



# Water Wise Weekly

June 8, 2009

## The Important Role of Water



Water plays a significant role in photosynthesis, allowing plants to survive and grow. In much the same way, people also need clean, fresh water to survive and live healthy lives. Unfortunately, we often take our fresh drinking water for granted. Fresh water is often accepted as a renewable resource, yet the world's supply of clean, fresh water in the form of surface and ground water is steadily decreasing as population and demand increases. This is happening not only around the world, but right here in the metro area as well. How much potable water is used in Chanhassen and around the metro area, and how is it used?

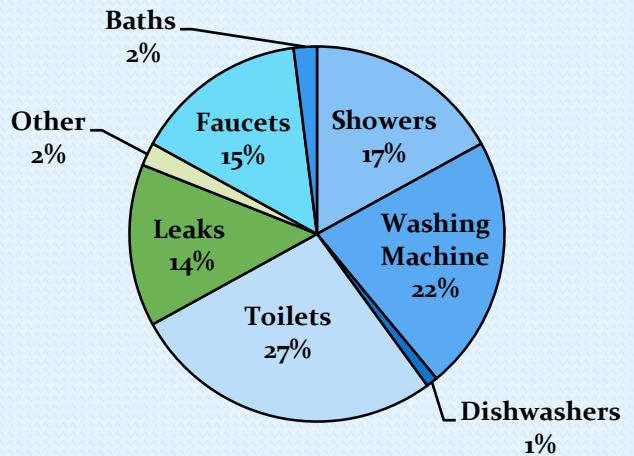
**Indoor Water Use:** In the Twin Cities metro area, residents use an average of 75 gallons per person, per day. The average person in Chanhassen uses 91 gallons per day (*Source: Minnesota Department of Natural Resources*). The daily requirement for sanitation, bathing, and cooking needs, as well as for assuring survival, is about 13.2 gallons per person.

*Source: <http://www.water.org/resources/waterfacts.htm>*

**Outdoor Water Use:** The average of 75 gallons, per person per day almost triples in the summer months, mainly due to irrigation usage. Outdoor water use accounts for 20-30% of annual water usage in Chanhassen and around the metro area. Lawn irrigation accounts for the majority of this usage, but other outdoor activities such as car washing and pools contribute to total outdoor usage (*Source: Metropolitan Council*). For more information from the Metropolitan Council on water usage, and how to conserve, visit the [Metropolitan Council Water Conservation Toolbox](#).

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The graph below shows the average water usage for specific indoor activities.



*(Source: American Water Works Association. [1999] Residential End Uses of Water)*

## Monthly Drawing! June Prize

Carver County  
Annual Park Pass  
Drawing on June 22



## The Important Role of Water, continued

### Where Does our Household Water Come From?

We now know how we use our household water, but where does it come from? Fresh water makes up only 2.8% of the water on the planet. This fresh water is in the form of frozen ice caps, surface water contained in lakes and streams, and groundwater. Less than 1% of this freshwater is usable as potable water. The remaining 97.2% of the earth's water is salt water.

(Source: [www.fs.fed.us/r5/publications/waterresources](http://www.fs.fed.us/r5/publications/waterresources)).

The City of Chanhassen provides all of its drinking water from groundwater sources, mainly the Prairie Du Chien-Jordan and Quaternary Buried Unconfined aquifers, along with other lesser aquifers. An aquifer is a layer of underground water-bearing rock or other material such as gravel, sand, silt, or clay that is permeable and can be extracted. Aquifers are recharged, or gain water, through infiltration of surface waters. However, the rate at which aquifers are recharged is not as fast as the rate that groundwater is often extracted by wells and other natural out-flow, causing draw-down and in some cases well failure.

Here are some statistics on groundwater and usage for the City of Chanhassen:

- Last year, the city pumped 1.17 billion gallons from 11 wells throughout the city. Residential water usage accounted for approximately 786 million gallons of this total.
- Water users in the City of Chanhassen use an average of approximately 3.1 million gallons per day, but can reach 9.4 million gallons per day during the summer months.
- Daily demand for Chanhassen is highest in the morning from 5:30 to 8 am, and in the early evening from 4:30 to 7:00 pm.
- The peak day of water usage in Chanhassen in 2008 was July 6. On that day, 7.7 million gallons of water was used in the city. This averages to 316.5 gallons of water for each person.
- The average number of gallons pumped per person in the winter is 80.7 per person per day. In the summer, the average is 225.6 gallons per person per day.
- Chanhassen wells draw from the Prairie du Chen/Jordan and Franconia aquifers. Click [HERE](#) to see a cross section of Twin City groundwater sources.

## Learning Opportunities & Events

Summer Exhibition  
"Watersity:  
Go Green with a Splash"  
June 6-October 4  
Minnesota Landscape  
Arboretum

This program explores the interdependence of people, plants, and water through several interactive displays and exhibits.

"Are You Thirsty?"

Presented by Heart of the Beast  
Puppet & Mask Theatre

Saturday, June 13; 12:30-1:15 p.m.

Trex Deck; free with Arboretum admission

Who is thirsty? How much water is there in the world to drink? Where does the water come from? Where does it go? Come explore a myriad of questions contained in a cup of water -- one of the most precious and necessary shared resources on our planet. Discover how much of earth's water is available for drinking or compare tap and bottled water. See water issues brought vibrantly to life, helping us understand ourselves as part of the water cycle.

Visit [www.arboretum.umn.edu](http://www.arboretum.umn.edu) for more information.



## Resources:

To calculate your water usage, try one of these Water Calculators:

• [Zero Footprint](#)

• [h2o Conserve](#)

• [Kohler](#)