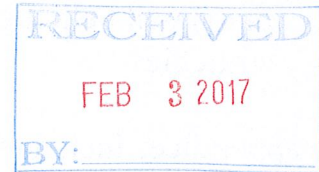




Source Water Assessment Update

To: City of Aumsville
Steve Oslie
595 Main St.
Aumsville, OR 97325-0227



Date: January 27, 2017

Re: Source Water Assessment update for PWS # 4100065 – City of Aumsville

Dear Steve Oslie:

The drinking water protection staff of the Oregon Health Authority (OHA) and the Oregon Department of Environmental Quality (DEQ) are pleased to provide you with this update to your Source Water Assessment (SWA). The purpose of this update is to provide you and your customers with basic information and the resources needed to develop strategies that reduce drinking water contamination risk. Advanced mapping tools and databases were used to identify current land use practices and potential contaminant sources within your mapped Drinking Water Source Area(s). Additional resources are provided to help you identify and implement contamination risk-reduction strategies. OHA staff assembled these materials after a site visit to review potential contaminant sources and obtain feedback regarding the potential contaminant sources of greatest concern to the water system. Based on that visit, we believe the higher priority potential contaminant sources within your drinking water source area are:

- Activities associated with commercial and industrial activities within the 2-year time-of-travel zones of Boone 1 and Tower wells.
- Underground storage tanks within the 2-year time-of-travel zones of Boone 1, Boone 2, and Tower wells.
- Residential septic systems within the 2-year time-of-travel zone of Church well.
- Aboveground storage tanks within the 2-year time-of-travel zone of Tower well.
- Grazing animals within the 2-year time-of-travel zone of Church well.
- City parks within the 2-year time-of-travel zones of Boone 2 and Tower wells.

Management Strategies for reducing risks associated with each of these potential contaminant sources are listed in the table immediately following this letter. This update also contains:

- A regional map of drinking water source areas.
- An aerial photo map of the drinking water source area(s).
- A map indicating land ownership/use, and potential sources of pollution within your source area(s). We encourage you to use this map to identify nearby land use authorities and associated potential contaminant sources, as few public water systems have legal jurisdiction over their entire source area(s).
- An inventory table listing the potential contaminant sources (PCSs) identified inside the drinking water source area(s). Using this table in conjunction with the maps will help identify additional potential contaminant sources for risk-reduction strategies.

The appendices include the following drinking water source protection resources:

- **Appendix 1**, a guide for developing and implementing source water protection strategies;
- **Appendix 2**, notes and a key to the Maps and PCS Inventory Table;
- **Appendix 3**, a resource list for water quality, including links to fact sheets;
- **Appendix 4**, funding sources and free or low-cost technical assistance;
- **Appendix 5**, parameters used to identify preliminary drinking water source areas for wells/springs not active when the original SWA was released.

This update can be used as a standalone document for drinking water source protection or in conjunction with Source Water Assessment reports previously completed by OHA and DEQ between 1998 and 2005. We encourage you to use your original Source Water Assessment report which contains additional information characterizing well/spring construction, the drinking water source area(s), and susceptibility to potential contaminant sources. Contact OHA at (541) 726-2587 to receive your water system's original SWA Report.

To further support your protection efforts, DEQ and OHA will soon distribute statewide Drinking Water Source Protection Resource Guides for surface water systems and groundwater systems. For additional assistance regarding drinking water source protection, please contact Tom Pattee at OHA at (541) 726-2587 ext. 24.

Sincerely,

Gregg Baird,
OHA Drinking Water Services

CC: Source Water Assessment file, Springfield



Management Strategies for High Priority Potential Sources of Pollutants Identified in City of Aumsville Drinking Water Source Area

Contact Drinking Water Protection Staff with questions or for assistance with any potential sources of contamination not identified in this document.

Source of Info or Regulatory Database Identifier (DB_ID)	Category	Potential Pollutant Type	Potential Impact	Recommended Management Measures and Fact Sheets/Resources
Aerial or Local Knowledge Animals/Grazing	03 AG-Animals/ Grazing and Other	Grazing Animals (> 5 large animals or equivalent/acre) /Boarding Stables, Auction Lots, Fairgrounds and Kennels	Improper storage and management of animal wastes and wastewater in areas of concentrated animals may impact drinking water.	<p><input type="checkbox"/> Encourage farm operator to work with their local Soil and Water Conservation District (SWCD), Oregon State University County Extension Agent, or Natural Resources Conservation Service to develop a farm plan, if they have not done so already (web-sites below). The farm plan should address crop production practices, pesticide/fertilizer/petroleum product handling and storage, vehicle maintenance and repair, livestock waste storage and treatment, hazardous waste management, wastewater disposal/fill, and wells</p> <p>Agency Web-sites: Soil and Water Conservation Districts: http://oadc.org/conservation-districts/directory OSU Extension: http://extension.oregonstate.edu/find-us Natural Resources Conservation Service, Oregon: http://www.nrcs.usda.gov/wps/portal/nrcs/site/or/home/ Oregon Department of Agriculture: http://www.oregon.gov/ODA/Pages/default.aspx</p> <p><input type="checkbox"/> Send relevant fact sheets below. <input type="checkbox"/> If this land covers a large percentage of your Drinking Water Source Area, notify your local SWCD of your Source Area location. <input type="checkbox"/> Identify and document any pesticides used to maintain site and areas applied.</p> <p>Fact Sheets/Resources *For Grazing Animals, provide Oregon NRCS Fact Sheets from this link: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/or/newsroom/?cid=nrcs142p2_046062 *Managing Pastures in Eastern Oregon (or Western Oregon) *Managing Stock water in Pastures and Streamside Areas</p>

				<p>*Managing Weeds in Pasture and Managing Pastures. (Tips for Eastern Oregon Landowners)</p> <p>*Managing Pastures in Western Oregon (Tips for Western Oregon Landowners)</p> <p>*Providing Stock water in Fields near Streams</p> <p>*Managing Weeds in Pasture</p> <p>Also, Manure Management in Small Farm Livestock Operations</p> <p>http://animalag.wsu.edu/water%20quality/Tab4em8649.pdf</p>
<p>Aerial or Local Knowledge</p> <p>highly maintained areas visible</p>	<p>04 RES/MUNI-Lawns/Golf/Parks</p> <p>Risk = M</p>	<p>Golf Courses, Lawn Care - Highly Maintained Areas, Parks</p>	<p>Over-application or improper handling of pesticides/fertilizers may impact drinking water. Excessive irrigation may cause transport of contaminants through runoff.</p>	<p><input type="checkbox"/> Determine degree and type of chemicals used for lawns and landscaping maintenance</p> <p><input type="checkbox"/> Minimize or eliminate pesticide and fertilizer application</p> <p><input type="checkbox"/> Provide training/workshops to park staff on water quality protection</p> <p><input type="checkbox"/> Use products that are environmentally friendly</p> <p><input type="checkbox"/> Minimize irrigation, or use water efficient irrigation</p> <p><input type="checkbox"/> Ensure pesticides are handled and stored safely</p> <p><input type="checkbox"/> Ensure that a spill response plan is in place, a spill kit is available and employees are trained annually in spill response.</p> <p><input type="checkbox"/> For golf courses, distribute Integrated Pest Management (IPM) information</p> <p>Fact Sheets/Resources</p> <p>*Healthy Lawn, Healthy Environment: https://www.epa.gov/sites/production/files/2014-04/documents/healthy_lawn_healthy_environment.pdf</p> <p>*EPA Source Water Protection Practice Bulletins:</p> <p>- Managing Small-Scale Application of Pesticides: http://www.deq.state.or.us/wq/dwp/docs/EPA/EPASWPracticesBulletin_PesticidesSmallScale.pdf</p> <p>- Managing Turfgrass and Garden Fertilizer Applications: http://www.deq.state.or.us/wq/dwp/docs/EPA/EPASWPracticesBulletin_TurfgrassGarden.pdf</p> <p>- Managing Small Quantity Chemical Use: http://www.deq.state.or.us/wq/dwp/docs/EPA/EPASWPracticesBulletin_ChemUsesSmallQ.pdf</p> <p>*Groundwater Basics: http://www.deq.state.or.us/wq/pubs/factsheets/drinkingwater/gwbasics.pdf</p> <p>*Integrated Pest Management Info for Golf Courses: http://www.greengolfusa.com/tiki-index.php</p> <p>*Integrated Pest Management web-site (OSU): http://ipic.orst.edu/pest/ipm.html</p> <p>In addition to general Residential/Municipal or Commercial factsheets, share relevant information from list below.</p> <p>Fact Sheets/Resources</p> <p>*DEQ SepticSmart Program web-site: http://www.oregon.gov/deq/WQ/Pages/onsite/SepticSmartHome.aspx</p> <p>*"Septic Smart for Homeowners - brochure": http://www.deq.state.or.us/wq/onsite/docs/septicowner.pdf</p>
<p>Primary Land Ownership/Use</p> <p>Private Non-Industrial/Urban</p>	<p>11 RES/MUNI-Septic</p> <p>Risk = H</p>	<p>Septic Systems - Residential, Farm, Commercial on-site systems</p>	<p>If not properly sited, designed, installed, and maintained, septic systems can impact drinking water. Use of drain cleaners and dumping household</p>	

Rural residential located outside of city limits		hazardous wastes or pharmaceuticals can result in groundwater contamination. For higher density septic, cumulative effects of multiple systems in an area may impact drinking water supply.	<p>*"Managing Septic Systems to Prevent Contamination of Drinking Water": http://www.deq.state.or.us/wq/dwp/docs/EPA/EPASWPPPracticesBulletin_SepticSystems.pdf</p> <ul style="list-style-type: none"> <input type="checkbox"/> Make "Septic Smart for Homebuyers" available at local permitting counter or to local realtors: http://www.deq.state.or.us/wq/onsite/docs/septicbuyer.pdf <input type="checkbox"/> Develop ongoing education program on septic system operation, maintenance and upgrades <input type="checkbox"/> Consider grants to partially fund inspection/repair program <input type="checkbox"/> Implement required inspection program on property transfer
Regulatory Database Results: Hazardous Substance Info System - AST or Local Knowledge	15 TANKS – ASTs AST Layer or HHS/ Storage Description = AST Risk = M	Aboveground Storage Tanks Spills, leaks, or improper handling of stored materials may impact the drinking water supply.	<ul style="list-style-type: none"> <input type="checkbox"/> Conduct a survey of existing aboveground storage tanks to determine status. <input type="checkbox"/> Ensure aboveground storage tanks (ASTs) are 1) placed on a concrete pad or 2) have a drip pan or 3) have secondary containment <input type="checkbox"/> Adopt ordinance, covenant, or rules to ensure ASTs have secondary containment. <input type="checkbox"/> Notify the AST owner of their location within your Drinking Water Source Area and send: <ul style="list-style-type: none"> *Proper Care and Maintenance for Unregulated Tank Systems: http://www.deq.state.or.us/lq/pubs/factsheets/tanks/hot/ProperCareMaintenance.pdf *Managing Aboveground Storage Tanks to Prevent Contamination of Drinking Water: http://www.deq.state.or.us/wq/dwp/docs/EPA/EPASWPPPracticesBulletin_ASTs.pdf Heating Oil Tank Program: http://www.deq.state.or.us/lq/tanks/hot/index.htm <p>Additional recommendations</p> <ul style="list-style-type: none"> <input type="checkbox"/> Develop a plan for ongoing (yearly) education to aboveground storage tank owners. <input type="checkbox"/> Implement the following best management practices: check regularly for leaks and loose fittings, and check the integrity of gaskets; test pipes for leaks; cleanup the area around the tank; know how to clean up spills and drips.
Regulatory Database Results: Dry Cleaners USTs/LUSTS Hazardous Waste Generators and TSDs UICs	18 COM/IND (Commercial /Industrial) Risk = H	All Commercial/Industrial PCSS (including businesses that do not require permits and regulated facilities like dry cleaners, cleanup sites, hazardous waste/materials sites,	<p>Spills, leaks, or improper handling of solvents, petroleum products, wastewater, or other chemicals and materials associated with commercial or industrial activities may impact the drinking water supply.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Notify the owner or manager of their location within your Drinking Water Source Area and send the following general fact sheets: <ul style="list-style-type: none"> *Basic Tips for Keeping Drinking Water Clean and Safe http://www.deq.state.or.us/wq/pubs/factsheets/drinkingwater/BasicsTips12WQ005.pdf OR *Groundwater Basics http://www.deq.state.or.us/wq/pubs/factsheets/drinkingwater/GroundwaterBasics.pdf *Business and Industry tips for reducing water quality impacts (DEQ) http://www.deq.state.or.us/wq/pubs/factsheets/drinkingwater/busindtips.pdf <input type="checkbox"/> Contact owner/operator to verify that any chemical or petroleum product storage (if present) cannot impact groundwater. For example, chemicals could be stored and used inside, or have secondary containment. Encourage business to receive technical assistance from DEQ's non-regulatory Toxics Use/Waste Reduction Assistance Program: http://www.deq.state.or.us/lq/hw/technicalassistance.htm

