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8215 South 1300 West
West Jordan, UT 84088

JORDAN VALLEY WATER
CONSERVANCY DISTRICT

June 27, 2025

Ms. Teresa Wilhelmsen, State Engineer
Utah Division of Water Rights
1594 W. North Temple, Suite 220
Salt Lake City, Utah 84114

Dear Teresa:

As required by Utah State Code 73-2-30 and 73-5-8.5, Jordan Valley Water Conservancy District herewith submits the Salt Lake County Consumptive Use Methodology and 2024 results. Please direct questions you may have regarding this report to Jacob Young at 801-565-4300.

Best Regards,

Alan E. Packard, P.E.
General Manager/CEO

Salt Lake County Consumptive Use Methodology and 2024 Results

June 26, 2025

JORDAN VALLEY WATER
CONSERVANCY DISTRICT

8215 S 1300 W West Jordan, UT 84088 | T: 801.565.4300

Introduction

Senate Bill 119 (SB119), enacted by the Legislature of the state of Utah in the 2023 session, requires Jordan Valley Water Conservancy District (JVWCD) to provide an annual reporting of per capita consumptive use for Salt Lake County beginning with a calculation of per capita consumptive use for calendar year 2023. This memorandum describes the approach and results used to determine Salt Lake County's 2024 consumptive use. The data sources used to calculate the 2024 consumptive use are available from 2018 to present. The calculations are provided for all available years for comparison to 2024 results.

Calculation Methodology

The consumptive use calculation divides the **total water use** in Salt Lake County minus the **total return flows** as measured at county water reclamation facilities (WRF) by the **county population served**. Each of these three components of the calculation were determined as follows.

Total Water Use

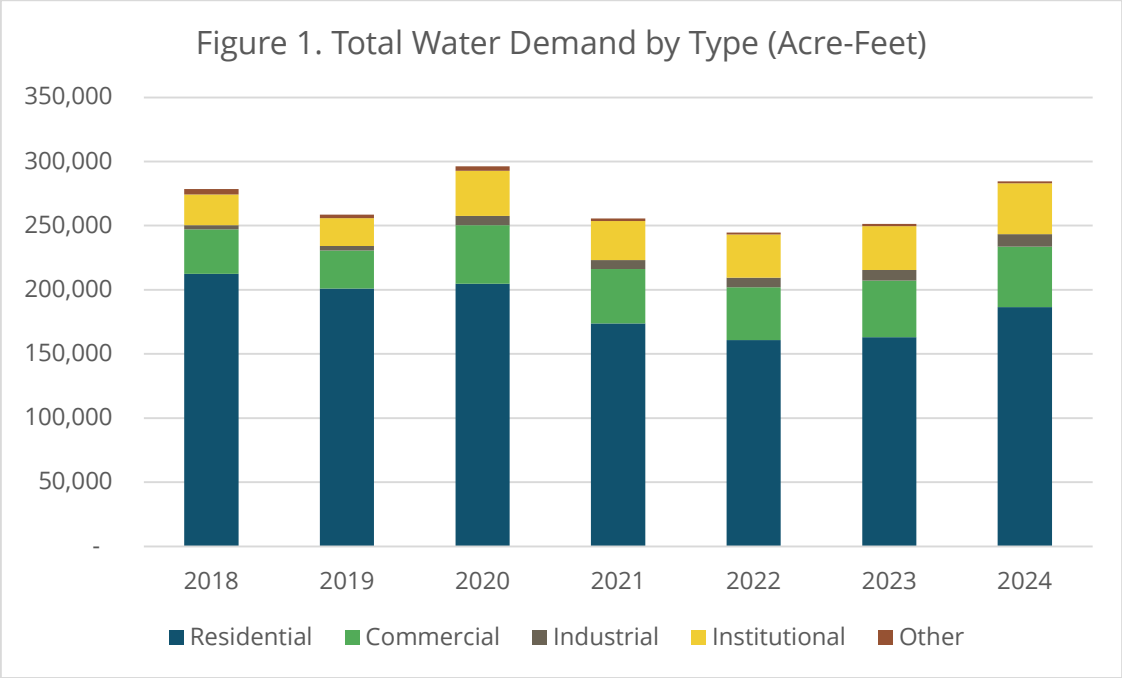
Total water use was gathered directly from all JVWCD member agencies and from the Utah Division of Water Rights (UDWRi) annual end use data for community water systems not served by JVWCD. Specifically, water delivery data was gathered for the Salt Lake County community water systems listed below.

