

2016

CENTRAL ARIZONA GROUNDWATER
REPLENISHMENT DISTRICT

ANNUAL OPERATIONS REPORT



CAGRD

CENTRAL ARIZONA GROUNDWATER
REPLENISHMENT DISTRICT
A Division of Central Arizona Project

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LIST OF ABBREVIATIONS

<i>ABBREVIATION</i>	<i>DESCRIPTION</i>
ADWR	Arizona Department of Water Resources
AF	acre-feet
AF/Yr	acre-feet per year
AMA	Active Management Area
ARM	Active Resource Management
A.R.S.	Arizona Revised Statutes
AWS	Assured Water Supply
BOR	U.S. Bureau of Reclamation
CAP	Central Arizona Project
CAGRD	Central Arizona Groundwater Replenishment District
CAWCD	Central Arizona Water Conservation District
CAWS	Certificate of Assured Water Supply
CHCID	Chandler Heights Citrus Irrigation District
CDAR	Conservation District Annual Report
CMID	Cortaro-Marana Irrigation District
DAWS	Designation of Assured Water Supply
GSF	Groundwater Savings Facility
HOA	Homeowners Association
LPSCO	Litchfield Park Service Company
LTSCs	Long-term Storage Credits
M&I	Municipal and Industrial
ML	Member Land
MSA	Member Service Area
NIA	Non-Indian Agricultural
SMCFD	Superstition Mountains Community Facilities District
USF	Underground Storage Facility

BRIEF INTRODUCTION TO CAGRD

The Central Arizona Groundwater Replenishment District (“CAGRD”) was established in 1993 to provide a method for landowners and water providers to demonstrate a 100-year Assured Water Supply (“AWS”) under Arizona law. CAGRD recharges Central Arizona Project (“CAP”) water and other water supplies to replenish groundwater use by its members in excess of the limits established by the Arizona Department of Water Resources (“ADWR”) AWS Rules.

The AWS Rules limit the quantity of mined groundwater that an applicant may use to demonstrate an AWS. This groundwater use limitation prevents new development from relying solely on mined groundwater to satisfy its water demands. If a landowner or water provider has no direct access to CAP water or other renewable supplies, but has access to sufficient groundwater to demonstrate an AWS, it may do so, provided it becomes a member of CAGRD. As a member, the landowner or water provider must pay CAGRD to replenish any groundwater pumped by the member which exceeds the pumping limitations (referred to as “Excess Groundwater”) imposed by the AWS Rules.

CAGRD is operated by the Central Arizona Water Conservation District (“CAWCD”) throughout the portion of CAWCD’s three-county service area that is within an Active Management Area (“AMA”). It is governed by the CAWCD Board of Directors (“Board”) yet CAGRD’s finances are completely separate from the rest of CAWCD’s finances and all costs incurred by CAGRD must be paid by CAGRD members.

Membership

Membership in CAGRD is voluntary. Any city, town, private water company, subdivision or homeowner’s association located in the Phoenix, Pinal or Tucson AMA may join CAGRD so long as it meets the State’s requirements. CAGRD is comprised of two types of members: Member Service Areas (“MSAs”) and Member Lands (“MLs”).

- MSA - The service area of a city, town, district or private water company, including any extensions of the service area. The municipal water provider is required to submit reports to CAGRD annually identifying the volume of Excess Groundwater pumped within the service area and must pay CAGRD replenishment taxes on that volume. When applying to enroll a service area in CAGRD, the applicant provides a projection of future population, water demands and renewable supplies available to meet those demands. This projection serves as a basis for estimating CAGRD’s long-term replenishment obligation for the service area. Membership in the CAGRD allows the water provider to receive a Designation of Assured Water Supply (“DAWS”), issued by ADWR, for its service area.

- ML – An individual subdivision with a defined legal description. The water provider agrees to submit annually to CAGRD the water delivery information necessary to calculate the replenishment assessment for each parcel of land enrolled within the subdivision. A ML water provider does not have a DAWS. Instead, each individual subdivision must receive its own, separate Certificate of Assured Water Supply (“CAWS”) from ADWR.

Replenishment Obligation

CAGRD must replenish (or recharge) in each AMA the amount of Excess Groundwater¹ that has been pumped by or delivered to its members in that AMA. The replenishment may be accomplished through: 1) the operation of underground storage facilities, where water is stored underground in existing aquifers; 2) through groundwater savings facilities, where water is used directly by irrigation districts in lieu of pumping groundwater; or 3) through the extinguishment of long term storage credits (LTSCs) held by CAGRD. Water used for replenishment may be CAP water or water from any other lawfully available source, except groundwater withdrawn from within an AMA.

