



# Management Strategies for commonly identified Potential Sources of Contamination (PCSs) to Oregon's Sources of Drinking Water

For a resource list of links to referenced factsheets and publications see <http://www.deq.state.or.us/wq/dwp/docs/ResourceList.pdf>



DEQ PCS Code	PCS Type	Potential Impact	Initial Implementation	Substantial Implementation
A01, A02, A56, M11	Boarding Stables, Auction Lots, Fairgrounds and Kennels (> 20 Pens)	Improper storage and management of animal wastes and wastewater in areas of concentrated animals may impact drinking water.		<input type="checkbox"/> Notify the owner or manager of their location within your Drinking Water Source Area and send the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" *"Manure Management in Small Farm Livestock Operations" or "Managing Pet and Wildlife Waste to Prevent Contamination of Drinking Water" *"Use of Injection Control Systems and Groundwater Protection"
A04	Crops - Irrigated (inc. orchards, vineyards, nurseries, greenhouses)	Over-application or improper handling of pesticides/fertilizers may impact drinking water. Excessive irrigation may transport contaminants or sediments to groundwater/surface water through runoff. Drip-irrigated crops are considered to be low risk.	<input type="checkbox"/> Notify the owner(s) or manager(s) of their location within your Drinking Water Source Area and send the following fact sheets: *"Managing Agricultural Fertilizer Application" *"Managing Large-Scale Application of Pesticides" *"Irrigation System Maintenance, GW Quality, and Improved Production" <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. <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.	Ensure the Farm Plan addresses: <input type="checkbox"/> Crop production practices <input type="checkbox"/> Pesticide/fertilizer/petroleum product handling and storage <input type="checkbox"/> Vehicle maintenance and repair <input type="checkbox"/> Livestock waste storage and treatment <input type="checkbox"/> Hazardous waste management <input type="checkbox"/> Wastewater disposal/fill <input type="checkbox"/> Wells  Additional recommendations: <input type="checkbox"/> Consider pesticide collection event for unused and legacy pesticides <input type="checkbox"/> Set up or participate in a local material exchange program <input type="checkbox"/> Participate in Pesticide Stewardship or Integrated Pest Management Programs (or other efforts to reduce use of products that threaten water quality) <input type="checkbox"/> See DEQ factsheet on "Pesticide use in the vicinity of drinking water sources" for additional regulations and recommendations.

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A05	Crops - Nonirrigated (inc. Christmas trees, grains, grass seed, pasture)	Over-application or improper handling of pesticides/fertilizers may impact drinking water. Some agricultural practices may result in excess sediments discharging to surface waters, but non-irrigated crops are generally considered to be a low risk.		<input type="checkbox"/> Notify the owner(s) or operator(s) of their location within your Drinking Water Source Area and send fact sheets on "Managing Agricultural Fertilizer Application" and "Managing Large-Scale Application of Pesticides."  Additional recommendations: <input type="checkbox"/> Encourage farm operator to work with their local Soil and Water Conservation District (SWCD) or Oregon State University County Extension Agent to develop a farm plan, if they have not done so already. <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.
A07	Grazing Animals (> 5 large animals or equivalent/acre)	Improper storage and management of animal wastes may impact drinking water supply. Concentrated livestock may contribute to erosion and sedimentation of surface water bodies.	<input type="checkbox"/> Notify the owner(s) or manager(s) of their location within your Drinking Water Source Area and send the following fact sheets: *"Manure Management in Small Farm Livestock Operations" *"Managing Pastures in Eastern Oregon" (or Western Oregon) *"Managing Stockwater in Pastures and Streamside Areas" *"Managing Weeds in Pasture."	Ensure the Farm Plan addresses: <input type="checkbox"/> Pesticide/fertilizer/petroleum product handling and storage <input type="checkbox"/> Livestock waste storage and treatment <input type="checkbox"/> Pasture management and rotation practices  Additional recommendations: <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. 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 <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.
A10/ A11/ A12/ A13/ A16	Managed Forest Land - Clear-cut Harvest (< 35 yrs.), Partial Harvest (< 10 yrs.), or Status Unknown, Road Density (> 2 mi./sq. mi.),	Cutting and yarding of trees may contribute to increased erosion, resulting in turbidity and chemical changes in drinking water supply. Over-application or improper handling of pesticides or fertilizers may impact drinking water source. Road building, maintenance, and usage may contribute to erosion and	<input type="checkbox"/> Notify the forest owner(s) or manager(s) of their location within your Drinking Water Source Area and send "Managing Nonpoint Source Pollution from Forestry" fact sheet. <input type="checkbox"/> Contact land owner(s) or manager(s) to review forest management practices. <input type="checkbox"/> Encourage application of non-point source control measures.	<input type="checkbox"/> If there is forest land that is scheduled for harvest or chemical application within sensitive areas, work with the landowner to set up direct communication or notification on any chemical application. Ensure that there is no mixing, handling, or storage of bulk pesticides or fertilizers in the 2-year Time-of-Travel zone or near the intake.  Additional recommendations: <input type="checkbox"/> Restrict public access to area <input type="checkbox"/> Set up an agreement or MOU with landowner(s) or manager(s)

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	Broadcast Fertilized Areas	slope failure causing turbidity in drinking water supply. Vehicle usage increases the risks of leaks or spills of petroleum products and other hazardous materials.		that addresses handling and application of pesticides and fertilizers and best management practices for equipment fueling and spills. <input type="checkbox"/> Encourage owner(s) or manager(s) to develop a management plan protective of drinking water that addresses application of pesticides and fertilizers and best management practices for equipment fueling and spills. <input type="checkbox"/> See DEQ factsheet on "Pesticide use in the vicinity of drinking water sources" for additional regulations and recommendations.
A14	Pesticide/Fertilizer/Petroleum Storage, Handling, Mixing, & Cleaning Areas	Leaks, spills and improper handling of pesticides, fertilizers and petroleum products may impact drinking water source.	<input type="checkbox"/> Notify the owner or manager of their location within your drinking water source area and send the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe or Groundwater Basics"	<input type="checkbox"/> For historic sites, use "Guidance for Evaluating Residual Pesticides on Lands Formerly Used for Agricultural Production" <input type="checkbox"/> Work with land owner or manager to move pesticide/fertilizer/petroleum storage areas outside the 2 year Time-of-Travel zone or sensitive areas. <input type="checkbox"/> Contact your local Soil and Water Conservation District for best management practices to protect water quality. <input type="checkbox"/> Address equipment and vehicle maintenance and repair if present. <input type="checkbox"/> Consider pesticide collection event for legacy or unused pesticides. <input type="checkbox"/> See DEQ factsheet on "Pesticide use in the vicinity of drinking water sources" for additional regulations and recommendations.
A15	Recent Burn Areas (< 10 yrs.)	Vegetation removal by fire may increase surface erosion and sediment delivery rates, resulting in high turbidity in drinking water source.		<input type="checkbox"/> Notify the forest owner(s) or manager(s) of your Drinking Water Source Area location and send the "Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" fact sheet.
A51	Fish Hatchery/ Aquaculture	Some aquaculture practices may increase surface erosion and sediment delivery rates, resulting in turbidity in drinking water source. Runoff/discharges containing nutrients, suspended solids, antibiotics and other chemicals may impact drinking water.		<input type="checkbox"/> Notify the owner or manager of their location within your Drinking Water Source Area and send the "Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" fact sheet. <input type="checkbox"/> Contact the owner or manager to verify that chemical or petroleum product storage (if present) cannot impact water quality. For example, chemicals could be stored and used inside, or have secondary containment.
A55	Unmanaged Forests	Future cutting and yarding of trees may contribute to increased erosion, resulting in turbidity and chemical changes (nitrates) in drinking water supply. Over-application or improper handling of pesticides or fertilizers may impact drinking water source.	<input type="checkbox"/> Notify the landowner of their location within your Drinking Water Source Area.	<input type="checkbox"/> Contact landowner(s) or manager(s) and verify that the forest is unmanaged (no timber harvest or pesticide use), and that no harvests are planned in the future.



