

# **SOURCE WATER ASSESSMENT SUMMARY BROCHURE**

## **JOINT WATER COMMISSION**

**PWS # 4100379**

**AND**

## **HILLSBORO-CHERRY GROVE**

**PWS # 4100985**

### **WHAT IS A SOURCE WATER ASSESSMENT?**

The Source Water Assessment was recently completed by the Department of Environmental Quality (DEQ) and the Oregon Department of Human Services (DHS) to identify the surface areas (and/or subsurface areas) that supply water to the Hillsboro Utilities Commission, Beaverton, Forest Grove, and Tualatin Valley Water District Joint Water Commission (JWC) and Hillsboro-Cherry Grove's public water system intakes and to inventory the potential contaminant sources that may impact the water supply.

### **WHY WAS IT COMPLETED?**

The Source Water Assessment was completed to provide information so that the JWC and Hillsboro-Cherry Grove public water system's staff/operator, consumers, and community citizens can begin developing strategies to protect the source of their drinking water, and to minimize future public expenditures for drinking water treatment. The assessment was prepared under the requirements and guidelines of the Federal Safe Drinking Water Act (SDWA).

### **WHAT AREAS ARE INCLUDED IN JWC AND HILLSBORO-CHERRY GROVE'S DRINKING WATER PROTECTION AREA?**

The drinking water for the JWC and Hillsboro-Cherry Grove public water systems is supplied by three intakes located on the Tualatin River, the Upper Tualatin River at Hillsboro Reservoir, and the North Fork Trask River at Barney Reservoir. The drinking water intakes for the City of Forest Grove public water system are located on tributaries to the Tualatin River upstream of the JWC Tualatin River intake. This assessment includes information for the portion of JWC's protection area upstream of the Forest Grove intakes.

Combined, the JWC and Hillsboro-Cherry Grove public water systems serve approximately 65,350 citizens (65,100 for JWC and 250 for Hillsboro Cherry Grove). The Tualatin River intakes are located in the Gales Creek/Scroggins Creek Watersheds in the Tualatin Subbasin of the Willamette Basin. The North Fork Trask River intake is located in the Trask River Watershed in the Wilson-Trask-Nestucca Subbasin of the Northern Oregon Coastal Basin. The boundaries of the Drinking Water Protection Area are illustrated on the figure attached to this summary.

The geographic area (drinking water protection area) providing water to JWC and Hillsboro-Cherry Grove's intakes includes a cumulative total of 467 stream miles (448 stream miles upstream of the Tualatin River intakes and 19 stream miles upstream of the North Fork Trask intake) and encompasses a total of 220 square miles (212 square miles in the Tualatin Subbasin and 8.2 square miles in the Wilson-Trask-Nestucca Subbasin). Included in this area are a number of tributaries to the Tualatin River main stem including Carpenter Creek, Dilley Creek, Scroggins Creek and Hagg Lake, Ayers Creek, Roaring Creek, Lee Creek, and Sunday Creek.

For surface water systems that encompass an area greater than 100 square miles, such as the area upstream of JWC's Tualatin River intake, DEQ has also estimated the area within an 8-hour time of travel from the intake. The protection area within an 8-hour travel time from the JWC Tualatin River intake extends approximately 7.6 miles upstream. It is recommended that the water systems and community consider increased protection within an 8-hour travel time from the intake since eight hours should provide adequate response time to protect the integrity of the public water system intake should a spill or release occur at any crossing or discharge point to the stream.

## **WHAT ARE THE POTENTIAL SOURCES OF CONTAMINATION TO JWC AND HILLSBORO-CHERRY GROVE 'S PUBLIC DRINKING WATER SUPPLY?**

The primary intent of this inventory was to identify and locate significant potential sources of contaminants of concern. The delineated drinking water protection area is primarily dominated by a mix of agricultural, forestry, and residential land uses.

- ◆ The potential contaminant sources identified in the watershed that relate to *agricultural/forest management* include managed forest lands, road improvement, a pond, an arboretum, boat ramps, land slide areas, crop areas, stables, nurseries, orchards, grazing animals, areas with pesticide storage/handling/mixing, dairies, a land application site, a holding pond, a fish hatchery and farm machinery repair operations.

- ◆ Potential contaminant sources related to *commercial land uses* include a lumber company, machine shops, gas stations, auto repair shops, an auto body shop, a furniture store, a lumber store, quarries, wood products shops, a fabricator, an office building, food processing operations, construction waste, junkyards, a wrecking yard, a well drilling operation, a mini-storage, and a saw mill.

