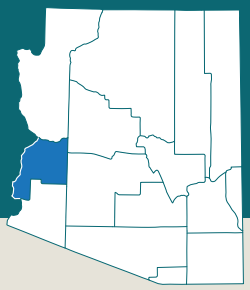


ARIZONA WATER FACTSHEET
La Paz County

Get to know water in your county

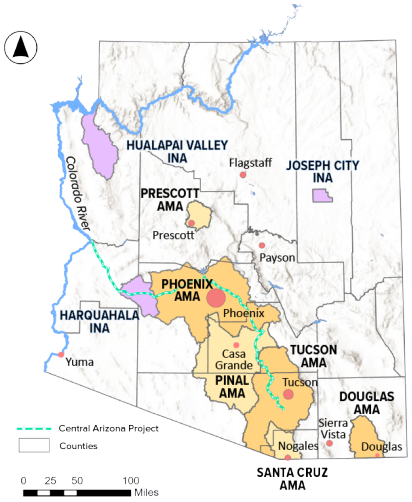
October 2023

COLLEGE OF AGRICULTURE & LIFE SCIENCES
COOPERATIVE EXTENSION
WATER RESOURCES RESEARCH CENTER
wrrc.arizona.edu/arizona-water-factsheets

Water in Arizona

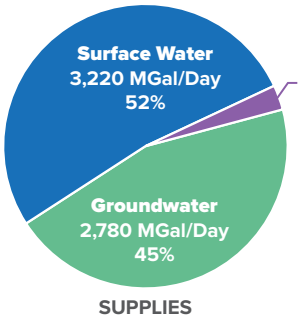
Arizona's future depends on sustainable water supplies, which in turn depend on vigilant and innovative management of those supplies. From low deserts to high mountains, counties and communities face different water challenges and take different approaches to addressing those challenges, while conforming with regional, state, and federal requirements. The Arizona Department of Environmental Quality (ADEQ) is responsible for water quality and tasked with enforcing federal environmental standards. The Arizona Department of Water Resources (ADWR) oversees the use of surface water and groundwater, which are legally distinct though physically interconnected. In general, ADWR regulates groundwater more strictly in Active Management Areas (AMAs) than in the rest of the state.

Statewide Context

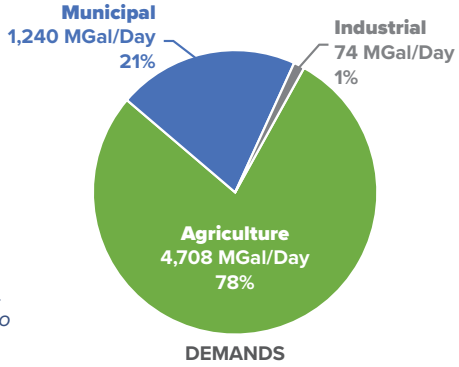


County and AMA boundaries (WRRC 2023).

Arizona Water Supply and Demand



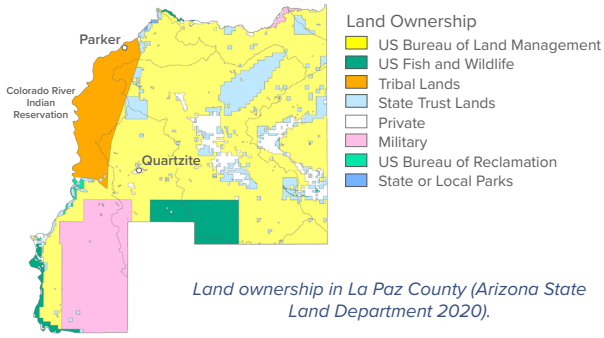
Surface water includes streams, rivers, lakes, and reservoirs. Groundwater is water stored underground in subsurface aquifers. One million gallons (MGal) is equal to a little over three acre-feet and can serve 13 Tucson households for a year (Tucson Water 2018, USGS 2015).



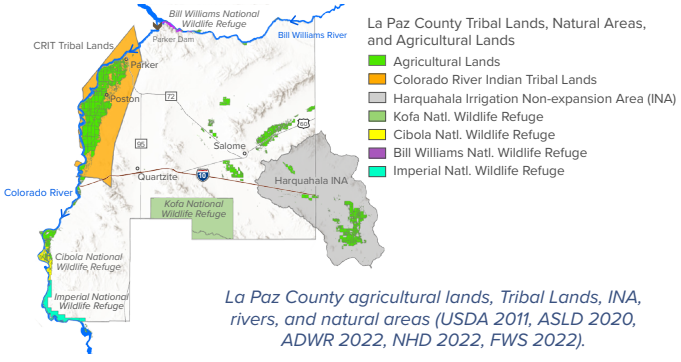
Water in La Paz County

La Paz County is Arizona's youngest county, established in 1983. A region of geographic extremes, this county is home to some of the hottest and driest areas of the US (annual precipitation ranges from 2-20 inches depending on elevation and location). The Colorado River makes up the entire western border of La Paz County, which contains rich soils for agriculture, a network of state lands, national wildlife refuges, and other natural areas.

