

## Santa Fe River

The Santa Fe River is 46 miles long with its headwaters in the Sangre de Cristo mountain range. Historically, its flows were perennial, and are now classified as intermittent, with two perennial reaches with cold water temperatures that do not harbor much aquatic life. The Santa Fe River watershed is approximately 285 square miles, and all the surface water within the area flows to, and is a part of, the river system.

Santa Fe's Historic Plaza was the site of ancient settlements that spread for half a mile to the south and west; this was the Tewa village of "Oga Pogeh Owingeh" or "White Shell Water Place," which refers to its sacred water. Historically, Pueblo villages irrigated fields with flow from the Santa Fe River. The Diné referred to the Santa Fe River as "Yootó" meaning "a string of water beads," which describes shallow pools of standing water along the river's course.

After the Spanish seizure of the village of Oga Pogeh Owingeh in 1610, water for agricultural use intensified. During the 18th and 19th centuries, more than 30 acequias that fed from the Santa Fe River, were in use irrigating an estimated 2,000 acres of farmland. Acequias operate under the premise that water is a shared commodity; communal management with laws and penalties for misconduct governs it.

During the 19th century, the Santa Trail opened a network of trade and commerce which brought new cultures and a population increase. In 1880, the railroad furthered trade networks and the import of exotic goods, as well as lumber to build new homes and businesses. Higher demands for water came with the growing population.

In 1904, the Santa Fe Water Company built its first dam, which held 25-acre feet of water. This stone rock dam was located approximately 2.5 miles upstream east of the plaza, and captured snowmelt runoff from the mountains and storm flows from the intermittent and ephemeral riverine system. After the dam filled with sediment, a larger "Two Mile" Dam was erected downstream in 1893; it had a storage capacity of 387-acre feet.

A 1919 survey showed Santa Fe as having 1,200 acres of irrigated land with 38 ditches connecting to the Santa Fe River. Another dam was constructed five miles upstream in 1928, which doubled the storage capacity. Then in 1943, a new dam was built between the two previous dams. In 2017, forty-five percent of the dammed water was from the river and 55% came from groundwater wells. The combined water sources were sent to a modern treatment facility near the dams, and then distributed to the City's 38,000 consumers for domestic use.

Historically, the Agua Fria community, located along the Santa Fe River, had large duck ponds in the riverbed, prior to the river's channelization. During the late 1800s, a tributary called the "Rio Chiquito" fed from the Santa Fe River and was used to irrigate Archbishop Lamy's garden near the cathedral. During the 17, 18, 19th centuries, Santa Feans fished trout from the Santa Fe River, and ice-skated in pools that formed during winter months.

After WWII, erosion of upper watersheds from cattle grazing caused mass soil erosion, and exposed underlying bedrock and natural grasslands. The once braided, meandering river channel, was intentionally downcut and channelized with rock walls during the 1970s, in an effort by the City of Santa Fe to prevent damage to housing from storm surge flooding events.

In 1995, the City's "River Corridor Master Plan" was adopted by a Council resolution which called for the release of water for year-round flows in the river but the policy was never enacted.

According to the Santa Fe Watershed Association:

**"A living river recharges the underground aquifer which becomes our primary source of water during droughts. There are also benefits for plants and wildlife, which in turn enriches our quality of life and creates a better future."**

Over the years, Santa Fe's population and tourism industry have impacted the river. Extraction from wells have caused the riverbed to remain dry for most of the year and only flow only occurred during precipitation events. In 2007, the Santa Fe River was listed as one of ten most endangered rivers in the United States. Candidates for the list, "America's Most Endangered Rivers," are nominated by grassroots organizations and are based on the waterway's risk factors, including pollution, water extraction, and dams.

The City Council passed another resolution on water in 2008 that echoed the 1995 Master Plan; again, calling for year-round Santa Fe River flows and offered a new plan to pipe water from the Rio Grande for more instream flow and less usage of river and groundwater reservoirs. The plan also included seasonal dispersions of water releases that would mimic natural cycles, and coordinated with acequia irrigation seasons, as well as the annual Kids' Fishing Derby.

On December 2, 2010 a coalition of artists, scientists, educators, students and community members created the illusion of a flash flood by standing in the dry riverbed of the Santa Fe River holding up large pieces of blue cardboard and tarps up over their heads while video and photographs were taken by drones. The idea was to show what water would look like, from an aerial perspective, if the river actually had water flowing in it— a phenomenon most residents hadn't seen in years.

For more than a decade, the Santa Fe Watershed Association and Santa Fe community, worked with intense advocacy for the passage of the Target Flow for a Living River Ordinance which was signed on February 29th, 2012.

Although the river channel runs dry for much of a typical year and is prone to damaging and dangerous flash floods, rock gabions have been installed to control erosion and have been strategically placed to induce waterfalls/riffles which slow water down causing less erosion. Many portions of the riverbed are lined with concrete and non-native geology/gravel stones. Although there is more flow during the year, only upper reaches of the river that are located in more affluent neighborhoods, see water in the river while downstream communities may never see any flow of water in the river at all.

For thousands of years people have visited, prayed, fed their animals and farms, lived and played along the Santa Fe River. The river continues to provide wildlife habitat, sustenance and the vital component for life -Water! The river also faces many threats from human occupation.

Main point sources of pollution are storm drainages, which spew untreated human and animal wastes, industrial pollutants, and contaminants from roadways. Non-point sources of pollution include parking lots, farms, backyards that have been sprayed with pesticides/insecticides/herbicides, human waste from homeless residents, animal waste which has led to high content of E. coli which is a type of fecal

coliform bacteria that comes from human and animal waste. Nitrates can cause an increase in algae growth. Algae can rob the water of dissolved oxygen and eventually can kill fish and other aquatic life.

Pollution from accidental spills, agricultural runoff, and sewer overflows can also change the pH and affect the river's buffering capacity and endangering the river's aquatic life. Temperature changes to the river flow affect many other parameters in water, including the amount of dissolved oxygen available, the types of plants and animals present, and the susceptibility of organisms to parasites, pollution and disease. Causes of temperature changes in the river water include weather conditions, tree canopy shading, and discharges into the water from urban sources or groundwater inflows.

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#### Photo Archives:

1912: [Santa Fe River, Santa Fe, New Mexico - Palace of the Governors Photo Archives, Jesse Nusbaum Collection - CONTENTdm Title \(unm.edu\)](#)

1925-1945: ["Indian Maidens", posed view at Santa Fe River, Santa Fe, New Mexico - Palace of the Governors Photo Archives, T. Harmon Parkhurst Collection - CONTENTdm Title \(unm.edu\)](#)

1935- ["Indian Maiden", posed view at Santa Fe River, Santa Fe, New Mexico - Palace of the Governors Photo Archives, T. Harmon Parkhurst Collection - CONTENTdm Title \(unm.edu\)](#)

1890-1891: [Santa Fe River - Acequia Madre House - CONTENTdm Title \(unm.edu\)](#)