

# **Agenda Item No. 7**

## **2019 AWBA Annual Report**

**AWBA Quarterly Meeting  
June 17, 2020**

**Virginia O'Connell, Director  
Simone Kjolsrud, Technical Administrator**



# LBDCP Implementation Plan

## AWBA Commitments

(Effected May 20, 2019)

- Arizona LBDCP Framework Agreement
- CAP NIA Mitigation Agreement
- Agreement to exchange LTS credits
- IGA with GRIC for developing ICS firming credits
- Policy on LTSC distribution for M&I firming



# 2019 Plan of Operation

- **No Water Storage Deliveries**
- **Developed Credits – 32,451 AF**
  - **LTSC purchases 19,257 AF**
    - **Phoenix – 13,100 AF**
    - **Tucson – 6,157 AF**
  - **ICS Firming Credits - 13,194 AF**
    - **Phoenix – 8,073 AF**
    - **Pinal – 5,121 AF**



# 2019 Plan of Operation Expenditures

Funding Source	Phoenix AMA	Pinal AMA	Tucson AMA	Total
(\$Million)				
Water Storage Tax	\$2.95	-	\$1.10	\$4.05
Withdrawal Fees	\$2.15	\$1.37	\$0.29	\$3.81
<b>Total</b>	<b>\$5.10</b>	<b>\$1.37</b>	<b>\$1.39</b>	<b>\$7.86</b>



# Percentage of AWBA Goals Achieved through 2019

Objective	Funding Source	Goal (AF)	Credits Accrued (AF)	Progress Toward Goals/Oblig.
<b>M&amp;I Firming</b>				
Phoenix AMA	Maricopa 4¢	1,566,000	1,506,047	96%
Pinal AMA	Pinal 4¢	243,000	223,571	92%
Tucson AMA	Pima 4¢	864,000	485,028	56% W/Fees 68%
<b>Groundwater Mgmt</b>				
Phoenix AMA	Withdrawal Fees		251,411	
Pinal AMA	Withdrawal Fees		417,453	
Tucson AMA	Withdrawal Fees		104,561	
<b>On-River M&amp;I Firming</b>	General Fund	420,000	403,830	96%
<b>Indian Firming - GRIC</b>		350,000	162,584	46%



# Recovery Planning

- **Recovery Planning Advisory Group Meetings**
  - Discussed impacts of DCP on recovery
  - Developed Recovery Decision Tree based on stakeholder input
  - Prepared outline for update to 2014 Recovery Plan
  - Proposed legislation from AMWUA on direct distribution of AWBA credits to CAP M&I subcontractors
- **CAWCD activities**
  - Developed recovery agreements with partners
  - Evaluating recovery infrastructure potential



# Questions?



# Ten-Year Plan

## (2021-2030)

- **Planning tool for credit development**
- **Supports development of AWBA Annual Plan of Operation**
- **Project likelihood of credit distribution for firming or developing ICUA**
- **Provides triggers for firming implementation with the Gila River Indian Community**
- **Supports policy development**





# Assumptions

- **No Excess CAP water available 2021-2030**
- **No general fund appropriations**
- **Continued legislative transfers of withdrawal fees**
- **LTSC purchases based on CAP Excess Water rates**
- **If water becomes available, AWBA will store based on established priorities**



# Credit Development

- **Target = ~193,000 AF**
- **Indian Firming**
  - ICS Firming Credits (24,000 AF)
- **CAP M&I Firming**
  - Maricopa Water Storage Tax (16,500 AF)
  - Maximize Pima Water Storage Tax (139,000 AF)
- **Tucson AMA withdrawal fee (14,000 AF)**



# Percentage of AWBA Goals Achieved through 2030

Objective	Funding Source	Goal (AF)	Credits Accrued (AF)	Progress Toward Goals/Oblig.
<b>M&amp;I Firming</b>				
Phoenix AMA	Maricopa 4¢	1,566,000	1,582,249	101%
Pinal AMA	Pinal 4¢	243,000	231,941	95%
Tucson AMA	Pima 4¢	864,000	638,343 745,075	74% W/Fees 86%
<b>Groundwater Mgmt</b>				
Phoenix AMA	Withdrawal Fees		251,411	
Pinal AMA	Withdrawal Fees		417,453	
Tucson AMA	Withdrawal Fees		106,732	
On-River M&I Firming	General Fund	420,000	403,830	96%
Indian Firming - GRIC		350,000	194,390	55%



