Oregon Department of Environmental Quality

Drinking Water Assessment for the Walla Walla Agricultural Water Quality Management Area

December 2023

Overview

- Public drinking water systems in the Walla Walla Agricultural Water Quality Management Area (Ag WQMA) utilize groundwater sources to serve approximately 10,039 persons regularly.
- One public water system has had a recent (within the past ten years) Maximum Contaminant Level (MCL) exceedance for *E. coli* bacteria. This was related to cross-contamination from a septic tank.
- Two public water systems have recent alerts for elevated [≥ 5 milligrams per liter (mg/L)] nitrate concentrations. None of the public water systems have recent MCL exceedances for nitrate.
- There are 47 records of private domestic well sample results submitted to Oregon Health Authority's (OHA's) Real Estate Transaction program in the area. Of these, four measured nitrate concentrations above 5 mg/L.
- Contaminants in water supplies potentially related to agriculture occur near human populations, agriculture land uses, and aquifers susceptible to contaminant infiltration.
- Department of Environmental Quality (DEQ) recommends Oregon Department of Agriculture (ODA) work with the appropriate Soil and Water Conservation Districts (SWCDs) to implement best management practices (BMPs) in and around private domestic and public drinking water wells to reduce high nitrate levels. BMPs to reduce nitrate levels are beneficial in helping communities reduce long term costs associated with treatment, operations, maintenance, and sustainability.
- DEQ recommends public water systems utilize Source Water Protection Practices to prevent potential contamination and increase resiliency.
- Resources for addressing risks to drinking water supplies can be found in the Groundwater Resource Guide.

Water Use

There are 19 public water systems which obtain drinking water from groundwater sources in the Walla Walla Agricultural Water Quality Management Area (Ag WQMA). Drinking water is an important beneficial use under the federal Clean Water Act (CWA). When CWA standards are met in source waters, a drinking water treatment plant using standard technology can generate water meeting the Safe Drinking Water Act standards. **Figure 1** demonstrates the drinking water source areas of the public water systems within the Walla Walla Ag WQMA. A drinking water source area is defined as the area of land which contributes water to the drinking water supply and where potential contamination from human activities or natural sources may pose a threat to the water quality. Much of the land area in the Walla Walla Ag WQMA contributes to the drinking water source area for the City of Hermiston's Columbia River surface water intake and to the City of Walla Walla, Washington's Mill Creek surface water intake. These two community water systems serve over 50,000 people. The portion of the Ag WQMA within Walla Walla's drinking water source area is primarily United States Forest Service (USFS) lands

and closed to public use under an agreement between the city's water division and the USFS. See **Table 1** below for a list of public water systems, their classifications, sources and activity status, and populations served.

Bacteria

E. coli bacteria alerts for public water systems are generated by the Oregon Health Authority (OHA) when detected in sample results. Within the Ag WQMA, one public water system has had a recent alert for detections of *E. coli* (**see Table 1**). This detection was investigated by OHA and determined to be caused by cross-contamination from a broken water pipe that was located near a septic tank undergoing repairs. Thus, the Walla Walla Ag WQMA does not appear to have *E.coli* contamination issues resulting from agricultural practices. Several of the water systems have had recent alerts for total coliform and no violations.

Nitrates

An alert for elevated nitrate concentrations are generated by the OHA when nitrate sample results for public water systems exceed 5 mg/L. Within the Ag WQMA, one public water system has had an alert for elevated nitrate results in the past ten years. The drinking water MCL for nitrate is 10 mg/L. None of the public water systems in the Ag WQMA have exceeded the MCL for nitrate in the past ten years. In addition, there are numerous private groundwater wells for domestic use in the Ag WQMA. The Domestic Well Testing Act database includes submitted records of real estate transaction testing data from 1989 to 2018. Within the Walla Walla Ag WQMA, there are 47 records of private domestic well samples. Of these 47 records, 43 measured nitrate concentrations below five mg/L; four measured nitrate concentrations above five mg/L. For wells testing at elevated concentrations, attention may be needed on well depth, well construction, nitrate leaching potential of local soils, and proximity to nutrient sources such as septic systems, fertilizer use sites, and high concentrations of livestock. Agricultural land uses (diverse irrigated and non-irrigated crops and livestock) represent over 65% of management land area and are present near many of the public water system wells.

