Albuquerque Bernalillo County
Water Utility Authority

WATER 2120
SECURING OUR WATER FUTURE

Water 2120: Securing Our Water Future

PLAN SUMMARY & BACKGROUND

The Plan is –

Albuquerque Bernalillo County Water Utility Authority

- The responsible, long-term course of action that our water situation demands
- Unique in its 100-year planning horizon (although a century is very short in "water years")
- A tool that takes multiple scenarios for growth and water availability into account
- A well-balanced strategy that focuses on existing resources, with acquisition of new supplies only as a last resort
- A reproducible, adaptive management approach that emphasizes resiliency and can guide decision-making for decades to come
- Designed to meet the projected demand
- Data-driven and based on best available science
- Built on the same policies implemented in the 1997 and 2007 WRMS

The Plan is Not –

- About drying up agriculture
  - Continued acquisition of pre-1907 water rights is not required by the Plan, and is prohibited by the proposed policy.
- About rate increases
  - Plan implementation will not affect rates.
- "Pro-" or "Anti-" Growth
  - The Plan makes demand projections based on different future growth scenarios.

The Public Process

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- Board presentations (5 over 1 year)
- TCAC presentations (14 over 2 years)
- Public meetings (2 in February)
- Customer conversations (4 in May and June)
- Neighborhood coalition meetings (4 in July and August)
- Town Hall (July 22)
- Approximately 600 members of the public have been involved
- 5 technical report chapters published on the web site (nearly 300 pages)
- Technical conference presentations
  - American Water Resources Association
  - National Ground Water Association
  - American Ground Water Trust

How was the Plan Developed?

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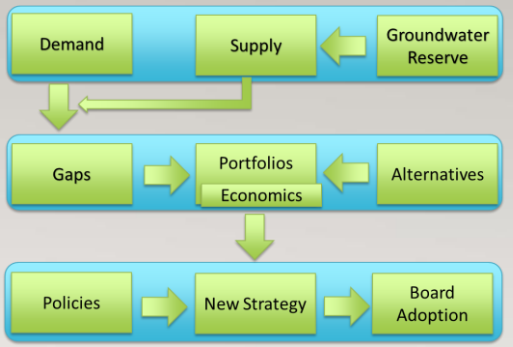
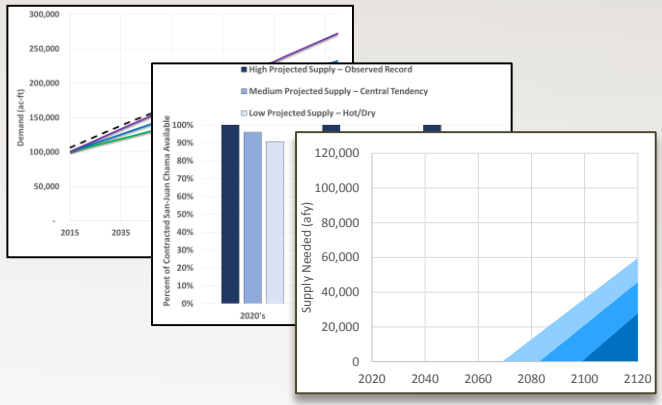
- Demand – How much water do we need?
- Supply – How much water do we have?
- Gaps – Do we need additional supply?
- Filling the Gaps – What will the new supplies be?
- Key Elements:
  - Additional conservation
  - Watershed restoration
  - Groundwater reserve management (more conservative than current practice)
  - Based on observational data
  - Used best available climate change science