<p>HSIS / Status</p> <p>Column contains descriptions for commercial or industrial businesses (e.g. automotive, machine shops, semiconductor, sawmills, etc.)</p>		<p>underground storage tanks, wastewater and solid waste disposal.</p>	<p><input type="checkbox"/> Implement relevant best management practices (BMPs) from "Best Management Practices for Storm Water Discharges Associated with Industrial Activities" fact sheets. www.deq.state.or.us/wq/stormwater/docs/nwr/indbmps.pdf</p> <p><input type="checkbox"/> Work with Drinking Water Protection staff or permitting program staff to ensure permitted facilities are in compliance.</p> <p><input type="checkbox"/> Review "Drinking Water Protection Strategies for Commercial and Industrial Lane Uses" and consider other general or business sector specific strategies for pollution risk reduction. http://www.deq.state.or.us/wq/dwp/docs/DWPStrategiesCommercialIndustrial.pdf</p> <p>Pollution Prevention for Industry and the Environment: http://www.deq.state.or.us/pubs/general/IndustryandEnvironmentPollutionPrevention.pdf</p>
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Figures:

Key to Figures¹

Figure 1: Drinking Water Source Area and Vicinity Map²

Figure 2: Drinking Water Source Area Map³

Figure 3: Drinking Water Source Area with Land Ownership/Use and Potential Sources of Contaminants Map⁴

¹ The Key provides legend symbols for the accompanying Figures. Additional information is also provided in Appendix 2.

² The purpose of Figure 1, the Drinking Water Source Area and Vicinity Map, is to show where other nearby water systems that may be addressing similar concerns with potential contaminant sources. It is often advantageous for water systems with similar concerns to work together when addressing those concerns.

³ The purpose of Figure 2, the Drinking Water Source Area Map, is to show an enlarged map of the drinking water source area for the water system overlain on an aerial photo showing general land use practices.

⁴ The purpose of Figure 3, Drinking Water Source Area with Land Ownership/Use and Potential Sources of Contaminants Map, is show the location of potential contaminant sources and land ownership/use within the drinking water source area. Many water systems do not own or have management authority over large portions of their mapped drinking water source area. Therefore, when considering effective drinking water protection measures, it is advantageous to work with private land owners and/or agencies that are responsible for managing land use practices within the drinking water source area.

Additional Drinking Water Source Area Maps with more detail or other mapped features are also available upon request by contacting OHA (541) 726-2587. Detailed or expanded maps may be especially useful in areas where a high density of potential contaminant sources are present.

Key to Figures Source Water Assessment Update For public water systems using groundwater



Potential Sources of Pollutants Identified in State and Federal Regulatory Databases:

- ◆ Confined Animal Feeding Operations (ODA as of 2015)
- Dry Cleaner, Active (DEQ as of 2015)
- Dry Cleaner, Dry Store (DEQ as of 2015)
- Dry Cleaner, Closed (DEQ as of 2015)
- Dry Cleaner, Inactive (DEQ as of 2015)
- Dry Cleaner, Solvent Supplier (DEQ as of 2015)
- ◆ Environmental cleanup site with known contamination (DEQ as of 01/2016)
- ◆ Environmental cleanup site No Further Action required or otherwise lower risk (DEQ as of 01/2016)
- ▲ Hazardous Material Large Quantity Generator (DEQ - HW as of 1/02/2016)
- ▲ Hazardous Material Small Quantity or Conditionally Exempt Generator (DEQ - HW as of 1/02/2016)
- ▲ Hazardous Material Transport, Storage, and Disposal sites (DEQ - HW as of 1/2016)
- ◆ Hazardous Substance Information System (OSFM as of 2009)
- Hazardous Substance Information System - AST (OSFM as of 2009)
- Leaking underground storage tank - Confirmed (DEQ as of 9/2012) (Location will likely need verification.)
- Leaking underground storage tank with No Further Action required or otherwise lower risk (DEQ as of 9/2015) (Location will likely need verification.)
- ✕ Mining permits (DOGAMI as of 1/16/2014)
- * Oil and Gas wells (permitted only) (DOGAMI as of 7/2016)
- ▲ Original Source Water Assessment Potential Contaminant Source - Area-wide source (DEQ as of 2005)
- ◆ Original Source Water Assessment Potential Contaminant Source - Point source (DEQ as of 2005)
-) Other Source Water Assessment Potential Contaminant Source - SWA Update (OHA/DEQ as of 2016)
- ⚠ School Locations OR (DHS as of 2015)
- ⚠ Solid Waste sites (DEQ - SW as of 1/25/2016)
- R Underground Injection Control - Stormwater (UIC - DEQ as of 91/12/2016)
- # Underground Injection Control - Non-stormwater (UIC - DEQ as of 91/12/2016)
- Underground Storage Tanks (DEQ as of 1/25/2016) (Location will likely need verification.)
- Ⓜ Water Quality domestic wastewater treatment sites (DEQ - SIS as of 1/25/2016)
- ◆ Water Quality permits (DEQ - SIS as of 1/25/2016)

General Legend:

- Groundwater 2-yr TOT (Zone 1 for
- Groundwater Drinking Water Source
- City limits (ODOT,
- County Boundary

Transportation:

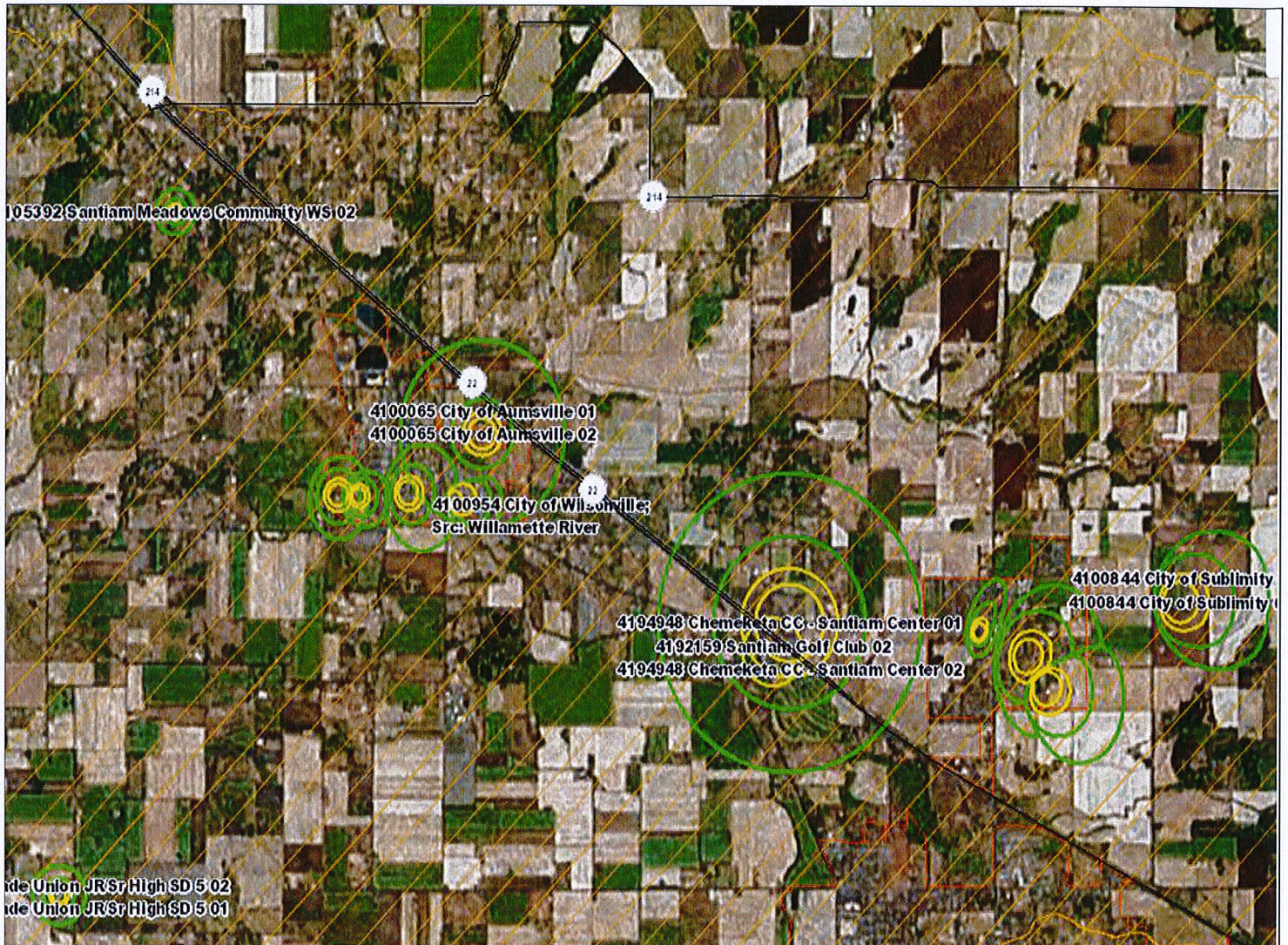
- Interstate
- U.S. Routes
- Oregon Routes
- Roads (BLM)
- Railways (USGS - 2009)

Land Ownership/Use:

- Private Non-Industrial/Urban (includes residential, municipal, commercial, industrial, and rural residential land uses)
- Agriculture (Ag Zoning (BLM) and NASS 2013)
- Private Industrial Forests (ODF data); Lands Managed by Private Industry (BLM)
- Local Government
- State Dept. of Forestry
- State - Other
- Bureau of Land Management
- U.S. Forest Service
- Federal - Other
- Bonneville Power
- Bureau of Indian Affairs
- Undetermined
- Water





Potential sources of pollution: The inventory of potential sources of pollution is based on readily-available state and federal regulatory databases. The primary intent is to identify and locate significant potential sources of contaminants of concern. Non-regulated and non-point sources such as areas with agricultural, septic systems, or managed forests are generally not identified in the regulated databases but are presented in the figures as a factor of land ownership/use. It is important to remember that the sites and areas identified are only potential sources of contamination to the drinking water. Water quality impacts are not likely to occur when contaminants are used and managed properly and use activities occur in such a way as to minimize contaminant releases. It is highly recommended that the community "enhance" or refine the delineation of the sensitive areas and the identification of the potential contamination sources through further research and local input. If there were no potential sources of contamination identified during the review of regulatory databases or community's enhanced inventory, the water system and community should consider the potential for future development to impact the source water.

Figure 1
City of Aumsville, (PWS #4100065)
Drinking Water Source Area and Vicinity



This map is provided to assist public water systems and their communities identify other local water systems that may have common concerns. It may be beneficial for communities with similar risks or concerns to develop place-based planning with collaborative partnerships to implement priority actions for risk reduction.

Legend

-  Groundwater 2-yr TOT (Zone 1 for Springs)
-  Groundwater Drinking Water Source Area
-  Surface Water Drinking Water Source Area
-  City limits (ODOT, 2013)
-  County Boundary








This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering or surveying purposes. Users of this information should review and consult the primary data and information sources to ascertain the usability of the information.

Prepared by: Gregg Baird – 1/27/2017

Figure 2
City of Aumsville, (PWS #4100065)
Drinking Water Source Area



Legend

-  Groundwater 2-yr TOT (Zone 1 for Springs)
-  Groundwater Drinking Water Source Area
-  City limits (ODOT, 2013)
-  Streams
-  Waterbodies

See original Source Water Assessment for information on delineation method and aquifer/well parameters. If a copy of the Source Water Assessment is needed contact Oregon Health Authority Drinking Water Services at (541) 726-2587.

