



2023

ANNUAL OPERATIONS REPORT

SUPPLEMENT TO THE 2023 CONSERVATION
DISTRICT ANNUAL REPORT



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Abbreviations and Glossary

TERM	DEFINITION
ADWR	Arizona Department of Water Resources
AF	Acre-feet
AF/yr	Acre-feet per year
AFRP	Agua Fria Recharge Project
AMA	Active Management Area
A.R.S.	Arizona Revised Statutes
AWS	Assured Water Supply
Board	The Central Arizona Water Conservation District Board of Directors
BOR	The United States Bureau of Reclamation, a federal agency overseeing water resource management as it applies to western infrastructure projects
CAP	Central Arizona Project
CAGRD	Central Arizona Groundwater Replenishment District
CAWCD	Central Arizona Water Conservation District
CAWS	Certificate of Assured Water Supply
CDAR	Conservation District Annual Report
DAWS	Designation of Assured Water Supply
GRIC	Gila River Indian Community
GSF	Groundwater Savings Facility
HMRP	Hieroglyphic Mountains Recharge Project
HOA	Homeowners Association
LPSCO	Litchfield Park Service Company
LTSCs	Long-term Storage Credits
M&I	Municipal and Industrial
MDWID	Metropolitan Domestic Water Improvement District
ML	Member Land
MSA	Member Service Area
MWD	Maricopa Water District
NIA	Non-Indian Agricultural (CAP Priority Pool)
NMIDD	New Magma Irrigation and Drainage District
PSA	Purchase and Sale Agreement
QCIDD	Queen Creek Irrigation and Drainage District
Report Year	The year in which Excess Groundwater was delivered to each ML or withdrawn from each MSA, the year covered by the report as opposed to the year report was i
RID	Roosevelt Irrigation District
SEAP	Sustainable Effluent to Aquifer Project – former LARF site renamed following upgrades
TON	Tohono O’odham Nation
USF	Underground Storage Facility

Executive Summary

Each year, CAGR releases its Annual Operations Report (AOR) to supplement the required Conservation District Annual Report (CDAR) submittal to the Arizona Department of Water Resources (ADWR). This report provides additional information on water supplies and administrative actions taken by CAGR. Like the CDAR, it covers the activity from the previous calendar year. While released in 2024, the AOR represents CAGR operation in 2023.

Enrollment and Activation

Enrollment dropped substantially from 2022 to 2023. This is largely due to a pause on the issuance of Certificates of Assured Water Supply based on groundwater in the Phoenix Active Management Area (AMA) which occurred in June 2023. The Pinal AMA has had a similar issue with the physical availability of groundwater since 2018.

Replenishment

In 2023, CAGR incurred a replenishment obligation of 33,893 AF, less than the 2022 obligation of 34,292 AF. Recent replenishment obligation has been between 30,000 and 36,000 AF, lower than 2007’s 41,313 AF and the 2015 CAGR Plan of Operation Projection of 57,900 AF in 2023. The lower-than-projected replenishment obligation is likely due to a drop in enrollment, as well as reporting avoidance strategies by water providers. CAGR continues to replenish excess groundwater in accordance with statutory requirements and typically completes most of its replenishment in the year after

Enrollment and Activation Since 2019

Year	Lots Enrolled	Lots Activated
2023	3,518	14,397
2022	7,102	16,935
2021	7,823	25,506
2020	4,671	14,964
2019	6,499	14,004

Replenishment Obligation Since 2019

Year	Obligation (AF)
2023	33,893
2022	34,292
2021	35,433
2020	34,342
2019	30,405

Water Supply Program

2022’s August 24-Month study confirmed Tier 1 operating conditions would be in place for Arizona in 2023 for the second year in a row. CAGR continued their efforts on firming existing water supplies in preparation for deeper or longer-term shortage conditions. CAGR acquired nearly 40,000 LTSCs in 2023 through multiple agreements, ending the year with nearly one million AF in its Long-Term Storage Subaccounts. Over 10,000 AF of LTSCs were added to the Replenishment Reserve accounts, ending the year with over 320,000 AF of LTSCs.

Brief Introduction to CAGR

The Central Arizona Groundwater Replenishment District (CAGR) was established in 1993 to provide a mechanism for landowners and water providers to demonstrate one of the requirements necessary to secure a 100-year Assured Water Supply (AWS) under Arizona law. CAGR recharges Central Arizona Project (CAP) water and other water supplies to replenish groundwater used 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 access to sufficient groundwater to demonstrate an AWS, it must also demonstrate its groundwater use will be consistent with the groundwater management goals of that area. As a member, the landowner or water provider pays CAGR to replenish any groundwater pumped for the member that exceeds the pumping limitations (referred to as “excess groundwater”) imposed by the AWS Rules.