Revenue Sources

All operations of CAGRD must be funded completely by its members. These costs are covered by a combination of up-front fees, annual membership dues, and replenishment taxes and assessments. Each type of revenue source is dedicated to specific purposes and helps cover costs associated with replenishment activities, such as development of infrastructure, recharge facility construction, water acquisition, operation and maintenance, replenishment reserve and administration. CAGRD also has the authority to issue revenue bonds to develop infrastructure and acquire water rights necessary to perform its replenishment obligation.

MSAs pay CAGRD for replenishment services performed on behalf of their service area, as well as annual membership dues. Individual property owners in MLs each pay a special assessment to CAGRD, as well as annual membership dues, both collected through the annual property tax assessment process.

¹ Excess Groundwater is defined in A.R.S. § 48-3701.7 as the amount of groundwater delivered to a member in a calendar year in excess of the amount of groundwater that may be used by the member in that calendar year consistent with the applicable Assured Water Supply rules adopted by ADWR for the AMA where the member is located.

Planning

Plan of Operation - Every ten years, CAGRD is required to submit a Plan of Operation to the Director of ADWR. The primary purpose of the Plan is to document the actions of CAGRD over the past ten years and to describe the activities that CAGRD proposes to undertake in each AMA during the ten-year and 100-year periods following Plan submission. CAGRD's 2015 Plan of Operation ("2015 Plan") was approved by the Director of ADWR on August 5, 2015 and covers the ten-year period from 2015-2024. CAGRD continues to operate under this Plan until the next plan is submitted by 2025.

Board Strategic Plan - One objective of the CAWCD 2016 Board of Directors Strategic Plan, specific to the management and oversight of CAGRD, involves review of CAGRD status as compared to projections in the Plan of Operation often enough to provide comfort to the Board, staff, stakeholders and legislators. Two action items were identified as part of this review:

1. Perform and document a formal review of CAGRD at least every five years.
2. Prepare an annual report showing membership and corresponding projections of obligations and include it as part of the annual report filed with ADWR.

Mid-Plan Review - The Mid-Plan Review (Item #1 above) is a comprehensive assessment of the mid-term trends in CAGRD operations under the Plan of Operation. The Mid-Plan Review provides indications of where these trends may lead CAGRD over the remaining five years of the Plan and any adjustments to the Plan that may need to be considered. A Mid-Plan Review was completed in 2011 during the 2005 Plan of Operation period and the next Mid-Plan Review is scheduled for completion in 2020 during the 2015 Plan of Operation.

Annual Reporting - The Conservation District Annual Report ("CDAR") is submitted to ADWR by August 31 of each year for the previous calendar year (A.R.S. § 48-3775.E). The CDAR details numerical information in a series of tables showing water storage amount, credit transfers, account balances, groundwater replenishment obligations, contract replenishment obligations and contract replenishment credit accounting.

The Board has directed staff to develop an enhanced annual report (Item #2 above), hereafter referred to as the CAGRD Annual Operations Report, that serves to supplement the CDAR with additional information on the status of CAGRD operations. More specifically, the Annual Operations Report provides further details in a narrative format on new enrollment, changes in replenishment obligation, water supply and replenishment reserve activities and any new legislation and administrative activities.

The first CAGRD Annual Operations Report was completed in late 2015 for calendar year 2014, which was the final year covered under the previous 2005 Plan of Operation. This third CAGRD Annual Operations Report was completed in late 2017 for calendar year 2016, which is the second year covered under the 2015 Plan of Operation. Completion of the Annual Operations

Report will always follow submittal of the CDAR to ADWR. This report was submitted to ADWR and posted on the CAGRD website at www.cagrd.com.

1. Enrollment and Activation – 2016

Enrollment

Most of the new Member Land (ML) enrollment in 2016 occurred in the Phoenix AMA and was comprised of 2,201 lots with a projected demand of 1,065 AF/yr (see **Table 1.1**). The West Valley encompassed 61% of new membership (1,343 lots) with a projected demand of 609 AF/yr of new enrollment annual obligation. The East Valley encompassed 39% of this new membership (858 lots) with a projected demand of 456 AF/yr of new enrollment annual obligation. The Tucson AMA encompassed less than 1% of new membership (10 lots) with a projected demand of just 3 AF/yr of new enrollment annual obligation. There were no new MLs enrolled in the Pinal AMA in 2016.

TABLE 1.1

NEW MEMBER LAND (ML) ENROLLMENT IN 2016

AMA	ML Lots*	Projected Demand AF/yr
Phoenix	2,201	1065
<i>West Phoenix</i>	<i>1,343</i>	<i>609</i>
<i>East Phoenix</i>	<i>858</i>	<i>456</i>
Pinal	--	--
Tucson	10	3
TOTAL	2,211	1,068

TABLE NOTES:

*The term Member Land (ML) refers to a subdivision enrolled in CAGRD; numbers reflect the number of lots or homes within the subdivisions.

