

The PAWSD Water System

INSIDE

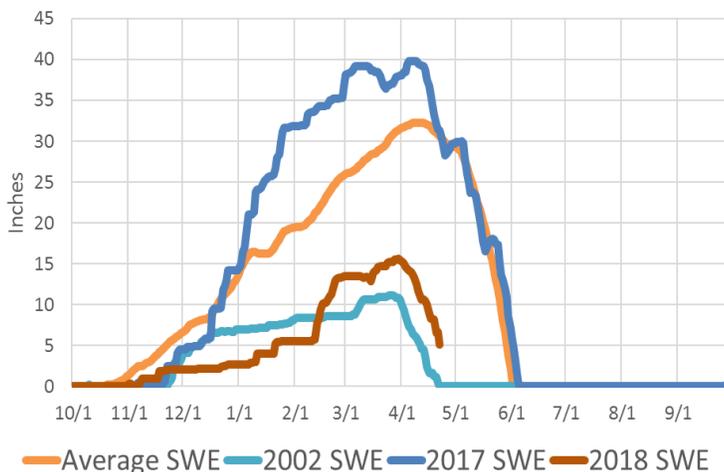
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The water that PAWSD collects (raw water), treats and ultimately sells to the PAWSD customers all comes from the San Juan River or its tributaries.

Thus our water supply is tied directly to the precipitation that falls in the San Juan watershed. The most vital component of the watershed precipitation is the winter snowpack. The snowpack not only provides the precipitation we need but also provides storage of that precipitation. When rain falls, anything not absorbed by the soil or vegetation drains into the San Juan River either directly or via tributaries and flows through town and out of the state. Any water that passes by PAWSD river divisions is lost to PAWSD. The winter snowpack actually stores that water in the watershed and as it melts in the spring PAWSD is able to collect that water for our customers.

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 Upper San Juan Site. The Wolf Creek site measures snow pack on the east side of Wolf Creek Pass. The Upper 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. As previously stated 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.

SNOW WATER EQUIVALENT



SNOTEL 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.

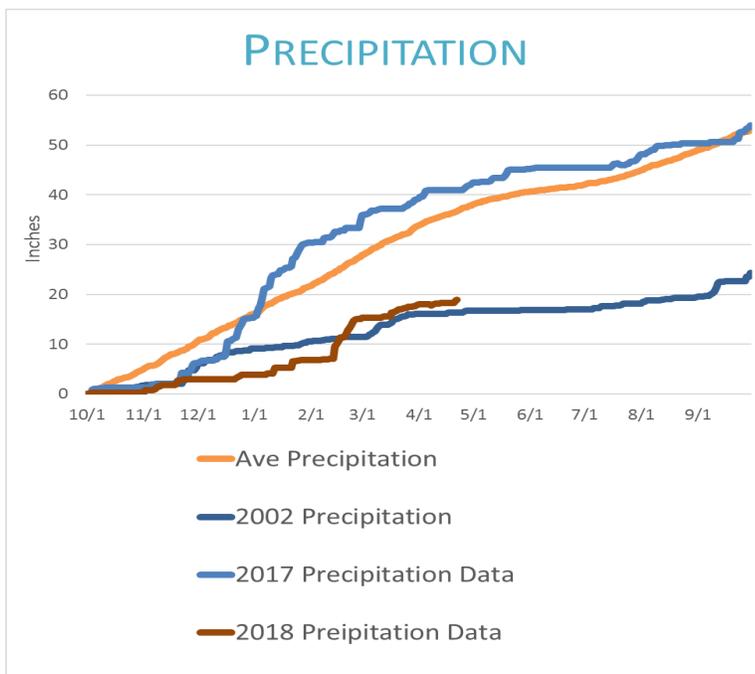
PAWSD's raw water supply consists of surface water from the West Fork of the San Juan River, the main stem of the San Juan River, and Fourmile Creek. PAWSD's service area encompasses approximately 41,428 acres which is divided into the two general areas; the Uptown District (District 1), and the Downtown District (District 2). The Uptown area receives its water from Fourmile Creek through the Dutton pipeline as well as from the San Juan River via a pumping station and pipeline located approximately 1.5 miles downstream of

the Town of Pagosa Springs. The Downtown area is supplied by the West Fork of the San Juan River where water is diverted approximately 10 miles upstream from the Town of Pagosa Springs.