The locations of nitrate contamination of private domestic wells (see **Figure 1**) are within agricultural land use. Data for nitrate leaching potential in soils show that the area is predominantly a mix of moderate, moderately high, and high leaching potential, according to data from the Natural Resources Conservation Service (NRCS). OHA rated contaminant susceptibility in public water system wells based on Source Water Assessments, aquifer characteristics, and well locations and construction. The area has a mix of moderate and high susceptibility wells. Measures to reduce leachable nitrate in soils and managing irrigation to prevent leaching would reduce risk to groundwater sources of drinking water.

Other

DEQ specifically addresses drinking water issues identified for public water systems. A query of Oregon Water Resources Department's (OWRD's) water rights database for private domestic points of diversion (using a threshold of 0.005 cubic feet per second for domestic surface water rights that are household use only, not irrigation) identified 20 private domestic surface water rights in the Walla Walla Ag WQMA (see **Figure 1**).

Contact

For more information, please contact the Drinking Water Protection Program or send an email to drinkingwater.protection@deq.oregon.gov.

Non-discrimination statement

DEQ does not discriminate on the basis of race, color, national origin, disability, age or sex in administration of its programs or activities. Visit DEQ's Civil Rights and Environmental Justice page.

Table 1. Public Water Systems in the Walla Walla Ag WQMA

Note: This table does not include public water systems which purchase drinking water from these water systems but does include the population served by wholesale customers in the Total Population.

