To: Mountain Regional Water Administrative Control Board Members

From: Jessica DiCaprio, Staff Engineer
Sam Grenlie, District Engineer

Date: May 21st, 2026

Re: Annual Water Supply and Demand Report

1. Introduction

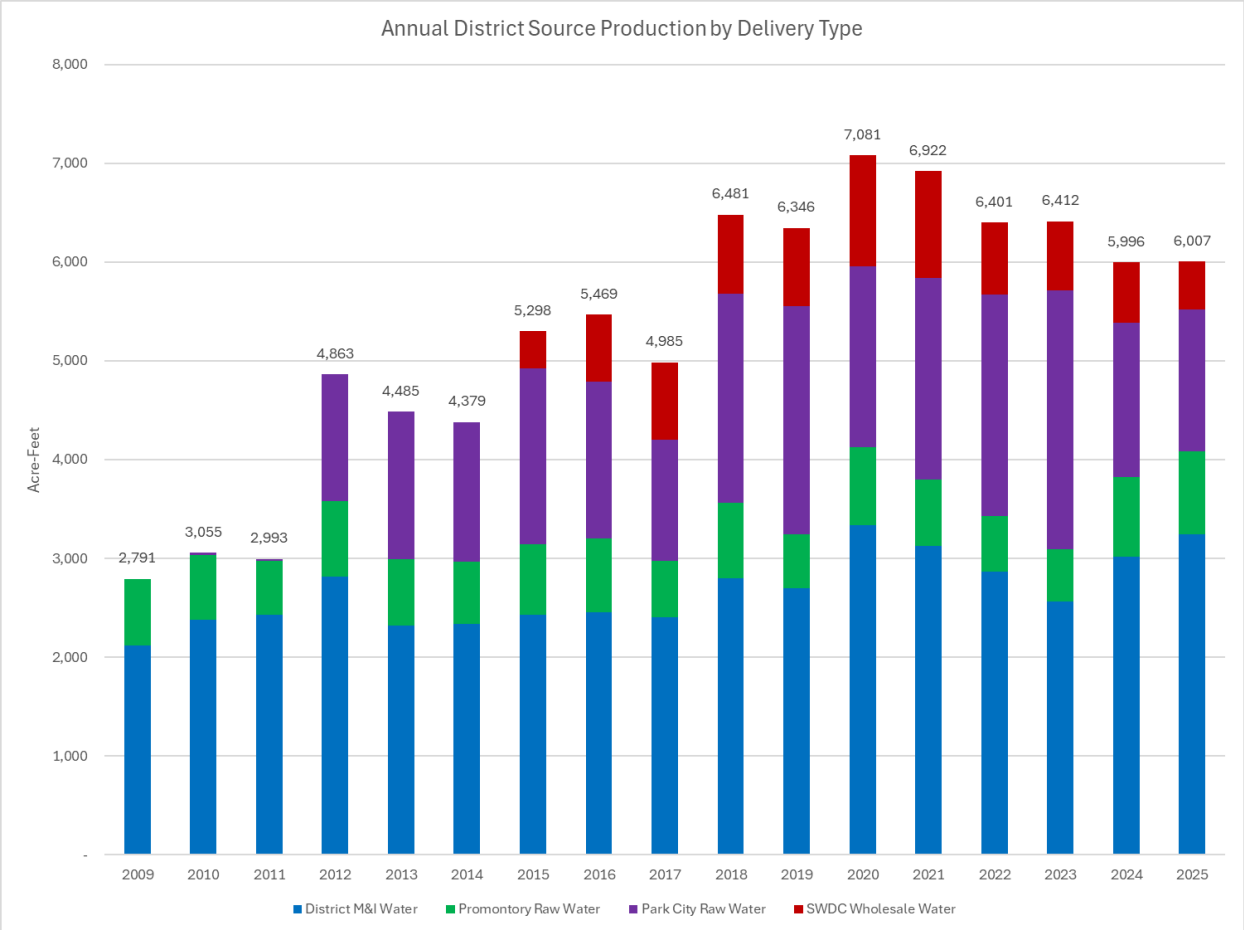
The purpose of the 2026 Water Supply and Demand Report is to provide an overview of Mountain Regional Water Special Service District's (the District or MRW) system capacity, water production, and customer usage for the 2025 calendar and water years.

