Albuquerque Bernalillo County
Water Utility Authority

DWP Operations
WRMS 2017 Update

ABCWUA BOARD MEETING
MAY 18, 2016

DWP Project – Utilization/Operational Issues

Albuquerque Bernalillo County Water Utility Authority

- SP-4830 Permit Conditions (Nos. 2, 8, 9, 12, 13)
- Well exercising
  - Need to “exercise” wells at on the order of 10 MGD to prudently maintain well capacity and protect investment
- Water quality
  - Diversion is ceased when North Diversion channel flow is high or, for example, after upstream fires that resulted in very high ash load or for high sediment loads after storms
- Environmental - Biological
  - Reduce flows in May during spawning, as needed
- WTP maintenance

SP-4830 Condition 9 Theoretical Operations – with seasonal demands

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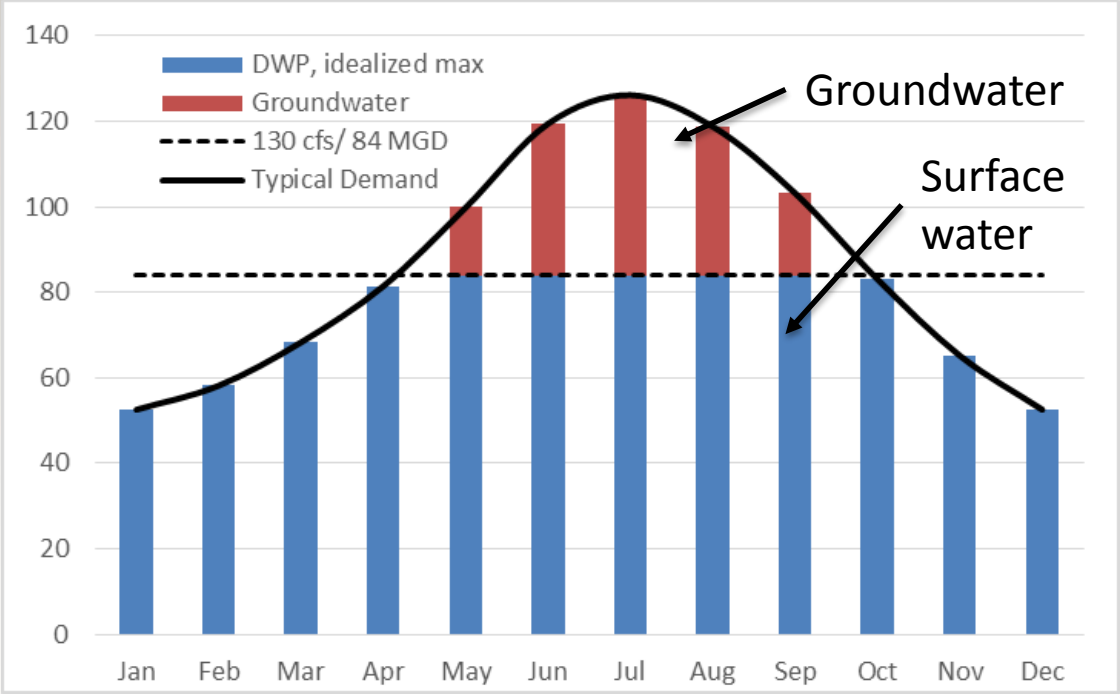
- Doesn't account for
  - DWP losses (1-2%)
  - Permit compliance



SP-4830 Conditions 8 & 9

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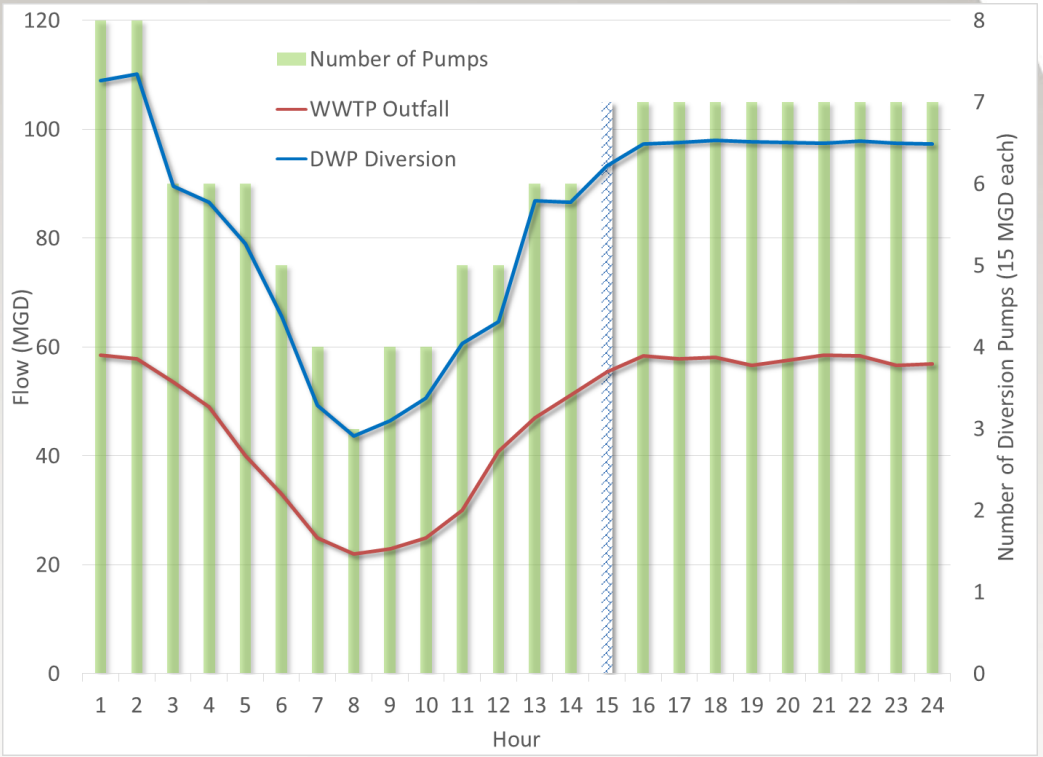
"…The amount of native Rio Grande surface water diverted under this Permit shall not exceed 50% of the total amount of water diverted at any time."