# Credit Distribution

- **Factors influencing firming volumes**
- **Modeling scenarios, shortage probability and firming volumes**
  - **Colorado River Simulation System (CRSS)**
  - **Joint Recovery Model (JRM)**
- **AWBA baseline scenario - 133,000 AF NIA Indian Priority (CRSS April 2020 Full hydrology)**



# April 2020 CRSS – Full Hydrology

Operational Tier/Probability of Shortage								NIA Indian Firming (af)				Total Potential Firming Volume
Year	Surplus	Normal	Tier 0	Tier 1	Tier 2a	Tier 2b	Tier 3	Tier 1	Tier 2a	Tier 2b	Tier3	
	≥ 1,145	>1090 and <1145	>1075 and ≤1090	≤1075 and >1050	≤1050 and >1045	≤1045 and >1025	≤1025					
			192 kaf	512 kaf	592 kaf	640 kaf	720 kaf					
2021	0%	6%	94%	0%	0%	0%	0%	-	-	-	-	-
2022	0%	14%	77%	9%	0%	0%	0%	-	-	-	-	-
2023	6%	19%	44%	30%	1%	0%	0%	14,358	18,348	17,251	15,600	14,358
2024	10%	18%	34%	28%	3%	7%	0%	15,148	18,317	17,221	15,575	15,148
2025	16%	17%	25%	28%	3%	8%	3%	15,969	18,698	17,577	15,898	15,969
2026	19%	16%	17%	30%	3%	11%	4%	16,056	18,667	17,546	15,872	16,056
2027	22%	12%	15%	30%	3%	12%	6%	17,582	19,961	18,761	16,972	17,582
2028	24%	10%	12%	31%	4%	11%	8%	17,780	19,880	18,683	16,903	17,780
2029	25%	9%	9%	30%	5%	14%	8%	17,979	19,800	18,605	16,835	17,979
2030	25%	11%	9%	27%	3%	17%	8%	18,387	19,720	18,527	16,766	18,387
TOTALS								133,260	153,391	144,171	130,421	133,260



# April 2020 CRSS – Stress Test Hydrology

Operational Tier/Probability of Shortage								Total AWBA Firming (af)				Total Potential Firming Volume
Year	Surplus	Normal	Tier 0	Tier 1	Tier 2a	Tier 2b	Tier 3	Tier 1	Tier 2a	Tier 2b	Tier3	
	≥ 1,145	>1090 and <1145	>1075 and ≤1090	≤1075 and >1050	≤1050 and >1045	≤1045 and >1025	≤1025					
			192 kaf	512 kaf	592 kaf	640 kaf	720 kaf					
2021	0%	6%	94%	0%	0%	0%	0%	-	-	-	-	-
2022	0%	10%	78%	12%	0%	0%	0%	-	-	-	-	-
2023	0%	12%	42%	44%	2%	0%	0%	14,358	31,485	66,179	118,854	14,358
2024	1%	11%	32%	32%	5%	18%	0%	15,148	32,439	67,132	119,782	15,148
2025	3%	13%	18%	37%	5%	17%	7%	15,969	38,156	72,825	125,414	15,969
2026	6%	11%	10%	35%	5%	20%	13%	16,056	39,114	73,783	126,351	16,056
2027	5%	11%	9%	28%	4%	25%	18%	17,582	44,359	78,948	131,378	17,582
2028	5%	12%	6%	25%	6%	20%	26%	17,780	46,752	81,344	133,762	133,762
2029	4%	12%	4%	24%	3%	26%	27%	17,979	49,148	83,743	136,150	136,150
2030	1%	13%	4%	21%	3%	27%	30%	18,387	51,547	86,145	138,543	138,543
<b>TOTALS</b>								<b>133,260</b>	<b>333,000</b>	<b>610,098</b>	<b>1,030,233</b>	<b>487,568</b>



# April 2020 CRSS – Stress Test Hydrology

NIA Indian Firming <sup>3</sup> (af)				Total	CAP M&I Subcontract <sup>3</sup> (af)				Total	On-River Firming <sup>3</sup> (af)			
Tier 1	Tier 2a	Tier 2b	Tier3		Tier 1	Tier 2a	Tier 2b	Tier3		Tier 1	Tier 2a	Tier 2b	Tier3
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
14,358	18,348	17,251	15,600	14,358	-	13,138	48,927	102,821	-	-	-	-	-
15,148	18,317	17,221	15,575	15,148	-	14,121	49,911	103,660	-	-	-	-	-
15,969	18,698	17,577	15,898	15,969	-	19,458	55,248	108,853	-	-	-	-	-
16,056	18,667	17,546	15,872	16,056	-	20,447	56,236	109,696	-	-	-	-	-
17,582	19,961	18,761	16,972	17,582	-	24,398	60,188	113,502	-	-	-	-	-
17,780	19,880	18,683	16,903	16,903	-	26,872	62,662	115,830	115,830	-	-	-	1,028
17,979	19,800	18,605	16,835	16,835	-	29,348	65,138	118,161	118,161	-	-	-	1,155
18,387	19,720	18,527	16,766	16,766	-	31,828	67,617	120,493	120,493	-	-	-	1,284
<b>133,260</b>	<b>153,391</b>	<b>144,171</b>	<b>130,421</b>	<b>129,617</b>	-	<b>179,609</b>	<b>465,927</b>	<b>893,017</b>	<b>354,484</b>	-	-	-	<b>3,467</b>