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C02	Automobiles - Car Washes	Improper management of vehicle wash water may result in soaps, oils, greases, and metals impacting the drinking water supply.	<input type="checkbox"/> Notify the car wash of their location within your Drinking Water Source Area and send the following fact sheets: *"Managing Vehicle Washing" *"Best Management Practices for Storm Water Discharges Associated with Industrial Activities" (pages 8-14)	<input type="checkbox"/> Verify that the car wash implements the General Best Management Practices listed in the "Best Management Practices for Storm Water Discharges Associated with Industrial Activities" fact sheet.
C03	Automobiles - Gas Stations	Spills, leaks, or improper handling of fuels and other materials during transportation, transfer, and storage may impact the drinking water supply.	<input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheets: *"Automotive Repair and Maintenance Tips for Drinking Water Protection" *"Best Management Practices for Storm Water Discharges Associated with Industrial Activities"	<input type="checkbox"/> Implement relevant best management practices (BMPs) from "Best Management Practices for Storm Water Discharges Associated with Industrial Activities" fact sheets. Pay particular attention to BMP numbers CS3, CS4, CS11, CS21, CS25, CS27 through CS33. <input type="checkbox"/> Ensure all shallow/underground injection well issues are addressed <input type="checkbox"/> Implement best management practices to minimize potential impact from stormwater runoff. <input type="checkbox"/> Implement best management practices for chemical and fuel storage, handling, and disposal, including spill response. <input type="checkbox"/> If automotive maintenance or repair occurs, implement best management practices from "Automotive Repair and Maintenance Tips for Drinking Water Protection" and "Best Management Practices for Storm Water Discharges Associated with Industrial Activities" fact sheets.
C04	Automobiles - Repair Shops	Spills, leaks, or improper handling of automotive fluids, solvents, and repair materials during transportation, use, storage and disposal may impact the drinking water supply.	<input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheets: *"Automotive Repair and Maintenance Tips for Drinking Water Protection" *"Find Solutions"	<input type="checkbox"/> Business certified by Eco-Logical Business Program. <input type="checkbox"/> Business receives technical assistance from DEQ Toxics Use/Waste Reduction Assistance Program. <input type="checkbox"/> Implement relevant best management practices (BMPs) from "Automotive Repair and Maintenance Tips for Drinking Water Protection" and "Best Management Practices for Storm Water Discharges Associated with Industrial Activities" fact sheets. Pay particular attention to BMP numbers CS2, CS3, CS5, CS6, CS10, CS11, CS14, CS15, CS17, CS18, CS19, CS20, CS21, CS27 through CS33. <input type="checkbox"/> Ensure all shallow/underground injection well issues are addressed <input type="checkbox"/> Implement best management practices to minimize potential impact from stormwater runoff. <input type="checkbox"/> Implement best management practices for chemical and fuel storage, handling, and disposal, including spill response.



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C07	Chemical/ Petroleum Processing/ Storage	Spills, leaks, or improper handling of chemicals and other materials during transportation, use, storage and disposal may impact the drinking water supply.	<input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheets: *"Managing Small Quantity Chemical Use" *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics"	<input type="checkbox"/> Spill response plan in place for facility. <input type="checkbox"/> All fuels and chemicals have secondary containment. <input type="checkbox"/> Implement relevant best management practices (BMPs) from "Best Management Practices for Storm Water Discharges Associated with Industrial Activities" fact sheets. Pay particular attention to BMP numbers CS3, CS4, CS17, CS21, and CS25. <input type="checkbox"/> Special chemical use prohibition or best management practice requirements. <input type="checkbox"/> Business receives technical assistance from DEQ Toxics Use/Waste Reduction Assistance Program.
C08	Dry Cleaners	Spills, leaks, or improper handling of dry cleaning solvents and other chemicals during transportation, use, storage and disposal may impact the drinking water supply.	<input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheets: *"Oregon Dry Cleaner Program Overview for Dry Cleaners"	<input type="checkbox"/> If a release has occurred, ensure contamination was cleaned up to drinking water standards. <input type="checkbox"/> Work with Drinking Water Protection staff and/or DEQ dry cleaning staff to ensure dry cleaner follows rules and fact sheets for hazardous waste management, wastewater management, containment under and around dry cleaning systems, annual compliance report, reporting releases of dry cleaning solvent, and delivery of perchloroethylene solvent.
C10	Fleet/Trucking/ Bus Terminals	Spills, leaks, or improper handling of fuels, grease, solvents, and other materials from vehicle service, fueling, and parking areas may impact the drinking water supply.	<input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheets: *"Automotive Repair and Maintenance Tips" *"Managing Vehicle Washing" *"Managing Storm Water Runoff" *"Use of Injection Control Systems and Groundwater Protection."	<input type="checkbox"/> If vehicle washing, auto repair/maintenance, or fueling occurs, implement best management practices on relevant fact sheets <input type="checkbox"/> Implement relevant best management practices (BMPs) from "Best Management Practices for Storm Water Discharges Associated with Industrial Activities." Pay particular attention to BMP numbers CS2, CS3, CS4, CS5, CS6, CS7, CS8, CS9, CS10, CS11, CS14, CS15, CS17, CS18, CS19, CS20, CS21, CS27 through CS33. <input type="checkbox"/> Ensure all shallow/underground injection well issues are addressed <input type="checkbox"/> Implement best management practices to minimize potential impact from stormwater runoff. <input type="checkbox"/> Implement best management practices for chemical and fuel storage, handling, and disposal, including spill response. <input type="checkbox"/> If appropriate, business receives technical assistance from DEQ Toxics Use/Waste Reduction Assistance Program. <input type="checkbox"/> If appropriate, Ecobiz certification.
C11	Food Processing	Spills, leaks, or improper handling of chemicals and other materials during transportation, use, storage and disposal may impact the drinking water supply.	<input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheets: "Business and Industry Tips"	<input type="checkbox"/> Implement relevant best management practices from fact sheet. Ensure stormwater runoff and industrial practices do not impact drinking water. Check with DEQ regional office for wastewater permit status.



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C12	Furniture/ Lumber/ Parts Stores	Spills, leaks, or improper handling of hazardous chemical products and other materials in inventory during transportation, use, storage and disposal may impact the drinking water supply.	<input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" *"Business and Industry Tips"	<input type="checkbox"/> Contact the owner or manager to verify that any chemical or petroleum product storage (if present) cannot impact water quality. For example, chemicals could be stored and used inside, or have secondary containment. <input type="checkbox"/> Implement relevant best management practices (BMPs) from "Best Management Practices for Storm Water Discharges Associated with Industrial Activities." Pay particular attention to BMP numbers CS3, CS4, CS6, CS11, CS14, CS15, and CS21. <input type="checkbox"/> Ensure all shallow/underground injection well issues are addressed <input type="checkbox"/> Implement best management practices to minimize potential impact from stormwater runoff. <input type="checkbox"/> Implement best management practices for chemical and fuel storage, handling, and disposal, including spill response. <input type="checkbox"/> If appropriate, business receives technical assistance from DEQ Toxics Use/Waste Reduction Assistance Program.
C14	Junk/Scrap/ Salvage Yards	Spills, leaks, or improper handling of automotive chemicals, batteries, and other waste materials during storage and disposal may impact the drinking water supply.	<input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" *"What is Household Hazardous Waste" *"Recycle Oil" *"Business and Industry Tips" *"Recycling Refrigerators and Freezers - Information for the General Public"	<input type="checkbox"/> Verify permit status with DEQ <input type="checkbox"/> Implement relevant best management practices (BMPs) from "Best Management Practices for Storm Water Discharges Associated with Industrial Activities."
C15	Machine Shops	Spills, leaks, or improper handling of solvents, metals, and other chemicals or materials during transportation, use, storage and disposal may impact the drinking water supply.	<input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" *"Business and Industry Tips for Drinking Water Protection" *"Use of Injection Control Systems and Groundwater Protection"	<input type="checkbox"/> Business receives technical assistance from DEQ Toxics Use/Waste Reduction Assistance Program. <input type="checkbox"/> Implement relevant best management practices (BMPs) from "Business and Industry Tips for Drinking Water Protection" and "Best Management Practices for Storm Water Discharges Associated with Industrial Activities" fact sheets. Pay particular attention to BMP numbers CS1, CS2, CS3, CS4, CS6 through CS11, CS14, CS17, CS18, CS19, CS20, CS21, CS 24, and CS27 through CS33. <input type="checkbox"/> Ensure all shallow/underground injection well issues are addressed <input type="checkbox"/> Implement best management practices to minimize potential impact from stormwater runoff. <input type="checkbox"/> Implement best management practices for chemical and fuel storage, handling, and disposal, including spill response. <input type="checkbox"/> If vehicle washing, auto repair/maintenance, or fueling occurs,