- ◆ Potential contaminant sources related to *residential/municipal land uses* include reservoirs, rural homes, areas with high density housing, schools, a home machine shop, an aboveground tank, underground storage tanks, a campground, RV parks, utility stations, water treatment plants, sewage pump stations, a transfer station, parks, cemeteries, sewer lines, stream crossings, a home machine shop, a slow sand filter plant, a storm water retention basin, areas with new construction, apartments, fire stations, a parking lot, airstrips, a railroad yard, a church, a motor pool, large capacity septic systems, highways, power lines, and a railroad.

- ◆ Two additional potential sources of contamination (landslides and clear-cut forest areas) were identified upstream of the Forest Grove intakes.

This provides a quick look at the existing potential sources of contamination that could, if improperly managed or released, impact the water quality in the watershed.

## **WHAT ARE THE RISKS FOR OUR SYSTEM?**

A total of 306 potential contaminant sources were identified in the JWC and Hillsboro-Cherry Grove's drinking water protection area. Of these, 295 are located in the sensitive areas and 272 are high- to moderate-risk sources within "sensitive areas". The sensitive areas within the JWC and Hillsboro-Cherry Grove drinking water protection area include areas with high soil permeability, high soil erosion potential, high runoff potential and areas within 1000' from the river/streams. The sensitive areas are those where the potential contamination sources, if present, have a greater potential to impact the water supply. The information in this assessment provides a basis for prioritizing areas in and around our community that are most vulnerable to potential impacts and can be used by the JWC and Hillsboro-Cherry Grove community to develop a voluntary Drinking Water Protection Plan.

## **NEED MORE INFORMATION?**

The Hillsboro Utilities Commission, Beaverton, Forest Grove, and Tualatin Valley Water District Joint Water Commission and Hillsboro-Cherry Grove's Source Water Assessment Report provides additional details on the methodology and results of this assessment. The full report is available for review at:

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Contact your water provider if you would like additional information on these Source Water Assessment results.

## Source Water Assessment Results

Joint Water Commission and Hillsboro-Cherry Groves's Drinking Water Protection Area with Sensitive Areas and Potential Contamination Sources

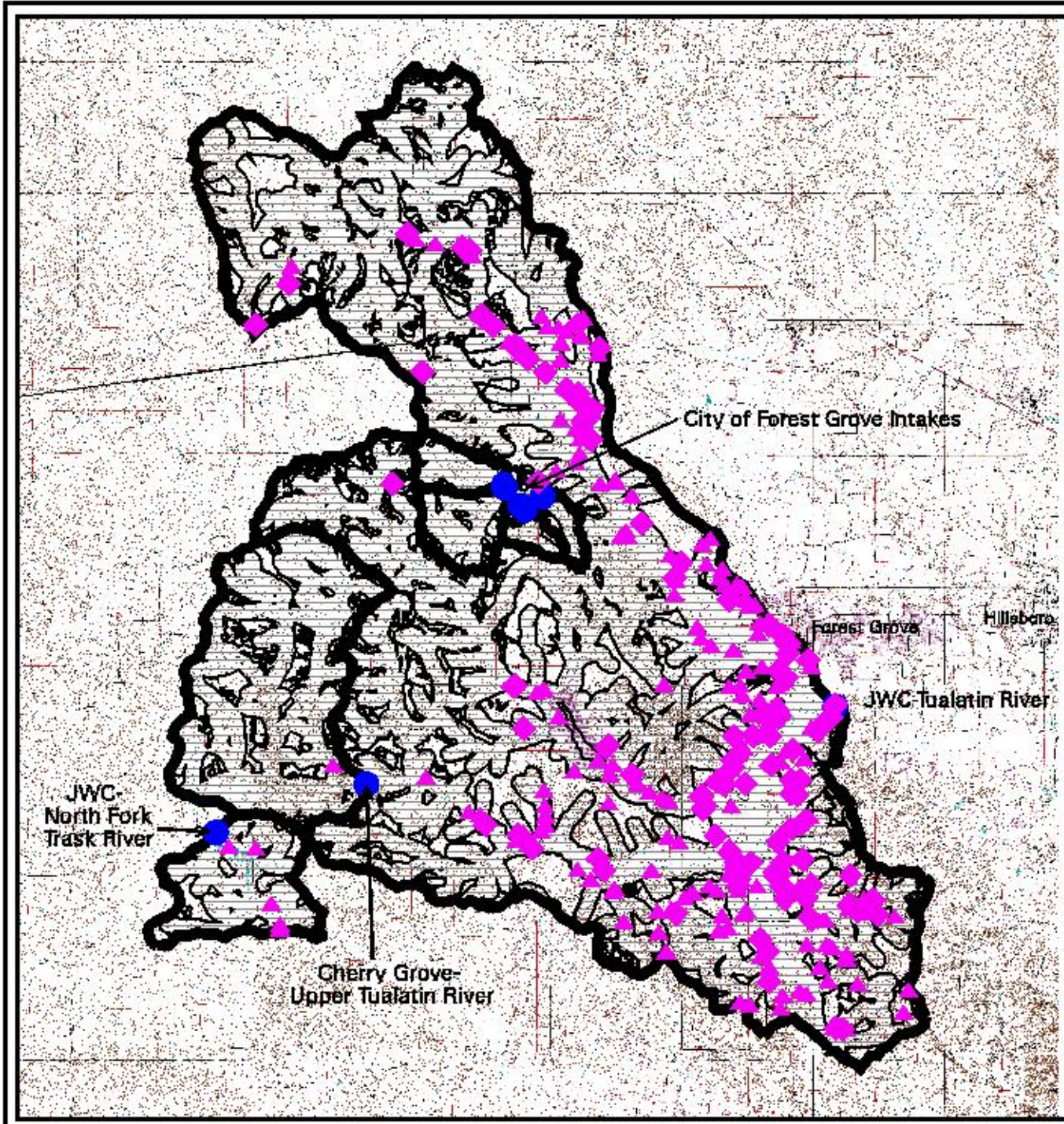
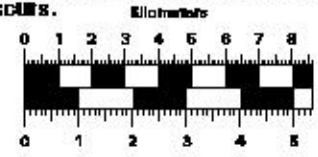
PWS 4100379/4100985