"An amount of water equivalent to the amount of native surface water diverted under this permit shall be simultaneously returned…"



SP-4830 Conditions 12 & 13

"…not less than 122 cfs in the channel of the Rio Grande between the point of diversion and the Albuquerque Central Avenue gage."

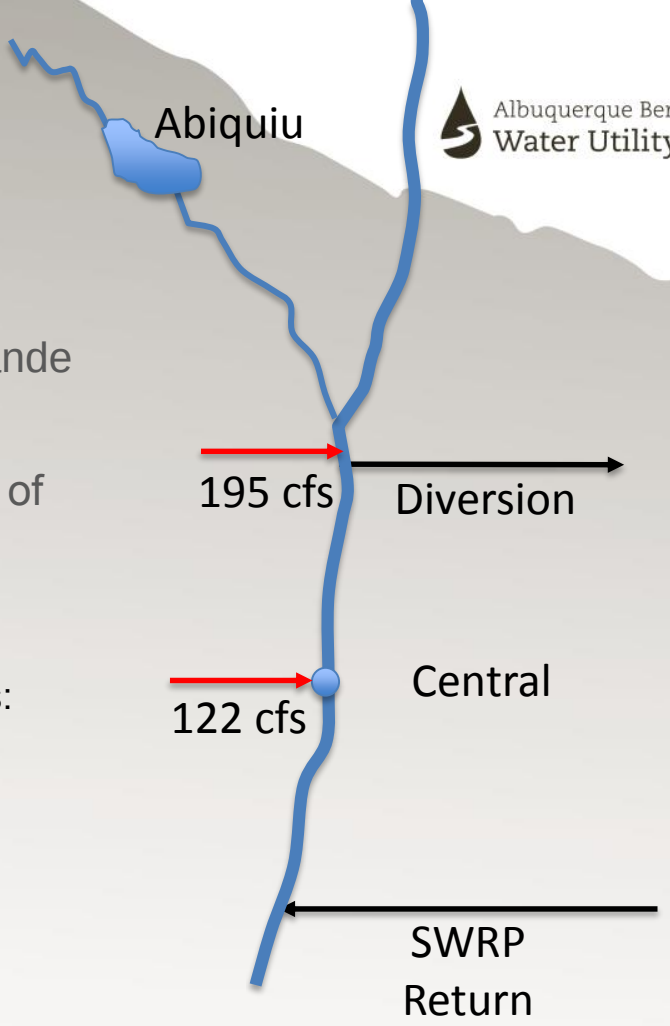
"…shall be curtailed when 'native' flow in the channel of the Rio Grande is less than 195 cfs, measured immediately above the storage pool at the point of diversion…"

Shutdowns due to these limitations over the last 6 years:

- 2011 – Sept, Oct
- 2012 – Sept, Oct
- 2013 – July, Aug
- 2014 – Sep, Oct
- 2015 – Sept, Oct

totaling about 7 months–

- >10% of potential supply



Well Exercising– Example

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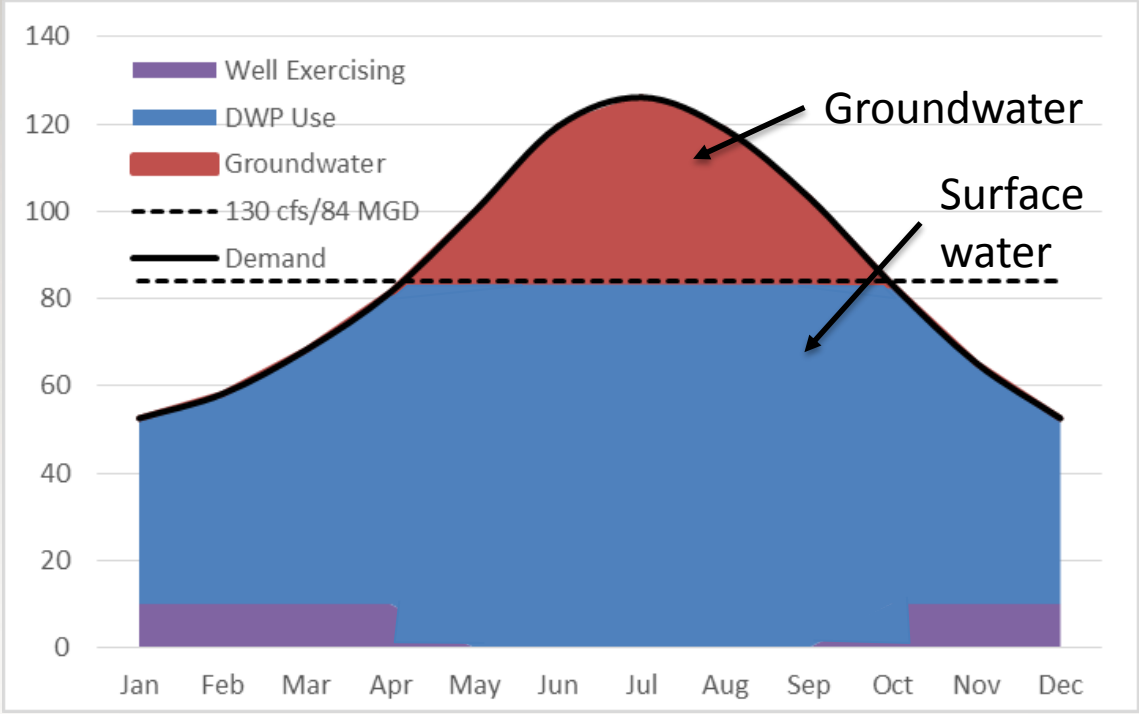
Typical well exercising at about 10 MGD