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				implement best management practices on relevant fact sheets
C16	Medical/Vet Offices	Spills, leaks, or improper handling of x-ray, biological, chemical, and radioactive wastes and other materials during transportation, use, storage and disposal may impact the drinking water supply.	<input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheet: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" <input type="checkbox"/> Contact the owner or manager to verify that any x-ray, biological, chemical or radioactive wastes and other material storage and disposal practices (if present) cannot impact water quality. For example, materials could be stored and used inside, or have secondary containment.	<input type="checkbox"/> Provide resources to encourage use of best management practices which can be found at EPA's website for the healthcare industry ( <a href="http://www.epa.gov/region2/p2/health.htm">http://www.epa.gov/region2/p2/health.htm</a> ), the Pacific Northwest Pollution Prevention Resource Center website for healthcare ( <a href="http://www.pprc.org/pubs/healthcare.cfm">http://www.pprc.org/pubs/healthcare.cfm</a> ) and the Oregon Dentist's Guide to Best Management Practices of Dental Waste ( <a href="http://www.p2pays.org/ref/04/03294.pdf">http://www.p2pays.org/ref/04/03294.pdf</a> ). <input type="checkbox"/> The owner or manager implements best management practices for materials of concern: storage, handling, and disposal, including spill response.  For larger medical/vet facilities: <input type="checkbox"/> If small quantity generator, provide free hazardous waste technical assistance through DEQ <input type="checkbox"/> If vehicle washing, auto repair/maintenance, or fueling occurs, implement best management practices on relevant fact sheets <input type="checkbox"/> Ensure all shallow/underground injection well issues are addressed <input type="checkbox"/> Best management practices are in place to minimize potential impact from stormwater runoff from parking lot or kennel area, if present.
C17	Metal Plating/ Finishing Fabrication	Spills, leaks, or improper handling of solvents, metals, and other chemicals during transportation, use, storage and disposal may impact the drinking water supply.	<input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" *"Business and Industry Tips" *"Use of Injection Control Systems and Groundwater Protection" *"Best Management Practices for Storm Water Discharges Associated with Industrial Activities"	<input type="checkbox"/> Business receives technical assistance from DEQ Toxics Use/Waste Reduction Assistance Program. <input type="checkbox"/> Implement relevant best management practices (BMPs) from "Business and Industry Tips for Drinking Water Protection" and "Best Management Practices for Storm Water Discharges Associated with Industrial Activities" fact sheets. <input type="checkbox"/> Ensure all shallow/underground injection well issues are addressed <input type="checkbox"/> Implement best management practices to minimize potential impact from stormwater runoff. <input type="checkbox"/> Implement best management practices for chemical and fuel



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				<p>storage, handling, and disposal, including spill response.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> If vehicle washing, auto repair/maintenance, or fueling occurs, implement best management practices on relevant fact sheets</li> </ul>
C18	Mining Activities - Gravel Mines/ Gravel Pits	Spills, leaks, or improper handling of chemicals and wastes generated in mining operations or from heavy equipment may impact the drinking water supply.		<ul style="list-style-type: none"> <li><input type="checkbox"/> Notify the owner or operator of their location within your Drinking Water Source Area. Contact the manager and verify that chemicals, petroleum products, and other materials are handled properly, as recommended in the "Business and Industry" fact sheet. Contact Drinking Water Protection staff if you need assistance.</li> <li><input type="checkbox"/> Verify Permit status with regional DEQ office. Gravel mines may have a general WPCF permit 1000 for gravel mining activities and a General 1200-A permit for stormwater discharge.</li> <li><input type="checkbox"/> Get notification from DEQ on permit modifications.</li> </ul> <p>Additional recommendations:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Review Recommended Best Management Practices for Storm Water Discharges (<a href="http://www.deq.state.or.us/wq/stormwater/docs/indswbmps.pdf">http://www.deq.state.or.us/wq/stormwater/docs/indswbmps.pdf</a>) and implement best management practices (See Section 2.1)</li> <li><input type="checkbox"/> Review "Best Management Practices for Storm Water Discharges Associated with Industrial Activities" and implement relevant best management practices for equipment and chemicals stored or used on site.</li> </ul>
C19	Office Buildings/ Complexes	Spills, leaks, or improper handling of chemicals and other materials stored and used in maintenance or from parking areas may impact the drinking water supply.		<ul style="list-style-type: none"> <li><input type="checkbox"/> Notify the owner or manager of their location within your Drinking Water Source Area and send the following fact sheets: <ul style="list-style-type: none"> <li>*"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics"</li> <li>*"Healthy Lawns, Healthy Families"</li> <li>*"Use of Injection Control Systems and Groundwater Protection"</li> <li>*"Managing Small-Scale Application of Pesticides"</li> <li>*"Managing Turfgrass and Garden Fertilizer Application"</li> <li>*"Best Management Practices for Storm Water Discharges Associated with Industrial Activities"</li> </ul> </li> </ul> <p>AND</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Notify the occupants of their location within your Drinking Water Source Area and send "Business and Industry Tips" fact sheet.</li> </ul>

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C20	Parking Lots/Malls (> 50 Spaces)	Spills and leaks of automotive fluids in parking lots may impact the drinking water supply.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Notify the owner or manager of their location within your Drinking Water Source Area and send fact sheets on "Use of Injection Control Systems and Groundwater Protection" and "Managing Storm Water Runoff."</li> <li><input type="checkbox"/> Identify stormwater management "problem" areas or locations where enhancements would be possible.</li> <li><input type="checkbox"/> If your Drinking Water Source Area is covered under a Municipal Phase I or Phase II separate storm sewer system (MS4) permit (see <a href="http://www.deq.state.or.us/wq/stormwater/stormwater.htm">http://www.deq.state.or.us/wq/stormwater/stormwater.htm</a> to verify), work with municipality (permit holder) to ensure best management practices are in place to protect drinking water resources.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Be sure Underground Injection wells are registered with DEQ.</li> <li><input type="checkbox"/> Implement best management practices from stormwater fact sheet.</li> <li><input type="checkbox"/> Review Portland's Stormwater Manual (or other stormwater best management practices document) and "Best Management Practices for Storm Water Discharges Associated with Industrial Activities" and implement relevant best management practices.</li> </ul>
C21	Photo Processing/ Printing	Spills, leaks, or improper handling of photographic chemicals during transportation, use, storage and disposal may impact the drinking water supply.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Notify the owner or manager of their location within your Drinking Water Source Area and send the following fact sheets:               <ul style="list-style-type: none"> <li>*"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics"</li> <li>*"Business and Industry Tips"</li> <li>*"Use of Injection Control Systems and Groundwater Protection"</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Contact the owner or manager to verify that any photographic chemical or petroleum product storage, transportation and handling (if present) cannot impact water quality. For example, chemicals could be stored and used inside, or have secondary containment.</li> <li><input type="checkbox"/> If small quantity generator, provide free hazardous waste technical assistance through DEQ</li> <li><input type="checkbox"/> If relevant, business receives technical assistance from DEQ Toxics Use/Waste Reduction Assistance Program.</li> <li><input type="checkbox"/> Ensure all shallow/underground injection well issues are addressed.</li> <li><input type="checkbox"/> Implement best management practices to minimize potential impact from stormwater runoff.</li> <li><input type="checkbox"/> Implement best management practices for chemical and fuel storage, handling, and disposal, including spill response.</li> </ul>
C22	Plastics/ Synthetics Producer	Spills, leaks, or improper handling of solvents and resins during transportation, use, storage and disposal may impact the drinking water supply.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheets:               <ul style="list-style-type: none"> <li>*"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics"</li> <li>*"Business and Industry Tips"</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Business receives technical assistance from DEQ Toxics Use/Waste Reduction Assistance Program.</li> <li><input type="checkbox"/> Implement relevant best management practices (BMPs) from "Business and Industry Tips for Drinking Water Protection" and "Best Management Practices for Storm Water Discharges Associated with Industrial Activities" fact sheets.</li> <li><input type="checkbox"/> Ensure all shallow/underground injection well issues are addressed.</li> <li><input type="checkbox"/> Implement best management practices to minimize potential impact from stormwater runoff.</li> <li><input type="checkbox"/> Implement best management practices for chemical and fuel storage, handling, and disposal, including spill response.</li> <li><input type="checkbox"/> If vehicle washing, auto repair/maintenance, or fueling occurs, implement best management practices on relevant fact sheets</li> </ul>