CAGR 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 (the Board), but CAGR’s finances are completely separate from the rest of CAWCD’s finances. All costs incurred by CAGR must be paid by CAGR members.

Membership

Enrollment in CAGR is voluntary; however, if a landowner or water provider is relying on groundwater to serve a new development, it is often required to meet AWS Rules. Any city, town, private water company, or subdivision located in the Phoenix, Pinal, or Tucson AMA may join CAGR so long as it meets the State’s requirements. CAGR 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 water provider is required annually to submit a report to CAGR identifying the volume of total water delivered and the volume of groundwater pumped within the service area and must pay CAGR replenishment taxes on groundwater volumes pumped in excess of the pumping limitations imposed by the AWS rules. When applying to enroll as a service area in CAGR, the applicant provides a projection of future population, water demands, and renewable supplies available to meet those demands. These projections serve as a basis for estimating CAGR’s long-term replenishment obligation for the service area. Membership in CAGR enables 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 annually submit 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, and enrollment in CAGRD enables it to do so.

Replenishment Obligation

CAGRD must replenish 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 recharged underground into existing aquifers; 2) through groundwater savings facilities, where water is used directly by irrigation districts in lieu of pumping groundwater; or 3) through the use 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.

A.R.S. § 48-3771.A requires CAGRD to “complete” the replenishment of its Replenishment Obligation within three calendar years after it is incurred. By statute, CAGRD Replenishment Obligation is fulfilled or “complete” when CAGRD’s conservation district account has been credited to reflect either the storage of replenishment water or the transfer of LTSCs in sufficient volume to meet the replenishment obligation.

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, 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 supply acquisition, operation and maintenance, replenishment reserve accruals 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 based on their excess groundwater use, as well as annual membership dues, collected through the annual property tax assessment.

Planning

Plan of Operation – Every ten years, CAGRD is required to submit a Plan of Operation (Plan) to the Director of ADWR. The primary purpose of the Plan is to document the actions of CAGRD over the past ten years and describe the proposed activities of CAGRD in each AMA during the ten-year and 100-year periods following the Plan submission. CAGRD’s 2015 Plan of Operation (2015 Plan) was approved by the Director of ADWR (Director) on August 5, 2015, and covers the ten-year period from 2015-2024. CAGRD will continue to operate under the 2015 Plan until the 2025 Plan of Operation (2025 Plan) is approved in 2025. The 2025 Plan is due to ADWR before January 1, 2025.

¹ Excess Groundwater (defined in A.R.S. § 48-3701.7) is groundwater delivered to a member in excess of what is consistent with applicable Assured Water Supply rules.

Board Strategic Plan – On December 3, 2020, the CAWCD Board of Directors unanimously adopted the 2022 CAWCD Board Strategic Plan, following a series of planning meetings and collecting stakeholder feedback. The 2022 Strategic Plan carries over many of the strategic issues from the 2016 CAWCD Strategic Plan, albeit with additional emphasis on the relationship between CAGR member pumping and replenishment as well as conservation messaging considering potential Colorado River shortages. CAGR will continue the process of a five-year formal review of its operations, completing an annual operations report and quarterly updates to the CAGR and Underground Storage Committee under the 2022 CAWCD Strategic Plan.

Mid-Plan Review - The Mid-Plan Review is a comprehensive assessment of the mid-term trends in CAGR operations under the Plan of Operation. The Mid-Plan Review provides indications of where these trends may lead CAGR over the remaining five years of the Plan. The first Mid-Plan Review was completed in 2011 during the 2005 Plan of Operation period. CAGR published its second Mid-Plan review in 2020.

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 amounts, 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, this document, referred to as the CAGR Annual Operations Report, to supplement the CDAR with additional information about CAGR operations. More specifically, this report provides further details in a narrative format on new enrollment, up-to-date replenishment obligations, water supply and replenishment reserve activities, and any new legislation and administrative activities that occurred in the report year.

The first CAGR Annual Operations Report was completed in late 2015 for calendar year 2014, which was the final year covered under the 2005 Plan of Operation. This tenth CAGR Annual Operations Report was completed in fall 2024 for calendar year 2023, the ninth year covered under the 2015 Plan of Operation. Completion of the Annual Operations Report will always follow the submittal of the CDAR to ADWR. This report was posted on the CAGR website (CAGR.com) in October 2024.

1. Enrollment and Activation

A. Enrollment

Member Land enrollment dropped substantially from 2022 to 2023, with just over half as many lots enrolled in 2023 as the previous year. This is largely due to the pause on issuance of Certificates of Assured Water Supply based on groundwater in the Phoenix AMA. In the summer of 2025, Governor Hobbs announced this pause due to ADWR's 100-year regulatory AWS model. The model showed unmet demand in certain areas of the model domain.

