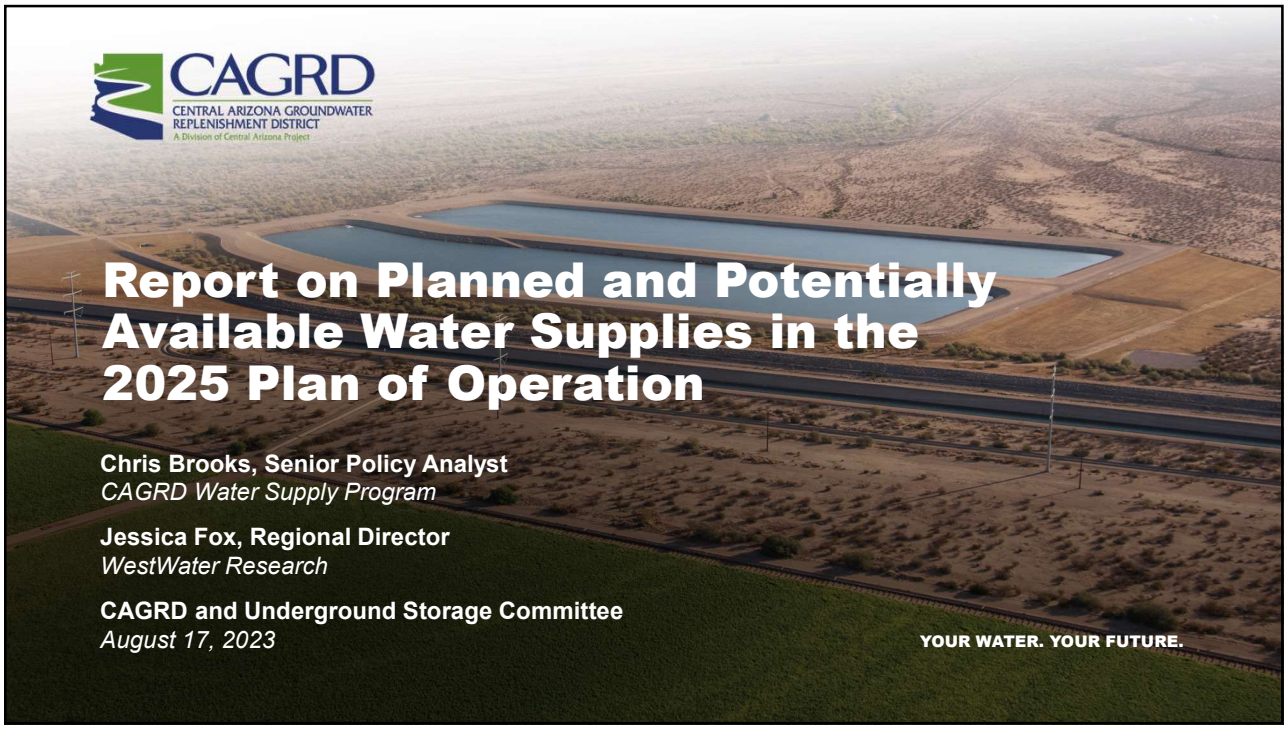

1

Statutory Requirements for Water Supply Plan

A.R.S. § 45-576.02.C.2 (c) - CAGRD Water Supply Plan:

A description of the water resources that CAGRD **plans to use** for replenishment purposes during the 20 years following submission of the Plan; and water resources **potentially available** to CAGRD for replenishment purposes during the subsequent 80 years.