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C24	RV/Mini Storage	Spills, leaks, or improper handling of automotive fluids and other materials during transportation, storage and disposal may impact the drinking water supply.		<ul style="list-style-type: none"> <li><input type="checkbox"/> Notify the owner or manager of their location within your Drinking Water Source Area and send the "Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" fact sheet.</li> <li><input type="checkbox"/> Contact the owner or manager of the storage facility and verify that the facility has a policy in place to prohibit or limit auto repair and chemical and petroleum product storage.</li> </ul>
C25	Wood Preserving/ Treating	Spills, leaks, or improper handling of chemicals and other materials during transportation, use, storage and disposal may impact the drinking water supply.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" *"Business and Industry Tips"</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Business receives technical assistance from DEQ Toxics Use/Waste Reduction Assistance Program.</li> <li><input type="checkbox"/> Implement relevant best management practices (BMPs) from "Business and Industry Tips for Drinking Water Protection" and "Best Management Practices for Storm Water Discharges Associated with Industrial Activities" fact sheets.</li> <li><input type="checkbox"/> Ensure all shallow/underground injection well issues are addressed.</li> <li><input type="checkbox"/> Implement best management practices to minimize potential impact from stormwater runoff.</li> <li><input type="checkbox"/> Implement best management practices for chemical and fuel storage, handling, and disposal, including spill response.</li> <li><input type="checkbox"/> Establish financial incentives for environmentally friendly practices</li> <li><input type="checkbox"/> If vehicle washing, auto repair/maintenance, or fueling occurs, implement best management practices on relevant fact sheets</li> <li><input type="checkbox"/> Incorporate drinking water protection measures into existing permits.</li> </ul>
C51	Pipelines - Chemical and Petroleum	Spills, leaks, or improper handling of pipeline products may impact the drinking water supply. Construction and corridor maintenance may contribute to increased erosion and turbidity in drinking water supply.		<ul style="list-style-type: none"> <li><input type="checkbox"/> Contact the pipeline owner and notify them of their location within your Drinking Water Source Area. Ask for notification of water system in case of spills. Request that they eliminate or minimize herbicide application (if any) within your Drinking Water Source Area.</li> <li><input type="checkbox"/> Notify local first responders of your Drinking Water Source Area location.</li> </ul>
C52	Communications Office	Spills, leaks, or improper handling of chemicals and other materials stored and used in maintenance or backup power supplies may impact the drinking water supply.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Notify the owner or manager of their location within your Drinking Water Source Area and send the "Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" fact sheet.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Contact the owner or operator and ensure that fuels or other chemicals have secondary containment or are stored indoors.</li> </ul>
C58	Known Contamination Sites/Plumes/ Spills (ECSI)	Existing contamination from spills, leaks, or improper handling of stored materials may impact the drinking water supply.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Contact DEQ for cleanup status.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Site attains "No Further Action" (NFA) status.</li> <li><input type="checkbox"/> Work with Drinking Water Protection staff to address issue.</li> <li><input type="checkbox"/> Ensure DEQ cleanup program staff are aware of the drinking water source area location.</li> </ul>



# Management Strategies for commonly identified Potential Sources of Contamination (PCSS) to Oregon's Sources of Drinking Water

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C59	Known Contamination listed as NFA (Sites/Plumes/Spills from ECSI)	Contamination from spills, leaks, or improper handling of stored materials not evaluated by DEQ may impact the drinking water supply.		<ul style="list-style-type: none"> <li><input type="checkbox"/> Contact Drinking Water Protection DEQ staff (Julie Harvey 503-229-5664) for assistance in verifying that when the contaminated site was closed, the standards used were protective of drinking water. Note: older cleanup sites may have been cleaned up using different standards.</li> </ul>
C61	Maintenance Shop/Equipment Storage - Transportation Related	Spills, leaks, or improper handling of chemicals and other materials during transportation, use, storage, and disposal may impact the drinking water supply.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheets:            *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics"            *"Business and Industry Tips"            *"Automotive Repair and Maintenance Tips for Drinking Water Protection"            *"Use of Injection Control Systems and Groundwater Protection"</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If vehicle washing, auto repair/maintenance, or fueling occurs, implement best management practices on relevant fact sheets</li> <li><input type="checkbox"/> Implement relevant best management practices (BMPs) from "Best Management Practices for Storm Water Discharges Associated with Industrial Activities." Pay particular attention to BMP numbers CS3, CS4, CS5, CS6, CS7, CS8, CS9, CS11, CS14, CS15, CS17, CS18, CS19, CS20, CS21, CS22, CS25, CS26, CS27 through CS33.</li> <li><input type="checkbox"/> If appropriate, business receives technical assistance from DEQ Toxics Use/Waste Reduction Assistance Program.</li> <li><input type="checkbox"/> Ensure all shallow/underground injection well issues are addressed.</li> <li><input type="checkbox"/> Implement best management practices to minimize potential impact from stormwater runoff.</li> <li><input type="checkbox"/> Implement best management practices for chemical and fuel storage, handling, and disposal, including spill response.</li> </ul>
C62	Marina/ Houseboats/ Boat Launch/ Fueling Area	Spills, leaks, or improper handling of chemicals and other materials during transportation, use, storage, and disposal may impact the drinking water supply		<ul style="list-style-type: none"> <li><input type="checkbox"/> Notify the owner or manager of their location within your Drinking Water Source Area and send the following fact sheets for posting at the marina or boat launch as appropriate:            *"Clean Boater Tip Sheet: Gas and Oil"            *"Clean Boater Tip Sheet: Vessel Maintenance"            *"Marine Sewage and Wastewater Disposal"</li> </ul> <p>Additional recommendations:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Marina is certified as an "Oregon Clean Marina"</li> </ul>
C66	Motel	Spills, leaks, or improper handling of chemicals and other materials stored and used in maintenance or from parking areas may impact the drinking water supply.		<ul style="list-style-type: none"> <li><input type="checkbox"/> Notify the owner or manager of their location within your Drinking Water Source Area and send "Groundwater Basics," "Disposal of Chlorinated Water from Swimming Pools and Hot Tubs," and "Healthy Lawns, Healthy Families" fact sheets</li> </ul>
C67	Warehouses	Spills, leaks, or improper handling of chemicals and other materials stored and used in maintenance or from parking areas may impact the drinking water supply.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Notify the owner or manager of their location within your Drinking Water Source Area. Send "Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" and "Business and Industry Tips" fact sheet.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Contact the owner or manager of the warehouse to verify that any chemical or petroleum product storage (if present) cannot impact water quality. For example, chemicals could be stored and used inside, or have secondary containment.</li> </ul>