Water Year 2025 (October 1, 2024, to September 30, 2025) was a drought year for Utah, and Summit County was no exception. According to Natural Resources Conservation Service (NRCS) data, well-below normal April precipitation and above-average temperatures led to early snowpack ripening and a rapid spring melt. By May 1, 2025, Utah's statewide snow water equivalent (SWE) had dropped to 64% of normal. These warm, dry conditions persisted into the summer months. The combination of below-average precipitation and above-average temperatures throughout the summer resulted in sustained, high customer demand. This increased demand, with continued regional growth, made source production challenging and pushed the District's system to its operational limits. At the Weber River Basin level, strong reservoir carryover from previous years provided a buffer against the dry conditions and no watering restrictions were put in place.

2. Water Supply & Allocations

Overall, the District produced ~6,007 acre-feet of water in 2025, a slight increase compared to 2024. While total production remained relatively flat year-over-year, a substantial increase in Municipal and Industrial (M&I) demand was offset by reductions in wholesale and raw water deliveries:

- Raw water wheeled to Park City Municipal decreased by 126 acre-feet compared to 2024.
- Water conveyed to Summit Water Distribution Company decreased by 125 acre-feet compared to 2024.



3. Service Units

To accurately track growth and system demographics, the District monitors total Service Units (SU). This metric establishes how many individual dwellings or businesses are receiving water, which differs from tracking the number of physical meters or billing accounts. For example, a single apartment building might have one master meter and one account, but if it contains 20 individual apartments, it represents 20 Service Units. A single-family residence, regardless of size, represents 1 Service Unit.

For 2025, the District maintained a total of 6,228 active Service Units, broken down by type as follows:

Category	Service Units	2025 Total Demands (acre-feet)	Acre-Feet per SU
Residential	5,886	1,852.77	0.31
Commercial	284	313.57	1.10
Industrial	2	24.31	12.16
Institutional	44	70.36	1.60
Other	12	2,452.53	204.38
TOTAL:	6,228	4,714	-

4. ERC Standard and Efficiency

While Service Units track the physical number of dwellings or businesses, the District must also measure the proportional impact those units have. In accordance with guidelines from the Utah Division of Drinking Water (DDW), we measure this impact using a unit called the Equivalent Residential Connection (ERC).

The DDW establishes the ERC as the standard planning unit for drinking water systems. Generally based on one calendar year of usage data, one ERC represents the average water demand across all *residential* Service Units. All other connection types—such as parks or commercial businesses—are scaled up based on how demands compare to the calculated residential baseline.

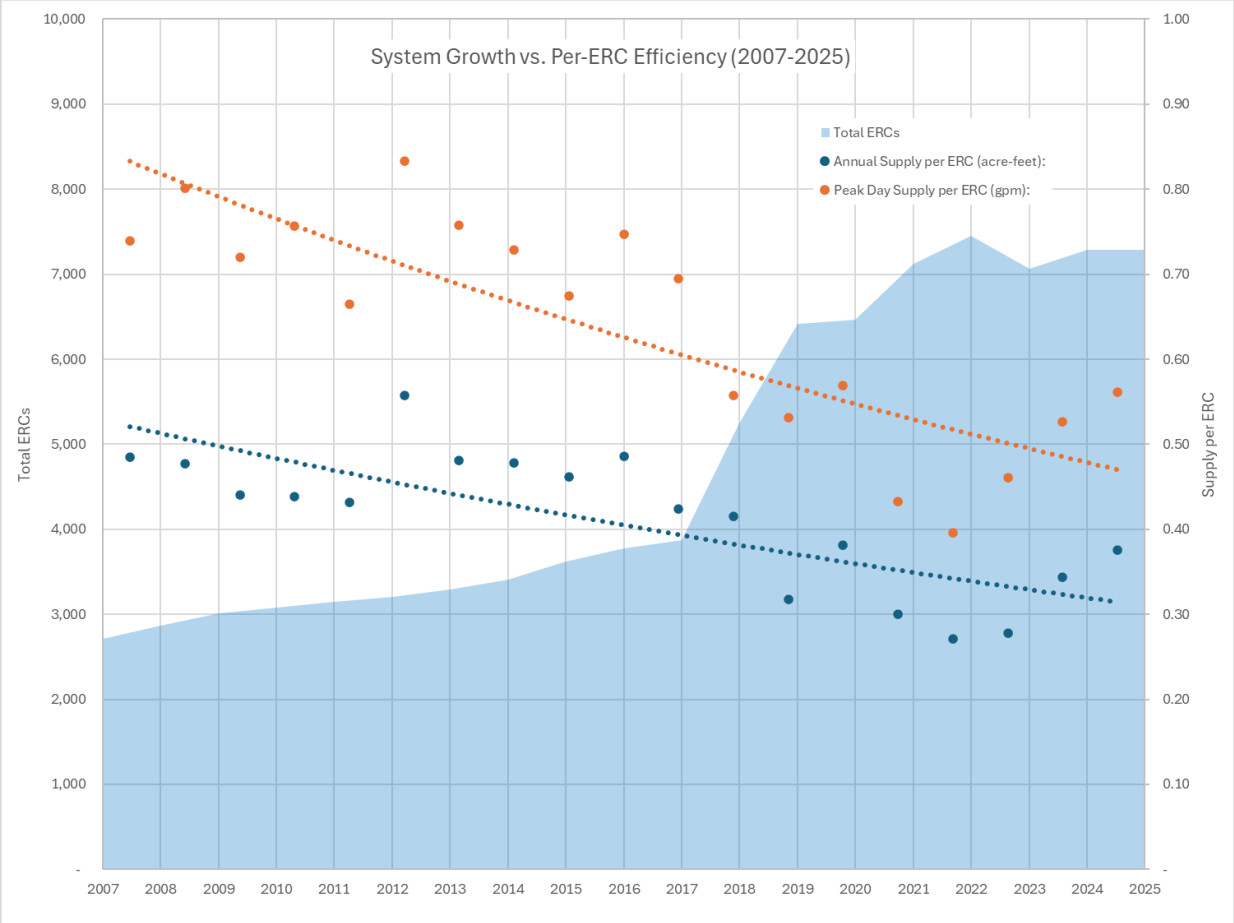
Using ERCs, we can track usage trends over time. The District tracks two capacity metrics per ERC over time:

- **Annual Supply per ERC (acre-feet):** The total volume of water consumed by one ERC for an entire year.
- **Peak Day Supply per ERC (gallons per minute or gpm):** The flow rate consumed by one ERC during the highest demand day of the year (Peak Day).

The light blue shaded background represents the sustained, long-term growth of the District, with total ERCs climbing from roughly 2,700 in 2007 to nearly 7,300 in 2025.

Against the backdrop of this rapid expansion, the overlaying scatter plots and trend lines show a long-term decline in per-ERC demands. There is a high level of year-over-year variance which is driven by cultural and meteorological factors. The overall trend shows that the District's system usage is becoming more efficient over time.

It is important to note that these trend lines are exponential rather than linear. While long-term conservation education, water loss management, and tier-rate pricing have been successful, per-ERC demands will never reach zero. There is a fundamental baseline of indoor and essential landscape water usage that must be sustained. As the District approaches this baseline, incremental progress in conservation will become increasingly difficult.



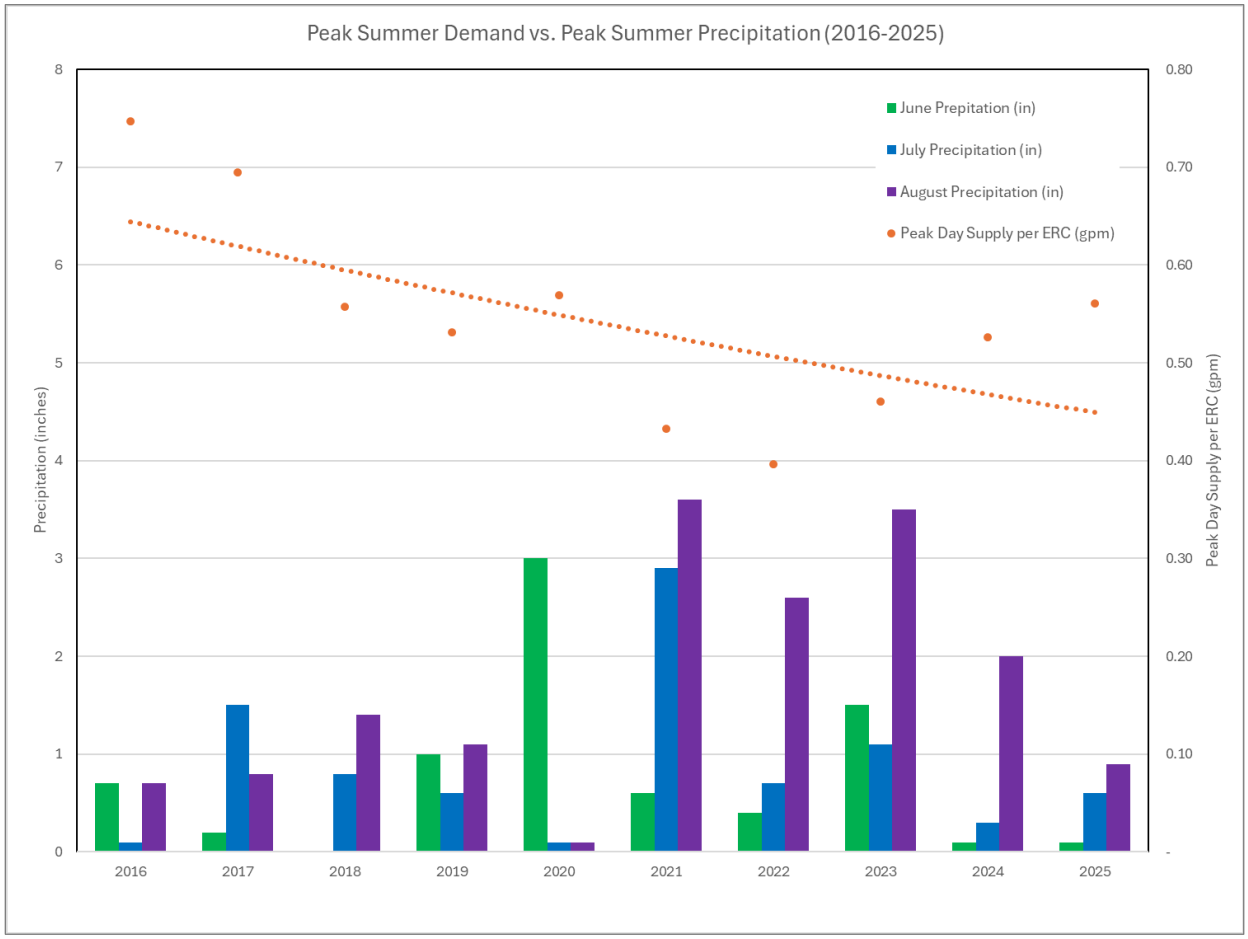
5. Climate and Demand

Peak summer demand is heavily dictated by weather, specifically the timing and volume of precipitation throughout the entire irrigation season. The following chart plots the Peak Day Supply per ERC (orange trend line from the previous section) against monthly precipitation for June, July, and August.

A natural inverse relationship is apparent. For example, in 2020, despite a wet June, the complete lack of rain in July and August triggered a notable spike in peak demand. Conversely, the heavy July and August rainfall in 2021 naturally suppressed usage.

A significant shift occurred in 2022. Despite experiencing drier early-summer conditions than the previous year, peak demand per ERC plummeted to its lowest in District history. Mountain Regional implemented targeted watering restrictions, a surcharge rate structure, and heavy conservation messaging. These measures significantly curbed demands despite a dry irrigation season.

Recent data from the drier mid-summers of 2024 and 2025 shows that hot, low-precipitation periods will still trigger a natural rebound in peak customer usage.

