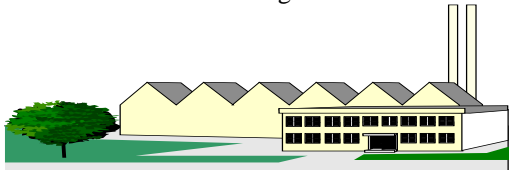


Business & Industry Tips For Drinking Water Protection

The Oregon business community is a vital partner in the effort to protect Oregon's drinking water resources. Voluntary efforts of all businesses, large or small, to incorporate sound management practices in their daily activities helps preserve and protect groundwater and surface water resources for all Oregonians.



What can business and industry do to help protect drinking water?



Participate in existing pollution prevention and waste reduction activities

To help protect drinking water in your community, businesses can use existing resources and programs to reduce risks from drinking water contamination. The Oregon Department of Environmental Quality has several established programs that can be useful in those efforts, such as the Toxics Use and Hazardous Waste Reduction Program. These programs also have the **added benefit of:**

- Helping you to **reduce operating and compliance costs;**
- **Saving you money** by reducing product use or disposal amounts;
- **Reducing liabilities** associated with spills or releases to the environment; and
- **Promoting the health and safety** of your workers by eliminating, reducing or controlling wastes from your activities.

Pollution Prevention: Pollution prevention is any activity that avoids, reduces or eliminates creation of pollutants or wastes at the source. It includes practices that reduce use of hazardous and non-hazardous materials, energy, water or other resources. It also encourages more efficient use and protection of natural resources. Any reduction in the amount of hazardous material stored or used at the local business is a direct reduction in risks posed by that potential contaminant to water supply. The relatively simple activities listed below are a good place to

start. You can find out more about additional opportunities for pollution prevention, which are more specific to your business, by contacting DEQ directly. (see "*Resources*" on page 4).

Top pollution prevention opportunities for drinking water protection

Reduce or Eliminate Use of Hazardous Chemicals: Evaluate your options for eliminating toxic chemical use or using the least hazardous materials in the manufacturing process. Avoid use of chlorinated solvents / cleaners whenever possible.

Housekeeping and Spill Response: Good housekeeping practices, such as keeping containers closed while not in use, and replacing manual transfer operations with pumps or spigots, can reduce spills and leaks. Have a spill kit readily available so spills can be cleaned up quickly and properly. Post emergency numbers in a visible location.

Maintenance: Properly maintaining equipment can reduce waste from leaks or equipment breakdowns during production runs. Good maintenance programs may include regular equipment inspection, changing worn-out parts, regularly replacing seals and gaskets, repairing leaks as they occur, and following manufacturers' suggested maintenance schedules.

System Assessment: Assess current operations to identify ways to improve process equipment, substitute raw materials or reformulate products to save energy, prevent pollution and enhance business competitiveness.

Waste Reduction: Oregon's Toxics Use and Hazardous Waste Reduction Act of 1989 was one of the nation's first laws to mandate pollution prevention planning. The act outlines a comprehensive approach to reduce or eliminate toxic substances use and hazardous waste generation. In June 2005, the Oregon Legislature passed a new law that streamlined and made other significant changes to the [TUHWR Program](#). Businesses in the program must develop a Reduction Plan or an Environmental Management System.



State of Oregon
Department of
Environmental
Quality

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Protection Program**
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Contact: Julie Harvey
www.deq.state.or.us

Alternative formats

Alternative formats of this document (Braille, large type) can be made available. Contact DEQ's Office of Communications & Outreach, Portland, at (503) 229-5317 or call toll-free in Oregon at 1-800-452-4011, x5317, for more information. Hearing-impaired persons may call 711.

Through this planning process, businesses may discover opportunities to pursue pollution prevention. DEQ waste reduction assistance program staff can provide technical assistance. DEQ's services are free and include on-site visits (which protect you from inspections while receiving technical assistance), telephone assistance, hazardous waste training, and fact sheets from DEQ's resource library.