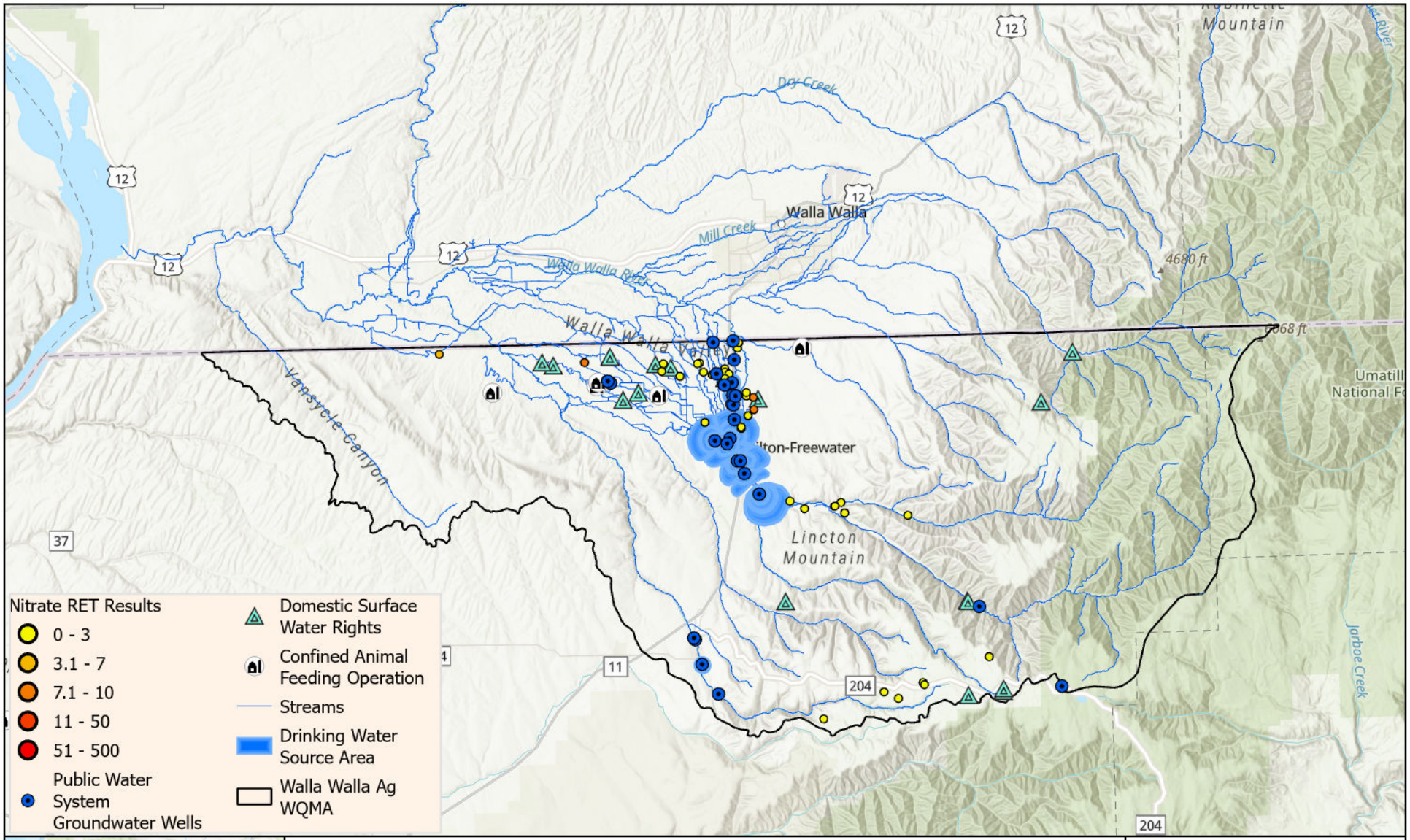
PWS ID	Public Water System Name	Drinking Water Source	System Type	Population	MCL Exceedance
5944	BRITTANY FARMING CO	Groundwater	Oregon Very Small	24	
6152	CLAY IN MOTION	Groundwater	Transient Non-community	100	E. Coli - alert
90597	FERNDALE ELEMENTARY	Groundwater	Non-transient Non-community	250	
95484	FIRST STOP MART	Groundwater	Transient Non-community	550	
92075	M-F DRIVE IN THEATRE	Groundwater	Transient Non-community	50	
523	GREEN ACRES MHP - UMATILLA CO	Groundwater	Community	200	
91236	MEADOWOOD SPRINGS SPEECH CAMP	Groundwater	Oregon Very Small	10	
1393	MILL CREEK GLEN	Groundwater	Oregon Very Small	20	
522	MILTON-FREEWATER, CITY OF	Groundwater	Community	7145	
94985	MILTON-STATELINE SDA SCHOOL	Groundwater	Non-transient Non-community	100	
91243	KELLYS	Groundwater	Transient Non-community	50	
90245	TOLLGATE CROSSING	Groundwater	Transient Non-community	100	
5748	UMATILLA CO PKS HARRIS PARK	Groundwater	Transient Non-community	25	
90234	SMITH FROZEN FOODS INC	Groundwater	Non-transient Non-community	250	
92752	USFS TARGET MEADOWS CG	Groundwater	Oregon Very Small	15	
525	VILLADOM MOBILE HOME PARK	Groundwater	Community	96	
521	VINCENT WATER COMPANY	Groundwater	Community	90	
94531	WAYSIDE MARKET	Groundwater	Transient Non-community	250	
949	WESTON, CITY OF	Groundwater	Community	714	

System Type: C - "Community Water System (C)" means a public water system that has 15 or more service connections used by year-round residents or that regularly serves 25 or more year-round residents.

NTNC - "Non-Transient Non-Community Water System (NTNC)" means a public water system that is not a Community Water System and that regularly serves at least 25 of the same persons over 6 months per year.

NC - "Transient Non-Community Water System (NC)" means a public water system that serves a transient population of 25 or more persons.

NP - "State Regulated Water System (NP)" means a public water system, which serves 4 to 14 service connections or serves 10 to 24 people. Monitoring requirements for these systems are the same as those for Transient Non-Community water systems.



Drinking Water Source Areas in the Walla Walla Agricultural Water Quality Management Area

Figure 1

County of Crook, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, Esri, NASA, NGA, USGS, Oregon State Parks, State of Oregon GEO, WA State Parks GIS, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, Esri, USGS

Drinking Water Protection Program
State of Oregon
DEQ

Oregon Health Authority