DWP Constraints – Example Year Summary, 2015

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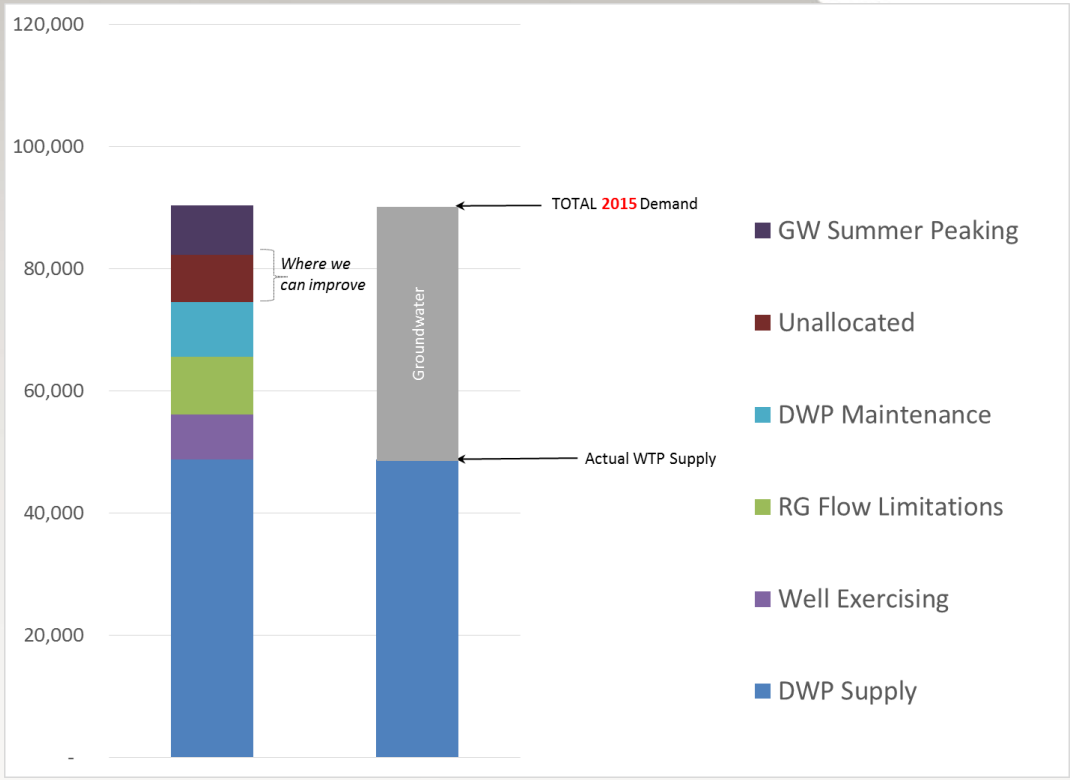
- Demand = 90,000 AF
- WTP Supply = 49,000 AF
  - Shut downs due to maintenance in January, February and October
  - Exercising wells in winter



WRMS Current Status

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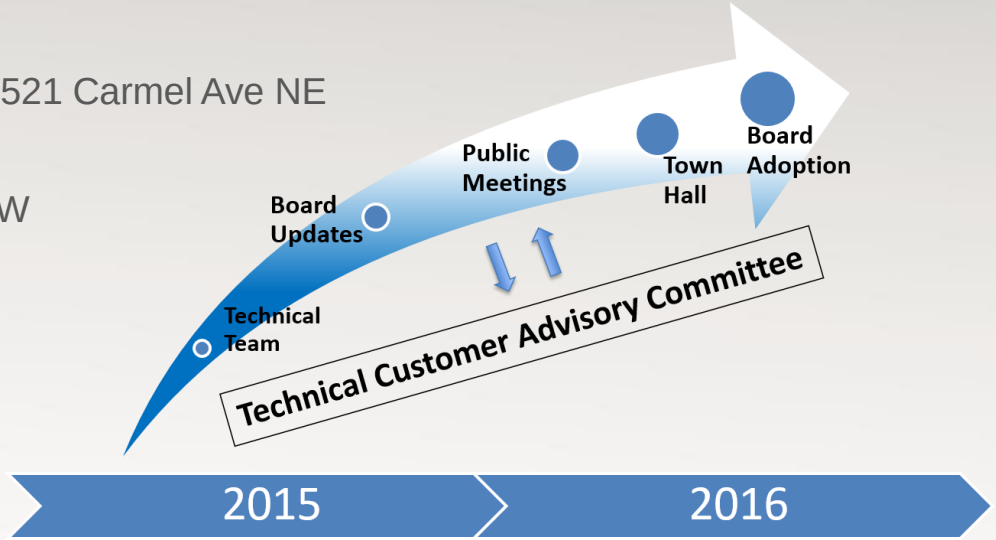
Customer Conversations

- Tuesday June 14
  Manzano Mesa Multigenerational Center, 501 Elizabeth St SE
- Thursday, June 16
  Don Newton/Taylor Ranch Community Center, 5900 Kachina St NW
- Wednesday, June 29
  North Domingo Baca Multigenerational Center, 7521 Carmel Ave NE
- Thursday, June 30
  National Hispanic Cultural Center, 1701 4th St SW

- Town Hall, July 22
  Marriott Uptown



Where Are We Now?

