August 2019 Public Works Report

Capital Improvement Projects

Erie Parkway Bridge Replacement

This project continues to be on track for a late fall completion. The project is currently on schedule with some minor delays, weather will dictate the actual timing. The project continues to be within budget. We anticipate the opening of two lanes of the bridge in mid-August. This will shift traffic from the old bridge so that demo can begin. Last month I reported a projected completion in September, and the new bridge should be fully online at that time, but the contract allows work to continue through mid-October. This again is if the weather cooperates.

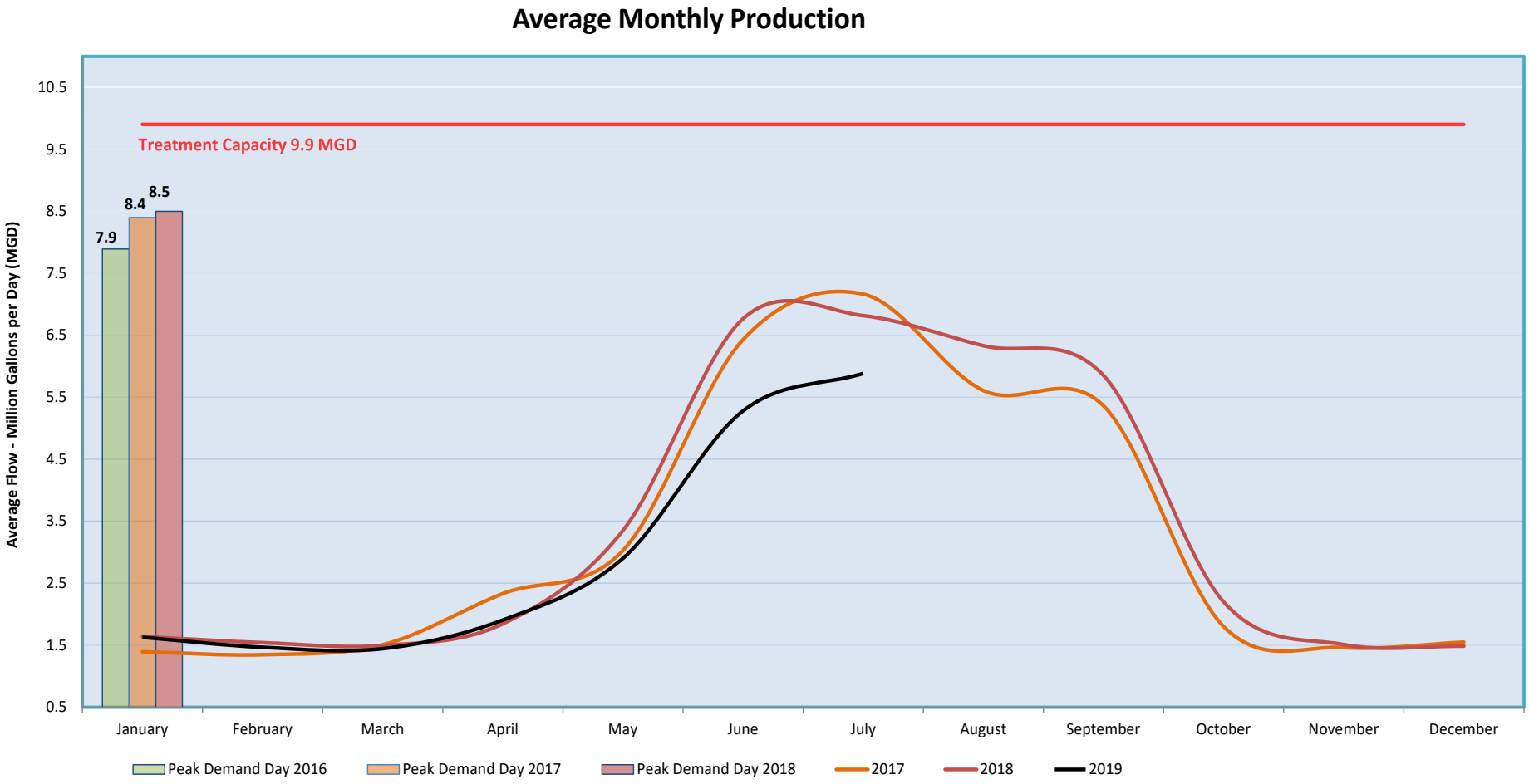
Lynn R Morgan Water Treatment Facility (WTF) Expansion

We will bring a request to authorize design services with Burns and McDonnell Engineers to create the design for a hydro-turbine electricity generator at the WTF. We have some very positive responses related to the potential for significant grant support, but need to first complete the detailed design. Meanwhile construction of the WTF expansion continues ahead of schedule.