-  Drinking Water Protection Area
-  Drinking Water Intake - Surface Water
-  Sensitive Areas
-  Area Feature (see Note 2)
-  Point Feature (see Note 2)

### Notes on Potential Contaminant Sources

**Note 1:** Sites and areas noted in this figure are potential sources of contamination to the drinking water protection identified by Oregon drinking water protection staff. Environmental contamination is not likely to occur when contaminants are used and managed properly.

**Note 2:** Feature identification markers correspond to the potential contaminant source numbers in the SWA Report. The area features represent the approximate area where the land use or activity occurs and is marked at the point closest to the intake. The point features represent the approximate point where the land use or activity occurs.



**TABLE 1. SUMMARY OF POTENTIAL CONTAMINANT SOURCES BY LAND USE**

**PWS # 4100379 - JWC and PWS# 4100985 - HILLSBORO-CHERRY GROVE  
Residential/Municipal Land Uses**

<b>Potential Contamination Source</b>	<b>Note</b>	<b>Relative Risk Level</b>	<b>Total in DWPA</b>
Airport - Maintenance/Fueling Area		Moderate	1
Apartments and Condominiums		Lower	2
Campgrounds/RV Parks	(1)	Moderate	5
Cemeteries - Pre-1945		Lower	7
Drinking Water Treatment Plants		Moderate	3
Fire Station		Lower	2
Fire Training Facilities		Moderate	1
Golf Courses		Moderate	0
Housing - High Density (> 1 House/0.5 acres)		Moderate	8
Landfill/Dumps	(1)	Higher	0
Lawn Care - Highly Maintained Areas		Moderate	2
Motor Pools		Moderate	1
Parks		Moderate	12
Railroad Yards/Maintenance/Fueling Areas		Higher	1
Schools		Moderate	12
Septic Systems - High Density (> 1 system/acre)	(1)	Higher	0
Sewer Lines - Close Proximity to PWS	(1)	Moderate	1
Utility Stations - Maintenance Transformer Storage		Higher	10
Waste Transfer/Recycling Stations	(1)	Higher	1
Wastewater Treatment Plants/Collection Stations	(1)	Higher	1
Other			0

**NOTES:**

Sites and areas identified in this Table are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

(1) - Potential source of microbial contamination

(2) - Drip irrigated crops, such as vineyards and some vegetables, are considered lower risk than spray irrigation

(3) - For groundwater public water systems, septic systems located within the 2-year time-of-travel (TOT) are considered moderate risks.

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Commercial/Industrial Land Uses**

