

Bisbee Effluent Recharge Project

Streamflows have significantly declined over the past 20 years at the southern end of the San Pedro Riparian National Conservation Area (SPRNCA), adjacent to the international border.

Local conservation partners have come up with an innovative project proposal to increase water supplies in this area to protect the river and its riparian habitat, but additional funding is needed.

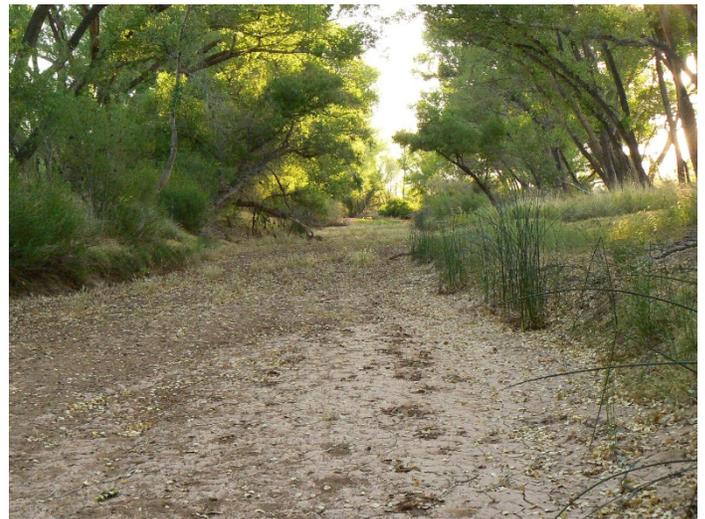
Based on 20 years of hydrologic monitoring in the SPRNCA each June, the reach of the river where pre-monsoon flows have most significantly declined during the hot, dry summer months is the southernmost reach between the international border and Highway 92 in Palominas. The cause for this decline, at least in part, is likely pumping in Mexico, where similar declines in “wet-dry mapping” for the Mexican river reaches have also been observed.

Groundwater modeling shows that further declines will continue without a significant volume of recharge in this area. The continued decline of stream flows and the water table would impact the health of the streamside forest that provides an important habitat for millions of birds each year, and many other species of wildlife. Similar groundwater depletion impacts to riparian forests throughout the Southwest have already occurred on other rivers, and as a result, the San Pedro is one of the last remaining relatively large riparian ecosystems of its kind.

Project Funding

While recharge in this area was identified as a priority, the source water necessary was not available until recently. After three years of negotiations, Cochise County and the City of Bisbee

signed a five-year Option Agreement in the summer of 2019 that provides the County the option to purchase a minimum of 200 acre-feet per year of treated effluent for use in near stream recharge for 25 years.



The SPRNCA near the international border. Wetland plants and streamside forest still persist along the streambanks even though this reach of the river is becoming drier during the summer months.

The cost of this Option Agreement was funded by the County (\$25,000) and The Nature Conservancy (\$10,000). An initial cost estimate produced by engineering consultants to The Nature Conservancy of a 13-mile pipeline from Bisbee’s San Jose Wastewater Treatment Plant to a near stream location range between \$5.4M-\$7.9M. Additional project costs are design and engineering of the recharge facility, land and right-of-way acquisition, construction of recharge facilities to receive the effluent, and long-term operation and maintenance costs. Finally, an additional payment of \$150,000 to Bisbee will be required to exercise the 25-year agreement, and Bisbee will also receive \$60 per

acre-foot of effluent actually delivered each year, up to 200 AF, and \$90 per acre-foot for additional deliveries. Funds for project engineering are needed in 2020, and subsequent construction funding will be needed by 2022-2023 to keep this project on track.

The success of previous CCRN projects has been the ability of its members to collaborate and leverage limited resources. CCRN members include Cochise County, the cities of Sierra Vista and Bisbee, The

Nature Conservancy, and the Hereford Natural Resource Conservation District. However, other partners have also provided significant funding for project implementation including the U.S. Army, the Arizona Department of Water Quality, and the Arizona Water Protection Fund, in addition to private donors including the Walton Family Foundation, Howard Buffett Foundation, and Wingate Foundation.

For the Bisbee Effluent Recharge Project to move forward, additional project funding partners are needed to protect this important stretch of the river in the San Pedro Riparian National Conservation Area.

Bear tracks along the banks of the San Pedro River, near the international border in 2018. (Photo courtesy of Jennifer Varin)