Population centers include Parker and Quartzite with more than 56% of the county's population residing in rural areas. The county's land ownership is made up of 77% federal, 8% state, 5% private, and 10% Tribal, which are the sovereign lands of the Colorado River Indian Tribes (CRIT). The CRIT include four distinct Tribes – the Mohave, Chemehuevi, Hopi, and Navajo – and has a strong agricultural industry supported by its first priority Colorado River water entitlement.



Land ownership in La Paz County (Arizona State Land Department 2020).

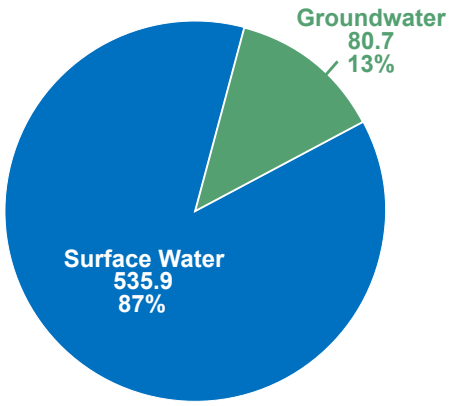


La Paz County agricultural lands, Tribal Lands, INA, rivers, and natural areas (USDA 2011, ASLD 2020, ADWR 2022, NHD 2022, FWS 2022).

Frequently Asked Questions

Where Does La Paz County's Water Come From?

The primary source of water in La Paz County is surface water (87%) with groundwater making up the remaining supply (13%).



Sources (Million Gallons/Day) for La Paz County and CRIT water (USGS 2015).

Groundwater

Most local groundwater in La Paz County is so-called "fossil water" that percolated into the ground many thousands of years ago and is considered nonrenewable because it is not replenished by nature.

Groundwater use is regulated by ADWR within **Active Management Areas (AMAs)**. La Paz County is not located within an AMA, but certain regulations of the **1980 Arizona Groundwater Management Act (GMA)** still apply.

- In the **Harquahala Irrigation Non-Expansion Area (INA)**, the expansion of irrigated acreage is prohibited. ADWR requires irrigators to report their water use if they pump groundwater at a rate greater than 35 gallons per minute.
- ADWR administers the **Adequate Water Supply Program.** An Adequate Water Supply determination requires demonstration that water supply meets water quality standards and is physically, continuously, and legally available for 100 years. The determination of adequacy or inadequacy must be provided to buyers before subdivided lots can be sold to the public.

Surface Water

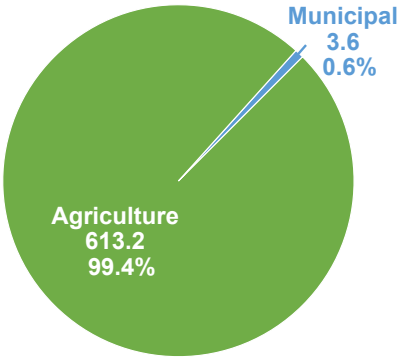
Most surface water in La Paz County comes from the Colorado River and its tributaries.

- Colorado River water is managed by the Bureau of Reclamation (Reclamation) and ADWR through Colorado River entitlements. Each entitlement holder manages their own Colorado River water use.

How Is Water Used in La Paz County?

Most water in La Paz County (99.4%) is used for agriculture, with municipal use (domestic and commercial) accounting for the remaining water demand (0.6%).

Agriculture. Agricultural production within La Paz County is made possible by surface water for irrigation on lands concentrated along the Colorado River — within the CRIT Reservation — and groundwater for irrigation in the eastern portions of the county. Hay is the top agricultural product accounting for approximately 20% of the state's total production. Other products include cotton and wheat.



Water use (Million Gallons/Day) in La Paz County and CRIT Lands (USGS 2015).

Colorado River. The Colorado River has long-standing cultural significance to the county and CRIT, as well as being an important recreational and economic asset. Proximity to the Colorado River is an important factor that makes tourism the top economic industry in La Paz County. It is estimated that $228 million is generated annually from recreation on or along rivers, lakes, and streams within the county.

