

Pinal Active Management Area
Water Management Assistance Grant No. 2020-3126
Leak Detection Project Deliverable No. 9
Sixth Semi-Annual and Final Report
January 2023 Through December 2025



Grant Award Recipient:
Arizona Water Company
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Background:

In December 2022, Arizona Water Company (AWC) finalized the receipt of equipment and training associated with the Water Management Assistance Grant No. 2020-3126. Per the conditions of the grant, semi-annual reports of findings are required to be submitted to the Arizona Department of Water Resources (ADWR). This report is the sixth semi-annual report of findings as well as the final report in the series.

This report of findings provides information on the administration of the approved leak detection program, provides data related to leak detection efforts in the Pinal AMA service areas, and shows the impact of the use of the equipment related to groundwater pumping in the service areas, overall.

Leak Detection Program:

AWC has had a leak detection program in place since 2011. The program was developed to comply with the Modified Non-Per Capita Best Management Practice program laid out in the Third Management Plan and continues into the Fifth Management Plan which is in effect today. Through time, the leak detection program has identified equipment and practices that improve the overall well-being of the distribution systems and provides a structured way to monitor and respond to pipe failures, breaks, or leaks.

While the discussion of the program in this report is limited to the grant recipients in the Pinal Active Management Area (AMA), AWC administers the leak detection program in all its systems regardless of location. AWC purchased equipment based on the grant award for the Pinal AMA and is listed below:

Equipment Purchased	Quantity
Ecohologic Leakfinder ST Correlator	2
FCS S30 Geophone	4
Z-Corr Correlating Logger w/8 loggers	1
Dell Latitude Rugged Laptops	2

Table 1 - Equipment Purchased

The equipment is being used in the Pinal Valley, Stanfield, Tierra Grande, Casa Grande West, Casa Grande South, and Coolidge Airport Systems. Table 2 below shows the leak detection activity for the systems for the entire length of the Grant: January 2023 through December 2025, since this is the last and final report. The data indicates the increase in labor hours of leak detection and pipe surveyed does not always equate to finding more leaks. The new equipment has given leak

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detection staff the tools needed to expand the reach of the leak detection program in their service areas.

Data	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Total
Length of Pipe Surveyed	3,909	11,727	14,073	6,282	298	10,946	29,033	2,870	12,775	10,952	14,784	13,166	130,815
Leak Detection Man Hours	10	15	18	20	8	14	39	6	10	20	15	18	193
Number of Leaks Found	1	2	1	2	0	1	3	0	0	0	0	11	21
Estimated Loss of Gallons	72,960	575,280	166,640	57,600	0	288,220	273,282	0	0	0	0	1,051,200	2,485,182

Data	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Total
Length of Pipe Surveyed	8,622	29,009	10,560	0	0	21,476	21,250	8,500	13,586	2,500	0	0	115,503
Leak Detection Man Hours	14.5	13	3	0	0	22.5	22	13.5	19	5	0	0	113
Number of Leaks Found	1	2	0	0	0	0	2	1	0	0	0	0	6
Estimated Loss of Gallons	190,000	278,880	0	0	0	0	180,000	55,000	0	0	0	0	703,880

Data	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Total
Length of Pipe Surveyed	22,300	13,800	3,000	25,500	20,526	8,700	42,500	73,000	67,597	34,000	4,000	22,500	337,423
Leak Detection Man Hours	14	4	3	26	15.5	8	15	12.5	57	13	10	39	217
Number of Leaks Found	0	0	0	14	2	0	0	0	4	4	2	2	28
Estimated Loss of Gallons	0	0	0	175,000	72,000	0	0	0	124,884	82,536	102,460	122,227	679,107

Table 2 - Leak Detection Summary Results (January 2023- December 2025)

AWC staff was able to dedicate more man hours (76) in this reporting period (July – December 2025) than in the last reporting period, but the result was 4 less leaks detected. Overall, AWC has continual staffing changes, paired with high growth with new service connections resulting in fewer opportunities to survey. It takes time to train and become an expert on the new equipment to be able to find leaks. While the leak detection program has not yielded many leaks relative to

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the size of the system, field staff have responded to approximately one hundred and fifty main and service line leaks that were reported by customers and staff in the last half of 2025.