Table 1.1
New Member Land Enrollment in 2023

AMA	ML Subdivisions	ML Lots*	Projected Demand (AF/Yr)
Phoenix	7	1,590	1,138
East Phoenix	4	566	441
West Phoenix	3	1,024	697
Pinal	0	0	0
Tucson	3	1,928	1,077
TOTAL	10	3,518	2,215

* ML Lots refers to the total number of lots or homes within all ML Subdivisions.

No enrollment occurred in the Pinal AMA due to ongoing issues with proving physical availability of groundwater.

No Member Service Areas enrolled or de-enrolled in CAGR in 2023. CAGR staff met with multiple water providers to discuss potential transitions from a water provider serving Member Lands to enrolling as a Member Service Area.

Comparison of Actual ML Enrollment in 2023 to Projected ML Enrollment in 2023

Enrollment of Member Lands has consistently been lower than projected in the 2015 Plan of Operation. 2023 was no exception, as shown in the table below.

Table 1.2
Comparison of Actual ML Enrollment in 2023 to Projected 2023 Enrollment

AMA	2023 Enrollment (Lots)	Projected 2023 ML Enrollment (Lots)*
Phoenix	1,590	8,781
Pinal	0	976
Tucson	1,928	808
TOTAL	3,518	10,565

* From 2015 Plan of Operation, projection methodology described in Section 3.2.2.

B. Activation

The Arizona Department of Real Estate issues a public report allowing the sale and lease of lots within subdivisions. Prior to the issuance of the public report for subdivisions within CAGR MLs and MSAs, an Activation Fee must be paid to CAGR for each residential unit offered for sale. In 2023, the number of lots activated totaled 14,397. This

is approximately a 15 percent decrease from 2022 and continues the trend of decreasing activations over the last two years. More lots were activated in Member Lands versus MSAs.

Table 1.3
Number of Lots Activated in 2023

AMA	MLs	MSAs	Combined
Phoenix	7,560	4,269	11,829
Pinal	350	279	629
Tucson	404	1,535	1,939
TOTAL	8,314	6,083	14,397



Superstition Mountains Recharge Project

2. Replenishment Obligation Incurred and Replenishment Obligation Completed

A 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 water, and the volume of groundwater delivered to each parcel in the subdivision, as well as a calculation of Excess Groundwater delivered. 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). CAGRD must complete its Replenishment Obligation within three calendar years after it is incurred. Therefore, at any given point in time there may be one or more years of obligation unfulfilled.

Current CAGRD practice is to complete replenishment the calendar year after groundwater delivery. Depending on operational circumstances, it may be prudent for CAGRD to prioritize replenishment in certain areas or delay its replenishment. CAGRD replenishment has always been completed within statutory time frames.

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 2023, CAGRD incurred a replenishment obligation of 33,893 acre-feet (AF). This was a small decrease from 2022's obligation, and significantly lower than the 57,900 AF projected in the 2015 Plan of Operation. Table 2.1 shows the distribution of obligation between MLs and MSAs by AMA.

CDAR and Updated Data

Each year, CAGRD receives updated information from water providers, developers and homebuilders regarding activities from previous years, necessitating updates to CAGRD records. Corrections sometimes occur after the CDAR is submitted to ADWR or after yearly totals of enrollment and activation occur.

As of August 26, 2024, there was an increase in obligation of approximately 276 AF in the Phoenix AMA compared to the 2022 CDAR submitted in August 2023. This change is reflected in the 2023 CDAR which was submitted in August 2024.

Table 2.1
Replenishment Obligation (AF) for MLs and MSAs in 2023 by AMA

AMA	MLs	MSAs	Combined
Phoenix	22,665	7,999	30,664
Pinal	24	0	24
Tucson	1,825	1,380	3,205
TOTAL	24,514	9,379	33,893

*All values rounded to the nearest AF. Totals may vary slightly from yearly component values. Non-rounded quantities available on <https://cagrd.com/operations/cagrd-reports-and-information/>

Tables 2.2 through 2.4 list the volumes of Excess Groundwater reported from 2020 through 2023 along the top row. The tables also identify the year and extent to which the replenishment obligation resulting from those deliveries has been completed. Recent activity is shown in order to demonstrate CAGRD has met its obligation within the statutory replenishment time frame. In 2023, CAGRD fulfilled 35,685 AF of replenishment obligation as shown in Tables 2.2, 2.4 and 2.5 (refer to 2023 row).

