



# ARIZONA DEPARTMENT OF WATER RESOURCES

## Pinal Active Management Area

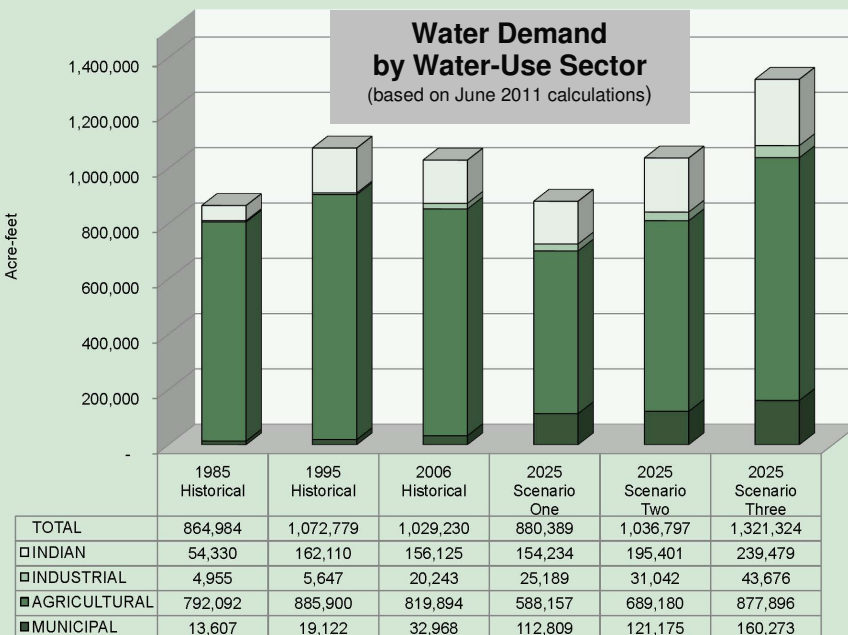
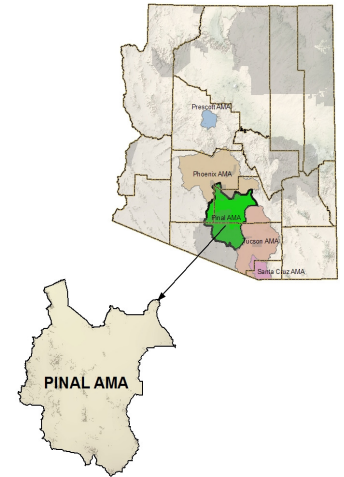
### Water Demand and Supply Assessment: 1985 — 2025

The Arizona Department of Water Resources conducted a Water Demand and Supply Assessment for each Active Management Area (AMA) in preparation for the Fourth Management Plan. The Assessments consist of historical water demand and supply characteristics for 1985 through 2006 as well as projections to 2025. Once the assessment for each AMA is finalized, preparation of the Fourth Management Plan will begin by evaluating the data compiled and identifying potential solutions to water management issues. The Assessments will continue to be updated annually.

The water management goal of the Pinal AMA is to preserve existing agricultural economies for as long as feasible while preserving future water supplies for non-irrigation uses. Between 1985 and 2000, groundwater overdraft in the Pinal AMA increased due to increased demands and continued reliance on groundwater by the agricultural sector. After 2000, groundwater overdraft fluctuated but did not increase above the historical high. This was due in part to the increased use of CAP water, especially by agriculture (including Indian agriculture), and increased conservation activities across all water-using sectors.

In the future, CAP water will remain available at current levels for agriculture on tribal lands, which comprise more than 50% of the Pinal AMA. However, less CAP water will be available for agriculture on non-tribal lands due to the redistribution of CAP water and the reduced amount of excess CAP water that will be available for use in lieu of groundwater. Regardless of future agricultural water use, the incidental recharge of irrigation water applied in past years continues to benefit the aquifer due to the lag time for this water to reach the aquifer.

In 2006, a special management zone adjacent to reservation land in the Pinal AMA was created as part of the implementation of the Gila River Water Rights Settlement Act. The Act requires the state to replenish groundwater if municipal and industrial groundwater pumping exceeds certain levels in this zone.



NOTE: The 2025 projections consist of three baseline scenarios with the following assumptions:

- **Scenario One:** lowest reasonable water demand.
- **Scenario Two:** demand in-between Scenario One and Scenario Three.
- **Scenario Three:** highest reasonable water demand.

**MUNICIPAL DEMAND:** Although population in the Pinal AMA tripled between 1985 and 2006 (from ~53,000 to more than 159,000), the municipal sector's water demand was only 2% of the total AMA demand in 1985 and increased to 3% by 2006. Differences among the projected scenarios for municipal demand are due to a combination of assumptions regarding population growth and efficiency of water use.