Lynn R. Morgan Water Treatment Facility (WTF)

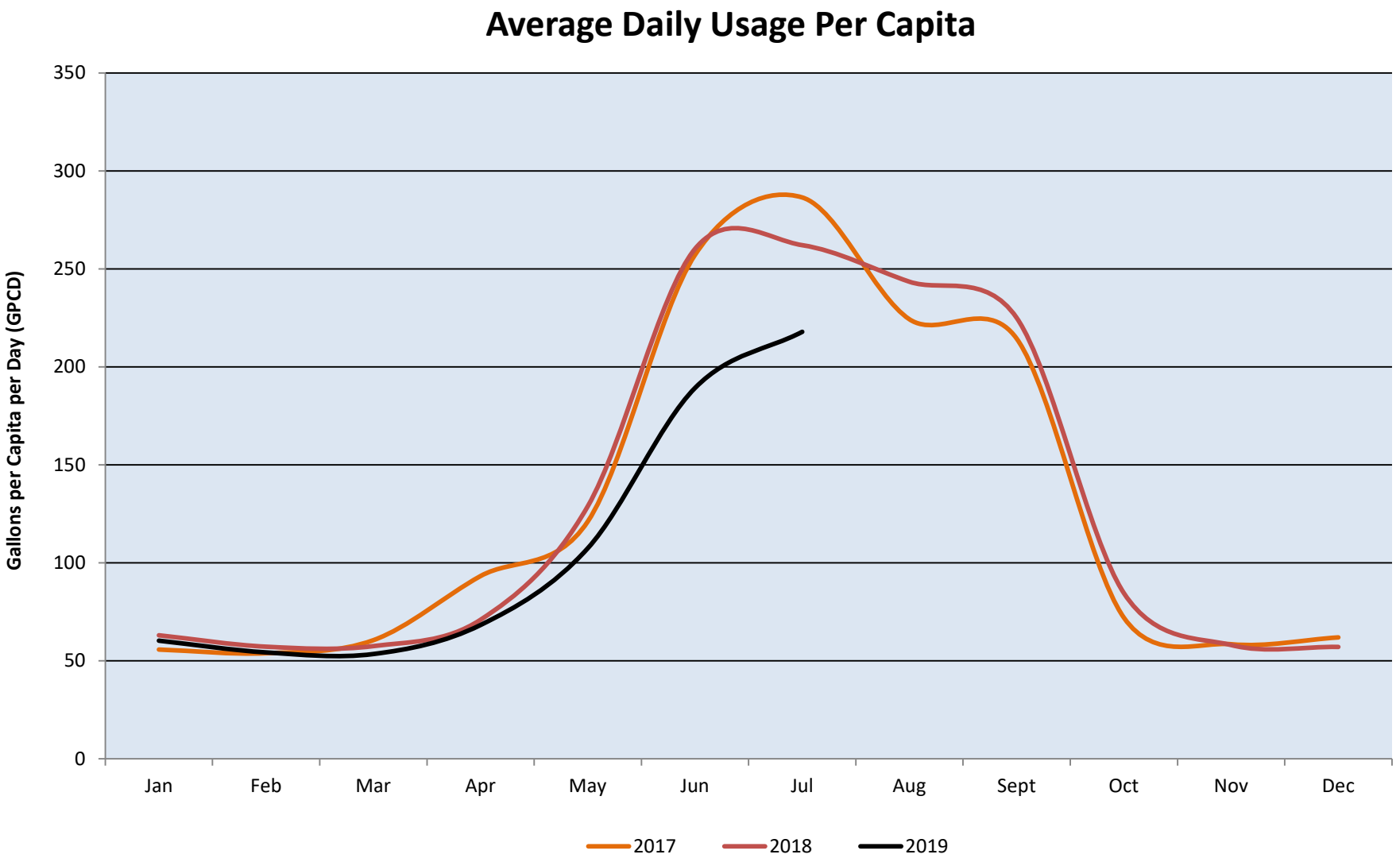
Annual Daily Average Flow: **2016** - 3.3 (Million Gallons) MG **2017** – 3.4 MG **2018** – 3.4 MG

July 2017 maintains the record for the highest monthly average flows at 7.16 MG, while January 2016 had the lowest flows at 1.19 MG. Summer demands greatly affect the annual average due to outdoor irrigation. The daily peak demand (customer meter totals) of 8.45 MGD was in July of 2018.