Leak Detection Impact:

The overall goal of the Water Management Assistance Grant is to prove a reduction in groundwater pumping due to the use of the equipment and the leak detection program overall. In the following charts, AWC highlights the production of each system by month, the groundwater production by month, and the number of customers.

Pinal Valley System:

The Pinal Valley water system is in an area with a fast-growing population. The growth in customers is shown in the blue line. At the end of 2024, Pinal Valley system had just over 39,000 connections. In December 2025, the Pinal Valley system is just shy of 40,000 connections, and that number will continue to increase.

The gray columns show the overall production/delivery from all sources of water to the Pinal Valley system. The light blue columns show the groundwater only production for each of the months in the reporting periods. AWC has a Central Arizona Project (CAP) Municipal and Industrial (M&I) Subcontract and participates in annual storage and recovery for a portion of the 10,884 AF allocation.

Overall water use has gone up in part due to the continued growth in the area for residential and commercial customers. The groundwater use has begun to trend upward with the increase in population. However, with increased water use in the area, the state, county, and AWC remain very conservation minded. Industrial users in the Pinal Valley service area have made improvements in their conservation efforts and have been utilizing reclaimed water in lieu of CAP direct delivery. In addition to transitioning to a renewable water source, many industrial users have been participating in AWC's commercial audit program to further expand on ways to cut back on their water use.

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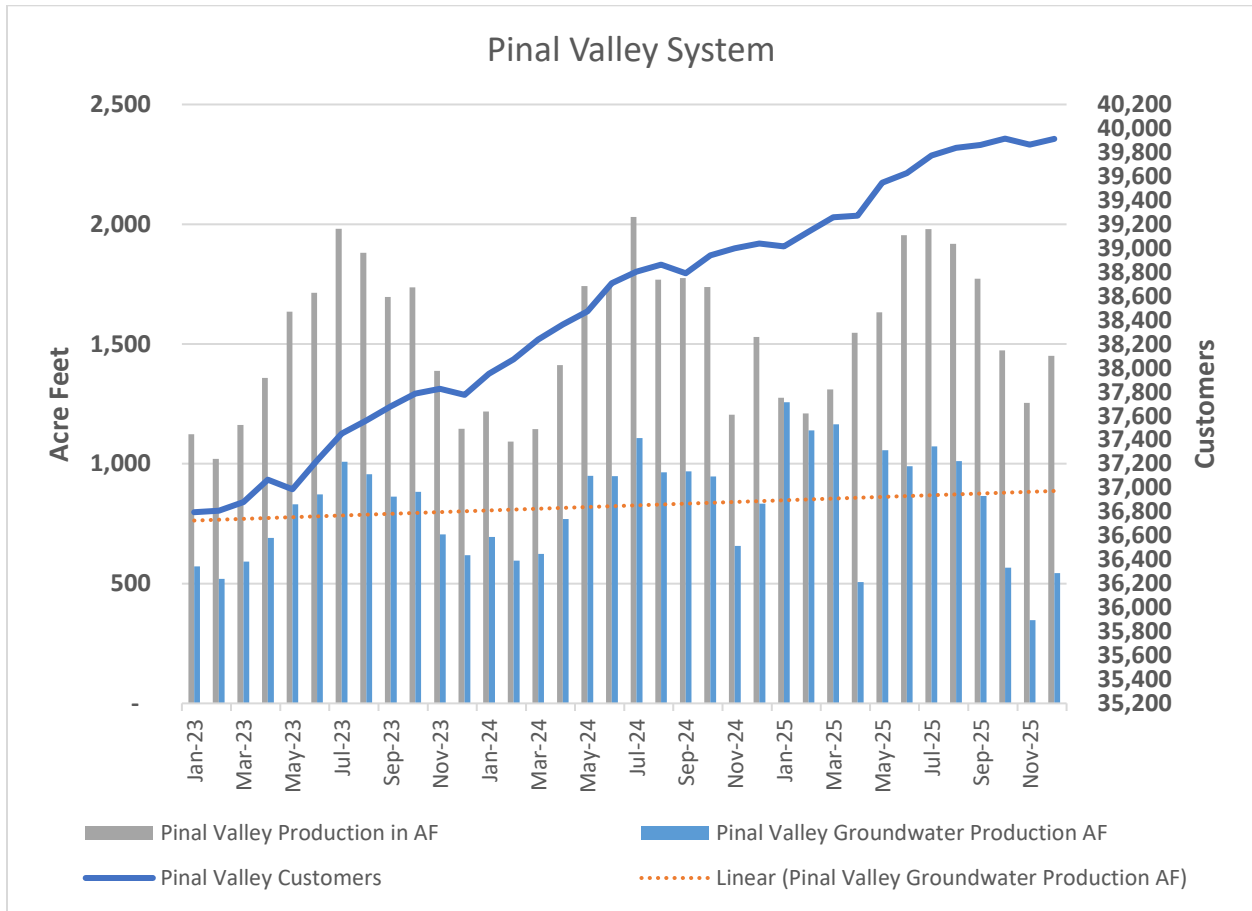


