Washington State Department of Health
Division of Environmental Health
Office of Drinking Water

Date Submitted: 6/20/2024

Water Use Efficiency
Annual Performance Report - 2023

WS Name: WASHINGTON STATE UNIVERSITY

Water System ID# : 93200 WS County: WHITMAN

Report submitted by: *Jeff Lannigan*

Meter Installation Information:

Estimate the percentage of metered connections: *50% to 75%*

If not 100% metered – Did you submit a meter installation plan to DOH? Yes

Within your meter installation plan, what date did you commit to completing meter installation? 6/30/2021 12:00:00 AM

Current status of meter installation:

WSU installed a few additional water meters in 2023, and has identified priorities and started design to address the remaining unmetered facilities. Housing facilities make up the large majority of the remaining unmetered connections, and this work is scheduled for late 2024 / early 2025. Facilities Services has established a plan to fund these meters, which will bring the total campus metering to 95% complete. The remaining unmetered connections will be addressed as funding allows, timing TBD. Given WSU's limited resources, available metering funds are dedicated primarily to maintenance of existing metering stock, or adding new energy metering related to Clean Buildings legislation.

Production, Authorized Consumption, and Distribution System Leakage Information:

12-Month WUE Reporting Period *01/01/2023* To *12/31/2023*

Incomplete or missing data for the year? *Yes*

If yes, explain:

Water use is not fully metered, therefore Authorized Consumption is estimated using a comparable water use intensity analysis.

Total Water Produced & Purchased (TP) – Annual volume gallons	*436,185,896*	gallons	
Authorized Consumption (AC) – Annual Volume in gallons	*365,634,841*	gallons	
Distribution System Leakage – Annual Volume TP – AC	*70,551,055*	gallons	
Distribution System Leakage – DSL = [(TP – AC) / TP] x 100 %	*16.2 %*		
3-year annual average - %	*19.1 %*		*2021, 2022, 2023*

Goal-Setting Information:

Enter the date of most recent public forum to establish WUE goal: *06/29/2022*

Has goal been changed since last performance report? *No*

Note: Customer goal must be re-established every 6 years through a public process.

Customer WUE Goal (Demand Side):

Other goals are to limit annual aquifer pumping increases to 1% of the pumping volume based on a 5 year moving average starting with 1986 (642 mgy). At no time shall the accumulated total pumping exceed 125% of the 1981 to 1985 average (702 – 877mgy), to improve irrigation systems to automatic systems (70-90% in ten years) and to eliminate 20 gpm of cooling water to the drain in 3 years.

Customer (Demand Side) Goal Progress:

1. WSU has established a Water Conservation Task Force, a combination of operations, engineering, and demand-side staff to evaluate water use data on a monthly basis, identify unusual usage, investigate actual demands to resolve issues, and track subsequent usage to assure resolution has been achieved. This has been effective in identifying leaks, building system issues, and faulty meters and assuring efficient water use.
2. Water use at WSU Pullman has tracked steadily downward over the last 30 years, even while campus has grown 40% over the same period. WSU has met or exceeded the established water savings goal.
3. The water use goals established in 2015 and re-established in 2022 have been achieved.

Additional Information Regarding Supply and Demand Side WUE Efforts

Describe Progress in Reaching Goals:

- Estimate how much water you saved.
- Report progress toward meeting goals within your established timeframe.
- Identify any WUE measures you are currently implementing.
- If you established a goal to maintain a historic level (such as maintaining daily consumption at 65 gallons per person per day for the next two years) you must explain why you are unable to reduce water use below that level.

For the reporting period listed above, WSU total water produced was 436 million gallons, a slight decrease from 2022.

In 2023 WSU completed a new two million gallon high reservoir, and demolished two antiquated and leaking older reservoirs from the system. WSU's water metering efforts prioritized maintenance and repair of existing meters – as this pool of equipment grows older many are unreliable or have ceased to function. Wherever possible WSU is utilizing AMR or direct IP connections to automate meter reads and increase the frequency of data acquisition. Significant investments were made in 2023 to automate the meter reads from campus facilities and effectively store the data in a historian for analysis.

The design effort is complete to meter all unmetered Housing facilities and the corresponding irrigation; the execution of this work (delayed several times due to funding impacts related to COVID-19) will be complete by mid-2025. Although around 50% of the total number of connections are currently metered, this represents 84% of square footage on campus; implementing the metering at Housing facilities and other high-priority facilities in the coming two years will bring this number by area to 95%.

A water conservation task force continues to meet monthly to evaluate meter data and identify, troubleshoot, and correct areas of high water use. WSU also continues to be an active participant in commissioning and funding studies of water resource issues through its involvement in the Palouse Basin Aquifer Committee (PBAC).

The following questions will help DOH better understand water usage, water resources management and drought response. The data will be used to provide technical assistance, not for regulatory purposes.

All questions are voluntary

Month	Date of Measurement	Static Water Level (feet below measuring point)	Dynamic Water Level (feet below measuring point)
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

Water level data:

Please provide the following information (if known) to help us better utilize the water level data.

Well tag Id number:

Well depth:

Water level accuracy (within 0.01 ft < 1 ft ~ 1 ft)

Completion type (e.g., cased open interval, cased open-ended, cased open-ended with perforations, etc…)

Location coordinates (latitude, longitude) and accuracy of the coordinates (< 1ft, ~1ft, >1000ft)

Water level parameter name (e.g. depth below measuring point, depth below top of casing, depth below ground surface)

Elevation of top of casing OR elevation of measuring point if different than top of casing (as specified in question 7)

Monthly/Seasonal Water Usage:

What was your maximum daily water demand for the previous year (in gallons per day)? 2,786

Month	Volume of Water Produced in gallons
January	22,635,992
February	22,226,944
March	22,018,072
April	24,094,976
May	38,075,008
June	54,261,920
July	78,891,944
August	63,234,104
September	44,880,016
October	26,324,968
November	20,435,968
December	18,105,984

Water shortage response:

Did you activate any level of water shortage response plan the previous year?

☐ Yes ☑ No ☐ There was no need to

If you activated a water shortage response plan the previous year, what level did you activate? (Check all that apply)

☐ Advisory Conservation ☐ Voluntary Conservation

☐ Mandatory Conservation ☐ Rationing ☐ Other

What factors caused your water shortage the previous year?

☐ Drought ☐ Fire ☐ Landslides ☐ Earthquakes

☐ Flooding ☐ Water Supply Limitations ☐ Other

Do not mail, fax, or email this report to DOH