

City of Gallup, New Mexico

Water Supply

July 2025

History:

Gallup's long-term reliance on groundwater supply will continue until the Navajo Gallup Water Supply Project is completed. Gallup has not had access to surface water and has had to rely solely on groundwater from extremely deep confined aquifers. Over the past 120 years, the City has constructed or acquired over 45 wells and only 15 wells are in service or operational today. Major drops in water levels, reduced pumping, sedimentation, water quality problems, cascading and increased pumping lifts and associated costs are the reasons that 30 wells are out of service, and are never to be used again. In addition, all other tribal, municipal, and industrial users in the region also rely on the same limited groundwater source, making it a fast-depleting resource. Gallup is unique among New Mexico's municipalities in the depth of its municipal wells and the extremely high costs for construction, operation, maintenance, and replacement of those wells.



In 1998, the City of Gallup was concerned about declining water levels within the aquifers that provide water. The City hired Sterling and Mataya Engineers and Surveyors along with John Shomaker & Associates to provide forecasts of regional water table levels along with planning for measures required to best maintain production. In summary, in 1998 the average daily production was 3.87 MGD (million gallons per day) and the maximum daily demand was 5.5 MGD. Taking into account the projected demands and the groundwater modeling, the City would not be able to meet the demands in the year 2010. As a result, the City revisited NMOSE water right application G-80/SJ-1491 within the Dakota/Westwater formation, and G-22 with the Shinarump/San Andres/Glorietta formation. To date the NMOSE has permitted 2,600 ac-ft of water under the G-80/SJ-1491 and 2,600 ac-ft under the G-22 permits, respectively. This is in addition to its existing water rights held within the G-96, G-97 and SJ-113 permits. The legal, technical and exploration costs to acquire these permits was over \$10 million.

Demand and Conservation:

Gallup has an aggressive and successful conservation program that is cited by the New Mexico State Engineer as an example for other municipalities to follow. This keeps the per capita water use to the lowest extent possible. Irrigated grass athletic fields were converted to artificial turf, grass lawns were replaced with desert landscaping. In addition, the City has replaced some of the cast iron pipe that continued to fail.



NGWSP:

In 2008 the city chose to pursue surface water from the San Juan River as the main source of water. As a result, no production wells have been constructed since 2002. The United State Bureau of Reclamation was contractually obligated to provide up to 7,500 acre-feet of water to the City of Gallup on December 31, 2024. However, changes in the source of the NGWSP has delayed the project and the City is now forced to drill water production wells to offset the delay. Once the project is constructed and becomes operational, surface water will be diverted from the San Juan River and conveyed to Gallup where it will be available for use through the Gallup Regional Water System. Up to 7,500 acre-feet per year (afy) of surface water will be available to Gallup and surrounding users, and an additional 4,647 afy will be available for Navajo Tribal Utility Authority, (Reach 14) facilities use and demands. Currently The State of New Mexico’s \$50 million obligation has been met. In addition, the City of Gallup has paid over \$58,619,742.98 toward the project and has not received a single drop of water. The most recent billing from the Bureau of Reclamation for the 4th quarter of 2025 is \$2,915,680.00. According to Reclamation the City should anticipate receiving similar quarterly bills for the next 5 years. This means that the City of Gallup is expected to pay over \$10,000,000.00 annually until the project’s completion. The City of Gallup cannot afford to pay this amount of money and maintain its water and wastewater systems



Regionalization:

In 2010 the City of Gallup and McKinley County executed a Joint Powers Agreement (JPA) which identifies a mechanism for small water systems in the County to access the NGWSP water. The JPA created a Water Board for the region. The Water Board would help small communities negotiate water rates, ensure operation, and help ensure water supply during drought or other times when water is not available due to mechanical failures. Once the Gallup Regional Water System infrastructure is constructed and operational, the initial water supply would be ground water from the City's existing and proposed wells then switched to surface water when the NGWSP pipeline is in place and operating. The delivery date of surface water was set to be December 31, 2024, however with the extension of time that was recently approved the delivery date is unknown. Some estimate at least a 5-year delay. The entire area is dependent on groundwater until surface water is available. This means that Gallup and the unincorporated communities currently served, and future communities like Williams Acres, Catalpa, Allison and White Cliffs will connect to the Gallup Regional Water System and will receive groundwater supplied by City of Gallup wells, as opposed to imported surface water until the surface water is available. In addition, the City currently provides water to the Navajo Nation Industrial Park, Reach 14.5, Manuelito, and Boardman Indian Allotment. Church Rock and Iyanbito/Reaches 14.1/14.2 and Red Rock, Breadsprings and Chilchitah/Reaches 14.6/14.7/14.8 will be connected to the Gallup Regional Water System before the surface water arrives. Any other economic opportunity in the area will have to use groundwater supplied through the Gallup Regional Water System too.

