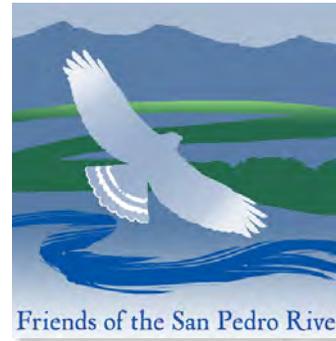


# THE SAN PEDRO RIVER

One of the most important riparian areas in the United States, the San Pedro River runs through the Chihuahuan Desert and the Sonoran Desert in southeastern Arizona. The San Pedro is one of the most-studied, best known rivers in the United States, yet many misconceptions persist about the river.

The river's stretch is home to more than 80 species of mammals, two native species and several introduced species of fish, more than 40 species of amphibians and reptiles, and 100 species of breeding birds. It also provides invaluable habitat for 250 species of migrant and wintering birds and contains archaeological sites representing the remains of human occupation from 13,000 years ago.

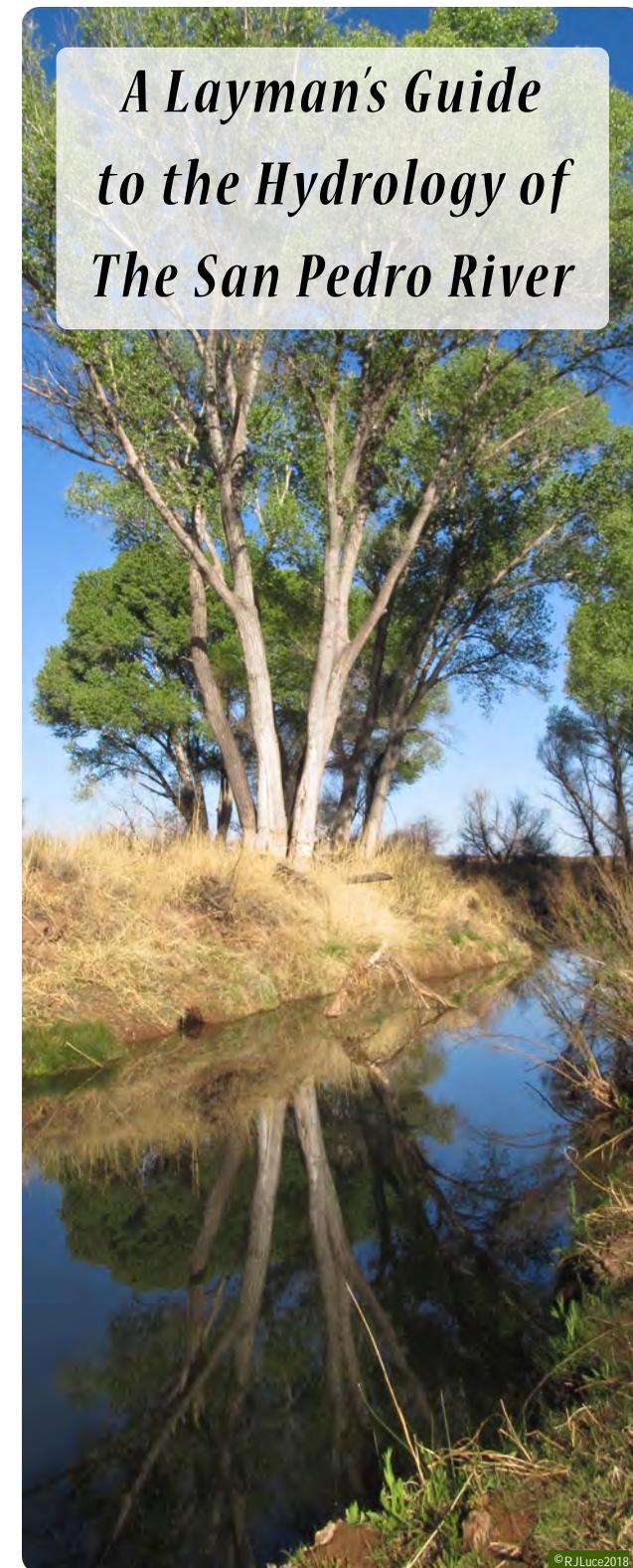


The Friends of the San Pedro River (FSPR), founded in 1987, is a mostly volunteer, non-profit organization dedicated to the conservation and restoration of the river through advocacy, education, and interpretation. FSPR coordinates its activities with the BLM, the land manager of the San Pedro Riparian National Conservation Area (SPRNCA) and the National Conservation Lands.

The FSPR operates 2 gift and bookstore(s), leads guided interpretive walks/hikes along the river and throughout the adjacent area, presents educational programs to schools and community groups, and assists the BLM in a variety of other programs. Event information is published in the quarterly newsletter and on the Web Page.

For more information call the BLM San Pedro Riparian National Conservation Area office at (520) 439-6400 or the Tucson Field Office at (520) 258-7200 or contact the Friends of the San Pedro River at (520) 459-2555. You may write to the Friends of the San Pedro River at 9800 E. Highway 90, Sierra Vista, AZ 85635 or email [fspr@sanpedroriver.org](mailto:fspr@sanpedroriver.org). The website for Friends of the San Pedro River is [www.sanpedroriver.org](http://www.sanpedroriver.org).