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Figure 3
City of Aumsville, (PWS #4100065)
Drinking Water Source Area with Land Ownership/Use
And Potential Sources of Contamination



Legend

- | | |
|--|---|
| Groundwater 2-yr TOT (Zone 1 for Springs) | Private Non-Industrial/Urban (includes residential, municipal, commercial, industrial, and rural residential land uses) |
| Groundwater Drinking Water Source | Agriculture (Ag Zoning (BLM) and NASS 2013) |
| City limits (ODOT, 2013) | Private Industrial Forests (ODF data); Lands Managed by Private Industry (BLM) |
| County Boundary | Local Government |
| Interstate | State Dept. of Forestry |
| U.S. Routes | State - Other |
| Oregon Routes | Bureau of Land Management |
| Roads (from BLM) | U.S. Forest Service |
| Railways (USGS - 2009) | Federal - Other |
| Potential Contaminant Source - 2016 Site Visit (see Table 1) | Bonneville Power |
| | Bureau of Indian Affairs |
| | Undetermined |
| | Water |

Notes:

See Key for Figures for symbol key to potential sources of pollution identified on regulatory databases. Additional information also provided in Appendix 2.

Due to limitations for locational data, some mapped locations will need further research to verify presence and location.

Additional detailed maps can be provided for areas where a high density of potential contaminant sources are present.

This product is for informational purposes and may not have been prepared for, or be suitable for, legal, engineering or surveying purposes. Users of this information should review of consult the primary data and information sources to ascertain the usability of the information.



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Table 1: Inventory of Potential Sources of Pollution as identified in readily accessible state and federal databases and GIS layers
Source Water Assessment Addendum
see Appendix 2 for Key to Tables for Notes and Descriptions of Acronyms

PWS Name:
PWS Number:

City of Aumsville
4100065

This information supplements the Original Source Water Assessment Inventory dated between 1998 and 2005 and should be used in conjunction with the original inventory to provide a more detailed analysis of potential sources of pollution. Note that due to limitations for locational data in state databases, some locations will need further research to verify presence and location.

Primary Land Ownership/Use(s)

Data Source

Private Non-Industrial/Urban (residential, municipal, commercial/industrial and rural land uses)
 Agricultural land use

Land use map - Figure 3

Other potential sources of pollution identified based on aerial photographs, topographic maps or local knowledge.

Name	Address/location	City	County	Data Source
Residential septic tanks/drainfields 500 ft. north and east of SRC-AE Church Well	9798 & 9777 Gordon Ln SE	Aumsville	Marion	PWS interview
Grazing animals 100 ft. southwest of SRC-AE Church Well	9728 Gordon Ln SE	Aumsville	Marion	PWS interview
Boarding stables or kennels 500 ft. south of SRC-AA Boone 1	Mill Creek Rd	Aumsville	Marion	PWS interview
Land application of septic waste 1000 ft. south of SRC-AC Tower	9255 Bates Rd NE	Aumsville	Marion	PWS interview
Mill Creek/Highberger Ditch 500 – 1000 ft. south, running east-west through DWSAs for Boone 1, Boone 2, Tower, and Reservoir wells	Main St	Aumsville	Marion	PWS interview
Mill Creek Park 200 ft. south of SRC-AB Boone 2	1106 Main St	Aumsville	Marion	PWS interview
Tower Park surrounding SRC-AC Tower	595 Main St	Aumsville	Marion	PWS interview
Highberger Park and Greenway 1000 ft. northeast of SRC-DA Reservoir	Willamette St	Aumsville	Marion	PWS interview

Regulatory Database Results - State and Federal

Database Identifier (DB_ID)	Site Identifier (Site_ID)	Status	Common Name	Address	City	County	Retrieval Date (RET_DATE)	Data Source
DHS/OHA - OFRA - Schools - Willamette Valley Baptist School	-1	Unknown	Willamette Valley Baptist School	650 N 1st St	Aumsville	MARION	06/02/2015	OR Dept. of Human Services - Office of Forecasting, Research, and Analysis (via OGDC (DHS/OHA - 2015)
ECSI - NFA - Ektron Industries Inc.	1425	No further action required	Ektron Industries Inc.	9610 Mill Creek Rd. SE	Aumsville	MARION	01/25/2016	OR Dept. of Environmental Quality Environmental Cleanup Site Inventory (DEQ/ECSI 01/2016)
ECSI - NFA - Gordon Lane Properties	5014	No further action required	Gordon Lane Properties	Parcel bounded by North Santiam Highway (Hwy. 22), 1 St N, and Gordon Lane	Aumsville	MARION	01/25/2016	OR Dept. of Environmental Quality Environmental Cleanup Site Inventory (DEQ/ECSI 01/2016)
Haz Waste Generator - Ektron Industries	ORD980982508	Conditionally Exempt Generator (CEG)	Ektron Industries	9610 MILL CREEK RD	AUMSVILLE	MARION	01/29/2016	OR Dept. of Environmental Quality Hazardous Waste Program database

Highways - OR-22	162	Highway/Interstate	NORTH SANTIAM	Not applicable	Not applicable	Not applicable	2008	(DEQ/HW - 01/2016)	Integrated Transportation Information System (ITIS) database, Oregon Department of Transportation (ODOT - 2008)
LUST - Aumsville Shell*****	24-92-4096	CLEANUP_STARTED	Aumsville Shell	810 MAIN ST	AUMSVILLE	MARION	01/25/2016	OR Dept. of Environmental Quality Land Quality Leaking Underground Storage Tank database (DEQ/LUST - 2016)	
LUST - Aumsville Shell Foodmart	24-06-0802	CLEANUP_STARTED	Aumsville Shell Foodmart	522 MAIN ST	AUMSVILLE	MARION	01/25/2016	OR Dept. of Environmental Quality Land Quality Leaking Underground Storage Tank database (DEQ/LUST - 2016)	
Railway - Willamette Valley Railway	1881	Railway	Willamette Valley Railway	Unknown	Not applicable	Marion	03/14/2016	US Geological Survey Railway GIS layer (via OR-IRIS)	

SFM - HSIS - ALLIED WASTE OF MARION COUNTY*	016893	SOLID WASTE COLLECTION with 5 different chemicals reported on site (liquids and solids only)	ALLIED WASTE OF MARION COUNTY	9613 MILL CREEK RD	AUMSVILLE E	MARION	09/29/2008	(USGS/RR - 2009) OR State Fire Marshall Hazardous Substance Information System database (SFM/HSIS - 2009)
SFM - HSIS - AUMSVILLE CITY	016542	OTHER GENERAL GOV SUPPORT with 3 different chemicals reported on site (liquids and solids only)	AUMSVILLE CITY	595 MAIN ST CITY HALL	AUMSVILLE E	MARION	09/29/2008	OR State Fire Marshall Hazardous Substance Information System database (SFM/HSIS - 2009)
SFM - HSIS - AUMSVILLE GAS & MINI MART	112378	GASOLINE STATIONS WITH CONVENIENCE STORES with 2 different chemicals reported on site (liquids and solids only)	AUMSVILLE GAS & MINI MART	522 MAIN ST	AUMSVILLE E	MARION	09/29/2008	OR State Fire Marshall Hazardous Substance Information System database (SFM/HSIS - 2009)
SFM - HSIS - CAPITAL CONCRETE CONSTRUCTION**	009330	HIGHWAY, STREET, & BRIDGE CONST with 2 different chemicals reported on site (liquids and solids only)	CAPITAL CONCRETE CONSTRUCTION	220 8TH ST	AUMSVILLE E	MARION	09/29/2008	OR State Fire Marshall Hazardous Substance Information System database (SFM/HSIS - 2009)

SFM - HSIS - EKTRON INDUSTRIES	008488	MTL COATING/ENGRAVING (EXC JWLRY/SLVRWR)& with 6 different chemicals reported on site (liquids and solids only)	EKTRON INDUSTRIES	9610 MILL CREEK RD	AUMSVILLE	MARION	09/29/2008	OR State Fire Marshall Hazardous Substance Information System database (SFM/HSIS - 2009)
SFM - HSIS - MARION COUNTY PUBLIC WORKS	017969	OTHER GENERAL GOV SUPPORT with 6 different chemicals reported on site (liquids and solids only)	MARION COUNTY PUBLIC WORKS	8900 MILL CREEK RD SE	AUMSVILLE	MARION	09/29/2008	OR State Fire Marshall Hazardous Substance Information System database (SFM/HSIS - 2009)
SFM - HSIS - VERIZON NORTHWEST INC	023294	WIRED TELECOMMUNICATIONS CARRIERS with 2 different chemicals reported on site (liquids and solids only)	VERIZON NORTHWEST INC	595 MAIN ST	AUMSVILLE	MARION	09/29/2008	OR State Fire Marshall Hazardous Substance Information System database (SFM/HSIS - 2009)
SFM - HSIS - WADSWORTH ENTERPRISES CORP***	101796	SITE PREPARATION CONTRACTORS with 6 different chemicals reported on site (liquids and solids only)	WADSWORTH ENTERPRISES CORP	110 N 1ST ST	AUMSVILLE	MARION	09/29/2008	OR State Fire Marshall Hazardous Substance Information System database (SFM/HSIS - 2009)
SFM-HSIS AST - ALLIED WASTE OF MARION COUNTY*	016893	Aboveground storage tank(s) on site	ALLIED WASTE OF MARION COUNTY	9613 MILL CREEK RD	AUMSVILLE	MARION	09/29/2008	OR State Fire Marshall Hazardous

SFM-HSIS AST - AUMSVILLE CITY****	016542	Aboveground storage tank(s) on site	AUMSVILLE CITY	595 MAIN ST CITY HALL	AUMSVILL E	MARION	09/29/2008	OR State Fire Marshall Hazardous Substance Information System database (SFM/HSIS - 2009)
SFM-HSIS AST - AUMSVILLE GAS & MINI MART	112378	Aboveground storage tank(s) on site	AUMSVILLE GAS & MINI MART	522 MAIN ST	AUMSVILL E	MARION	09/29/2008	OR State Fire Marshall Hazardous Substance Information System database (SFM/HSIS - 2009)
SFM-HSIS AST - CAPITAL CONCRETE CONSTRUCTION**	009330	Aboveground storage tank(s) on site	CAPITAL CONCRETE CONSTRUCTION N	220 8TH ST	AUMSVILL E	MARION	09/29/2008	OR State Fire Marshall Hazardous Substance Information System database (SFM/HSIS - 2009)
SFM-HSIS AST - VERIZON NORTHWEST INC****	023294	Aboveground storage tank(s) on site	VERIZON NORTHWEST INC	595 MAIN ST	AUMSVILL E	MARION	09/29/2008	OR State Fire Marshall Hazardous Substance Information System

SFM-HSIS AST - WADSWORTH ENTERPRISES CORP***	101796	Aboveground storage tank(s) on site	WADSWORTH ENTERPRISES CORP	110 N 1ST ST	AUMSVILLE	MARION	09/29/2008	OR State Fire Marshall Hazardous Substance Information System database (SFM/HSIS - 2009)
UST - AUMSVILLE CENTRAL OFFICE	2082	0 Upgraded, 1 Decommissioned, 0 Unknown	AUMSVILLE CENTRAL OFFICE	595 MAIN ST	AUMSVILLE	MARION	01/25/2016	OR Dept. of Environmental Quality Underground Storage Tank Program (DEQ/UST - 2016)
UST - AUMSVILLE CHEVRON	9199	0 Upgraded, 4 Decommissioned, 0 Unknown	AUMSVILLE CHEVRON	810 MAIN ST	AUMSVILLE	MARION	01/25/2016	OR Dept. of Environmental Quality Underground Storage Tank Program (DEQ/UST - 2016)
UST - AUMSVILLE DISTRICT SHOP	5875	2 Upgraded, 2 Decommissioned, 0 Unknown	AUMSVILLE DISTRICT SHOP	8900 MILL CREEK ROAD SE	AUMSVILLE	MARION	01/25/2016	OR Dept. of Environmental Quality Underground Storage Tank Program (DEQ/UST - 2016)
UST - AUMSVILLE EXXON	5100	0 Upgraded, 3 Decommissioned, 0 Unknown	AUMSVILLE EXXON	1075 MAIN ST	AUMSVILLE	MARION	01/25/2016	OR Dept. of Environmental Quality

UST - AUMSVILLE QUICK STOP	621	3 Upgraded, 0 Decommissioned, 0 Unknown	AUMSVILLE QUICK STOP	522 MAIN ST	AUMSVILLE	MARION	01/25/2016	OR Dept. of Environmental Undergroud Storage Tank Program (DEQ/UST - 2016)
UST - B-G SERVICE CENTER	1474	0 Upgraded, 5 Decommissioned, 0 Unknown	B-G SERVICE CENTER	340 MAIN ST	AUMSVILLE	MARION	01/25/2016	OR Dept. of Environmental Undergroud Storage Tank Program (DEQ/UST - 2016)
WQ SIS - CEDAR MEADOW ESTATES	116226	GEN12C - STORMWATER	CEDAR MEADOW ESTATES	CEDAR LN/ N 11TH ST.	AUMSVILLE	MARION	01/25/2016	OR Dept. of Environmental Water Quality SIS database (DEQ/WQ SIS - 2016)

*Per PWS operator, Allied Waste of Marion County (Site ID 016893) is no longer there, taken over by Marion County Public Works (now same as Site ID 017969).

