

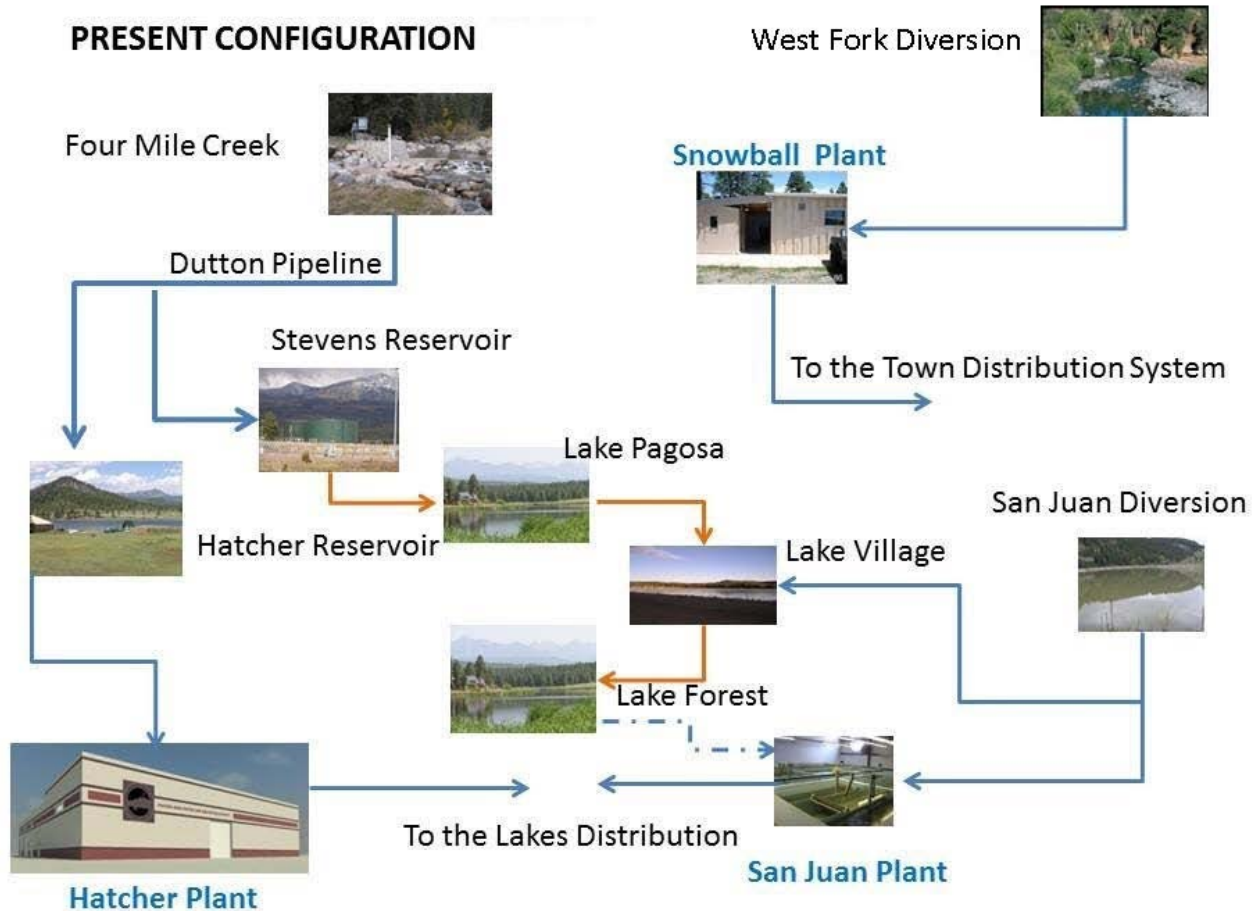


The PAWSD Water System

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Projecting future water needs is a difficult undertaking requiring assumptions on future population growth, location of that growth, weather projections and the public's ability and willingness to conserve water. Archuleta County, the Town of Pagosa Springs and PAWSD are working together to develop tools to estimate growth and water needs in our community. Without delving into the unknown of our future needs we put together some information in this newsletter on current PAWSD water data.



PAWSD has three surface water diversions, 1. The West Fork of the San Juan Diversion; 2. The Four Mile Creek Diversion; 3. The Main Stem San Juan River Diversion. The diagram below shows where the raw water from these diversions goes prior to treatment.