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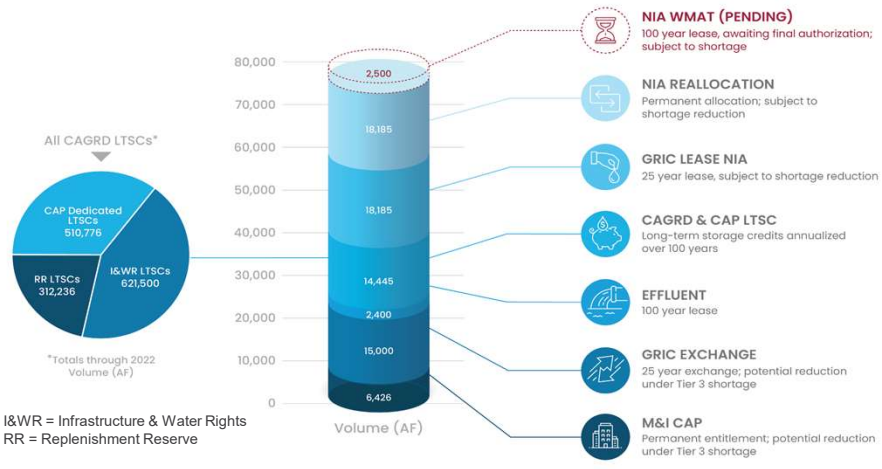
2

Supplies CAGRD Plans to Use (2025-2044)

3

Supplies CAGRD Plans to Use (2025 – 2044)



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Supplies CAGRD Plans to Use (2025 – 2044)

Current CAGRD Water Supply Portfolio

Water Supply	Annual Volume (AF/YR)	First Year Availability	Term of Acquisition
CAP M&I	6,426	2006	Permanent contract[1]
CAP Tribal (GRIC Exchange)	15,000	2020	Leased through 2044[1]
CAP NIA (White Mtn. Apache)	2,500	2027[2]	Annual Lease Volume[3]
CAP NIA (Reallocation)	18,185	2022	Permanent contract[3]
CAP NIA (GRIC Lease)	18,185	2020	Leased through 2044[3]
Long-Term Storage Credits	14,445[4]	2022	100 year
Effluent	2,400	2017	100-year lease
TOTAL	**77,141**		

[1] Potential reductions under a T2b and/or T3 shortages
[2] Estimated availability; awaiting final authorization; subject to shortage reduction
[3] Subject to shortage reduction under T1 or greater
[4] Total LTSCs annualized over 100 years; however, a volume greater than the 100-year amount could be used in a year if needed

5

Replenishment Obligation Estimates

		20-Year Forecast (AF/YR)	100-Year Forecast (AF/YR)
Member Lands	Currently Enrolled	56 KAF	63 KAF
	New Enrollment	15 KAF	13 KAF
Member Service Areas		12 KAF	15 KAF
TOTAL		**83 KAF**	**91 KAF**

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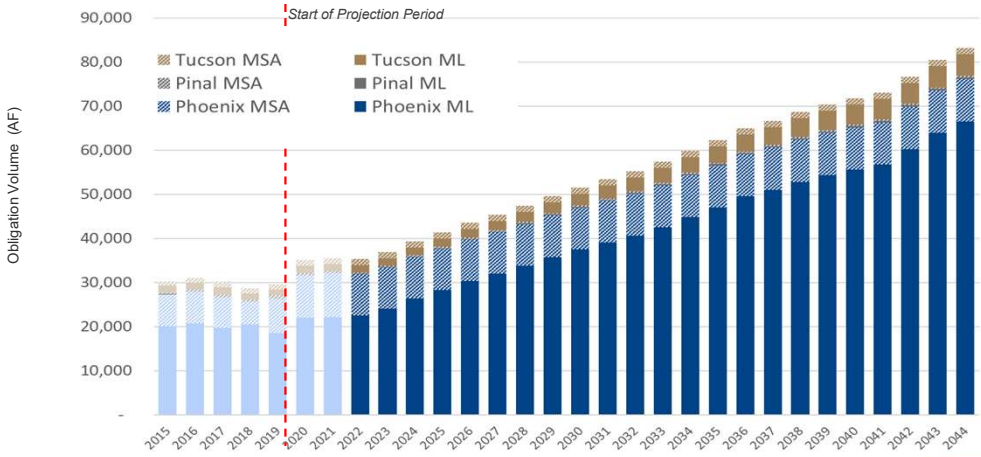
6

