

CAGRD Agenda Number 5.

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MEETING DATE: February 16, 2017

AGENDA ITEM: Report on and Discussion of Elliott D. Pollack & Co. Impact Report on Third-Party LTSC Sales to CAGRD Member Lands

LINKAGE TO STRATEGIC PLAN, POLICY, STATUTE OR GUIDING PRINCIPLE:
2016 CAWCD Strategic Plan

- Replenishment: Long-term Role of the CAGRD

PREVIOUS BOARD ACTION/ACTIVITY:

December 3, 2015 – Board Briefing on Third-Party Marketing of Long Term Storage Credits to HOAs within CAGRD Member Lands

ISSUE SUMMARY/DESCRIPTION:

As reported to the Board in late 2015, CAGRD staff had learned that third-parties are marketing long term storage credits (LTSCs) to homeowners associations (HOAs) within CAGRD member lands. The concept calls for the HOAs to purchase LTSCs from these third-parties and acquire a recovery permit from ADWR for one of its water provider's distribution system wells. The HOA then would enter into an agreement whereby the water provider would recover these credits on behalf of the HOA and "wheel" the recovered water in lieu of groundwater that would otherwise be delivered to the HOA. The third-party marketers are comparing the purchase price of these credits to the full cost of CAGRD replenishment assessments, which include more than just the cost of purchasing and replenishing water.

CAGRD staff had not anticipated that CAGRD member land water providers could recover and deliver long term storage credits to individual CAGRD member land parcels, nor was this process anticipated in the 2015 CAGRD Plan of Operation. Use of recovered credits by CAGRD members offsets only the cost for CAGRD to purchase and replenish water; however, it does not reduce the cost of administering

CAGR D operations and does not relieve CAGR D of the need to acquire water supplies to meet the members' long-term replenishment obligation. Also, use of recovered credits does not relieve CAGR D of the requirement to develop the Replenishment Reserve, which is based on the total projected replenishment obligation of all members. Eventually, when credits are no longer available, the CAGR D member will return to excess groundwater and will create a replenishment obligation for CAGR D, without having contributed financially toward meeting that future obligation or for the cost of on-going CAGR D operations.

Since the potential for an ongoing loss of annual assessment revenues from member lands could be a significant threat to the financial health of CAGR D, staff committed to return to the Board with a proposal to ensure that CAGR D continues to collect the revenues necessary to ensure it can fulfill its statutorily-mandated replenishment obligations. Toward that commitment, CAGR D engaged a consultant, Elliott D. Pollack & Company, to provide an analysis and opinion of the potential impact of this practice on the CAGR D funding formula. The analysis was intended to identify any weaknesses in the funding formula and make recommendations to address them, improving CAGR D's ability to remain financially sustainable.

Highlights of the report include the following insights:

- Through purchase of third-party LTSCs a CAGR D member land can avoid paying the annual replenishment assessment altogether.
- While CAGR D's annual variable costs are reduced when a member purchases LTSCs (because CAGR D's annual replenishment obligation is eliminated for that member), its fixed costs are not reduced.
- The majority of CAGR D's revenues are collected on the basis of a variable parameter (i.e., use of excess groundwater by members), while the majority of its costs are fixed.
- As more members purchase third-party LTSCs, CAGR D's fixed costs must be paid by the remaining members through higher rates, thus creating an equity issue.
- If too many members opt to purchase LTSCs, CAGR D could reach a tipping point at which it would be unable to generate sufficient revenues.
- If this situation were to occur, CAGR D would not be able to afford its annual operations nor would it be able to continue efforts to secure and develop the long-term water supplies and infrastructure required by statute.
- Ultimately, CAGR D would be unable to prove that it is financially capable of meeting its long-term replenishment obligations, and the Director of ADWR could not approve CAGR D's next Plan of Operation.
- Without an approved Plan of Operation new members could not enroll in CAGR D and existing member service areas that rely on CAGR D membership to prove 100 year water supply could not approve any new development within

their Service Area unless they could demonstrate an Assured Water Supply without CAGR D membership.

The report identifies two primary recommendations based on its analysis of the issue, as follows:

1. ADWR should reverse its decision regarding how its volumetric accounting policy applies to CAGR D Member Land owners who purchase third-party LTSCs in an attempt to avoid paying annual replenishment assessments.
2. If ADWR will not or cannot reverse its decision, CAGR D should seek changes to its authorizing statutes to provide equitable methods of collecting revenues from all of its members.

Attachment.

Third-Party Long Term Storage Credit Sales to Member Lands of Central Arizona Groundwater Replenishment District - Impact Report



Prepared for:

Central Arizona Groundwater Replenishment District

January 2017

Prepared by:



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Key Findings

The Central Arizona Groundwater Replenishment District, commonly referred to as CAGRD, is a lesser-known entity that plays a vital role in the continued development of Greater Phoenix and Greater Tucson. Without the creation of CAGRD, a significant percentage of land in the metro areas without access to surface water supplies could never be developed due to State requirements to secure a 100-year water supply in advance of development at prohibitive expense.

Issue

In 2015, CAGRD became aware that third party sellers in the Phoenix AMA were marketing Long Term Storage Credits (LTSCs) to CAGRD Member Lands under a regulatory loophole to offset the cost of CAGRD membership. Under this concept, a CAGRD member purchases LTSCs from a third party seller, recovers them and uses the recovered water in lieu of reporting their water use as excess groundwater. As a result, CAGRD is unable to collect a corresponding annual replenishment assessment from that member.

The marketing of these LTSCs to current CAGRD Member Lands is merely the exploitation of an unforeseen loophole that sidesteps the State’s “volumetric accounting” policy and takes advantage of the current rigidity in the CAGRD assessment process.

There is an artificial disparity in pricing between CAGRD’s bundled assessment rate and third party LTSCs. The term “artificial” is used because the pricing of third party LTSCs does not represent an equal comparison of goods and services provided by CAGRD to its members. A CAGRD member who purchases LTSCs *remains* a member of CAGRD. Because of this, CAGRD is legally obligated to continue to acquire rights to water to offset their future need, develop necessary infrastructure to satisfy replenishment obligations on their behalf, establish and maintain their share of a Replenishment Reserve of LTSCs, and employ staff to administer all of these services to them. The LTSC purchased from the third party seller only offsets the cost of delivering and replenishing water in that year.

Impacts

There are two distinct impacts that could be the likely result if CAGRD members purchase LTSCs in increasing numbers and if CAGRD’s cost recovery mechanisms remain unchanged.

1. Statutes require that CAGRD members fund all operations completely. Under CAGRD’s current financing structure, any time members use a temporary alternative supply (i.e., third party LTSCs), CAGRD is forced to raise rates on remaining members not purchasing LTSCs. In other words, the same costs are spread over a smaller number of payers.

All members receive the same long-term replenishment guarantee that CAGRD membership provides. When third party credits are purchased by some CAGRD members, the rest of the members will be paying a higher rate for that guarantee while others will avoid the cost altogether. This creates significant financial inequity among CAGRD’s members.



2. In the long term, if many or most Member Lands in the Phoenix AMA choose to purchase LTSCs (the potential for which is described in the body of this report), CAGR D could arrive at a tipping point and would be unable to generate sufficient revenues. It would not be able to afford its annual operations nor would it be able to continue efforts to secure and develop the long-term water supplies and infrastructure required by statute.

Under this scenario, when CAGR D is required to prepare its next Plan of Operation for the Phoenix AMA (no later than 2025), it likely would be unable to meet its legal requirements to prove that it is financially capable of meeting its long-term replenishment obligations. Therefore, the Director of ADWR could not approve the new Plan of Operation under existing laws and regulations. Without an approved Plan of Operation in an AMA, CAGR D cannot enroll any new members in that AMA, including subdivisions and master planned communities such as those found in the west valley, where nearly half of the projected growth in Greater Phoenix population is anticipated. In addition, existing Member Service Areas whose Designation of Assured Water Supply relies on CAGR D membership would automatically lose their designations, thereby losing their ability to approve new growth within their service area.

Recommendations

1. **ADWR should reverse its decision regarding how its volumetric accounting policy applies to CAGR D Member Land owners who purchase third-party LTSCs in an attempt to avoid paying annual replenishment assessments.**

CAGR D exists because in the early 1990's the State of Arizona, through ADWR, wanted to strengthen laws and regulations protecting groundwater within the three largest AMAs. CAGR D provides a key operating component to the state's Assured Water Supply program. As this report shows, third-party LTSCs marketed to CAGR D members is a very real threat to CAGR D's operations. Therefore, ADWR's volumetric accounting policy should be adjusted to prevent CAGR D members from avoiding payment of their fair share of CAGR D operating costs.

2. **CAGR D should seek changes to its authorizing statutes to provide equitable methods of collecting revenues from all of its members.**

If ADWR is unable or unwilling to modify its volumetric accounting policy, our second recommendation is for CAGR D to seek changes in Arizona state statutes that revise CAGR D's method of collecting revenues from its members to account for the introduction of third party LTSCs (and other future uncertainties). Specifically, CAGR D must be able to collect revenues from all of its members to offset their share of both fixed and variable operating costs, regardless of whether or not the member reports any use of excess groundwater in a particular year. Through appropriate statutory changes, CAGR D could equitably adjust member assessments when either LTSCs are purchased or other methods are used to temporarily avoid reporting use of excess groundwater.



