Oregon Department of Environmental Quality

Drinking Water Assessment for the Upper Grande Ronde Water Quality Management Area

April 2025

Overview

- There are 23 public drinking water systems in the Upper Grande Ronde Agricultural Water Quality Management Area which utilize groundwater and surface water sources to serve approximately 165,077 persons regularly.
- Five of the public water systems received alerts within the past ten years from the Oregon Health Authority for *E. coli* contamination.
- Two of the public water systems received alerts within the past ten years from the Oregon Health Authority for nitrate contamination.
- Contaminants in water supplies potentially related to agriculture occur near human populations, agricultural land uses, and aquifers susceptible to contaminant infiltration.
- DEQ recommends public water systems utilize Source Water Protection Practices to prevent potential contamination to drinking water sources and increase resiliency.
- Resources for addressing risks to drinking water supplies can be found in either the Groundwater Resource Guide or Surface Water Resource Guide.

Water use

There are 23 public water systems which obtain domestic drinking water from groundwater and surface water sources in the Upper Grande Ronde Agricultural Water Quality Management Area. Drinking water is an important beneficial use under the Clean Water Act. When Clean Water Act 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** shows the drinking water source areas of the public water systems within the Upper Grande Ronde Agricultural Water Quality Management Area. 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.

Of the 23 public water systems in the Upper Grande Ronde Agricultural Water Quality Management Area, nine are Community public water systems which use groundwater wells, springs, and surface water (groundwater under the influence of surface water is classified as a surface water source) intakes to serve approximately 50,420 people on a regular basis. There are three Non-Transient Non-Community workplace or school public water systems and eleven Transient Non-Community systems. See **Table 1** below for a list of public water systems, their classifications, primary source and activity status, and populations served.

The land uses within the Upper Grande Ronde Agricultural Water Quality Management Area are primarily United States Forest Service land and private rural land uses as well as some private industrial forests, private rural lands, and Bureau of Land Management property. Agricultural land uses (e.g. alfalfa, meadow hay, and

beef cattle) are present near public water system wells and springs in the area. Most agricultural land use in the Upper Grande Ronde Agricultural Water Quality Management Area is concentrated in the central to eastern portion of the region (**Figure 2**).

Bacteria

Total coliform bacteria alerts for public water systems are generated by Oregon Health Authority when their presence is detected in sample results. The maximum contaminant level goal for total coliform bacteria is zero. There are 21 public water systems that have recent alerts in the past ten years for total coliform. None of the public water systems received violations for exceeding the maximum contaminant level for total coliform bacteria within the past five years. A public water system will receive an MCL violation if total coliform is present in more than 5% of their routine samples taken each month. Additionally, a public water system will receive an MCL violation for total coliform bacteria if they fail to resample following a routine positive sample.

The Oregon Health Authority issues *E. coli* alerts for public water systems when the bacteria are detected in water samples. In the Upper Grande Ronde Agricultural Water Quality Management Area, five public water systems have received *E. coli* alerts in the past ten years. A system receives an MCL violation for *E. coli* when a routine sample tests positive for total coliforms and a follow-up sample is also positive for fecal coliform or *E. coli*. However, no MCL violations for *E. coli* have been issued to any public water systems in the area within the past five years.

Nitrates

An alert for elevated nitrate concentrations is generated by the Oregon Health Authority when nitrate sample results for public water systems exceed 5 mg/L. Within the Upper Grande Ronde Agricultural Water Quality Management Area, two of the public water systems had an alert for elevated nitrate results within the past ten years. None of the public water systems had MCL violations in the past five years for nitrate levels. The MCL for nitrate is 10 mg/L.

There are numerous private groundwater wells for domestic use within the Upper Grande Ronde Agricultural Water Quality Management Area. The Domestic Well Testing Act database includes submitted records of real estate transaction testing data from 1989 to 2018. There are 329 records of private domestic well samples within the Management Area. Of these 329 records, 185 measured nitrate concentrations ≥3 mg/L, 19 measured nitrate concentrations ≥5 mg/L, eight measured nitrate concentrations ≥7mg/L, and six of the records measured nitrate concentrations ≥10mg/L (**Figure 1**). For wells testing at elevated concentrations, attention to well depth, well construction, nitrate leaching potential of local soils, and proximity to nutrient sources such as septic systems, fertilizer use areas, and high concentrations of livestock should be considered when investigating the cause of nitrate contamination