Obligation by AMA and Member Type



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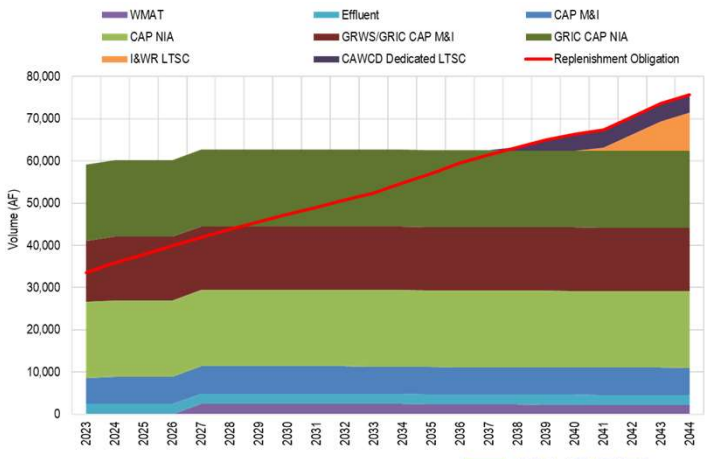
Phoenix AMA Current Portfolio

Full Availability of CAP Long-Term Contracts

- Assumes full availability of CAP Long-Term Contracts
- Using the current 2025 Plan of Operation obligation forecast
- Assumes no need for AWBA firming through 2044
- Supplies available beyond annual obligation earn additional LTSCs



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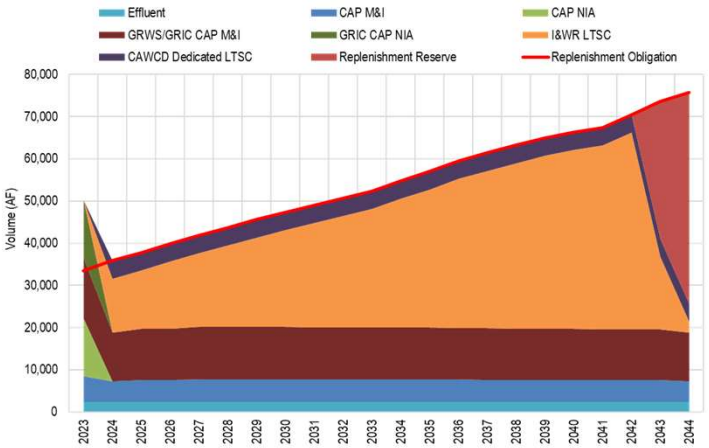
Phoenix AMA Current Portfolio

Extended CAP Shortage and No New Supplies Acquired

- Reductions consistent with Tier 3 2024-2044
- No new supplies are acquired after 2023
- CAGRD LTSCs are used annually to meet Replenishment Obligations
- CAWCD dedicated LTSCs are purchased and used to meet a portion of obligation and to meet Replenishment Reserve target
- Replenishment Reserve LTSCs are used beginning in 2043



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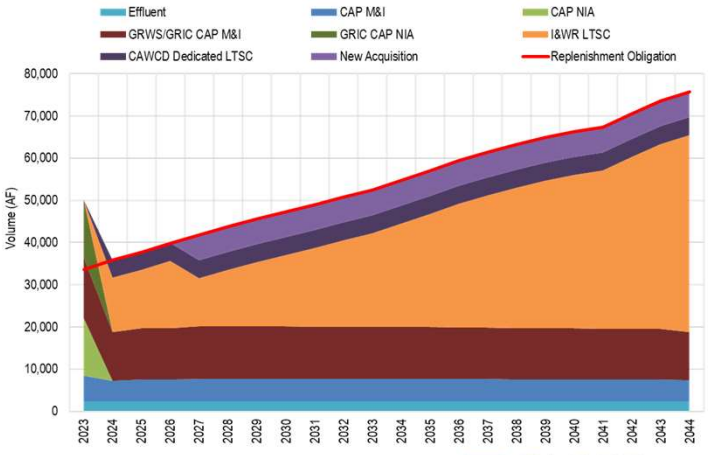
9

Phoenix AMA Current Portfolio

Extended CAP Shortage plus Modest Size Acquisition

- Reductions consistent with Tier 3 2024-2044
- CAWCD dedicated LTSCs are purchased and used to meet a portion of obligation and to meet Replenishment Reserve target
- Modest size supply acquisition: available beginning in 2027 through 2044
- Replenishment Reserve LTSC use pushed out past 2045