PAWSD currently has 4,070 acre-feet (AF) of usable raw water storage. Storage is comprised of the following five reservoirs: Hatcher, Stevens, Pagosa, Village, and Forest. Hatcher Reservoir receives its water supply from Fourmile Creek through the Dutton Pipeline/Ditch. The Four Mile Creek diversion is capable of diverting water to Hatcher Reservoir, Stevens Reservoir, or both. When Hatcher Reservoir is full, water is diverted to Stevens Reservoir. The lower reservoirs of Stevens, Pagosa, Village, and Forest are operated in series, when an upstream reservoir is full it spills into the downstream reservoir. For instance, when Stevens Reservoir is full it spills to Lake Pagosa through the Linn and Clark Ditch. When Lake Pagosa is full it flows through a series of golf course ponds and is conveyed to Village Lake. Village Lake spills into Lake Forest where overflow then spills into Stollstierner Creek feeding into the Piedra River prior to its confluence with the San Juan River at Navajo Lake. PAWSD also has the ability to transfer water from upper lakes to lower lakes through a series of valves and locks. PAWSD can also pump raw water from the San Juan River through the San Juan Pipeline directly to the San Juan Water Treatment Plant, Lake Forest or Village Lake via the San Juan diversion. NOTE: Water cannot currently be legally sent directly to the San Juan Water Treatment Plant until a UV disinfection system is installed per state mandate, the system should be installed in 2019. The UV system is currently under design review by the state.

PAWSD Primary Water Supply Storage and Sources

Reservoir	Usable Capacity (Acre Feet)	Primary Diversion	Diversion Rate (cfs)
Hatcher	880	San Juan River (West Fork)	5.0
Stevens	1,730	San Juan River (Main Stem)	8.0
Lake Pagosa	920	Fourmile Creek	12.8
Village	228		
Lake Forest	300		



As many of us are aware, this year’s snowpack was very low. A water year or hydrological year, is a term used to describe a 12 month time period for measuring precipitation totals. The federal government’s water year is from October 1 through September 30. For this water year October 1 2017 to today the cumulative precipitation as measured at the USGS SNOTEL Upper San Juan Station is 51% of average.

The low snowpack has led to a decrease in the snowpack runoff and water in the San Juan or tributaries. Peak flows in the San Juan as measured by the USGS San Juan river gage in Pagosa Springs typically occurs towards the end of May with a peak flow of nearly 2,500 cubic feet per second (cfs). It is very possible this year’s peak flow

occurred on April 9th with a peak flow of under 800 cfs.

PAWSD has already lost its ability to pull water from its Fourmile Creek diversion. This is three weeks earlier than normal and a full eight weeks earlier than last year. At the time the Fourmile diversion water supply was lost Hatcher Lake was full and Stevens Lake was 29 inches below full. Without the ability to get more water into Hatcher Lake, the water level in the lake will begin to drop due to water being pulled from the lake and delivered to District 1 PAWSD customers.

To try to offset this loss PAWSD will begin pumping water from the Main Stem San Juan Diversion into Lake Forest. The water from Lake Forest will then be treated by our San Juan Water Treatment Plant. Three things should be noted regarding the San Juan Water Treatment Plant. 1) The water in Lake Forest, even when mixed with water directly from the San Juan River is of poor quality due to organics in the water primarily due to lake vegetation. Lake Forest is a very shallow lake. The organics make this water difficult to treat. Due to the difficulty in treatment costs to produce potable water are higher. This is addition to the fact that water from the San Juan Diversion is pumped to Lake Forest significantly increases the cost of production. 2) The water coming from the San Juan Plant may have some subtle taste and odor issues due to the organics. This water is perfectly safe to drink and it meets all primary drinking water standards under the Safe Drinking Water Act and Colorado State requirements. PAWSD operators work diligently to remove the taste and odor issues from this water but it is possible it will not be as high a quality as water from Hatcher. 3) The San Juan Plant is incapable of meeting all summer water needs on its own, therefore the Hatcher Plant will need to continue to treat water for district 1 customers.

PAWSD has revised its previous Drought Management Plan (Plan). The Plan outlines drought mitigation stages, associated mandatory water restrictions and trigger points for these mitigation stages. The Plan is available to read or download on the PAWSD website (pawsd.org). In the event that water restrictions must be implemented announcements will be made on the PAWSD website, local radio, local news outlets and billings.