**Per PWS operator, Capital Concrete Construction (Site ID 009330) is no longer there, now is a truck repair place.

***Per PWS operator, Wadsworth Enterprises Corp (Site ID 101796) is no longer there, now is an espresso shop/restaurant.

****Aboveground storage tank consists of diesel tank for generator (Site ID 023294 and 016542).

*****Leaking underground storage tank cleanup might be finished (Site ID 24-92-4096).

Appendix #1

Developing Strategies For Drinking Water Protection

The Oregon Health Authority is working toward providing a Source Water Assessment update to many groundwater systems by the end of 2017. Our top priority are new Community and Non-Transient Non-Community water systems and systems that have added a new water source since their original source water assessment was completed. These updates are in the form of a Technical Memo that provides more up to date information on the potential contaminant sources and land use practices within the drinking water source area(s) that supply their drinking water. Public water systems and local communities can use the information contained in the Technical Memo to voluntarily develop and implement drinking water protection strategies.

Public water system monitoring requirements provide a degree of assurance of safe drinking water however, all water systems are vulnerable to potential contamination. **Developing local strategies designed to protect against potential contamination is one of the best ways to ensure safe drinking water and minimize future treatment costs.** Strategy development not only adds a margin of safety, it also can raise community awareness of drinking water contamination risks and provide information about how communities and local land owners can help protect their drinking water sources.

Using Place-Based Planning to Develop Protection Strategies

The drinking water source area for most communities lies partially, if not entirely, outside of their jurisdiction and may include several different governing agencies as well as a diverse mix of landowners, businesses and residents. When developing protection strategies, DEQ and OHA highly recommend that the water system and community involve potentially affected stakeholders early in the process to foster stakeholder awareness and trust in the resulting strategies.

Oregon adopted an "Integrated Water Resources Strategy (IWRS)" in 2012 that provides recommendations for how to do a place-based and integrated approach to water resources planning. This approach helps communities achieve the level of coordination and collaboration to successfully address local water quality and water quantity challenges, such as developing and implementing strategies to protect their drinking water sources. The IWRS Place-Based Planning guidelines describe elements to consider for building a collaborative process, characterizing water-related issues, quantifying existing and future water needs, developing a suite of solutions, and adopting and implementing the plan. More information about the process can be found in this Water Resources Department document:

http://www.oregon.gov/owrd/LAW/docs/IWRS/2015_February_Draft_Place_Based_Guidelines.pdf

Strategies to Achieve Risk Reduction

The primary goal of any drinking water protection strategy should be to reduce or minimize the risk of source water contamination. It is highly improbable that one can eliminate risks in any area, but by applying one or more protection strategies, a community will be able to reduce the likelihood of pollutants affecting the water supply in the future. Potential strategies include both general management practices such as conservation or efficiency measures that will apply to the entire drinking water source area and management practices that can be applied most appropriately by land-use category (commercial/industrial, agricultural/rural, forestry, residential/municipal, and miscellaneous). The following list provides some of the most common management options as an example to public water systems and their communities:



Oregon Health Authority
Drinking Water Services
444 A Street
Springfield, OR 97477
Phone: (541) 726-2587
Fax: (541) 726-2596
Contact: Tom Pattee



State of Oregon
Department of
Environmental
Quality

Environmental Solutions
Division
Drinking Water
Protection
811 SW 6th Ave.
Portland, OR 97204
Phone: (503) 229-5413
(800) 452-4011
Fax: (503) 229-5408
Contact: Sheree Stewart
<http://www.deq.state.or.us/wq/dwp/dwp.htm>

Alternative formats
Alternative formats of
this document can be
made available. Contact
OHA DWS, Springfield,
at (541) 726-2588

Example Strategies for Drinking Water Protection

Non-Regulatory Options

Notify and Educate the Public: Contact property owners within the protection area so they are aware of the need for protection measures. Let them know this is voluntary. Focus educational efforts on basic information about the source water and the relationship between surface activities and the water quality; familiarity with the location of the protected area; basic information on sources of contamination; and effective strategies for safe management of all potential contaminants. Public education/notification can be accomplished using local news media outlets, letters to residents, letters to land owners/operators, and bill stuffers/customer mailings. Information signs could be placed adjacent to roadways entering the protection area. Include on the sign the name of the water system/jurisdiction and a phone number where callers can obtain more information or report releases.

Use Technical Assistance Resources: Work with local or state providers of technical assistance (e.g., DEQ's regional offices, Soil and Water Conservation Districts, OSU Extension) to encourage the use of best management practices for pollution prevention and waste reduction. Apply for grants or funding to provide financial incentives such as pollution prevention tax credits, low-interest loans or direct subsidies/cost sharing. Provide recognition for environmental friendly businesses and operations (e.g., green awards, plaques/door signs).

Sponsor Hazardous Waste/Unused Chemical Collection: Establishing a permanent location or holding one-day events to collect hazardous wastes from community residents (including households and small businesses) is an effective way to reduce risks posed by storing hazardous wastes or other chemicals within the protection area. Hold an amnesty (free disposal) event for unused business or agricultural chemicals stored in the protection area. Set up a local materials exchange program (or publicize existing programs).

Develop Spill Response Plans: Encourage and assist your local fire department and transportation department with spill response planning. Jurisdictions within protection areas could develop specific spill response procedures to allow quicker response and notifications should a hazardous material spill or release occur. These can be integrated into your county's Emergency Management Plan. Contact the Oregon Department of Transportation (ODOT) for state highways.

Acquire Land or Rights to Development: Community ownership of as much as possible of the critical land areas within the protection area and managed for water quality protection provides some of the best assurance of long-term protection of the public water supply. Protection could be provided by ownership accomplished through methods such as capital or bond fund programs, or through easements and deed restrictions. Private non-profit land conservation organizations or local land trusts in your area can assist you in acquiring land within your protection area by conveyance to a trust, seeking donations, or direct land purchases for conservation.

Local Regulatory Options

Existing Regulations and Permits: Take advantage of opportunities to provide public comment and input when existing regulatory programs are reviewing permits or programs which affect the siting, design, construction, operation or closure of facilities within your protection area. Ensure you are included on regulatory agency contact lists so that you receive announcements for public involvement opportunities. Consider participating in advisory group meetings for specific topics of interest. Ensure that the regulatory programs are aware of your protection area and request that compliance inspections or technical assistance is prioritized in critical areas.

Land Use Controls (Zoning/Health Ordinances): There are many different types of zoning tools. Your community can identify the protection area with an overlay map and enact specific requirements for land uses and development within these boundaries in order to protect public health. Ordinances applying to sites that pose a risk to water quality within the overlay area may include prohibition of various land uses (such as landfills or underground fuel storage tanks); subdivision controls (such as limiting density or requiring larger lot sizes); special permitting or siting requirements (i.e. placing limitations on the use of toxic and hazardous materials, pesticides, salts); and performance standards (i.e. requiring secondary containment for petroleum or chemical storage over a certain volume).

How do communities use the Updated Source Water Assessments?

The updated Source Water Assessment data contained in the Technical Memo provides additional information for developing local protection strategies. The Technical Memo includes details characterizing the drinking water source area and potential source water risks. When used in combination with a Source Water Assessment Report, it also provides key information that will allow the community to focus limited resources on highly sensitive areas within the drinking water source area(s). The information contained in both reports should be supplemented with local knowledge of the water system and community. The water system and community can refine the drinking water source area(s) and potential contaminant source inventory through further research, local input, and coordination with state and local agencies.

Characterization of the drinking water source area(s) should be reviewed to clarify the presence, location, operational practices, and actual risks of the identified facilities and land-use activities. Additional potential contaminant sources or sensitive areas may also be added based on local knowledge or additional research. Potential contaminant sources with low or no risk (such as land owners who have already incorporated best management practices into their operations to protect your drinking water source) can be screened out or selected for low priority outreach or technical assistance. Local and state resources can then be directed to the highest priority potential problems in the drinking water source area.

This information is also useful in developing a water system Contingency Plan. Contingency planning focuses on potential threats to the drinking water supply (such as mechanical problems, chemical detections, chemical spills or natural disasters) and the development of procedures to be followed should these events occur. Guidance for preparing a contingency plan and examples are available from OHA. Many contingency plan elements may have already been completed by public water systems as part of their required Emergency Response Plan. Additional elements can be added as drinking water source protection strategies are developed.

Public water systems may also find it necessary, as a result of either existing or projected increased demand, to explore the development of additional drinking water sources. Drinking water source protection provides a mechanism that can be used to help select the best site and identify areas that could be protected so they will provide quality drinking water in the future. Additionally, development of a new groundwater source in the vicinity of existing source may modify the movement of groundwater in the subsurface, perhaps changing the shape and orientation of existing drinking water source areas. Evaluation of the significance of those changes should be addressed in the protection planning process to ensure the management strategy in place will continue to protect the community's drinking water supply.

Need assistance?

Drinking water source protection is already at work in Oregon. A number of Oregon communities are currently developing and implementing strategies to protect their drinking water source areas. Successful drinking water protection plans developed in Oregon are available to communities as templates or examples. Staff members at OHA and DEQ are available to provide assistance, and extensive written materials are available to local community groups or consultants to assist in developing drinking water protection plans or strategies.

Detailed information about developing drinking water source protection strategies can be found on DEQ's Drinking Water Protection Program website. The website also includes Updated Source Water Assessment methods and results, sample Drinking Water Protection Plans, information for schools, and links to many other useful sites:

<http://www.deq.state.or.us/wq/dwp/dwp.htm>

The OHA – Drinking Water Program website includes system characteristics, monitoring data, contacts for all public water systems in Oregon, drinking water standards, fact sheets on contaminants, information on the Safe Drinking Water Revolving Loan Fund, Consumer Confidence Reports, and more:

<http://www.healthoregon.org/dwp>

Water systems or community members interested in the potential of developing drinking water protection strategies should contact the respective DEQ and OHA coordinators. Those systems using surface water sources should initially contact Sheree Stewart, Drinking Water Protection Program Coordinator, DEQ, Portland, (503) 229-5413. Groundwater-based water systems should initially contact Tom Pattee, Groundwater Coordinator, OHA, Springfield, (541) 726-2587 x24. As the state moves further into the protection phase of the Oregon program, DEQ and OHA will be able to direct individual requests for assistance to specific staff trained and experienced in that area, both within the state agencies and in other partner organizations.



Land Ownership/Use

The dataset is a combination of multiple datasets and was developed by DEQ in 02/2015. The primary dataset is from Bureau of Land Management BLM (OWNERSHIP_POLY.shp dated 06/20/2013) obtained from BLM at: <http://www.blm.gov/or/gis/data-details.php?id=425>. Publication date: 20130718. The dataset has been modified by grouping land owner categories in order to simplify data display on the map and using geospatial techniques to add additional data to capture the following land uses:

- Agricultural land using a combination of the National Agricultural Statistics Service (NASS) data from Natural Resource Conservation Service (2007 “cdl_awifs_r_or_2007.tif”) and agricultural land zoning from OR Dept. of Land Conservation and Development (note that public water systems may obtain more detailed information on potential crop types using the US Department of Agriculture National Agricultural Statistics Service “CropScape-cropland data layer.” Available at <https://nassgeodata.gmu.edu/CropScape/>),
- Private industrial forests using Oregon Dept. of Forestry’s (ODF) “Private_Industrial_2006_ORLambert.shp” last updated in 2013,
- local government land combined from BLM ownership, tax lot ownership information from local county tax lot data and “OR Map” on-line application: <http://www.ormap.net/>, and
- All other categories (BLM, USFS, State, etc.) from BLM 06202013 data. Note that Private Non-Industrial/Urban includes residential, municipal, commercial, industrial, and rural residential land uses.