<b>Potential Contamination Source</b>	<b>Note</b>	<b>Relative Risk Level</b>	<b>Total in DWPA</b>
Automobiles - Body Shops		Moderate	1
Automobiles - Car Washes		Moderate	0
Automobiles - Gas Stations		Moderate	2
Automobiles - Repair Shops		Moderate	2
Boat Services/Repair/Refinishing		Higher	0
Cement/Concrete Plants		Moderate	0
Chemical/Petroleum Processing/Storage		Higher	4
Dry Cleaners		Higher	0
Electrical/Electronic Manufacturing		Higher	0
Fleet/Trucking/Bus Terminals		Moderate	3
Food Processing		Moderate	8
Furniture/Lumber/Parts Stores		Moderate	1
Home Manufacturing		Higher	0
Junk/Scrap/Salvage Yards		Higher	3
Machine Shops		Higher	4
Medical/Vet Offices	(1)	Moderate	0
Metal Plating/Finishing/Fabrication		Higher	2
Mines/Gravel Pits		Higher	8
Office Buildings/Complexes		Lower	3
Parking Lots/Malls (> 50 Spaces)		Higher	1
Photo Processing/Printing		Higher	0
Plastics/Synthetics Producer		Higher	0
Research Laboratories		Higher	0
RV/Mini Storage		Lower	1
Wood Preserving/Treating		Higher	0
Wood/Pulp/Paper Processing and Mills		Higher	4
Other: - Equipment Storage		Moderate	1

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Agricultural/Forest Land Uses**

<b>Potential Contamination Source</b>	<b>Note</b>	<b>Relative Risk Level</b>	<b>Total in DWPA</b>
Auction Lots	(1)	Higher	0
Boarding Stables	(1)	Higher	12
Confined Animal Feeding Operations (CAFOs)	(1)	Higher	5
Crops - Irrigated (inc. orchards, vineyards, nurseries,	(2)	Higher	67
Crops - Nonirrigated (inc. Christmas trees, grains, grass seed,		Lower	12
Farm Machinery Repair		Moderate	6
Grazing Animals (> 5 large animals or equivalent/acre)	(1)	Higher	41
Lagoons/Liquid Wastes	(1)	Higher	2
Land Application Sites	(1)	Higher	2
Managed Forest Land - Broadcast Fertilized Areas		Lower	0
Managed Forest Land - Clearcut Harvest (< 35 yrs.)		Higher	4
Managed Forest Land - Partial Harvest (< 10 yrs.)		Higher	2
Managed Forest Land - Road Density (> 2 mi./sq. mi.)		Moderate	0
Pesticide/Fertilizer/Petroleum Storage, Handling, Mixing, &		Higher	6
Recent Burn Areas (< 10 yrs.)		Lower	0
Managed Forest Lands - Status Unknown		Higher	1
Other: - Arboretum		Moderate	1
Other: - Fish Hatchery		Moderate	1
Other: - Irrigation		Moderate	1
Other: - Managed Forest - Development Status Unknown		Higher	1

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Miscellaneous Land Uses**

<b>Potential Contamination Source</b>	<b>Note</b>	<b>Relative Risk Level</b>	<b>Total in DWPA</b>
Above Ground Storage Tanks - Excluding Water		Moderate	7
Channel Alterations - Heavy		Lower	0
Combined Sewer Outfalls	(1)	Lower	0
Stormwater Outfalls	(1)	Lower	0
Composting Facilities	(1)	Moderate	0
Historic Gas Stations		Higher	7
Historic Waste Dumps/Landfills	(1)	Higher	1
Homesteads - Rural - Machine Shops/Equipment Maintenance		Higher	10
Homesteads - Rural - Septic Systems (< 1/acre)	(1)(3)	Lower	2
Injection/Dry Wells, Sumps - Class V UICs	(1)	Higher	0
Kennels (> 20 Pens)	(1)	Lower	0
Military Installations		Higher	0
Random Dump Sites		Moderate	0
River Recreation - Heavy Use (inc. campgrounds)	(1)	Moderate	1
Sludge Disposal Areas	(1)	Higher	1
Stormwater Retention Basins	(1)	Higher	1
Transmission Lines - Right-of-Ways		Higher	1
Transportation - Freeways/State Highways/Other Heavy Use		Higher	2
Transportation - Railroads		Higher	1
Transportation - Right-Of-Ways - Herbicide Use Areas		Moderate	0
Transportation - River Traffic - Heavy		Lower	0
Transportation - Stream Crossing - Perennial		Higher	17
UST - Confirmed Leaking Tanks - DEQ List		Moderate	7
UST - Decommissioned/Inactive		Lower	12
UST - Nonregulated Tanks (< 1,100 gals or Large Heating Oil		Higher	0
UST - Not Upgraded and/or Registered Tanks		Higher	0
UST - Upgraded/Registered - Active		Lower	1
UST - Status Unknown		Moderate	4
Upstream Reservoirs/Dams		Moderate	2
Wells/Abandoned Wells		Higher	0
Large Capacity Septic Systems (serves > 20 people) - Class V	(1)	Moderate	9
Construction/Demolition Areas		Higher	3
Other: - DEQ Cleanup Program Site		Higher	3
Other: - Equipment		Moderate	2

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Other: - Landslide	Moderate	1
Other: - Landslide Area	Moderate	1
Other: - Road Improvement	Moderate	1

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