One new MSA enrolled in 2016 from the Pinal AMA. Known as Southwest Environmental Utilities, L.L.C., the MSA has an estimated projected demand of 1,973 AF, though its DAWS is still pending.

Member land enrollment in 2016 was approximately 20% less than enrollment in 2015. Enrollment in the Tucson AMA was down by approximately 80% (10 lots in 2016 compared to 55 lots in 2015), while enrollment in the Phoenix AMA was down about 19% overall in 2016 compared to 2015. There was also a shift in West versus East Phoenix AMA enrollment, with about 39% *less* enrollment in the West Valley and about 66% *greater* enrollment in the East Valley compared to 2015.

CAGRD also saw its first de-enrollment activity in 2016. Two Phoenix AMA subdivisions representing 57 lots de-enrolled from CAGRD membership.

Activation

The Arizona Department of Real Estate issues a public report allowing the sale of lots within subdivisions. Prior to this report being issued for subdivisions within CAGRD MLs and MSAs, an Activation Fee must be paid to CAGRD per residential unit offered for sale. In 2016, the number of lots activated totaled 8,991 (ML lots = 4,396; MSA lots = 4,595). **Table 1.2** provides a breakdown by AMA of previously enrolled lots that were activated in 2016.

TABLE 1.2
NUMBER OF LOTS ACTIVATED IN 2016

AMA	MLs	MSAs
Phoenix	3,700	2,672
<i>West Phoenix</i>	<i>1,980</i>	<i>929</i>
<i>East Phoenix</i>	<i>1,720</i>	<i>1,743</i>
Pinal	179	299
Tucson	517	1,624
TOTAL	4,396	4,595

Compared to 2015, many more member land lots were activated in 2016 (an increase of approximately 63%) while MSA activations were slightly lower (a decrease of about 6%). On the ML side, 2016 saw an increase of about 74% in Tucson activations, and an increase of about 28% in West Phoenix activations. The biggest difference was in East Phoenix, where 1,720 ML lots were activated, more than double the previous year's 833 activated ML lots. On the MSA side, there were also some significant shifts compared to 2015, despite such a small difference in total MSA activations. Specifically, there was a large decrease in the number of West Phoenix MSA activations (929 lots in 2016 versus 2,687 in 2015) and a large increase in East Phoenix MSA activations (1,743 lots in 2016 versus only 433 lots in 2015). The East Phoenix MSAs with the most activated lots in 2016 included Gilbert and Scottsdale. Pinal MSAs saw a fourfold increase in activated units, with 299 in 2016 compared to just 69 units in 2015.

2. Replenishment Obligation Incurred and Replenishment Obligation Completed – 2016

The municipal water provider serving MLs is required by statute to file an annual report with CAGRD for each ML subdivision that it serves; this report must indicate the volume of total groundwater and the volume of Excess Groundwater delivered to each parcel in the subdivision. MSAs also are required by statute to file an annual report with CAGRD indicating the volume of total groundwater and the volume of Excess Groundwater pumped within their service areas. These reports must be submitted to CAGRD by March 31st of each year, and the volumes reported represent pumping or deliveries from the previous year (“the Report Year”). Thus, CAGRD incurs Replenishment Obligation in the calendar year following that in which the Excess Groundwater is actually delivered. CAGRD must complete its Replenishment Obligation within three calendar years after it is incurred. For that reason, at any given point there may be approximately one year’s worth of obligation unfulfilled, or more.

The replenishment obligation reflects the volume of Excess Groundwater delivered by municipal water providers serving CAGRD ML subdivisions and withdrawn by MSA providers within their service areas. In 2016, CAGRD incurred a replenishment obligation of 30,922 AF. **Table 2.1** shows the distribution of obligation between MLs and MSAs by AMA. Overall, the total obligation was 72% within MLs and 28% within MSAs. The 2016 obligation only amounted to a very small increase over the 2015 obligation (30,399 AF) with nearly the same contribution by AMA and from MLs versus MSAs.

Table 2.1

EXCESS GROUNDWATER DELIVERIES FOR MLs AND MSAs in 2016 (AF) By AMA

AMA	MLs	MSAs	TOTAL
Phoenix	20,725	7,169	27,894
Pinal	30	458	488
Tucson	1,550	990	2,540
TOTAL	22,305	8,617	30,922

Tables 2.2, 2.3, 2.4, and 2.5 list the volumes of Excess Groundwater delivered/withdrawn from 2013 through 2016. The tables also identify the extent to which the replenishment obligation resulting from those deliveries has been completed. Recent activity is shown, specifically for the past four years, showing that CAGRD has met its obligation within the statutory time frame.

