

# Comments on 2021 draft Utah state water plan

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## Introduction

This is an R Markdown document. This document plots Municipal and Industrial water use data downloaded from the Utah Division of Water Resources (UDWR) data portal. The plot is made in support of 2 comments on the draft 2021 Utah state water plan. Below, findings are listed and the method described. A final section shows the resultant plot.

## Findings

1. Make the state conservation goals more aggressive. A 20% reduction from current use will only get 60 Utah providers to reach the 191 gallon per capita per day level that Salt Lake City currently uses. Another 267 Utah providers will still use much more than Salt Lake City.
2. Target conservation efforts to the Utah customers and Utah water providers that use the most water. For example, Garden City, Wellsville, Brigham City, Park City, and Green River all use more than double the amount of Salt Lake City on a per-capita basis. Cities in Washington County like Hurricane and St. George also use more water on a per capita basis than Salt Lake City. There is potential to mount aggressive conservation campaigns with these cities so their water use comes down to the level of the lowest 141 providers across the state.

## Analysis Steps

1. Download data for 2015 to 2018 from the data portal, <https://dwre-utahdnr.opendata.arcgis.com/pages/municipal-and-industrial-data>.
2. Read yearly data into R and combine into a single data frame.
3. Sorted the 2018 data by the TotalGPCD field (Total gallons per capita per day)
4. Plot as a bar graph with providers ranked from largest to smallest GPCD.
5. Break the plot by the Utah average of 240 gallons per person per day and twice that volume (480 gpcd).
6. Annotate the bar plot with the number of providers in each block.

## Requested Citation

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Read in data (year)

```
## [1] 2015  
## [1] 2016  
## [1] 2017  
## [1] 2018
```

Figure 1. Utah water providers ranked by 2018 total per capita water use.

Comparison to Salt Lake City use and state conservation targets.

## [1] "A utility with 239 gpcd can reduce by state conservation goal of 20% and achieve SLC's use"