Albuquerque Bernalillo County Water Utility Authority

- Implementation of the 1997 and 2007 strategies has put us in a good position and mitigated past issues
- Projects such as the DWP, Reuse, and ASR have diversified and strengthened our water supply portfolio
- We need to update the strategy and continue working towards a more sustainable future
- Our approach to groundwater management is unique and more conservative than the past

Purpose of this Presentation

Albuquerque Bernalillo County Water Utility Authority

- Review of supply gaps
- Ranking of alternatives
- Supply Portfolio 1
- Next steps

Road Map for the Process

Framework for the Future

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Population and Demand

Medium Growth Projection

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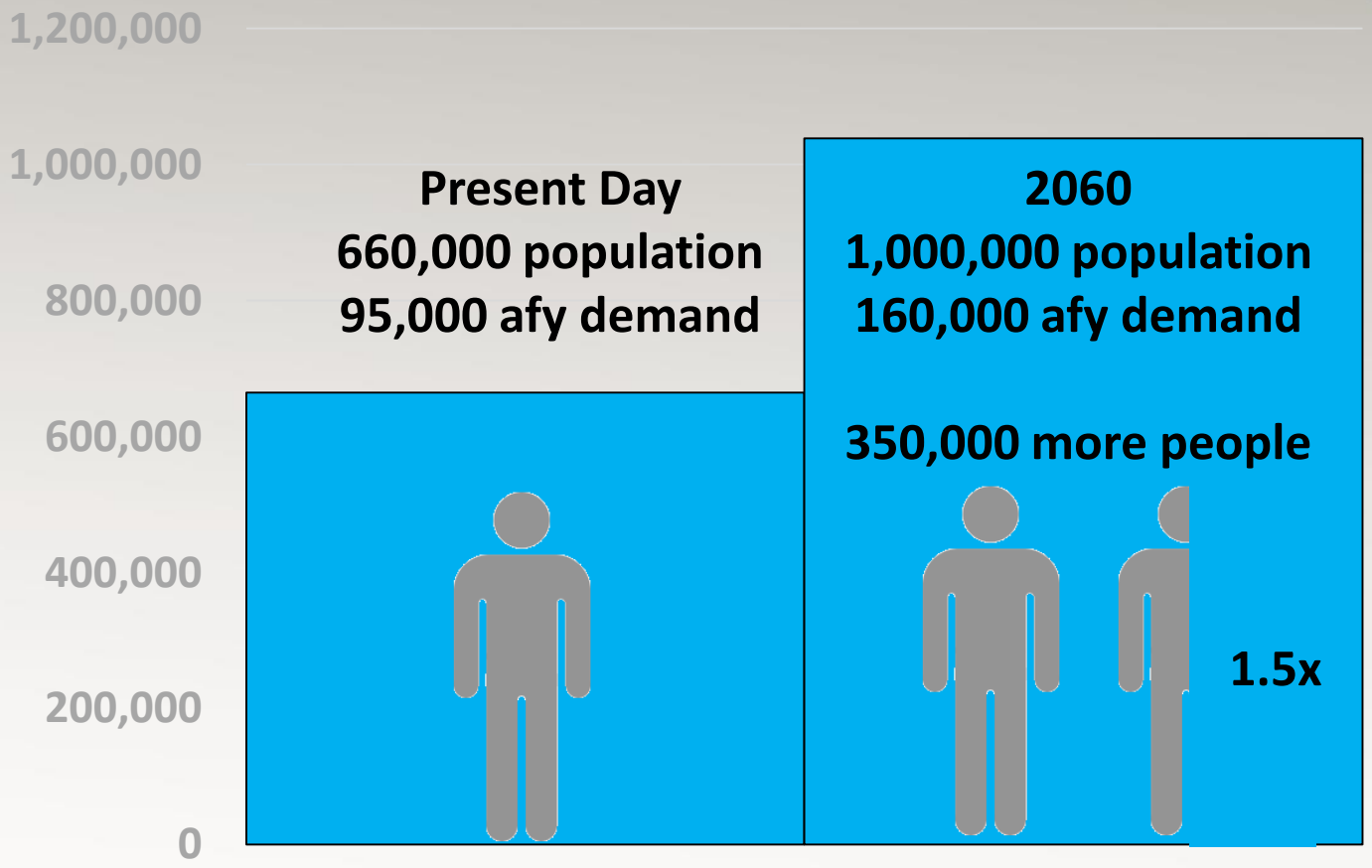

- Based on Water Authority data
- Consistent with BBER, MRCOG projections
- ~1% growth
- Based on 135 GPCD