The majority of PAWSD’s water demands occur during the summer months when the effects of drought are most pronounced. PAWSD has chosen to focus demand reduction efforts on irrigation and outdoor water use.

Within each drought stage there is a targeted demand reduction goal, the actions to be taken to achieve that goal, and the preservation focus. Mandatory water use restrictions do not go into effect until Level 2 where irrigation is limited to evening, night, and morning hours, but is permitted seven days per week. Level 3 reduces irrigation days to every-other, allowing for 2-3 watering days per week (irrigation is not allowed on weekends). Level 4 permits irrigation only one day per week so as to sustain landscapes.

Drought Stages	Demand Reduction Goal	Demand Reduction Focus Option	Focus
Level 1 Voluntary	1—10%	Public Education and Awareness	Encourage responsible water use
Level 2 Low	10 20%	Irrigation allowed from 9 PM – 9 AM Irrigation allowed from 9 PM to 9 AM	Keep all landscapes elements alive and flourishing
Level 3 Moderate	20 30%	Odd/Even watering days based upon address Drought Surcharge will be applied	Preserve landscape elements such as trees, shrubs, gardens, and turf grass
Level 4 Serious	30 40%	Irrigation allowed from 9 PM to 9 AM 1 day per week based upon address Drought Surcharge will be applied	Sustain certain landscapes elements such as trees, shrubs, and gardens while allowing turf grass to go dormant
Level 5 Severe	40 50%	No irrigation of outside landscapes Drought Surcharge will be applied	Recognize that landscape die-off may occur

Level 5, being the most severe stage, prohibits outdoor watering of landscapes all together.

PAWSD customers will be made aware of the current drought situation and any corresponding mandatory water use restrictions as described above. Repeated failure to comply with mandatory watering restrictions and/or watering days could result in PAWSD imposing penalties as specified in the District’s Rules and Regulations. These violation charges will be added to the property owner’s monthly water bill and if not paid in a timely manner, could result in the disconnection of service.

Non-Compliance Violations	Level 1	Level 2
First	Not Applicable	Written warning and Water Conservation Level Notification Sheet delivered.
Second	Not Applicable	\$100 fine, Water Conservation Level notification sheet delivered.
Third	Not Applicable	\$250 fine Water Conservation Level Notification Sheet delivered.
Fourth	Not Applicable	\$500 fine Water Conservation Level Notification Sheet delivered.

Water Turn-On Release Agreement

Pagosa Area Water & Sanitation District (District) *strongly* recommends that property owners who plan on being away from their homes or businesses for any length of time have District personnel turn off their water service at the meter pit. This procedure will help ensure against the loss of water in the event of a leak along the service line or within the structure, which could potentially cause devastating water damage to the property. The District will perform this service, as well as turning the water back on at the meter pit, for no charge during regular business hours of 8:00 AM - 4:00 PM, seven days a week. After hours requests between 4:00 PM and 8:00 AM will result in a \$70.00 charge to the account. Unless you have signed and submitted the Water Service Turn-on Release Agreement with PAWSD, either the customer or representative over the age of 18 must be present at the home or business when the water service is turned on. The Water Service Turn-on Release Agreement along with other District forms can be found at www.PAWSD.org. Customers can call 970-731-2691, fax 970-731-2693, or email turn-on or turn off requests. You will receive an email confirmation to your request within 48 hours. If you do not, please call the PAWSD office at 970-731-2691. PAWSD requires at least **24-hours notice** for these requests. Also, in an effort to schedule requests efficiently, PAWSD is only able to provide a **date and general time frame** for honoring turn-on and turn-off requests.

PAWSD BOARD OF DIRECTORS

- Jim Smith/ Chairman and President
- Blake Brueckner/Vice President
- Gordon McIver/Secretary
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- Glen Walsh/Director
- Pagosa Area Water and Sanitation District**
- 100 Lyn Avenue
- P.O. Box 4610
- Pagosa Springs, CO 81147
- (970) 731-2691
- Emergency After-hours #: (970) 731-9491

Please ensure PAWSD has your current contact information including phone numbers.

If we notice a leak at your home or business we will make every effort to contact you. If we cannot contact you we will turn off your water. The longer it takes to get the water off the more that is wasted and the more it will cost you.

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



www.pawsd.org

