

2016 Annual Report and Ten-Year Plan

AWBA Quarterly Meeting

June 28, 2017

Presented by

Virginia O'Connell, AWBA Manager

Terri Sue C. Rossi, Technical Administrator



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2016 Plan of Operation

- **AWBA Storage Deliveries – 65,708 AF**
 - Phoenix AMA - 33,988 AF
 - Pinal AMA – 17,520 AF
 - Tucson AMA – 14,200 AF
- **Arizona Consumptive Use – 2.61 MAF**
 - On-river 1.12 MAF
 - Central Arizona Project 1.49 MAF



Monies Expended for Credit Development in 2016

Funding Source	Phoenix AMA	Pinal AMA	Tucson AMA	Total
	(\$ Million)			
4-Cent Tax	\$5.92	\$1.33	\$2.59	\$9.84
Withdrawal Fees	\$2.39	\$1.30	\$0.15	\$3.84
General Fund	-	-	-	\$0
Intrastate Total	\$8.31	\$2.63	\$2.74	\$13.68
Interstate - Nevada	-	-	-	\$0
TOTAL	\$8.31	\$2.63	\$2.74	\$13.68



Number and Location of Credits Developed in 2016 (AF)

Funding Source	Phoenix AMA	Pinal AMA	Tucson AMA	Total
Long-term Storage Credits				
4-Cent Tax	29,551	8,202	12,652	58,427
Withdrawal Fees	2,526	8,041	721	15,266
General Fund	-	-	-	-
Total LTSC	32,077	16,243	13,372	61,692
Firming Credits – GRIC IGA				
Phoenix W/Fees	12,000	-	-	-
TOTAL Credits	44,077	16,243	13,372	73,692



Percentage of AWBA Goals Achieved through 2016

Objective	Funding Source	Goal (AF)	Credits Accrued (AF)	Progress Toward Goals/Oblig.
M&I Firming				
Phoenix AMA	Maricopa 4¢	1,566,000	1,419,558	91%
Pinal AMA	Pinal 4¢	243,000	215,882	89%
Tucson AMA	Pima 4¢	864,000	459,842	53% W/Fees 65%
Groundwater Mgmt				
Phoenix AMA	Withdrawal Fees		243,750	
Pinal AMA	Withdrawal Fees		404,482	
Tucson AMA	Withdrawal Fees		99,393	
On-River M&I Firming	General Fund	420,000		96%