1.0 Introduction

1.1 Introduction

Elliott D. Pollack & Company was retained to provide an analysis and opinion of the current Central Arizona Groundwater Replenishment District (CAGR) funding mechanisms in terms of their ability to sustain CAGR operations over time. Specifically, the purpose for this assignment is to increase the understanding of the potential impacts to CAGR's financial well-being, as well as Arizona's economy as a whole, given the recent introduction of third party sellers of long-term storage credits (LTSCs) to CAGR members. In connection with this assignment, Elliott D. Pollack & Company engaged Cliff Neal Consulting, LLC to assist in subject matter expertise.

This study gives particular attention to the four components of CAGR's annual replenishment assessments individually and what revenues, if any, would be reduced by the purchase of third party LTSCs by (or on behalf of) landowners within CAGR Member Lands. Corresponding impacts on CAGR's revenues and the potential implications to the Arizona economy will also be analyzed and noted in later sections of this report.

1.2 Limiting Conditions

This study prepared by Elliott D. Pollack & Company is subject to the following considerations and limiting conditions.

- It is our understanding that this study is for the client's due diligence and other planning purposes. Neither our report, nor its contents, nor any of our work were intended to be included and, therefore, may not be referred to or quoted in whole or in part, in any registration statement, prospectus, public filing, private offering memorandum, or loan agreement without our prior written approval.
- The reported recommendation(s) represent the considered judgment of Elliott D. Pollack and Company based on the facts, analyses and methodologies described in the report.
- Except as specifically stated to the contrary, this study will not give consideration to the following matters to the extent they exist: (i) matters of a legal nature, including issues of legal title and compliance with federal, state and local laws and ordinances; and (ii) environmental and engineering issues, and the costs associated with their correction. The user of this study will be responsible for making his/her own determination about the impact, if any, of these matters.



- This study is intended to be read and used as a whole and not in parts.
- All estimates regarding past, current and future operations were provided by CAGR.
- Our analysis is based on currently available information and estimates and assumptions about immediate as well as long-term future development trends. Such estimates and assumptions are subject to uncertainty and variation. Accordingly, we do not represent them as results that will be achieved. Some assumptions inevitably will not materialize and unanticipated events and circumstances may occur; therefore, the actual results achieved may vary materially from the forecasted results. The assumptions disclosed in this study are those that are believed to be significant to the projections of future results.



2.0 Background & Historical Review of CAGR Operations & Funding

2.1 Background

In 1980, the Arizona legislature enacted a comprehensive groundwater code known as the Groundwater Management Act (GMA). The GMA imposed new regulations on groundwater use within Active Management Areas (AMAs), including limits on new groundwater users and the drilling of new wells. It also mandated water conservation measures and, through its Assured Water Supply Program, required all new developments within an AMA to prove access to a reliable water supply for a 100-year period.

By the early 1990s, it became clear that the GMA's Assured Water Supply Program needed to be strengthened to further protect dwindling groundwater supplies, particularly in those AMAs that were experiencing historically high rates of population growth. As a result, the Arizona Department of Water Resources (ADWR) proposed a strict new set of Assured Water Supply Rules that created the need for a replenishment authority that could provide protection of groundwater resources while still allowing for continued development in the AMAs.

In 1993, the Arizona legislature provided the Central Arizona Water Conservation District (CAWCD) with replenishment authorities within its three-county service area (Maricopa, Pinal and Pima Counties). CAWCD's replenishment authorities are known collectively as the Central Arizona Groundwater Replenishment District or CAGR. Subsequently, in 1995, ADWR adopted new Assured Water Supply Rules that allow enrollment in CAGR to serve as partial demonstration of a 100-year assured water supply.

Without the creation of CAGR, a significant percentage of the land within the AMAs that were not developed in 1995 (when the new Assured Water Supply Rules became effective) could never be developed because water providers or landowners would have to buy and store up front a 100-year renewable water supply at prohibitive expense.

Under CAGR's authorizing legislation, a water provider may voluntarily enroll its service area as a "Member Service Area" of CAGR. Landowners who desire to subdivide land that is located in a water service area that has not been enrolled as a Member Service Area may enroll the proposed subdivision as a "Member Land" of CAGR. Enrollment in CAGR allows for continued growth of service areas and subdivisions through the use of groundwater that would not otherwise be possible under the 1995 Assured Water Supply Rules. Legal commitments created through enrollment in CAGR include:



- A commitment by each member to provide annual reports to CAGR identifying the volume of excess groundwater¹ withdrawn within the Member Service Area or delivered to the Member Land in the previous calendar year. This reported volume of excess groundwater becomes CAGR's replenishment obligation for that member for that year.
- A commitment by CAGR to identify and secure renewable water supplies and use those supplies to recharge groundwater aquifers to satisfy its replenishment obligations within three years of incurring the obligation. This is a long-term annual commitment by CAGR to each member that only ends if the member de-enrolls.
- A commitment by the members to pay CAGR's costs of acquiring and replenishing renewable water supplies to offset their use of excess groundwater.
- A commitment by CAGR to store additional water and secure LTSCs over-and-above those required to meet its annual replenishment obligations for the purpose establishing a Replenishment Reserve.
- A commitment by members to pay CAGR's costs of establishing and maintaining a Replenishment Reserve of LTSCs.

To ensure its continued operational and financial viability, CAGR is required by statute to prepare a Plan of Operation (Plan) at least every ten years for review and approval by the Director of the Arizona Department of Water Resources (ADWR).² For each AMA in which CAGR operates, the Plan describes CAGR's operations over the prior ten years, projects future enrollment and replenishment obligations for the subsequent twenty and one-hundred years, and demonstrates CAGR's ability to meet all future obligations, including its financial capability.

2.2 Membership Enrollment in CAGR

As of December 31, 2015, there are 24 municipal water service areas enrolled as Member Service Areas of CAGR. In addition, more than 1,100 subdivisions, representing over 268,400 homes, have been enrolled as Member Lands of CAGR.

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.

² The most recent Plan of Operation was approved by the Director of ADWR on August 5, 2015 and covers the 10-year period from 2015 through 2024. The 2015 Plan is available for review at www.CAGR.com.



The following tables show membership enrollment by year and cumulatively within each AMA. As Table 2.2-1 illustrates, a large majority of CAGRD Member Lands are located within the Phoenix AMA. The east and west Phoenix AMA areas combined represent nearly 77% of the total number of subdivisions and nearly 68% of the total number of homes within Member Lands. The west valley has been particularly active, representing approximately half of all homes within CAGRD Member Lands.

Table 2.2-1 CAGRD Member Land Enrollment

Year	Phoenix AMA - West		Phoenix AMA - East		Pinal AMA		Tucson AMA		Total		Cumulative	
	Sub-divisions	Homes	Sub-divisions	Homes	Sub-divisions	Homes	Sub-divisions	Homes	Sub-divisions	Homes	Sub-divisions	Homes
1995	1	132	1	16	-	-	2	35	4	183	4	183
1996	11	2,715	18	1,830	1	11	7	524	37	5,080	41	5,263
1997	18	4,516	25	2,658	5	394	16	1,279	64	8,847	105	14,110
1998	10	1,784	36	2,634	4	347	2	354	52	5,119	157	19,229
1999	21	4,741	35	3,831	11	792	5	667	72	10,031	229	29,260
2000	22	5,803	32	3,958	17	12,989	6	6,435	77	29,185	306	58,445
2001	29	13,058	11	2,040	13	5,102	8	3,367	61	23,567	367	82,012
2002	30	6,439	10	4,378	5	490	6	2,259	51	13,566	418	95,578
2003	75	16,905	18	2,880	6	1,266	14	1,720	113	22,771	531	118,349
2004	91	12,740	8	1,788	9	2,509	11	1,811	119	18,848	650	137,197
2005	101	13,749	25	4,649	14	3,502	11	1,731	151	23,631	801	160,828
2006	72	27,297	34	5,604	25	23,833	11	2,228	142	58,962	943	219,790
2007	27	10,540	12	4,163	13	7,803	10	1,377	62	23,883	1,005	243,673
2008	11	5,671	19	1,333	10	3,092	4	602	44	10,698	1,049	254,371
2009	3	1,275	2	85	1	56	2	34	8	1,450	1,057	255,821
2010	2	175	2	536	2	116	3	70	9	897	1,066	256,718
2011	1	852	-	-	1	7	-	-	2	859	1,068	257,577
2012	3	1,481	-	-	-	-	2	126	5	1,607	1,073	259,184
2013	3	1,105	6	1,080	-	-	-	-	9	2,185	1,082	261,369
2014	8	985	7	3,324	-	-	-	-	15	4,309	1,097	265,678
2015	9	2,177	6	529	-	-	1	55	16	2,761	1,113	268,439
Total	548	134,140	307	47,316	137	62,309	121	24,674	1,113	268,439	1,113	268,439

