



Drinking Water Source Protection Interactive Map Viewer

Notes and Legend

September 2016

The Oregon Drinking Water Protection Program Interactive Map Viewer application was produced by Oregon Dept. of Environmental Quality in partnership with the Oregon Health Authority to help public water systems and their communities identify and protect sources of drinking water (streams rivers, lakes, reservoirs and groundwater aquifers). This application allows the viewer to identify land uses and potential sources of pollutants identified on regulatory databases within public drinking water source areas (DWSAs). Maps can be produced and data related to the potential sources of pollutants can be output to tables to allow further evaluation and technical assistance work. The web map can be accessed using the following link: <http://deq14.deq.state.or.us/html5viewer261/?viewer=drinkingwater>. This document provides notes on the development and limitations of the map viewer as well as a key to symbols and terms.

General Legend:

- Groundwater 2-yr TOT (Zone 1 for
- Groundwater Drinking Water Source
- Surface Water Drinking Water Source
- City limits (ODOT,
- County Boundary
- Streams
- Interstate
- U.S. Routes
- Oregon Routes
- Roads (from BLM)
- Railways (USGS -

Land Use/Ownership

- 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 Pollutants identified in State and Federal Regulatory Databases:

- Boating access sites (OSMB as of 1/20/2016)
- Confined Animal Feeding Operations (ODA as of 1/20/2016)
- 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)
- Underground Injection Control - Non-stormwater (UIC - DEQ as of 9/12/2016)
- Underground Injection Control - Stormwater (UIC - DEQ as of 9/12/2016)
- 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)
- Major route stream crossings and bridges (ODOT - 2013)
- Water Quality effluent outfalls (DEQ -WQ as of 2009)
- Water Quality Concern; lakes - Cat3 (DEQ - 2012)
- Major route stream crossings & bridges (ODOT - 2013)
- Water quality limited stream/lake, DEQ 303(d) list Cat 4A or 5, TMDL approved or needed (DEQ - 2012)
- Water Quality Concern stream/lake, DEQ 303(d) Cat.3, Insufficient Data (DEQ - 2012)

Notes:

Drinking Water Source Area

The drinking water source area is the surface area that directly overlies that portion of the aquifer that supplies the well, wellfield or springs or the watershed contributing to a surface water intake used for drinking water purposes. Drinking water source areas are delineated in accordance with Oregon's Source Water Assessment Methodology <http://www.deq.state.or.us/wq/pubs/factsheets/drinkingwater/SWAMethodology10WQ019.pdf> which was developed with the assistance of an advisory committee and approved by EPA in 1999. Public water systems and local communities are encouraged to voluntarily develop and implement drinking water protection strategies in these areas that supply their drinking water.

Potential Sources of Pollution (Potential Contaminant Sources)

Potential sources of pollution identified for drinking water source areas are based on the readily-available state and federal regulatory databases listed below and general categories of land use/ownership. This information is intended to supplement the original Source Water Assessment completed for each public water system between 2000 and 2005 by DEQ and Oregon Health Authority and the information should be used in conjunction with the original inventory.

This data can be used 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 map viewer as a factor of land ownership/use. DEQ and OHA can provide more information on potential impact, risk and status as the public water system moves into developing protection strategies.

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.

When this information is used in Source Water Assessments, it is highly recommended that the public water system "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 are no potential sources of contamination identified in a community's drinking water source area 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.

Detailed information on each regulatory database and a symbol key is provided below.

Land Use/Ownership

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.











The Find (Identify) tool in the Interactive Map viewer displays the following fields for each Potential Source of Pollution:

Table 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 (sorted by Database Identifier (DB_ID))

CAFO 	<p>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</p>
DC  Active  Dry Store  Closed  Inactive  Solvent Supplier	<p>DEQ Dry Cleaners list - Status gives facility type and information on historic & 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.</p>
DOGAMI 	<p>Oregon Department of Geology and Mineral Industries list of mining sites. Status includes permit status and primary material extracted.</p>
DWP-PCSS  area wide  point source	<p>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 2000 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.</p>
DWP-PCS (update) 	<p>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.</p>

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
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 Wells		Oil and Gas wells from OR Department of Geology and Mineral Industries. Only includes wells with a status of "permitted".
OSMB		Oregon State Marine Board's Boating Access Sites.
SFM-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 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.
Stream Crossing/Bridge		Oregon Department of Transportation structure in the "Bridge" layer for interstates, highways, or Oregon Routes. Does not include crossings over ODOT 2012 Roads layer. Includes some culverts. Name indicates water body (or other structure) crossed and the highway/route name.
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). Solid waste disposal site permits are issued for the following facility types: landfill, solid waste treatment, transfer station/material recovery, composting, incineration, conversion technology, 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

WQ SIS Outfalls 	Water quality effluent outfalls - location of permitted outfall to water body. May vary from facility address or permitted activity location.
WQL Streams/Lakes Cat.4A TMDL approved  Cat. 5 TMDL needed  Cat.3 insufficient data 	Streams and lakes identified by DEQ under Section 303(d) of the Clean Water Act as Water Quality Limited and either having or needing a Total Maximum Daily Load pollutant load limit. Based on Oregon's 2012 Integrated Report and 303(d) list. Contact DEQ basin coordinator for more information (http://www.deq.state.or.us/WQ/TMDLs/docs/basincoordinators.pdf)
Transportation Sources	
Interstate/Highway  Interstate  U.S. Roads  OregonRoutes	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
Stream Crossing/Bridge 	Oregon Department of Transportation structure in the "Bridge" layer for interstates, highways, or Oregon Routes. Does not include crossings over ODOT 2012 Roads layer. Includes some culverts. Name indicates water body (or other structure) crossed and the highway/route name.