2021 AWBA Annual Report

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AWBA Quarterly Meeting
June 29, 2022

2021 Plan of Operation

- **No water storage deliveries**
- **LTSC purchases – 7,863 AF**
  - Phoenix AMA – 6,500 AF
  - Tucson AMA – 1,363 AF
- **ICS Firming Credits – 4,196 AF**
  - Phoenix AMA – 3,455 AF
  - Pinal AMA – 741 AF

2021 Plan of Operation Expenditures

Funding Source	Phoenix AMA	Pinal AMA	Tucson AMA	Total
Water Storage Tax	$ 1,562,795	-	$ 303,690	$ 1,866,485
Withdrawal Fees	$ 976,642	$ 209,371	-	$ 1, 186,013
Total	$ 2,539,437	$ 209,371	$ 303,690	$ 3, 052,948

Utilization of AWBA Credits

Objective and Location	Credits Available thru 2021	Estimated Credits Used in 2022	Estimated Credits Remaining
	Acre-feet		
CAP M&I Firming (4-cent tax)			
Phoenix AMA	1,572,095	0	1,572,095
Pinal AMA	234,791	0	233,797
Tucson AMA	509,298	0	510,131
On-River M&I Firming (gen. fund)	403,830	0	403,830
Tribal Settlement Obligations: [1]			
Community - 15,000 AFY	**173,170**	**6,429**	**166,741**
LTSCs	105,390	0	105,390
Firming Credits	44,000	6,429	37,571
ICS Firming Credits	**23,780**	**0**	**23,780**
WMAT - 3,750 AFY	**0**	**0**	**0**
Hualapai - 557.5 AFY	0	0	0
Future Settlements - 4416.5 AFY	**0**	**0**	**0**
Federal Assistance (SAWRSA)	**34,102**	**0**	**34,102**
Groundwater Mgmt.[2] (W/Fees)			
Phoenix AMA	251,411	0	251,411
Pinal AMA	417,706	0	417,670
Tucson AMA	107,148	0	107,148
Shortage Reparations[3]	**109,489**	**0**	**109,489**
Pinal Redirect Credits[4]	**14,125**	**0**	**14,125**
Interstate - SNWA	**613,846**	**0**	**613,846**

[1] *White Mountain Apache Tribe (WMAT) enforceability date is April 30, 2023; Hualapai Tribe settlement subject to congressional approval.*
[2] *Withdrawal Fee LTSCs may be used for CAP M&I firming and/or Tribal settlement obligations if needed.*
[3] *LTSCs accrued pursuant to Arizona-Nevada Shortage-Sharing Agreement executed in 2007.*
[4] *Credits accrued from water provided to Pinal AMA GSFs at full cost to the GSF operators.*

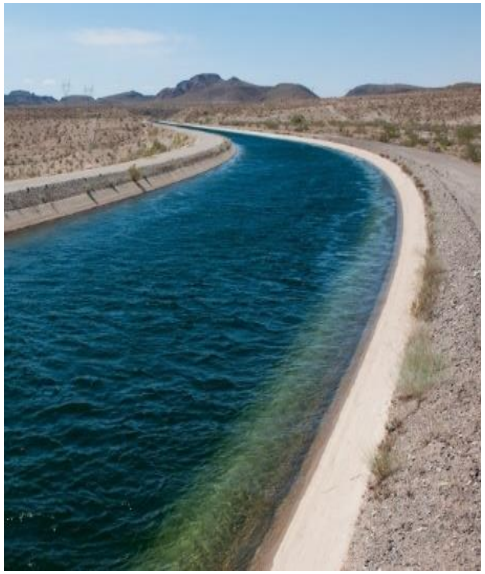
Other Activities

- Release of 2021 Update to the Joint Recovery Plan
- Renewal of Water Storage Agreements with Groundwater Savings Facilities
- Release of the 2021 Storage Facility Inventory
- MOU with ADWR and CAWCD on potential augmentation opportunities through development of a Regional Recycled Water Program Metropolitan Water District of Southern California


QUESTIONS?