Of the soils assessed in the Upper Grande Ronde Agricultural Water Quality Management Area, most have high nitrate leaching potential, according to the Natural Resources Conservation Service's (NRCS) National Cooperative Soil Survey (**Figure 3**). Nitrate leaching potential is influenced by the area's slope, precipitation, and land use. Nitrate from fertilizers and septic systems can readily penetrate aquifers used for drinking water when leaching potential is high. Additionally, bacteria removal through soil filtration may be less effective in sandy soils. Measures to reduce leachable nitrate in soils reduce risk to groundwater sources of drinking water. Refer to Section 5.0 - Pollutant Reduction Tools in the Groundwater Resource Guide to learn more about nitrate leachability and potential reduction strategies. However, more information is needed as most of the area has not been assessed by NRCS.

DEQ specifically addresses drinking water issues identified for public water systems. A query of the Oregon Water Resources Department'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 designated for household use only, not irrigation—identified 34 private domestic surface water rights in the Upper Grande Ronde Agricultural Water Quality Management Area (**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 Upper Grande Ronde Ag WQMA

Note: Table 1 does not include public water systems that purchase drinking water from these water systems.

PWS ID	Public Water System Name	Primary Drinking Water Source	System Type	Population	MCL Alerts
Surface Water (groundwater under the direct influence of surface water)					
4100453	City of La Grande	Groundwater	Community	13245	
Groundwater Systems					
4100915	UNION, CITY OF	Groundwater	Community	2638	
4101344	SUNDOWNER MOBILE HOME PARK	Groundwater	Community	3050	
4101375	SACAJAWEA MOBILE HOME PARK	Groundwater	Community	3079	
4101418	IMBLER, CITY OF	Groundwater	Community	3113	
4101486	OR YOUTH AUTHORITY - RIVER BEND	Groundwater	Non-Transient Non-Community	3203	
4190601	IMBLER HIGH/ELEMENTARY SD #11	Groundwater	Non-Transient Non-Community	4250	
4191074	OPRD CATHERINE CREEK SP-DAY USE	Groundwater	Transient Non-Community	4470	
4191075	OPRD HILGARD JUNCTION STATE PK	Groundwater	Transient Non-Community	4471	
4191123	OTE CHARLES REYNOLDS I84	Groundwater	Transient Non-Community	4496	E.coli
4194877	USFS OREGON TRAIL BLUE MTN CROSSING	Groundwater	Transient Non-Community	6137	
4194907	LA GRANDE RANGER ST	Groundwater	Non-Transient Non-Community	6170	
4194930	LANGDON LAKE WATER COOPERATIVE	Groundwater	Transient Non-Community	6193	E.coli

4192755	USFS JUBILEE LAKE CG	Groundwater	Transient Non-Community	6626	E.coli Nitrate
4100455	FLYING K TRAILER RANCH	Groundwater	Community	2091	E.coli
4101243	COVE, CITY OF	Groundwater	Community	20921	
4191075	OPRD HILGARD JUNCTION STATE PK	Groundwater	Transient Non-Community	21853	E.coli
4195340	OPRD CATHERINE CREEK SP-CG	Groundwater	Transient Non-Community	21922	
4195538	CATHERINE CREEK LODGE	Groundwater	Transient Non-Community	24736	
4100454	ISLAND CITY	Groundwater	Community	558	Nitrate
4100453	LA GRANDE, CITY OF	Groundwater	Community	13245*	
4191076	OPRD RED BRIDGE STATE PARK	Groundwater	Transient Non-Community	30	
4193453	SPOUT SPRINGS WATER BOARD	Groundwater	Transient Non-Community	100	
4100273	ELGIN WATER DEPARTMENT	Groundwater	Community	1725	

System Type:

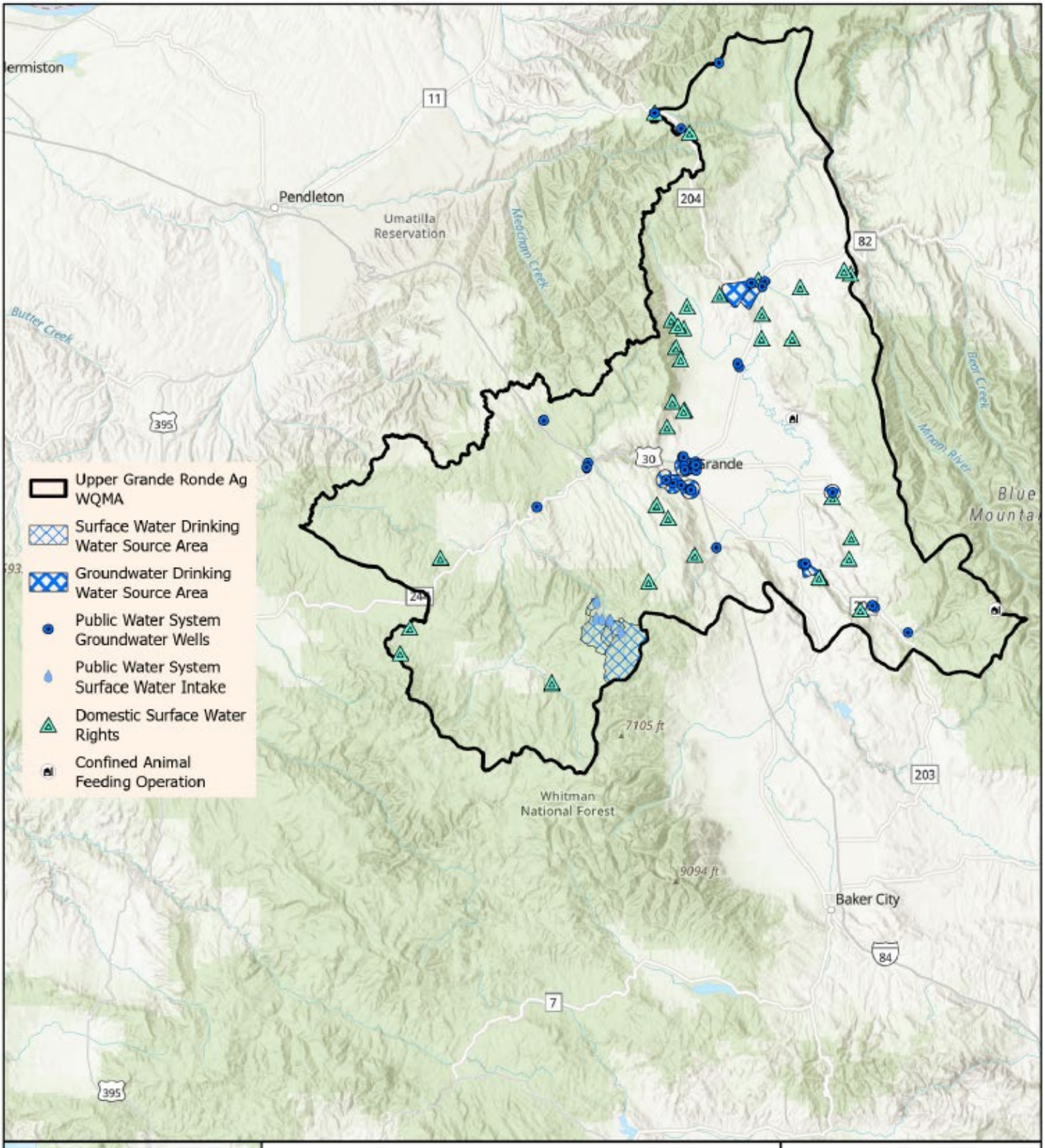
C - "Community Water System (C)" means a public water system that has 15 or more service connections used by year-round residents, or that regularly serves 25 or more year-round residents.

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 or OVS - "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. This designation was recently changed to OVS for Oregon Very Small systems. Both designations are still used.

*Population for the City of La Grande was accounted for in the Surface Water section.