The following explanation may assist in interpreting these tables: The top row (dark green) shows the year in which deliveries of Excess Groundwater occurred. In the Phoenix AMA, (Table 2.2), the 2021 column reflects 32,094 AF of excess groundwater reported for both MLs and MSAs. Fulfillment of this obligation occurred over a 3-year period; 52 AF of 2021’s obligation was replenished in 2021; 30,673 AF was replenished in 2022; and 1,369 AF was replenished in 2023. The bottom row of the table reflects any remaining balance of obligation. This table illustrates that CAGRD continues to meet its statutory requirement of fulfilling obligation within 3 years of incurring it.

**Table 2.2
Completion of Replenishment Obligation - Phoenix AMA**

Phoenix AMA		Excess Ground Water Obligation by Report Year (AF)			
		2020	2021	2022	2023
		31,098	32,094	31,334	30,664
Year and Volume (AF) Obligation Completed	2021	31,098	52		
	2022		30,673		
	2023		1,369	31,334	2,982
Amount Unmet to Date		0	0	0	27,682

All values rounded to the nearest AF. Totals may vary slightly from yearly component values. Non-rounded quantities available on <https://cagrd.com/operations/cagrd-reports-and-information/>.

East Phoenix AMA and West Phoenix AMA

A.R.S. §48-3772.I compels CAGRD to:

“In the Phoenix active management area, the district [CAGRD], to the extent reasonably feasible, shall replenish groundwater in the east portion of the active management area and in the west portion of the active management area in the approximate proportion that the groundwater replenishment obligation attributable in a particular year to member lands and member service areas located in the east portion of the active management area bears to the groundwater replenishment obligation attributable in that year to member lands and member service areas located in the west portion of the active management area.”

Year-to-year operational decisions, contractual requirements, and availability of recharge locations dictate the amount of replenishment occurring in each portion of the Phoenix AMA. In 2022 and 2023, a GSF in the West Phoenix AMA was non-compliant which resulted in over 1,000 AF of LTSCs generated from storage being withheld. This operational circumstance is one example of the factors that impact where and how CAGR D can fulfill replenishment obligation. Table 2.3 provides a breakdown of replenishment activities in 2023 for 2022 obligation between the east and west portions of the Phoenix AMA.

Table 2.3
2023 Replenishment of 2022 West Phoenix and East Phoenix Obligation (AF)

West Phoenix		East Phoenix	
Obligation	Replenishment	Obligation	Replenishment
18,790	12,191	12,544	19,143
2022 Remaining Obligation for 2024		0	

Table 2.4
Completion of Replenishment Obligation - Pinal AMA

Pinal AMA		Excess Ground Water Obligation by Report Year (AF)			
		2020	2021	2022	2023
		331	593	208	24
Year and Volume (AF) Obligation Completed	2021	331			
	2022		593		
	2023			208	3,427*
Amount Unmet to Date		0	0	0	0

All values rounded to the nearest AF. Totals may vary slightly from yearly component values. Non-rounded quantities available on <https://cagr d.com/operations/cagr d-reports-and-information/>.

*Per discussion with ADWR staff on 8/20/2024, an administrative credit of 3,426.99 AF in the Pinal AMA was made due to a revision of accounted groundwater allowance.

**Table 2.5
Completion of Replenishment Obligation - Tucson AMA**

Tucson AMA		Excess Ground Water Obligation by Report Year (AF)			
		2020	2021	2022	2023
		2,913	2,746	2,750	3,205
Year and Volume (AF) Obligation Completed	2021	2,913	540		
	2022		2,189		
	2023		18	2,730	
Amount Unmet to Date		0	0	20	3,205

**All values rounded to the nearest AF. Totals may vary slightly from yearly component values. Non-rounded quantities available on <https://cagrd.com/operations/cagrd-reports-and-information/>.*

Comparison of Actual Obligations in 2023 to Projected Obligations in 2023 (as projected in 2015 Plan of Operation)

Much as described in the section on enrollment numbers, the 2015 Plan obligation projections are tied to housing unit growth; thus, actual obligation in 2023 (33,893 AF) is lower than the Plan projection of 57,863 AF (Table 2.6). Beyond a continued per capita drop in residential demand for water, other factors contributed to lower-than-anticipated obligation. Examples include obligation avoidance strategies by certain ML water providers through increased use of groundwater allowance along with the elimination of a contractual minimum reporting requirement for MLs enrolled before 2004.

**Table 2.6
Actual vs. Projected Replenishment Obligation in 2023**

AMA	Member Lands		Member Service Areas	
	Actual Obligation	Projected Obligation	Actual Obligation	Projected Obligation
Phoenix	22,665	36,162	7,999	10,922
Pinal	24	782	0	1,851
Tucson	1,825	4,544	1,380	3,602
TOTAL	24,514	41,488	9,379	16,375

All values rounded to the nearest AF. Totals may vary slightly from yearly component values. Non-rounded quantities available on <https://cagrd.com/operations/cagrd-reports-and-information/>.