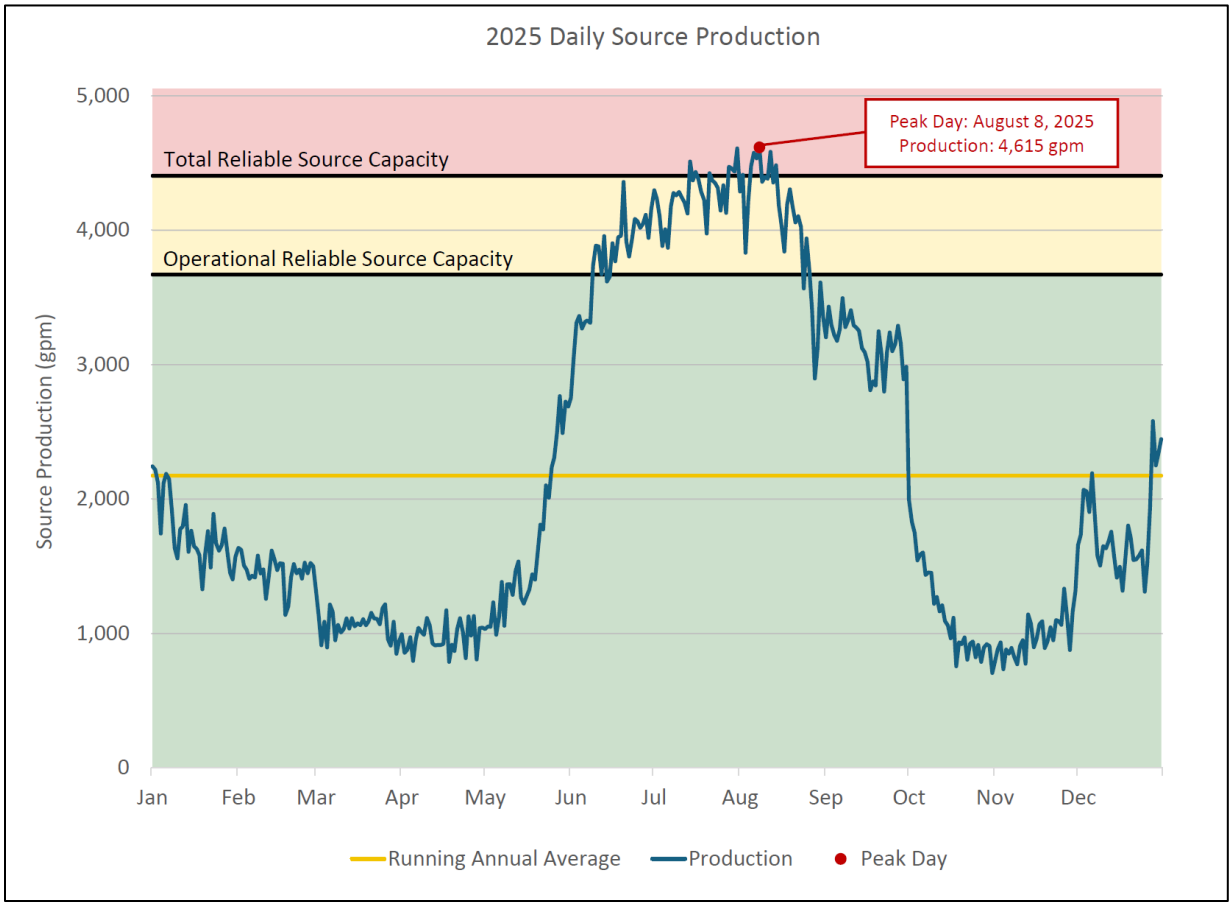


6. Daily Source Production

The 2025 Daily Source Production chart tracks overall system production on a day-to-day basis, showing how the system 'peaks' on an annual basis. While July remained the overall Peak Month (usage averaged over the 31 days), the Peak Month to Peak Day factor was 1.08, which is smaller than historical figures. This means the District is 'maturing' and experiencing fewer sharp 'peaks' but more sustained usage. However, the actual Peak Day occurred on August 8, 2025, driving production to 4,615 gallons per minute (gpm).

Also shown on the chart is the Total Reliable Source Capacity (TRSC), which is defined as 80% of the maximum instantaneous groundwater flow plus the rated flow of the Signal Hill Water Treatment Plant (SHWTP). This calculated threshold serves as a maximum operating limit of the System in ideal conditions.

To meet 2025 summer customer demand, production surpassed the TRSC. When demand crosses this threshold, the District is forced to either push SHWTP past its rated capacity or expect our groundwater wells to perform above an 80% duty factor. While the system was successfully managed to prevent supply interruptions, operating at this limit should not be expected (or planned on) every year.