Drinking Water Source Areas in the Upper Grande Ronde Agricultural Water Quality Management Area

0 5 10 Mi

Figure 1

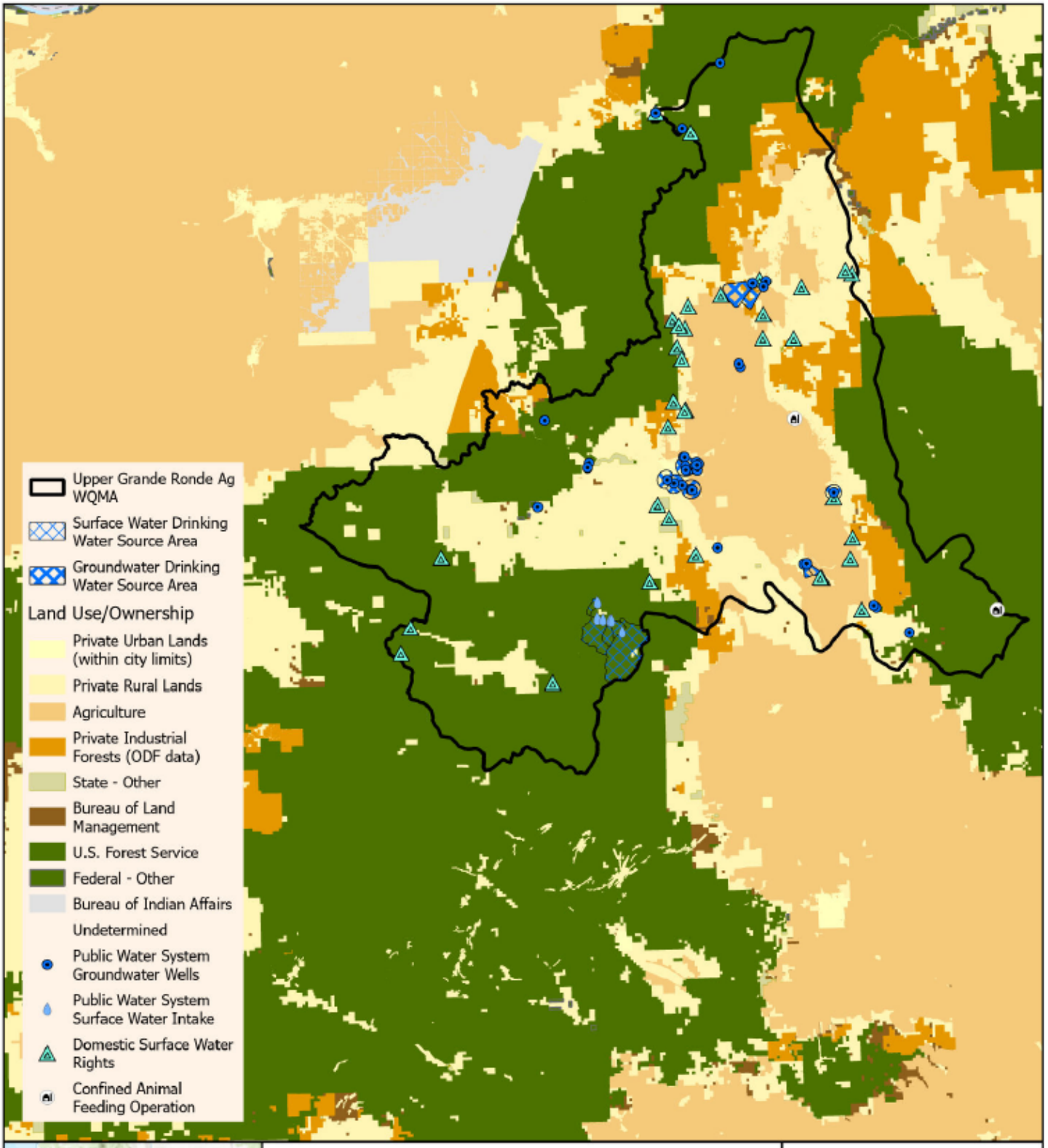
N

Esri, CGIAR, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

Coordinate System: NAD 1983 Lambert Conformal Conic

Drinking Water Protection Program
State of Oregon
DEQ

OREGON HEALTH AUTHORITY



Drinking Water Source Areas in the Upper Grande Ronde Agricultural Water Quality Management Area Land Use/Ownership