In 2016, CAGRD completed 42,100 AF of replenishment obligation as shown in **Tables 2.2 through 2.5** (refer to 2016 rows).

The following explanation is offered to assist in interpreting these tables. Please refer to **Table 2.2** showing a comparison of the Excess Groundwater deliveries to completion of replenishment obligation for the West Phoenix AMA.

The top row shows the year in which deliveries or withdrawals of Excess Groundwater occurred. For example, the 2013 column illustrates that a total of 14,062 AF of Excess Groundwater was delivered to MLs and withdrawn by MSAs in 2013 in the West Phoenix AMA. Fulfillment of this obligation occurred over a two-year period: 9,167 AF in 2014 and 4,895 AF in 2015. The two rows along the bottom of the table showing the “Amount Completed to Date” and “Amount Unmet to Date” reflect ongoing replenishment activities to fulfill or complete the obligation associated with Excess Groundwater deliveries. For example, the 2016 column illustrates a total of 11,904 AF of Excess Groundwater was delivered or withdrawn in 2016; in 2016, all 11,904 AF was replenished, leaving 0 AF of remaining obligation in the West Phoenix AMA.

Table 2.2

**EXCESS GROUNDWATER DELIVERIES AND
COMPLETION OF REPLENISHMENT OBLIGATION**
For West Phoenix AMA

WEST PHOENIX AMA		EXCESS GROUNDWATER OBLIGATION BY REPORT YEAR* (AF)			
		2013	2014	2015	2016
		14,062	13,958	13,001	11,904
YEAR OBLIGATION COMPLETED	2013				
	2014	9,167			
	2015	4,895	13,958	4,069	
	2016			8,932	11,904
Amount Completed to Date		14,062	13,958	13,001	11,904
Amount Unmet to Date		0	0	0	0

TABLE NOTES:

*Report Year refers to year in which Excess Groundwater was delivered to each ML or withdrawn from each MSA; volumes reported in hundredths have been rounded to whole numbers for this report, resulting in minor discrepancies of 1 AF in some totals.

Table 2.3

**EXCESS GROUNDWATER DELIVERIES AND
COMPLETION OF REPLENISHMENT OBLIGATION**
For East Phoenix AMA

EAST PHOENIX AMA		EXCESS GROUNDWATER OBLIGATION BY REPORT YEAR* (AF)			
		2013	2014	2015	2016
		16,909	16,398	14,435**	15,990
YEAR OBLIGATION COMPLETED	2013				
	2014	6,300			
	2015	10,609	5,832		
	2016		10,566	7,363	
Amount Completed to Date		16,909	16,398	7,363	0
Amount Unmet to Date		0	0	7,072	15,990

TABLE NOTES:

*Report Year refers to year in which Excess Groundwater was delivered to each ML or withdrawn from each MSA; volumes reported in hundredths have been rounded to whole numbers for this report, resulting in minor discrepancies of 1 AF in some totals.

**Obligation shown differs from 2015 Annual Operations Report by about 39 AF due to water provider reporting errors following submittal of CDAR; CDAR is not amended, however change in obligation is reported the following year.

Table 2.4

**EXCESS GROUNDWATER DELIVERIES AND
COMPLETION OF REPLENISHMENT OBLIGATION**
For Pinal AMA

PINAL AMA		EXCESS GROUNDWATER OBLIGATION BY REPORT YEAR* (AF)			
		2013	2014	2015	2016
		215	551	397	488
YEAR OBLIGATION COMPLETED	2013				
	2014	61			
	2015	2			
	2016	152	3		
Amount Completed to Date		215	3	0	0
Amount Unmet to Date		0	548	397	488

TABLE NOTES:

*Report Year refers to year in which Excess Groundwater was delivered to each ML or withdrawn from each MSA; volumes reported in hundredths have been rounded to whole numbers for this report, resulting in minor discrepancies of 1 AF in some totals.

Table 2.5

**EXCESS GROUNDWATER DELIVERIES AND
COMPLETION OF REPLENISHMENT OBLIGATION**
For Tucson AMA

TUCSON AMA		EXCESS GROUNDWATER OBLIGATION BY REPORT YEAR* (AF)			
		2013	2014	2015	2016
		2,914	2,957	2,469**	2,540
YEAR OBLIGATION COMPLETED	2013				
	2014	867			
	2015	2,047	903		
	2016		2,054	1,126	
Amount Completed to Date		2,914	2,957	1,126	2,540
Amount Unmet to Date		0	0	1,343	0

TABLE NOTES:

*Report Year refers to year in which Excess Groundwater was delivered to each ML or withdrawn from each MSA; volumes reported in hundredths have been rounded to whole numbers for this report, resulting in minor discrepancies of 1 AF in some totals.