JVWCD Member Agencies[1,2]	Other Potable Community Water System from UDWRi[2]	Other Secondary Community Water Systems from UDWRi[3]
• Bluffdale • City of Draper • Granger-Hunter Improvement District • Herriman City • Jordan Valley Water Conservancy District retail accounts • Kearns Improvement District • Magna Water District • Midvale City • Riverton City • South Jordan • South Salt Lake City • Taylorsville-Bennion Improvement District • WaterPro, Inc. • City of West Jordan • White City Water Improvement District	• Salt Lake City • Sandy City • Murray City • Holliday Water Company	• Murray City Irrigation • Bell Canyon Irrigation Company • Brookshire Irrigation Company • Browns Meadow Irrigation Association • Daybreak Water Company • Morning Glory Irrigation Association • North Dry Creek Irrigation Company • Richards Irrigation Company • South Despain Ditch Company • USA Department of the Army Camp Williams • Wasatch Resort Water Company

1 – Includes potable and secondary usage.
2 – Only includes water systems serving a population of 3,300 or more as specified in SB119.
3 – Only includes water systems where usage is metered as specified in SB119 or reliable usage was reported to the State.

As mentioned, the data used in the calculations is acquired from two sources. First, the UDWRi requires all community water systems to report water use data annually. Second, JVWCD maintains a database of water use data gathered from its member agencies annually which is also validated with the UDWRi data. The direct data from JVWCD member agencies was used because it provides more detail than the UDWRi data. Both data sources make it possible to quantify the total usage by usage type including residential, commercial, industrial, and institutional.

The total aggregated water use is shown from 2018 to 2024 in *Figure 1*.