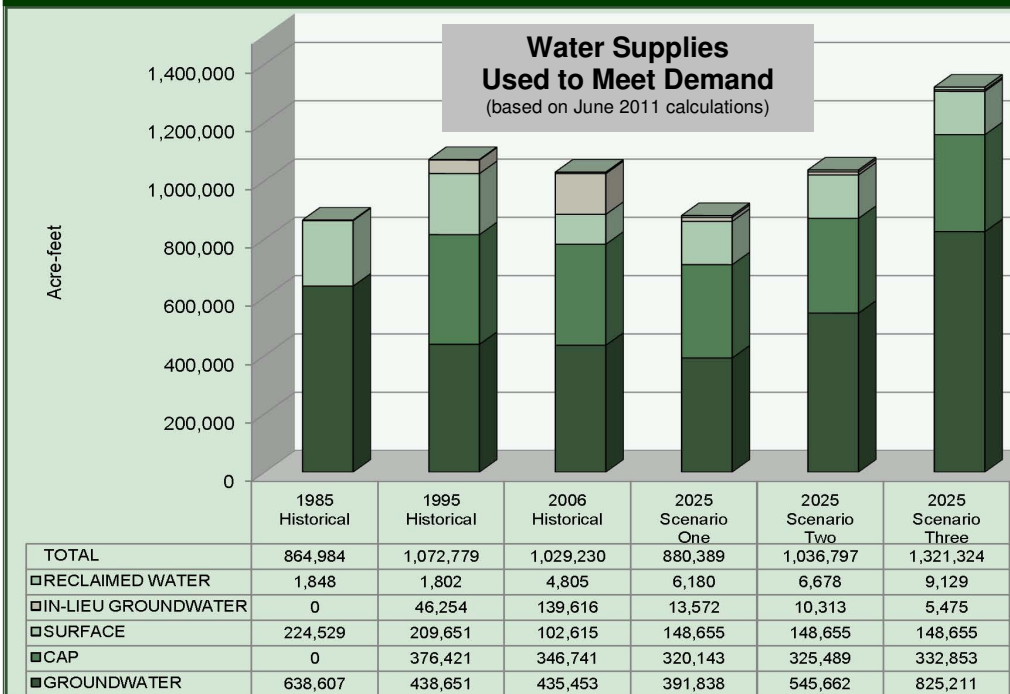
**AGRICULTURE DEMAND:** In 1985, there were ~282,000 agriculture irrigation acres that used ~792,000 acre feet of water. By 2006, the acreage decreased by about 6% due to urbanization, but water use was 3% higher (due to fallow acres brought back into production and double-cropping on some farms). Future agricultural demand will depend on the rate of urbanization, crop prices, and the cost and availability of water supplies.

**INDUSTRIAL DEMAND:** In 1985, the largest industrial subsector was feedlots at nearly 48% of total industrial water use. In 2006, dairies replaced feedlots as the largest subsector (41% of total industrial water use), turf ranked second (31% of total industrial water use) and feedlots ranked third (15% of total industrial water use). Variation in projections among scenarios are due to assumptions regarding the potential development of new dairies and large-scale power plants.

**INDIAN DEMAND:** Indian demand increased significantly from 1985 to 2006 due to increases in Indian agriculture. Indian demand is not reported to the ADWR, therefore projections can only be assumed based on historical trends and information obtained from Indian Settlement agreements. Projections for future Indian agricultural demand assumes that the amount of irrigation will increase, with different assumptions on the rate of increase in each scenario.

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**GROUNDWATER:** The disparity in groundwater use projections is mainly due to agricultural demand and the decreased availability of excess CAP water for use in lieu of groundwater. If agricultural demand increases, it will be met mainly by the use of groundwater.

**CAP:** The use of CAP water began in 1987 and increased steadily to 34% of the overall supply by 2006. More than one-third of the projected CAP use is the result of the full use of available CAP water as well as its increased use on tribal lands for agriculture.

**SURFACE WATER:** Surface water, mainly from the San Carlos Irrigation and Drainage District, is variable year-to-year and is used primarily for agriculture. Projections depend on how much agricultural land will be in production in surface water districts.

**IN-LIEU GROUNDWATER:** In-lieu groundwater is CAP water that farmers use instead of groundwater. Projections for in-lieu groundwater decrease over time due to assumed urbanization of agricultural lands and the decrease in excess CAP water available for use in lieu of groundwater.

**RECLAIMED WATER:** The amount of reclaimed water is projected to increase over time, however, it remains at less than 1% of total supplies.

The data in the Assessments were obtained from the Annual Water Withdrawal and Use reports received from 1985 to 2006. The projections for 2025 consist of three baseline scenarios:

- Scenario One assumes the lowest reasonable water demand.
- Scenario Two assumes demand in between Scenario One and Scenario Three.
- Scenario Three assumes the highest reasonable water demand.

The Assessments also address two other scenarios:

- the effects of climate change on each baseline scenario, and
- a scenario that maximizes the use of reclaimed water due to population growth.

A centralized data repository that contains the Master Data Templates and the water demand, supplies and projections for each AMA is located at: [www.azwater.gov/AzDWR/WaterManagement/Assessments/default.htm](http://www.azwater.gov/AzDWR/WaterManagement/Assessments/default.htm).