

# Long-Term Availability of AWBA LTSCs for Firming CAP M&I Priority Subcontract Supplies

**Rebecca Bernat**, Technical Administrator



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# Introduction

## Staff evaluated two analyses regarding the distribution of long-term storage credits (LTSCs):

- An estimate of the amount of LTSCs that might be used through 2026, under different shortage tiers.
- The ability of the AWBA to firm after 2026 based on available LTSCs.



# LTSC Utilization from 2024 to 2026

From 2024 to 2026, the AWBA could use:

- 177,382 LTSCs
- 8% of its total LTSCs

*Table 1a. CAP M&I firming under a Tier 2b Shortage in 2024, and a Tier 3 Shortage in 2025 and 2026.*

Location	M&I Firming Volumes (AF)			
	2024 - Tier 2b	2025 - Tier 3	2026 - Tier 3	Total
<b>Phoenix AMA</b>	12,391	48,600	50,517	111,508
<b>Pinal AMA</b>	1,316	5,160	5,364	11,839
<b>Tucson AMA</b>	6,004	23,551	24,480	54,035
<b>Total</b>	19,711	77,311	80,361	177,382

Firming volumes are based on CAWCD’s data of November 15, 2022 showing 2023 CAP M&I projected demand orders of 584,456 AF, and assume full CAP M&I entitlement build out by 2035.

Results are based on the AWBA *Policy Regarding the Distribution of Long-Term Storage Credits for Firming CAP M&I Subcontractors*, adopted March 4, 2019.

According to the AWBA Plan of Operation, the AWBA will have a total of 2,329,457 AF of LTSCs as of December 31, 2023.

According to Reclamation’s August 2022 5-Year probabilistic projections there is a 27% probability of a Tier 2b shortage condition occurring in 2024 and a 40% and 47% probability, respectively, of a Tier 3 shortage condition occurring in 2025 and 2026.

# LTSC Utilization from 2024 to 2026

*Table 1b. LTSCs remaining as of December 31 after CAP M&I firming under a Tier 2b Shortage in 2024, and a Tier 3 Shortage in 2025 and 2026.*

Location	LTSCs Remaining as of December 31			
	2023	2024	2025	2026
<b>Phoenix AMA</b>	1,582,453	1,570,062	1,521,462	1,470,945
<b>Pinal AMA</b>	234,791	233,475	228,315	222,952
<b>Tucson AMA</b>	512,213	506,209	482,658	458,178
<b>Total</b>	2,329,457	2,309,746	2,232,435	2,152,075

Firming volumes from Table 1a are deducted every year from the remaining LTSCs.



# LTSC Utilization from 2024 to 2026

From 2024 to 2026, the AWBA could use:

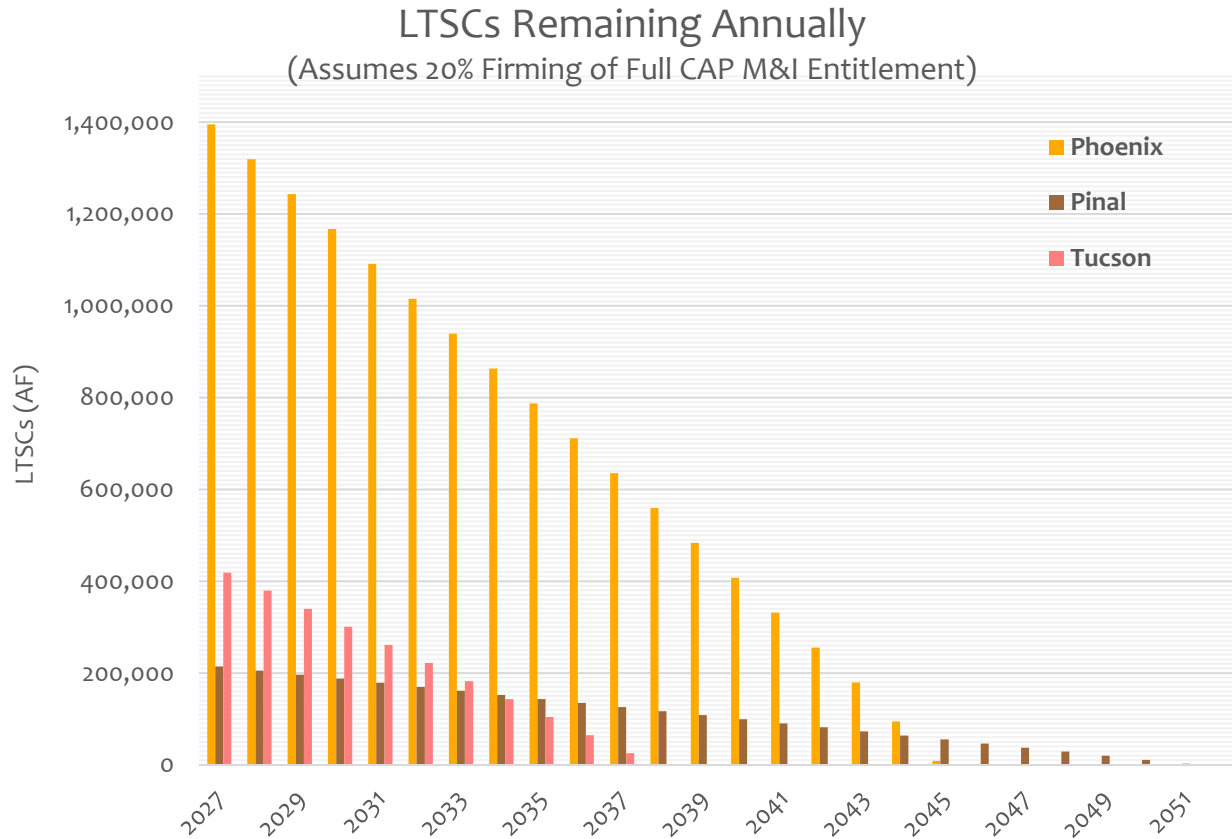
- 231,948 LTSCs
- 10% of its total LTSCs