Building on Past Success

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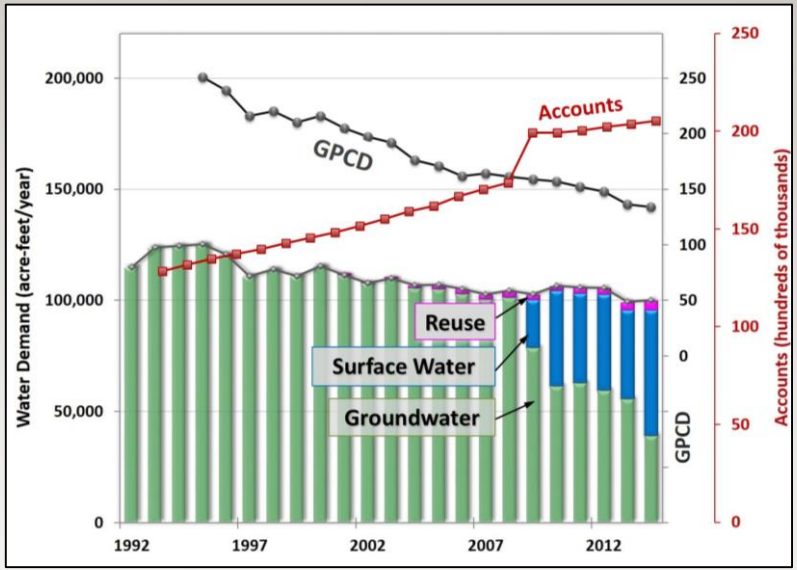
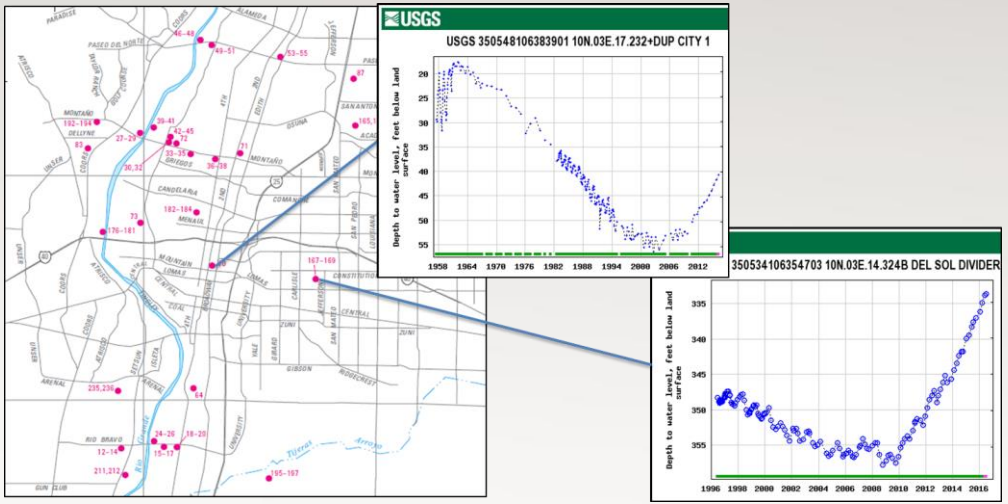


- GPCD and demand have decreased significantly
- The aquifer is rising
- Primary source of supply is now surface water
- Reuse and ASR projects completed



Demand: Projections Take Different Growth Scenarios into Account

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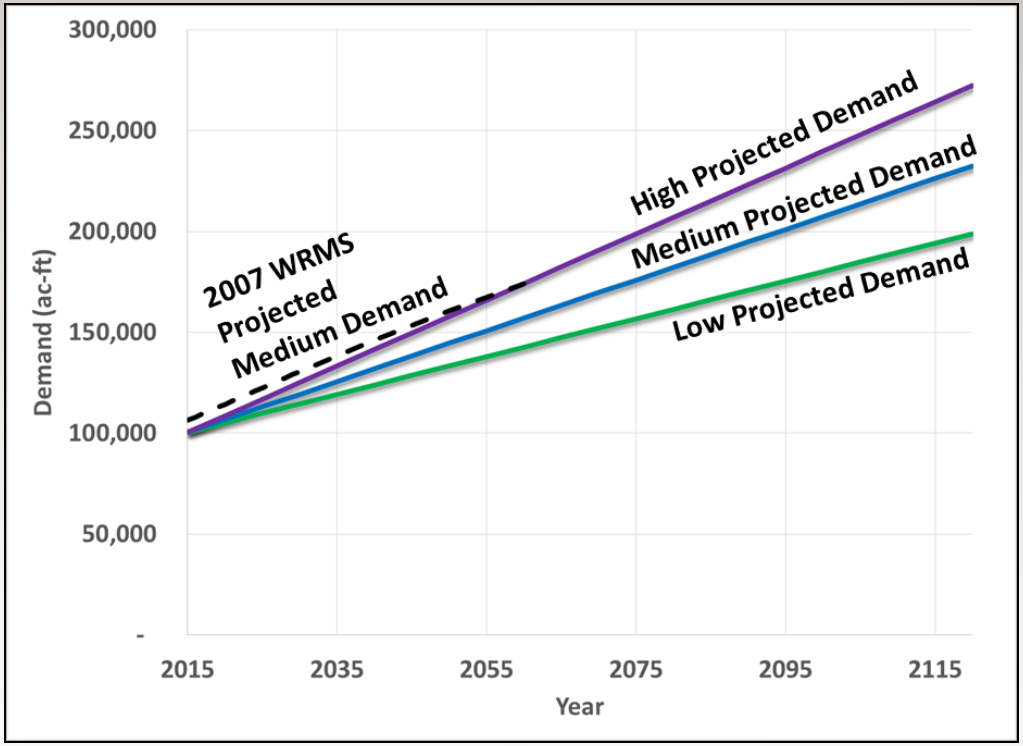

