

Water Use in Ohio

Water users withdraw about 11 billion gallons of water each day from Ohio streams, lakes, and aquifers--more than enough to fill a five square mile swimming pool to a depth of 10 feet. While the electric power industry represents the largest user group, rural and public water systems withdraw almost 1.6 billion gallons daily.

Although Ohio is blessed with what seems to be an abundance of water, on-going conservation is essential to maintain available supplies during drought periods when shortages are most likely to occur. Protecting this precious resource requires cooperation from both suppliers and users.

Conservation in Practice

Privately-Supplied Industrial Uses--

Industrial water users have recognized the fact that conservation pays, and have used water conservation measures to reduce the amount of water they must treat before discharging it into rivers and streams after use. By reusing water, substantial savings have been realized. Federal regulations require new power plants to be equipped with closed-cycle cooling systems (such as cooling towers) to eliminate thermal pollution; such systems significantly decrease water withdrawals.

Rural Use and Privately-Supplied

Irrigation--Because these uses "consume" nearly all the water they withdraw and little is returned to its source, conservation measures are quite important. Such measures include: (1) using water-conserving irrigation systems, (2) selecting crop varieties which do not require intensive irrigation, (3) transporting water through closed pipes as opposed to open ditches, and (4) providing off-stream storage

such as ponds and lakes to be used when streamflow is low.

Conservation of Public Supplies

Everyone can do his or her part to conserve Ohio's water supplies. Household water use in Ohio varies between 25 and 75 gallons per person per day, depending on the season, the amount and cost of water available, and personal hygiene habits. On average, Ohioans use about 50 gallons per person per day. The table below shows how much water is used in some daily household activities.

Water Use of Household Activities

Filling the sink	2 gallons
Running the dishwasher	3-5 gallons/load
Flushing the toilet	2-6 gallons/flush
Filling the tub	30 gallons
Doing the laundry	30-50 gallons/load
Taking a shower	20-50 gallons
Running a lawn sprinkler	120 gallons/hour
Using a 5/8" hose	270-330 gallons/hour
Using a 3/4" hose	300-360 gallons/hour

Residents should become familiar with where their water originates, what treatment it receives, and what distribution lines it passes through before reaching its point of use. Becoming aware of the factors which influence the quality as well as the quantity of water supplies will foster an increased concern toward protecting them. Conservation measures can be taken both indoors and outdoors.

Conserving Water Indoors--Household leaks from toilets, faucets, and pipes account for 10 to 20 percent or more of a household's total indoor water use. Repair of these leaks usually pays for itself in water savings. Decreasing a toilet tank's capacity can cut water use from 5 gallons per flush to 3.5 gallons. Tank inserts, such as a water-filled gallon jug or plastic bag, can save a

gallon or more per flush (bricks are not recommended for this purpose because they deteriorate and may crack the tank). Replacing old toilet fixtures can save even more, since new models use only 1.6 gallons per flush. Replacing old shower heads with newer water-saving models can result in a 17 percent reduction in overall home water use. Additional savings can be realized by reducing shower times or filling the tub less full.

Conserving Water Outdoors--

Conservation of water outdoors is also important, since the water is nearly all consumed, with none returning to its source. Watering lawns can be virtually eliminated in most years without sacrificing a healthy lawn by simply raising the height of cut. Taller grass (around 3 inches) will shade the roots and substantially lower water requirements. If the lawn does become brown, the grass is probably not dead but only dormant, and should return to its vibrant green color when the dry conditions cease. Gardens, ornamental plants, and young trees should receive first priority when watering becomes necessary. Also, use a bucket when washing the car, and fit the rinse hose with a nozzle that allows the water to be shut off. Using a broom rather than a high-pressure washer to clean sidewalks and driveways will result in a 100 percent water savings.

Water Emergencies

Voluntary water conservation is appropriate at all times. When a drought occurs and a water alert is issued for a community, residents should step up their voluntary conservation measures. Community action, such as implementing water rationing ordinances, is sometimes needed. These ordinances increase the level of conservation as the drought

severity worsens. If a drought emergency is declared, a community may need to further restrict water use by regulating industries, closing schools, and banning certain activities. Such drastic measures can sometimes be avoided if residents take voluntary conservation seriously early on during the drought.

Under emergency conditions, the Ohio Department of Natural Resources (ODNR), Division of Water can help communities find alternative sources of water for temporary use. Communities may arrange to receive water from state or federal reservoirs which are normally operated for other purposes. The Ohio Emergency Management Agency, within the Department of Public Safety, can be called upon to assist during emergency situations. Sometimes local industries, dairies, and carbonated beverage bottling plants are able to provide bottled water for emergency use. However, with proper water management and conservation, water emergencies can be kept to a minimum.

Additional Information

The following sources may provide additional information regarding water planning, drought assessment, and conservation practices:

Conservation Publications:

Water Efficiency at Home, Ohio Department of Natural Resources, Division of Water, Fact Sheet 92-1.

Water Efficiency in Your Own Back Yard, Ohio Department of Natural Resources, Division of Water, Fact Sheet 92-2.

Water Efficiency for Private Well Owners, Ohio Department of Natural Resources, Division of Water, Fact Sheet 92-3.

Using Water Wisely, The City of Columbus and the Columbus Landscape Association, 1992.

Conservation Web Sites:

Water Wiser--The Water Efficiency Clearinghouse: <http://www.waterwiser.org/>

Conservation Technology Information Center: <http://www.ctic.purdue.edu/CTIC/CTIC.html>

Educating Young People About Water: <http://www.uwex.edu/erc/ywc/>

Water Conservation Tips: <http://www.waterinfo.org/indcnsrv.html>

<http://www.monolake.org/socalwater/wctips.htm>

<http://earth911.org/water/water-conservation/>

<http://www.wateruseitwisely.com/100ways/ne.shtml>

http://www.eartheasy.com/live_water_saving.htm

<http://www.gdrc.org/uem/water/water-tipsheet.html>

<http://www.h2ouse.org/>

<http://extension.usu.edu/files/natrpubs/nrwq03.pdf>

For more information on water resources in Ohio, contact the Ohio Department of Natural Resources, Division of Water at:
2045 Morse Road, B-2
Columbus, Ohio 43229-6605
614 265-6717
<http://www.dnr.state.oh.us/water/>

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