*Table 1c. CAP M&I firming under a Tier 3 Shortage.*

Location	M&I Firming Volumes (AF)			
	2024 - Tier 3	2025 - Tier 3	2026 - Tier 3	Total
<b>Phoenix AMA</b>	46,693	48,600	50,517	145,810
<b>Pinal AMA</b>	4,958	5,160	5,364	15,481
<b>Tucson AMA</b>	22,627	23,551	24,480	70,657
<b>Total</b>	74,277	77,311	80,361	231,948

Firming volumes are based on CAWCD's data of November 15, 2022 showing 2023 CAP M&I projected demand orders of 584,456 AF, and assume full CAP M&I entitlement build out by 2035.

# LTSC Utilization Post 2026 - Simple Analysis



## LTSCs could be depleted by:

- 2046 in the Phoenix AMA (19.1 years)
- 2052 in the Pinal AMA (25.2 years)
- 2038 in the Tucson AMA (11.6 years)

**Figure 1.** Volume of LTSCs remaining by Active Management Area, from 2027<sup>[1]</sup> to 2052, assuming 20% of full CAP M&I entitlement use.<sup>[2]</sup>

<sup>[1]</sup> Results assume the AWBA will have 1,470,945 AF of LTSCs remaining in the Phoenix AMA, 222,992 AF in the Pinal AMA, and 458,178 LTSCs in the Tucson AMA as of December 31, 2026, as shown in Table 1b.

<sup>[2]</sup> Full CAP's M&I entitlement is 620,678 AF from 2027 to 2043, then 667,981 from 2044 to 2052 after 47,303 AF of NIA from Hohokam Irrigation & Drainage District converts to M&I priority for cities in the Phoenix AMA.

# LTSC Utilization Post 2026

## Hydrologic Modeling – Mean Results

*Table 2. Average volumes of LTSCs used under three hydrologic modeling analyses*

Hydrologic Modeling Analysis	Model Duration	Active Management Area	Average Volume of LTSCs Used*	
			(AF)	%
Stress Test	32 years (2055)	Phoenix	1,378,338	87%
		Pinal	137,213	58%
		Tucson	512,213	100%
CMIP3	38 years (2061)	Phoenix	1,249,314	79%
		Pinal	123,638	53%
		Tucson	512,213	100%
New Normal	20 years (2043)	Phoenix	940,034	59%
		Pinal	99,807	43%
		Tucson	455,526	89%

\* LTSCs in the Tucson AMA are fully utilized by 2052 under the Stress Test and 2059 under CMIP3.

