

Saving Water within municipal systems

We can all do our part to lessen the effects of limited water supplies this summer. We can start by conserving the water we use today. Here are many helpful and common tips for municipal water providers.

Maintain a fully metered system and perform annual water audits

Doing so allows a water provider to compare the amount of water produced against the amount of water sold/consumed, the difference of which can alert a water provider to system leaks and unauthorized uses of water.

Locate and repair leaks

Water utilities with a systematic program in place to detect and repair leaks in their distribution system can help reduce unnecessary losses of water in a timely manner. This, in turn, reduces the amount of money spent by a utility to divert and treat water that is ultimately lost due to leakage.

Manage water pressure in your system

Pressure management is an important tool that can be implemented by a water utility in its efforts to reduce system leakage. Since leakage is driven by pressure, any efforts to reduce water pressure will help reduce leakage to some extent. Typically this is an economical approach with immediate results. The American Water Works Association's Manual M36 on water audit and loss control programs provides further detail: <http://www.awwa.org/store/productdetail.aspx?productid=39928904>

Adopt rate structures that encourage water conservation

In Oregon, water rate structures must be based, at least in part, on the amount of water metered at the customer's service connection. Beyond this minimum requirement, there are several types of rate structures that are used throughout the United States to encourage conservation:

An *inclining block rate structure* has a base fee and commodity charge using block rates under which the price per unit of water increases as metered consumption passes one or more usage threshold. This encourages conservation by sending a price signal to customers that their consumption costs more, as more water is consumed.

A *seasonal rate structure* has a base fee and commodity charge using a seasonal differential that charges more per unit of water consumed in the dry season (on-peak), compared with the wet season (off-peak) to encourage water conservation during peak use periods.

A *drought rate structure* has a base fee and commodity charge similar to seasonal rates, but instead of applying higher rates during an entire season, the supplier will adjust rates based on the local area's level of drought. Higher levels of drought result in higher prices for water in order to encourage water conservation.



Contact your top 10 water users

Work with commercial, industrial and institutional facilities to determine possible ways to reduce their water use by making it more efficient. Some items to evaluate with these types of facilities include:

- A program to check for water leaks in the facility and, if found, promptly repair.
- Installation of more water-efficient bathroom facilities.
- Consider implementation of water smart landscaping and irrigation practices.
- Optimize cooling systems. Are onsite sources of water available? If applicable, can the use of single pass cooling be eliminated by recirculating cooling water or by moving to air-cooled systems?
- Evaluate equipment in cafeterias (kitchens) and laundry facilities for potential water savings. For example, replacing one pre-rinse spray valve with a WaterSense® labeled model can save a typical commercial kitchen more than 7,000 gallons of water each year.
- Upgrade dishwashers, ice machines, and steam cookers to more water-efficient models.

Offer retrofit rebates and technical/financial assistance programs

If done strategically, a water provider can target certain sectors of its customer base to yield the most water savings. Examples of these types of programs include:

- Rebate programs to partially offset a customer's cost to purchase more water-efficient fixtures, appliances or equipment, such as high efficiency toilets, dishwashers and washing machines;
- Rebate programs to partially offset the cost of purchasing more specialized equipment such as air-cooled ice machines in hotels and restaurants, water-efficient air conditioning equipment, or various types of water-using equipment in industrial facilities;
- Cost-share programs where the cost of a customer's water conservation measures will be paid, in whole or in part, by the water supplier;
- Water audits offered to some individual customers (both commercial/industrial and residential) to assess their water uses and practices opportunities for water savings;
- Training events for customers to learn about specific types of water saving equipment or actions. These may be targeted towards specific groups such as homeowners, apartment managers, building maintenance staff, or grounds maintenance staff;
- Training events to businesses that provide goods or services to a water supplier's customers. This could include landscaping businesses, construction contractors, air conditioning contractors, building centers, and lawn and garden centers;
- Programs to assist local parks and golf courses in improving irrigation control systems;
- Distribution of water conservation kits containing items such as low-flow showerheads, toilet leak detection and repair materials, toilet tank displacement bags, and faucet aerators; and/or
- Educational items that provide technical information to assist customers in saving water.

Encourage the use of reclaimed, recycled or non-potable water

Reclaimed water is typically used for irrigation or industrial purposes. Careful coordination with municipal wastewater treatment authorities is needed to develop an effective project of this nature. Other uses may include recycling of process water within a single industrial facility (*or group of facilities*) and the use of domestic "graywater" for onsite irrigation, flushing of toilets, or other non-potable uses, where laws permit such use.