Source: www.CAGRD.com



Table 2.2-2 CAGR D Member Service Area Enrollment

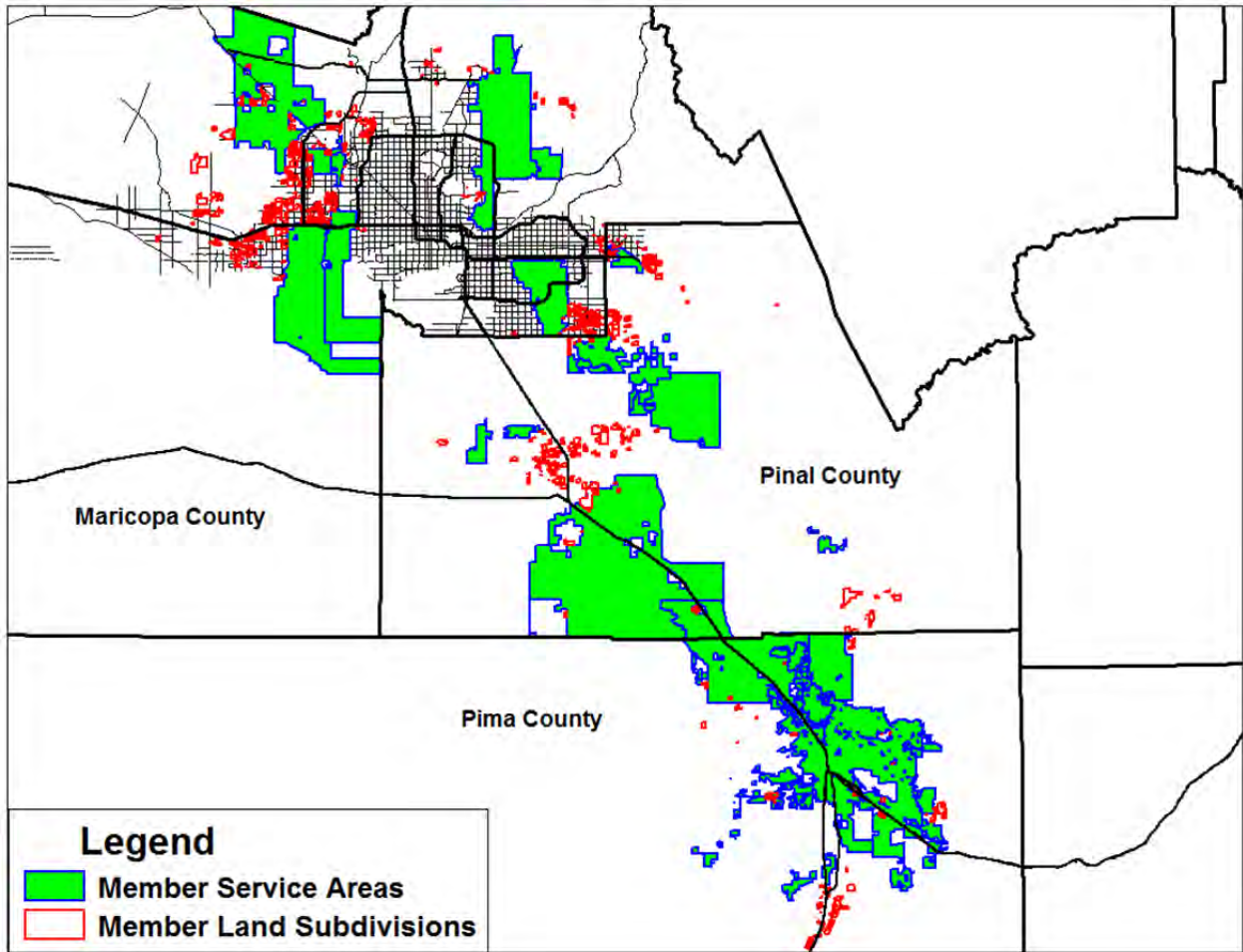
Member Service Area	County	AMA	Date
Apache Junction WUCFD	Maricopa	Phoenix (East)	2/15/1996
City of Avondale	Maricopa	Phoenix (West)	1/16/1998
Chaparral City Water Company	Maricopa	Phoenix (East)	4/7/2004
City of Casa Grande (Copper Mountain Ranch CFD)	Pinal	Pinal	6/20/2002
City of El Mirage	Maricopa	Phoenix (West)	8/23/1999
City of Eloy	Pinal	Pinal	2/3/2000
Town of Florence	Pinal	Pinal	1/11/1999
Flowing Wells Irrigation District	Pima	Tucson	5/27/2008
Town of Gilbert	Maricopa	Phoenix (East)	4/17/2007
City of Goodyear	Maricopa	Phoenix (West)	10/4/2001
Johnson Utilities, LLC	Pinal	Phoenix (East)	5/18/2000
Johnson Utilities, LLC	Pinal	Pinal	5/18/2000
Town of Marana	Pima	Tucson	12/12/1995
Metropolitan Domestic Water Improvement District	Pima	Tucson	12/13/1995
Metropolitan Domestic Water Improvement District-West	Pima	Tucson	12/19/2005
Metropolitan Domestic Water Improvement District-Diablo	Pima	Tucson	2/20/2014
Town of Oro Valley	Pima	Tucson	3/18/1997
Sahuarita Water Company	Pima	Tucson	7/26/1999
City of Scottsdale	Maricopa	Phoenix (East)	11/21/2001
Spanish Trail Water Company	Pima	Tucson	12/14/1997
City of Surprise	Maricopa	Phoenix (West)	7/21/1998
City of Tucson	Pima	Tucson	12/19/1996
Vail Water Company	Pima	Tucson	11/20/1995
Willow Springs Utilities, LLC	Pinal	Tucson	10/22/2006

Source: www.CAGR D.com

It is notable from these tables that membership differs significantly by AMA. Membership in the Tucson AMA is dominated by Member Service Areas, while membership in the Phoenix and Pinal AMAs is dominated by Member Lands. Figure 2.2-1 shows the locations of the CAGR D members within CAWCD’s three-county service area.



Figure 2.2-1 Map of CAGRD Member Lands and Member Service Areas



2.3 Historical Replenishment Obligations

As described above, CAGRD was created by the state legislature in 1993 in anticipation of the adoption of new Assured Water Supply rules. Once these new rules were adopted in 1995, CAGRD began enrolling members and incurring replenishment obligations. In the 21-year period from the enrollment of its first member in 1995 through 2015, CAGRD incurred replenishment obligations totaling more than 460,000 acre-feet. CAGRD has met, and is continuing to meet, its annual replenishment obligations within a statutorily-prescribed three-year window. The following table shows the annual replenishment obligations incurred by CAGRD since enrolling its first member in 1995.



Table 2.3-1 Historical CAGRD Replenishment Obligations (in acre-feet)

Annual Report Year	Phoenix AMA			Pinal AMA			Tucson AMA			Total		
	Member Lands	Member Service Areas*	Total	Member Lands	Member Service Areas*	Total	Member Lands	Member Service Areas*	Total	Member Lands	Member Service Areas*	Total
1995	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
1996	40.6	0.0	40.6	0.0	0.0	0.0	4.1	0.0	4.1	44.8	0.0	44.8
1997	331.9	0.0	331.9	0.0	0.0	0.0	2.8	4.2	7.0	334.6	4.2	338.8
1998	927.9	0.0	927.9	0.0	0.0	0.0	11.2	3.6	14.8	939.1	3.6	942.7
1999	1,382.3	298.3	1,680.5	0.0	0.0	0.0	24.6	491.9	516.5	1,406.9	790.1	2,197.0
2000	2,097.1	1,275.4	3,372.5	28.4	0.0	28.4	46.1	810.2	856.3	2,171.6	2,085.6	4,257.2
2001	3,077.0	3,583.8	6,660.8	61.1	0.0	61.1	74.7	6,298.4	6,373.1	3,212.8	9,882.2	13,095.0
2002	4,992.5	3,812.8	8,805.4	65.8	0.0	65.8	166.0	6,875.1	7,041.0	5,224.3	10,687.9	15,912.2
2003	6,999.5	4,353.2	11,352.8	52.6	0.0	52.6	204.3	7,198.3	7,402.6	7,256.5	11,551.5	18,807.9
2004	10,627.4	7,240.2	17,867.6	100.3	0.0	100.3	434.7	7,642.7	8,077.3	11,162.3	14,882.8	26,045.2
2005	12,580.5	10,434.1	23,014.6	78.3	1.0	79.3	617.9	8,125.2	8,743.1	13,276.7	18,560.3	31,836.9
2006	16,349.4	12,111.9	28,461.3	15.9	118.0	133.9	943.2	9,552.4	10,495.6	17,308.5	21,782.3	39,090.8
2007	20,085.4	13,402.8	33,488.2	40.6	339.6	380.1	1,211.8	5,348.9	6,560.7	21,337.8	19,091.3	40,429.0
2008	21,240.3	11,952.3	33,192.5	124.2	17.0	141.2	1,497.4	2,904.5	4,401.9	22,861.9	14,873.7	37,735.6
2009	21,113.3	4,772.9	25,886.2	102.3	180.0	282.3	1,762.9	3,571.2	5,334.1	22,978.5	8,524.1	31,502.6
2010	21,237.7	7,019.6	28,257.2	88.4	124.3	212.7	1,772.0	1,751.1	3,523.2	23,098.1	8,895.0	31,993.1
2011	23,535.7	6,871.2	30,406.9	96.6	149.1	245.8	1,935.9	1,578.8	3,514.7	25,568.2	8,599.1	34,167.4
2012	24,245.9	5,802.8	30,048.6	96.6	221.1	317.7	1,983.9	1,036.8	3,020.7	26,326.4	7,060.7	33,387.0
2013	23,844.6	7,122.7	30,967.3	82.5	132.0	214.5	2,125.8	788.7	2,914.5	26,052.9	8,043.4	34,096.3
2014	23,460.4	6,896.1	30,356.6	92.7	458.7	551.4	2,151.0	806.3	2,957.4	25,704.2	8,161.1	33,865.3
2015	20,323.7	7,150.9	27,474.6	82.8	313.8	396.5	1,651.3	876.0	2,527.3	22,057.8	8,340.6	30,398.5
TOTAL	258,493.1	114,100.9	372,594.0	1,209.1	2,054.5	3,263.6	18,621.7	65,664.0	84,285.8	278,324.0	181,819.4	460,143.3