# LTSC Utilization Post 2026

## Hydrologic Modeling – Mean Results

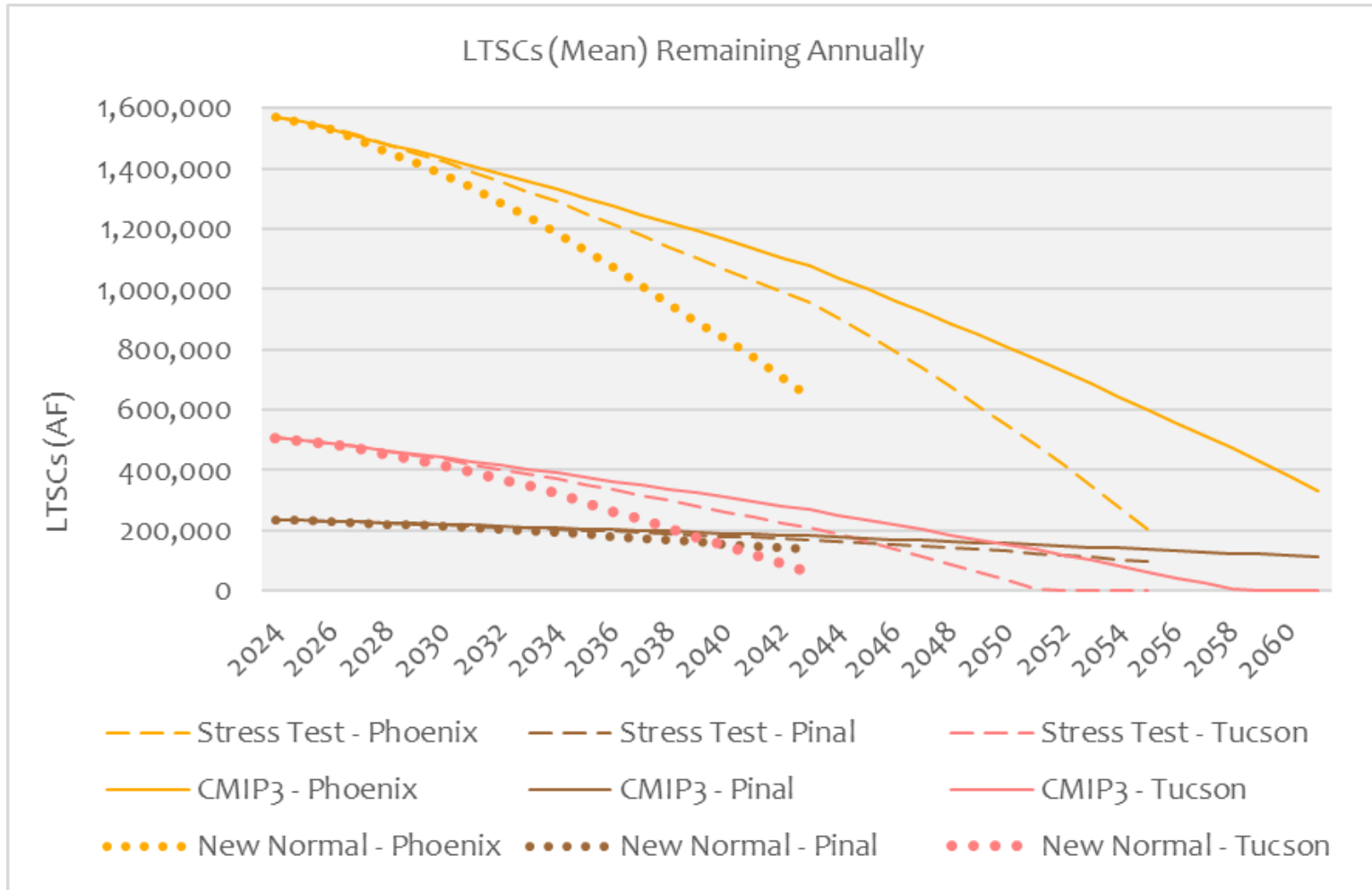


Figure 2. Average Volume of LTSCs remaining by Active Management Area, from 2024 to 2061.



# LTSC Utilization Post 2026

## Hydrologic Modeling – Median Results

*Table 3. Median volumes of LTSCs used under three hydrologic modeling analyses*

Hydrologic Modeling Analysis	Model Duration	Active Management Area	Average Volume of LTSCs Used	
			(AF)	%
Stress Test	32 years (2055)	Phoenix	1,397,913	88%
		Pinal	138,305	59%
		Tucson	512,213	100%
CMIP3	38 years (2061)	Phoenix	625,521	40%
		Pinal	60,832	26%
		Tucson	277,642	54%
New Normal	20 years (2043)	Phoenix	1,085,948	69%
		Pinal	115,299	49%
		Tucson	512,213	100%

\* LTSCs in the Tucson AMA are fully utilized by 2052 under the Stress Test and 2043 under New Normal.