Because of the nature of combining multiple datasets, minor discrepancies will be seen in some maps especially at larger scales. Public water systems and communities could use tax lot data available from the counties or other datasets to further refine the analysis if higher accuracy is needed.












Inventory of Potential Sources of Pollution

This information is intended to supplement the original Source Water Assessment completed for the water system between 1998 and 2005 by DEQ and Oregon Health Authority. **This update should be used in conjunction with the original inventory.** DEQ and OHA can provide more information on potential impact, risk and status as the public water system moves into developing protection strategies.

The inventory of potential sources of pollution is based on the readily-available state and federal regulatory databases listed below and general categories of land use/ownership. The primary intent is to identify and locate significant potential sources of contaminants of concern. Non-regulated and non-point sources such as areas with agricultural, septic systems, or managed forests are generally not identified in the regulated databases but are presented in the figures as a factor of land ownership/use.






















It is important to remember that the sites and areas identified are only potential sources of contamination to the drinking water. Water quality impacts are not likely to occur when contaminants are used and managed properly and land use activities occur in such a way as to minimize erosion and contaminant releases.

It is highly recommended that the community “enhance” or refine the delineation of the sensitive areas and the identification of the potential contamination sources through further research and local input. If there were no potential sources of contamination identified during the review of regulatory databases or community’s enhanced inventory, the water system and community should consider the potential for future development to impact the source water.

Table 1 Header	Description
Database Identifier (DB_ID)	Database Type and site name for identified potential pollutant
Site Identifier (Site ID)	Program specific identifier. This is the number or name used to look the site up in the programs regulatory database.
Status	Select information on the site that helps to evaluate potential risk to water quality
Common Name, Address, City	Common Name, Address, and City as listed in the regulatory database. Note that some sites may have addresses associated with responsible party, not the physical location of the site.
County	County site is located in
Retrieval Date (Ret_Date)	Date the information was retrieved from the individual programs regulatory database
Data Source	Source for geographic information system (GIS) data
State and Federal Regulatory Database Information	
CAFO 	Oregon Department of Agriculture's Confined Animal Feeding Operation database of livestock owners. Includes permitted, non-permitted, and applications. Status indicates facility designation and animal type. Permits typically address conditions for animal waste management. More information at http://www.oregon.gov/ODA/programs/NaturalResources/Pages/CAFO.aspx
DC  Active  Dry Store  Closed  Inactive  Solvent Supplier	DEQ Dry Cleaner: Status indicates Facility type and information on historic and current solvent use: Facility Type: <i>Dry Cleaner</i> - currently active <i>Dry Store</i> : current 'dry store': pickup and drop off point that does not have a dry cleaning machine on site. These sites may still pose a risk as the industry has consolidated over past decades, so many of these used to be dry cleaners and may have contamination. <i>Closed site</i> : There is no longer a dry cleaner or dry store on site, and the site has not opted to stay in the program as 'inactive'. Note that when a site changes ownership, the old Dry Cleaner ID (DCID) may be identified as Closed and a new dry cleaner record may be added for the new owner resulting in the potential for an address to have more than one status <i>Listed Inactive</i> : Site is no longer a dry cleaner or dry store but the property owner or former operator has opted to continue paying dry cleaner program fees in order to maintain their liability protection & cleanup coverage. <i>Solvent Supplier</i> : This may be a chemical supply businesses or individual dry cleaner that imports their own solvent from out-of-state SolventBefore1998: true if dry cleaning solvent was used at this site prior to spill prevention regulations that came in around 1998. If this field is true, there's a higher likelihood that there may be contamination on site. PercUseOngoing: true if perchloroethylene solvent is currently used at the site.
DOGAMI 	Oregon Department of Geology and Mineral Industries list of mining sites. Status includes permit status and primary material extracted.
DWP-PCSs  area wide  point source	Potential sources of contamination (PCS) identified by the DEQ and Oregon Health Authority drinking water protection (DWP) program in the original source water assessments completed between 1998 and 2005. Status includes DEQ's potential contaminant source Code (i.e. M31 or R15), Source type (P= point source, A=Area wide source) and a description of the land use type. Note that sources classified as "Area-wide" were marked at a point on the map closest to the intake, well or spring. Additional detailed maps can be provided upon request for source areas where DWP PCSs are not shown on maps to improve map clarity.
DWP-PCS (update) 	Potential sources of contamination (PCS) identified by the OHA or DEQ in the Source Water Assessment updates completed in 2016 and 2017. May include information from interviews with public water system operators, field visits, aerial photograph or topographic map review.
ECSI 	DEQ Environmental Cleanup Site Information database. Includes the U.S. EPA National Priorities List (NPL) and the U.S. EPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLA) list. Includes sites where further assessment or action is needed. More information available at http://www.deq.state.or.us/lq/ECSI/ecsi.htm



**Notes for Figures and Tables
Source Water Assessment Update**

ECSI-NFA 	DEQ Environmental Cleanup Site Information database site where no further action (NFA) is required. Public water system may consider verifying with DEQ that standards used during site investigation were protective of drinking water.
HW  LQG  SQG or CEG	DEQ Hazardous Waste generators that submit an annual report to DEQ. This list includes active facilities in HazWaste.NET (http://www.deq.state.or.us/lq/hw/hwrpntonlineforms.htm). Status includes information on generator size including LQG (Large Quantity Generator), SQG (Small Quantity Generator), CEG (Conditionally Exempt Generator), and Unknown (may be used oil or universal waste activities or old generators that require further assessment).
HW/TSD 	DEQ Hazardous Waste Program registered sites that treat, store or dispose of hazardous waste. Includes both active and inactive sites in the process of closing or in post-closure care that are registered in HazWaste.NET (http://www.deq.state.or.us/lq/hw/hwrpntonlineforms.htm).
LUST 	DEQ leaking underground storage tank (LUST) list - includes sites that have reported releases from petroleum-containing underground storage tanks, including residential heating oil tanks, regulated tanks at gas stations and other commercial facilities, and non-regulated tanks.
LUST-NFA 	DEQ leaking underground storage tank (LUST) list where no further action (NFA) is required or cleanup is completed. PWS may consider verifying with DEQ that standards used during site investigation were protective of drinking water. Additional detailed maps can be provided upon request for source areas where DWP PCSs are not shown on maps to improve map clarity.
Oil & Gas Well 	Oil and Gas wells from OR Department of Geology and Mineral Industries. Only includes wells with a status of "permitted".
HSIS-AST 	Aboveground storage tank(s) as identified in the State Fire Marshall Hazardous Material Information System (HMIS) site list. Aboveground tanks storing gas products were not included since gaseous compounds rarely pose a threat to surface water or groundwater. Additional information on material stored and tank size is available upon request.
SFM (HSIS) 	State Fire Marshall Hazardous Material Information System (HMIS) site list. Status indicates site type (based on NAICS North American Industry Classification System code) and number of different chemicals stored on site. A full list of chemicals with information on storage type and a range of amounts is available on request. Information on materials in a gas-form was not included in the chemical counts since gaseous compounds rarely pose a threat to surface water or groundwater.
School 	School as identified by Department of Human Services. Further evaluation may be needed to identify if school has onsite/septic system, pesticide use, chemistry lab, vehicle maintenance, or other potential contaminant sources.
SW 	DEQ Active Solid Waste Disposal Permits list. Status includes permit type and activity (active, terminated, closure, pending). May include the following facility types: landfill, solidwaste treatment, transfer station/material recovery, composting, incineration, conversion tech., and energy recovery.
UIC – Stormwater 	DEQ Underground Injection Control (UIC) list of facilities with registered underground injection control systems that manage Stormwater. Status includes type and number of UIC wells registered.
UIC – Non-Stormwater 	DEQ Underground Injection Control (UIC) list of facilities with registered underground injection control systems that do not manage stormwater. Status includes type and number of UIC wells registered.
UST 	DEQ registered underground storage tank (UST) list with details on number of tanks that are upgraded to current standards, decommissioned, and with unknown status that require further assessment.
WQ SIS 	DEQ Site Information System (SIS) which includes Water Pollution Control Facility (WPCF) permits where discharge to surface water is not allowed and National Pollutant Discharge Elimination System (NPDES) permits for "point source" discharges into surface water. Includes both individual permits (site specific) and general permits covering a category of similar discharges
WQ SIS-WWTP 	Subset of water quality Site Information System (SIS) for domestic wastewater treatment plants that discharge to surface water
Transportation Sources	
Interstate/Highway  Interstate  U.S. Roads  Oregon Routes	Oregon Department of Transportation interstate, highway, road, or route identified in the Integrated Transportation Information System database.
Roads 	Oregon Department of Transportation 2012 Roads layer - note roads are usually mapped by section so there will be many duplications of road names.
Railways 	Railways



Appendix #3

Technical Information and Factsheets for Water Quality

PLEASE NOTE: The Internet URL Addresses listed in this document were included as a convenience for the users of this document. All URL Addresses were functional at the time this publication was last updated (July 2016). For active links, this list is located at <http://www.oregon.gov/DEQ/WQ/pages/index.aspx>

General Water Quality Information	
Handbook for Developing Watershed Plans to Restore and Protect Our Waters (EPA)	http://water.epa.gov/polwaste/nps/handbook_index.cfm
Water Quality Model Code and Guidebook (DLCD)	http://www.oregon.gov/LCD/pages/waterqualitygb.aspx
DEQ Toxics Reduction Strategy	http://www.deq.state.or.us/toxics/docs/ToxicsStrategyNov28.pdf
Oregon's Groundwater Protection Program – who does what? (DEQ)	http://www.deq.state.or.us/wq/groundwater/agencies.htm
Groundwater Basics for Drinking Water Protection (DEQ)	http://www.deq.state.or.us/wq/pubs/factsheets/drinkingwater/GroundwaterBasics.pdf
Protecting Oregon's Groundwater from Contamination (OSU)	http://groundwater.orst.edu/groundwater/
Oregon Climate Change Research Institute	http://occri.net/
Climate Impacts in the Northwest (EPA)	http://www3.epa.gov/climatechange/impacts/northwest.html
Climate science, data, tools, and information (NOAA)	http://www.noaa.gov/climate.html
Harmful Algae Blooms (OHA) FAQs, guidelines for lake managers and outreach materials	https://public.health.oregon.gov/HealthyEnvironments/Recreation/HarmfulAlgaeBlooms/Pages/index.aspx
Harmful Algal Blooms (DEQ) - agency strategy, actions to control/eliminate & prevention	http://www.deq.state.or.us/wq/algae/algae.htm
Residential Areas, Parks and Golf Courses	
Domestic Well Safety Program (OHA) – Resources and contacts for domestic/private wells	http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/SourceWater/DomesticWellSafety/Pages/index.aspx
Well Water Program (OSU)- tech. assistance for domestic/private wells & septic systems	http://wellwater.oregonstate.edu/
Oregon's Domestic Well Testing Program for Real Estate Transactions	http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/SourceWater/DomesticWellSafety/Pages/Testing-Regulations.aspx
After You Buy: Wells, Septic Systems, and a Healthy Homesite (NRCS)	http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_042403.pdf
Household Hazardous Waste Program website (DEQ)	http://www.deq.state.or.us/lq/sw/hhw/index.htm
Household Hazardous Waste - locally-sponsored collection programs	http://www.deq.state.or.us/lq/sw/hhw/collection.htm
Household Pharmaceutical Waste Disposal (DEQ)	https://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/SourceWater/Pages/PharmaceuticalWaste.aspx