* Not including Contract Replenishment Obligation

Source: www.CAGRD.com



Note that, in aggregate, replenishment obligations for Member Lands are greater than those for Member Service Areas. This is due to the fact that many of the water providers serving Member Service Areas have their own renewable supplies that they can deliver to their customers directly or indirectly via recharge and recovery operations. Thus, excess groundwater use (and a corresponding CAGR replenishment obligation) within Member Service Areas is generally low. On the other hand, water providers serving Member Lands often don't have access to their own renewable water supplies, so most of the water they have historically delivered to their customers has been excess groundwater that creates a replenishment obligation for CAGR.

In addition, the costs of CAGR replenishment are billed to Member Service Areas and must be recovered through rates, while the costs of replenishment for Member Lands are collected directly from the owners of that property. Therefore, water providers serving Member Lands have no financial incentive to use more expensive renewable water supplies to serve Member Lands.

2.4 Replenishment Reserve

Arizona statutes require that CAGR establish and maintain a Replenishment Reserve of LTSCs in each AMA. This Replenishment Reserve of LTSCs is to be used to offset CAGR replenishment obligations during future years of shortage when sufficient renewable water supplies are not otherwise available to CAGR or are prohibitively expensive. Statutes define the methodology to be used in calculating each AMA's target Replenishment Reserve volume. The following table shows the target volumes and CAGR's progress towards building the Replenishment Reserve for each AMA.

Table 2.3-2 CAGR Replenishment Reserve (Units: Acre-feet)

Active Management Area	Replenishment Reserve Balance as of 12/31/2015	Reserve Target	Percent of Reserve Target Complete
Phoenix	155,257	603,866	26%
Pinal	3,823	48,036	8%
Tucson	32,543	112,600	29%
TOTAL	191,623	764,502	25%

Source: CAGR 2015 Annual Operations Report



2.5 CAGRDR Funding

Statutes require that all operations of CAGRDR be funded completely by its members. Statutes also provide CAGRDR with the authority and responsibility to establish fees, rates and dues, and collect revenues through assessments and taxes necessary to meet statutory obligations. Since the inception of CAGRDR, the CAWCD Board of Directors has implemented a number of policies and procedures to ensure that CAGRDR complies with all statutory requirements and has sufficient financial resources to fulfill its replenishment obligations in perpetuity. As described above, CAGRDR must also demonstrate its financial capability to meet future obligations in the Plan of Operation that must be submitted to and approved by the Director of ADWR at least every ten years.

CAGRDR's operating costs consist of a combination of fixed costs and variable costs. For purposes of this report, the term "fixed costs" refers to those that CAGRDR incurs in a given year regardless of the volume of its annual replenishment obligation. These are costs associated with administration and recordkeeping, developing the water supplies and infrastructure necessary to meet long-term replenishment obligation and establishing the Replenishment Reserve as prescribed by statute. CAGRDR's "variable costs" are those associated with the purchase and replenishment of water to meet a given year's obligation.

CAGRDR generates the revenues it needs to cover operating costs through three funding mechanisms: (1) enrollment and activation fees that are paid up-front, (2) annual membership dues, and (3) annual replenishment assessments. Collection of revenues via the first two mechanisms is based primarily on the number of individual lots within Member Lands or Member Service Areas and the incremental timing of their enrollment and construction. Revenues generated under these two mechanisms are used exclusively to help offset CAGRDR fixed costs (although under current statutes, they cannot be expected to cover a majority of the fixed costs).

The third mechanism (annual replenishment assessments) is collected based on the volume of excess groundwater delivered to parcels within the Member Land subdivisions and/or withdrawn within Member Service Areas, as reported annually to CAGRDR by the water providers serving the members. Revenues generated by the annual replenishment assessments cover CAGRDR's variable costs as well as the year's remaining fixed costs. The following discussion provides more detail on the collection of annual replenishment assessments.



The annual replenishment assessment rate is currently established as a “bundled” rate comprised of the following four components:

1. **Water & Replenishment** – Revenues from this rate component are used to pay the variable costs associated with the purchase and replenishment of water to meet the current year’s obligation. Note that this is the *only* mechanism that generates revenues necessary to offset CAGR’s variable costs.
2. **Administrative** – Revenues from this rate component are combined with a portion of the up-front enrollment fee revenues (described above) to cover fixed costs associated with administration and recordkeeping.
3. **Infrastructure & Water Rights** – Revenues from this rate component are combined with revenues from activation fees, annual membership dues and a portion of the enrollment fees (described above) to establish a reserve fund that is used to pay fixed costs associated with securing and developing water rights and infrastructure needed to meet CAGR replenishment obligations over the long-term.
4. **Replenishment Reserve** – Revenues from this rate component are combined with a portion of the up-front enrollment fee revenues to cover the fixed costs associated with establishing and maintaining a Replenishment Reserve. It should be noted that, by statute, CAGR may only collect this rate component during the 23-year period following a member’s enrollment.

CAGR has historically established annual replenishment assessment rates by estimating costs related to each of the four components listed above on an individual basis. As the following table illustrates, these four rate components have had separate and distinct values each year.