3. Water Supply Program

A description of CAGR D's Water Supply Program for 2023 is provided under two headings: Section A - Water Supply Activity and Section B - Summary of Water Supplies. Section A describes both new and ongoing activity in the program for 2023. Discussion of new activity in 2023 identifies 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 shows an overall picture of CAGR D's water supplies for 2023, summarizing the volume of water supplies CAGR D had available going into the year, water accrued or acquired during the year and the total volume available at the end of the year.

A. Water Supply Activity

2023 Long-Term Storage Credits Accrual Acquisitions Activities

In 2023, CAGR D acquired a total of 39,899 AF of LTSCs through several Purchase and Sale Agreements (PSAs), ongoing water leases and the Recovery and Exchange Agreement with the Gila River Indian Community (Community). Table 3.1 details the LTSC transactions, by seller name and AMA, that CAGR D completed by the seller's name and AMA location in 2023.

Table 3.1
LTSCs Acquired in 2023

AMA	LTSCs (AF)
Phoenix AMA	
Liberty Utilities	10,990
Tohono O'odham Nation	10,000
City of Peoria	7,182
Gila River Indian Community	3,977
Stone Applications	2,500
Phoenix AMA Subtotal	34,649
Tucson AMA	
City of Tucson	5,000
MDWID (Metro)	250
Tucson AMA Subtotal	5,250
AMAs Total	39,899

Tohono O'odham Nation

In 2023, CAGR D and the Tohono O'odham Nation (TON) entered into a LTSC PSA under which CAWCD acquired a total of 10,000 LTSCs. This LTSC PSA is part of our continued partnership with TON as CAGR D purchased a combined 70,000 TON LTSCs in the Phoenix and Tucson AMAs from 2020 to 2022. The 10,000 LTSCs purchased in 2023 are all located at the Agua Fria Managed Underground Storage Facility (USF) in the Phoenix AMA.

Gila River Indian Community

In 2023, CAGR D acquired a total of 3,977 LTSCs from the Gila River Indian Community in accordance with our 25-year (2020 through 2044) CAP NIA Lease Agreement. A majority of the CAGR D's 18,185 AF/year CAP NIA Lease water is delivered and stored annually at the Community-owned MAR-5 USF. The MAR-5 USF primarily discharges water into the Gila River just upstream of the Olberg Dam at the Phoenix and Pinal AMAs boundary. Due to the unique geographic location of the MAR-5 USF, each year a percentage of the water delivery is attributed to the Phoenix and Pinal AMAs, approximately 80% to 20%, respectively. Therefore, each year CAGR D performs an LTSC transfer whereby CAGR D transfers Pinal AMA LTSCs to the Community for an equal amount of the Community's Phoenix AMA LTSCs.

Litchfield Park Service Company (Liberty Utilities)

A 2013 agreement between CAWCD and Litchfield Park Service Company (LPSCO) resulted in the purchase of nearly 18,500 AF of LTSCs accrued by delivering effluent to Roosevelt Irrigation District (RID) from 2013 to 2017. That agreement was superseded in 2017 by the "Agreement for Development of Effluent Recharge Facility, Effluent Disposal and Purchase and Sale of Effluent", completed in 2014 between CAWCD and Liberty Utilities (owner of LPSCO). This agreement provides a separate framework for purchase of LTSCs that Liberty generates at their effluent recharge facility (the Sustainable Effluent to Aquifer Project, or SEAP) for 100 years, starting in 2017. As part of that agreement CAGR D also acquired a lease of 2,400 AF/YR of effluent produced by Liberty and delivered to the effluent recharge facility. If Liberty is unable to fulfill its commitment to deliver 2,400 AF of effluent to the SEAP, they transfer LTSCs earned by delivering effluent to the RID Groundwater Savings Facility (GSF) to CAGR D. In 2022, Liberty delivered 1,409.6 AF of effluent to the SEAP and subsequently, in 2023 transferred 990.4 AF of LTSCs to CAGR D. In addition to those credits, CAGR D and Liberty entered into an LTSC PSA in 2023 under which Liberty sold an additional 10,000 LTSCs.