Operation:

The City has operated its well field to the extent possible given the physical limitations of the existing aquifer to meet water demands. This manner of operation ensures water supply while maintaining and managing the water level in the wells. This prevents over pumping and damaging the City's remaining wells and the Gallup Sandstone (GS) aquifer (G-96 and SJ113).

With the current wells and diversion permits in place the City can produce about 3,000 acre-feet of water annually. Approval of the G-80/SJ-1491 groundwater diversion permits for the Dakota/Westwater (D/WW) aquifers immediately allowed more water to be pumped from existing wells that are dually completed in the GS and D/WW aquifer for water supply. However, most of the gains will be offset by the loss of Well SF No. 12, Munoz Well and pumping reductions in the remaining GS wells. To ensure an adequate water supply to the Gallup Regional Water System through 2030, seven (7) new wells are proposed under the G-80/SJ-1491 permit and four (4) wells are proposed under G-22 permit. These proposed wells along with water from the Twin Lakes Well should help sustain the City's water supply until the surface water is available.



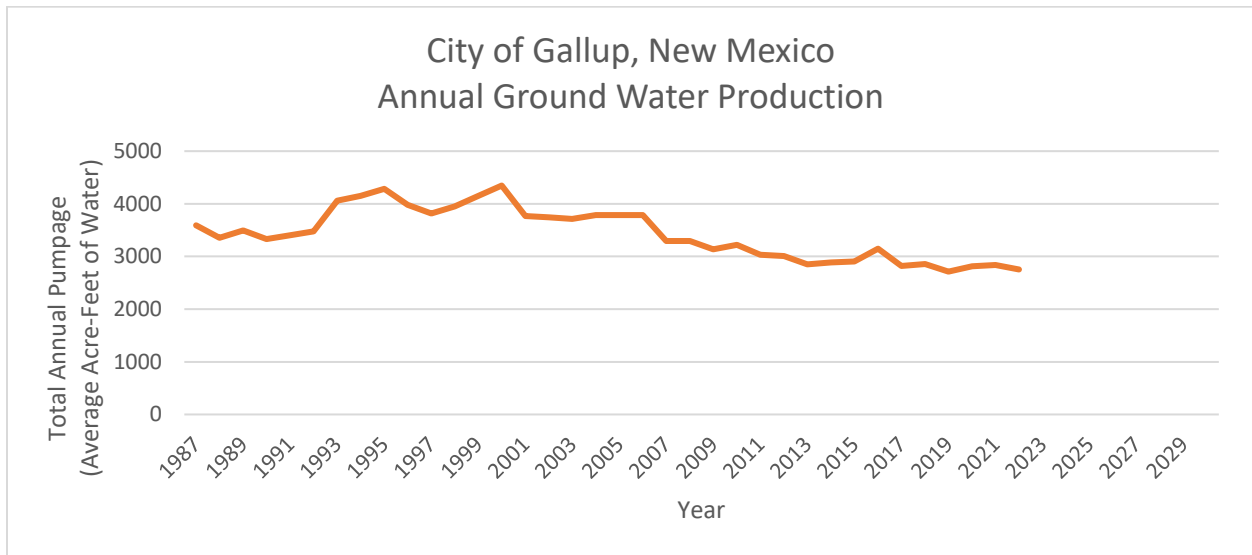
Financial:

The City is struggling financially to ensure that its wells are operating because most of the submersible well pump assemblies only last about 3 to 5 years and it costs about \$250,000.00 each to return the well to service. This was the case with Junker No. 1 which is one of the City's highest producing wells. Junker No. 1 was out of service for about two (2) years (July 2019 until June 2021) and the City delayed the repairs until funds were available even when high summer demands were underway. As stated above, Gallup anticipated surface water delivery by the end of 2024. Now, given the undefined extension of time to construct and begin operation of the NGWSP, the City does not know when the surface water will arrive. Relying on the Federal Government and the State of New Mexico's assurances, the City has spent millions of dollars on the Navajo-Gallup Water Supply Project and until recently had not drilled a production well since 2002. There is uncertainty in the groundwater production facilities because of lack of active production wells and because the City is paying for the NGWSP which leaves no funds for new water well construction and limited funds for well maintenance. The City cannot afford to pay for the surface water pipeline and drill 3000' deep wells that cost about \$6.0 million each and replace about 27 miles of old cast iron pipe, some of which is over 100 years old.

Production Summary:

City of Gallup annual groundwater production has steadily declined over the past 30 years due to declining water levels. Over the past 10 years the City’s average annual groundwater production is about 3,000 acre-feet. This is considerably lower the production in 1998 at 4,335 acre-feet of water.

The chart below shows the City of Gallup groundwater production has declined steadily due to declining water levels. Fortunately, the demand has not exceeded production. This is mainly attributed to conservation of water and the reuse of wastewater for irrigation and construction.



Gallup Sandstone Aquifer:

Groundwater diversions from the Gallup Sandstone aquifer consist of wells located in the Gallup Basin, G-96, and the San Juan Basin, SJ-113. The average production from the Gallup Sandstone (GS) aquifer is 2,600 acre-feet annually for the same 10-year period. Most of the wells in this aquifer are out of service and the remaining wells cannot produce the same amount as originally drilled. For example, Munoz 1A well pumped about 700 gpm originally in 1970. Currently the well pumps about 100 gpm and is at the end of its production life. Another example is SJ-113(Junker No. 1) which is one of the City’s most important wells. It produces about 600 gpm when pumping and over the past 5 years it has produced about 400 ac-ft annually. In the past (1990), Junker No. 1 well has produced over 1100 ac-ft per year. Also, SF Well 12 has silted in and is out of service.

Dakota/Westwater Aquifer:

The City's groundwater diversion permits in the Dakota/Westwater (D/WW) formation, G-97, is only 492 acre-feet annually and the City has five (5) wells pumping water from the Dakota/Westwater formation. Three of these wells pump from the Gallup Sandstone too. They are dual completion wells. The limiting amount of 492 acre-feet per year (afy) was exceeded once in the past 10 years and average annual production is about 370 ac-ft, about 75% of the permitted amount. The City has tried to maintain a buffer to not exceed the 492 afy permitted amount by limiting operation of the wells, or else these wells must stop pumping when the diversion limit is reached when water is needed. Recently issued G-80 will allow more groundwater development in the D/WW formation.

G-22:

The G-22 groundwater permit was recently approved by the NM OSE. This permit grants up to 1,200 acre-ft diversion in the first 10 years from the Shinarump/San Andres/Glorietta aquifer which is stratigraphically deeper and older than GS and the D/WW aquifers but is at a similar depth relative to the ground surface. No wells are ready for equipment and the collector lines, electrical power and other facilities are not in place.

Water Reclamation Facility:

The City of Gallup has used treated wastewater to irrigate the turf at its Golf Course since 1960. The City of Gallup plans to produce high-quality wastewater effluent to provide a recoverable resource (reuse water) for non-potable water uses. The delay in the delivery of water from the Navajo Gallup Water Supply Project has forced the City to turn to other water supply options. This includes the most obvious resource, reused wastewater. The reused water can be used to replace drinking water for construction, irrigation, and industries. Reuse water also furthers our conservation of water.

The City is also planning to produce a high quality "Class A" sludge for soil amendment. Class A sludge can be sold to commercial agricultural growers, used on the City's golf course, parks and trees as a soil amendment, and for land application disposal. The goal is to have the best, high performance water reclamation facility in New Mexico that produces a high-quality wastewater effluent and class A sludge.

The City currently has plans, specifications and bid documents ready to upgrade the Headworks of their water reclamation facility. As the Committee is aware inflation and other factors have nearly doubled the cost of construction projects over the past couple of years. The City is counting on State funding in the amount of \$16,000,000.00 which is needed to cover the remaining cost of the project.