Residential Areas, Parks and Golf Courses (cont.)	
Household Hazardous Wastes (EPA)	https://www.epa.gov/hw/household-hazardous-waste-hhw
Recycle Used Motor Oil Resources (EPA)	http://www.epa.gov/osw/conservematerials/usedoil/ydiydi.htm
Frequently Asked Questions About Heating Oil Tanks (DEQ)	http://www.deq.state.or.us/lq/tanks/hot/homeowners.htm
Proper Care/Maintenance of Heating Oil and Other Unregulated Tank Systems	http://www.deq.state.or.us/lq/pubs/factsheets/tanks/hot/ProperCareMaintenance.pdf
Oregon resources for on-site septic systems (DEQ)	http://www.oregon.gov/deq/WQ/Pages/onsite/SepticSmartHome.aspx
Oregon's Onsite Wastewater Management Program (Septic Systems) (DEQ)	http://www.deq.state.or.us/wq/onsite/onsite.htm
Local Outreach Toolkit for Septic Systems (EPA)	https://www.epa.gov/septic/septic-systems-outreach-toolkit
A Homeowners Guide to Septic Systems (EPA)	http://www.nesc.wvu.edu/pdf/www/septic/epa_septic_guide.pdf
Septic Tank Maintenance (DEQ)	http://www.deq.state.or.us/wq/pubs/factsheets/onsite/septic_tankmaint.pdf
Septic Systems OSU Extension website (OSU)	http://wellwater.oregonstate.edu/septic-systems-0
Groundwater protection and your septic system (National Small Flows Clearinghouse)	http://www.nesc.wvu.edu/pdf/www/septic/septic_tank3.pdf
<i>Combating Illegal Dumping (DEQ)</i>	http://www.deq.state.or.us/lq/sw/disposal/illegaldumping.htm
Water Well Owner's Handbook & other related guidance documents (WRD)	http://www.oregon.gov/owrd/pages/pubs/index.aspx
Oregon Water Resources Department	http://egov.oregon.gov/OWRD/
Disposal of Chlorinated Water from Swimming Pools and Hot Tubs (DEQ)	http://www.deq.state.or.us/wq/pubs/factsheets/wastewater/bmpchlwaterdisp.pdf
Source Water Protection Publications (EPA) for managing various including: Septic Systems Turfgrass and Garden Fertilizer Application Small-Scale Application of Pesticides Small Quantity Chemical Use Pet and Wildlife Waste Storm Water Runoff	http://www.deq.state.or.us/wq/dwp/assistance.htm
Integrated Plant Protection Center (OSU)	http://ipmnet.org/
National Pesticide Information Center	http://npic.orst.edu/
Integrated Pest Management and Pesticide Safety for Schools (OSU)	http://www.ipmnet.org/Tim/PSEP_home.htm
School Lab Cleanup Program (DEQ)	http://www.deq.state.or.us/lq/labcleanup.htm
Golf Course Integrated Pest Management (IPM) tool and BMP Generator	http://www.greengolfusa.com/tiki-index.php
EcoBiz Certified Landscapers and Auto Repair Shops	http://ecobiz.org/find-an-ecobiz/

Agriculture/Forestry Land Uses	
<i>Tips for Small Acreages in Oregon (NRCS) - Fact Sheets on wells, septic systems, animals, crops, weeds, streamside erosion protection. Includes specific factsheets for Eastern and Western Oregon.</i>	http://www.nrcs.usda.gov/wps/portal/nrcs/detail/or/newsroom/?cid=nrcs142p2_046062
Source Water Protection Pubs (EPA) for managing various activities including: Agricultural Fertilizer Application Large-Scale and Small-Scale Application of Pesticides Livestock, Poultry and Horse Waste Above Ground and Underground Storage Tanks Small Quantity Chemical Use Turfgrass and Garden Fertilizer Application	http://www.deq.state.or.us/wq/dwpp/assistance.htm
Oregon Small Farms (OSU Extension) Information on Crops, Grains, Livestock, Pastures, and Soils (see tabs at top of page for multiple resources)	http://smallfarms.oregonstate.edu/
Oregon Pesticide Stewardship Partnerships and Waste Pesticide Collection Events	http://www.oregon.gov/oda/programs/pesticides/water/pages/pesticidestewardship.aspx
Managing Waste Pesticide (DEQ)	http://www.deq.state.or.us/lq/hw/pesticide.htm
Oregon Department of Agriculture (ODA) – resources for reducing impacts	http://www.oregon.gov/oda/Pages/default.aspx
Soil and Water Conservation Districts (OACD) – technical assistance for rural landowners, family forests and growers	http://oacd.org/conservation-districts/directory
Natural Resources Conservation Service, Oregon (NRCS)	http://www.or.nrcs.usda.gov/
NRCS Financial Assistance Programs	http://www.nrcs.usda.gov/wps/portal/nrcs/main/or/programs/financial/
Oregon Department of Fish and Wildlife Hatchery Information (ODFW)	http://www.dfw.state.or.us/fish/hatchery/
Animal Care and Handling Facilities (from California stormwater program)	https://www.casqa.org/sites/default/files/BMPHandbooks/BMP_IndComm_Appendix_D.pdf
Managing Small-acreage Horse Farms (OSU)	https://catalog.extension.oregonstate.edu/ec1558/viewfile
Irrigation well use and maintenance	See resources for domestic wells under Information for Residential Areas
Oregon State University Forestry & Natural Resources Extension Program	http://extensionweb.forestry.oregonstate.edu/
Oregon Department of Forestry Stewardship Foresters	http://www.oregon.gov/ODFW/Working/Pages/FindAForester.aspx
Oregon Department of Forestry Grants and Incentives	http://www.oregon.gov/ODF/AboutODF/Pages/GrantsIncentives.aspx
US Department of Agriculture Pacific Northwest Research Station	http://www.fs.fed.us/pnw/
US Department of Agriculture Forest Incentive Programs Available in Oregon	http://www.srs.fs.usda.gov/econ/data/forestincentives/or.htm
US Forest Service State & Private Forestry--Cooperative Forestry, Forest Health Protection, Sustainable Development & Urban/ Community Forestry	http://www.fs.fed.us/spf/
Water quality impacts information from US Forest Service - Part III: Chapter 10: Forest Management; Chapter 13: Pesticides and Part IV: Chapter 14-16 Animals	http://www.srs.fs.fed.us/pubs/gtr/gtr_srs039/

Agriculture/Forestry Land Uses (cont.)	
National Management Measures to Control Nonpoint Source Pollution from Forestry (EPA)	http://water.epa.gov/polwaste/nps/forestry/forestrymgmt_index.cfm
Managing Nonpoint Source Pollution from Forestry (EPA)	https://www.epa.gov/polluted-runoff-nonpoint-source-pollution/forestry-additional-resources
Forest Practices Board Manual (Washington Dept. of Natural Resources)	http://www.dnr.wa.gov/about/boards-and-councils/forest-practices-board/rules-and-guidelines/forest-practices-board-manual
Sustainable Forest Management Programs/Certifications:	https://www.oregon.gov/ODF/Documents/AboutODF/ForestCertificationFactsheet
American Tree Farm Systems (ATFS)	https://www.treefarmssystem.org/
Forest Stewardship Council (FSC)	https://us.fsc.org/en-us/certification
Sustainable Forestry Initiative (SFI)	http://www.oregonsfi.org/
Dovetail Partners, Inc.	http://www.dovetailinc.org/
Commercial/Industrial/Municipal Land Uses	
Drinking Water Protection Strategies for Commercial & Industrial Land Uses (DEQ)	http://www.deq.state.or.us/wq/dwp/docs/DWPSstrategiesCommercialIndustrial.pdf
Business and Industry tips for reducing water quality impacts (DEQ)	http://www.deq.state.or.us/wq/pubs/factsheets/drinkingwater/busindtips.pdf
Source Water Protection Publications (EPA) for managing various including: Above Ground and Underground Storage Tanks Aircraft and Airfield Deicing Operations Highway Deicing Operations Vehicle Washing Pet and Wildlife Waste Small Quantity Chemical Use Storm Water Runoff	http://www.deq.state.or.us/wq/dwp/assistance.htm
<i>Free Assistance from DEQ's Toxics Use and Waste Reduction Assistance Program</i>	http://www.deq.state.or.us/lq/pubs/docs/hw/TABrochure.pdf
10 Ways for Businesses to Prevent Pollution, Conserve Resources and Save Money (with pollution prevention resources for various industry sectors) (DEQ)	http://www.deq.state.or.us/programs/sustainability/10ways-businesses.htm
Managing Used Computers and Other Electronic Equipment (DEQ)	http://www.deq.state.or.us/lq/pubs/factsheets/ManagingUsedComputers.pdf
Computer and Electronic Equipment Recyclers (DEQ)	http://www.deq.state.or.us/lq/pubs/factsheets/OregonECyclesConsumers.pdf
Underground Injection Control (UIC) Program (DEQ)	http://www.deq.state.or.us/wq/uic/overview.htm
Industrial Stormwater Best Management Practices Manual (DEQ)	http://www.deq.state.or.us/wq/wqpermit/docs/IndBMP021413.pdf
Best Mgmt Practices for Industrial Activity Storm Water Discharges (DEQ)	http://www.deq.state.or.us/wq/stormwater/docs/nwr/indbmps.pdf
Construction Stormwater Best Management Practices Manual (DEQ)	http://www.deq.state.or.us/wq/wqpermit/docs/general/npdes/1200c/BMPManual.pdf
Illicit Discharge and Source Tracing Guidance Manual (Washington Stormwater Center)	http://www.wastormwatercenter.org/illicit-connection-illicit-discharge

Commercial/Industrial/Municipal Land Uses (cont.)	
Low Impact Development O&M guidance (Washington Stormwater Center)	http://www.wastormwatercenter.org/lid-om-guidance/
Water quality impacts information from USFS - Part V: Chapter 18-20 Mining and Oil/Gas	http://www.srs.fs.fed.us/pubs/gtr/gtr_srs039/
Dam Safety Publications and Resources FEMA website	https://www.fema.gov/dam-safety-publications-resources
Healthcare: Pollution Prevention & Best Management Practices (EPA)	http://www3.epa.gov/region9/waste/p2/hospart.html
Boating/Marinas/Recreation Areas	
Oregon Clean Boater Program (OSMB)	http://www.oregon.gov/OSMB/boater-info/Pages/Clean-Boater.aspx
Clean Boater Guide (OSMB)	http://www.oregon.gov/OSMB/boater-info/Documents/2015_osmb_clean_boater_guide_forweb.pdf
Best Management Practices for Oregon's Marinas (DEQ)	http://www.deq.state.or.us/wq/pubs/bmps/marinas.pdf
Clean Marina Program (OSMB)	http://www.oregon.gov/OSMB/boater-info/Pages/Clean-Marinas.aspx
Clean Marina Guidebook (OSMB)	http://www.oregon.gov/OSMB/forms-library/Documents/Environmental/entire_clean_marina_guidebook.pdf
Marine Sewage and Wastewater Disposal (DEQ)	http://www.oregon.gov/OSMB/Pages/Pumpout-and-Dump-Stations.aspx
Water quality impacts information from US Forest Service - Part II: Chapters 7-8: Recreation; Chapter 5: Dams and Chapter 9: Roads	http://www.srs.fs.fed.us/pubs/gtr/gtr_srs039/

Appendix #4

FUNDS AND RESOURCES for Drinking Water Source Protection

This section provides brief descriptions and contact information for resources available to public water systems, including grants and loans to fund drinking water infrastructure and source protection projects.

PLEASE NOTE: *The Internet URL Addresses listed in this document were included as a convenience for the users of this document. All URL Addresses were functional at the time this publication was last updated (July 2016). Active links on this list will be placed on DEQ's Water Quality and Drinking Water Protection web pages under "Funds and Resources..." Link: <http://www.oregon.gov/DEQ/WQ/pages/index.aspx>*

Oregon Health Authority (OHA)

Drinking Water Services - Phone: 971-673-0405; **Website:** www.healthoregon.org/dwp

The Oregon Health Authority (OHA) is the primacy agency for the implementation of the federal Safe Drinking Water Act (SDWA) in Oregon. ORS 338.277 authorizes the OHA to administer the federal Safe Drinking Water Act in Oregon as the Primacy Agency in agreement with the federal government. ORS 448.131 further authorizes the adoption of standards necessary to protect public health through insuring safe drinking water within a water system. Standards in OAR 333-061 outlines requirements for systems to meet MCLs, submit to periodic inspections, and meet enforcement requirements as administered by OHA. As the primacy agency, OHA also approves drinking water treatment plans and sets construction standards, operator certification standards, and enforces rules to ensure safe drinking water. The OHA website above has extensive information on drinking water treatment requirements.

In order to assist systems in complying with standards, OHA also provides technical assistance and oversight of grants and loans from the Safe Drinking Water Act for public water system operation and improvements. *For those Safe Drinking Water Act loans and grant funds, the **Oregon Health Authority partners with Oregon Infrastructure Finance Authority to provide the financial services** (see below).*

Business Oregon - Infrastructure Finance Authority (IFA)

Phone: (503) 986-0123; **Website:** www.orinfrastructure.org

IFA is a division of Business Oregon that provides funding for municipally owned infrastructure projects. IFA manages federal infrastructure funds for agencies such as Oregon Health Authority and Housing and Urban Development. IFA is not a regulatory agency but collaborates and supports our state and federal partners with financing programs and technical assistance. Available funding programs that are most applicable for groundwater source protection include: the Safe Drinking Water Revolving Loan Fund (SDWRLF), Drinking Water Source Protection Fund (DWSP), and Special Public Works Fund (SPWF).