Become informed of Best Management Practices applicable to your business that can protect drinking water

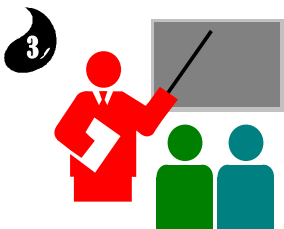
Best Management Practices are typically actions developed for specific operations associated with a business or industry that serve to reduce hazardous material use or risks of release. Incorporating these practices into an operation is generally accomplished through:

- Process or design changes
- Operational changes such as preventative maintenance
- Employee training

Key objectives (and subsequent benefits) of incorporating Best Management Practices into your way of doing business include:

- Improved efficiency and organization
- Cost savings by reducing product usage or disposal amounts
- Reduced liabilities associated with spills or releases to the environment.

Many Best Management Practices are applicable to a wide range of types of commercial and industrial operations since the majority of these operations use storage facilities, drains or dry wells, etc. This fact sheet lists some of the most common practices .



Be Prepared

Learn where your drinking water comes from and how your business may affect its quality. Make sure all employees at your facility know the actions they take may affect the community's drinking water. Have a spill kit readily available so spills can be cleaned up quickly and properly. Post emergency numbers in a visible location.

Advocate Recognition Programs



Encourage your local community to create special awards or incentive programs to recognize efforts to protect drinking water. Officially recognizing environmentally friendly behavior can make pollution prevention a more attractive choice to businesses, as well as help environmentally concerned consumers influence manufacturers' practices. These goals can be accomplished through awards programs, certification programs, "green market" efforts and labeling incentives. More information on examples of award programs to encourage pollution prevention can be obtained by calling DEQ (see "Resources" on page 4).

General Best Management Practices

Floor Drains

- Eliminate floor drain discharges to the ground, septic systems (except in sanitary facilities), storm sewers or to surface water bodies from any location in the facility.
- Floor drains in sanitary facilities must either discharge to a septic system, a municipal sanitary sewer or a holding tank which is periodically pumped out. All discharges to the floor must be collected, contained and disposed of by an appropriate waste hauler in accordance with federal and state requirements.

Dry Wells

- Dry wells should be eliminated in **ALL** cases unless they receive *only clean water discharges*, which meets all established maximum contaminant levels outlined under the federal Safe Drinking Water Act and other state and local standards for drinking water, and is in compliance with any other state and local requirements.

Floors

- Floor surfaces in work areas and chemical storage areas should be sealed with an impermeable material resistant to acids, caustics, solvents, oils or any other substance which may be used or generated at the facility. Sealed floors are easier to clean without the use of solvents.
- Work-area floors should be pitched to appropriate floor drains. If floor drains are not used, or if they're located close to entrance ways, then berms should be constructed along the full width of entrances to prevent stormwater runoff from entering the building.

- Berms should also be used to isolate floor drains from spill-prone areas.

Storage Facilities

- Loading and unloading of materials and waste should be done within an enclosed or roofed area with secondary containment and isolated from floor drains to prevent potential spills from contaminating stormwater or discharging to the ground.
- Test tanks and associated equipment periodically for structural integrity.
- Storage areas for new and waste materials should be permanently roofed, completely confined within secondary confinement berms, isolated from floor drains, have sealed surfaces, and should not be accessible to unauthorized personnel.



Water Conservation

- Flow restrictions and low-flow faucets for sinks and spray nozzles should be installed to minimize hydraulic loading to subsurface disposal systems.

Stormwater Management

- Stormwater contact with materials and wastes must be avoided to the greatest extent possible. Storage of materials and wastes should be isolated in roofed or enclosed areas to prevent contact with precipitation.
- Uncovered storage areas should have a separate stormwater collection system which discharges to a tank.
- Stormwater from building roofs may discharge to the ground. However, if solvent distillation equipment or vapor degreasing is used, with a vent that exhausts to the roof, then roof leaders may become cross contaminated with solvent. These potential sources of cross contamination must be investigated and eliminated.

Cross-Connections

- Cross-connections such as sanitary discharges to storm sewers, stormwater discharges to sanitary sewers or floor drain discharges to storm sewer systems should be identified and eliminated.

Work Areas

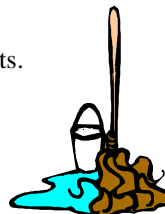
- Consolidate waste-generating operations and physically segregate them from other operations. They should preferably be located within a confinement area with sealed floors and with no direct access to outside the facility. This reduces the total work area exposed to solvents, facilitates waste stream segregation and efficient material and waste handling, and minimizes cross combination with other operations and potential pathways for release into the environment.