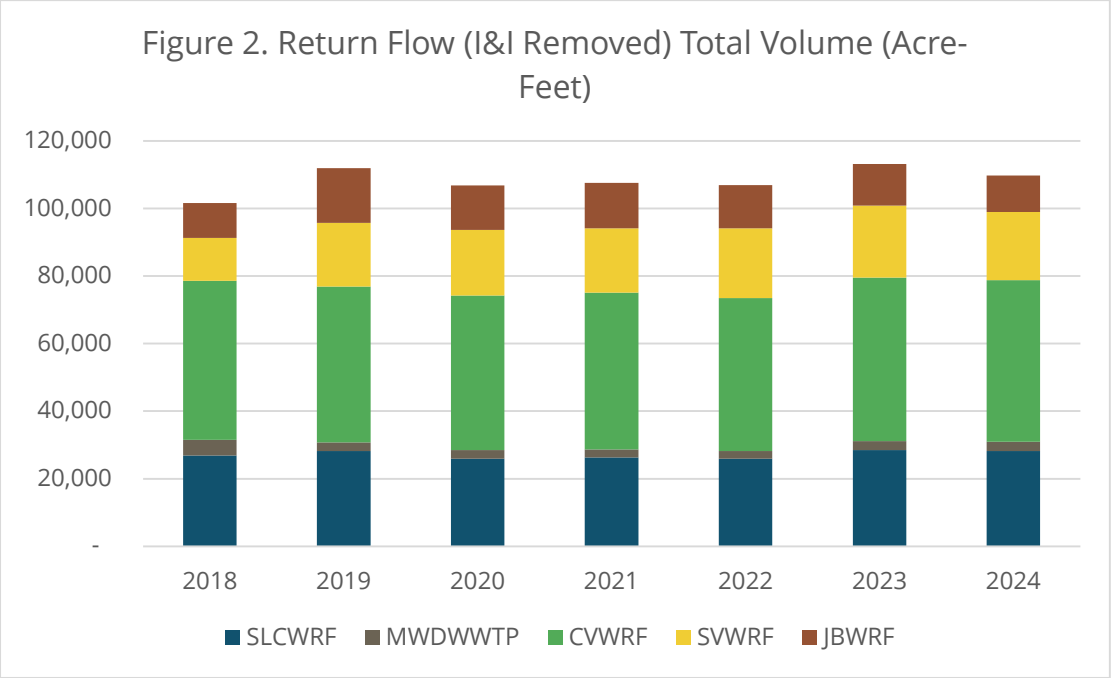


Total Return Flow

Return flow is calculated as the water reclamation facility (WRF) effluent discharges back to the natural system after accounting for wet-weather and dry-weather ambient inflow and infiltration to the wastewater collections systems. Effluent discharge data was gathered for the five WRFs serving Salt Lake County residents including, Salt Lake City WRF, Magna Water and Sewer District Wastewater Treatment Plant, Central Valley WRF, South Valley WRF, and Jordan Basin WRF. The Utah Department of Environmental Quality (UDEQ) requires all WRFs in the state to report effluent discharges each month. This data is made available through the National Pollutant Discharge Elimination System (NPDES).

In addition to return flow from culinary and secondary sources, portions of the effluent discharges are from wet-weather and dry-weather inflow and infiltration into the wastewater collection systems. Infiltration comes from groundwater seepage into collection system piping and manholes. Inflow is from cross-connections between stormwater and wastewater collections system, surface water flows into sewer manholes, and other unidentified connections or sources. There is typically a baseline level of inflow and infiltration in dry-weather conditions that increases during wet-weather periods. Wet-weather inflow and infiltration was accounted for by identifying the month with the lowest effluent and applying that volume to the other months as the maximum monthly return flow. Dry-weather inflow was accounted for by using the results of inflow and infiltration studies completed by two agencies to estimate a percentage reduction to apply to the maximum monthly return flow.

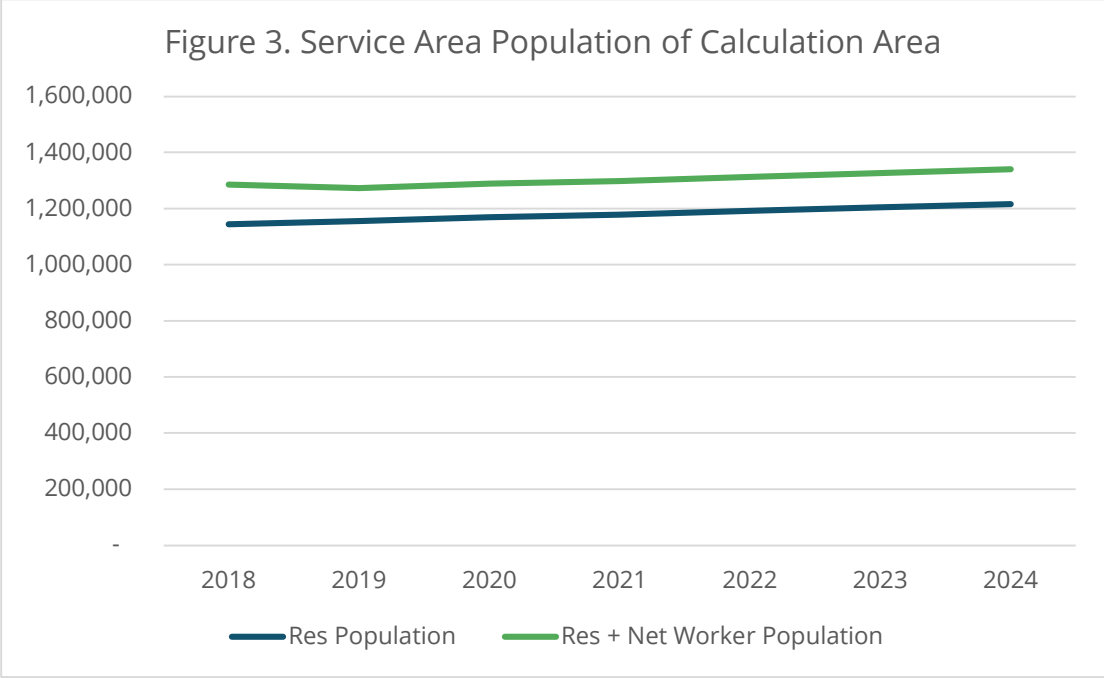
The final total monthly return flow volumes from 2018 to 2024 are shown in *Figure 2*.