Safe Drinking Water Revolving Loan Fund (SDWRLF)

This loan program funds drinking water system improvements needed to maintain compliance with the Federal Safe Drinking Water Act. The Safe Drinking Water Fund is funded by annual grants from the U.S. Environmental Protection Agency (EPA) and matched with funds from the state Water/Wastewater Financing Program. The program is managed by the Oregon Health Authority (OHA), Drinking Water Services. The loans are managed by the Oregon Infrastructure Finance Authority (IFA).

The Safe Drinking Water Revolving Loan Fund (SDWRLF) is designed for water source, treatment, distribution, storage and related infrastructure projects. Funding is available for all sizes of water systems, although 15 percent of the funds are reserved for systems serving a population of fewer than 10,000. Eligible applicants can be owners of water systems that provide service to at least 25 year-round residents or systems that have 15 or more connections (or a nonprofit with 25 or more regular users).

Owners can be a nonprofit, private party or municipality, but systems cannot be federally owned or operated.

To be eligible for funding, a project must solve an existing or potential health hazard or noncompliance issue under federal/state water quality standards.

To apply, the municipality should first submit a Letter of Interest to Oregon Health Authority where it will be rated and ranked. Call Oregon OHA Drinking Water Services at 971-673-0422 or go to the OHA website: www.healthoregon.org/srf.

Projects placed on the Project Priority List will be invited to apply through IFA for funding. Contact your IFA Regional Coordinator for assistance and more information. Call IFA at 503-986-0123 or <http://www.orinfrastructure.org/>

Drinking Water Source Protection Fund (DWSP)

From the Safe Drinking Water Act, loans and grants are also available for drinking water protection projects: *low interest loans up to a maximum of \$100,000 per project, and grant funds up to \$30,000 per water system*. Eligible systems include any public or privately-owned Community and Nonprofit Non-Community water systems with a completed Source Water Assessment that are able to demonstrate a direct link between the proposed project and maintaining or improving drinking water quality. Eligible activities include those that lead to risk reduction within the delineated source water area or would contribute to a reduction in contaminant concentration within the drinking water source. Projects can take either a local or regional approach and may involve multiple communities and/or water systems attempting to address a common source water issue or group of issues.

Categories for eligible projects for DW Source Protection funding for groundwater include:

- **Refined Delineation:** OHA and DEQ have completed delineations for most drinking water source areas (DWSA) for the community and non-community public water systems. DWSAs include aquifer recharge areas for groundwater sources. DW Source Protection funding can be used to complete, update, or refine DWSA delineations using new or additional site-specific information as part of a more comprehensive protection strategy.
- **Updated Assessment:**
 - **Inventory** – Projects that improve upon (e.g. update or expand) existing potential contaminant source inventories available from the DEQ database, Geographic Information System, and Assessment Reports prepared by OHA/DEQ.
 - **Evaluation** – Water quality monitoring projects to evaluate existing and potential threats. This could include evaluating and prioritizing these threats (or protection activities) based upon new or more detailed information.
- **Source Protection Planning:**

Projects designed to identify appropriate protection measures, including development of a comprehensive DW Source Protection plan, educational projects, implementation of Best Management Practices (BMPs), development of local DW Source Protection ordinances, development of restoration, or conservation plans.
- **Implementation:**

Funds can be used to implement many types of protection strategies in drinking water source areas. This can include implementation of any *eligible activities that will reduce risks within the source water area or would contribute to a reduction of contaminant concentration within the drinking water source(s)*.

For the source water protection funds, contact OHA regarding the letter of interest submittal schedule. Call Oregon OHA Drinking Water Services at 971-673-0422 or go to the OHA website: www.healthoregon.org/srf or contact IFA at 503-986-0123; www.orinfrastructure.org

Other IFA Funding Programs

IFA administers a number of other funding programs for communities that support the design and construction of public infrastructure and economic and community development. These funding programs include the Water/Wastewater Funding Program, the Special Public Works Fund (SPWF) Community Development Block Grant (CDBG), and the Port Revolving Loan Fund (PRLF). More information and allowable funded project activities are available on IFA's website.

Oregon Department of Environmental Quality (DEQ)

Clean Water State Revolving Fund: 503-229-6412; **Website:** www.deq.state.or.us/wq/loans/loans.htm

Clean Water State Revolving Fund (CWSRF)

Low-cost loans for planning, design, and construction projects to attain and maintain water quality standards, and necessary to protect beneficial uses such as drinking water sources, irrigation, and recreation. Eligible borrowers are public entities, such as cities and counties, Indian tribal governments, sanitary districts, soil and water conservation districts, irrigation districts, various special districts, and some intergovernmental entities. Applications are accepted year round with scheduled review and ranking in the first week of January, May and September. Contact DEQ for a list of CWSRF project officers: www.deq.state.or.us/wq/loans/loans.htm.

Financial incentives make CWSRF loans worth exploring. Principle forgiveness is available for communities meeting affordability criteria, or for meeting green project criteria. Implement a non-planning nonpoint source project *and* a traditional point source wastewater treatment project through the same application to reduce your interest rate on the combined two projects to as low as 1%. This combined application is called a sponsorship option.

CWSRF Pollution Reduction Funding

The Clean Water State Revolving Fund loan program provides low-cost loans to public entities for the planning, design or construction of both point source and nonpoint source projects that *prevent or mitigate water pollution*. CWSRF offers a Local Community Loan, which allows the borrower to make loans to private entities like home owners and farmers. The Local Community Loans fund the repair and replacement of failing decentralized systems. This loan type can also fund nonpoint source agricultural best management practices and a variety of nonpoint source watershed improvement projects.

More information on DEQ's Clean Water State Revolving Fund program can be found here:

<http://www.deq.state.or.us/wq/loans/loans.htm>. For specific information on the Sponsorship Option, Planning Loans, Nonpoint Source Loans, or Local Community Loans, see

<http://www.deq.state.or.us/wq/loans/apps.htm>. The application requirements for CWSRF loans may take some lead-time to develop and may require out-of-pocket expense to prepare. Prospective CWSRF applicants should discuss any questions about the required content of these items with a regional DEQ CWSRF Project Officer at the earliest opportunity (<http://www.deq.state.or.us/wq/loans/contacts.htm>)

Supplemental Environmental Projects (SEPs)

Supplemental Environmental Projects are administered by DEQ's Office of Compliance and Enforcement. When DEQ assesses civil penalties for environmental law violations, violators can offset up to 80% of their monetary penalty by agreeing to pay for a Supplemental Environmental Project that improves Oregon's environment. SEPs can be for pollution prevention or reduction, public health protection, environmental restoration and protection as long as it is a project that the respondent is not already required to do by law or where the project would be financially self-serving for the respondent. The work can be completed by a third-party like a local government, watershed council, non-profit or private entity. Community organizations with proposed projects are also free to contact respondents on their own initiative. The enforcement case does not necessarily have to be in the same area (watershed/county, etc.) as the

environmental project or even address the same media (i.e. air/water/land). Interested parties can sign up for DEQ's public notifications via email at <http://www.oregon.gov/deq/Pages/publicnotice.aspx> - when signing up, select types of information (select "enforcement actions") and which counties or subbasins are of interest.

Oregon Water Resources Department (WRD)

Website: <http://www.oregon.gov/OWRD/pages/index.aspx>

The Water Resources Department is the state agency charged with administration of the laws governing surface and ground water resources. The Department's core functions are to protect existing water rights, facilitate voluntary stream flow restoration, increase the understanding of the demands on the state's water resources, provide accurate and accessible water resource data, and facilitate water supply solutions. WRD carries out the water management policies and rules set by the Water Resources Commission and oversees enforcement of Oregon's water laws. By law, all surface and ground water in Oregon belongs to the public.

WRD developed *Oregon's 2012 Integrated Water Resources Strategy* to help individuals and communities address instream and out-of-stream needs now and into the future, including water quantity, water quality and ecosystem needs. Funding to support groundwater-related planning, feasibility studies, and implementation of water projects includes: Feasibility Study Grants, Water Project Grants and Loans (formerly Water Supply Development Grants and Loans), and Place-based Planning Grants. For **more information on the criteria for these grants, visit:**

http://www.oregon.gov/OWRD/pages/Water_Resources_Development_Program.aspx

Municipal Water Management and Conservation Planning

Municipal water management and conservation planning provides a process through which cities and other municipal water suppliers estimate long-range water supply needs and identify alternatives, including water conservation programs, to meet those needs. The Department requires many municipal water suppliers to prepare plans as conditions of their water use permits or permit extensions.

Water Rights and Well Construction/Abandonment

Watermasters respond to complaints from water users and determine in times of water shortage, which generally occur every year, who has the right to use water. Watermasters can also provide information on the potential risks and proper abandonment of unused wells. "Watermaster" offices across the state offer excellent local information: http://www.oregon.gov/owrd/pages/offices.aspx#Watermaster_Offices.

Oregon Department of Forestry (ODF)

Website: <http://www.oregon.gov/ODF/Pages/index.aspx>

The Oregon Department of Forestry manages and regulates activities on non-federal forestland in Oregon. There are three main divisions under ODF-- Fire Protection, Private Forests, and State Forests. The Private Forests Division administers the Forest Practices Act and various forestry incentive programs and employs the use of about 50 Stewardship Foresters who work closely with landowners and operators. The State Forests Division is responsible for forest management to provide economic, environmental, and social benefits to Oregonians.

Financial incentive programs are aimed at encouraging and assisting landowners in managing their resources and meeting their objectives. Typical forestry projects can be aimed at protecting the landowner's resources/investment from fire or insect and disease infestation, to increasing its monetary and environmental value in the future.

Information about all ODF and federal forestry-related grants and incentive programs can be found at: <http://www.oregon.gov/ODF/AboutODF/Pages/GrantsIncentives.aspx>

Department of Agriculture - Natural Resources Program

Phone: 503-986-4700; **Website:** <http://www.oregon.gov/ODA/programs/NaturalResources>

The Oregon Department of Agriculture (ODA) is responsible for developing plans to prevent and control water pollution from agricultural activities and soil erosion on rural lands. Through the actions below, ODA's Natural Resources Program aims to conserve, protect, and develop natural resources on public and private lands to ensure that agriculture will continue to be productive and economically viable in Oregon:

- Address water quality and natural resource conservation on agricultural lands
- Ensure proper and legal sale, use, and distribution of pesticide products
- Assist local soil and water conservation districts as they help landowners properly manage Oregon's natural resources

More information on the Agricultural Plan Areas and Regulations can be found at:

<http://www.oregon.gov/ODA/programs/NaturalResources/Pages/AgWaterQuality.aspx>

Information on local management plans and your area's ODA Water Quality Specialist can be found at:

<http://www.oregon.gov/ODA/programs/NaturalResources/AgWQ/Pages/AgWQPlans.aspx>

More information on the regulation and use of pesticides can be found at:

<http://www.oregon.gov/ODA/programs/Pesticides/Pages/default.aspx>

Department of Agriculture - Pesticide Analytical and Response Center (PARC)

Website: <http://www.oregon.gov/ODA/programs/Pesticides/Pages/PARC.aspx>

The Pesticide Analytical and Response Center (PARC) was created by executive order in 1978. The program was reauthorized under the Oregon Department of Agriculture (ODA) as ORS 634.550, in 1991.

PARC is mandated to perform the following activities with regard to pesticide-related incidents in Oregon that have suspected health or environmental effects: collect incident information, mobilize expertise for investigations, identify trends and patterns of problems, make policy or other recommendations for action, report results of investigations, and prepare activity reports for each legislative session.

PARC does not have regulatory authority. Their primary function is to coordinate investigations to collect and analyze information about reported incidents.

To report a pesticide incident that has impacted people, animals, or the environment, contact:

Theodore Bunch Jr., PARC Coordination Team Leader at 503-986-6470 or toll-free at 844-688-7272,

PARC@oda.state.or.us or Christina Higby, Citizen Advocate Liaison at 503-986-5105, chigby@oda.state.or.us

Department of Agriculture - Soil and Water Conservation Districts

Website: <http://www.oregon.gov/ODA/SWCD/>

SWCD Program and Water Quality Program Manager: John Byers, 503-986-4718

The Soil and Water Conservation District (SWCD) Program provides services to the 45 Soil and Water Conservation Districts throughout Oregon (list current as of 6/16). SWCDs are local government entities that have authorities to address soil, erosion, and water quality issues.