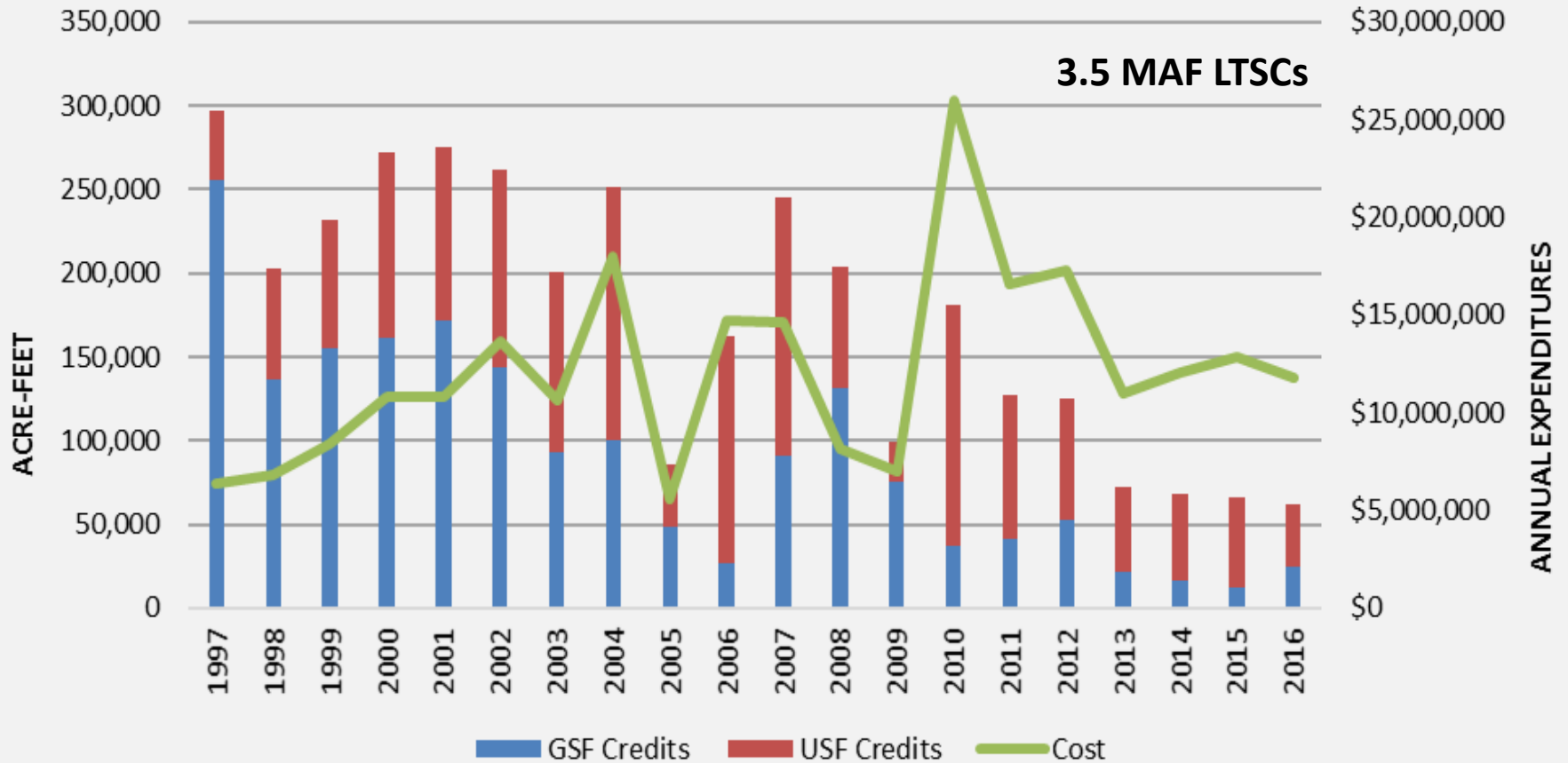


Percentage of AWBA Goals Achieved through 2016

Objective	Obligation	Goal (AF)	Non- LTS Credit Obligation Achieved	Credits Accrued (AF)	Progress Toward Goals/Oblig.
Indian Settlements:					
GRIC Firming	up to 15,000 AF/YR	350,000		133,390	38%
Future Settlements	up to 8,724 AF/YR	200,000		0	0%
Federal Assistance	\$3,000,000		\$3,000,000	34,102	100%
Southside Replenishment Bank	15,000 AF Direct Delivery		15,000		100%



Annual Long-term Storage Credit Accrual Costs



2017 Plan of Operation

- **Total Supplies Available to Pool – 18,630 AF**
 - CAGR Reserve 0 AF
 - Federal 1,000 AF
- **Projected AWBA Recharge Deliveries**
 - 17,630 AF deliveries for storage (\$2.86 M)
- **Credit Development**
 - LTSC Purchases ~ 80.7 KAF (\$17.7 M)
 - GRIC Firming Credits – 7KAF (\$1.15 M)

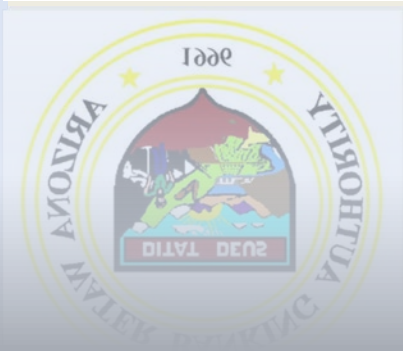


Recovery Planning

- **ADWR, CAWCD, and AWBA staff continue to work collaboratively on next steps**
- **CAP System Use Agreement (approved Feb. 2017)**
- **CAWCD is primary recovery agent**
 - **Developing recovery agreements with partners**
 - **Evaluating recovery infrastructure potential**
 - **Potential costs**
- **Continued modeling of Colorado River conditions and potential shortage impacts**



QUESTIONS?



