



# Comal Springs

## Comal County

Compilation and layout by Robin Gary, Watershed Association, July 2022

### Water Source: Edwards Aquifer

#### Description



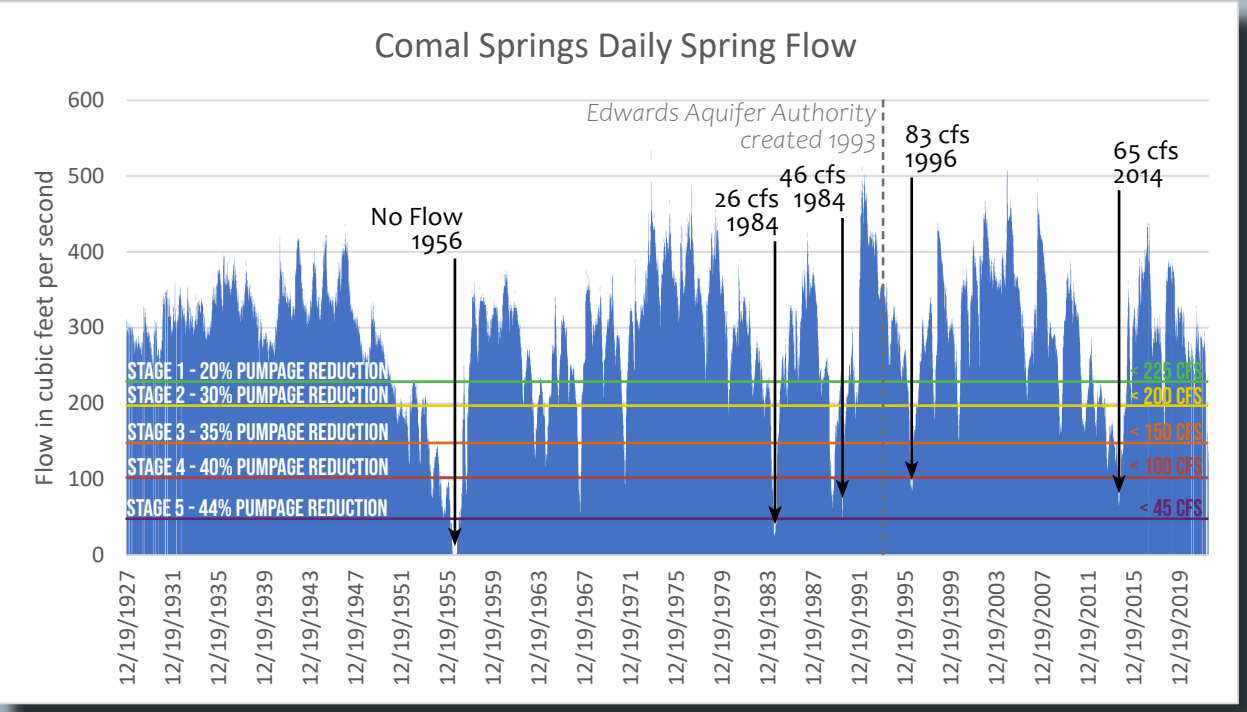
A hiking trail beside Spring Run 3. Photo by the Bureau of Economic Geology, Texas Through Time Series

Seven major springs and hundreds of smaller ones make up Comal Springs; they have the highest combined spring flow in Texas and the American southwest. The springs emerge from the base of a limestone bluff and in the riverbed itself and form the headwaters of the Comal River which flows two and a half miles before joining the Guadalupe River. The springs and river provide water for several city parks, swimming pools, tubing trails, and water parks. Landa Park offers hiking trails along the spring runs, paddling on Landa Lake, and swimming in spring-fed pools.

Water from Comal Springs originates from the San Antonio segment of the Edwards Aquifer. Millions of people, including New Braunfels, San Antonio and as far west as Uvalde, rely on the Edwards Aquifer as a major water supply.

#### Challenges

Comal Springs is home to eight federally protected species that can be affected by declines in flow, water quality and habitat conditions. Urbanization and associated increases in impervious cover over the recharge zone and in the contributing zone increase runoff rates, which can flush sediments and contaminants into the aquifer and spring habitat. Sedimentation and gravel deposits significantly degraded aquatic habitat in upper Landa Lake. Comal Springs is impacted by drought and pumping. During the drought of the 1950's, flow stopped for 144 days. In 2014, flow dropped to 65 cfs. Most recently, in July of 2022, flow declined to 121 cfs triggering a Stage 3 drought declaration with a 35% reduction in pumpage from permitted well owners.



Comal Springs daily average flow and Edwards Aquifer Authority Critical Period drought thresholds and associated pumpage reductions. Flow data from US Geological Survey. Graphic by Robin Gary, Watershed Association.

#### Protection

The Edwards Aquifer Authority, San Antonio Water System, City of New Braunfels, and several other partners have established a Habitat Conservation Plan here and at San Marcos Springs to protect flow and water quality. Restoration projects have removed sediment and improved habitat in spring runs and at Landa Lake. Spring flow rates at Comal Springs serve as a drought trigger for groundwater users. To protect groundwater availability and spring flow, the Edwards Aquifer Authority relies on a robust conservation easement program with the City of San Antonio, alternate supplies such as aquifer storage and recovery, voluntary irrigation suspension, and coordinated water conservation programs. The Edwards Aquifer Protection Program, funded through 21 years of an eighth percent addition on San Antonio's sales tax, will have invested \$220 million over 150,000 acres of land and conservation easements for water supply protection.



Edwards Aquifer Habitat Conservation Plan efforts have restored habitat in spring runs and at Landa Lake. Photo by the Edwards Aquifer Authority

#### Access and More Information



Tubers on the Comal River. Photo by the City of New Braunfels

The City of New Braunfels operates Landa Park, several Comal River access areas, and a tube chute. Landa Park is open year-round and admission is free. Day passes and tickets are available for Landa Pool and boat rental on Landa Lake. Additionally, several tubing companies rent tubes and shuttle tubers to float down the Comal River. Water parks with spring-fed and groundwater-fed pools offer day and season passes.



Art4Water is a program of the Watershed Association, a 501(c)(3) non-profit



Flow verification at Comal Springs with an Acoustic Doppler Profiler. Photo by Edwards Aquifer Authority