# Joint Recovery Model w/ Aug 2019 CRSS – Full Hydrology

Operational Tier/Probability of Shortage								NIA Indian Firming (af)				Total Potential Firming Volume
Year	Surplus	Normal	Tier 0	Tier 1	Tier 2a	Tier 2b	Tier 3	Tier 1	Tier 2a	Tier 2b	Tier3	
	≥ 1,145	>1090 and <1145	>1075 and ≤1090	≤1075 and >1050	≤1050 and >1045	≤1045 and >1025	≤1025					
			192 kaf	512 kaf	592 kaf	640 kaf	720 kaf					
2021	1%	23%	68%	8%	0%	0%	0%	-	-	-	-	-
2022	12%	26%	41%	20%	2%	0%	0%	10,393	15,000	14,172	12,815	10,393
2023	18%	29%	23%	24%	1%	4%	1%	14,358	18,348	17,251	15,600	14,358
2024	23%	26%	20%	21%	3%	5%	2%	15,148	18,317	17,221	15,575	15,148
2025	30%	17%	19%	23%	1%	8%	2%	15,969	18,698	17,577	15,898	15,969
2026	33%	19%	14%	23%	1%	8%	2%	16,056	18,667	17,546	15,872	16,056
2027	33%	14%	19%	25%	1%	5%	3%	17,582	19,961	18,761	16,972	17,582
2028	31%	19%	18%	22%	3%	5%	2%	17,780	19,880	18,683	16,903	17,780
2029	34%	17%	13%	28%	4%	4%	1%	17,979	19,800	18,605	16,835	17,979
2030	34%	15%	17%	22%	4%	4%	3%	18,387	19,720	18,527	16,766	18,387
<b>TOTALS</b>								<b>143,652</b>	<b>168,391</b>	<b>158,344</b>	<b>143,236</b>	<b>143,652</b>





# Joint Recovery Model w/ Aug 2019 CRSS – Stress Test Hydrology

Operational Tier/Probability of Shortage								NIA Indian Firming (af)				Total Potential Firming Volume
Year	Surplus	Normal	Tier 0	Tier 1	Tier 2a	Tier 2b	Tier 3	Tier 1	Tier 2a	Tier 2b	Tier3	
	≥ 1,145	>1090 and <1145	>1075 and ≤1090	≤1075 and >1050	≤1050 and >1045	≤1045 and >1025	≤1025					
			192 kaf	512 kaf	592 kaf	640 kaf	720 kaf					
2021	0%	17%	70%	13%	0%	0%	0%	-	-	-	-	-
2022	0%	30%	37%	30%	3%	0%	0%	10,393	15,000	14,172	12,815	10,393
2023	13%	17%	30%	23%	3%	13%	0%	14,358	18,348	17,251	15,600	14,358
2024	13%	23%	17%	27%	3%	13%	3%	15,148	18,317	17,221	15,575	15,148
2025	20%	17%	13%	30%	0%	13%	7%	15,969	18,698	17,577	15,898	15,969
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2028	23%	20%	13%	23%	7%	7%	7%	17,780	19,880	18,683	16,903	17,780
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2030	30%	20%	7%	23%	7%	3%	10%	18,387	19,720	18,527	16,766	18,387
<b>TOTALS</b>								<b>143,652</b>	<b>168,391</b>	<b>158,344</b>	<b>143,236</b>	<b>143,652</b>



# Conclusion

- **Planning tool for AWBA activities**
- **Assists with the Plan of Operation – 2021**
- **Moderate probability of Tier one shortage**
- **Recovery Planning and Implementation**
- **Prepared to meet firming obligations**
- **Continued progress on objectives**



# Questions?

**AWBA Quarterly Meeting**

**June 17, 2020**

**[waterbank.az.gov](http://waterbank.az.gov)**

**Presented by**

**Virginia O'Connell, AWBA Manager**

**Simone Kjolsrud, Technical Administrator**