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TEN-YEAR PLAN (2018-2027)



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Purpose of Ten-Year Plan

- **Supports development of AWBA Annual Plan of Operation for following year**
- **Provides triggers for implementing firming procedures with GRIC**
- **Creates strategy for meeting goals and obligations over time**
- **Supports policy development**



Key Plan Assumptions

- **Excess CAP water not available after 2018**
- **Overall theme is still shortage conditions**
- **CAWCD adopted 2018-2023 rate schedule**
- **Ad Valorem tax reduced by half in 2018**
- **Budget is based on projected cost of developing credits as though AWBA received Excess CAP water directly**
- **No general fund appropriations or legislative transfers except in FY 2018**



Water Available to AWBA

- **No Excess CAP water except 2018**
- **If water available in 2018 expect normal operations**
- **Overall theme still shortage**

	Probabilities %		
	Shortage	Surplus	Normal
2018	0%	0%	100%
2019	31%	5%	64%
2020	32%	13%	55%
2021	34%	18%	48%
2022	39%	21%	40%
2023	46%	26%	28%
2024	47%	29%	25%
2025	52%	29%	20%
2026	55%	28%	17%
2027	56%	27%	17%



2017 Probabilities

	Conditions		
	Shortage	Surplus	Normal
2017	10%	0%	90%
2018	56%	0%	44%
2019	64%	4%	32%
2020	64%	8%	28%
2021	61%	12%	27%
2022	59%	15%	27%
2023	60%	19%	21%
2024	61%	23%	16%
2025	60%	25%	15%
2026	60%	26%	14%

2018 Probabilities

	Probabilities %		
	Shortage	Surplus	Normal
2018	0%	0%	100%
2019	31%	5%	64%
2020	32%	13%	55%
2021	34%	18%	48%
2022	39%	21%	40%
2023	46%	26%	28%
2024	47%	29%	25%
2025	52%	29%	20%
2026	55%	28%	17%
2027	56%	27%	17%



If normal conditions prevail...

Year	Total CAP Deliveries ¹	Statutory Firming Pool ³	
		Federal & CAGRDRR	AWBA
2018	1,440,000	7,100	42,800
2019	1,554,500	15,600	93,500
2020	1,553,500	7,900	47,800
2021	1,552,300	9,700	58,300
2022	1,551,200	7,900	47,600
2023	1,550,100	6,100	36,900
2024	1,549,000	4,400	26,100
2025	1,547,900	13,400	80,700
2026	1,546,900	11,200	67,200
2027	1,545,900	<u>9,000</u>	<u>53,800</u>
Total		92,300	554,700



Credit Development Plan

- **Target = 400,000 AF**
- **Indian Firming**
 - **Utilizes Phoenix and Pinal AMA withdrawal fee revenues**
 - 95,300 acre-feet in Phoenix AMA
 - 63,300 acre-feet in Pinal AMA
- **CAP M&I Firming**
 - **Maricopa and Pinal County 4¢ tax use based on achieving goal by 2027** (83,400 and 21,800 acre-feet)
 - **Maximizes use of Pima 4¢ tax revenues** (122,000 acre-feet)
 - **Assumes withdrawal fee credits for Tucson AMA** (13,700 acre-feet)



