

3.7 WATER RESOURCES ELEMENT

3.7.1 GOALS

1. Provide existing and future residents and businesses a continuous, adequate and clean water supply.
2. Encourage conservation measures that foster efficient potable water use.
3. Pursue activities that augment the City's potable and non-potable water supplies.
4. Carefully evaluate expansions of the City's Water Service Area when it enhances social, economic, and environmental interests.

3.7.2 PURPOSE

The Water Resources Element provides guidance and identifies potential strategies for the planning, use, and management of the amount and quality of water supplies needed to sustain the City's existing and future residents and businesses.

3.7.3 EXISTING CHARACTER

The Eloy Planning Area is affected by both natural and man-made patterns that influence the supply of water resources. The natural environment is characterized by small, ephemeral washes, Greene Wash and the Santa Cruz River (which is identified as an intermittent stream). These natural systems generally flow from southeast to northwest and are uncontained in many locations.

The design and construction of the man-made water supply environment was prompted by agricultural production, and is characterized by an intermittent reservoir and supportive canal system. Agricultural use remains the primary regional demand for water supplies. Picacho Reservoir (located outside the Eloy Planning Area to the north), is an approximate 24,500 acre foot storage basin that was constructed as part of the San Carlos Irrigation and Drainage District (SCIDD). Surface water from the Gila River (a small portion of SCIDD is located within the planning area) is distributed to users to the west via the Casa Grande and Florence-Casa Grande Canals.

The majority of the Eloy planning area is contained within the boundaries of the Central Arizona Irrigation and Drainage District (CAIDD), as shown on Map WR-1, Water Irrigation Districts. CAIDD operates and manages the sourcing and delivery of water to their agricultural customers within an approximate 139 square mile area. These customers primarily cultivate cotton, small grains, forage and vegetables. Agricultural lands located outside of CAIDD's and SCIDD's boundaries within the Eloy Planning Area are completely reliant on groundwater for irrigation.

The historic use of the Santa Cruz Valley for agricultural production has historically relied on groundwater as its primary supply source and canals to transport it for irrigation. Prolonged pumping, with a limited amount of replenishment, has deepened the groundwater table over time and caused subsidence in the land, which has prompted the presence of fissures in the landscape. The 1980 Arizona Groundwater Code was adopted by Arizona's legislature and signed by then Governor Babbitt, in part, to address the need to manage the State's finite groundwater resources and to support the needs of its growing and diversifying economy. Portions of the State where historic and ongoing large-scale reliance on groundwater over pumping were identified and designated as Active Management Areas (AMA's). A total of five AMA's are currently designated within the State where water users are subject to Arizona's most stringent groundwater regulations. ADWR regulates water users in a manner consistent with water management goals developed for each AMA, while considering and incorporating the unique character of its location, water sources and water users. Nearly all of the Eloy Planning Area (and all of the City's incorporated area) lie within the approximate 4,100 square mile Pinal AMA. The remaining approximate 43 square miles of the Planning Area are contained within the Tucson AMA. The management goal of the Pinal AMA is to retain the agricultural economy for as long as feasible, while considering the need to preserve groundwater for future non-irrigation uses. The ADWR mission statement for the Pinal AMA is to ensure that a reliable and sustainable water supply will efficiently meet current and future water uses while protecting the environment and general economy.

Pursuant to the Groundwater Code, the ADWR required water users to document the groundwater used (between 1975 and 1980) and capped the amount of groundwater used within the AMAs. The result of these efforts are groundwater rights - since they were based upon uses that existed at the time the Groundwater Code was enacted, they were "grandfathered in" and hence the term "Grandfathered Groundwater Rights". These include Certificates of Irrigation Grandfathered Rights (IGFR's), which specify where the groundwater rights are appurtenant, and allotments for irrigated acreage based on the crop grown, as well climate and soil conditions. IGFRs may be abandoned through urbanization, retired (to a Type 1) or extinguished (eliminated). A total of 59 square miles or over 50 percent of the City's incorporated area are designated with IGFR's.