Range of Projected Supply Need:
Medium Demand

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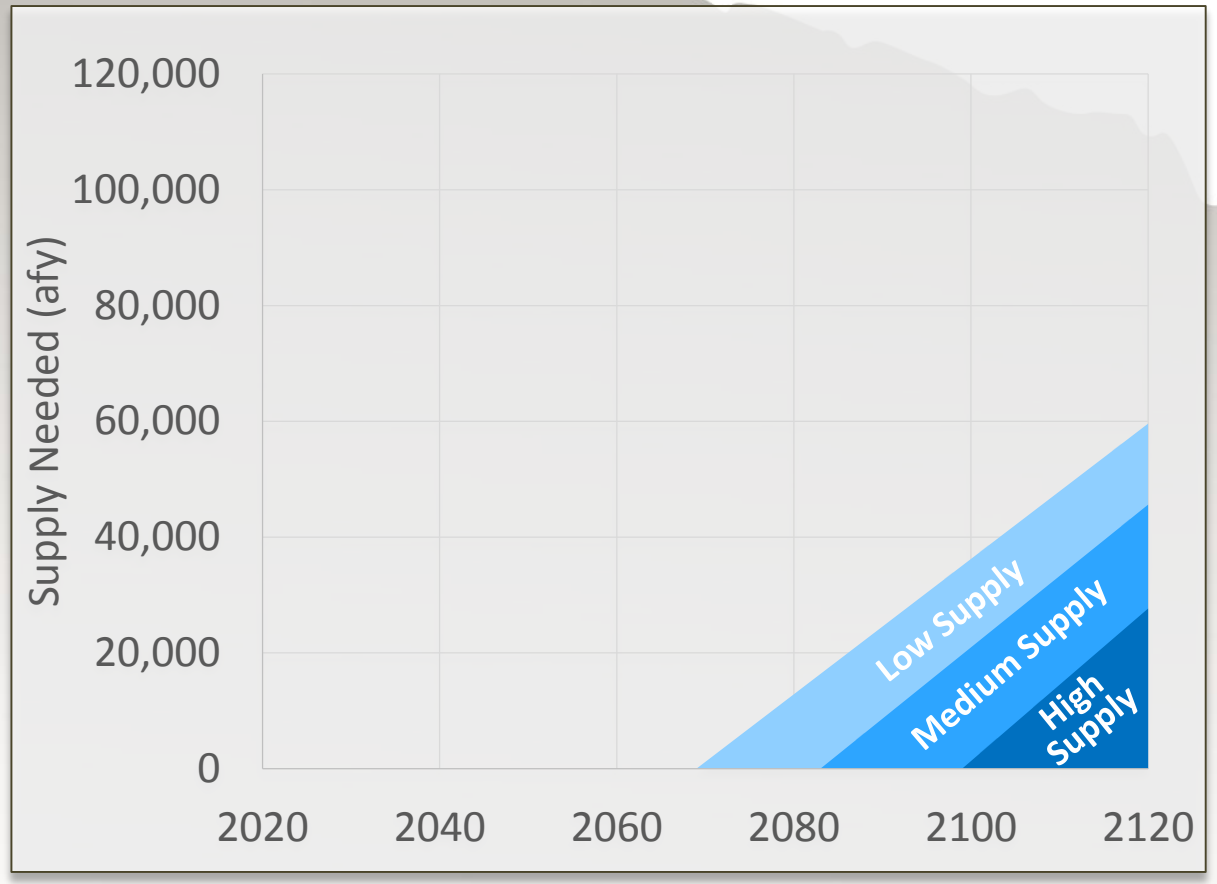
Demand \ Supply			
	Supply		
	High	High	High
High	Low	Medium	High
	Medium	Medium	Medium
Medium	Low	Medium	High
	Low	Low	Low
Low	Low	Medium	High



Ranking of Alternatives

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Water Utility Authority

Alternative	Rank	Score	Yield	Reliability	Frequency of Availability	Regional Impact	Technical Feasibility	Permitting	Time to Implement	Cultural, Historical, and Aesthetic Values	Socioeconomic Impact	Ecosystem Protection	Carbon Footprint
110 gpcd in 20 years	1	19.0	1.0	1.0	1.0	3	1	1	4	1	2	3	1
120 gpcd in 10 years	2	21.0	2.5	2.5	1.0	3	1	1	3	1	2	3	1
Excess San Juan-Chama water	3	21.4	1.0	4.9	4.5	2	1	1	1	1	1	2	2
Future storage fee water	4	23.7	4.9	5.0	2.8	2	1	1	1	1	1	2	2
Lease or short-term purchase of additional San Juan-Chama water	5	23.7	4.9	4.9	1.0	3	1	1	1	2	1	2	2
Expand and connect Southside reuse system to North I-25 Non-Potable Project	6	27.4	4.6	4.6	1.1	3	2	2	2	1	1	3	3
Large-scale ASR	7	27.7	4.3	4.3	1.0	3	2	3	2	1	1	3	3
Watershed management -San Juan River tributaries	8	28.0	5.0	5.0	5.0	2	1	1	1	1	1	2	4
Watershed management - Rio Grande main stem and/or tributaries below Otowi	8	28.0	5.0	5.0	5.0	3	1	1	1	1	1	1	4
Storage Large - 10,000	10	28.9	4.0	4.8	1.0	3	3	2	3	3	1	2	2
Storage Medium - 5,000	11	29.4	4.5	4.9	1.0	3	3	2	3	3	1	2	2
Storage Small - 3,000	12	29.7	4.7	5.0	1.0	3	3	2	3	3	1	2	2
Outdoor-only conservation (10 gpcd reduction over 30 years)	13	30.7	3.3	3.3	1.0	3	2	1	5	3	3	5	1
Rio Grande Compact relinquishment credit water	14	30.7	4.3	5.0	4.4	2	1	4	3	1	1	3	2
Westside expansion (Bosque reuse/Calabacillas), with ASR	15	30.9	4.9	4.9	1.1	3	3	3	3	2	1	2	3
Eastside reuse (Tijeras), with ASR	15	30.9	4.9	4.9	1.1	3	3	3	3	2	1	2	3
Water banking/leasing/forbearance	17	30.9	4.3	4.7	2.9	3	1	2	3	3	1	4	2
Interbasin transfer project 1 - 10,000 ac-ft/yr yield - delivered to Water Authority system	18	32.4	3.7	3.7	1.0	4	1	2	5	4	1	3	4
Purchase of pre-1907 water rights	19	32.8	4.9	4.9	1.0	3	1	3	4	4	1	4	2
I/DPR - 5,000	20	33.3	4.3	4.6	2.4	3	3	3	3	3	1	3	3
I/DPR - 3,000	21	33.8	4.6	4.7	2.4	3	3	3	3	3	1	3	3
I/DPR - 1,000 - Extend reuse from Yale to Lomas, flow via North Diversion Channel to Singer, divert to surface-water treatment plan	22	34.2	4.9	4.9	2.4	3	3	3	3	3	1	3	3
Interbasin transfer project 2 - 10,000 ac-ft/yr yield - transfer to Water Authority	23	34.4	3.7	3.7	1.0	4	2	3	5	5	1	2	4
Stormwater capture from existing facilities with spreading basins for infiltration	24	34.6	4.8	4.8	1.0	4	2	5	4	4	1	3	1
Operational flexibility under existing 4830 permit	25	34.9	4.9	4.9	1.0	3	2	5	4	5	1	2	2
New regional surface water diversion	26	36.7	4.3	4.3	1.0	3	3	4	4	5	1	3	4
Stormwater capture in Calabacillas Arroyo/Tijeras Arroyo/N Diversion Channel 1,000-2,000	27	37.6	4.8	4.8	1.0	4	3	5	4	4	1	4	2
Stormwater capture in Calabacillas Arroyo/Tijeras Arroyo/N Diversion Channel 500-1,000	28	37.8	4.9	4.9	1.0	4	3	5	4	4	1	4	2
Brackish groundwater - 5,000 ac-ft/yr	29	38.1	4.3	4.9	3.9	3	4	3	4	2	1	3	5
Brackish groundwater - 2,000 ac-ft/yr	30	38.5	4.7	4.9	3.9	3	4	3	4	2	1	3	5
Produced water	31	39.7	4.9	4.9	1.0	3	5	4	5	3	1	3	5