Annual Daily Gallons Per Capita per Day (GPCD): **2016** - 131 GPCD **2017** – 130 GPCD **2018** – 131 GPCD

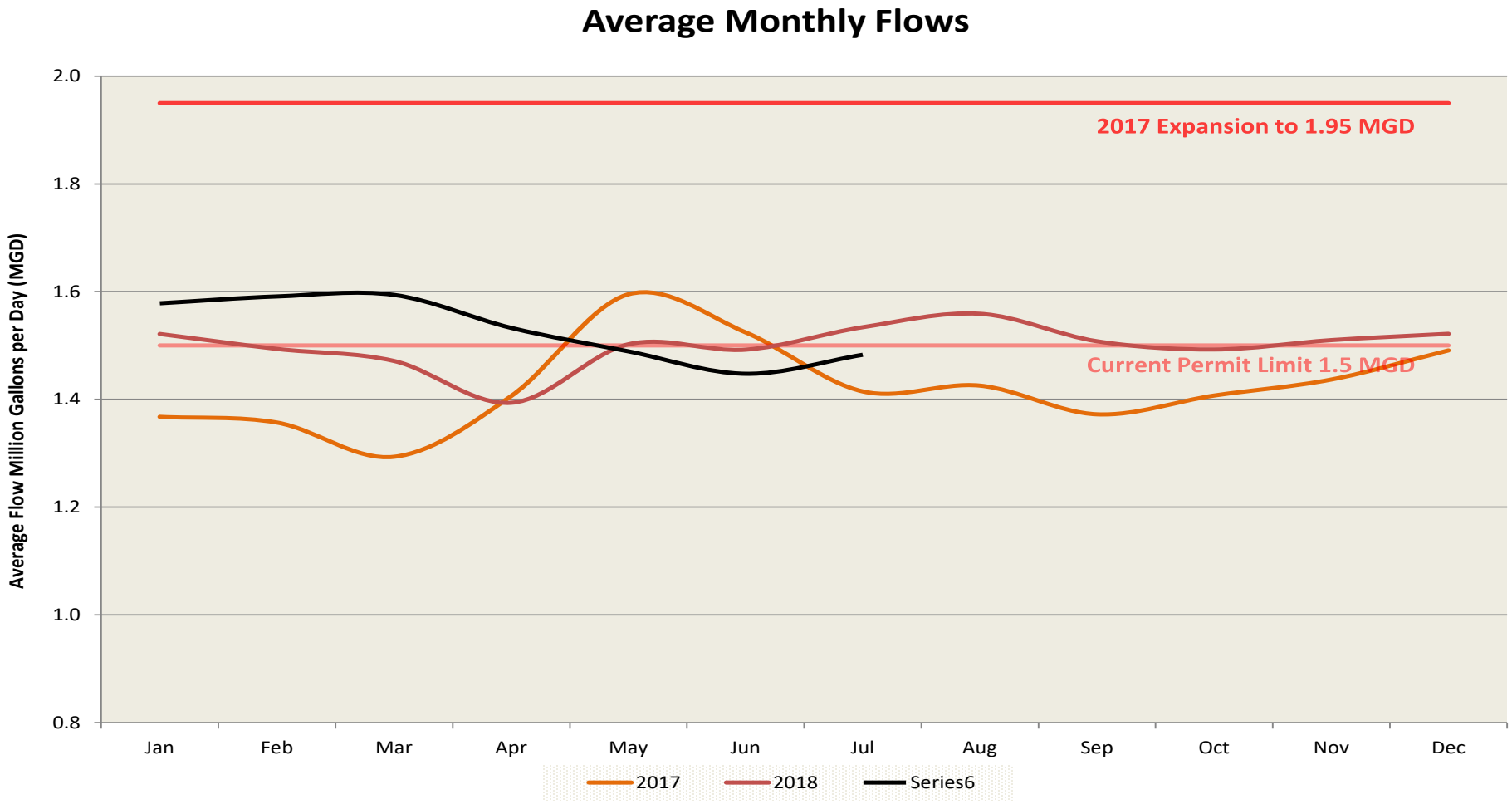
Water demands are off to a slow start this irrigation season due to generally cool and wet conditions. July 2016 had the highest average daily usage at 290 gallons GPCD. January 2016 had the lowest usage at 52 GPCD. Reducing summer irrigation and increasing reuse water availability will reduce reliance on treated water supplies in the future.