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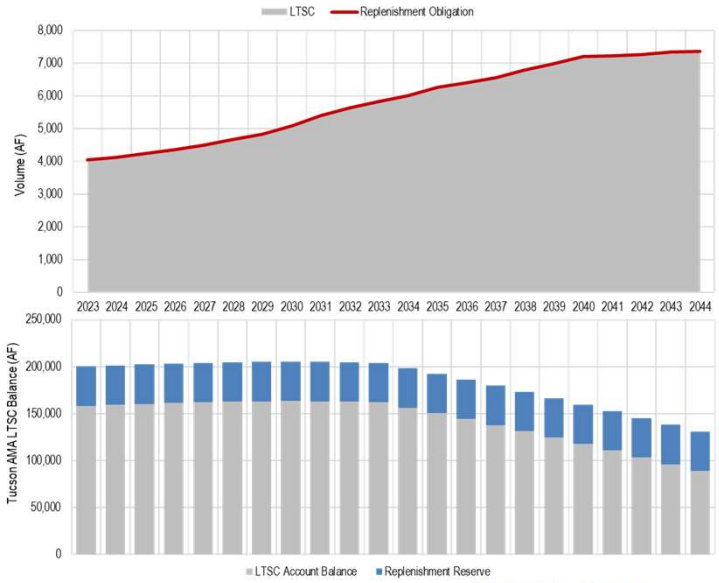
Tucson AMA Supplies and Obligations

- 2022 Tucson AMA LTSC Account Balance: 157,197 AF
- Metropolitan Domestic Water Improvement District LTSC: 250 AF/year through 2041
- City of Tucson LTSC: 5,000 AF/year through 2033
- Replenishment Reserve Balance: 41,929 AF (current balance); RR not relied on through 2044



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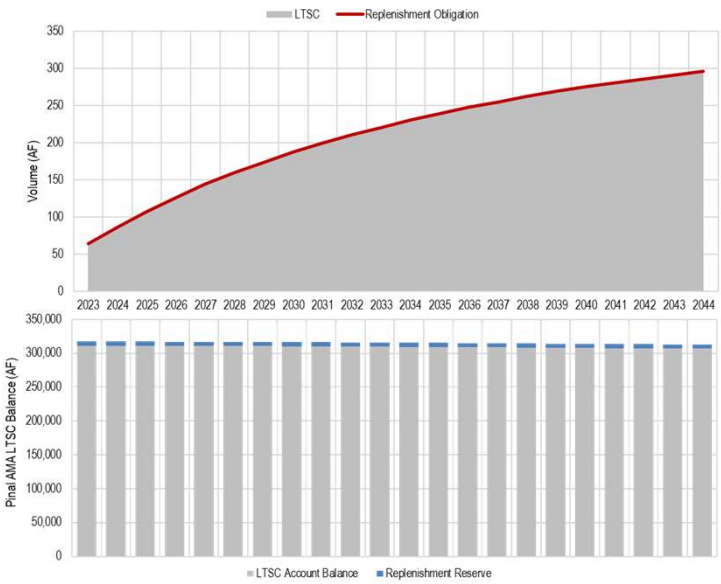
Pinal AMA Supplies and Obligations

- 2022 Pinal AMA CAWCD Dedicated LTSC Balance 311,386 AF
  - Replenishment Obligation met with CAWCD Dedicated LTSC through 2044
- Replenishment Reserve Balance: 6,073 AF (current balance); RR not relied on through 2044



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12

Summary– Supplies CAGRD Plans to Use

- CAGRD's current water supply portfolio is just over 77,000 AF/YR
- With full availability of CAP long-term contracts, current CAGRD supplies are more than sufficient to meet current and new member replenishment projected in the first 20 years
- Under extended reductions consistent with a Tier 3 shortage and no additional supply acquisitions, CAGRD supplies are sufficient to meet projected replenishment obligations in first 20 years but would rely heavily on CAGRD's LTSCs, CAWCD dedicated credits and some Replenishment Reserve credits in the Phoenix AMA
- CAGRD could still meet replenishment obligations under a shortage deeper than a Tier 3 in the Phoenix AMA for some time, but the severity and length of shortage would determine how long CAGRD's Replenishment Reserve would be relied upon