	Low Population	Medium Population	High Population
2020	*695,478*	*706,180*	*718,752*
2030	*757,477*	*789,305*	*827,020*
2040	*819,477*	*872,430*	*935,288*
2050	*881,476*	*955,555*	*1,043,556*
2060	*943,475*	*1,038,680*	*1,151,825*
2070	*1,005,475*	*1,121,805*	*1,260,093*
2080	*1,067,474*	*1,204,929*	*1,368,361*
2090	*1,129,473*	*1,288,054*	*1,476,629*
2100	*1,191,473*	*1,371,179*	*1,584,898*
2110	*1,253,472*	*1,454,304*	*1,693,166*
2120	*1,315,472*	*1,537,429*	*1,801,434*

Supply: Taking Different Climate-Change Scenarios into Account

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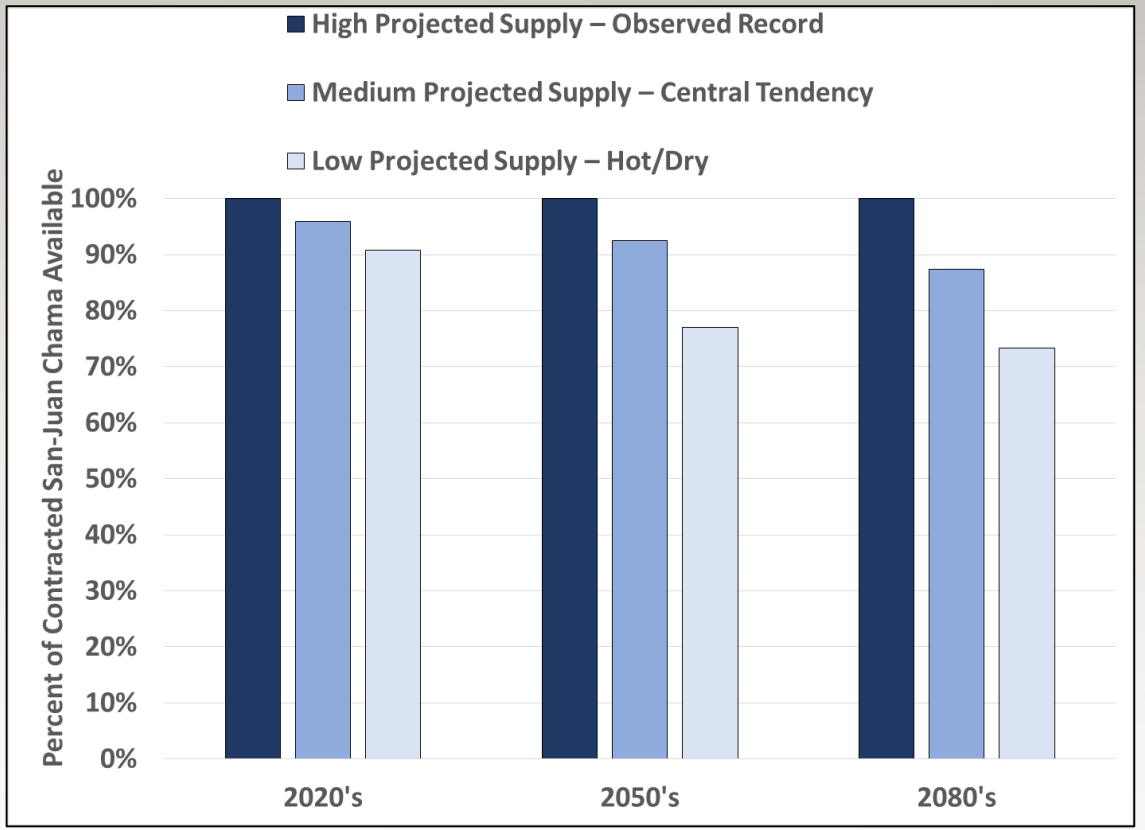

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Groundwater Reserve Management

