

An Update on Patagonia's

By Lynn Davison

Eureka . . . it's raining! You probably have noticed more rain soaking our soils this winter than in the past few years. Last summer's monsoon rains were pretty good, too. Wildflowers are blooming, and the cacti look plump. Is the drought over? Not exactly, but there are a variety of efforts coming together to support Mother Nature's contribution, both when she is generous (like this year) or stingy (like most of the past 13 years). Many focus on collecting data and using it to inform decision-making and prioritize actions.

The town's well levels have dropped 27 feet since the beginning of the current drought period in 2002. However, they have been coming up, slowly but steadily, since July 2014. Dave Teel, Patagonia's Town Manager, says that the late 2014 levels gave us a little breathing room and that the progress has continued with this year's rains, a trend we hope will go on. However, we still remain significantly below pre-drought levels.

The town of Patagonia is taking a number of steps to address water supply concerns. The town council is in the process of revising the existing Drought Response Plan to link it more

clearly to quantitative information about the town's water supply. Part of that effort is to secure a grant from the state to delineate the size and configuration of the town's aquifer. This not only will allow us to determine whether the water level is directly correlated with available supply, but it also will determine whether we can restore our supply by simply digging deeper or whether additional sources must be considered. If funded, the study will begin in July.

The town is also implementing a number of conservation measures to reduce demand. The big Community Development Block Grant-funded water project—the one that tore up our streets over the past months—has replaced leaking valves and identified and fixed other leaks in our municipal water system. The town also recently replaced the irrigation system in the park. The top users of water in Patagonia are all cooperating with the town to reduce water usage. The Patagonia High School, which is far and away the main user, has reduced total water use by almost half in the past year. Other high users include the three RV parks, the hotel, the town parks, the Gathering

Grounds, the Duquesne House, the Wagon Wheel, and four private residences. The biggest water savers are repair of leaks, better irrigation practices, and the use of low-flow showers, sinks, and toilets.

In terms of other uses, Patagonia sells water at \$8.40/1000 gallons to the 394 connections into the system and to bulk water users. All bulk purchasers must have a permit, which can be obtained free at the town hall. The town recently sold 218,000 gallons of water to the Bureau of Land Management over a six-month period. There are currently no large public or private bulk users. The most common bulk use is for private residences. Sales range from 15,000 to 30,000 gallons a month, depending on the season. That compares to Patagonia's overall monthly water use of 2.75-4.0 million gallons per month, making bulk sales less than one percent of total use.

In the summer of 2014, Borderlands Restoration and the Hummingbird Monitoring Network completed a US Fish and Wildlife (USFW)-funded project to install rock detention structures and native plants in tributary drainages to Harshaw Creek. Their work

WATER STRATEGIES

should enhance water retention for wildlife and pollinator plants and stabilize and protect vulnerable creek banks and channel beds. The project has sparked the interest of both USFW and the US Forest Service, which are now monitoring separate sections of Harshaw Creek for its potential impacts on water flow.

Friends of Sonoita Creek, in partnership with the Nature Conservancy, recently sponsored a three-day workshop to train volunteers to monitor stream health. The training was led by Dr. Peter Stacey and used a tool designed for citizen scientists, the *Rapid Stream-Riparian Assessment*. The hope is to do regular monitoring of specific reaches in Sonoita Creek, both on the Preserve and on state park land. The data collected will be used to identify problem areas and suggest small-scale restoration methods to address them. Audiences for the information are elected officials, regulatory agencies, and public and private landowners.

Finally, early this year, the Forest Service announced a time-sensitive cleanup of water and soils contaminated by the abandoned Lead Queen mine, located just six miles from the town of Patagonia. Samples showed very high concentrations of lead and arsenic, as well as zinc, copper, and aluminum. Patagonia Area Resource Alliance documented the abandoned mine overflowing with toxic orange sludge into a tributary of Harshaw Creek after heavy rains last September. The cleanup will begin this spring and will be completed before the monsoon season starts.

All these public and private efforts are critical to assuring that we have sufficient quality and quantity of water for the long term.

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