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13

Subsequent 80-Year Potentially Available Supplies (2045-2124)

West Water Research LLC

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14

Statutory Requirements for Water Supply Plan

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15

Potential Supply Evaluation

"With respect to the requirement that CAGRD identify supplies sufficient to meet its obligations for both current and potential members in the 100 years following submission of the Plan, CAGRD is entitled to rely upon not only supplies which are currently likely to be available for acquisition, but also supplies which *potentially* will be available for acquisition in the future." ***ADWR Decision & Order approving the 2015 Plan of Operation***. *(August 5, 2015)*

"CAGRD is not required to provide an analysis in the Plan of who might be willing to sell (water supplies)…" ***ADWR Decision & Order approving the 2015 Plan of Operation***. *(August 5, 2015)*

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Potential Supply Evaluation Process

WestWater Research is assisting CAGRD with planning and development activities related to the 2025 Plan of Operation. In particular, WestWater utilized its knowledge of water supplies in Central Arizona to identify and analyze long-term potentially available water resources for inclusion in the Plan. The process of identifying and evaluating the supplies included the following steps:

- **Step 1** – Determine total existing volume within each described supply class (i.e., CAP, Effluent, LTSCs, etc.);
- **Step 2** – Systematically remove those supplies that are clearly known to be unavailable (i.e., committed to a Designation or Certificate of assured water supply, contractually committed to another use, etc.);
- **Step 3** – Apply professional knowledge of planned future uses of supplies and make planning assumptions about reasonable future uses of remaining amounts;
- **Step 4** – Summarize maximum volumes of each supply class that could potentially be available for acquisition in some manner (high estimate of volume potentially available) and reduce that volume by a reasonable percentage or assumption to produce a range of potentially available supply.

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Potentially Available Supplies

- Long-Term Storage Credits
- Effluent/Recycled Water
- Central Arizona Project
- Colorado River
- Imported Groundwater
- Desalinated Water
- New Verde River Supply

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18

Long-Term Storage Credits (LTSCs)

- **Total Current Supply: 13.58 million LTSCs**
  - Annualized as 135,817 AF/YR over 100 years
  - LTSC Balance for all Accounts Holders in the Phoenix, Pinal and Tucson AMAs (through 2021)
- High Volume Assumptions:
  - Not owned by CAWCD, CAGRD, AWBA
  - Not pledged to Assured Water Supply
  - Not under contract to be sold
- Low Volume Assumptions:
  - 50% reduction to High
  - Not owned by CAP M&I subcontractors

Potentially Available Supply (2045-2124)

AMA	Low Volume (AF/YR)	High Volume (AF/YR)
Phoenix	7,595	30,798
Pinal	4,429	9,549
Tucson	2,172	9,320
All AMAs	**14,196**	**49,667**

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19

Effluent/Recycled Water

- **Total Current Supply: 407,748 AF/YR**
  - Total annual effluent production including reuse, recharge, and discharge by AMA:
    - Phoenix: 334,686 AF
    - Pinal: 11,479 AF
    - Tucson: 61,583 AF
- High Volume Assumptions:
  - Currently discharged/unused effluent, escalated based on the State's population growth projections for each AMA
- Low Volume Assumptions:
  - 66% reduction to High

Potentially Available Supply (2045-2124)

AMA	Low Volume (AF/YR)	High Volume (AF/YR)
Phoenix	34,502	104,551
Pinal	1,989	6,026
Tucson	6,805	20,620
All AMAs	**43,295**	**131,197**

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20

CAP Supplies

- Potentially available CAP supplies could include:
  - CAP supplies not currently utilized as part of a long-term commitment, i.e., supplies currently being used to develop LTSCs, utilized in short-term leases, or utilized in short-term conservation programs
  - Remaining unallocated NIA water
- Acknowledge uncertainty of future CAP supplies prior to guidelines being developed for post-2026

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Colorado River Supplies

- Average consumptive use during the past 5 years for irrigation (P1-4) is 997,421 AF
- Potentially available Colorado River Supplies could include:
  - Assuming a 10% to 20% reduction in consumptive use via fallowing programs over the next 100 years would produce between 99,742 AF and 199,484 AF that could potentially be available.