# Management Strategies for commonly identified Potential Sources of Contamination (PCSS) to Oregon's Sources of Drinking Water

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M01	Above Ground Storage Tanks - Excluding Water and Residential ASTs	Spills, leaks, or improper handling of stored materials may impact the drinking water supply.	<input type="checkbox"/> Notify the aboveground storage tank owner or manager of their location within your Drinking Water Source Area and send fact sheets on "Managing Above Ground Storage Tanks" and "Groundwater Basics." <input type="checkbox"/> Conduct a survey of existing aboveground storage tanks to determine if the tanks have secondary containment. <input type="checkbox"/> Develop a plan for ongoing (yearly) education to aboveground storage tank owners. <input type="checkbox"/> Spill response plan is in place, a spill kit is available and employees are trained annually in spill response.	<input type="checkbox"/> All aboveground storage tanks have secondary containment. <input type="checkbox"/> Ordinance, covenant, or rules to ensure aboveground storage tank owners and managers follow best management practices listed on fact sheet.  Additional recommendations: <input type="checkbox"/> Corrosion protection for the tank <input type="checkbox"/> Periodic cleanup of containment areas
M04	Stormwater Outfalls	Stormwater run-off may contain contaminants from residential (home sites and roads), commercial/industrial, and agricultural use areas.		<input type="checkbox"/> Notify the residents of their location within your Drinking Water Source Area and send the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" *"Healthy Lawns, Healthy Families" *"What is Household Hazardous Waste" *"Recycle Used Motor Oil"  <input type="checkbox"/> If stormwater outfall is associated with commercial, industrial, or agricultural use, contact Drinking Water Protection staff for assistance.
M06	Auto - Gas Stations - Historic	Historic spills, leaks, or improper handling of solvents and petroleum products may impact the drinking water supply. Abandoned underground storage tanks may be present.		<input type="checkbox"/> Ensure site was not contaminated, or was properly cleaned up. Work with Drinking Water Protection or DEQ Land Quality Site Assessment Program staff.
M08	Homesteads - Rural - Machine Shops/ Equipment Maintenance	Spills, leaks, or improper handling of solvents, fuels, and other materials or chemicals during transportation, use, storage and disposal may impact the drinking water supply.	<input type="checkbox"/> Notify the owner or manager of their location within your Drinking Water Source Area and send the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" *"Business and Industry Tips" *"Automotive Repair and Maintenance Tips for Drinking Water Protection" *"Use of Injection Control Systems and Groundwater Protection"	<input type="checkbox"/> Implement relevant best management practices (BMPs) from "Automotive Repair and Maintenance Tips for Drinking Water Protection" and "Best Management Practices for Storm Water Discharges Associated with Industrial Activities" fact sheets. Pay particular attention to BMP numbers CS1, CS2, CS3, CS4, CS6 through CS11, CS14, CS17, CS18, CS19, CS20, CS21, CS 24, and CS27 through CS33. <input type="checkbox"/> Ensure all shallow/underground injection well issues are addressed. <input type="checkbox"/> Implement best management practices to minimize potential impact from stormwater runoff. <input type="checkbox"/> Implement best management practices for chemical and fuel storage, handling, and disposal, including spill response.

## Management Strategies for commonly identified Potential Sources of Contamination (PCs) to Oregon's Sources of Drinking Water

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				<input type="checkbox"/> If vehicle washing, auto repair/maintenance, or fueling occurs, implement best management practices on relevant fact sheets.
M09	Homesteads - Rural – Septic Systems (< 1/acre)	If not properly sited, designed, installed, and maintained, septic systems can impact drinking water. Use of drain cleaners and dumping household hazardous wastes can result in groundwater contamination and can impact surface water quality.		<input type="checkbox"/> Notify the residents of their location within your Drinking Water Source Area and send the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" *"Managing Septic Systems to Prevent Contamination of Drinking Water" *"What is Household Hazardous Waste" *"Healthy Lawns, Healthy Families" *"Recycle Used Motor Oil" *"Use of Injection Control Systems and Groundwater Protection" *"Twelve Simple Things You Can Do to Protect Your Well Water"  Additional recommendations: <input type="checkbox"/> For residents with horses, send "Managing Small-acreage Horse Farms" fact sheet. Contact Drinking Water Protection staff if you need copies. <input type="checkbox"/> Work with local government to implement required inspection program on property transfer
M10	Industrial Injection/Dry Wells, Sumps - Class V UICs	Shallow injection wells may transport untreated water directly into groundwater and impact drinking water.	<input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheet: *"Use of Injection Control Systems and Groundwater Protection"	<input type="checkbox"/> Contact DEQ's UIC program to ensure that any dry well/injection well is registered, permitted, and compliant with regulations.



## Management Strategies for commonly identified Potential Sources of Contamination (PCSS) to Oregon's Sources of Drinking Water

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M13	Random Dump Sites	Illegal trash and debris containing chemicals and hazardous materials may cause contamination to groundwater or surface water supply.	<input type="checkbox"/> Notify the property owner of their location within your Drinking Water Source Area and send "Combating Illegal Dumping"	<input type="checkbox"/> Implement two or more appropriate strategies from Combating Illegal Dumping: <ul style="list-style-type: none"> <li><input type="checkbox"/> Education campaign – install sign, newspaper releases and ads, utility inserts (p. 8-13),</li> <li><input type="checkbox"/> Cleanup event (p. 14-17, 22-24)</li> <li><input type="checkbox"/> Collection event (p. 18-21)</li> <li><input type="checkbox"/> Install lights (p. 7)</li> <li><input type="checkbox"/> Use vehicle barriers (p. 7)</li> <li><input type="checkbox"/> Public-private partnerships (p. 25)</li> <li><input type="checkbox"/> If contamination is suspected, contact Drinking Water Protection or DEQ Land Quality Site Assessment Program staff for assistance</li> </ul>
M14	River Recreation - Heavy Use (inc. campgrounds)	Inadequate disposal of human wastes may contribute bacteria and nutrients to the drinking water supply. Heavy use may contribute to streambank erosion causing turbidity. Fuel spills and emissions may also contribute to contamination.		<input type="checkbox"/> Notify the owner, operator, or land manager of their location within your Drinking Water Source Area. If present, verify that septic systems and portable toilet disposal systems are maintained regularly and properly permitted. To verify the septic system permit status, contact DEQ regional office. If applicable, post information about safe fueling, waste disposal at marina/boat launch: <ul style="list-style-type: none"> <li>*"Marine Sewage and Wastewater Disposal"</li> <li>*"Clean Boater Tip Sheet: Gas and Oil"</li> </ul>
M17	Transmission Lines - Right-of-Ways	Construction and corridor maintenance may contribute to increased erosion and turbidity in drinking water supply. Over-application or improper handling of pesticides or fertilizers may impact drinking water supply.		<input type="checkbox"/> Contact the utility owner and notify them of their location within your Drinking Water Source Area. Request that they eliminate or minimize herbicide application within your Drinking Water Source Area.