PAWSD is unable to access all the water in the reservoir system. The following table shows what the actual volume of the reservoirs vs. the amount of volume PAWSD can retrieve for treatment and dispersal. We refer to the volume available to PAWSD for treatment as the “Useable” volume. PAWSD does not use water from Pinon, the golf course and several condominium villages use the raw water from Pinon for landscape irrigation.

Our raw water storage is held in the reservoirs outlined in the accompanying table and the San Juan snowpack. During typical spring runoff we are able to fill our reservoirs from the melting snow along with making direct river withdrawals for treatment. The lakes fill until around June 1st. Excess water being left in the river or flow directly through our lake system and back into the river via tributaries at the downstream side of our reservoir system. As the snowpack slows the lake levels will diminish as we treat more water than enters the lake system. The longer the snow pack lasts the longer our lakes will stay full.

Raw Water Storage		
Reservoir Name	Volume (acre feet)	
	Spill way	Usable
Hatcher	1735	880
Stevens	1775	1730
Lake Pagosa	1276	920
Village	700	228
Lake Forest	465	300
Snowball	14	12
*Pinon	198	162
TOTAL:		4,070

to

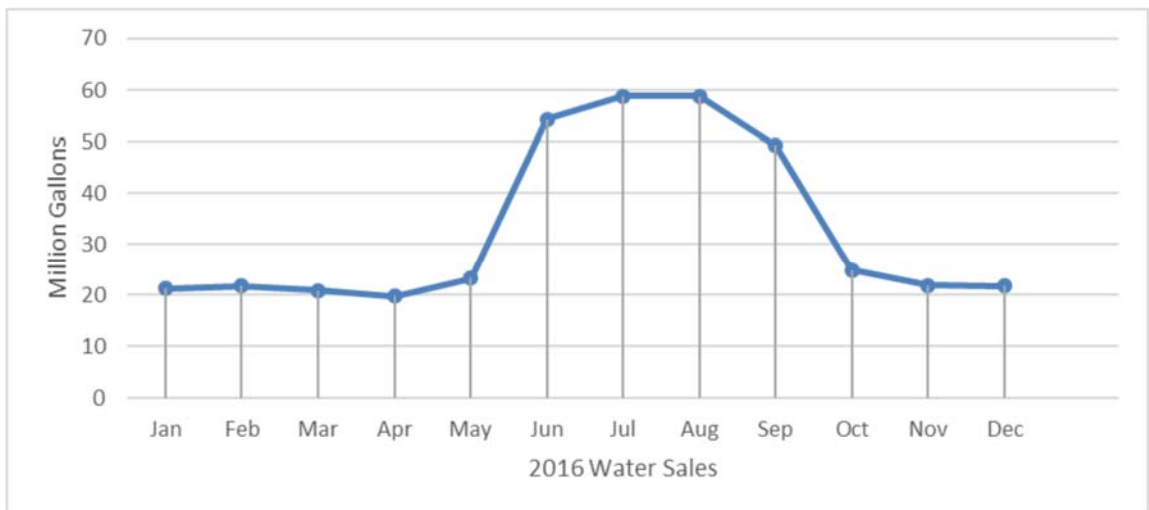
Our Snowball water treatment plant pulls water directly from the West Fork of the San Juan. The water does enter a small detention pond at the facility, this pond is designed to allow sediments from the water to settle more than for storage.

Treatment	
Reservoir Name	Treatment (MGD)
Snowball	2.0
Hatcher	2.0
*San Juan (River)	2.0
**San Juan (Lake Forest)	1.0

Hatcher treats water from Lake Hatcher. Lake Hatcher is primarily fed from the diversion on Four Mile Creek. The water rights PAWSD has on Four Mile Creek are junior to other users giving the senior user rights to the water over ours. PAWSD usually loses the right to this water between June and November. Hatcher is the highest lake in our system and there is no method to get water from Stevens (or any other lake) into Hatcher.

The San Juan WTP will have the ability to receive raw water directly from the San Juan River or from Lake Forest. The volume that the San Juan WTP can produce is dependent upon the source. This is due to the pretreatment requirements necessary to treat water from Lake Forest.