**Obligation shown differs from 2015 Annual Operations Report by about 58 AF due to water provider reporting errors following submittal of CDAR; CDAR is not amended, however change in obligation is reported the following year.

Comparison of Actual ML Enrollment and Obligations in 2016 to Projected Enrollment and Obligations in 2016 (as projected in Plan of Operation development)

Recovery in the housing market has not yet occurred to the level projected by the Association of Governments used in the 2015 Plan of Operation. This largely explains the discrepancy shown in **Table 2.6** below, which shows that actual enrollment in 2016 was about 83% lower than projected enrollment.

TABLE 2.6

**COMPARISON OF ACTUAL ML ENROLLMENT IN 2016
TO PROJECTED 2016 ML ENROLLMENT**

AMA	Actual 2016 ML Enrollment ^a	Projected 2016 ML Enrollment ^b
<i>Phoenix</i>	2,201	10,686
<i>Pinal</i>	--	876
<i>Tucson</i>	10	1,272
TOTAL	2,211	12,834

TABLE NOTES:

^a2016 CAGRD Annual Operations Report, Table 1.1.

^b2015 Plan of Operation. For the housing unit projection methodology, refer to the New Demand Section 3.2.2 (pg. 3-2) of the 2015 Plan of Operation.

The obligation projections are tied to housing unit growth as well; thus, actual obligations in 2016 were lower than the Plan of Operation projections (**Table 2.7**). As enrollment and activation continue to recover along with the housing market, this gap is expected to narrow somewhat in future years, though it's difficult to gauge whether the market will truly catch up to the Plan projections.

TABLE 2.7

COMPARISON OF ACTUAL REPLENISHMENT OBLIGATION IN 2016
TO PROJECTED 2016 REPLENISHMENT OBLIGATION
(Replenishment Obligation Reflected by Excess Groundwater Deliveries)

AMA	MLs		MSAs	
	Actual 2016 Obligation ^a	Projected 2016 Obligation ^b	Actual 2016 Obligation ^a	Projected 2016 Obligation ^b
<i>Phoenix</i>	20,725	25,400	7,169	11,300
<i>Pinal</i>	30	40	458	500
<i>Tucson</i>	1,550	2,100	990	1,600
TOTAL	22,305	27,540	8,617	13,400

TABLE NOTES:

^a2015 CAGRD Annual Operations Report, Table 2.1.^b2015 CAGRD Plan of Operation.

3. Water Supply Program - 2016

A description of CAGRD's Water Supply Program for 2016 is provided under two headings: Section A - **Water Supply Activity** and Section B - **Summary of Water Supplies**. Section A describes both new activity in the program for 2016 [four newly executed agreements²] and on-going activity carried over into 2016. Discussion of new activity in 2016 will identify whether new physical supplies became available during the reporting year or will become available at some future date as specified in the associated contract or agreement. Section B serves to show an overall picture of CAGRD's water supplies [CAP Entitlement and Long-Term Storage Credits ("LTSCs")] for 2016, summarizing the volume of water supplies CAGRD had available going into the year, water accrued or acquired during the year, and total volume available at the end of the year.

A. Water Supply Activity

New Agreements

Central Arizona Project M&I Subcontract Amendment Exhibit A, Amendment No. 2

CAWCD and Chandler Heights Citrus Irrigation District ("CHCID") received final approval from the United States Bureau of Reclamation (BOR) on March 14, 2016 for the transfer of CHCID's 315 AF CAP M&I priority subcontract entitlement to CAWCD for purposes of fulfilling its CAGRD function. CAGRD's new annual M&I priority subcontract entitlement now totals 8,311 AF.

Agreement between Del Webb and CAWCD for the Purchase and Sale of LTSCs

CAWCD and Del Webb Corporation and Del Webb Home Construction ("Del Webb") executed an agreement on November 3, 2016 whereby Del Webb agreed to sell and CAGRD agreed to purchase 2,112.20 AF of LTSCs. These LTSCs were stored primarily at the Hassayampa Recharge Underground Storage Facility ("USF") (2097.20 AF) and Maricopa Water Conservation District Groundwater Savings Facility ("GSF") (15 AF) in the Phoenix Active Management Area ("AMA"). The purchase occurred in a single transaction and the LTSCs were transferred in 2016.

Agreement between the Town of Florence and CAWCD for the Purchase and Sale of LTSCs

CAWCD and the Town of Florence, Arizona ("Florence") executed an agreement on December 1, 2016 whereby CAGRD will purchase all credits available from the delivery of Florence's 2,048 AF CAP M&I entitlement to the Tonopah Irrigation District GSF located in the Phoenix AMA.