- Green: easiest to implement using existing permits and infrastructure or minimal new permitting
- Yellow: some new infrastructure and permitting required
- Red: potential future projects but not viable in the short term: keep for future consideration

2007 WRMS Portfolio

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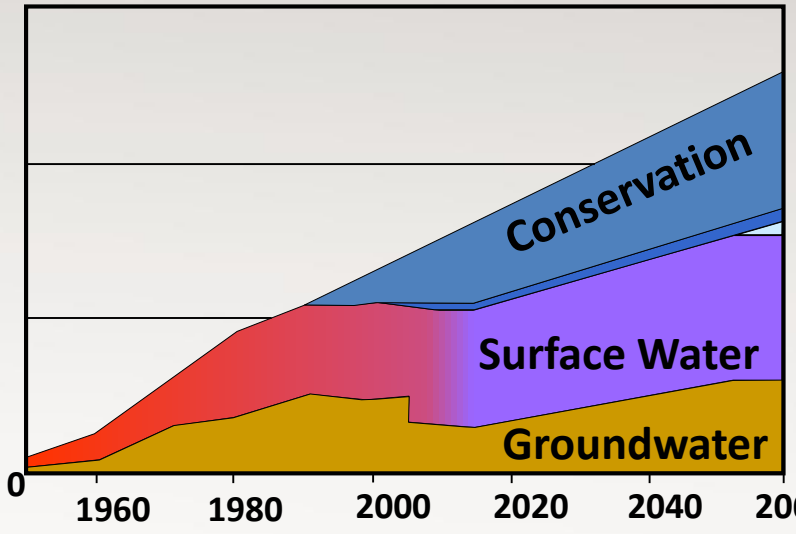
- Designed to use existing supplies, and included:
  - Groundwater
  - San-Juan Chama (Drinking Water Project)
  - Conservation
  - Reuse
  - ASR

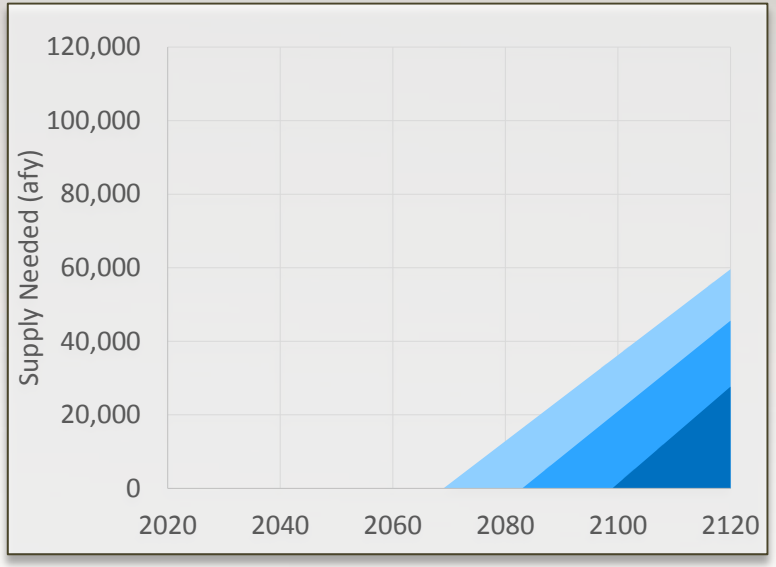


Meeting the Demand

Portfolio 1

Albuquerque Bernalillo County Water Utility Authority

- Current supplies (groundwater and surface water)
- Conservation (110 GPCD in 20 years)
- Reuse
- ASR
- Compact relinquishment water
- New storage
- Watershed management