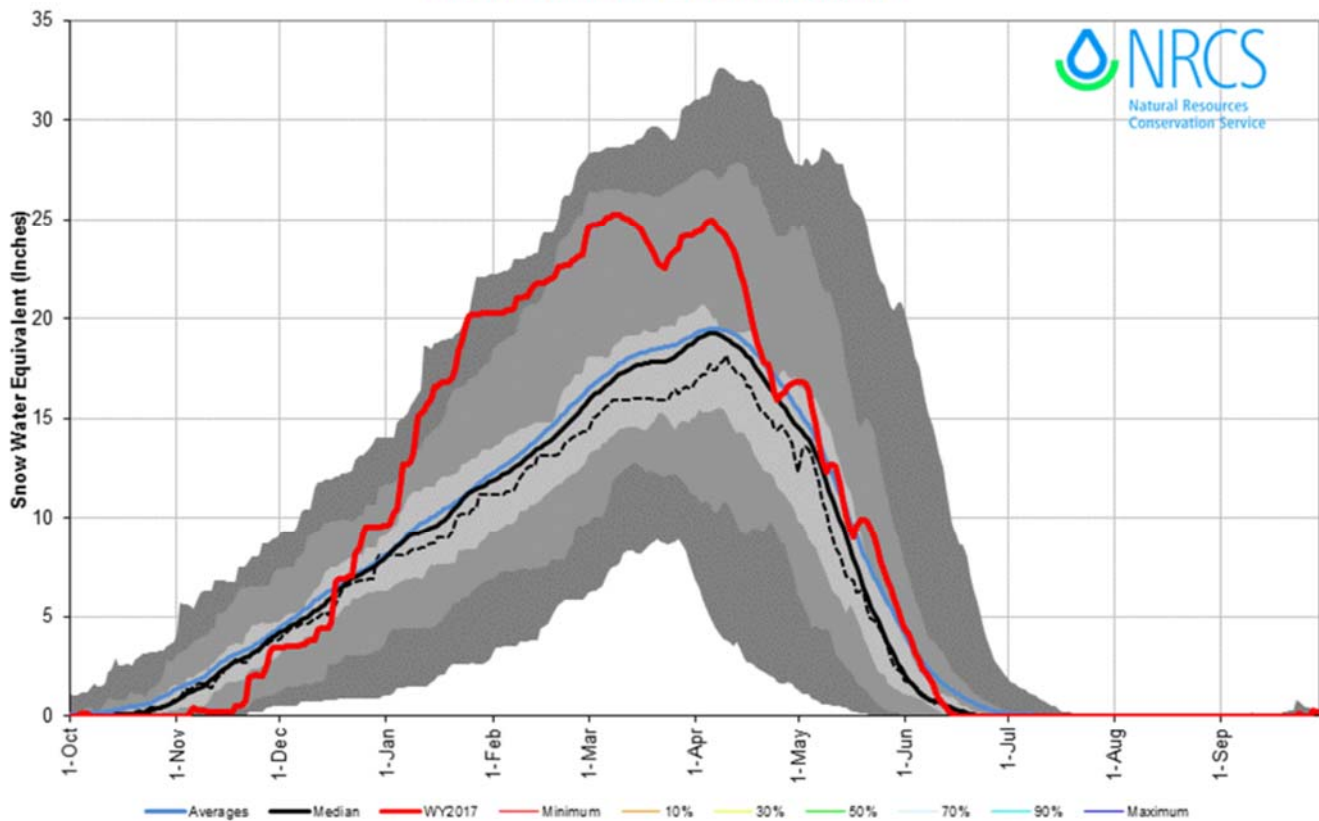
Our communities water demand varies significantly depending on the time of the year, with the summer demand nearly tripling the winter demand, this is in part because of our transient tourism visitation, but mostly due to summer landscape irrigation.



SNOTEL— SNOTEL (abbreviation for Snow Telemetry) is an automated system of snowpack and related climate sensors operated by the Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture. SNOTEL sites are located in 11 western states in high-mountain watersheds. There are two SNOTEL sites near Pagosa Springs, the Wolf Creek site and the San Juan Site. The Wolf Creek site measures snow pack on the east side of Wolf Creek Pass. The San Juan Site measures snowpack on the West side of the pass. The SNOTEL system not only measures snowpack but also a snow water equivalent. Snow water equivalent is a conversion of snow depth to actual amount of water in inches held within the snowpack. The amount of water held in the snowpack is of vital importance to PAWSD. The higher the concentration of water in the high mountains will lead to more water runoff during the spring snowmelt filling our reservoirs.