² On January 5, 2017 the CAWCD Board approved a Long-Term Storage Credit ("LTSCs") purchase and sale agreement with Active Resource Management, LLC, for 50,000 AF of Phoenix AMA LTSCs.

Historically, Florence stored its full M&I entitlement on an annually rotating basis at either the Maricopa-Stanfield Irrigation and Drainage District or the Central Arizona Irrigation and Drainage District GSFs, which are both located in the Pinal AMA.

The initial term of the agreement is 5 years (commencing in 2018) with three successive 5-year rights of renewal. CAGRD will be purchasing approximately 9,725 LTSCs (1,945 AF annually) over the initial 5-year term, which runs from 2018 through 2022.

Agreement between Active Resource Management, LLC and CAWCD for the Purchase and Sale of LTSCs

CAWCD and Active Resource Management, LLC (“ARM”) executed an agreement on January 5, 2017 whereby ARM agreed to sell and CAGRD agreed to purchase 50,000 AF of LTSCs. These LTSCs were accrued from the storage of CAP water at the Roosevelt Water Conservation District GSF located in the Phoenix AMA. The LTSC purchase occurred in a single transaction and the LTSCs were transferred into CAGRD’s account in January 2017. This agreement was negotiated and approved by ARM in 2016, but final ratification of the agreement by the CAWCD Board did not occur until the Board’s first meeting in 2017. Thus, it is not included in summary tables of this report but will be included in the 2017 report.

Purchase of Long-Term Storage Credits

Single Transaction LTSC Purchase Agreements

In 2016, a total of 2,112 AF of LTSCs were purchased through single transaction purchases.

Table 3.1a lists the Phoenix AMA LTSC purchase and the volume associated with that transaction.

TABLE 3.1a

LTSCS PURCHASED IN 2016 THROUGH SINGLE TRANSACTION PURCHASE AGREEMENTS (AF)

AMA	LTSCs
<i>Phoenix</i>	
Del Webb	2,112
TOTAL	2,112

Multi-Year LTSC Purchase Agreements

In 2016, a total of 24,091 AF of LTSCs were purchased through multi-year purchase agreements.

Table 3.1b lists the LTSC purchases by AMA and the volumes associated with each transaction.

TABLE 3.1b

LTSCS PURCHASED IN 2016 THROUGH MULTI-YEAR
PURCHASE AGREEMENTS (AF)

AMA	LTSCs
<i>Phoenix</i>	
Mojave Ventures	14,311
SMCFD	736
<i>Phoenix AMA Subtotal</i>	15,047
<i>Tucson</i>	
City of Tucson	5,000
Mojave Ventures	4,044
<i>Tucson AMA Subtotal</i>	9,044
TOTAL	24,091

A brief description of the LTSC purchase agreements executed prior to 2016 are provided in the box below.

LPSCO Credit Purchase Agreement: In 2013, CAWCD and Litchfield Park Service Company (LPSCO) entered into an agreement where LPSCO agreed to sell CAGRD all storage credits accrued by delivering effluent to Roosevelt Irrigation District from 2013 to 2017. This agreement is expected to add approximately 11,500 AF of LTSCs to the CAGRD portfolio when concluded. Note: LPSCO's year 2016 LTSC transfer to CAGRD was executed in late 2015 and was included in the "CAGRD 2015 Annual Operations Report." Future purchases of LTSCs from LPSCO will be completed under the separate, "Agreement for Development of Effluent Recharge Facility, Effluent Disposal and Purchase and Sale of Effluent", completed in 2014. This agreement provides a separate framework for purchase of LTSCs that LPSCO generates after completion of their effluent recharge facility. This facility, the Liberty Aquifer Replenishment Facility, was completed in early 2017.

Mojave Ventures Credit Purchase Agreement: In 2013, CAWCD and Mojave Ventures entered into an agreement where Mojave Ventures agreed to sell and transfer to CAWCD (for CAGRD purposes) a total of approximately 18,355 AF of LTSCs (14,311 AF from Phoenix AMA and 4,044 AF from Tucson AMA) each year from 2014 through 2020. The total volume of LTSCs to be acquired under this contract is 128,485 AF.

Superstition Mountains Community Facilities District No. 1 Purchase Agreement

In 2015, CAWCD and Superstition Mountains Community Facilities District No. 1 ("SMCFD") entered into an agreement where SMCFD agreed to sell and transfer a minimum of 1,500 LTSCs and up to a maximum of 2,352 LTSCs over the duration of the agreement. The LTSCs eligible for purchase include LTSCs generated in 2014 through 2019.

Treated effluent is recharged at the Superstition Mountains USF via infiltration basins and recharge wells. The term of the agreement begins on the effective date and continues through December 31, 2020.