Water supplies used within the Pinal AMA for all sectors (municipal, industrial, and agricultural) includes groundwater, surface water, CAP water and reclaimed water. Recharge occurs both naturally, from artificial methods, including as a result of other uses (incidental recharge). Artificial methods include permitted recharge from municipal and industrial supplies, and incidentally from agricultural and other water using activities (i.e. canals, municipal water uses, and field seepage). Artificial recharge occurs through intentional recharging activities at permitted facilities. Currently, the City is permitted (until February of 2024) by ADWR to recharge up to 2,240 acre-feet per year of effluent at the Eloy Reclaimed Water Recharge Project (ERWRP). The City also recharges most of

its Central Arizona Project annual allocation using what are known as groundwater savings facilities. In addition, the Picacho Sewer Company operates the EJR Ranch Recharge Facility for their effluent, which allows 272 acre feet per year until November of 2031. CoreCivic operates the Eloy Detention Center which may recharge a maximum of 2,726 acre feet per year until November of 2031.

The Pinal AMA is divided into five groundwater sub-basins, based on hydrogeologic divides. The Eloy Planning Area and incorporated area are both contained within the Eloy sub-basin. There are approximately 22.6 million acre feet of groundwater stored within the aquifers to a depth of 1,000 feet, with groundwater flow occurring to the north. A majority of the water drawn from these sub-basin areas is used for agricultural purposes which has, according to the Arizona Department of Water Resources, resulted in an approximate 400-foot decline in subsurface water levels over time.

One of the provisions of the Groundwater Code is the requirement that all new subdivision development must demonstrate a 100-year water supply unless the development is located within the service area of a "Designated Provider". The City of Eloy currently is operating under a Designation of Assured Water Supply (DAWS) for an amount of approximately 49,000 acre feet, and development occurring within the City's water service area can rely on the City's DAWS.

The City of Eloy owns, operates its production and distribution system and provides municipal water service to approximately 2,449 accounts including 2,269 residential and 180 commercial account users as shown on Map WR-2, Water Resources map. The existing service area extends in an irregular pattern from Cornman Road on the north, to Milligan Road on the south, and from La Palma Road on the east to Sunland Gin Road on the west as shown on the Water Providers and Facilities Map. The existing potable water network serves approximately 20 percent of the City's existing service boundary. The City also currently provides water to users who are located outside the City.

A total of four groundwater wells and four storage tanks provide the majority of the current potable water demand. The City maintains and operates approximately 125 miles of mains and lines that transport water between the wells and its customers. The City also maintains and operates two 1.0- million gallon storage tanks located south and west of Main and Frontier Streets, one 1.0- million gallon storage tank located west of Houser Road and Frontier Street and another 1.0 million gallon storage tank located north and west of Tumbleweed Road and Lear Drive. In an effort to allow "growth to pay for growth", the City adopted an Infrastructure Improvements Plan (IIP) in 2014 which provided a basis for the City to update its development impact fees for water service, as well as other municipal services.

Although the City is the largest certificated water provider (approximately 99.5 square miles) within its incorporated area, there are seven additional providers that also serve portions of the City as shown on Map WR-2.

- Arizona Water Company (northern area) approximately 1.5 square miles
- CoreCivic (prison) approximately 1.0 square mile
- Global Water (eastern area) approximately 1.5 square miles
- Picacho Water Company (Robson Ranch) approximately 7.0 square miles
- Picacho Water Imp. Corp. (eastern area) approximately 0.25 square mile
- Spring Branch Water Company (western area) approximately 0.75 square mile
- Sunland Water Company (western area) approximately 1.5 square miles

The CAP canal transects the Eloy Planning Area along its eastern perimeter on its way to delivering Colorado River Water to Tucson. Canal laterals transport CAP water to nearby users via the Santa Rosa Canal and Central Main Canal. The City currently has a CAP allotment of 2,140 acre feet per year.

