WATER EDUCATION by DROP DROP

August 2019

Welcome to WaterSmart: Drop by Drop!

This interactive education series is brought to you by the City of Prescott. An informed community can make better short-term and long-term decisions concerning our water supply. Let's discuss water one drop at a time!

WaterSmart Factsheet Summary:

- *Groundwater is finite*
- *Groundwater is a shared resource*
- *Prescott AMA groundwater is regulated by the Arizona Department of Water Resources*

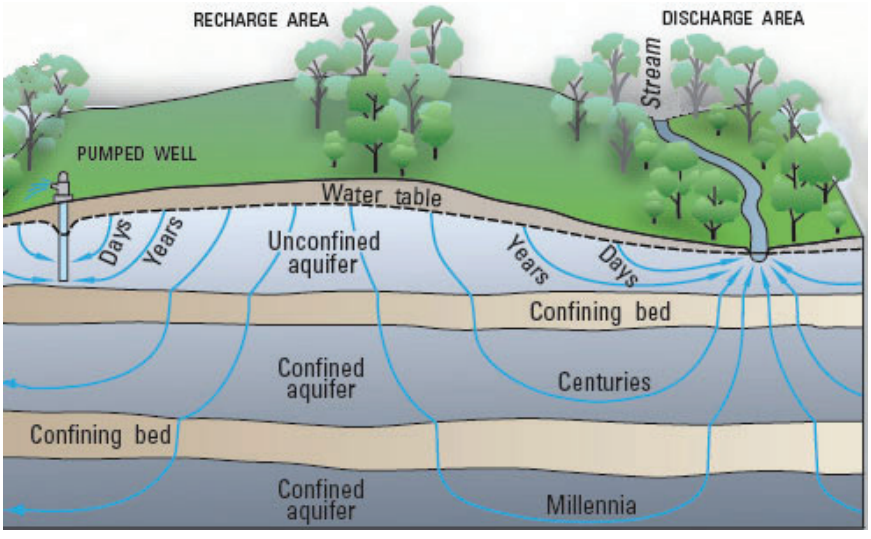
Groundwater is water that is stored within the earth, in between the small gaps of rock and sediment. Groundwater storage and movement is dependent on the makeup of the subsurface layers of rock, gravel, and sand. Groundwater is a finite resource and aquifers can become depleted when extraction (pumping) rates exceed replenishment rates (National Centre for Ground Water Research & Training, 2019).

Groundwater in the Prescott AMA

Groundwater is the primary source of potable water for City of Prescott water customers. This resource has been carefully managed for decades in Arizona in order to maintain water supplies now and into the future. Under the Arizona Groundwater Management Code of 1980, the State of Arizona established five active management areas with the goal of balancing groundwater extraction with recharge, a condition defined as "safe-yield." The City's water service area is 64 square miles and located within the Prescott Active Managment Area (PrAMA), which is 485 square miles. The PrAMA contains Prescott, Prescott Valley, Chino Valley, Dewey-Humboldt, and unincorporated areas. The PrAMA is regulated by the State; the City of Prescott has no jurisdiction over it.

Prescott AMA Groundwater Sub-basins

The Little Chino Sub-basin and the Agua Fria Sub-basin comprise the PrAMA. The Little Chino Sub-basin contains the Upper Granite Creek Watershed, which begins in Prescott and runs northward to Chino Valley. The Upper Agua Fria Sub-basin, encompassing Prescott Valley, contains the headwaters of the Agua Fria River which runs southeastward to Humboldt. Groundwater can be found at depths ranging from just below the soil surface to a depth of approximately 500 feet in the sub-basins.



USGS, Groundwater Flow Diagram

Join us at noon on the 3rd Wednesday every month at the Prescott Public Library.

PRESCOTT PUBLIC LIBRARY

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City Government of Prescott, Arizona

We can all help to preserve our water supply by being smart with water use:

- *Installing low-flow* showerheads, toilets, and faucets
- *Taking* shorter showers
- Irrigating landscapes *at night*
- *Maintaining native vegetation*, supplement with new native and low-water use plants
- *Finding and fixing leaks* both inside and outside the house
- Washing vehicles *less* often
- *Operating* dish washing machines and clothes washing machines *only when full*

Reference: ADWR

City Supplies and the Little Chino Aquifer

Prescott pumps water from the Little Chino Sub-basin, which consists of two geologic units: an Upper Alluvial layer and a Lower Volcanic layer. City wells reach down into the Lower Volcanic layer. Over time, rain and snow melt recharge the porous rock of the aquifer; this recharge occurs very slowly. Most water naturally entering the Little Chino Sub-basin aquifer originates from the streams in the Bradshaw Mountains: Granite Creek and Willow Creek. This recharge typically occurs during precipitation events.

Water supplies collected in the Little Chino aquifer accumulated over millions of years. This aquifer has supported Prescott and surrounding communities since 1901 (Del Rio Springs); then later in the 1940's with the advent of well pumps groundwater became more accessible. In many years PrAMA water use is greater than the natural recharge rate of the aquifer, making ongoing management of the aquifer necessary. In accordance with the Arizona Groundwater Management Code, the City has been collecting and treating wastewater for groundwater recharge purposes to help maintain a reliable groundwater supply. This reclaimed water is also used for irrigation and industrial purposes to reduce potable water demand. Additionally, surface water from the Watson and Willow Lakes Reservoirs is moved to the City's recharge basins to help replenish groundwater supplies.

For more information on the decades-long management of the Prescott AMA groundwater supplies, see the Prescott AMA Fourth Management Plan (ADWR, 2014).

Be WaterSmart!

Set a kitchen timer when using a hose as a reminder to turn it off. A running hose can discharge up to 10 gallons per minute.

(Source: Water Use it Wisely, Tip #96)

Water Smart™

CITY OF PRESCOTT ARIZONA

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