



Joliet Alternative Water Source Study

Topic #9: Everyday Ways to Conserve Water June 5, 2019

Water conservation will not only extend the capacity of the City's current source, it can also significantly reduce the size and cost of the alternative water source improvements that will be needed. If the Joliet community can reduce their water use from its current individual use of over 120 gallons per capita per day (gpcd) (in some years it has been over 130 gpcd), and maintain low water use peaking factors, the scope of the alternative water source improvements can be reduced. Less demand equates to smaller water supply needs, smaller treatment facilities for the source and smaller water distribution facilities to transmit the water throughout the City. The purpose of this summary is to provide everyday ways City of Joliet residents can reduce their water use in support of a sustainable, cost-effective future water supply.

Nationally, the average residential property daily water use is approximately 70% indoor water usage and 30% outdoor water usage. Water conservation techniques can be instituted both inside and outside the home. Some techniques require minor changes to a typical routine, such as turning the water off while shaving and brushing teeth and making sure outside hoses are utilized with shutoff valves. Other techniques could require an initial investment but will pay off over time.

Residents in homes constructed prior to 1994 may be using fixtures (i.e. toilets, shower heads, faucets, etc.) that utilize much more water in the daily use than modern fixtures. For instance, modern WaterSense (<https://www.epa.gov/watersense>) labeled toilets utilize 1.28 gallons per flush, whereas pre-1994 toilets used 3.5 gallons per flush in most cases. Some old toilets used as much as 7.0 gallons per flush. Residents whose homes were constructed prior to 1994 should check to determine the water use of their fixtures. If they are not consistent with modern standards, they should consider replacing them. In some cases, they may be able to have some financial help to make a change. If a City of Joliet resident meets the eligibility requirements, they can qualify for up to a \$100 rebate to replace their toilet. More details on the City's toilet rebate program can be found here:

<https://www.joliet.gov/home/showdocument?id=23220>

Other ways to reduce indoor water use are to utilize high efficiency appliances. Homeowners can save a significant amount of water, especially over old appliances, when utilizing WaterSense labeled washing machines and dishwashers, too. Modern low flow faucets and showerhead designs often achieve a comparable water use experience and can save a significant amount of water. For more information on indoor water conservation tips, go to this Alliance for Water Efficiency website: <http://www.allianceforwaterefficiency.org/residential-tips.aspx>

The biggest component of outdoor water use is typically irrigation. In many cases in the Midwest, irrigation is not needed once a lawn is established – especially if the lot contains mature trees. However, it is understood the initial development of a lawn, in some cases for a couple years after the lawn was planted or sodded, requires irrigation. Homeowners should be aware that most lawns only need 1.0 to 1.5 inches of water per week (including rain). Homeowners should also be aware that there can be negatives to overwatering a



lawn. In addition to financial ramifications, too much water can limit the depth of root growth and in some instances promote the development of diseases.

If a homeowner installs an irrigation system, they should strongly consider a system that monitors soil moisture. When the sensor determines the soil is sufficiently moist, it will lock out the irrigation system. If a homeowner manually waters their lawn, it is important to position the sprinkler to irrigate the vegetation, only. While most people understand there is no need to irrigate driveways and sidewalks, it is surprising how often a good portion of a sprinkler does just that. Some sprinklers have devices that can block a portion of the sprinkler head, such that all of the water can be directed to vegetative areas. Smart irrigation placement and adjustments can make a big difference when implemented across the community.

Outdoor irrigation in the City of Joliet is limited to 6:00 AM – 10:00 AM and 6:00 PM – 10:00 PM on even and odd address days. The purpose of limiting irrigation in this manner is to even out the demand on the water system. Unless a resident has planted a new lawn, irrigating in July and August is often a futile effort, especially during the day. For that reason, some communities do not allow new lawns to be planted in July and August.

For more information on outdoor water use, the *Lawn and Landscape Practices for Northwest Water Planning Alliance Communities – Community Approaches to Sustainable Outdoor Water Use* manual can be found here:

http://www.nwpa.us/pdfs/resource_center/FY13-0092%20OUTDOOR%20WATER%20CONSERVATION%20MANUAL%20lowres-FINAL.pdf

As stated, if the community as a whole embraces a higher level of water conservation and implements as many of these everyday ways to conserve water, the community as a whole will benefit in the short and long term.