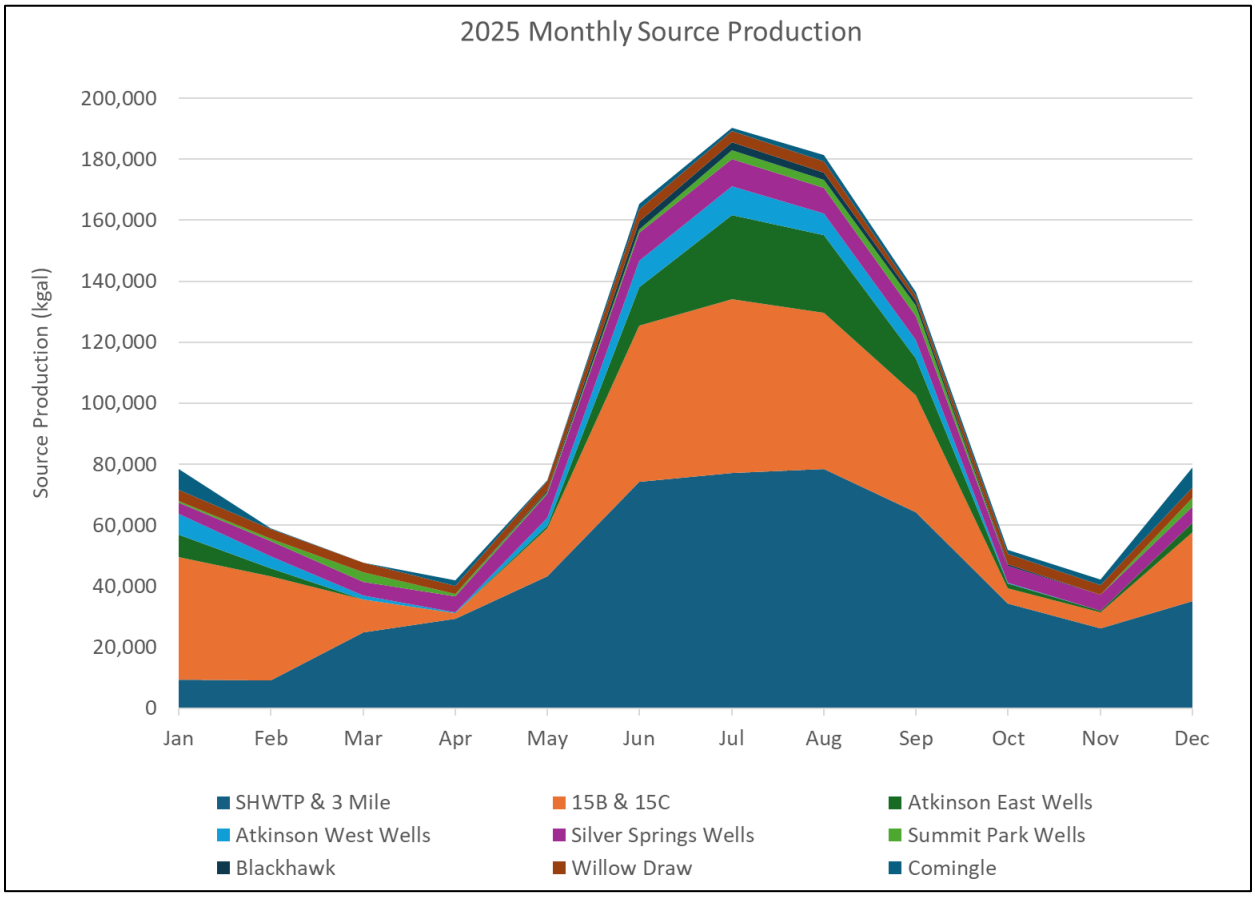


7. Monthly Production by Source

The 2025 Monthly Source Production chart summarizes production volume by source (or group of sources). Many individual wells are grouped into ‘regional’ buckets, to make the chart more coherent. All individual sources are included on the following page for reference. The number of sources MRW maintains is significant for a regional system of our size. For example, Weber Basin Water Conservancy District maintains 22 wells, but has an overall production of 2 orders of magnitude larger.

In the 2025 winter and spring months (January through April), the District relied heavily on the StarPointe (15B) and Bison Bluffs (15C) wells, represented by the large orange band. This allowed the District to perform more robust maintenance at SHWTP over these low-demand periods. These wells are critical to the District, and possess built in resiliency with both wells targeting the same water bearing formation and sharing a pump house with backup power.

The dark green band represents the Atkinson East Wells (Atkinson Well 2, Silver Creek Well 10, and Jailhouse Well 3). These are our primary "peaking" sources, required to meet our summer demand.