Source Water Collaborative – led by U.S. Environmental Protection Agency

Technical assistance and lists of resources and contacts are available from this national network that has worked to promote drinking water protection for several years. The Source Water Collaborative is a network of federal, state, and local organizations led by US EPA. Some of the key Source Water Collaborative members include the US EPA, US Department of Agriculture, AWWA, American Planning Association, ASDWA, ACWA, National Rural Water Association, Groundwater Protection Council, National Association of Counties, and The Trust for Public Land. Resources can be found here:

www.protectdrinkingwater.org

U.S. Environmental Protection Agency

Catalog of Federal Funding Sources for Watershed Protection

Website: <https://ofmpub.epa.gov/apex/watershedfunding/f?p=fedfund:1>

This is an online, free searchable database of financial assistance sources (grants, loans, and cost-sharing) available to fund a variety of watershed protection projects.

U.S. Environmental Protection Agency - Environmental Finance Centers

Website: <https://www.epa.gov/envirofinance>

Free technical assistance is available through EPA's Environmental Finance Centers. There is currently no Environmental Finance Center for US EPA Region 10, but the resources are still available through the US EPA website. The program mission is to provide help to those facing the "how to pay" challenges of environmental protection. EFC is committed to helping the regulated community build and improve the technical, managerial, and financial capabilities needed to comply with federal and state environmental protection laws.

U.S. Department of Agriculture, Farm Service Agency

Conservation Programs

Website: <http://www.fsa.usda.gov/programs-and-services/conservation-programs/index>

USDA Farm Service Agency oversees a number of voluntary conservation-related programs. These programs work to address a large number of farming and ranching related conservation issues including: drinking water protection, reducing soil erosion, wildlife habitat preservation, preservation and restoration of forests and wetlands, and aiding farmers whose farms are damaged by natural disasters.

Source Water Protection Program (SWPP)

The SWPP is designed to protect surface and ground water used as drinking water by rural residents. Through a partnership with the National Rural Water Association, local teams are formed to develop plans to reduce pollutant impacts in rural areas.

<http://www.fsa.usda.gov/programs-and-services/conservation-programs/source-water-protection/index>

Conservation Reserve Program (CRP)

In exchange for a yearly rental payment, farmers enrolled in the program agree to remove sensitive land from agricultural production and plant species that will improve environmental health and quality. Contracts for land enrolled in CRP are 10-15 years in length. The long-term goal of the program is to re-establish valuable land cover to help improve water quality, prevent soil erosion, and reduce loss of wildlife habitat.

<http://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/index>

Conservation Reserve Enhancement Program (CREP)

The CREP, an offshoot of CRP, targets high-priority conservation issues identified by local, state, or tribal governments or non-governmental organizations. In exchange for removing environmentally sensitive land from production and introducing conservation practices, farmers, ranchers, and agricultural land owners are

paid an annual rental rate. Participation is voluntary, and the contract period is typically 10–15 years, along with other federal and state incentives as applicable per each CREP agreement.

<http://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-enhancement/index>

Emergency Conservation Program (ECP)

The ECP provides funding and technical assistance for farmers and ranchers to restore farmland damaged by natural disasters and for emergency water conservation measures in severe droughts. The ECP helps farmers and ranchers to repair damage to farmlands caused by natural disasters. The ECP also provides funding and assistance to help ranchers and farmers install water conservation measures during severe drought.

<http://www.fsa.usda.gov/programs-and-services/conservation-programs/emergency-conservation/index>

U.S. Department of Agriculture, Natural Resources Conservation Service

NRCS provides farmers, ranchers and forest managers with free technical assistance, or advice, for their land. Common technical assistance includes: resource assessment, practice design and resource monitoring. The conservation planner will help you determine if financial assistance is right for you. Technical assistance is also available online through Conservation Client Gateway. For more information about NRCS, visit their home page: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/about/>.

Several key funding opportunities for best management practices and conservation on private, non-industrial forestland and agricultural lands may provide assistance in groundwater source areas include:

Environmental Quality Incentives Program (EQIP)

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/> and

Conservation Stewardship Program (CSP)

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/>

Agricultural Land Easements (ALE)

<http://www.nrcs.usda.gov/wps/portal/nrcs/detail/or/home/?cid=stelprdb1249312>

Emergency Watershed Protection (EWP)

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/or/programs/financial/ewp/>

Anyone applying for EQIP or any of the other NRCS grants for the first time should schedule a meeting with NRCS to discuss their options before moving forward.

U.S. Department of Agriculture, Rural Development Water and Waste Disposal Direct Loans and Grants

Eligible Projects: Pre-construction and construction associated with building, repairing, or improving drinking water, solid waste facilities and wastewater facilities

Eligible Applicants:

-Cities or towns with fewer than 10,000 population

-Counties, special purpose districts, non-profit corporations or tribes unable to get funds from other sources at reasonable rates and terms

Funding Available: Loans (40-year term), grants in some cases, interest rates vary (currently 2.125 – 3.5%)

How to Apply: Applications accepted year-round on a fund-available basis.

<http://www.rurdev.usda.gov/UWPdispdirectloansgrants.htm>

U.S. Environmental Protection Agency

Community Action for a Renewed Environment (CARE) Grants

Eligible Projects: Prevention of human exposure to harmful pollution; improve water quality. Form community-based collaborative partnerships; identifying and developing an understanding of the many local sources of risk from toxic pollutants and environmental concerns; and setting priorities for the reduction of the identified risks and concerns of the community

Eligible Applicants: Local, public non-profit institution/organizations, federally-recognized Indian tribal government, Native American organizations, private non-profit institution/organization, quasi-public nonprofit institution/organization both interstate and intrastate, local government, colleges, and universities

Funding Available: \$75,000 to \$100,000 with an average project funding of about \$90,000

How To Apply: www.epa.gov/care

U.S. Department of Commerce

Community Development Block Grant Planning Program

Phone: (206) 220-5101; <http://portal.hud.gov/hudportal/HUD?src=/states/washington/offices>

http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs

Eligible Projects: Comprehensive plans, Infrastructure plans, Feasibility studies, Community action plans, Low-income housing assessments

Eligible Applicants: Projects must principally benefit low- to moderate-income people in non-entitlement cities (under 50,000 people) and counties (under 200,000 people).

Funding Available: Grants

- Up to \$24,000 for a single jurisdiction
- Up to \$35,000 for single jurisdiction projects that address urgent public health and safety needs
- Up to \$40,000 for multiple jurisdictions/joint application

How To Apply: <http://portal.hud.gov/hudportal/HUD?src=/states/washington/offices>

Rural Community Assistance Corporation (RCAC)

Website: www.rcac.org; **National contact:** Josh Griff, 720-951-2163, jgriff@rcac.org

Oregon contacts: Chris Marko, Rural Development Specialist 503- 228-1780; cmarko@rcac.org and RosAnna Noval, Rural Development Specialist 503-308-0207; rnoval@rcac.org

At the national level, RCAC has a variety of loans for water and/or wastewater planning, environmental work, and other work to assist in developing an application for infrastructure improvements

Eligible Applicants: Non-profit organizations, public agencies, tribes, and low-income rural communities with a 50,000 population or less, or 10,000 or less if guaranteed by USDA Rural Development financing.

Funding Available:

- Maximum \$50,000 for feasibility loan
- Maximum \$350,000 for pre-development loan
- 1 year term with 5.5% interest rate

How to Apply: Applications accepted anytime. www.rcac.org

Water Research Foundation - Source Water Protection Cost-Benefit Tool

Website: <http://www.swptool.org/index.cfm>

This is a free, online suite of tools designed to assist in evaluating the triple bottom-line costs and benefits of different source water protection options. Cost/benefit calculations help evaluate, prioritize, justify, and ultimately implement source water protection initiatives.

LAND TRUSTS

Resources to assist in locating a land trust: <http://findalandtrust.org/states/oregon41>

Coalition of Oregon Land Trusts

Phone: 503-719-4732, Website: <http://oregonlandtrusts.org/>

The Coalition of Oregon Land Trusts (COLT) is a newly formed nonprofit representing and serving Oregon's land trusts. Its mission is to serve and strengthen the land trust community in Oregon. Oregon's land trust community is working at local, regional, and statewide scales with landowners, communities, public agencies and other partners to maintain the state's natural heritage and the economies it supports. COLT will accomplish its mission by strengthening public policies and programs that are supportive of land conservation, helping to build capacity within and across land trusts, and communicating to key audiences about the role of land trusts in conserving Oregon's natural heritage and healthy human communities that depend on it. There are currently 18 land trusts that are members of COLT.

Land Trust Alliance

Phone: (971) 202-1483, Website: <http://www.landtrustalliance.org/>

The Land Trust Alliance is a national conservation organization that works preserve land through conservation and easements, so land and natural resources get protected. The Alliance is based in Washington, D.C., and has several regional offices.

Individual land trusts which may be of assistance include:

The Trust for Public Land <http://www.tpl.org/services/conservation-transactions>

The Nature Conservancy <http://www.nature.org/>

FOUNDATIONS

The National Groundwater Association

Eligible Projects: USA Groundwater Fund was established by the National Ground Water Research and Educational Foundation (NGWREF) to help fund water supply projects as well as education and training projects within the United States of America.

- Education and training program projects for groundwater development, wellhead protection, well pumping systems, and/or maintenance of wells and pumping systems
- Groundwater supply projects that serve the general public in a community setting.

Eligible Applicants: Applicant should have a history of not less than three years of demonstrated success in projects for groundwater water supply. Applicant should provide with its application documentation of its successful completion of these projects, preferably from a third party, not affiliated with the grant seeking organization that can attest to the completed work.

Funding Available: Small grants, total of \$10,000 available per year nationwide.

Contact: <http://www.ngwa.org/Foundation/Pages/USA-Groundwater-Fund.aspx>

The Collins Foundation

Eligible Projects: land acquisitions; grants are for projects that directly benefit the residents of Oregon

Eligible Applicants: nonprofits with tax-exempt status under Section 501(c)(3) / agencies that have current registration with the offices of the Oregon State Attorney General and the Secretary of State

Funding Available: varies; grants may range from \$3000 to \$150,000

Contact: www.collinsfoundation.org

Appendix 5: Parameters Used to Identify Preliminary Drinking Water Source Areas

PWS Name: City of Aumsville

PWS ID: 4100065

TINWSYS_IS: 4390

Source Name: Church Well

Well Log #: L75748

Source ID: SRC-AE

TINWSWF_IS: 22522

Latitude (WGS84 (DMS)): 44° 50' 46.625"N

Longitude (WGS84 (DMS)): 122° 51' 37.369"W

Delineation Method: Calculated Fixed Radius

Population: 3,750

Number of Active Sources: 5

Estimated Pump Rate Per Active Well (Q in gpd)*: Well = 187,500 gpd

*Pumping rate for an individual well is based on estimated water use rate of 250 gallons per person per day and is then divided by the number of active groundwater sources.

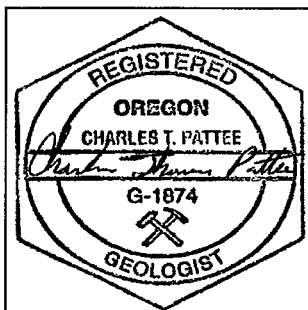
Aquifer Lithology (for effective porosity estimate):

- | | | |
|---------------------------------------|---|--|
| <input type="checkbox"/> Unknown | <input type="checkbox"/> Sandy Silt | <input checked="" type="checkbox"/> Layered Volcanic Rocks |
| <input type="checkbox"/> Sand | <input type="checkbox"/> Sand & Gravel | <input type="checkbox"/> Fractured Volcanic Rocks |
| <input type="checkbox"/> Gravel | <input type="checkbox"/> Cobbles/Gravel | <input type="checkbox"/> Fractured Sedimentary Rocks |
| <input type="checkbox"/> Other: _____ | | |

Effective Porosity (N_e) = 0.25

Aquifer Thickness (b): 56 ft

Comments on thickness determination (if needed): Thickness of identified water-bearing zone below 127 ft.



Exp. 05/31/2017