North Water Reclamation Facility

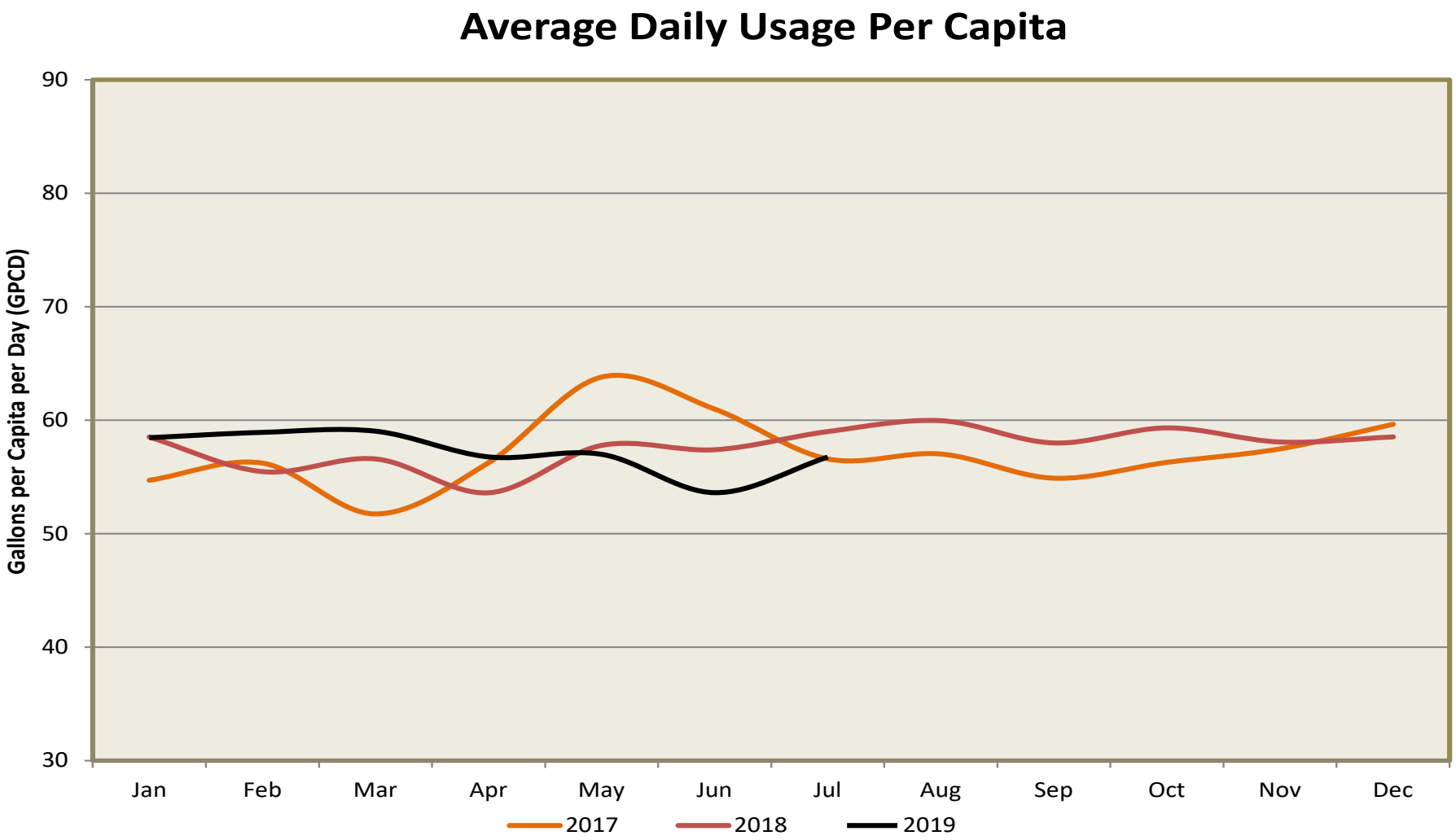
Annual Daily Average Flow: **2016** - 1.30 MG **2017** – 1.42 MG **2018** - 1.50 MG