Table 2.5-1 Historical CAGR Replenishment Assessment Rates

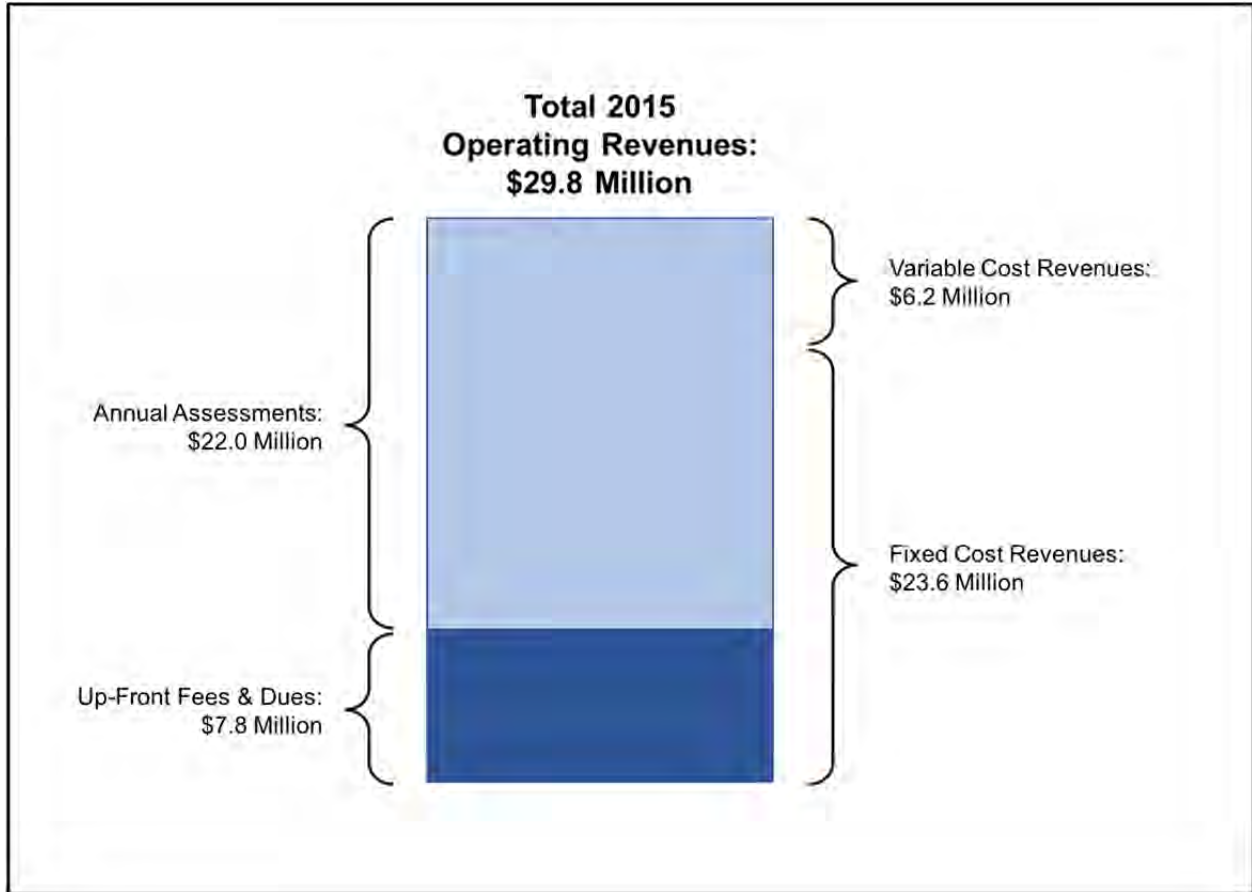
Rate Year	Phoenix AMA					Pinal AMA					Tucson AMA				
	Water & Replenishment	Administrative	Infrastructure & Water Rights	Replenishment Reserve	Total Rate	Water & Replenishment	Administrative	Infrastructure & Water Rights	Replenishment Reserve	Total Rate	Water & Replenishment	Administrative	Infrastructure & Water Rights	Replenishment Reserve	Total Rate
1996	\$0	\$52	--	--	\$52	--	--	--	--	--	\$0	\$52	--	--	\$52
1997	\$125	\$52	--	--	\$177	--	--	--	--	--	\$125	\$52	--	--	\$177
1998	\$135	\$45	--	--	\$180	--	--	--	--	--	\$133	\$45	--	--	\$178
1999	\$120	\$45	\$9	--	\$174	--	--	--	--	\$0	\$118	\$45	\$9	--	\$172
2000	\$118	\$45	\$15	\$9	\$187	\$101	\$45	\$15	\$0	\$161	\$117	\$45	\$15	\$10	\$187
2001	\$120	\$45	\$15	\$9	\$189	\$101	\$45	\$15	\$0	\$161	\$117	\$45	\$15	\$11	\$188
2002	\$92	\$45	\$15	\$12	\$164	\$105	\$45	\$15	\$0	\$165	\$126	\$45	\$15	\$12	\$198
2003	\$116	\$45	\$15	\$12	\$188	\$109	\$45	\$15	\$0	\$169	\$127	\$45	\$15	\$12	\$199
2004	\$117	\$40	\$20	\$28	\$205	\$80	\$40	\$20	\$21	\$161	\$121	\$40	\$20	\$27	\$208
2005	\$101	\$40	\$40	\$31	\$212	\$81	\$40	\$40	\$31	\$192	\$115	\$40	\$40	\$31	\$226
2006	\$107	\$30	\$77	\$22	\$236	\$79	\$30	\$77	\$24	\$210	\$123	\$30	\$77	\$21	\$251
2007	\$112	\$28	\$79	\$21	\$240	\$87	\$28	\$79	\$25	\$219	\$133	\$28	\$79	\$25	\$265
2008	\$134	\$33	\$90	\$33	\$290	\$100	\$33	\$90	\$31	\$254	\$143	\$33	\$90	\$39	\$305
2009	\$143	\$33	\$101	\$41	\$318	\$107	\$33	\$101	\$38	\$279	\$153	\$33	\$101	\$46	\$333
2010	\$140	\$38	\$131	\$47	\$356	\$110	\$38	\$131	\$45	\$324	\$155	\$38	\$131	\$53	\$377
2011	\$140	\$42	\$170	\$51	\$403	\$116	\$42	\$170	\$53	\$381	\$155	\$42	\$170	\$60	\$427
2012	\$137	\$44	\$204	\$52	\$437	\$117	\$44	\$204	\$56	\$421	\$161	\$44	\$204	\$65	\$474
2013	\$160	\$45	\$245	\$58	\$508	\$140	\$45	\$245	\$65	\$495	\$183	\$45	\$245	\$75	\$548
2014	\$172	\$45	\$294	\$63	\$574	\$155	\$45	\$294	\$70	\$564	\$196	\$45	\$294	\$80	\$615
2015	\$179	\$45	\$353	\$67	\$644	\$160	\$45	\$353	\$75	\$633	\$202	\$45	\$353	\$85	\$685

Source: CAGR staff



To better understand how CAGR's revenue generating mechanisms compare, it is helpful to look at revenues from a single year. The following figure shows CAGR revenues generated in 2015 by source and use.

Figure 2.5-1 Summary of CAGR's 2015 Revenues



Source: CAGR Staff

As Figure 2.5-1 shows, all of CAGR's variable costs (\$6.2 million) and more than two-thirds of its fixed costs (\$15.8 million) in 2015 were recovered through annual replenishment assessments, which are generated via rates that are charged against the members' reported use of excess groundwater. Thus, any activity that impacts how CAGR members report excess groundwater use will have a corresponding impact on CAGR's ability to generate revenues necessary to cover its fixed costs.



3.0 Impact of Third Party Sellers

3.1 Background

ADWR administers an underground storage program that was initiated in 1986 pursuant to the 1980 Groundwater Management Act. This program provides for the underground storage of renewable water supplies, with corresponding LTSCs accruing to the storing entity. LTSCs are commodities that may be bought, sold or exchanged among qualified entities by simply filing a transfer form with ADWR. The stored water associated with LTSCs may be recovered pursuant to recovery well permits issued by ADWR.

ADWR's website states that more than 4 million acre-feet of LTSCs have been accrued throughout Arizona since inception of the program. CAGRD's 2015 Plan of Operation estimated that 1.1 to 2.1 million acre-feet of these existing LTSCs may be available to purchase now or at some point in the future. In addition, LTSCs are still being accrued by entities that have access to otherwise-unused renewable water supplies. It is clear, therefore, that there is the potential for a large volume of LTSCs to be marketed within the CAGRD service area for years to come.

3.2 Concept Marketed by Third Party Sellers

In 2015, CAGRD became aware that third party sellers were marketing their LTSCs to CAGRD Member Lands as a way of offsetting the cost of CAGRD membership.³ Under this concept, a CAGRD member would purchase LTSCs from the third party seller, recover them and use the recovered water in lieu of reporting their water use as excess groundwater. As a result, CAGRD would incur no replenishment obligation for that member's water use in that year, but more importantly, it also would be unable to collect a corresponding replenishment assessment from that member.

While this concept was not new (and was indeed being implemented by some CAGRD Member Service Areas), conventional thinking prior to 2015 indicated that it would not be viable for Member Lands under ADWR's existing policy on "volumetric accounting."⁴ However, after

³ See the Gila River Water Storage website at <http://www.gilawater.com/advantages/cost.aspx>

⁴ The term "policy" for this particular issue is utilized in this report in an unofficial capacity, meaning that there is no written policy but is considered a long established practice by ADWR. Under this policy, a water provider that delivers multiple water supplies within its integrated distribution system (such as a mix of groundwater, surface water and recovered credits) cannot report a specific supply as being delivered to an individual end user within its service area. Instead, the water provider must account for the delivery of water to each end user "volumetrically," or as a mix of supplies. For example, a water provider using 50% groundwater, 30% surface water and 20% recovered credits must report each user as receiving this percentage blend of water supplies. If applied to this credit recovery *proposal* where a relatively small number of recovered credits were blended into a relatively large groundwater distribution system, ADWR's volumetric accounting policy would require that the majority of water delivered to a particular parcel within a CAGRD Member Land subdivision be reported as "excess groundwater" subject to replenishment, with only a small portion being reported as recovered credits.



further consideration, ADWR officials have subsequently confirmed that such a concept is legally possible for individual Member Land parcel owners, provided that (1) the LTSCs were accrued by a third party, not the Member Land's water provider; (2) the LTSCs are recovered under a recovery well permit issued by ADWR to the specific parcel owner, and (3) the parcel owner and its water provider enter into a "wheeling" agreement outlining the terms under which the recovered LTSCs will be transported to the parcel owner for use on the land.

CAGRD is aware of at least one instance in which a third party successfully marketed LTSCs under this concept to a homeowners association (HOA) that owns land parcels within a CAGRD Member Land subdivision. The price of LTSCs offered by third parties to CAGRD Member Lands is currently unknown to CAGRD and the authors of this report. However, the fact that there are now recorded instances of parcel owners within Member Lands making the decision to purchase and recover LTSCs suggests that the pricing represents an attractive reduction compared to CAGRD's full, bundled annual replenishment assessment.

3.3 Which CAGRD Members Could Be Affected?

There is the potential that all current and future CAGRD members could be affected by the marketing of third party LTSCs. However, to reduce complexity, our analysis was limited to only the obligations of Phoenix AMA Member Lands, as identified in CAGRD's 2015 Plan of Operation.⁵ These are subdivisions and master planned communities that would not have existed in the first place without the assured water supply solution that enrolling as a CAGRD Member Land provided.

It is assumed that third party sellers are actively marketing LTSCs to the owners of those parcels within Member Land subdivisions that have the largest demand for water, such as HOAs. HOAs typically own and maintain large common area parcels that contain parks and other public spaces with high-water-use landscaping.