## Management Strategies for commonly identified Potential Sources of Contamination (PCSS) to Oregon's Sources of Drinking Water

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M18	Transportation - Freeways/State Highways	Vehicle use increases the risk for leaks or spills of fuel & other hazardous materials. Road building, maintenance & use can increase erosion/slope failure causing turbidity. Over-application or improper handling of pesticides/fertilizers may impact water.	<input type="checkbox"/> Identify if stormwater injection wells are present. If they are present, verify the permit status by contacting the Oregon DEQ's Water Quality staff at (503) 229-5945.	<input type="checkbox"/> Notify the road owner (ODOT or County) and local first responders of your Drinking Water Source Area location. <input type="checkbox"/> Request elimination or minimization of herbicide application on right-of-ways within your Drinking Water Source Area.  Additional recommendations: <input type="checkbox"/> Encourage proper use or elimination of any dry wells or sumps in your wellhead protection area. <input type="checkbox"/> Reroute transport of hazardous materials <input type="checkbox"/> Ask transportation officials to examine spill/runoff detention capacity to avoid contaminants entering the groundwater or surface water after an accident. <input type="checkbox"/> Ask for notification of water system in case of spills <input type="checkbox"/> Water system assumes responsibility of non-chemical weed control.
M19	Transportation - Railroads	Rail transport elevates the risk for leaks/spills of fuel & other hazardous materials. Installation/maintenance of tracks may increase erosion & slope failure causing turbidity. Over-application/improper handling of pesticides may impact the water supply.		<input type="checkbox"/> Notify the railroad owner and local first responders of your Drinking Water Source Area location. Request elimination or minimization of herbicide application on right-of-ways that may contaminate water supplies.  Additional recommendations: <input type="checkbox"/> Encourage proper use or elimination of any dry wells or sumps in your wellhead protection area. <input type="checkbox"/> Ask transportation officials to examine spill/runoff detention capacity to avoid contaminants entering the groundwater or surface water after an accident. <input type="checkbox"/> Ask for notification of water system in case of spills
M20	Transportation - Right-Of-Ways - Herbicide Use Areas	Over-application or improper handling of pesticides may impact drinking water supply.		<input type="checkbox"/> Notify the right-of-way owner of your Drinking Water Source Area location. Request elimination or minimization of herbicide application on right-of-ways within your Drinking Water Source Area. <input type="checkbox"/> Ask for notification of water system in case of spills <input type="checkbox"/> Water system assumes responsibility of non-chemical weed control.



# Management Strategies for commonly identified Potential Sources of Contamination (PCSS) to Oregon's Sources of Drinking Water

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M21	Transportation - River Traffic - Heavy	Heavy river usage may contribute to riverbank erosion and increased turbidity in drinking water supply. Fuel and other chemical leaks, spills and emissions may also contribute to drinking water contamination.		<input type="checkbox"/> If present, verify septic systems and portable toilet disposal systems are maintained regularly and properly permitted. To verify permit status, contact DEQ regional office. If applicable, post information about safe fueling, waste disposal at marina/boat launch.
M22	Transportation - Stream Crossing - Perennial	Road building, maintenance & use may increase erosion & slope failure causing turbidity. Vehicle use increases the risk of leaks or spills of fuel & other chemicals. Over-application/improper handling of pesticides in right-of-way may also impact water.	No additional action required for groundwater sources of drinking water (see activities for highway or road).	No additional action required for groundwater sources of drinking water (see activities for highway or road).
M23	UST - Confirmed Leaking Tanks - DEQ LUST List	Existing contamination from spills, leaks, or improper handling of stored materials may impact the drinking water supply.	<input type="checkbox"/> Notify owner or manager of their location within your Drinking Water Source Area. Send the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics"	<input type="checkbox"/> Work with Drinking Water Protection staff to address issue. <input type="checkbox"/> Site attains "No Further Action" (NFA) status
M24	UST - Decommissioned /Inactive	Historic spills or leaks may impact the drinking water supply.		<input type="checkbox"/> Contact Drinking Water Protection DEQ staff (Julie Harvey 503-229-5664) for assistance in verifying that when the underground storage tank was decommissioned, standards were used that protect drinking water.
M25	Underground Storage Tank - Non-Regulated Tanks - <1,100 gals or large heating oil tanks	Spills, leaks, or improper handling of stored materials may impact the drinking water supply.		<input type="checkbox"/> Notify owner of location within Drinking Water Source Area. Send the following fact sheets: *"Frequently Asked Questions About Heating Oil Tanks" *"Proper Care and Maintenance for Unregulated Tanks " *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics"  Additional recommendations: <input type="checkbox"/> Work with local government to implement inspection program on property transfer or stricter standards within sensitive DWSAs
M26	UST - Confirmed Leaking but listed as NFA - DEQ LUST List	Contamination from spills, leaks, or improper handling of stored materials not evaluated by DEQ may impact the drinking water supply.		<input type="checkbox"/> Contact Drinking Water Protection DEQ staff (Julie Harvey 503-229-5664) for assistance in verifying that when the leaking underground storage tank was cleaned up, standards were used that protect drinking water. Note: older cleanup sites may have been cleaned up using standards that are not protective of drinking water.



# Management Strategies for commonly identified Potential Sources of Contamination (PCSS) to Oregon's Sources of Drinking Water

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M27	UST - Upgraded/ Registered - Active	Spills or improper handling during tank filling or product distribution may impact the drinking water supply.		<input type="checkbox"/> Notify the owner/operator of their location within your Drinking Water Source Area. Verify permit status at <a href="http://www.deq.state.or.us/lq/tanks/ust/index.htm">http://www.deq.state.or.us/lq/tanks/ust/index.htm</a> If you do not have web access, please contact Drinking Water Protection staff for assistance.
M28	UST - Status Unknown	Spills, leaks, or improper handling of stored materials may impact the drinking water supply.		<input type="checkbox"/> Work with Drinking Water Protection staff to address issue.
M29	Upstream Reservoirs/Dams	During major storm events, reservoirs may contribute to prolonged turbidity for downstream intakes for drinking water. Construction, fluctuating water levels, and heavy waterside use can increase erosion and turbidity in reservoir/drinking water source.		<input type="checkbox"/> Notify the dam owner or operator of their location within your Drinking Water Source Area and ensure that there is secondary containment for fuels or other chemicals stored. Send the fact sheet on "Managing Small Quantity Chemical Use."  Additional recommendations: <input type="checkbox"/> Provide dam safety resources from FEMA. <input type="checkbox"/> Restrict use of two-stroke engines.
M30	Wells - Residential/ Municipal and Commercial/ Industrial	Improperly installed or maintained wells and abandoned wells may provide a direct conduit for contamination to groundwater and drinking water source.	<input type="checkbox"/> Notify well owners of closure requirements for unused wells and construction requirements for active wells. Send the following fact sheets: *"A consumer's guide to Water Well Construction, Maintenance, And Abandonment" *"Twelve Simple Things You can Do to Protect Your Well Water" <input type="checkbox"/> Ensure local cross-connection program protects public water supply. <input type="checkbox"/> Offer educational programs to residential well owners on proper maintenance and drinking water protection.	<input type="checkbox"/> Provide financial incentives for permanent well abandonment according to the Water Resources Department's "A consumer's guide to Water Well Construction, Maintenance, And Abandonment." (Provided well construction is adequate, temporary abandonment will be protective of groundwater. Contact OHA Staff for assistance, and provide a well log.) <input type="checkbox"/> Verify proper well abandonment. <input type="checkbox"/> Adopt local ordinance or internal procedures to ensure that state well abandonment requirements are met before development occurs.
M31	Large Capacity Septic Systems (serves > 20 people) - Class V UICs	If not properly sited, designed, installed, and maintained, septic systems can impact drinking water.	<input type="checkbox"/> Contact the owner or operator and provide them information on their location within your Drinking Water Source Area and the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" *"Septic Tank Maintenance" *"Managing Septic Systems to Prevent Contamination of Drinking Water" *"Household Pharmaceutical Waste Disposal" *"What is Household Hazardous Waste?" *"Septic System Management — Landscaping and Other Activities on Your Property" <input type="checkbox"/> Verify UIC registration with DEQ.	<input type="checkbox"/> Upgrade septic system <input type="checkbox"/> Ongoing septic system maintenance program <input type="checkbox"/> Work with local government to implement required inspection program on property transfer <input type="checkbox"/> If applicable, ongoing education program for residents or businesses on household hazardous waste and proper disposal of pharmaceuticals.