October 2016 had the lowest average flow of 1.24 million gallons per day (MGD). May 2017 set a high average monthly flow of 1.60 MGD, triggered by snowmelt and subsequent inflow into the collection system, likely through low lying manhole lids. Staff worked with consultant Leonard Rice Engineers (LRE) and submitted a request for modifications to the facility permit from the Colorado Department of Public Health and Environment (CDPHE) in April 2018. The end result of this effort will be a permit at 1.95 MGD and more appropriate discharge limits than in the current or proposed permit. CDPHE has now indicated that they will not process this request until after 2021; we are again reaching out to CDPHE and asking they revisit this position. Design of the next plant expansion continues with HDR Engineering. We anticipate construction in late 2019 or early 2020 and lasting through 2021.



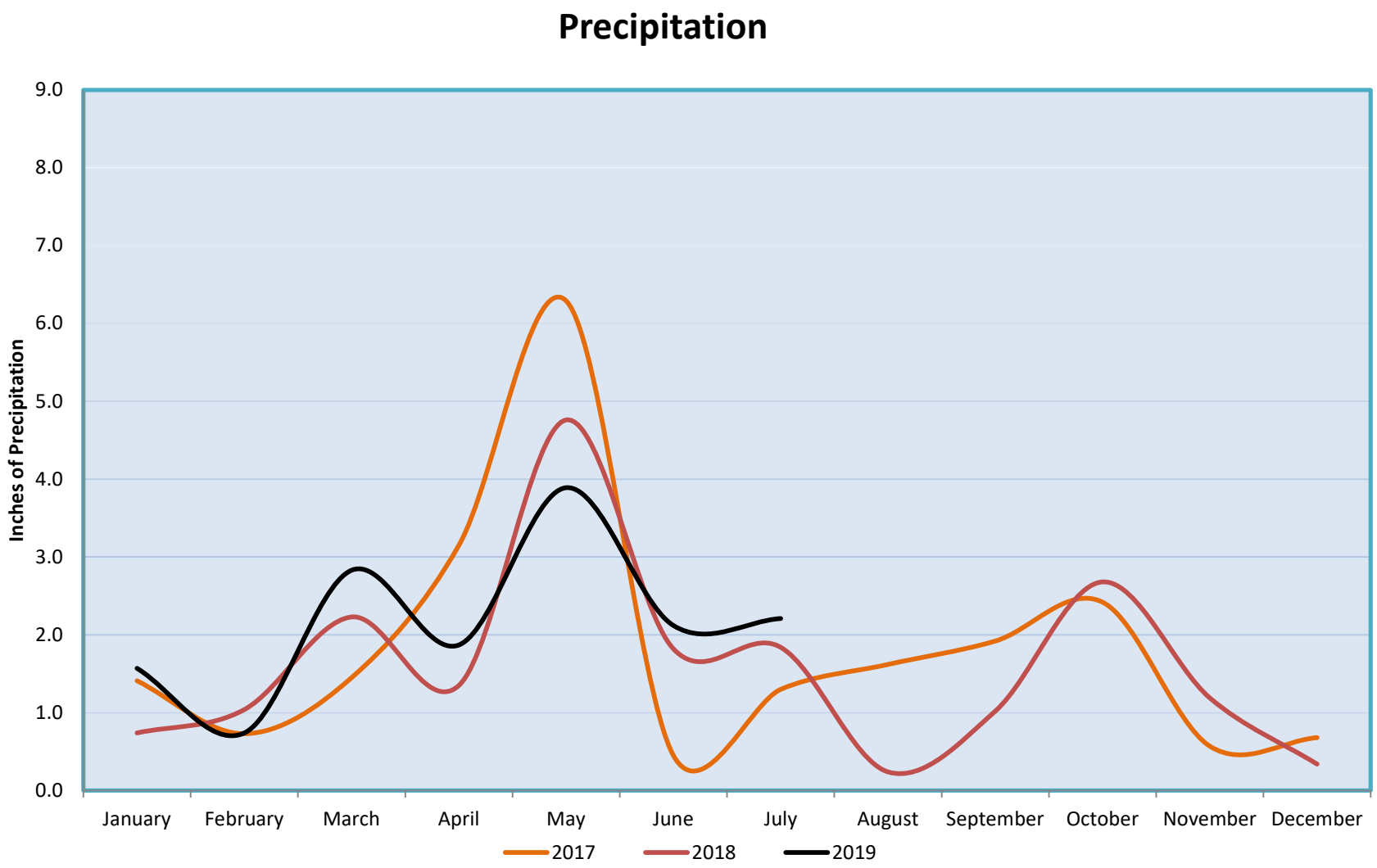
Annual Daily Gallons Per Capita per Day (GPCD): **2016** - 57 GPCD **2017-** 57 GPCD **2018** - 58 GPCD