It is important to note that this marketing effort is not necessarily limited to parcels with high water demands. ADWR has surmised that individual homeowners would be discouraged from considering the LTSC option based on the fact that a recovery well permit would be required with its associated ADWR application fee of \$1,000. Thus, the "payback period" resulting from reduced CAGRD assessments would be too long to justify such a high upfront cost.

⁵ Members Service Areas were excluded from this analysis because it has always been understood that ADWR's Volumetric Accounting Policy would not limit the use of third-party LTSCs by water providers serving Member Service Areas. The analysis was further limited to only the Phoenix AMA because that is where the vast majority of replenishment obligations for Member Lands is projected to occur.



However, CAGR staff has expressed concern that there may be a legal workaround to this presumed financial barrier for individual homeowners. By pooling all of the homeowners within a subdivision into a single legal entity, such as a limited liability corporation (LLC), it is conceivable that the LLC could file for a single recovery well permit on behalf of all of its homeowners. As a result, the individual homeowners would pay only a small fraction of the recovery well permit fee, thereby eliminating the inordinate upfront cost as a financial barrier to more widespread participation in LTSC purchases by Member Lands. In fact, CAGR staff has been informed that such a pooling process may already be underway in at least one Member Land subdivision.

Thus, it is conceivable that under a worst-case scenario, 100% of CAGR Member Lands in the Phoenix AMA could participate in an LTSC purchase/recovery program and stop paying CAGR annual replenishment assessments altogether as long as LTSCs remain available for purchase. This would result in an estimated loss of nearly \$12 million in fixed cost revenues from CAGR Member Land assessments in the Phoenix AMA in 2017 alone. Based on CAGR's current funding structure, such a scenario extended over even just a few years would be financially catastrophic. The possibility and impacts of such a scenario are further discussed below.

3.4 How Much of CAGR's Total Obligation Could be Offset by Third Party LTSCs?

To get a sense of the magnitude of the problem, one must understand CAGR's projected replenishment obligations (against which it has expected to collect assessments) and the volume of LTSCs that might be available for sale by third parties to offset those obligations. CAGR's projected replenishment obligations are well documented in its 2015 Plan of Operation. The projected annual replenishment obligations for Member Lands in the Phoenix AMA for the period from 2016 through 2034 are summarized in Table 3.4-1 below. The volume of LTSCs available from third parties is not so clear, as shown in the following discussion.



Table 3.4-1 Projected CAGR D Replenishment Obligations from Member Lands in the Phoenix AMA (Units: Acre-feet)

Year	Phoenix AMA	
	Annual Obligation	Cumulative Obligation
2016	24,000	24,000
2017	25,160	49,160
2018	26,320	75,480
2019	27,480	102,960
2020	28,640	131,600
2021	29,800	161,400
2022	31,900	193,300
2023	34,000	227,300
2024	36,100	263,400
2025	38,200	301,600
2026	40,300	341,900
2027	41,920	383,820
2028	43,540	427,360
2029	45,160	472,520
2030	46,780	519,300
2031	48,400	567,700
2032	49,925	617,625
2033	51,450	669,075
2034	52,975	722,050

Source: CAGR D 2015 Plan of Operation

There are two entities known to have at least attempted to market LTSCs to CAGR D members to date. According to data published by ADWR⁶ coupled with a recent transaction by the Arizona Water Banking Authority and CAGR D⁷, one of these companies holds 75,865 AF of LTSCs and the other⁸ holds 46,831 AF of LTSCs in the Phoenix AMA.⁹ In combination, these two

⁶ Long Term Storage Account (LTSA) Summary, dated September 27, 2016, online at http://www.azwater.gov/AzDWR/WaterManagement/Recharge/documents/2016LTSAsummary_92716.pdf.

⁷ A recent transaction to purchase 100,000 AF from Vidler by both the Arizona Water Banking Authority (50,000 AF) and CAGR D (50,000 AF) was approved by the Central Arizona Project board of directors, which effectively reduces the published amount currently held by Vidler.

⁸ Through its acquisition of Active Resource Management, LLC, as described at <http://www.vidlerwater.com/arizona.html>.

⁹ ADWR’s LTSA Summary indicates that Vidler holds an additional 260,991 AF of LTSCs in the Phoenix AMA. However, it is not clear if these LTSCs are directly marketable in the Phoenix AMA, so they are not included in this analysis.



entities hold 122,696 AF of LTSCS in the Phoenix AMA. This volume would be sufficient to offset all of CAGRDR's projected Member Land replenishment obligations in the Phoenix AMA through 2019.

Potential third party sellers are not limited to just the two entities mentioned above. For example, two Native American communities, which hold Indian-priority rights to Central Arizona Project water, have been storing their unused supplies to generate LTSCs in the Phoenix AMA for a number of years. According to the published ADWR data, the number of LTSCs accrued by these entities exceeds 297,000 AF in the Phoenix AMA. While there is currently no indication that they have attempted (or will attempt) to market their LTSCs to CAGRDR members, it is a distinct possibility that should be considered. Should they decide to offer their LTSCs to CAGRDR members, their existing LTSCs, combined with those held by the two companies referenced above, would be sufficient to offset all projected CAGRDR Member Land replenishment obligations in the Phoenix AMA through 2027.

The discussion above describes the potential impact that four entities could have on CAGRDR's operations using only their *existing* LTSCs. However, this is not even the worst-case scenario. Most of these entities plan to continue accruing LTSCs in the future. In addition, there are literally hundreds of thousands of acre-feet of LTSCs held by other entities that could be marketed to CAGRDR members. Thus, it is not inconceivable that there could be enough LTSCs to completely fulfill the current and future annual water and replenishment obligations of CAGRDR well beyond 2034 (the end of its current twenty-year planning horizon).

3.5 Why is it Such a Problem if CAGRDR's Annual Replenishment Obligations are Offset by Third Party LTSCs?

As described above, CAGRDR must be funded completely by its members and its current financing structure is fairly complicated. Provisions in current state statutes require CAGRDR to collect the majority of its funding through annual assessments rather than up-front fees. Current statutes also provide that CAGRDR may only collect annual replenishment assessments from its members based on the replenishment obligation it incurs (directly corresponding to the members' reported use of excess groundwater). Therefore, if members can find a way to reduce or eliminate their reported use of excess groundwater in a given year (and, correspondingly, CAGRDR's replenishment obligation for that year), then they can avoid paying annual replenishment assessments to CAGRDR in that year.

The problem is that such a reduction in the members' excess groundwater use is temporary, lasting only as long as LTSCs are available to buy at a financially reasonable cost. When affordable LTSCs run out, the member will return to the practice of reporting its water use as



excess groundwater, which CAGR must replenish. In other words, CAGR must plan for and develop water supplies and infrastructure to meet the long-term replenishment obligation of all of its members, even if some of them find temporary ways of avoiding payment of replenishment assessments.

3.6 Potential Impacts

There are two distinct impacts that could be the likely result if CAGR members purchase LTSCs in increasing numbers and if CAGR's cost recovery mechanisms remain unchanged. These issues, categorized by impacts that could occur in both the short term and long term, are discussed below.

In the short term, for any year in which members use a temporary alternative supply (i.e., third party LTSCs), CAGR cannot collect replenishment assessments from them. However, CAGR must continue to cover its fixed costs. Under its existing financing structure, CAGR would be forced to raise rates on the remaining members that are not purchasing LTSCs. In other words, the same costs must be spread over a smaller number of payers.

All members hold the same long-term replenishment guarantee that membership in CAGR provides, but when the loophole of purchasing LTSCs is employed, some members would be paying a lot more than others for that guarantee. This would certainly create significant financial inequities among CAGR's members.

In the long term, if most or all Member Lands in the Phoenix AMA choose to purchase LTSCs (the potential for which is described above), CAGR could arrive at a tipping point at which it would be unable to generate sufficient revenues. It would not be able to afford its annual operations nor would it be able to continue efforts to secure and develop the long-term water supplies and infrastructure required by statute.

Under this scenario, when CAGR is required to prepare its next Plan of Operation for the Phoenix AMA (which would be no later than 2025), it likely would be unable to prove that it is financially capable of meeting its long-term replenishment obligations. Therefore, the Director of the Arizona Department of Water Resources (ADWR) could not approve the new Plan of Operation under existing laws and regulations.

Without an approved Plan of Operation in an AMA, CAGR cannot enroll any new members in that AMA. For the Phoenix AMA, this would include subdivisions and master planned communities such as those found in the west valley, where a significant percentage of the projected growth in Greater Phoenix population is anticipated. In addition, existing Member



Service Areas whose Designations of Assured Water Supply rely on CAGR membership would automatically lose their designations, thereby losing their ability to approve new growth within their service area.

As the following table illustrates, Maricopa County has significant growth prospects in the coming decades. This growth, in large part, will occur on the periphery of the established metro region including the west valley where much of the growth is dependent on CAGR membership. Indeed, the west valley is expected to grow faster than the county average through 2050. Individual cities, such as Buckeye and Goodyear have even higher expected rates of growth. Buckeye alone is expected to grow by 4%-8% over the next few decades, reaching seven times its 2015 population base.