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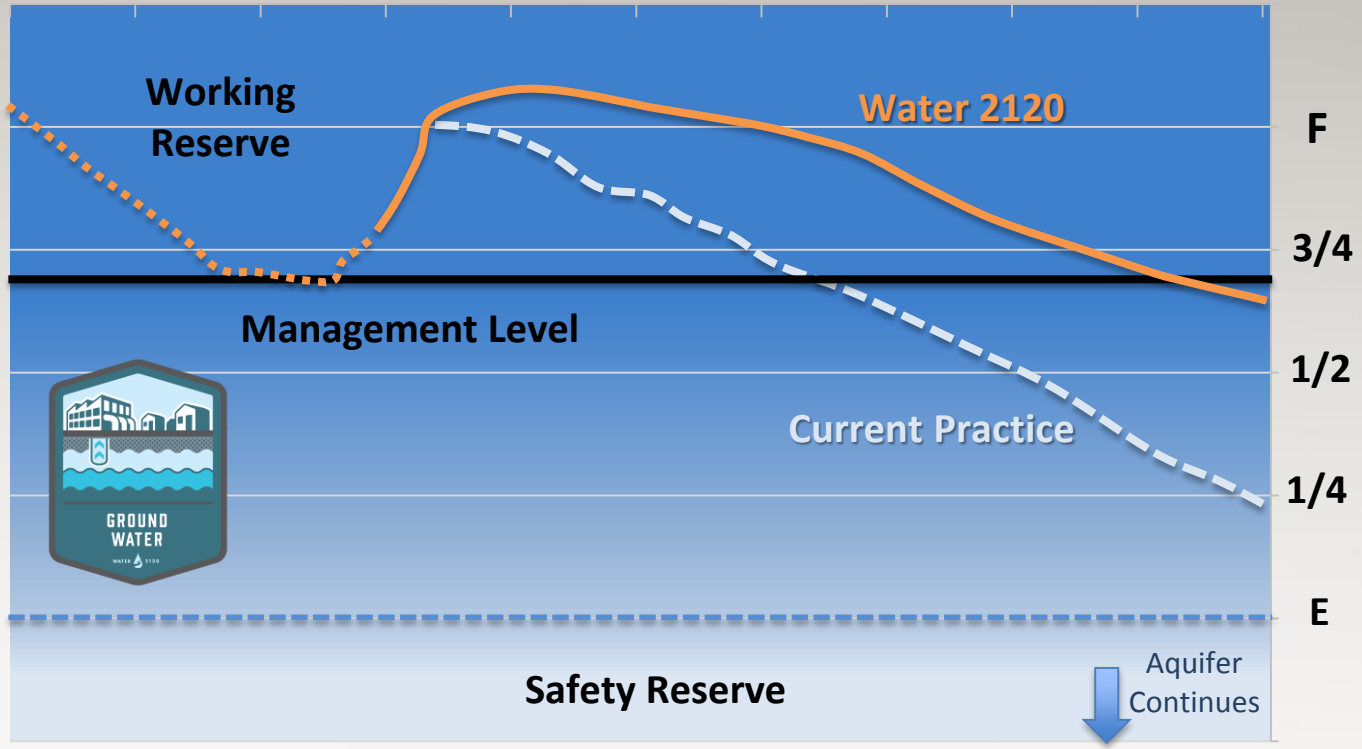