- Waste collection stations should be provided throughout work areas for the accumulation of spent chemicals, soiled rags, etc. Each station should have labeled containers for each type of waste fluid. This provides safe interim storage of wastes, reduces frequent handling of small quantities of wastes to storage areas, and minimizes overall risk of a release into the environment.
- New solvent can be supplied by dedicated feed lines or dispensers to minimize handling of materials. These feed lines must default to a closed setting to prevent unmonitored release of materials.

Spill Control

- Use emergency spill kits and equipment. Place them at storage areas, loading and unloading areas, dispensing areas and work areas.
- Clean spills promptly with recyclable rags, a wet vacuum, squeegee, dust pan, absorbent pads or brooms. Dispose of all cleanup materials properly.
- Minimize use of disposable granular or powder absorbents.
- Spilled materials should be neutralized as prescribed in Material Safety Data Sheets collected, handled and disposed of in accordance with federal, state and local regulations.
- Use shake-proof and earthquake-proof containers and storage facilities to reduce spill potential.



Resources: Where can you get help?

For local assistance, check the "Government" section of your phone directory for the following telephone numbers:

- Water Utility or Public Works Department
- County Development or Planning Office
- Waste Disposal and Recycling Facility

DEQ can provide information about state and federal requirements for proper waste management and disposal, safe alternatives to chemicals used in the industry, air quality and hazardous waste technical and compliance assistance, pollution prevention, drinking water protection planning, underground injection control and shallow disposal wells, soil and groundwater assessment, water quality assistance, permits, septic tanks and underground storage tanks. DEQ also manages the Waste Reduction Assistance Program and the Small Business Assistance Program. DEQ office phone numbers are available at <http://www.deq.state.or.us/about/locations.htm>.

You can also access DEQ's web home page at <http://www.deq.state.or.us>. If you'd like more information on drinking water protection, please contact your local public water supply provider (see your water bill for name and number) or DEQ's Drinking Water Protection Program — Sheree Stewart (503-229-5413) or Julie Harvey (503-229-5664).

Other Technical Assistance

Who	Contact / Phone	What
U.S. Department of Energy Pacific Northwest National Laboratory (Battelle)	Gary Spanner 509-372-4296	Free on-site pollution prevention technical assistance for small businesses, personnel exchanges and cooperative research.
Northwest Environmental Business Council	503-227-6361 or toll-free: 800-985-6322	NEBC provides a directory of environmental service and product providers on its Web site at http://www.nebc.org/ .
Oregon State University Extension Service Industrial Assessment Center	Greg Wheeler 541-737-2515	Industrial efficiency assessments including productivity, waste minimization, pollution prevention and energy efficiency for small- to moderate-sized manufacturers with SIC codes 20-39. http://eec.engr.oregonstate.edu/

Potential Funding

Who	Contact / Phone	What
Oregon Water and Wastewater Funding and Resource Guide - Rural Community Assistance Corporation (RCAC)	http://www.rcac.org/assets/Oregon/ORresourceGd-4-11.pdf	Multiple resources for various potential funding sources.
Cascadia Revolving Fund	503-235-9635 http://www.cascadiafund.org/	Environmental loans for businesses.
PacificCoast Bank	503-916-1552 http://www.onepacificcoastbank.com	A commercial bank with a conservation focus specializing in financing for businesses. Initiatives include water quality improvements, resource efficiency and waste reduction projects.
Oregon Department of Energy	503-378-4040 http://egov.oregon.gov/energy/cons/bus/betc.shtml	Energy tax credits for businesses.

Selected Resources on the Internet

Pacific Northwest Pollution Prevention (P2) Resource Center (http://www.pprc.org or 206- 352-2050) PPRC is an excellent resource for information on P2 opportunities by industry sector, P2 research projects, materials exchanges and much more. PPRC maintains lists of regional contacts for technical assistance and policy and program development.	
Small Business Environmental Assistance (http://www.smallbiz-enviroweb.org/) This site provides information on state small business assistance programs, compliance assistance, industry sector assistance, EPA voluntary initiatives and programs, and pollution prevention resources.	EPA Pollution Prevention (http://www.epa.gov/p2/) EPA's <i>P2 website</i> assists users in finding and implementing common-sense solution to environmental problems; share technology, procedures, and experience; and encourages the development of pollution prevention technologies.