Table 3 – Pinal Valley Production Data (January 2023 – December 2025)

Stanfield, Tierra Grande, Coolidge Airport, Casa Grande West, Casa Grande South Systems:

There are several small communities that AWC serves within the Pinal AMA. Stanfield, Tierra Grande, Coolidge Airport, Casa Grande West, and Casa Grande South are small service areas and are not part of the annual storage and recovery program that is applied to the larger Pinal Valley system. The charts below highlight the number of customers and the groundwater pumping in each of the service areas. The customers in these service areas tend to be more mature and the number of connections fluctuates due to move ins and move outs instead of new growth. The groundwater volume pumped is much lower than what is seen in the Pinal Valley service area.

As we review all the data, we see the trend for small and mature systems is trending from flat to a slight increase, except for Tierra Grande, where it is decreasing. Groundwater production in the last half of 2025 decreased for all systems with the exception of Coolidge Airport, which had a high value in

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October. The production in the fall decreases as temperatures start to decline, and less water is needed for lawns and irrigation. Population tends to increase in the fall, as part time residents return to enjoy the Arizona temperatures.

Small systems that produce less than two hundred acre-feet per year often benefit from surveys in part because a small leak on the system disproportionately affects perception of growing groundwater pumping trends.

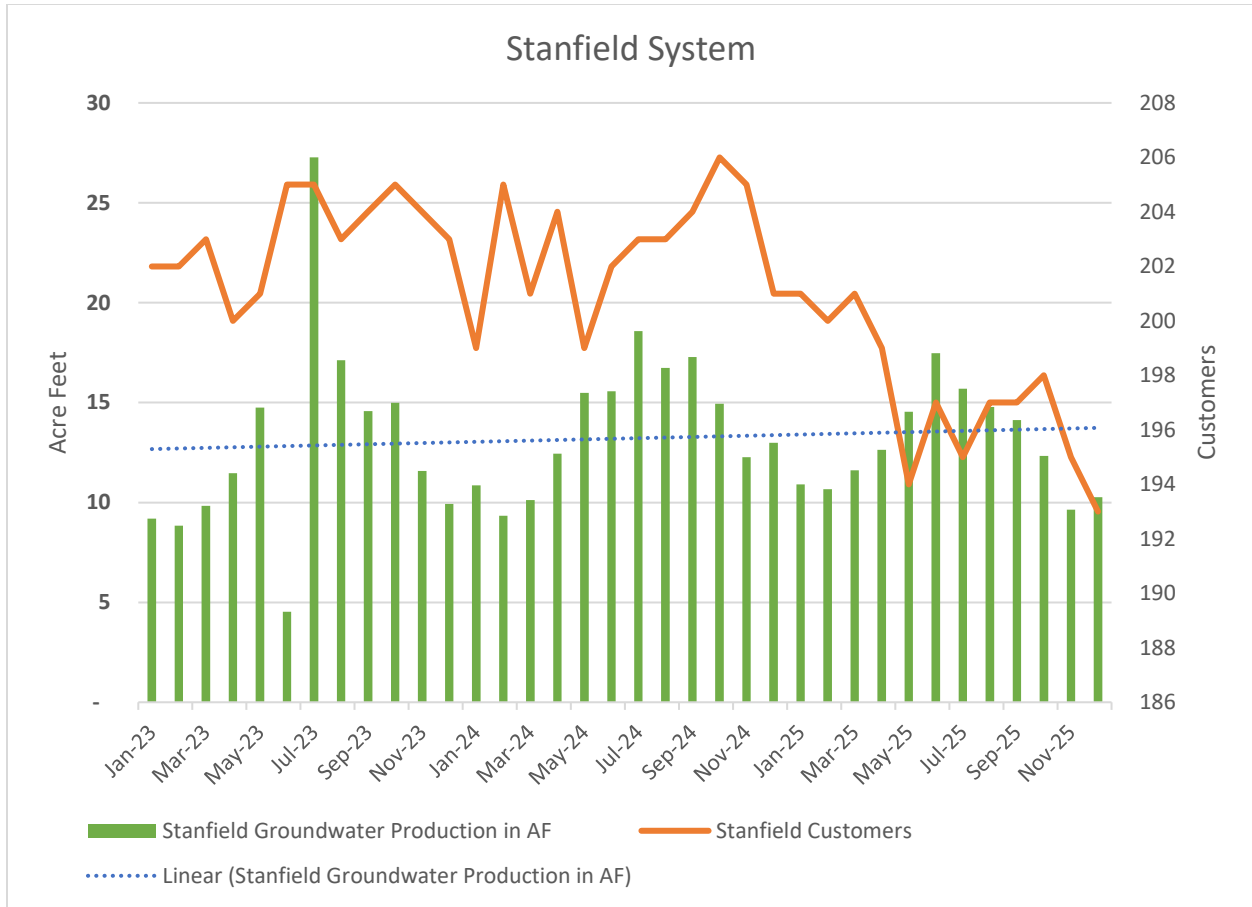


Table 4 - Stanfield Production Data (January 2023 – December 2025)

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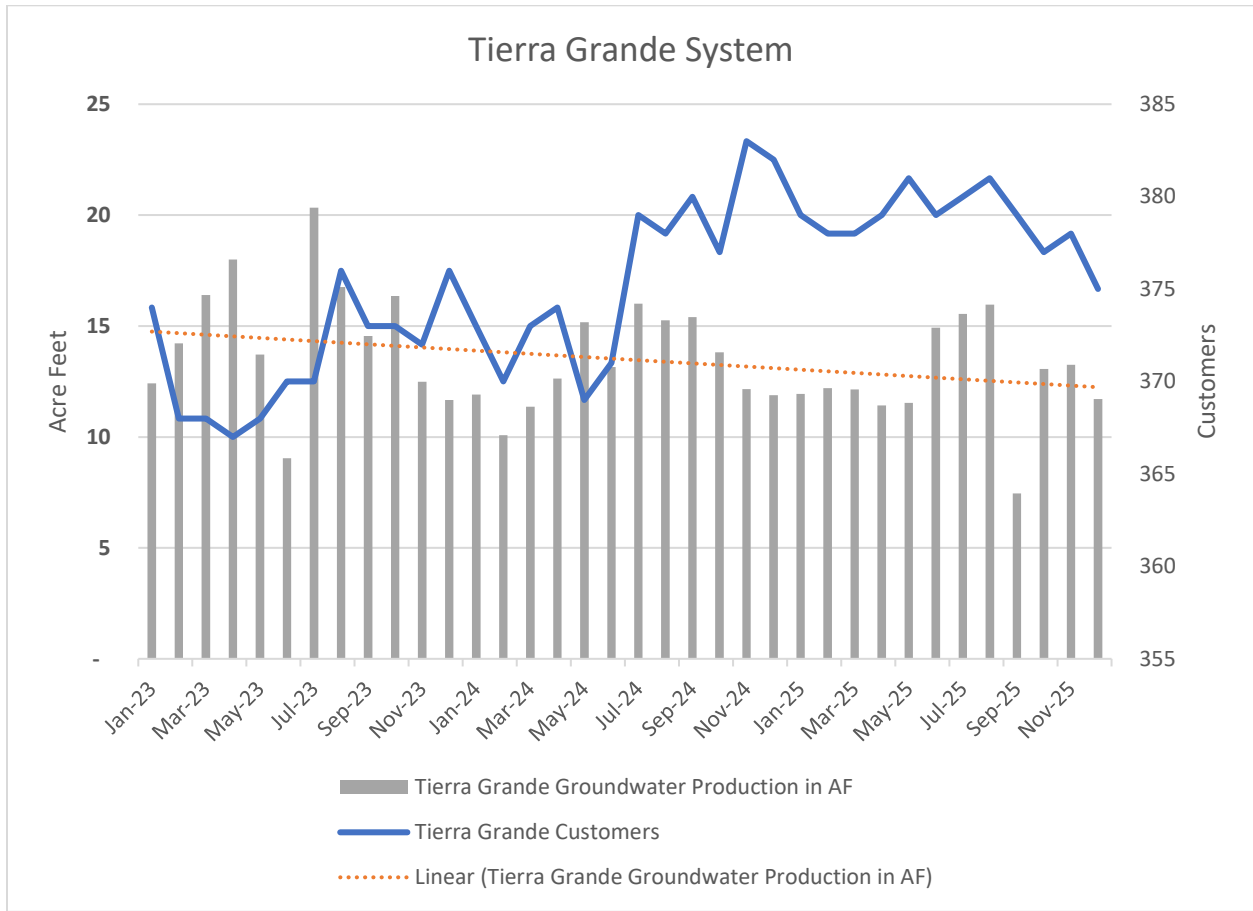