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Current Practice

Current Projected Supply Need

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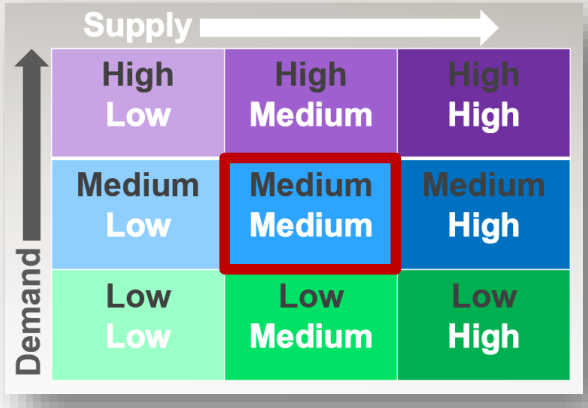
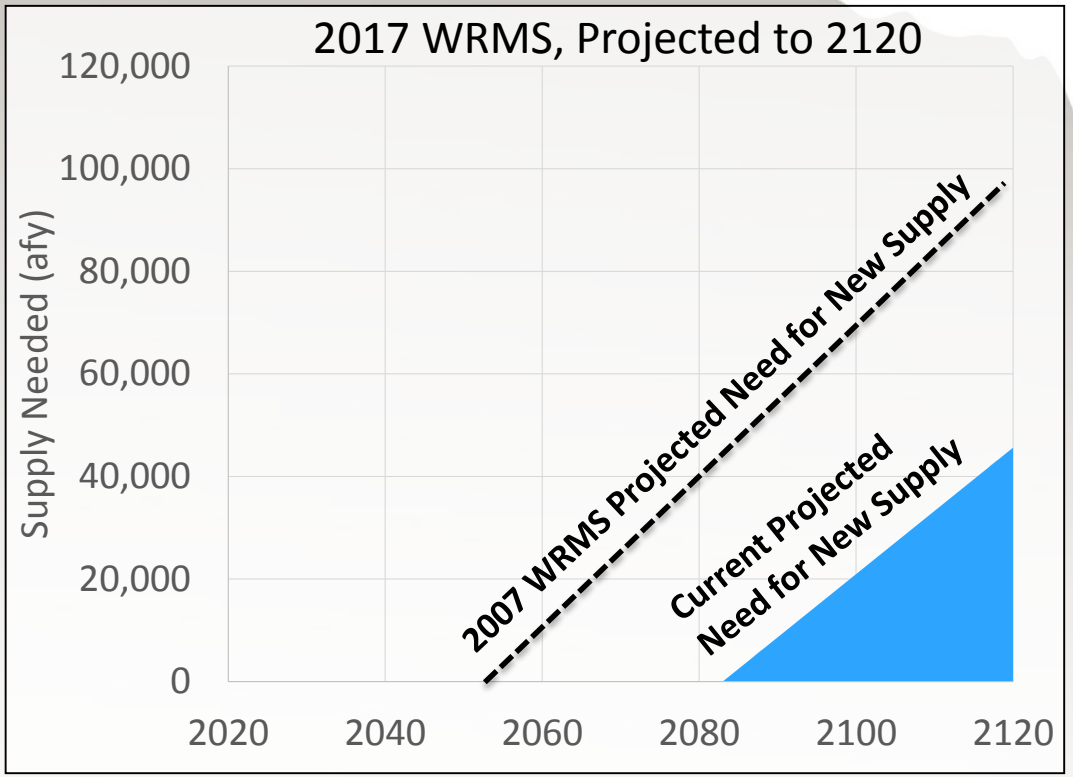
- Medium demand
- Medium supply (central tendency climate change)





Meeting the Demand:

Supply Alternatives that Eliminate the Gap Under Medium Demand/Climate Scenarios

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- Responsible management of **existing groundwater and surface water supplies**
- Increased **conservation** – 110 GPCD in 20 years
- More and Better **Reuse**
  - Connect North I-25 Nonpotable to Southside Reuse System
  - Indirect Potable Reuse
- Expansion of **ASR** and/or new **storage**
- **Storm water capture**
- **Watershed management**

Estimated Timeline and Costs

(RBCCM analysis shows no impact to existing rate revenue plan)

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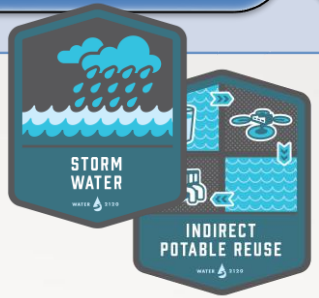
2020	2035	2045	2055	2065
ASR $10M	Connect Northside I-25 to Southside (Reuse) $23M	IDPR Phase I Storm Water Capture $47M	Westside Reuse Off-Channel Storage IDPR Phase II $216M	Eastside Reuse IDPR Phase III $127M



What's Next?

- Incorporation of *Water 2120* as policy
- Groundwater Management Plan development
- Reuse and Recycling Plan development
- Conservation Plan development
- Adaptive Management Approach Plan development
- Storage Plan
- Environmental Plan
- Education program (high school and college)
- *A Day Without Water* event with the US Water Alliance (Sept. 15)

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Stakeholder Support

- Congresswoman Michelle Lujan-Grisham
- Technical Customer Advisory Committee (TCAC)
- Bureau of Reclamation
- Corps of Engineers
- The Nature Conservancy
- Rio Grand Water Fund
- NM Interstate Stream Commission
- Business Water Task Force
- MRGCD
- NAIOP
- Albuquerque Economic Development
- NM Home Builders Association
- Albuquerque Economic Forum
- Albuquerque Chamber of Commerce
- New Mexico Water Collaborative