Ten-Year Plan (2023-2032)

- Planning tool
- Firming projections and estimates (2023-2026)
- Recovery capacity for M&I subcontractors (2023-2032)
- Updated annually based on current information



Assumptions

- No excess CAP water available in 2023-2032
- Projected shortage reductions based on the 2007 Guidelines and the Lower Basin Drought Contingency Plan
- Does not address potential additional reductions
- LTSC purchases determined annually under the Plan of Operation
- All remaining ICS firming credits anticipated to be purchased by 2026

Credit Distribution or Extinguishment

- Firming volume estimations (2023-2026) based on projected shortage tiers
  - Used Reclamation's five-year projections
  - Used CAWCD demand estimations for M&I subcontractors, Tribal firming and on-river firming

- Recovery capacity analysis (2023-2032) for different shortage tiers
  - Used CAWCD demand estimations for M&I subcontractors
  - Included information provided by recent discussions with subcontractors

Shortage Probability (2023-2026)

Operational Tier	Tier Reductions (AF)	Reclamation's Five-Year Table - Shortage Probability*			
		2023	2024	2025	2026
Surplus Condition (≥1,145)		**0%**	**0%**	**0%**	**0%**
Normal Year (<1145 and >1075)		**0%**	**7%**	**0%**	**13%**
Normal (<1145 and >1090)		0%	0%	0%	0%
Tier Zero (≤1090 and >1075)	192,000	0%	7%	0%	10%
Any Shortage (Mead ≤1075)		100%	93%	100%	87%
Tier 1 Shortage (≥1050 and ≤1075)	**512,000**	**37%**	**17%**	**30%**	**23%**
Tier 2 Shortage (≥1025 and <1050)		**63%**	**60%**	**37%**	**20%**
Tier 2a (>1045 and <1050)	592,000	60%	7%	3%	7%
Tier 2b (≥1025 and ≤1045)	640,000	3%	53%	33%	13%
Tier 3 Shortage (<1025)	**720,000**	**0%**	**17%**	**33%**	**43%**

** Hydrologic assumptions from Reclamation's May 2022 CRMMS-EPS. Shortage probabilities from Reclamation's projections of future Colorado River system conditions, May 2022 CRMMS-ESP. Reclamation's projections run through 2026. The 2007 Interim Guidelines expire in 2026. These projections do not represent the full range of future possibilities that could occur with different modeling assumptions.*

Estimated Firming Volumes (2023-2026)

	Tribal Firming*			
Operational Tier	**2023**	**2024**	**2025**	**2026**
Tier 1 Shortage	9,463	10,034	12,827	13,230
Tier 2a	14,898	14,712	18,336	18,208
Tier 2b	14,014	13,840	17,248	17,128
Tier 3 Shortage	12,667	12,510	15,591	15,482
Most Probable Firming Volumes	14,898	13,840	17,248	15,482
Cumulative Volumes	**61,468**			

** Estimated AWBA firming volumes derived from the Joint Shortage Analysis Model, developed by ADWR, AWBA and CAWCD, updated in May 2022. These estimated firming volumes do not represent the full range of future possibilities that could occur with different modeling assumptions.*

Estimated Firming Volumes (2023-2026)

	M&I Firming*			
Operational Tier	**2023**	**2024**	**2025**	**2026**
Tier 1 Shortage	0	0	0	0
Tier 2a	4,148	11,806	13,639	17,965
Tier 2b	39,937	47,595	49,428	53,754
Tier 3 Shortage	94,503	102,161	103,994	108,320
Most Probable Firming Volumes	4,148	47,595	49,428	108,320
Cumulative Volumes	**209,491**			

** Estimated AWBA firming volumes derived from the Joint Shortage Analysis Model, developed by ADWR, AWBA and CAWCD, updated in May 2022. These estimated firming volumes do not represent the full range of future possibilities that could occur with different modeling assumptions.*

Estimated Firming Volumes (2023-2026)