County Population Served

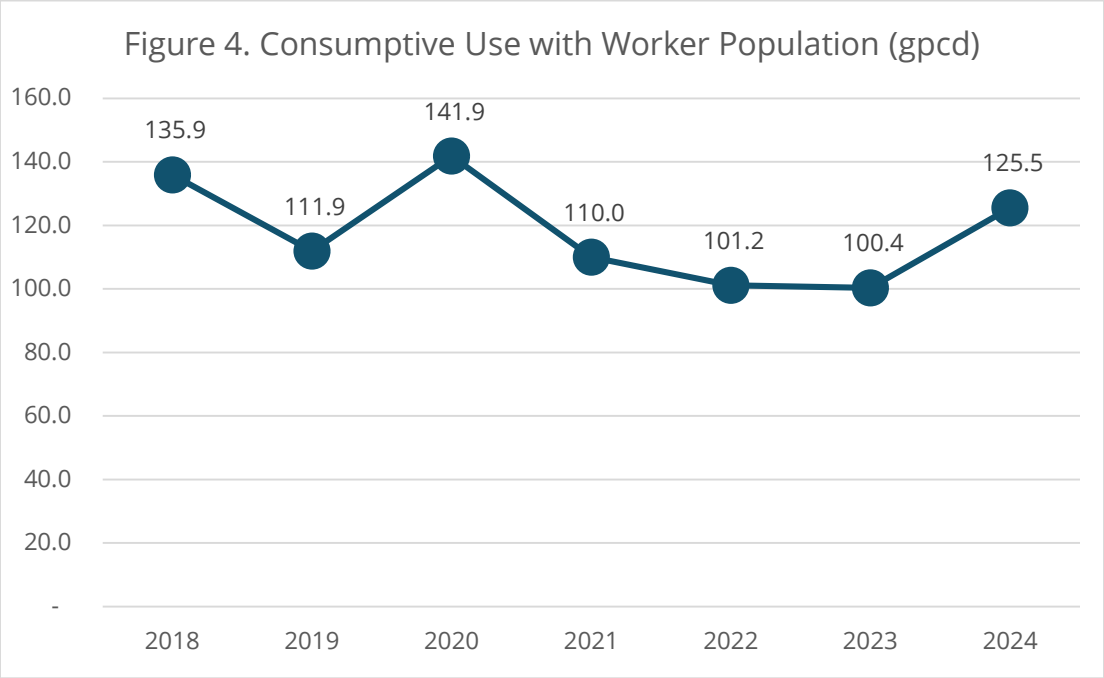
Estimates of county population served are derived from Traffic Analysis Zone data from Wasatch Front Regional Council plus an accounting for non-permanent worker population. Only the population from Traffic Analysis Zones within the community water system boundaries listed above was included. The Traffic Analysis Zones only include estimates of permanent residential population. The effects of non-permanent population on total population served is calculated from Federal Census data showing net worker inflow into the county. This percentage was determined, using available data, to be 10.18%. In the consumptive use calculation, the non-permanent population is only applied to commercial and industrial water use.

The results of the total county population served are shown in *Figure 3*.



Results

The results of the consumptive use gallons per capita per day (gpcd) calculations are shown in *Figure 4*.



Addressing the reporting requirements for SB119, Table 1 lists the Salt Lake County 2024 per capita consumptive use calculation following the approach described above.

Table 1. Salt Lake County per capita consumptive use	
Residential + Institutional + Other (Acre-Feet)	227,548
Residential + Institutional + Other Return Flow (Acre-Feet)	87,763
Residential Population	1,216,766
Residential Consumptive Use (gpcd)	*102.3*
Commercial + Industrial (Acre-Feet)	56,984
Commercial and Industrial Return Flow (Acre-Feet)	21,978
Residential + Net Worker Population	1,340,651
Commercial and Industrial Consumptive Use (gpcd)	*23.2*
2024 Total Consumptive Use (GPCD)	**125.5**