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U.S. Department of the Interior Bureau of Reclamation

NEW MEXICO WATER COLLABORATIVE

Middle Rio Grande Conservancy District

Greater Albuquerque Chamber of Commerce

The Nature Conservancy

Office of the State Engineer
nm
Interstate Stream Commission

ALBUQUERQUE
ECONOMIC DEVELOPMENT

The Nature Conservancy
Protecting nature. Preserving life.
RIO GRANDE WATER FUND
A Wildfire and Water Source Protection Project

NAIOP
COMMERCIAL REAL ESTATE DEVELOPMENT ASSOCIATION
NEW MEXICO CHAPTER

Policy A. Water Budget Planning and Reporting

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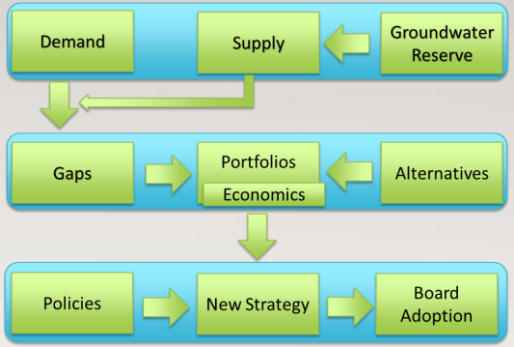
The Authority shall utilize an adaptive management approach to water resources planning and reporting. The water budget established shall be reported annually to the Authority Board and updated no less than every five years.



Key Sub-Policy:

1. The Authority should update the Water Resources Management Strategy using the best available science following the Adaptive Management Approach (AMA) every ten years or more frequently as requested by the Authority Board.

Policy B. Fully Utilize and Protect Existing Water Rights and Resources

Albuquerque Bernalillo County Water Utility Authority

The Authority shall protect its right to fully use its San Juan-Chama and Rio Grande surface water as a direct water supply and transition to other renewable supplies when available and appropriate. The Authority shall limit the use of groundwater except when exercising wells, providing supply during peak demand periods or when surface water supplies are not available (e.g., droughts).

Key Sub-Policy:

3. The Authority should utilize all available return flows as part of a reuse and recycling plan that consists of aquifer storage and recovery, indirect potable and non-potable reuse.

Policy C. Establish and Maintain a Groundwater Reserve

Albuquerque Bernalillo County Water Utility Authority

The Authority shall establish a groundwater reserve that maintains sufficient water in aquifer storage to provide water supply during catastrophic drought or other unforeseen, largely unquantifiable events. The groundwater reserve shall be accessible without causing adverse impacts to the aquifer and shall be partitioned into a safety reserve and a working reserve. The safety reserve is that portion of the groundwater reserve prudently maintained for emergency use only, while the working reserve is the balance of the groundwater reserve above the safety reserve. A management level goal of aquifer drawdown shall be set within the working reserve. The management level provides explicit operational guidance to the implementation of Policy B in that it balances full utilization of the Authority's existing water rights with no long-term change in groundwater storage.

Key Sub-Policies:

1a. Groundwater Reserve. This reserve extends from fifty feet of drawdown to three hundred feet of drawdown, the latter constituting the threshold of irreversible subsidence.

1b. Safety Reserve. That portion of the Groundwater Reserve extending from two hundred and fifty feet of drawdown to three hundred feet of drawdown.

1c. Working Reserve. The residual portion of the Groundwater Reserve extending from fifty feet of drawdown to two hundred and fifty feet of drawdown .

1d. Management Level. This is set at one hundred and ten feet of drawdown which would maintain seventy percent of the Working Reserve.

Policy D. Update and Maintain the Water Conservation Strategy

Albuquerque Bernalillo County Water Utility Authority

Implementation of the Water Conservation Plan has been a key aspect of the success of the 2007 Water Resources Management Strategy. Continued progress in conservation to achieve a gallons per capita per day (GPCD) water usage of 110 will further extend our water supplies even in the face of climate change. The Authority shall utilize the conservation program to reduce GPCD to 110 by 2037.