	Total AWBA Firming*			
Operational Tier	**2023**	**2024**	**2025**	**2026**
Tier 1 Shortage	9,463	10,034	12,827	13,230
Tier 2a	19,045	26,518	31,974	36,173
Tier 2b	53,952	61,435	66,677	70,883
Tier 3 Shortage	107,171	114,671	119,585	123,802
Most Probable Firming Volumes	19,045	61,435	66,677	123,802
Cumulative Volumes	**270,959**			

** Estimated AWBA firming volumes derived from the Joint Shortage Analysis Model, developed by ADWR, AWBA and CAWCD, updated in May 2022. These estimated firming volumes do not represent the full range of future possibilities that could occur with different modeling assumptions.*

Estimated Recovery Capacity (2023-2032)

	M&I Firming - Tier 3 Recovery Capacity Needed* (AF)									
Phoenix AMA	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
Independent Recovery	4,074	4,478	4,650	4,917	5,183	5,446	5,705	5,790	5,790	5,790
CAP Recovery	15,312	17,718	19,059	21,454	23,843	26,112	27,871	28,806	29,515	29,777
Pinal AMA Independent Recovery	1,705	1,834	1,875	1,953	2,029	2,104	2,177	2,177	2,177	2,177
Tucson AMA Independent Recovery	511	578	611	658	705	752	798	958	1,064	1,161
Total	**21,602**	**24,608**	**26,195**	**28,982**	**31,759**	**34,414**	**36,550**	**37,731**	**38,546**	**38,905**

** Estimated recovery well capacity incorporates March 2022 feedback from impacted M&I subcontractors*

Utilization of AWBA Credits

Objective and Location	Credits Available thru 2023	Estimated Credits Used/Exchanged through 2026	Estimated Credits Remaining
	Acre-feet		
CAP M&I Firming (4-cent tax) [1]	**2,329,507**	**209,491**	**2,120,016**
Phoenix AMA	1,582,489	123,600	1,458,889
Pinal AMA	234,791	67,037	167,754
Tucson AMA	512,227	18,854	493,373
On-River M&I Firming (gen. fund)	403,830	0	403,830
Tribal Settlement Obligations: [2]			
Community - 15,000 AFY	169,281	54,922	114,359
LTSCs	*105,390*	*17,351*	*88,039*
Firming Credits	*37,571*	*37,571*	*0*
ICS Firming Credits	*26,320*	*0*	*26,320*
WMAT - 3,750 AFY	6,546	6,546	0
Hualapai - 557.5 AFY	0	0	0
Future Settlements - 4416.5 AFY	**0**	**0**	**0**
Federal Assistance (SAWRSA)	**34,102**	**0**	**34,102**
Groundwater Mgmt.[3] **(W/Fees)**	**769,719**	**0**	**769,719**
Phoenix AMA	244,865	(38,475)	206,390
Pinal AMA	417,706	43,225	460,931
Tucson AMA	107,148	(4,750)	102,398
Shortage Reparations[4]	**109,489**	**0**	**109,489**
Pinal Redirect Credits[5]	**14,125**	**0**	**14,125**
Interstate - SNWA	**613,846**	**5,000**	**608,846**

[1] Assumes Tier 2b shortage reductions in 2025.
[2] White Mountain Apache Tribe (WMAT) enforceability date is April 30, 2023; Hualapai Tribe settlement subject to congressional approval.
[3] Withdrawal Fee LTSCs may be used for CAP M&I firming and/or Tribal settlement obligations if needed.
[4] LTSCs accrued pursuant to Arizona-Nevada Shortage-Sharing Agreement executed in 2007.
[5] Credits accrued from water provided to Pinal AMA GSFs at full cost to the GSF operators.

Conclusion

- Estimated firming volumes in 2023 (Tier 2a):
  - 14,898 AF for the Community
  - 4,148 AF for CAP M&I firming (755 AF for recovery)

- Use of AWBA (2023-2026)
  - 36% of the AWBA credits dedicated to Tribal firming
  - 9% of AWBA LTSCs dedicated to firm CAP M&I subcontractors

Questions?

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