City of Peoria

In 2020, CAGR D and the City of Peoria (Peoria) executed a LTSC Purchase and Sale Agreement (PSA) under which CAGR D will acquire from Peoria 35,911 LTSCs over five consecutive years from 2021 through 2025 or an annualized total of 7,182.20 LTSCs during the term. The LTSC PSA was the result of extensive negotiations between CAGR D and was contingent upon the successful approval of a transfer and assignment of 1,885 acre-feet of CAP M&I Priority Water from CAGR D to Peoria. The transfer and assignment

of up to 1,885 acre-feet of CAP M&I Priority Water is contractual under section 5.5 of CAGRD's Supplemental Contract and a result of Peoria's acquisition and successor in interest status of New River Utility Company (NRUC) since 2016. In December 2020, the parties filed a joint application to ADWR requesting a review of the transfer and assignment. ADWR determined that the proposed transfer was consistent with applicable "Water Management Objectives and Review Criteria of the CAP Subcontract Transfer Policy" and recommended the Bureau of Reclamation (BOR) initiate the process to assign the 1,885 acre-feet entitlement to Peoria. In April 2022, the parties received their amended M&I subcontracts from BOR and began implementation of the 5-year LTSC PSA.

City of Tucson

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. Through 2023, CAGRD has acquired 50,000 AF of LTSCs through this agreement.

Metro Water

CAWCD and Metropolitan Domestic Water Improvement District (Metro) entered into a credit purchase agreement in 2015. Under this Agreement, Metro will sell to CAGRD a minimum of 250 LTSCs, up to a maximum of 1,000 LTSCs, each year. The Agreement was amended in 2017 to change the storage facility at which the credits would be accrued. This agreement will be effective until 2061 if the option for two additional 10-year terms is exercised beyond the initial 25-year term. CAGRD has acquired 3,000 AF of LTSCs through 2023 under this agreement.

B. Summary of Water Supplies

In addition to the water supplies described in Section A, CAGRD utilizes the following water supplies to which it utilizes to fulfill its statutory annual replenishment obligations.

CAGRD CAP Entitlement

Since April 2022, CAWCD, for the benefit of the CAGRD, holds an annual entitlement to 6,426 AF of CAP Municipal & Industrial (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. 3, Supplement No. 1 as amended," ("Supplemental Contract"). The Supplemental Contract is for permanent water service for replenishment obligations incurred solely in the Phoenix AMA.

CAGRD Effluent Entitlement

CAWCD acquired 2,400 AF annually of effluent produced at the Palm Valley Water Reclamation Facility in Goodyear as part of the "Agreement for Development of Effluent Recharge Facility, Effluent Disposal and Purchase and Sale of Effluent" completed with Liberty Utilities in 2014. This 100-year lease of the effluent entitlement became effective in 2017 with the completion of the Sustainable Effluent to Aquifer Project (SEAP), where

the leased effluent is recharged. Approximately 1,410 AF of this effluent supply was recharged at SEAP in 2022, with the balance being recharged at the Roosevelt Irrigation District. Modifications to the facility implemented in 2020 have increased recharge rates. As a result of these improvements CAGR's entire entitlement of 2,400 AF of effluent was recharged at SEAP in 2023.

CAWCD NIA Allotment

In September 2021, CAWCD, for the benefit of CAGR replenishment, received the fully executed Non-Indian Agricultural (NIA) subcontract from the Bureau of Reclamation. In 2023, a Tier 1 Colorado River shortage year, CAGR ordered and delivered a reduced subcontract volume of 13,638 AF or 75% of 18,185 AF contracted volume due to NIA mitigation provided under the Arizona Drought Contingency Plan (DCP).

C. CAGR Long-Term Storage Subaccount

In 2023, CAGR began the year with a cumulative AMA (Phoenix, Tucson and Pinal AMAs) LTSC balance of 955,603 AF in the Long-Term Storage Subaccount and ended the year with a balance of 977,702 AF.

Table 3.2
2023 CAGR Long-Term Storage Subaccount

AMA	2022 Year End Balance	2023 LTSC Accrual Agreements	2023 LTSC Activities Storage/Recovery/RR (Net)	2023 Year End Balance
Phoenix	464,303	34,649	0	498,953
Pinal	334,103	1,488	-19,103	316,488
Tucson	157,197	5,250	-187	162,261
Total	955,603	41,387	-19,290	977,702

**All values rounded to the nearest AF. Totals may vary slightly from yearly component values. Non-rounded quantities available on <https://cagr.com/operations/cagr-reports-and-information/>.*

Phoenix AMA

As discussed in the previous section subtitled, “2023 Long-Term Storage Credits Accrual Activities” a total of 34,649 LTSCs were accrued in the Phoenix AMA in 2023. These LTSCs were acquired through LTSC PSAs, water supply agreements with GRIC and public and private entities.

Tucson AMA

A total of 5,250 LTSCs were accrued by CAGR in the Tucson AMA in 2023 via LTSC PSAs. Additionally, 168 LTSCs were accrued through water storage at the Pima Mine Road USF. An LTSC transfer from CAGR's LTSA to its Replenishment Reserve Sub-Account in the amount of 915 AF was completed in December 2023. In 2023, the net

accrual in the Tucson AMA LTSC Sub-Account totaled 5,063 LTSC.