Key Sub-Policy:

2. The Authority shall update the Water Conservation Plan consistent with the 110 GPCD goal.

Policy E. Support Regional Water Resources Planning and Management

Albuquerque Bernalillo County Water Utility Authority

The Authority shall pursue efforts to enhance regional water resources planning and management activities within the Middle Rio Grande Valley. The Authority shall work cooperatively with its neighbors—the Pueblos, the Middle Rio Grande Conservancy District, Middle Rio Grande (MRG) Valley cities and counties, and involved state and federal agencies. The Authority shall continue to be involved in and monitor the progress of regional and interstate water management initiatives that may affect the Authority and the region.

Key Sub-Policies:

3. When appropriate, the Authority should share their experience in groundwater management to assist other planning efforts in transitioning to renewable supplies and to limit long-term groundwater usage.
5. The Authority shall collaborate with the Middle Rio Grande Conservancy District (MRGCD) to develop and implement a plan to support and promote agriculture in the Middle Rio Grande.
6. The Authority shall promote and develop green infrastructure including storm water infrastructure to promote efficient water resources management and aquifer storage.

Policy F. Utilize Conjunctive Management and Diversify Water Resources Portfolio

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The Authority shall enhance the resiliency and sustainability of the water supply by effectively combining the use of surface water, recycled and reclaimed water, the shallow and deep aquifer, and other supplies as needed to meet current and future demand.

Key Sub-Policies:

1. The Authority shall use various sources of supply (potable and contaminated groundwater, surface water, reuse water, etc.) to meet demand over the planning period. The quality of the water supplied will be matched to its use to reduce treatment costs and to optimize available excess supplies when available.
7. The Authority should develop and implement the use of storm water and native water flood flows when supplies are available considering permitting and environmental criteria along with Rio Grande Compact Compliance.

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Policy G. Develop and Implement Long-Term Water Resources Acquisition Plan

The Authority shall pursue a portfolio of potential additional sources of supply.

Key Sub-Policies:

1. The Authority should seek legislation to allow for water leasing and banking on a local, regional and interstate basis.
5. The Authority shall discontinue acquisition of native pre-1907 water rights.

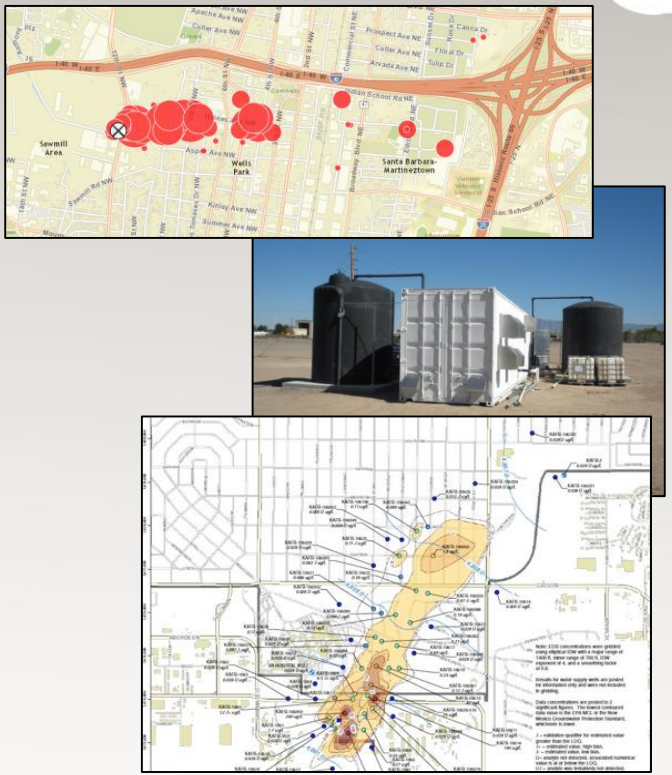
Policy H. Implement the Water Quality Protection Policy and Action Plan

Albuquerque Bernalillo County Water Utility Authority

The Authority shall take steps to fully implement the Water Quality Protection Policy and Action Plan.

Key Sub-Policy:

1. The Authority should continue to be proactive in identifying potential water quality threats to surface and groundwater resources and should implement programs to the extent possible to protect the water resources in the MRG.



Policy I. Protect and Enhance Storage of Native, San Juan-Chama Water and Other Water Resources

Albuquerque Bernalillo County Water Utility Authority

The Authority shall protect the rights to store native, San Juan-Chama and other water resources including reuse and recycled water in a variety of storage facilities including Heron, Abiquiu and Elephant Butte Reservoirs. The Authority should seek additional off-channel storage capacity locally or within the Middle Rio Grande as needed to maximize the use of excess wastewater or other water resources in the future.