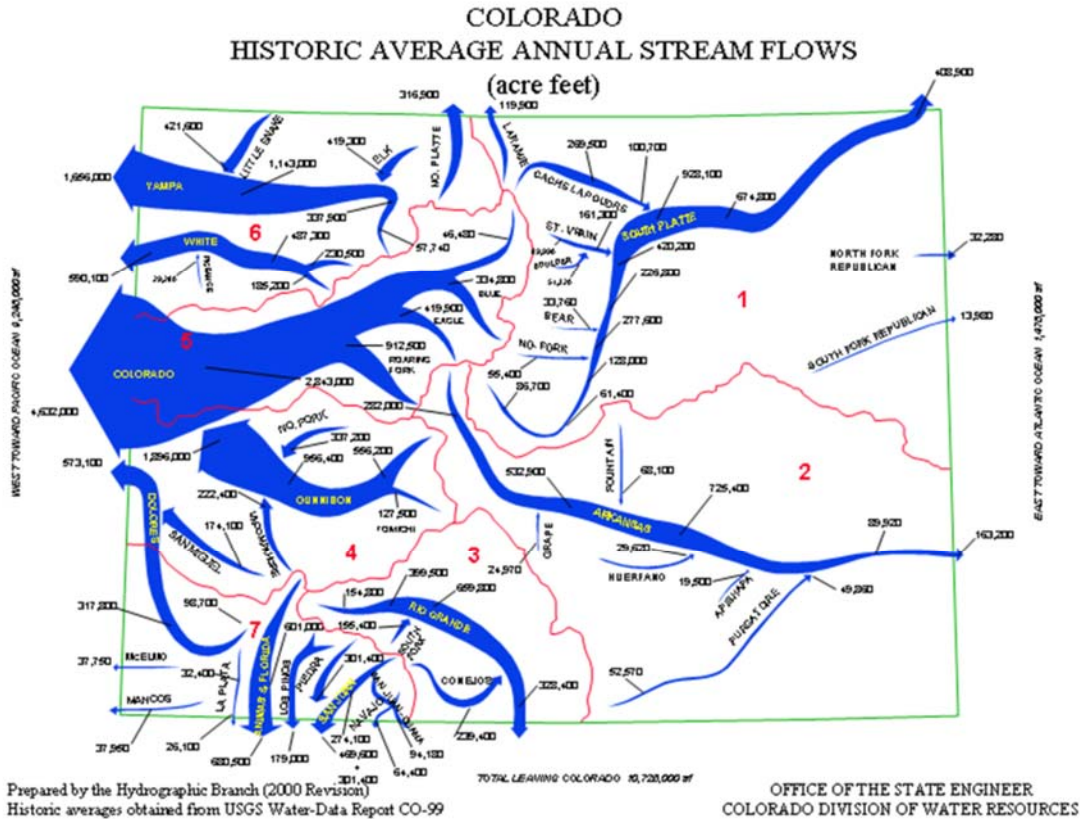
San Miguel, Dolores, Animas and San Juan River Basin with Non-Exceedence Projections
Based on Provisional SNOTEL Data as of Sep 30, 2017



This data is available to the public through the NRCS website (www.wcc.nrcs.usda.gov/snow/snow_map.html). There are also phone apps available to provide the data directly to your smart phone.

Headwaters State – Colorado is known as the headwaters state because water that originates within Colorado’s borders flows into 18 other states and the Republic of Mexico which also rely on that water. Colorado has eight major river basins which receive the majority of their water from snow in the Rocky Mountains.

Colorado and its neighbors have argued for more than a century over who gets how much of the water from these rivers. These fights have often times ended in federal courts. The courts early on affirmed their authority to apportion water between states based on the concept of prior appropriation. Prior appropriation simply means those who are first to use the water have first rights to the water regardless of where the water originates or whose property it may pass through. As a result of these battles Colorado currently has nine interstate compacts or agreements, two supreme court equitable apportionment decrees and two other agreements that determine how much water Colorado must leave for the downstream states and the Republic of Mexico.



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www.pawsd.org

Please ensure your water meter lid and a minimum of one foot from the lid is exposed and entirely visible, free of landscaping, large rocks, vehicles, and debris.

However in the winter allow the snow to accumulate over the lid, the snow acts as insulation and minimizes the chance of freezing.

YOU can make a difference! If you would like to see something specific for the newsletter, contact us at info@pawsd.org