Pinal AMA

In 2023, CAGR D, pursuant to our Recovery and Exchange Agreement, recovered 15,000 AF of Pinal AMA LTSCs on behalf of GRIC for tribal irrigation activities. The water CAGR D recovered was then exchanged on a 1:1 acre-foot basis for Indian priority water deliveries to several Phoenix AMA GSFs; Maricopa Water District (MWD), New Magma Irrigation and Drainage District (NMIDD) and Queen Creek Irrigation and Drainage District (QCIDD). Additionally, CAGR D, pursuant to our GRIC NIA Lease delivered 13,639 AF (reduced Tier 1 shortage volume) to the Community-owned MAR-5 USF (12,000 AF), Hieroglyphic Mountain Recharge Project (HMRP) USF (1,592 AF) and Agua Fria Recharge Project (AFRP) USF (408 AF). Deliveries to MAR-5 USF are subject to the ADWR calculations of cut-to-the-aquifer, evaporation losses and are split between the Phoenix and Pinal AMAs due to the USF's proximity to the AMA boundary. In 2024, CAGR D and GRIC will complete a LTSC transfer on a 1:1 basis to reconcile the Phoenix and Pinal AMA LTSC accrual split, which ensures all CAGR D LTSCs are from the Phoenix AMA.

4. Replenishment Reserve

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

CAWCD LTSCs Dedicated to CAGR D Replenishment Reserve

The Board has dedicated LTSCs held by CAWCD for exclusive use by CAGR D to meet its legal requirements to establish and maintain the CAGR D Replenishment Reserve Subaccounts for each AMA or to meet its annual replenishment obligations. CAGR D purchased nearly 11,000 AF of CAWCD LTSC in 2023. Thus, approximately 499,692 AF of CAWCD LTSCs remain reserved for CAGR D purchase and use under CAWCD Board policy. These credits are in the Pinal (311,108 AF) and Phoenix (188,584 AF) AMAs.

CAGR D Replenishment Reserve Subaccount

CAGR D accrues LTSCs through a combination of storage in constructed USFs, storage at GSFs, purchases of pre-existing LTSCs, and LTSC transfers from MSAs who wish to offset the replenishment reserve component of their Replenishment Tax. Table 4 provides the Replenishment Reserve balance at the end of 2022, the number of credits accrued during 2023, and the resulting balance of LTSCs in the Replenishment Reserve at year-end, by AMA. Also shown is the percentage of the Reserve Target goal achieved through the end of 2023. 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 Plan for additional explanation and calculation of the Reserve Target).

In 2023, CAGR began the year with a balance of 312,236 AF in the Replenishment Reserve Subaccounts and accumulated an additional 11,230 AF through the year. CAWCD credits constituted all of the additions to the Replenishment Reserve in the Phoenix and Pinal AMAs while the Tucson AMA additions also came from the CAGR Long-Term Storage Account. These actions resulted in an overall increase of 1% towards achieving CAGR’s Replenishment Reserve target.

Table 4.1
Replenishment Reserve Balance and Target Achieved for 2023 (AF)

AMA	Replenishment Reserve Balance (12/31/22)	Replenishment Reserve Accruals During 2023	Replenishment Reserve Balance (12/31/23)	Reserve Target	% of Reserve Target Achieved (12/31/23)
Phoenix	264,234	10,245	274,479	603,866	45%
Pinal	6,073	69	6,142	48,036	13%
Tucson	41,929	916	42,845	112,600	38%
Total	312,236	11,230	323,466	764,502	42%

5. Operational Efforts and Successes

In August 2022, the Bureau of Reclamation released the Colorado River Basin August 24-month study which indicated that the Basin would be in a Tier 1 Shortage for the following year. In 2023, CAGR participated in the Intentionally Created Surplus (ICS) program by leaving 10,639 AF in Lake Mead.

Shortage conditions also framed CAGR/CAWCD as one of the cost-share partners in a feasibility study regarding a potential modification to Bartlett Dam. This modification would increase the storage capacity at Bartlett Lake, potentially creating a larger supply of Verde River water. The CAGR and Underground Storage Committee received regular updates on the feasibility study.

A StoryMap describing CAGR’s replenishment and obligation activities was posted to the CAGR website. This StoryMap gives a subbasin-level analysis of Member Land/MSA obligation and the portfolio of where CAGR and CAWCD hold long-term storage credits. While CAGR is compelled to replenish groundwater in the East and West Phoenix AMAs proportional to the obligation in each area to the extent reasonably feasible as outlined in A.R.S. §48-3772, CAGR also tries to satisfy obligation close to where it was incurred to

the best of its abilities. Operational and contractual conditions often limit where CAGR D can replenish, but this StoryMap demonstrates how CAGR D goes beyond its duties to satisfy obligation on a subbasin level.