Key Sub-Policies:

2. The Authority should examine the need for additional short and long-term off-channel storage locally and within the MRG to be prepared when excess San Juan-Chama water, native flood flows, or other water resources are available.
3. The Authority should consider the aquifer as a reservoir to be used conjunctively with above ground storage to optimize the use of current and future water supplies.
4. The Authority should develop and implement a Rio Grande Compact pool within the Authority storage space working with the Interstate Stream Commission (ISC) and the Office of the State Engineer (OSE).
5. The Authority should continue providing space in Abiquiu Reservoir for environmental purposes.

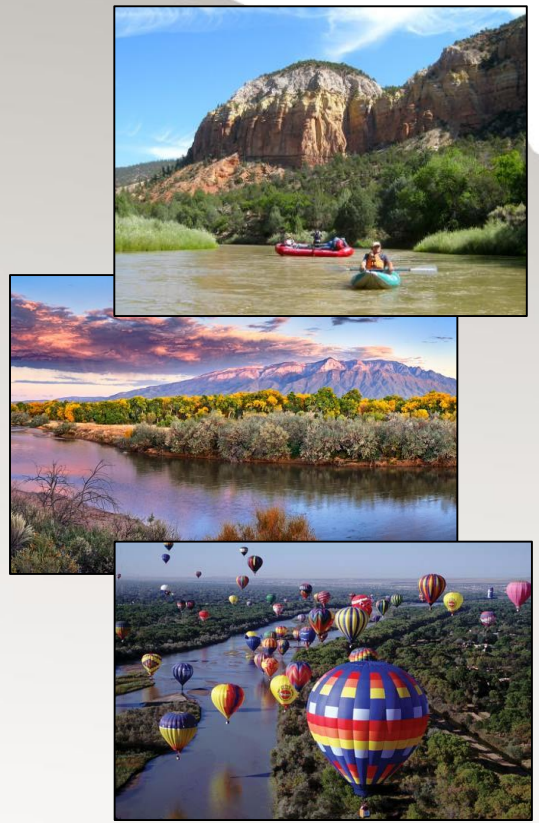
Policy J. Protect Valued Environmental and Cultural Resources

Albuquerque Bernalillo County Water Utility Authority

The Authority shall identify and provide resources to preserve and protect valued environmental resources of the region. The Authority shall work independently and in partnerships to ensure that its activities do not irreparably harm the aquifer, river, Bosque, source watersheds and the cultural resources.

Key Sub-Policies:

3. The Authority should consider the impacts on environmental and cultural resources when implementing new water resources projects and take appropriate steps to mitigate unavoidable effects.
4. The Authority should work collaboratively and provide funding to protect and restore watersheds of the San Juan-Chama and Rio Grande.



Policy K. Preserve and Enhance the Quality of Life in the Region

Albuquerque Bernalillo County Water Utility Authority

The Authority seeks a Water Resources Management Strategy that will preserve and enhance the quality of life within the region. The implementation of the Authority's water resources strategy will take advantage of opportunities to enhance the quality of life in the region whenever possible.

Key Sub-Policy:

2. The Authority should continue to reduce its carbon footprint by taking advantage of opportunities to reduce the energy usage of current infrastructure and by building new infrastructure with energy efficiency in mind.

Policy L. Link Land Use Planning with Water Management

Albuquerque Bernalillo County Water Utility Authority

The Authority shall coordinate and cooperate with the City, County and all other entities with planning authority to integrate water management policies with land use decisions. The Authority recognizes that managing the use of groundwater while conserving and using existing water resources including maximizing the use of excess resources when available should significantly reduce acquisition of new supplies to serve future customers.

Key Sub-Policy:

1. The Authority should work with the City and County to update the Albuquerque/Bernalillo County Comprehensive Plan and/or other plans to ensure that system expansion is concurrent with infrastructure service levels and that the extension of facilities and services be phased in an efficient and orderly manner.

Policy M. Encourage and Facilitate Public Involvement

Albuquerque Bernalillo County Water Utility Authority

The Authority shall continue its education programs for both children and adults to keep the public informed about the choices and tradeoffs involved in making water management decisions and invite public comment and participation in implementation of these policies.

Key Sub-Polices:

1. The Authority shall continue its water resource education programs and field trips to teach children the importance, value and appropriate use of water in the region.
6. The Authority shall continue its process of involving the public in updates to the Water Resources Management Strategy in all future updates to the strategy.