## Management Strategies for commonly identified Potential Sources of Contamination (PCSS) to Oregon's Sources of Drinking Water

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			<input type="checkbox"/> Get notification from DEQ on permit modifications.	
M02	Channel Alterations - Heavy	Construction or maintenance of channel may cause erosion, resulting in increase in turbidity of surface water. Improper stream alterations may also contribute to increase in potential for flooding.	No action required for groundwater sources of drinking water	No action required for groundwater sources of drinking water
M52	Ponds/Streams/Wetlands	Ponds may increase surface erosion and sediment delivery rates, resulting in high turbidity in drinking water source.	No action required for groundwater sources of drinking water	No action required for groundwater sources of drinking water
M54	Surface Water on 303d list	Stream segment(s) that do not meet Clean Water Act/DEQ water quality standards may also be affecting drinking water.	No action required for groundwater sources of drinking water	No action required for groundwater sources of drinking water
M55	Unknown Operation	The impacts of this potential contaminant source should be addressed during the enhanced inventory.		<input type="checkbox"/> Identify type of operation. If operation poses a potential risk, notify the owner or operator of their location within your Drinking Water Source Area. Contact the manager and verify that chemicals, petroleum products, and other materials are handled properly, as recommended in the "Business and Industry" fact sheet. Contact Drinking Water Protection staff with questions or for assistance with other strategies for protection.



# Management Strategies for commonly identified Potential Sources of Contamination (PCSS) to Oregon's Sources of Drinking Water

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M56	Transportation Corridors - High Use Roads/ Streets	Vehicle use increases the risk for leaks or spills of fuel & other hazardous materials. Road building, maintenance & use can increase erosion/slope failure causing turbidity. Over-application or improper handling of pesticides/fertilizers may impact water.		<input type="checkbox"/> Verify the permit status of any shallow/underground injection wells in your wellhead protection area by contacting the Oregon DEQ's Water Quality staff at (503) 229-5945.  <input type="checkbox"/> Notify the road owner (City or County) and first responders of your Drinking Water Source Area location. Request that they eliminate or minimize the use of herbicide and fertilizer applications within your Drinking Water Source Area.  Additional recommendations: <input type="checkbox"/> Encourage proper maintenance, use or elimination of dry wells, shallow injection wells, or sumps in your wellhead protection area. <input type="checkbox"/> Reroute the transportation of hazardous materials <input type="checkbox"/> Ask for notification of water system in case of spills
M58	DEQ Permitted Discharges - Domestic On-Site	If not properly sited, designed, installed, and maintained, septic systems can impact drinking water. Use of drain cleaners and dumping household hazardous wastes can result in groundwater contamination and impact drinking water.		<input type="checkbox"/> Notify the owner or manager of their location within your Drinking Water Source Area and send the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" *"Managing Septic Systems to Prevent Contamination of Drinking Water" *"Septic System Management — Landscaping and Other Activities on Your Property" *"Healthy Lawns, Healthy Families" *"What is Household Hazardous Waste?" *"Twelve Simple Things You Can Do to Protect Your Well Water" <input type="checkbox"/> Ongoing education program on household hazardous waste, lawn and landscaping, septic system maintenance.
M60	Other Injection/Dry Wells, Sumps - Class V UICs	Shallow injection wells may transport untreated water directly into groundwater and impact drinking water.		<input type="checkbox"/> Notify the owner or operator of their location within your Drinking Water Source Area and send the fact sheet on "Use of Injection Control Systems and Groundwater Protection"
M61	Wells - Abandoned	Abandoned wells may provide a direct conduit for contamination to groundwater and drinking water source.	<input type="checkbox"/> Notify the well owners of proper well abandonment procedures and send the Water Resources Department's brochure: "A consumer's guide to Water Well Construction, Maintenance, And Abandonment."	<input type="checkbox"/> Provide financial incentives for permanent well abandonment according to the Water Resources Department's "A consumer's guide to Water Well Construction, Maintenance, And Abandonment." <input type="checkbox"/> Verify proper well abandonment. Provided well construction is adequate, temporary abandonment will be protective of groundwater. Contact OHA Staff for assistance, and provide a well log.

## Management Strategies for commonly identified Potential Sources of Contamination (PCSs) to Oregon's Sources of Drinking Water

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R02	Apartments and Condominiums	Improper use, storage, and disposal of household and facility maintenance chemicals may impact the drinking water supply. Stormwater run-off or infiltration may carry contaminants to water supply.		<input type="checkbox"/> Distribute "What is Household Hazardous Waste?" brochure to residents. Notify the apartment owners or managers of their location within your Drinking Water Source Area and send the following fact sheets as appropriate: *"Healthy Lawns, Healthy Families" *"Managing Turfgrass and Garden Fertilizer Application" *"Managing Small-Scale Application of Pesticides" *"Use of Injection Control Systems and Groundwater Protection" *"Disposal of Chlorinated Water from Swimming Pools and Hot Tubs"  Additional recommendations: <input type="checkbox"/> Encourage best management practices to improve the quality of stormwater which infiltrates to groundwater or discharges to surface water
R03	Campgrounds/RV Parks	Leaks or spills of automotive fluids or improperly managed septic systems and wastewater disposal may impact drinking water supply. Heavy usage along edge of waterbody may contribute to erosion, causing turbidity.		<input type="checkbox"/> Notify the owner or manager of their location within your Drinking Water Source Area and send the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" *"Healthy Lawns, Healthy Families" *"Managing Septic Systems" *"Septic System Management — Landscaping and Other Activities on Your Property" <input type="checkbox"/> Verify with the campground or RV Park manager that the septic system (if present) is maintained regularly and properly permitted. To verify the permit status of the septic system, contact DEQ regional office. <input type="checkbox"/> If an RV Park is present, verify that it has policies in place regarding auto maintenance and wastewater disposal.  Additional recommendations: <input type="checkbox"/> Identify and document any pesticides used to maintain site and areas applied. <input type="checkbox"/> Minimize or eliminate use of pesticides and fertilizers.
R04	Cemeteries	Embalming fluids, for example arsenic, and decomposition byproducts may impact drinking water supply.	<input type="checkbox"/> Notify the owner/operator of their location within your Drinking Water Source Area. Send "Healthy Lawns, Healthy Families" and "Managing Small-Scale Application of Pesticides" fact sheets.	<input type="checkbox"/> Minimize or eliminate use of pesticides and fertilizers.



# Management Strategies for commonly identified Potential Sources of Contamination (PCSS) to Oregon's Sources of Drinking Water