City of Tucson Credit Purchase Agreement: In 2013, CAWCD and the City of Tucson ("Tucson") entered into an agreement where Tucson agreed to sell and transfer 100,000 AF of Tucson AMA LTSCs to CAGRD. CAGRD has committed to purchasing 4,000 AF of credits each year for 25 years and retains an option to purchase up to an additional 1,000 AF of LTSCs in any given year.

B. Summary of Water Supplies

CAGRD CAP Entitlement

As of March 14, 2016, CAGRD holds an annual entitlement to 8,311 AF of CAP M&I Priority water pursuant to the "Supplemental Contract between the U.S. and CAWCD for Delivery of CAP Water, Contract No. 14-06W-245, Exhibit A, Amendment No. 2, Supplement No. 1 as amended," ("Supplemental Contract"). The Supplemental Contract is for permanent water service.

CAGRD Long-Term Storage Subaccount

In 2016, CAGRD began the year with a balance of 189,181 AF in the Long-Term Storage Subaccount. As discussed previously in the section on **Purchase of Long-Term Storage Credits**, an additional 26,203 AF of LTSCs were purchased bringing the total number of LTSCs in the CAGRD Long-Term Subaccount to 215,384 AF by year's end. **Table 3.2** provides a summary of the LTSC balances by AMA.

TABLE 3.2

CAGRD LONG-TERM STORAGE SUBACCOUNT IN 2016 (AF)

AMA	Balance of CAGRD LTSCs at end of 2015	LTSCs Transferred to CAGRD in 2016	Balance of CAGRD LTSCs at end of 2016
<i>Phoenix</i>	95,044	17,159	112,203
<i>Pinal</i>	0	0	0
<i>Tucson</i>	94,137	9,044	103,181
TOTAL	189,181	26,203	215,384

TABLE NOTES:

The LTSC balances in this table do not include LTSC reserves associated with the City of Scottsdale's Water Availability Status membership in CAGRD.

4. Replenishment Reserve – 2016

The Replenishment Reserve consists of LTSCs that CAGRD accrues in a Replenishment Reserve Subaccount established for each AMA where CAGRD operates. The purpose of the Replenishment Reserve is to help ensure that CAGRD will be able to meet its replenishment obligation and to enhance rate stability. During periods of water supply shortage or infrastructure failure, CAGRD may use LTSCs from the Replenishment Reserve to offset its replenishment obligation, rather than purchasing spot-market water which may be more costly during shortage or outage conditions.

CAWCD LTSCs Dedicated for CAGRD Replenishment Reserve

The Board has dedicated LTSCs held by CAWCD for exclusive use by CAGRD to meet its legal requirements to establish and maintain the CAGRD Replenishment Reserve Subaccounts for each AMA or to meet its annual replenishment obligations (see 2016 Policy update in section 6, below). In 2016, CAGRD reimbursed CAWCD for a total of 4,995 AF of LTSCs that were transferred to specific AMA Replenishment Reserve accounts as follows: Phoenix AMA – 4,124 AF, Pinal AMA - 198 AF, and Tucson AMA – 673 AF. Just over 600,000 AF of CAWCD LTSCs remain reserved for CAGRD under Board policy.

CAGRD Replenishment Reserve Subaccount

CAGRD accrues LTSCs through a combination of storage in constructed Underground Storage Facilities (“USFs”), storage at Groundwater Savings Facilities (“GSFs”), purchases of pre-existing LTSCs, and LTSC transfers from MSAs to off-set the replenishment reserve component of their Replenishment Tax. **Table 4** provides the Replenishment Reserve balance at the end of 2015, the number of credits accrued during 2016 and the resulting balance of LTSCs in the Replenishment Reserve at year’s end. Also shown is the percent of the Reserve Target goal achieved through the end of 2016. The volume of LTSCs to be accrued in the Replenishment Reserve is known as the “Reserve Target”. A Reserve Target must be identified for each AMA based on that AMA’s projected obligation and the water supplies planned to be used to meet that obligation as described in the Plan of Operation (refer to the 2015 CAGRD Plan of Operation for additional explanation and calculation of the Reserve Target; www.cagrd.com).

In 2016, CAGRD began the year with a balance of 191,623 AF in the Replenishment Reserve Subaccount (2015 Conservation District Annual Report - CDAR). During the year, 13,561 AF of Excess CAP water was stored for the purpose of the Replenishment Reserve (Phoenix AMA – 12,073 AF; Pinal AMA – 198 AF; Tucson AMA – 1,290 AF). As stated above, 4,995 AF of LTSCs were purchased from CAWCD; an additional 16 AF were transferred from one Tucson MSA³,

³ MSAs can choose to transfer LTSCs to CAGRD for the Replenishment Reserve component of their tax assessment.

bringing the total number of LTSCs in the Replenishment Reserve Subaccount to 205,184 AF by the end of 2016. This total represents 27% of the overall Reserve Target.