## *A Layman's Guide to the Hydrology of The San Pedro River*



The riparian area, where some 40 miles of the upper San Pedro River meanders, was designated by Congress as a Riparian National Conservation Area on November 18, 1988. The primary purpose for the special designation is to protect and enhance the desert riparian ecosystem, a rare remnant of what was once an extensive network of similar riparian systems throughout the American Southwest.



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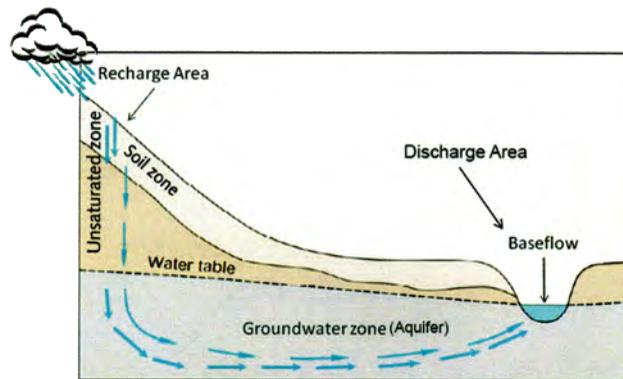
### Where Does Our Water Come from?

Ultimately, the source of all our water in the San Pedro Valley is rain or snow. The average annual precipitation here is about 15 inches, with most of that rain coming in the late summer and early fall "monsoon" rains. Because of the lifting effect of the mountains, some of the mountain canyons may get double that amount. This rainfall travels above and below the surface to the deep sands and soils that have filled the valley between the mountain ranges. It collects, not in an underground lake, but between the particles of sand, gravel, rocks and soil that make up the alluvium of the San Pedro Valley. This is our groundwater or aquifer. The top of this deep aquifer actually feeds the San Pedro River, allowing it to flow during the long months between rainy seasons.

The "basin" that retains the water is actually a very complicated layering of soils, sand, gravel and rock. Some of these layers transport water easily and

quickly and some layers slow or stop the movement. Because of this complicated layering of soil types, the movement of water from the mountain recharge zone to the river varies throughout the regional aquifer.

Thankfully, this watershed is one of the most-studied aquifers in the west and we are now aware of the issues surrounding it and can make informed decisions.



Source: Winter, IC., J.W. Harvey, O.L. Franke, and W.M. Alley. 1998. *Ground Water and Surface Water - A Single Resource*. U.S. Geological Survey Circular 1139.

### What are the threats to the aquifer?

The water held underground in the aquifer is like a bank account with savings stored over the years. If you spend more than you deposit you will deplete your savings account. If water is taken out of our aquifer faster than it is being replaced, the level of the aquifer declines. With over 60,000 people living in the San Pedro Valley whose sole source of water is groundwater, we are using more water than we are replenishing. Wells between the mountains and the river

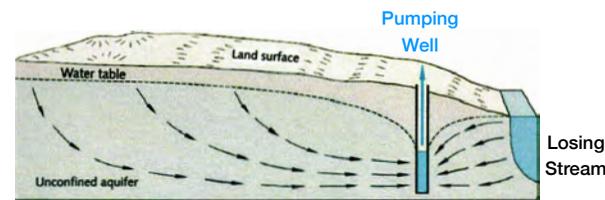
intercept the subsurface flow towards the river. Some deep wells are pumping water today that fell as rain 10,000 years ago. Since we have no control over how much rain falls, the only path to sustainability is to conserve water and try to increase the amount of rain that infiltrates down to the aquifer.

### Are we running out of water?

The good news is the bottom of the aquifer is deep and, if we are willing to pay more to pump water, we will not run out of water for human use anytime soon. Deeper water is more expensive to pump and is higher in dissolved solids and salts, so the water quality declines.

The bad news is that the top of the aquifer is what feeds the San Pedro River and nourishes all the plants and animals within the Riparian National Conservation Area. Our river could become like the Santa Cruz River in Tucson, a dry sandy ditch that runs only after big rains.

### After Prolonged Pumping



Source: Winter, IC., J.W. Harvey, O.L. Franke, and W.M. Alley. 1998. *Ground Water and Surface Water - A Single Resource*. U.S. Geological Survey Circular 1139.

### Why do we care?

In purely economic terms, our river is a rare habitat that attracts tourists from

around the world contributing \$24 million annually to the local economy. Other cities have mild climate, golf, shopping and other amenities, but only we have a vital flowing desert river. Congress has linked the viability of Fort Huachuca, a major economic driver in southern Arizona, to the health of the river. Our river provides valuable habitat to an amazing array of wildlife and plant species, including rare and endangered species. It is one of the most important migratory corridors for neotropical migrant birds in the Southwest.

For residents, we are fortunate to have a 57,000 acre Riparian National Conservation Area in our backyard for hiking, birding, photography or just a refuge from our daily routine. Tucsonans didn't know what they were losing when human demands drained the Santa Cruz River. If we lose the San Pedro, it won't be because we don't know, it will just be because we didn't care enough.



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