The sources in the previous chart are grouped according to the following:

a. SHWTP & 3 Mile
    i. Signal Hill Water Treatment Plant
    ii. 3 Mile Well
        1. Also located in Promontory, contributes a relatively small amount (~100 gpm) to the Region.
b. 15B & 15C
    i. StarPointe Well 15B
    ii. Bison Bluffs Well 15C
        1. Only one of these wells can be operated at any given time.
c. Atkinson East Wells
    i. Atkinson Well 2
    ii. Silver Creek Well 10
    iii. Jailhouse Well 3
    iv. Tank Well 16 (currently inactive)
d. Atkinson West Wells
    i. Nugget Well
    ii. Gorgoza Well 6
e. Silver Springs Wells
    i. Lake Well
    ii. Sun Peak Well 2
    iii. Sun Peak Well 3
    iv. Spring Creek Spring (currently inactive)
f. Summit Park Wells
    i. Summit Park Well 2
    ii. Summit Park Well 5
    iii. Summit Park Well 7
g. Blackhawk
    i. Blackhawk Well 2R
h. Willow Draw
    i. Wagon Trail Well
    ii. Gulch Well
i. Comingle
    i. Consecutive Connection from Summit Water Distribution Company to supply the Olympic Park

8. System Efficiency

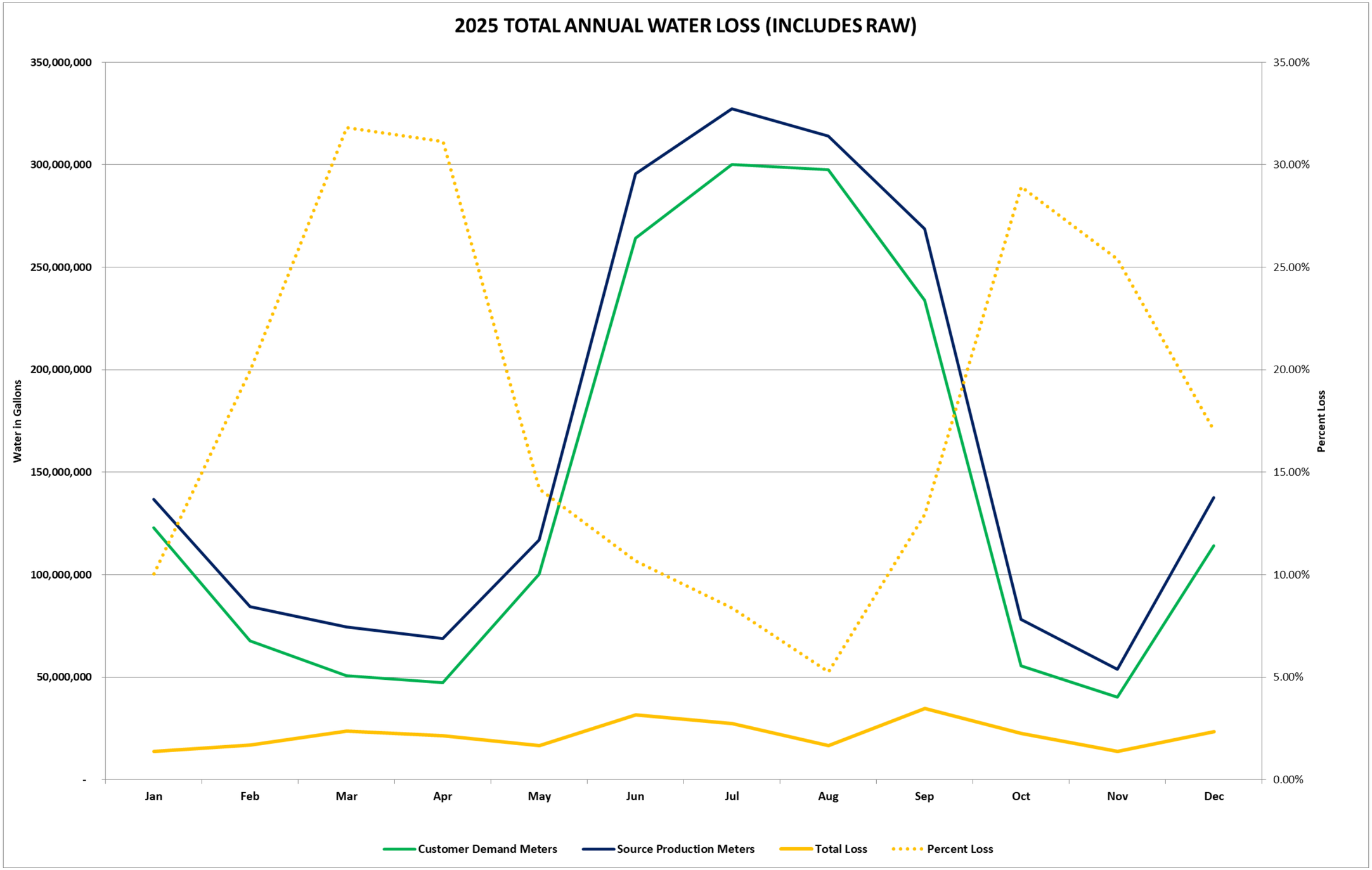
Managing water loss is critical for the District, and eliminating a significant leak can have the same system impact as turning on a peaking source. Water loss is calculated by comparing the total volume of water produced by the District's sources (source production meters) against the total volume of water billed to end-users (customer demand meters). The difference between these two figures represents 'Non-Revenue Water'. This water can be 'lost' to pipeline leaks, meter inaccuracies (or unmetered water), or accounting and reporting errors. The terms Water Loss (more widely used) and Non-Revenue Water will be used interchangeably in this report.