There were also updates to CAGR D policies in 2023. One of the policies allows the use of CAGR D water supplies to satisfy the Arizona Water Banking Authority's firming or interstate obligations. Additionally, the policy on Inspection Standards and Retention Requirements was updated. CAGR D has the authority to conduct inspections of its water providers' Annual Reports and supporting documents to validate the reports' accuracy. This policy was changed to be more amenable to virtual inspections.

6. Conservation Activities

CAGR D created the Water Efficient Construction Incentive Program (WECIP) to encourage conservation efforts among new construction homes in parts of its service area. WECIP is a voluntary program that awards \$1,000 per home that is certified to WaterSense 2.0 standards. A WaterSense 2.0 certified home uses less water than its uncertified counterpart. By using less water, CAGR D members pump less groundwater, resulting in a lower obligation volume. This reduces costs for CAGR D members and competition for water supplies to replenish obligation.

This program had its first cycle in 2023. Each cycle, there is \$150,000 available (equal to 150 homes at \$1,000 per lot) that developers can apply for to receive the incentive. The incentive is available to all homes in Member Lands, as well as those Member Service Areas expected to have a replenishment obligation. In 2023, 150 homes were enrolled in the program, distributing all \$150,000 set aside for the program's inaugural year. KB Homes and Fulton Homes were the two homebuilders who participated.

Another aspect of CAGR D's conservation efforts is a continued partnership with Water Use It Wisely (WUIW). CAGR D allocated \$25,000 for WUIW's 2023-2024 Robust XL marketing campaign which included targeted ads focused on water conservation.

7. Legislative Action

In June 2023, ADWR released a new groundwater model in the Phoenix AMA that projected a shortage of physically available groundwater after 100 years. This unmet demand meant that Certificates of Assured Water Supply could no longer be issued based on groundwater, which essentially paused enrollment in the CAGR D in the Phoenix AMA.

Towards the end of 2023, ADWR recommended several policies to the Governor's Water Policy Council (the Council). One of these recommendations includes a new concept called the "Alternative Path to Designation of a 100-year Assured Water Supply"

(ADAWS). ADAWS was created in response to the issues with the physical availability of groundwater in the Phoenix AMA. This program would likely increase MSA enrollment and obligation, while decreasing ML enrollment and obligation. Two of the other recommendations included build-to-rent developments and wildcat developments. All three recommendations were forwarded onto the Governor at the end of the year.

8. Other Activity

Third-Party Marketing of LTSCs to ML Homeowners Associations

First described in the 2015 Annual Operations Report, third-party entities began marketing LTSCs to homeowners associations (HOAs) within CAGRDR MLs in 2015 as an alternative to receiving excess groundwater and paying CAGRDR assessments. The concept involves individual ML property owners, such as an HOA, obtaining a recovery permit for one of their 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 LTSCs may be used to reduce or eliminate the property's replenishment obligation and thereby reduce the CAGRDR assessment for that year.

In 2023, the total amount of credits wheeled and recovered within Member Land subdivisions, in order to reduce or eliminate a property's replenishment obligation, was 234 AF within the Phoenix AMA. No wheeled and recovered LTSCs were reported in the Pinal or Tucson AMAs.

Appendix I: 2023 ADWR Determination Letter

CAGR D received notification from ADWR on October 21, 2024 that the 2023 CDAR has been reviewed. CAGR D was determined to be in compliance with its groundwater replenishment obligations as required by statute.

A copy of the letter is included on the following page.

**KATIE M. HOBBS
GOVERNOR**



**THOMAS BUSCHATZKE
DIRECTOR**

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October 21, 2024

Via email to lgrignano@cap-az.com

Laura Grignano, Manager
Central Arizona Groundwater Replenishment District
P.O. Box 43020
Phoenix, AZ 85080-3020

Re: CAGRD Accounting Status 2023

Dear Ms. Grignano:

The Arizona Department of Water Resources (Department) has reviewed the Central Arizona Groundwater Replenishment District (CAGRD) 2023 Conservation District Annual Report, dated August 28, 2024. As prescribed by A.R.S. § 45-859.01(I), the Department determined in October of 2024 that the CAGRD completed the groundwater replenishment obligation, as specified in A.R.S. §48-3771, for each Active Management Area. This letter is to inform you of that determination.

If you have any questions regarding this determination, please feel free to contact Kym Luttermoser at (602) 771-8660 or by email at kluttermoser@azwater.gov

Sincerely,

Carol M. Ward

Carol M. Ward, Assistant Director
Water Planning and Permitting

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