The CRIT have a right to first priority entitlements of the Colorado River water totaling 662,402 acre-feet in Arizona (719,284 acre feet including California), which is almost one-third of the total allotment for the state.

Military. The US Army Yuma Proving Ground is located in La Paz and Yuma Counties. Their Colorado River entitlement provides water for military operations at the test center as well as the nearly 3,000 individuals employed or in-residence as military services members and families, civilians, or contractors.

What Water Challenges Does La Paz County Face?

Water Quantity Challenges

Colorado River Shortages. Due to improved snow pack during the winter of 2022-2023, Reclamation has declared a Tier 1 water shortage reduction for the Colorado River system for 2024; this will slightly increase Arizona's available water supply compared to the current (2023) Tier 2a shortage declaration.

- In 2019, a **Drought Contingency Plan (DCP)** was created to forestall shortages of Colorado River water and mitigate impacts to use. However, continued reductions could impact agriculture in La Paz County.
- To help the state fulfill its DCP obligations, the CRIT pledged to fallow farmland (take acreage out of production) from 2020-2022 to contribute 150,000 acre feet of water to maintain water levels in Lake Mead.

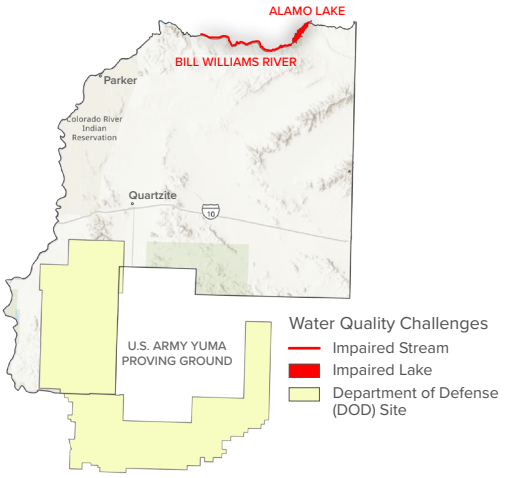
Groundwater Use. Between 2010 and 2015, the county experienced a 13% decrease in surface water use for irrigation while groundwater use grew by 47%. The rise of groundwater usage corresponds to an increase in large, foreign-owned farming operations (averaging over 2,000 acres in size) in central La Paz county. In some cases, wells are drilled to 1,000 feet in depth, pumping up to 3,000 gallons of groundwater per minute for irrigation.

Water Quality Challenges

Department of Defense (DOD) Site. The US Army Yuma Proving Ground is a DOD site currently under remediation for hazardous contaminants of concern related to DOD activities. Several strategies to address contamination of groundwater and soil were initiated in 2017 and ongoing monitoring is overseen by ADEQ.

Surface Water Impairment. ADEQ monitors surface water impairment. In La Paz County, a portion of the Bill Williams River and Alamo Lake are considered impaired due to ammonia, nitrogen, mercury, and pH.

Salinity Management. The Colorado River flows more than 1,400 miles. Through its course, the salinity of the river increases from 50 mg/L at its source to nearly 850 mg/L, from natural and industry-related sources. The significant salt load creates environmental and economic concerns for Colorado River water users and has been the focus of the Colorado River Basin Salinity Control Forum that has implemented measures to reduce the annual salt load of the Colorado River by 1.3 million tons since its formation in 1974.



Impaired waterbodies and DOD site (ADEQ 2022).

How Is La Paz County Moving Toward Sustainable Water Management?

Habitat Restoration. The Lower Colorado River Multi-Species Conservation Program is a cooperative effort among federal, public, private, and tribal partners that aims to balance the use of Colorado River water resources with the conservation of native species. Within La Paz County and CRIT lands, several conservation areas are part of this program which now features over 4,400 acres of native habitat.

Foreign Farming Limits. Continuing drought and reductions in Colorado River allocations have raised concerns about groundwater pumping outside INAs and AMAs. There is growing interest in adopting legislation to limit foreign farming operations on state land in response to the expansion of these industries in La Paz County.

Water Reuse. The CRIT and Town of Parker operate a wastewater treatment facility that returns 812 acre feet of treated wastewater to the Colorado River from commercial, industrial, and residential customers.

Water Conservation. Efforts are in place in La Paz County to increase efficiency in water delivery and reduce water use for landscape irrigation. Water system infrastructure updates, more efficient forms of irrigation, and conversion of existing turf to low water use landscapes are all examples of strategies that produce water savings.