TABLE 4

Replenishment Reserve Subaccount Balance and Target
Achieved for 2016 (AF)

AMA	Replenishment Reserve Balance 12/31/15	Replenishment Reserve Accruals During 2016	Replenishment Reserve Balance 12/31/16	Reserve Target	% of Reserve Target Achieved 12/31/16
<i>Phoenix</i>	155,257	12,073	167,330	603,866	28%
<i>Pinal</i>	3,823	198	4,021	48,036	8%
<i>Tucson</i>	32,543	1,290	33,833	112,600	30%
TOTAL	191,623	13,561	205,184	764,502	27%

5. Legislation – 2016

There was no CAGRD-related legislative activity in 2016.

6. Administrative Activity – 2016

Approval of Standard Form Documents for Member Land De-enrollment

H.B. 2325 was signed into law by the Governor on April 9, 2015. This legislation allows CAGRD Member Lands to voluntarily de-enroll from the CAGRD, subject to all of the following conditions: 1) the land cannot have been sold or leased to a retail purchaser or lessee; 2) no public report for the property has been issued; 3) if the lot or parcel boundaries have been recorded, the planning agency (e.g. county) has vacated them; 4) a declaration with the county has been recorded specifying that the property's CC&Rs have been revoked; 5) the agreement between CAGRD and the municipal provider has been revoked; and 6) if a Certificate of Assured Water Supply has been issued for the property, ADWR has revoked the Certificate.

On October 6, 2016, the CAWCD Board of Directors approved “standard form” de-enrollment documents, similar to the Board's previous adoption of "standard form" CAGRD Member Land enrollment documents. The approval of these documents means that the Board will not have to approve each individual member land de-enrollment application in the future.

Revision to Policy Regarding the Dedication of CAWCD's Existing Long-Term Storage Credits to CAGRD

On November 6, 2016, the CAWCD Board approved minor updates and one change to the policy on the dedication of existing CAWCD long-term storage credits to CAGRD. The major change involved revising the policy to allow the use of the dedicated CAWCD credits to meet CAGRD's legal requirement to meet both the replenishment obligation and to establish and maintain a Replenishment Reserve of long-term storage credits in the Phoenix, Pinal, and Tucson AMAs. This approved amendment allows CAGRD greater operational and planning flexibility for all Active Management Areas (AMAs), but particularly for the Pinal AMA. There is an over-abundance of CAWCD credits in the Pinal AMA, far beyond the Replenishment Reserve requirements for that AMA. Using some of these excess credits to satisfy annual replenishment obligation will allow CAGRD to extinguish credits in place without the need to recover the credits and transfer them for beneficial use in another AMA.

Revision to Policy on Collection of CAGRD Annual Membership Dues

On November 6, 2016, the CAWCD Board of Directors also approved several minor updates to the Board Policy on Collection of CAGRD Annual Membership Dues (AMDs). This policy describes the general methodology used in establishing AMDs. The ‘house-cleaning’ updates removed several references to specific dates within the Policy that are no longer relevant, as well as a reference to a schedule for setting AMDs that inaccurately reflected the current rate-setting schedule.

Revision to Policy on Inspection Standards and Retention Requirements for Water Provider Records Relating to CAGRD Annual Reports

On November 6, 2016, the CAWCD Board of Directors also approved small technical changes to the Policy on Inspection Standards and Retention Requirements for Water Provider Records Relating to CAGRD Annual Reports. This policy establishes the procedures for inspection of CAGRD water provider records that are the basis of annual reports to CAGRD. The policy also specifies how long the water provider should retain these records. The only modification approved was a replacement of the term ‘excess groundwater’ with ‘total water’ to clarify what information the water providers actually submit to CAGRD in practice.

7. Other Activity - 2016

Third-Party Marketing of LTSCs to HOAs

As described in the 2015 Annual Operations Report, third-party entities began marketing LTSCs to homeowners associations (“HOAs”) within CAGRD MLs in 2015 as an alternative to paying CAGRD assessments. The concept involves individual ML property owners, such as an HOA, obtaining a recovery permit for one of the ML water provider’s wells, purchasing LTSCs from a third-party, and entering into an agreement whereby the water provider would recover the LTSCs on behalf of the property owner and “wheel” the recovered water in lieu of groundwater that would otherwise be delivered to the property. The premise is that the LTSCs may be used to reduce or eliminate the property’s replenishment obligation and thereby reduce the assessment for that year.

In 2016, the total amount of credits wheeled and recovered within Member Land subdivisions, in order to reduce or eliminate a property’s replenishment obligation, was 62.10 AF within the Phoenix AMA. No wheeled and recovered LTSCs were reported in the Pinal or Tucson AMA.