While west valley municipalities currently make up 21% of the county’s population, the region is expected to eventually comprise nearly one third of all residents. To put that into perspective, nearly half of all expected population growth over the next 35 years is expected to occur in the west valley.

Table 3.6-1 Maricopa County Population Projections, 2015-2050

Region	2015	2020	2030	2040	2050
Maricopa County	4,014,638	4,407,481	5,181,644	5,905,018	6,551,321
Avg. Annual Growth Rate		1.9%	1.6%	1.3%	1.0%
West Valley ^{1/}	845,810	942,579	1,249,202	1,662,876	2,082,850
Avg. Annual Growth Rate		2.2%	2.9%	2.9%	2.3%
Buckeye	67,139	81,268	139,755	301,542	477,392
Avg. Annual Growth Rate		3.9%	5.6%	8.0%	4.7%
Goodyear	75,995	94,141	148,569	200,662	285,284
Avg. Annual Growth Rate		4.4%	4.7%	3.1%	3.6%
West Valley % of County Population	21%	21%	24%	28%	32%
^{1/} "West Valley" is defined here as the combined Municipal Planning Areas of Avondale, Buckeye, El Mirage, Glendale, Goodyear, Litchfield Park, Peoria, Surprise, and Tolleson					

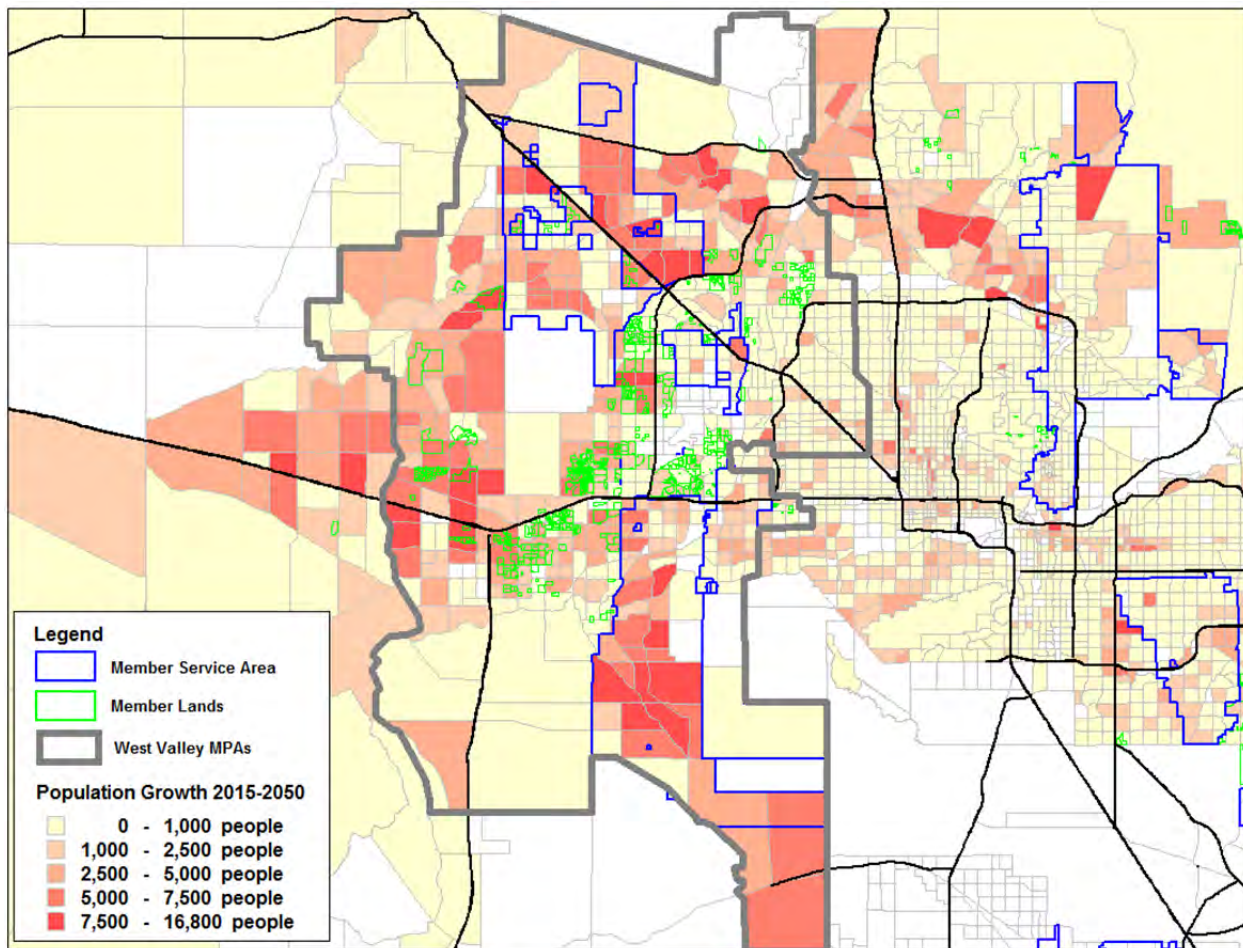
Source: Maricopa Association of Governments, 2016; Elliott D. Pollack & Co.

The following map helps to illustrate future growth expectations in the west valley. This growth is framed within municipal planning areas and in proximity to existing Member Service Areas and Member Lands. It is quite evident that future growth within this area will most likely be



reliant on new Member Land enrollment and the continued existence of CAGRD to be able to fulfill the expectation of population growth.

Figure 3.6-1 Map of West Valley Growth Projections 2015-2050



Source: Maricopa Association of Governments

This expected growth could be hindered if complications due to water surety arise. Such would be the case if CAGRD lost the ability to enroll new Member Lands and ADWR is forced to rescind Member Service Area designations because CAGRD does not have an approved Plan of Operation in place.

Overall, in addition to potential direct impacts to future growth in the west valley, any public announcement indicating that significant portions of metropolitan areas in Arizona could be at risk of no longer being developed under its existing groundwater management laws would create substantial uncertainty that could significantly impact Arizona’s economy. CAGRD is perceived, correctly or incorrectly, as providing water supplies for new growth at the edge of existing development. Any perceived uncertainty in Arizona’s water availability for new development would reflect negatively on the state and could act as a deterrent to firms and developers that are considering investing in Arizona.



4.0 Recommendations

4.1 Conclusions

The overriding issue at hand is the artificial disparity in pricing between the bundled CAGR assessment rate and third party LTSCs and its impact on CAGR's ability to collect revenue to cover its ongoing costs. The term "artificial" is used because the pricing of third-party LTSCs does not represent an equal comparison of goods and services provided by CAGR to its members.

The current actions taken by third party sellers marketing LTSCs to current CAGR Member Lands is merely an exploitation of an unforeseen loophole in the CAGR billing process. Simply due to statutory restrictions that dictate how CAGR must collect revenues from its members, a false perception has developed regarding the price that CAGR members pay for replenishment services.

In actuality, a CAGR member who purchases LTSCs remains a member of CAGR. Since they remain a member, CAGR is obligated to continue to acquire rights to water for their future need, develop necessary infrastructure to satisfy replenishment obligations on their behalf, establish and maintain their share of a Replenishment Reserve of LTSCs, and employ staff to administer all of these services to them. The LTSC purchased from the third party seller only offset the cost of delivering and replenishing water in that year.

4.2 Recommendations

Based on the analysis described in this report, we offer two primary recommendations. Each alternative is described below.

Our first recommendation is a call for ADWR to reverse its decision regarding how its volumetric accounting policy applies to CAGR Member Land owners who purchase third-party LTSCs in an attempt to avoid paying annual replenishment assessments.

CAGR exists because in the early 1990's the State of Arizona, through ADWR, wanted to strengthen laws and regulations protecting groundwater within the three largest AMAs. CAGR provides a key operating component of the state's Assured Water Supply program. As this report shows, third-party LTSCs marketed to CAGR members is a substantial threat to CAGR's ability to adequately fund its continued operations. ADWR should adopt policies that ensure that CAGR can be successful. Therefore, ADWR's volumetric accounting policy should be adjusted, as necessary, to prevent CAGR members from avoiding payment of their fair share of CAGR operating costs by purchasing LTSCs from third-parties.



If ADWR is unable or unwilling to modify its volumetric accounting policy, our second recommendation is for CAGRDR to seek changes in Arizona state statutes that revise CAGRDR's method of collecting revenues from its members to account for the introduction of third party LTSCs (and other future uncertainties).

CAGRDR should seek changes to its authorizing statutes that provide equitable methods of collecting revenues from all of its members. Specifically, CAGRDR must be able to collect revenues from all of its members to offset their share of both fixed and variable operating costs, regardless of whether or not the member reports any use of excess groundwater in a particular year. Through appropriate statutory changes, CAGRDR could equitably adjust member assessments when either LTSCs are purchased or other methods are used to temporarily avoid reporting use of excess groundwater.

Further, CAGRDR should consider opportunities to increase transparency for its members by unbundling the four components of its total assessment. This would also enhance the members' understanding of the benefits that CAGRDR provides. Enabling members to more easily see the different components of their assessments would allow them to make better decisions when considering the LTSC purchase option. They would be able to compare the appropriate portion of their replenishment assessment to the price offered by third party sellers of LTSCs.