Result of Credit Development Plan

Objective	Funding Source	Goal (AF)	Credits Accrued (AF)	Progress Toward Goals/Oblig.
M&I Firming				
Phoenix AMA	Maricopa 4¢	1,566,000	1,566,000	100%
Pinal AMA	Pinal 4¢	243,000	243,000	100%
Tucson AMA	Pima 4¢	864,000	595,200 711,500	69% Withdrawal Fees 82%
On-River M&I Firming	General Fund	420,000	403,830	96%
Indian Settlement				
GRIC	Withdrawal Fees	350,000	299,100	85%
Future Settlements	Withdrawal Fees	200,000	0	0%
Groundwater Management				
Phoenix AMA	Withdrawal Fees		244,900	
Pinal AMA	Withdrawal Fees		410,100	
Tucson AMA	Withdrawal Fees		116,300	
Shortage Reparation Funds	Agreement	\$8,000,000	109,489	100%

Firming Plan

Year	Probability of Shortage ¹				NIA Indian Firming ² (af)			Total AWBA Firming Volume
	Any	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier3	(af)
2018	0%	0%	0%	0%	-	-	-	-
2019	31%	31%	0%	0%	-	-	4,600	-
2020	32%	31%	1%	0%	-	910	8,667	-
2021	34%	26%	8%	0%	-	2,062	9,585	-
2022	39%	27%	10%	3%	-	3,146	10,448	-
2023	46%	31%	11%	4%	-	4,166	11,261	-
2024	47%	28%	11%	7%	-	5,129	12,027	-
2025	52%	30%	12%	9%	-	5,975	12,720	-
2026	55%	27%	18%	10%	546	7,193	13,840	546
2027	56%	25%	18%	13%	1,824	8,381	14,938	1,824
TOTALS					2,370	36,961	98,085	2,370



Firming Plan

Year	Probability of Shortage ¹ (%)				NIA Indian Firming ² (af)			Total AWBA Firming Volume (af)
	Any	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier3	(af)
2017	10%	10%	0%	0%	-	-	-	-
2018	56%	56%	<1%	0%	-	-	3,880	-
2019	64%	46%	18%	<1%	-	-	4,920	-
2020	64%	40%	18%	6%	-	-	5,930	-
2021	61%	33%	18%	10%	-	620	6,930	-
2022	59%	25%	20%	13%	-	1,680	7,890	-
2023	60%	22%	23%	16%	-	2,630	8,780	2,630
2024	61%	20%	22%	18%	-	3,560	9,660	3,560
2025	60%	18%	21%	21%	-	5,020	10,830	10,830
2026	60%	16%	21%	23%	1,120	6,720	12,320	12,320
TOTALS					1,120	20,230	71,140	29,340



Conclusions...

- **Excess CAP water available in 2018**
- **No Excess CAP post-2018**
- **Possible firming requirement by 2026 but volumes manageable; range is expanding**
- **Firming requirement only affects NIA priority**
- **Sufficient credits already stored to meet most conservative firming estimate**
- **M&I firming goals could be attained in Phoenix and Pinal AMAs**
- **82% of M&I firming goal could be attained in Tucson if withdrawal fee credits are included**



Recommended actions...

- **Focus on Indian firming goals and corresponding agreements**
- **Coordinate with ADWR and CAWCD on recovery planning, modeling, etc.**
- **Continue seeking opportunities to achieve goals/obligations independent of Excess CAP water**

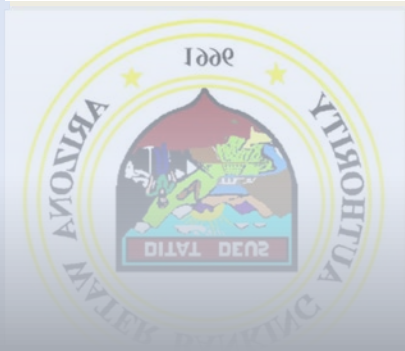


Recommended actions...

- **Reinstate quarterly meetings with CAWCD and AWBA regarding AWBA operations and finances**
- **Support efforts to retain water in Lake Mead**
- **Consider developing a contingency fund for potential water surplus conditions**



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