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22

Imported Groundwater

- **Total Current Supply: 168,000 AF/YR for 100 years**
  - Total **estimated** current supply available from "outside AMA" groundwater basin
  - Authorized by Arizona Revised Statute to transport groundwater supplies into the Phoenix, Pinal, and Tucson AMAs
- High Volume Assumptions:
  - Subtract Harquahala Valley Water Project volumes sold to Queen Creek and Buckeye
- Low Volume Assumptions:
  - 50% reduction to High

Potentially Available Supply (2045-2124)

Source	Total Current Supply (AF/YR)	Low Volume (AF/YR)	High Volume (AF/YR)
Butler	65,000	32,500	65,000
McMullen	38,000	19,000	38,000
Harquahala Valley Water Project	65,000	27,037	54,074
All Sources	**168,000**	**78,537**	**157,074**

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Desalinated Water

- Timing, quantity, and feasibility of desalination projects are currently unknown.
- Assuming up to 100,000 AF/YR for 100 years could be developed from potential supply sources including in-state brackish water and/or Sea of Cortez[1] Binational desalination efforts.

[1] Binational Study of Water Opportunities in the Sea of Cortez – Minute 323 Executive Summary April 2020

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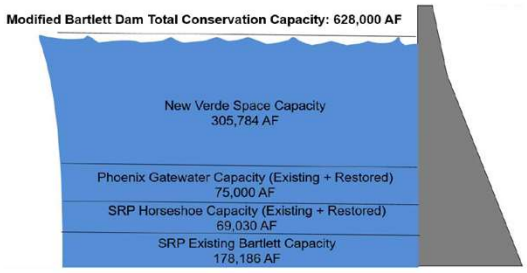
New Verde River Supply

- Proposed Bartlett Dam Modification Project may result in an annual yield of 90,000 to 100,000 AF/yr of new renewable water supplies for central Arizona.
- CAGRD is a local non-federal cost-share partner on the current Feasibility Study evaluating options for modification of Bartlett Dam
- Potential for CAGRD allocation of new water supply from Verde River
- Many CAGRD members also participating who could use new water supply to offset replenishment obligations

Conceptual Modified Bartlett Dam Facility



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Potentially Available Supplies (2045 – 2124)

Supply Category	Supply Location	Potentially Available Low (AF/YR/100 YRS)	Potentially Available High (AF/YR/100 YRS)
Long-Term Storage Credits	Phoenix AMA, Pinal AMA, Tucson AMA	14,196	49,667
Effluent	Phoenix AMA, Pinal AMA, Tucson AMA	43,295	131,197
Central Arizona Project	Phoenix AMA, Pinal AMA, Tucson AMA	TBD	TBD
Colorado River	Arizona Entitlements Excluding CAP Supplies	99,742	199,484
Imported Groundwater	Harquahala, Butler, McMullen Valleys	78,537	157,074
Desalinated Water	In-State, Binational Study	30,000	100,000
New Verde River Supply	Phoenix AMA	0	90,000

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26

Summary

- Current portfolio is sufficient to meet 20-year obligations for current and new members even under a prolonged CAP shortage
- Due to hydrologic uncertainty on the Colorado River, CAGRD plans to continue to acquire new supplies to meet long-term obligations, extend the longevity of LTSCs, and maintain operational and supply source flexibility.
  - Supply categories potentially available to CAGRD include LTSC, effluent/recycled water, CAP, Colorado River, imported groundwater, desalinated water, and/or New Verde River supplies
- Volume of new supplies contemplated by CAGRD for acquisition is a fraction of total potentially available water supplies.
- Acknowledge tighter Colorado River availability & increased competition for potentially available supplies

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27

28