Groundwater Reserve

Portfolio 1

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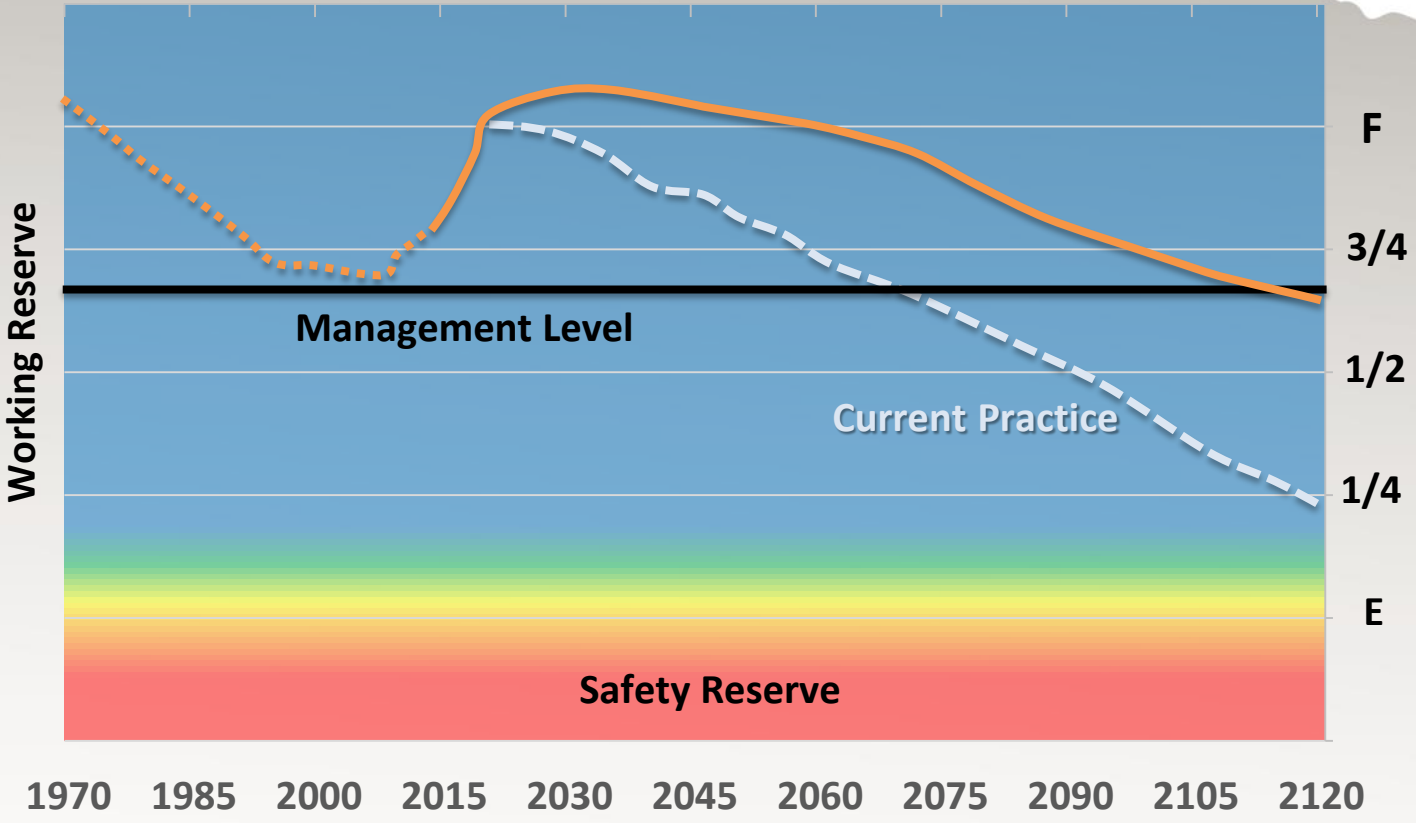
Water Utility Authority



Portfolio 1 Performance

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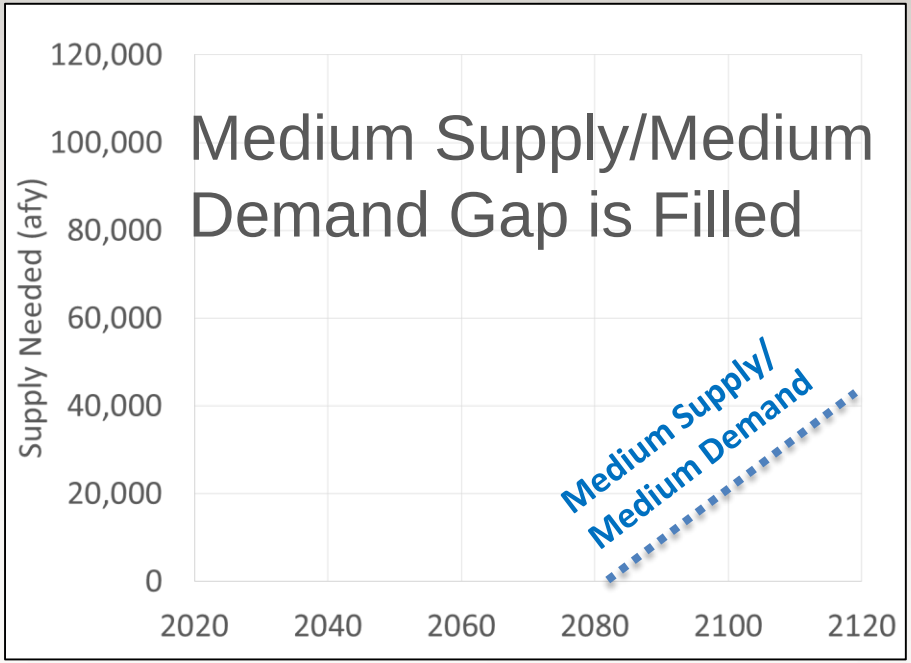