The District calculates water loss across two different system boundaries: total system loss (which includes both raw water and treated drinking water) and Municipal & Industrial loss (which isolates only the treated drinking water system).

The *2025 Total Annual Water Loss* chart and data table illustrate the combined loss across the District's entire raw and treated water infrastructure.

For the 2025 water year, the District experienced a total annual water loss of 13.4%, representing approximately 262.3 million gallons of water. When averaged out, this equates to a continuous loss of roughly 499 gallons per minute (gpm) across the system.

- While the physical volume of water lost in the spring (March/April) and fall (October/November) is relatively low, the percentage of loss (the yellow dotted line) spikes reaching nearly 32% in March and 29% in September. This occurs because overall customer demand drops during these "shoulder months," meaning any baseline (or 'background') physical leaks represent a much larger total.
- Conversely, the physical volume of water lost (the solid yellow line) spikes significantly during the summer irrigation season (June through September). This aligns with the increase in total flow required to meet peak demands, which results in more leakage and amplifies any inaccuracies in reporting and metering.


2025 TOTAL ANNUAL WATER LOSS (INCLUDES RAW)
Water in Gallons
350,000,000
300,000,000
250,000,000
200,000,000
150,000,000
100,000,000
50,000,000
-
Percent Loss
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Customer Demand Meters
Source Production Meters
Total Loss
Percent Loss

To get a more accurate picture of the distribution system, the District isolates the data to calculate the M&I loss. This calculation involves a more complex process of subtracting raw water deliveries (such as those wheeled to Park City) from the total system demand, and subtracting the raw water inputs (like the Lost Canyon Booster Pump Station) from the total source production.

The *2025 Total System Drinking Water Loss* chart reveals a significant challenge. When isolated from the raw water, the District's treated water system experienced a total annual loss of 22.2%, representing 260.8 million gallons of treated water. The obvious question: why is the M&I loss percentage (22.2%) is so much higher than the Total System loss percentage (13.4%), despite the total volume of lost water being nearly identical?

- The District's raw water system moves much larger volumes of water with apparently, very little leakage.
- The 260.8 million gallons of M&I loss represents expensive, fully treated drinking water leaking from an aging, high-pressure distribution network composed of hundreds of miles of smaller pipes and thousands of individual service connections.

To put these figures into perspective, the American Water Works Association (AWWA) categorizes non-revenue water as follows:

- Excellent (< 10%): Highly modernized infrastructure with aggressive leak detection and strict metering.
- Average / Acceptable (10% - 15%): The typical range for aging U.S. municipal systems.
- High / Actionable (> 20%): A threshold that warrants immediate capital intervention and system auditing.

Sitting at a 22.2% M&I loss, the District's treated water system falls firmly into the 'Actionable' category. This represents a huge area of possible improvement and should continue to be a primary focus. Reducing this percentage directly equates to lowering operational costs.

While addressing physical pipeline leaks is critical, it is equally important to acknowledge that our reporting and accounting must improve as well. For example, the April M&I data shows a calculated leak percentage of over 51%—essentially indicating more water was "lost" than actually consumed by customers. A discrepancy of this magnitude strongly suggests that beyond physical leaks, the District is dealing with data anomalies. These Non-Revenue Water calculations will be revisited next year to help identify areas for improvement. Additionally, 'Tank Zone' level leakage charts could be implemented and reviewed monthly as an operational goal between Operations, Engineering, and Technology.

2025 TOTAL SYSTEM DRINKING WATER LOSS