Federal legislation signed in 2023 grants the CRIT full leasing authority over their Colorado River water entitlements in Arizona. The CRIT have the opportunity to alleviate some drought stress within the state while generating revenue for agriculture infrastructure improvements and Tribal services.

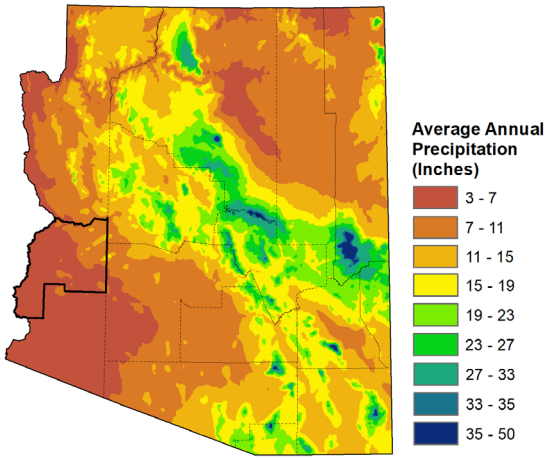
What Does La Paz County's Future Water Situation Look Like?

The state of Arizona has been experiencing drought conditions for over 20 years. A hotter and drier future means increased pressure on competing demands for county water resources. Drought and climate change pose significant risks to La Paz County, including:

- Unpredictable weather patterns, including more severe storms and flooding, as well as increasing temperatures, create challenges for communities and agriculture.

Rapidly declining groundwater levels due to decades of overuse, drought, and the rapid expansion of large-scale agriculture affect rural communities in La Paz County. Current groundwater levels are below the drilled depth of many residential wells.

- Preserving rural lifestyles and quality of life and protecting Arizona's economic health require county and state management of groundwater resources.



*Mean Precipitation 1981-2010 (**PRISM Climate Group 2016**).*

Because the CRIT hold a first priority Colorado River water entitlement, their recent authority to lease, exchange, and store currently unused water with a history of use presents an opportunity for off-reservation water users in Arizona. New partnerships and cooperation will provide both long-term benefits to the CRIT and entities subject to water delivery reductions due to ongoing Colorado River water supply shortages. This water supply will help to mitigate future imbalances between supply and demand.

Additional Resources

The WRRC compiles and periodically updates a list of additional resources related to water in Arizona. These resources range from statewide information to information available from local watershed groups and non-profits. Visit the **WRRC website** to see a complete list. The resources used for this factsheet are listed below.

WRRC Water Map

A reliable and concise visual representation of Arizona's water resources. This map includes information on land ownership, water use by groundwater basin, annual precipitation, subsidence and groundwater storage, annual water use by region, supply and demand, Colorado River apportionment, and more. **Map Info**

Statewide Water Resources

- **ADEQ Emerging Contaminants Report**: An assessment of the emerging contaminants in Arizona's water supplies.
- **ADEQ Impaired Water Information**: Maps and information about the impaired surface waters in the state.
- **ADEQ DOD Sites**: A list and descriptions of DOD sites across the state.
- **ADWR Community Water System Map:** A map of water providers and their service areas.
- **Cooperative Extension Water Wise**: Information on water saving techniques for Arizona relating to irrigation, gray water, and rainwater harvesting.
- **Desert Water Harvesting Initiative**: Resources for local water harvesting and Green Infrastructure.
- **PRISM database**: Data on historic and current climate patterns, used for the precipitation map of Arizona.
- **USGS Ground Water Atlas of the United States**: Information about aquifers throughout the US.
- **Tribal Water Rights**: Information on Tribal water usage in the Colorado River basin and the barriers to that usage.

Regional Management and Planning

- **Accounting Surface Along the Lower Colorado River**: USGS report that defines the Accounting Surface boundaries and Colorado River Aquifer.
- **Audubon Arizona:** Economic Impact of Arizona's rivers, lakes, and streams on statewide and local economies.
- **Colorado River Management:** Information on regulations and allocations of Colorado River Water from ADWR.
- **Drought Contingency Plan (DCP)**: Collaborative agreement designed to protect the Colorado River system.
- **Lower Colorado River Multi-Species Conservation Program**: Conservation effort balance Colorado River water use with conservation of native habitat.

County Specific Water Resources

- **Arizona County Agricultural Economy Profiles:** Agriculture, water use, and regional economic data by county.
- **Colorado River Basin Salinity Control Forum:** Federal and state partnership between along the Colorado River.
- **Tribal Water Study Report:** Bureau of Reclamation and Ten Tribes Partnership report that describes current Tribal water use along with challenges and opportunities.

TRIF Initiative

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