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R05	Drinking Water Treatment Plants	Treatment chemicals and equipment maintenance materials may impact groundwater or surface water source.	<input type="checkbox"/> Verify that no fuels or other chemicals are stored near the wellhead or spring, and that all backup fuel supplies have secondary containment.	<input type="checkbox"/> Create a spill response plan. <input type="checkbox"/> All fuels and chemicals have secondary containment.
R06	Fire Station	Spills, leaks, or improper handling of chemicals and other materials during transportation, use, storage and disposal may impact the drinking water supply.		<input type="checkbox"/> Notify the fire station of their location within your Drinking Water Source Area. Contact the manager and verify that chemicals, petroleum products, and other materials are handled properly, as recommended in "Business and Industry" fact sheet.
R07	Fire Training Facilities	Improper use of fuels and other chemicals during fire training may impact the drinking water supply.	<input type="checkbox"/> Notify the fire training facility of their location within your Drinking Water Source Area. Contact the manager and verify that chemicals, petroleum products, and other materials are handled properly, as recommended in the "Business and Industry" fact sheet. If fuels or other chemicals are used in training, verify that they are cleaned up. Contact Drinking Water Protection staff if you need assistance.	<input type="checkbox"/> Verify that the fire training facility has Written Standard Operating Procedures for chemicals used in training. <input type="checkbox"/> Runoff from fire training is contained and/or treated.
R09	Housing - High Density (> 1 House/0.5 acres)	Improper use, storage, and disposal of household chemicals may impact the drinking water supply. Stormwater run-off or infiltration may carry contaminants to drinking water supply.	<input type="checkbox"/> Notify residents of location within Drinking Water Source Area and communicate the information found in the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" *"What is Household hazardous Waste?" *"Healthy Lawns, Healthy Families" *"Household Pharmaceutical Waste Disposal" <input type="checkbox"/> Identify underground injection wells and dry wells for stormwater disposal. Verify permit status. <input type="checkbox"/> Education program on stormwater issues.	<input type="checkbox"/> Ongoing public education program on pesticide and fertilizer use, household hazardous waste, pet waste, and household pharmaceutical waste disposal <input type="checkbox"/> Host household hazardous waste collection or provide information to residents on available collection facilities <input type="checkbox"/> Work with your municipality to increase emphasis on pre-treatment for stormwater runoff and best management practices for stormwater. <input type="checkbox"/> Develop best management practices and maintenance plan for drywells and injection wells. <a href="http://www.deq.state.or.us/wq/uic/docs/guidelines.pdf">http://www.deq.state.or.us/wq/uic/docs/guidelines.pdf</a> <input type="checkbox"/> Review Portland's Stormwater Management Manual and the Oregon's Water Quality Model Code and Guidebook (or other stormwater management document), and develop program to address stormwater issues.
R11	Lawn Care - Highly Maintained Areas	Over-application or improper handling of pesticides or fertilizers may impact drinking water. Excessive irrigation may cause transport of contaminants to groundwater or surface water through runoff.	<input type="checkbox"/> Notify owner or manager of their location within your Drinking Water Source Area. Send the following fact sheets: *"Healthy Lawns, Healthy Families" *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics"	<input type="checkbox"/> Ongoing education program addressing household/office pesticide and fertilizer use and irrigation practices. <input type="checkbox"/> Determine degree and type of chemicals used for lawn maintenance <input type="checkbox"/> Minimize or eliminate pesticide and fertilizer application <input type="checkbox"/> Provide training/workshops to residents on water quality protection <input type="checkbox"/> Encourage use of products that are environmentally friendly <input type="checkbox"/> Minimize irrigation, or use water efficient irrigation



# Management Strategies for commonly identified Potential Sources of Contamination (PCSS) to Oregon's Sources of Drinking Water

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				<ul style="list-style-type: none"> <li><input type="checkbox"/> Ensure pesticides are handled and stored safely</li> </ul>
R13	Parks	Over-application or improper handling of pesticides/fertilizers may impact drinking water. Excessive irrigation may cause transport of contaminants through runoff. Heavy use along edge of waterbody may contribute to erosion, causing turbidity.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Notify the owner or manager of their location within your Drinking Water Source Area and send the following fact sheets:               <ul style="list-style-type: none"> <li>*"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics"</li> <li>*"Healthy Lawns, Healthy Families"</li> <li>*"Managing Small-Scale Application of Pesticides"</li> <li>*"Managing Turfgrass and Garden Fertilizer Application"</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Determine degree and type of chemicals used for park maintenance</li> <li><input type="checkbox"/> Minimize or eliminate pesticide and fertilizer application</li> <li><input type="checkbox"/> Provide training/workshops to park staff on water quality protection</li> <li><input type="checkbox"/> Use products that are environmentally friendly</li> <li><input type="checkbox"/> Minimize irrigation, or use water efficient irrigation</li> <li><input type="checkbox"/> Ensure pesticides are handled and stored safely</li> <li><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.</li> </ul>
R15	Schools	Over-application or improper handling of cleaning products, pesticides or fertilizers used on the school grounds may impact drinking water. Vehicle maintenance wastes may contribute contaminants.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Notify the school of their location within your Drinking Water Source Area and send the following fact sheets as appropriate:               <ul style="list-style-type: none"> <li>*"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics"</li> <li>Healthy Lawns, Healthy Families"</li> <li>*"Managing Septic Systems"</li> <li>*"Use of Injection Control Systems and Groundwater Protection"</li> <li>*"Managing Used Computers and Other Electronic Equipment: A guide for businesses and institutions"</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Contact the school and verify that there are no septic system, aboveground storage tanks, underground injection wells, or vehicle maintenance and washing. If there are, contact Drinking Water Protection staff for assistance.</li> </ul>
R16	Septic Systems - High Density ( > 1	If not properly sited, designed, installed, and maintained, septic systems can impact drinking water. Cumulative effects of multiple systems in an area may impact drinking water supply.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Notify residents of their location within your Drinking Water Source Area, and send the following fact sheets:               <ul style="list-style-type: none"> <li>*"Managing Septic Systems to Prevent Contamination of Drinking Water"</li> <li>*"Septic Tank Maintenance"</li> <li>*"Recycle Used Motor Oil"</li> <li>*"Household Pharmaceutical Waste Disposal"</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Develop program for ongoing septic system maintenance or upgrades</li> <li><input type="checkbox"/> Implement required inspection program on property transfer</li> <li><input type="checkbox"/> If applicable, ongoing education program for residents or businesses on household hazardous waste and proper disposal of pharmaceuticals.</li> </ul>

## Management Strategies for commonly identified Potential Sources of Contamination (PCSS) to Oregon's Sources of Drinking Water

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R17	Sewer Lines - Close Proximity to PWS	If not properly designed, installed, and maintained, sewer lines can impact drinking water, especially adjacent to a waterbody or within the 2-year time-of-travel zone for drinking water wells.	<input type="checkbox"/> Determine status of sewer lines and sewer plan <input type="checkbox"/> Identify broken or cracked lines, areas with inflow and infiltration.	<input type="checkbox"/> Identify upgrade or replacement of lines as a high priority within City Sewer Master Plan. Include timeline. <input type="checkbox"/> Plan for replacement of sewer lines within 2-year TOT. <input type="checkbox"/> Plan for double sleeve of sewer lines within 2-year TOT.
R51	Possible Chemical Storage - Residential	Spills, leaks, or improper handling of chemicals and other materials during transportation, use, storage, and disposal may impact the drinking water supply.	<input type="checkbox"/> Notify residents of location within Drinking Water Source Area and send the following fact sheets: *"What is Household Hazardous Waste?" *"Recycle Used Motor Oil"	<input type="checkbox"/> Ongoing public education program on household hazardous waste, pesticide and fertilizer use, and household pharmaceutical waste disposal. <input type="checkbox"/> Host or facilitate ongoing household hazardous waste collections.
R54	Aboveground Storage Tanks - Residential	Spills, leaks, or improper handling of stored materials may impact the drinking water supply.	<input type="checkbox"/> Notify the aboveground storage tank owner of their location within your Drinking Water Source Area and send fact sheets on "Frequently Asked Questions About Heating Oil Tanks" and "Groundwater Basics." <input type="checkbox"/> Conduct a survey of existing aboveground storage tanks to determine if tanks are 1) placed on a concrete pad OR 2) have a drip pan OR 3) have secondary containment.	<input type="checkbox"/> Aboveground storage tanks are 1) placed on a concrete pad OR 2) have a drip pan OR 3) have secondary containment. <input type="checkbox"/> Ordinance, covenant, or rules to ensure aboveground storage tanks have secondary containment.  Additional recommendations <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.
R55	Private residence with scrap/salvage	Spills, leaks, or improper handling of automotive chemicals, batteries, and other waste materials during storage and disposal may impact the drinking water supply.	<input type="checkbox"/> Notify owner or manager of their location within your Drinking Water Source Area. Send the following fact sheets: *"Basic Tips for Keeping Drinking Water Clean and Safe" or "Groundwater Basics" *"What is Household Hazardous Waste?" *"Recycle Oil" *"Recycling Refrigerators and Freezers - Information for the General Public"	<input type="checkbox"/> Ongoing education program that addresses household hazardous waste, storage of unused vehicles, appliances and equipment. <input type="checkbox"/> Household hazardous waste collection event. <input type="checkbox"/> Ordinance in place that limits the number of unused vehicles and/or appliances in residential areas. <input type="checkbox"/> Review "Best Management Practices for Storm Water Discharges Associated with Industrial Activities" and implement relevant best management practices (CS18 and CS22 might be helpful).