Table 5 - Tierra Grande Production Data (January 2023 – December 2025)

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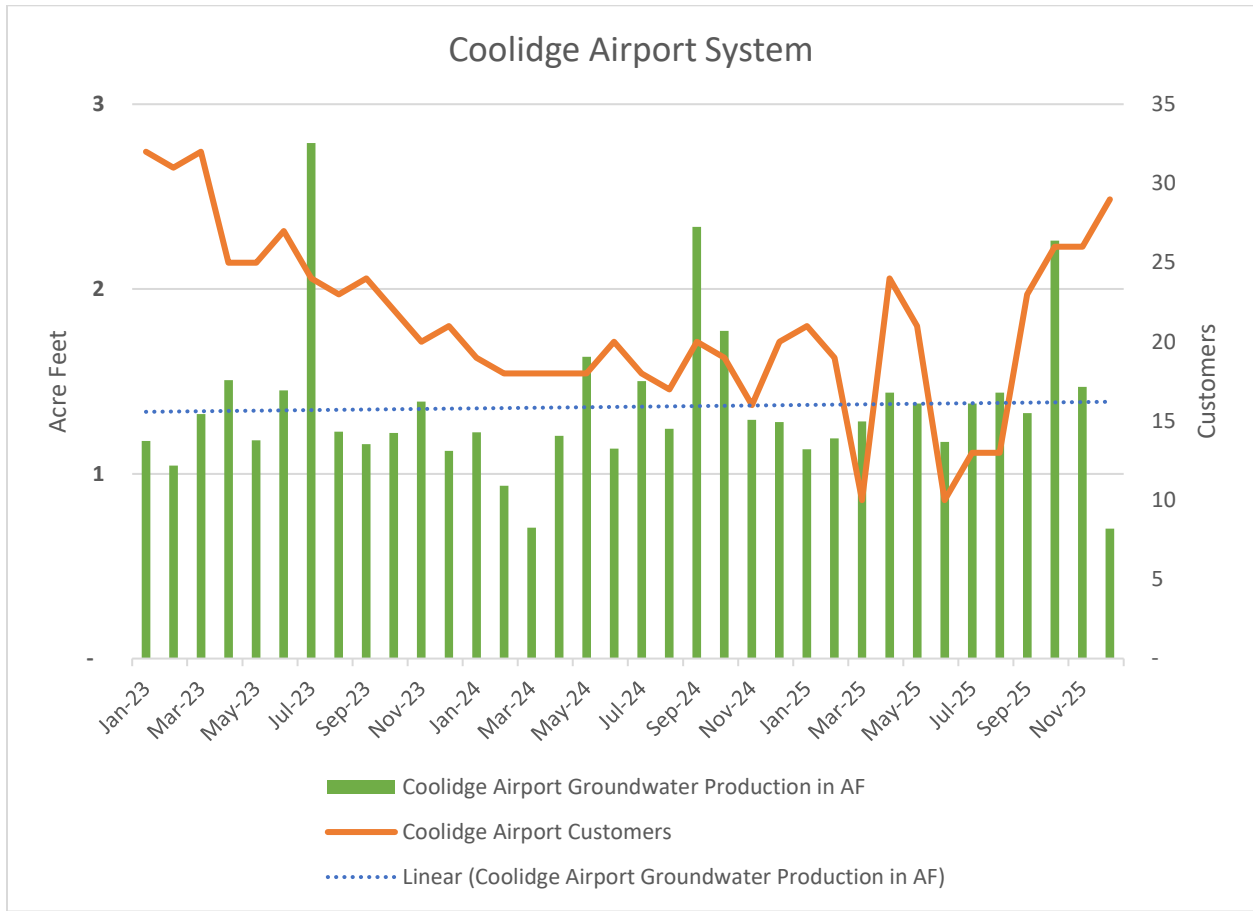


