin Health District

The BFHD responded to a questionnaire in spring 2024 stating, “We began the implementation phase of this project at the beginning of April 2024”. Therefore, the DOH has not yet received information about input from OBC and vulnerable populations in this project areas. Moving forward, this information will be used to assess implementation of the ADWP and how direct communication between BFHD staff and community members is being evaluated to refine and improve the program.

Chelan-Douglas Health District

Engagement by CDHD staff with members of OBC and vulnerable populations is ongoing. Feedback that CDHD staff receive will be evaluated and used by DOH to inform management of the ADWP.

Yakima Health District

Through prior community engagement efforts in Selah concerning PFAS contamination near the Yakima Training Center, YHD staff have gathered feedback from residents expressing interest in further PFAS testing and resources for households beyond the Training Center's study area. Additionally, information to households in the Lower Yakima Valley Drinking Water Pilot Project has been well received, with households showing a strong interest in obtaining treatment systems to address nitrate contamination in their drinking water.

Yakima County - Public Services

Generally, residents are receptive to the information, and over half agree to certified well testing and the well assessment survey. Many have heard of nitrates in groundwater, but don't believe it rises to a risk they need to address. Many homeowners already buy bottled water for drinking and weren't interested in signing up for this service. Renters are inclined to sign up for bottled water. While many qualifying households' express interest in a Reverse Osmosis filter system, moving them “the last mile,” (to sign an application and agree to system installation) is a challenge. An example of a challenge is the lack of free, ongoing Reverse Osmosis filter maintenance. Some people said that they preferred not to be bothered and requested to opt out of future outreach.

3. Summarize how information received from people from overburdened communities and vulnerable populations informed decision-making about this action.

The DOH initially proposed to create this program due to information received directly and indirectly from communities about the need to have support for individual homeowners that had contaminated wells. Through the program, DOH is able to provide interim support to ensure safe drinking water to these homeowners while communities work on developing long-term solutions.

DOH did not directly communicate with individuals from overburdened communities and vulnerable populations. The health districts awarded funds engaged with individuals and began providing the approved services. The health districts used the information they received to adjust their actions, when possible, to most effectively provide the approved services to the individuals and homes.

As the health districts continue their work and engagement with the individuals, they will be able to provide additional detail related to any decision-making made in response to received information.

Section 4: Tribal Engagement and Consultation

1. Summarize tribal engagements and invitations for tribal consultation to date.

During program development, Holly Myers, Director of the DOH Office of Drinking Water met with tribal leaders of the Yakama Nation. The DOH is working to expand its support efforts onto reserved Tribal lands in the area. To date, ADWP staff has not had any additional engagement with Tribes nor have any requests been received for consultation.

2. Describe likely impacts to tribal rights and resources associated with this action.

No negative environmental or health impacts to tribal rights, sovereignty, or resources are expected to result from the ADWP. There are potential drinking water contamination issues on tribal lands, and positive environmental and health benefits are expected to result from any future engagement with the Yakama Nation or other tribal members who may reside in different parts of the region (e.g., members of the Confederated Bands and Tribes of the Colville Reservation).

3. Describe any plans for ongoing and/or future tribal consultation.

Tribes will continue to be eligible to apply for ADWP resources. If additional funding is provided, DOH will continue its tribal engagement and collaboration efforts through a Dear Tribal Leader Letter and other forums if and as requested by tribes.

Section 5: Allocate Funding to Provide Benefits for Overburdened Communities and Vulnerable populations

1. How did you allocate funding with the intention of benefitting overburdened communities, vulnerable populations, and/or tribes? (e.g., reducing or eliminating environmental harms, creating community and population resilience, improving the quality of life of overburdened communities and vulnerable populations) Describe your decision-making process.

At the start of ADWP development, DOH used community input and other available and accredited information about contaminants, such as mapped areas of high nitrates in groundwater, and partnerships with Local Health Jurisdictions to best target areas and community members that were likely most in need of support. The figures shared previously show how the ADWP ‘project areas’ (e.g., health districts) overlap with [Overburdened Communities in Washington](#). Moving forward, DOH can use additional layering of information and feedback from LHJs, which was incomplete at the time of this report, to best direct ADWP resources and messaging to tribal governments and members of overburdened communities and vulnerable populations. Reporting on expenditures by each LHJ is expected to be available in the future to better report on the HEAL goal of 40% going to benefit OBCVP.

2. If applicable, did you consider a broad scope of grants and contracting opportunities that effectuate environmental justice principles for your program? If so, please indicate which of the below options outlined in statute you incorporated into your program:

- Community grants to monitor pollution.
- Grants focused on building capacity and providing training for community scientists and other staff.
- Making technical assistance available for communities that may be new to receiving agency grant funding; and
- Education and work readiness youth programs focused on infrastructure or utility-related internships to develop career paths and leadership skills for youth
- Other:

There was very specific proviso language in [ESSB 5187](#), passed during the 2023 Washington State Legislative Session: “(54) \$813,000 of the general fund—state appropriation for fiscal year 2024 and \$811,000 of the general fund—state appropriation for fiscal year 2025 are provided solely for the department to assist with access to safe drinking water for homes and businesses with individual wells or small water systems that are contaminated.”

As such, DOH was unable to consider a broader scope of grant and contracting opportunities beyond what was specified in statute. However, this program does help communities monitor contaminants (pollution) in their drinking water.

3. What proportion of funds were intended to benefit overburdened communities, vulnerable populations, and tribes? Please provide a dollar amount in addition to a percentage of total funds allocated.

The state legislature allocated the Office of Drinking Water ADWP \$1,624,000 for the 2023-2025 biennium. For this first year, the DOH awarded four contracts totaling \$697,413; see Table 1, below.

Table 1. Alternative Drinking Water Program Funds

	Award
Benton-Franklin Health District	\$30,000
Chelan-Douglas Health District	\$24,732
Yakima Health District	\$297,099
Yakima County - Public Services	\$345,582

Because DOH used input from communities, existing environmental and social health information, and collaborated with LHJs on the development and implementation of the ADWP, all of the funds awarded went to LHJs or Yakima County. Within the CDHD project area, the city of Bridgeport in Douglas County, which is mapped as an Overburdened Community of WA, received assistance. The figures presented previously clearly show that due to the combination of local health jurisdiction boundaries and mapped overburdened communities of Washington state. Therefore, logically, most if not all ADWP resources provided to contract recipients went to benefit associated overburdened communities, and vulnerable population members in need of alternative drinking water free from contamination. The exception may be within the CDHD, as some initial outreach may have occurred in zip codes that do not fall within a mapped OBC. Feedback from the CDHD will be compiled and used with other information to best target all future ADWP resources.

If you determined that it was not practicable to take any of the actions under RCW 70A.02.080, please explain why.

Not applicable.