Finally, regardless of whether or not either of the alternative recommendations provided above comes to fruition, notification should be sent to CAGRDR members (and their water providers) regarding the status of this issue and how LTSCs will be treated going forward. In addition, educational materials should be made available on the CAGRDR website. There is likely to be confusion among CAGRDR members if marketing efforts by third party sellers increases. Providing accurate information to members regarding (1) what portion of their assessment could be offset with the purchase and recovery of LTSCs, (2) how it impacts equity among members and (3) how it affects CAGRDR's long-term financial stability, will be invaluable as they research the option being presented to them.





Report on and Discussion of Elliott D. Pollack & Co. Impact Report on Third-Party LTSC Sales to CAGRD Member Lands

CAGRD & Underground Storage Committee

February 16, 2017

Jessica Fox
Analyst II, CAGRD

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Issue

- Issue associated with third-party marketing of long-term storage credits (LTSCs) to CAGRD Member Lands identified & reported to Board in late 2015
- CAGRD staff had not anticipated that CAGRD member land water providers could recover and deliver long term storage credits to individual CAGRD member land parcels
- Potential for an ongoing loss of annual assessment revenues from member lands could be a significant threat to the financial health of CAGRD

Objectives

- What are the impacts of this practice on the CAGR D funding formula?
- Elliott D. Pollack & Company was engaged to analyze impacts of sale of third-party long-term storage credits to Member Lands on CAGR D's financial structure
 - Highly reputable company offering a broad range of economic and real estate consulting services
 - EDPCo staff includes professionals with backgrounds in economics, urban planning, financial analysis, real estate development and government



3

Methodology

- Analysis is based on currently available information and estimates and assumptions about immediate as well as long-term future development trends
- CAGR D provided enrollment, obligation and replenishment reserve data, historic rates, service area mapping layers, Plan of Operation and Annual Operating Reports



4

Methodology

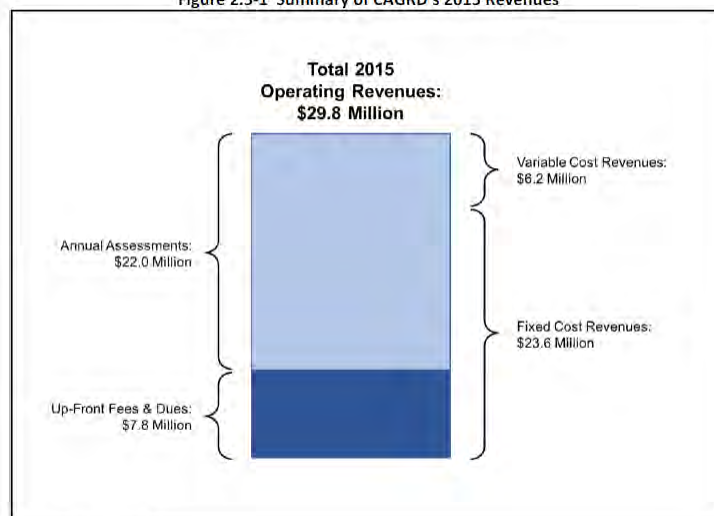
- Consultant conducted historical review of CAGR D operations and funding
- Assessed functionality of current revenue structure
- Assessed current market of LTSCs in the Phoenix AMA in relation to projected CAGR D obligations
- Analyzed potential impacts to CAGR D's cost recovery mechanisms



5

Report Findings

Figure 2.5-1 Summary of CAGR D's 2015 Revenues



Source: CAGR D Staff

6

Report Findings (continued)

- Through purchase of third-party LTSCs a CAGR member land can avoid paying the annual replenishment assessment altogether.
- While CAGR's annual variable costs are reduced when a member purchases LTSCs, its fixed costs are not reduced.
- The majority of CAGR's revenues are collected on the basis of a variable parameter (i.e., use of excess groundwater by members), while the majority of its costs are fixed.



Report Findings (continued)

- As more members purchase third-party LTSCs, CAGR's fixed costs must be paid by the remaining members through higher rates, thus creating an equity issue.
- If too many members opt to purchase LTSCs, CAGR could reach a tipping point at which it would be unable to generate sufficient revenues.
- If this situation were to occur, CAGR would not be able to afford its annual operations nor would it be able to continue efforts to secure and develop the long-term water supplies and infrastructure required by statute.



Report Findings (continued)

- Ultimately, CAGR D would be unable to prove that it is financially capable of meeting its long-term replenishment obligations, and the Director of ADWR could not approve CAGR D's next Plan of Operation.
- Without an approved Plan of Operation new members could not enroll in CAGR D and existing member service areas that rely on CAGR D membership to prove 100 year water supply could not approve any new development within their Service Area, unless they could demonstrate an Assured Water Supply without CAGR D membership.



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Recommendations

Two primary recommendations from Report:

1. ADWR should reverse its decision regarding how its volumetric accounting policy applies to CAGR D Member Land owners who purchase third-party LTSCs in an attempt to avoid paying annual replenishment assessments.

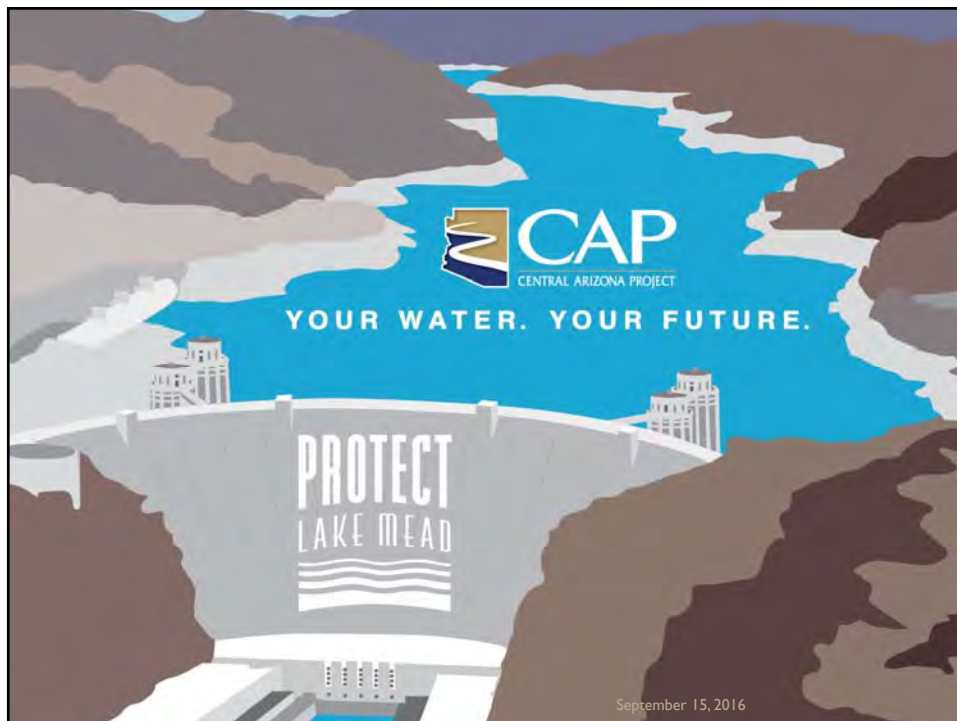


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Recommendations

[If ADWR will not or cannot reverse its decision]

2. CAGRD should seek changes to its authorizing statutes to provide equitable methods of collecting revenues from all of its members.





CAGRD Agenda Number 5.

DOUGLAS A. DUCEY
Governor

THOMAS BUSCHATZKE
Director

ARIZONA DEPARTMENT of WATER RESOURCES
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Phoenix, Arizona 85007
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February 14, 2017

Via E-Mail and U.S. Mail

Sharon Megdal, Chairman
CAGRD and Underground Storage Committee
PO Box 43020
Phoenix, AZ 85080

RE: Third-Party Long Term Storage Credit Sales to Member Lands of Central Arizona Groundwater Replenishment District-Impact Report

Dear CAGRD and Underground Storage Committee Chairman Megdal:

I am writing to you regarding item Number 5 of the February 16, 2017, CAGRD and Underground Storage Committee Meeting Agenda. I want to address recommendation #1 in the Board Briefing Paper developed in the document attached to the Board Brief entitled, "Third-Party Long Term Storage Credit Sales to Member Lands of Central Arizona Groundwater Replenishment District-Impact Report ("Impact Report")."

Over the last two years ADWR met with CAP and CAGRD staff on multiple occasions to discuss the issue of its volumetric accounting "policy" and CAGRD Member Land owners purchasing third-party Long Term Storage Credits. That "policy" goes back to the late 1990's. I am not going to recount the discussions at those meetings in this letter, nor am I going to critique or otherwise analyze the Impact Report.

However, I do want inform you that I have no intention of modifying or reversing ADWR's volumetric accounting "policy."

Sincerely,

Thomas Buschatzke, Director

TB:tj

cc: Lisa Atkins, CAP Board President
Ted Cooke, CAP General Manger
Dennis Rule, CAGRD Manager
Hunter Moore, Governor Ducey's Natural Resources Policy Advisor