2018-19 Water Quantity and Quality Study of the Lower Santa Fe River, Santa Fe County, NM: Progress Report

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The City of Santa Fe relies heavily on the Santa Fe River for its potable supply. The Santa Fe River originates in the Sangre de Cristo Mountains before being impounded within McClure and Nichols reservoirs until it is called for by the City's municipal and agricultural customers. Stream flows are variable and dependent on winter snowpack and summer monsoonal rains, which provide approximately 40% of the City's water. The remainder comes from the Rio Grande Buckman Direct Diversion and the San Juan-Chama Project. Santa Fe's water refuse is treated at the Wastewater Treatment Plant (WWTP) and discharged back into the lower Santa Fe River, which then flows through the historic communities of La Cienega and La Bajada before entering Cochiti Pueblo. Outputs from the lower Santa Fe River have amplified, with increased development, groundwater pumping, irrigation diversions, and evapotranspiration. Rarely does the river reach its confluence with the Rio Grande, its termination occurring somewhere within Cochiti Pueblo. There is little information about the quantity and quality of the water in the Lower Santa Fe River after its discharge from the WWTP. This project is focusing on the lower Santa Fe River's water budget and chemistry to determine how land usage impacts its instream flow and water quality. Project methods include taking streamflow measurements and water samples at five sites during the 2018-19 water year. Stream flow monitoring results thus far show that flow stage remained steady (0.50-2.25 feet) throughout the winter months and only showed diurnal variations and intermittent storm events throughout the 6 month data collection period. We anticipate variations in stage height and stream flow during the spring and summer seasons when the river experiences increased inputs from snow melts and monsoonal rains and increased outputs from evapotranspiration and user demands. Stream chemistry results are pending. This water study will constrain the stress on existing supplies and assist with evaluating possible water resource management options to supplement traditional water-supply approaches.

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