The Central Arizona Groundwater Replenishment District (CAGRDR) was established by the legislature in 1993 to ensure long term availability of groundwater supplies. It was authorized to facilitate the replenishment of groundwater by using renewable supplies on behalf of new developments that did not have direct access to CAP and other renewable water supplies and enrolled as members of the District. The CAGRDR is required to replenish (in perpetuity) all groundwater pumped by its members that exceed the groundwater use allowed under the AWS Rules. The CAGRDR is operated by the Central Arizona Water Conservation District (CAWCD), which also operates the CAP. The City is enrolled as a member service area of the CAGRDR which will replenish groundwater withdrawals if the City must pump more groundwater than is allowed under the City's DAWS to satisfy the needs of the City's ratepayers, thus complying with current AWS Rules. The CAGRDR is funded through a combination annual replenishment fees charged against each parcel of member land and against member service areas that withdraw and use groundwater that must be replenished, and through annual dues that are determined by the CAGRDR and levied against member lands and member service areas.

Historic economic conditions resulted in a high rate of CAGRDR enrollment. Membership in the CAGRDR is voluntary, but the CAGRDR currently must accept as members those who are (1) within the three county CAP service area (Maricopa, Pinal, and Pima), (2) can meet the other four AWS criteria and (3) agree to pay CAGRDR replenishment assessments. The CAGRDR has three calendar years in which to fulfill its replenishment obligation, which it does by recharging water at permitted recharge facilities. Because the

water is essentially replacing pumped groundwater, this recharge is termed “replenishment.” CAGR D performs the replenishment at recharge sites it selects within the AMA where the replenishment obligation was generated.

3.7.4 DISCUSSION

There are several important factors to consider regarding the provision of potable and non-potable water resources to the residents of the City of Eloy, including conservation measures, landscaping standards, emergency water provision contingencies, water quality, wastewater usage (effluent or gray water) and logically locating new and maintaining the existing network of mains, booster pumps, and other necessary infrastructure improvements.

Implementing conservation strategies can help reduce the demand on groundwater. Water conservation can be accomplished using multiple approaches including designing landscapes with drought tolerant vegetation (using the species listed on the ADWR approved plant list for the Pinal AMA). Another method of water conservation is water re-use. However, the City does not use a direct water re-use system. These types of programs typically use effluent or gray water for various activities where potable water use is not necessary, such as landscaping, water features within developments, golf course turf and other activities. Instead, the City currently recharges all of its treated wastewater where it can be recovered from the City’s well system and used for any municipal purpose.

Water Demand and Supply Comparison, 2018-2030

Table WR-1 Water Demand

Year	Water Demand			Water Supply (in acre-feet)			
	Population (¹)	Existing/ Estimated GPCD	Total Water Demand (in acre- feet)	Groundwater	Surface Water (CAP)	Effluent (as recharge)	Total Water Supply
2018	9,000	170	1,714	2,095	2,240	2,512	6,847
2030	65,038	154	11,219	6,367	2,340	2,512	11,219

(1)The population served by the City excludes the segment of the estimated incarcerated population and Robson Ranch served by private water providers.

Source: City of Eloy; July 2018

3.7.5 OBJECTIVES

1. Continue to provide adequate water resources to both residents and employers in the City.
2. Update the City's Water Master Plan. Continue to plan for development and require necessary utility infrastructure expansion on an as needed basis by requiring developers to build that infrastructure required by each development. Evaluate options to maximize the use of renewable water supplies, evaluate innovative methods for replacing reliance on groundwater, optimize the location of underground storage and subsequent recovery of renewable water supplies, and evaluate options to minimize the cost to existing ratepayers of new water supplies for future growth.
3. Review and update utility fees to accurately reflect the City's cost to provide water resources and the production and distribution network.
4. Continue to monitor, and increase when prudent, the City's water supplies to accommodate future population and employment demand using funding methods that do not burden existing ratepayers.
5. Coordinate with the ADWR to manage the City's Designation of Assured Water Supply to match future growth.
6. Evaluate and implement an effective water conservation program (including emergency conservation) using efficient water management methods with supportive policies and standards.
7. Evaluate direct use of treated effluent for non-potable users (i.e. turf irrigation, manufacturing, cooling, etc.) as opposed to artificial recharge and recovery to optimize potable supplies.
8. Maintain the existing distribution and storage system to minimize the waste and maximize the efficiency of all water resources.
9. Comply with the ADWR Low Water Use Plant List where required, and encourage the uses of the List elsewhere to minimize and conserve water resources by vegetating the community with drought tolerant vegetation adapted to the Sonoran Desert.