Table 6 - Coolidge Airport Production Data (January 2023 – December 2025)

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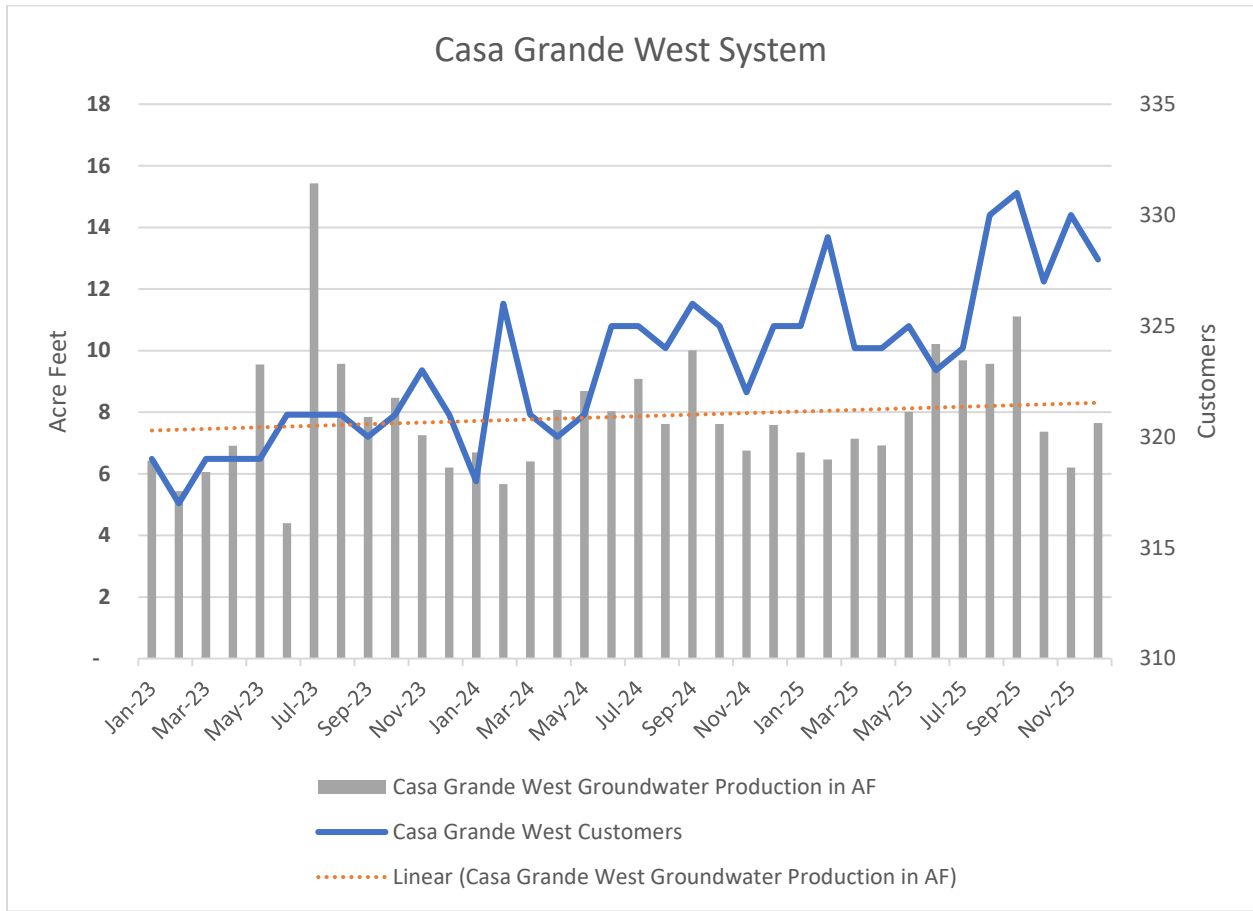


Table 7 - Casa Grande West Production Data (January 2023 – December 2025)