0 5 10 Mi

Figure 2

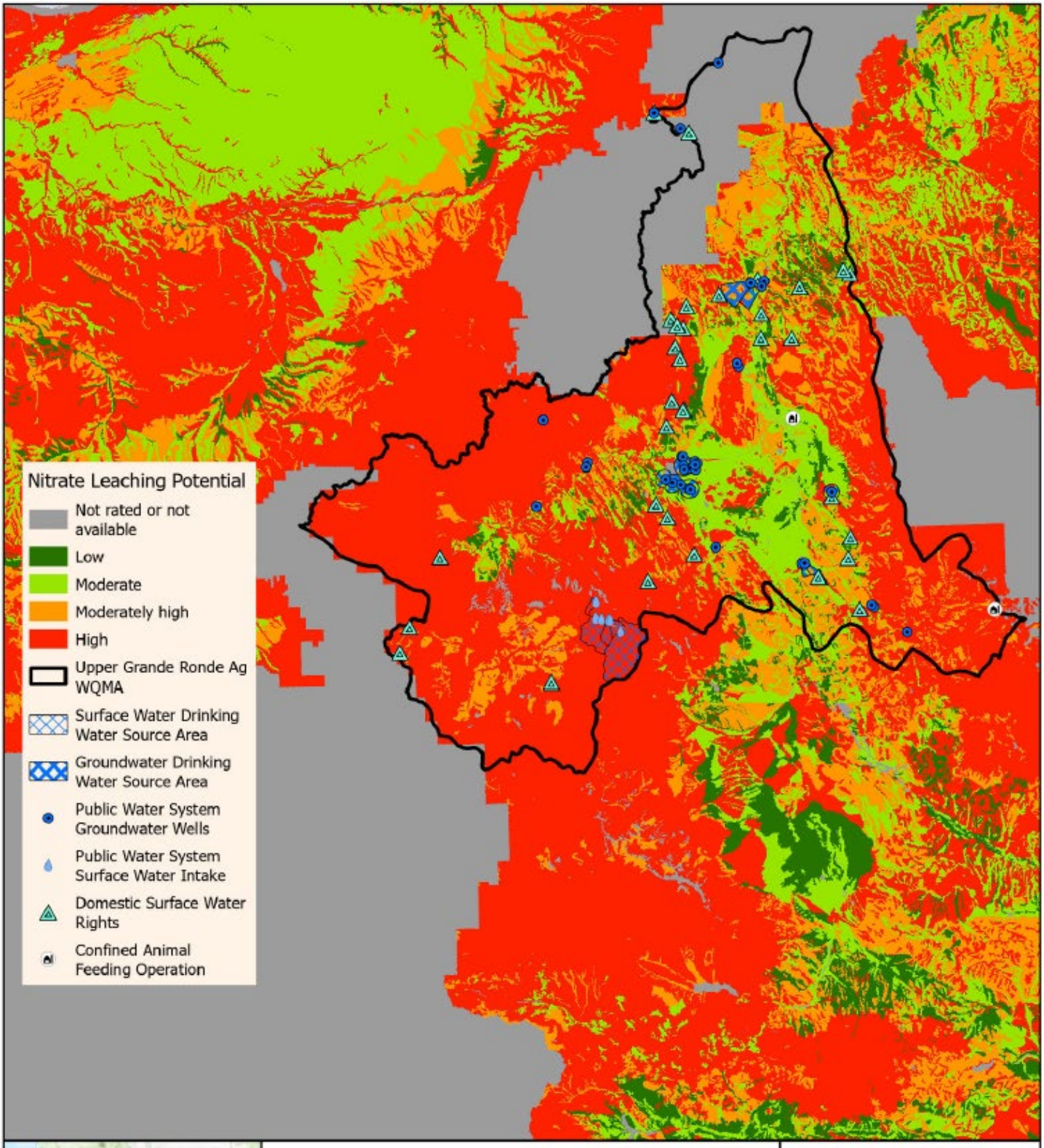
N

Esri, CGIAR, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

Coordinate System: NAD 1983 Lambert Conformal Conic

Drinking Water Protection Program
State of Oregon
DEQ

OREGON HEALTH AUTHORITY



Drinking Water Source Areas in the Upper Grande Ronde Agricultural Water Quality Management Area
NRCS Nitrate Leaching Potential - Irrigated

0 5 10 Mi

Figure 3

N

Esri, CGIAR, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

Coordinate System: NAD 1983 Lambert Conformal Conic

Drinking Water Protection Program
State of Oregon
DEQ

OREGON HEALTH AUTHORITY