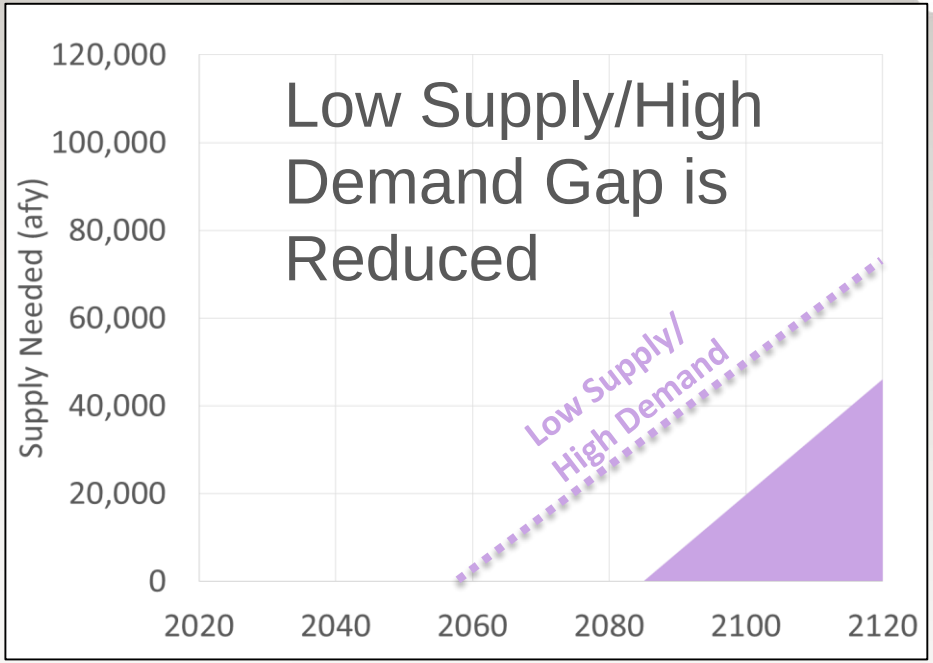

Remaining Resources

Portfolio 1

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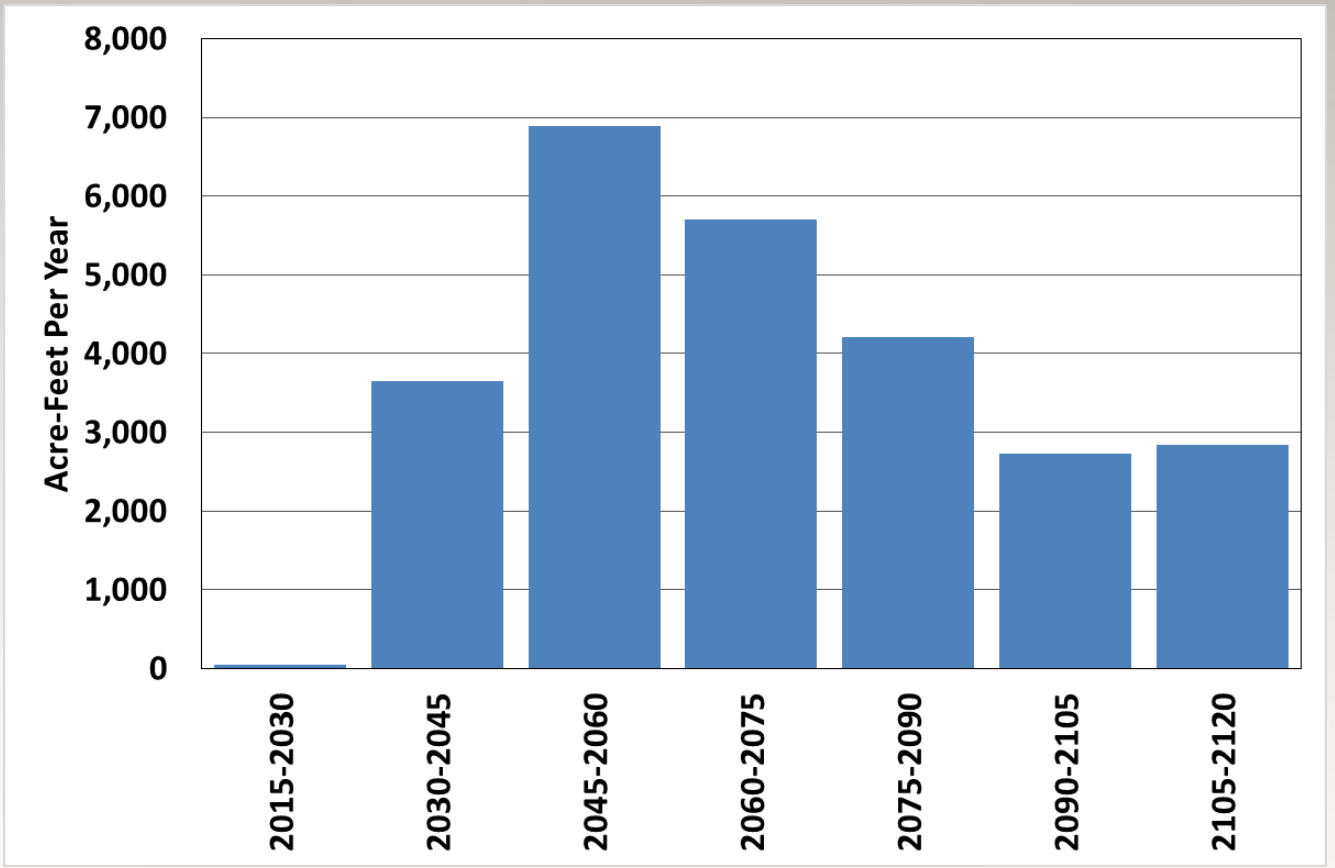

Meeting the Demand

Portfolios 2 and 3

Albuquerque Bernalillo County Water Utility Authority

Portfolio 2	Portfolio 3
Existing supplies (groundwater and surface)	Existing supplies (groundwater and surface)
Conservation – 120 GPCD in 10 years	Conservation – Outdoor Only
Reuse	Reuse
ASR	ASR
Compact relinquishment water	Compact relinquishment water
New storage (5,000 ac-ft)	New storage (3,000 ac-ft)
Watershed management	Watershed management

What's Next?

Albuquerque Bernalillo County Water Utility Authority

- Draft policy framework in June
- Four Customer Conversations on June 14, 16, 29, and 30
- Town Hall July 22

Questions?

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