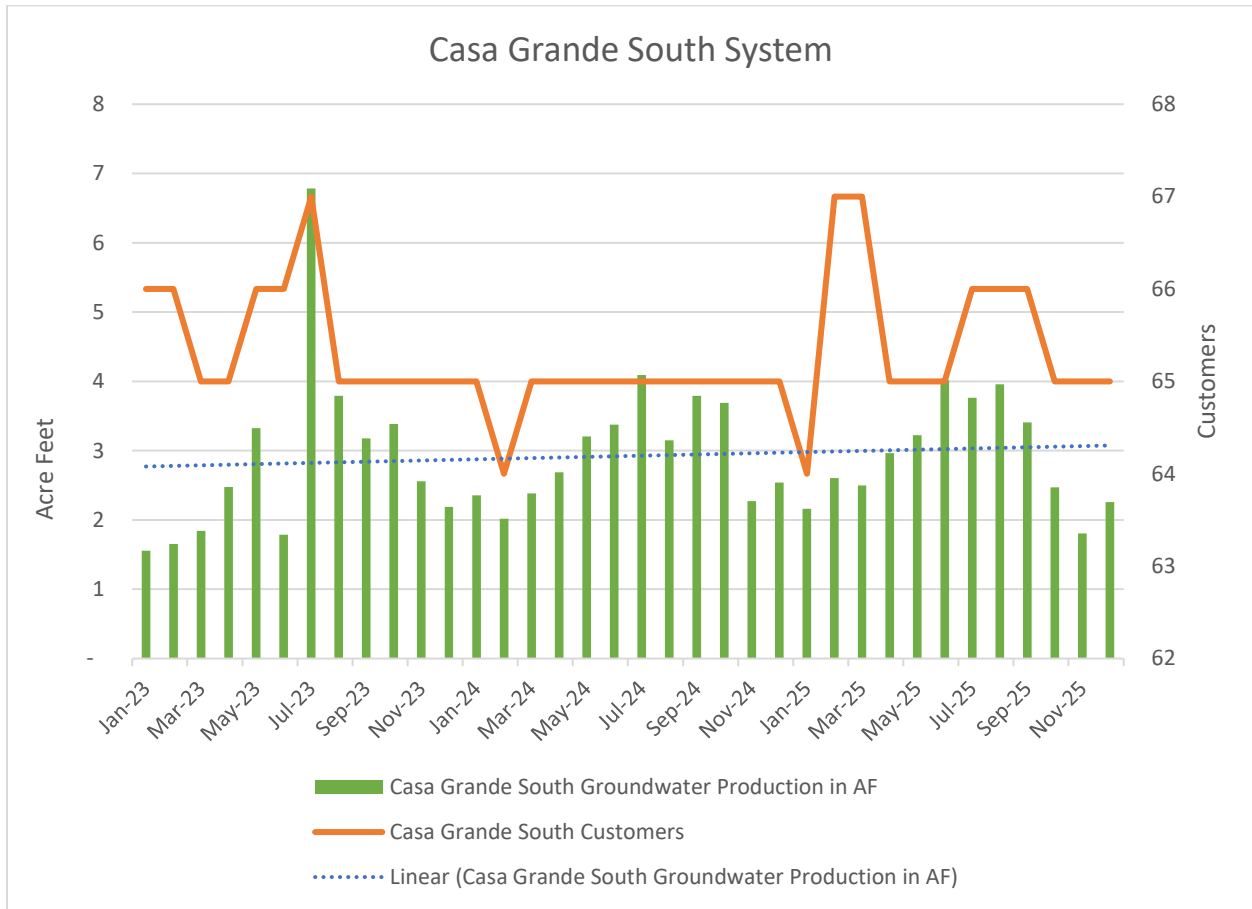


Table 8 - Casa Grande South Production Data (January 2023 – December 2025)

Conclusion:

In this sixth semi-annual and final report of findings, AWC has determined that the leak detection program is active in all systems, but there is an opportunity for an expansion of man hours and pipe lengths to be surveyed. Overall groundwater production during the last three years shows three systems are steady, two systems (Casa Grande West and South) are trending upward, and one system (Tierra Grande) is trending higher. The Pinal Valley area continues to be an area with continued growth, and the groundwater production data is reflective of that. The goal continues to affect a downward pumping trend due to the increased use of the equipment and finding leaks. Every community is unique, and the volume of groundwater pumped varies during the seasons. The leak detection program is used in all AWC systems, and AWC will continue to monitor and track data to provide results internally.