# LTSC Utilization Post 2026

## Hydrologic Modeling – Median Results

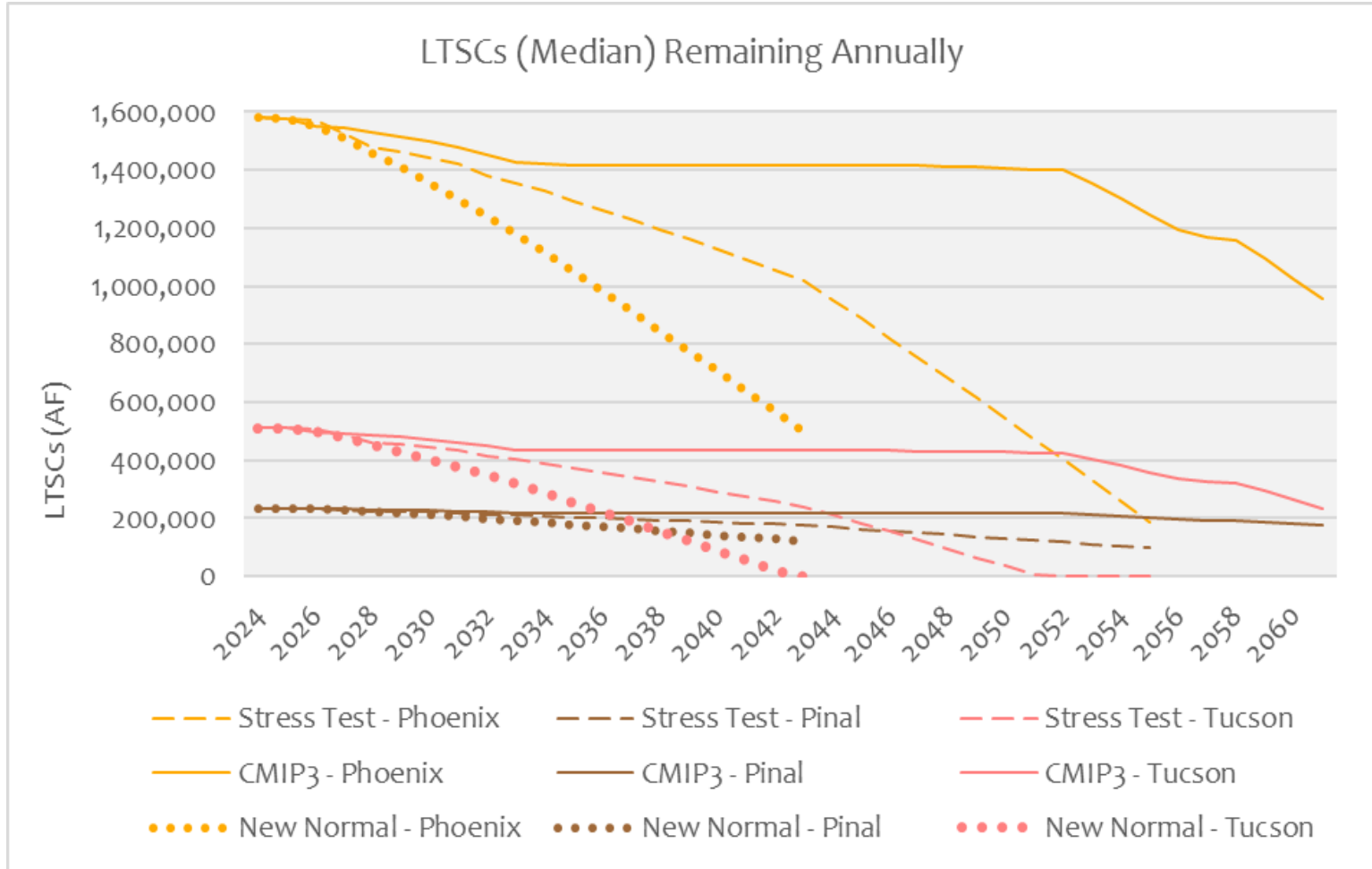
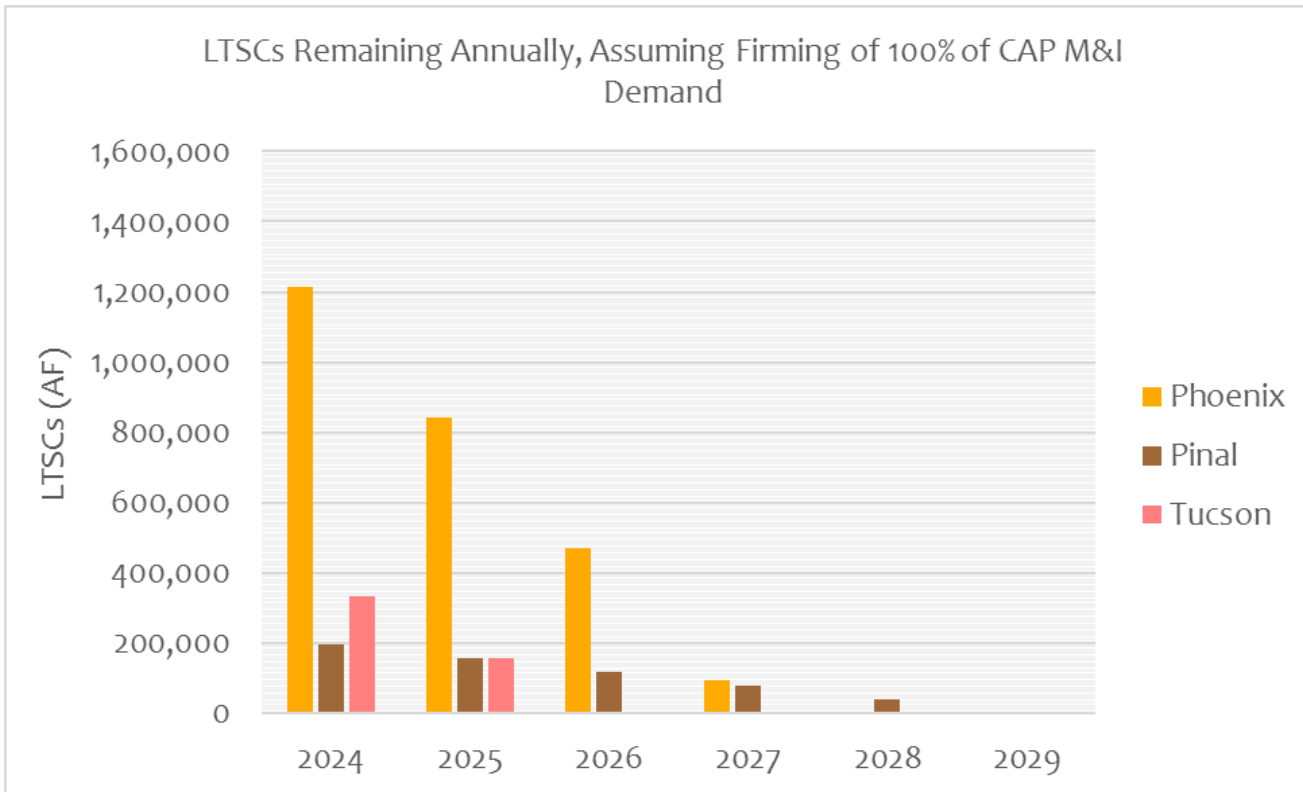


Figure 3. Median Volume of LTSCs remaining, by Active Management Area, from 2024 to 2061.

# Maximum Firming Exposure (No CAP Water Available)



## LTSCs could be depleted by:

- 2028 in the Phoenix AMA (4.2 years)
- 2029 in the Pinal AMA (5.9 years)
- 2026 in the Tucson AMA (2.8 years)

**Figure 4.** Volume of LTSCs remaining by Active Management Area, from 2024<sup>[1]</sup> to 2029, assuming firming of 100% of CAP M&I demand<sup>[2]</sup>.

<sup>[1]</sup> Results assume there will be no CAP M&I firming in 2023. Therefore, results assume the AWBA will have 1,582,453 AF of LTSCs remaining in the Phoenix AMA, 234,791 AF in the Pinal AMA, and 512,213 LTSCs in the Tucson AMA as of December 31, 2023, as shown in Table 1b.

<sup>[2]</sup> Firming volumes are based on CAWCD's data of November 15, 2022 showing 2023 CAP M&I projected demand orders of 584,456 AF, and assume full CAP M&I entitlement build out by 2035.

# Questions?

Email: [rbernat@azwater.gov](mailto:rbernat@azwater.gov)

Website: <https://waterbank.az.gov/>