This graph depicts customer indoor water usage. May 2017 had the highest usage at 64 GPCD, primarily due to snow melt seeping into manholes after a particularly wet snow and subsequent warm weather. Since we had fewer heavy snowfall events this May our inflows and infiltration was lower overall. Recent wet weather shows flows trending slightly up but still low overall. March 2017 had the lowest usage at 52 GPCD. Fall, with relatively little precipitation and dropping groundwater levels, is a good indicator of true daily flows.

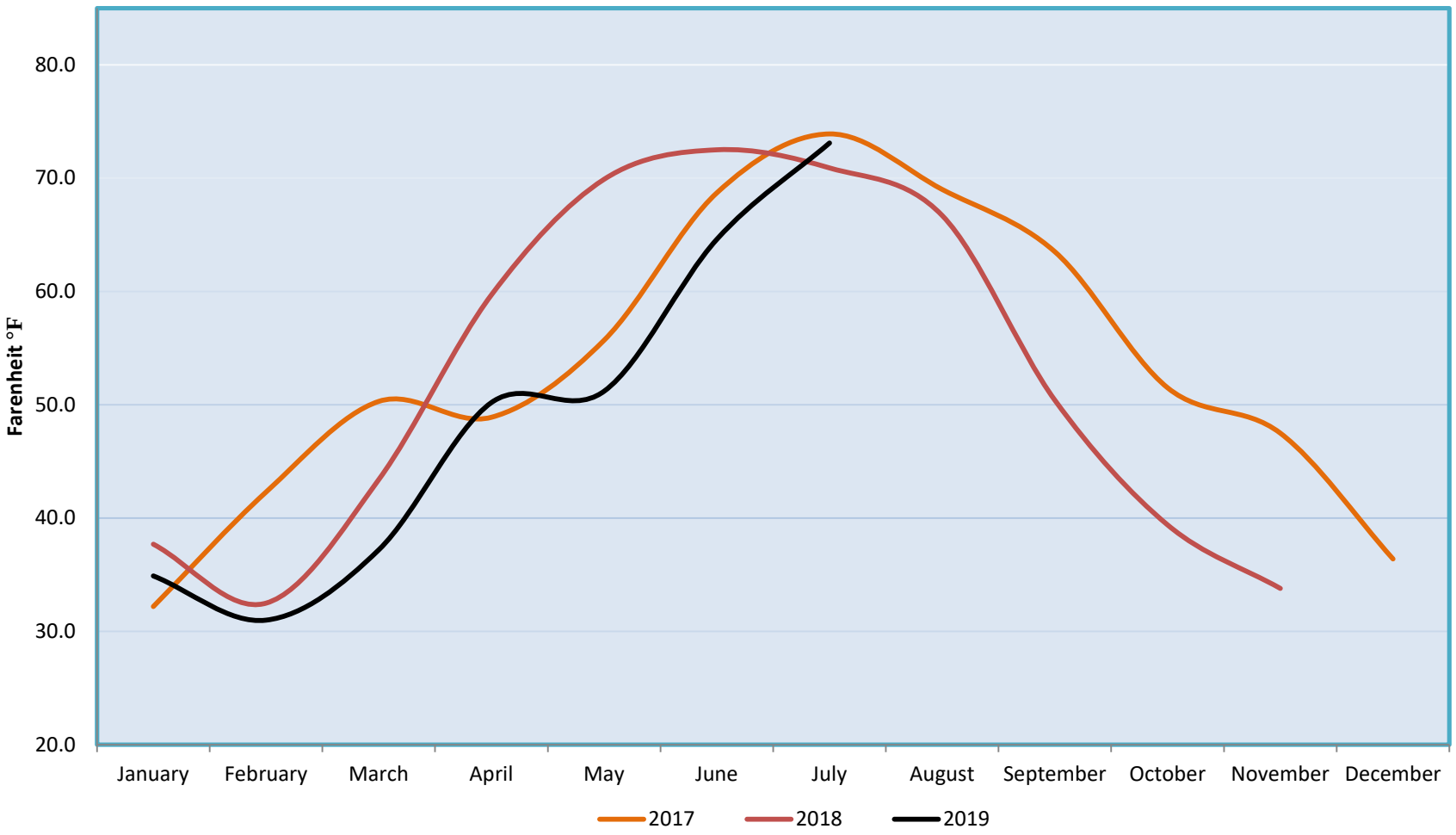


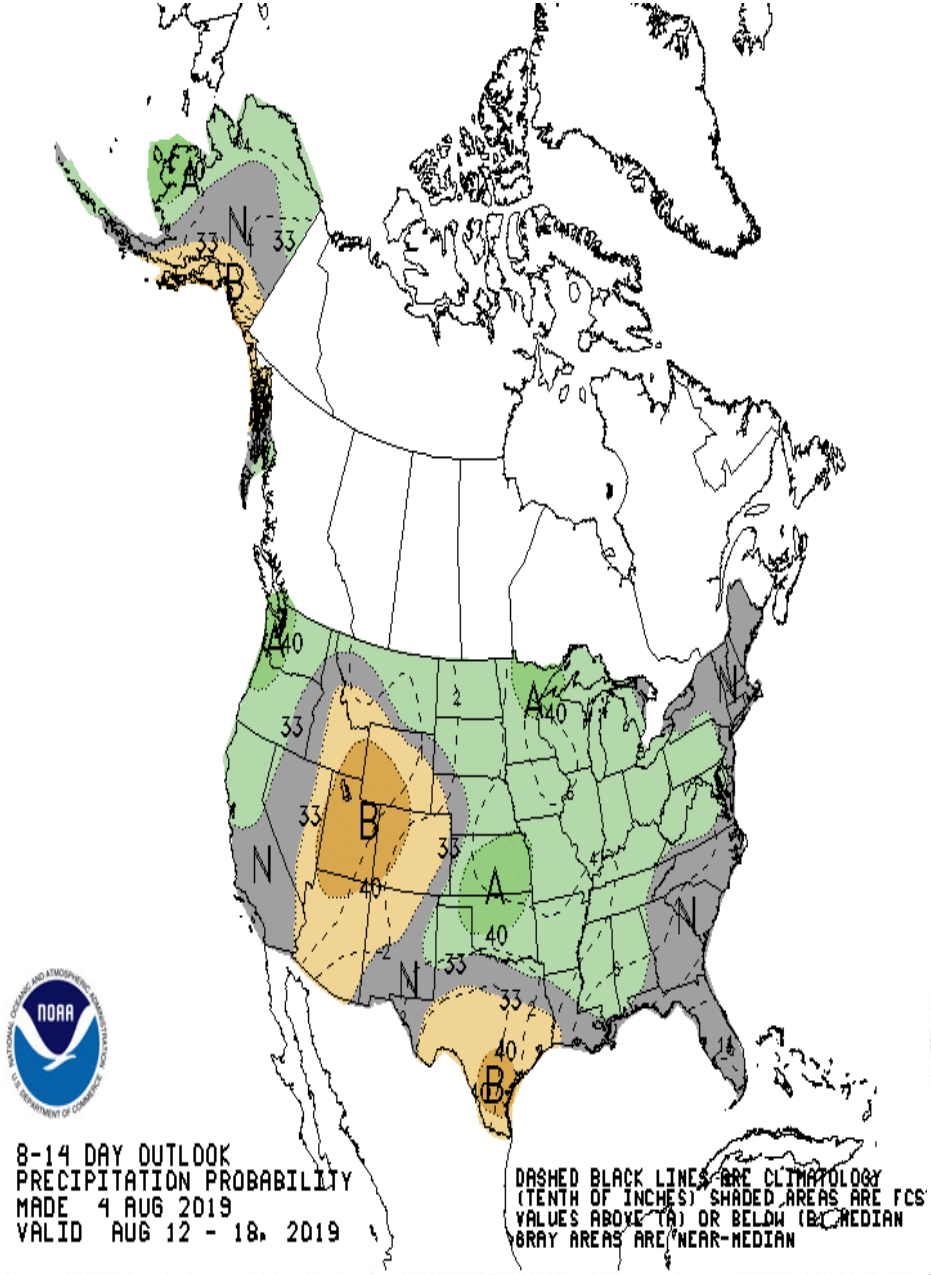
Monthly Data for Boulder – National Oceanic and Atmospheric Administration (NOAA) & Natural Resource Conservation Service (NRCS)

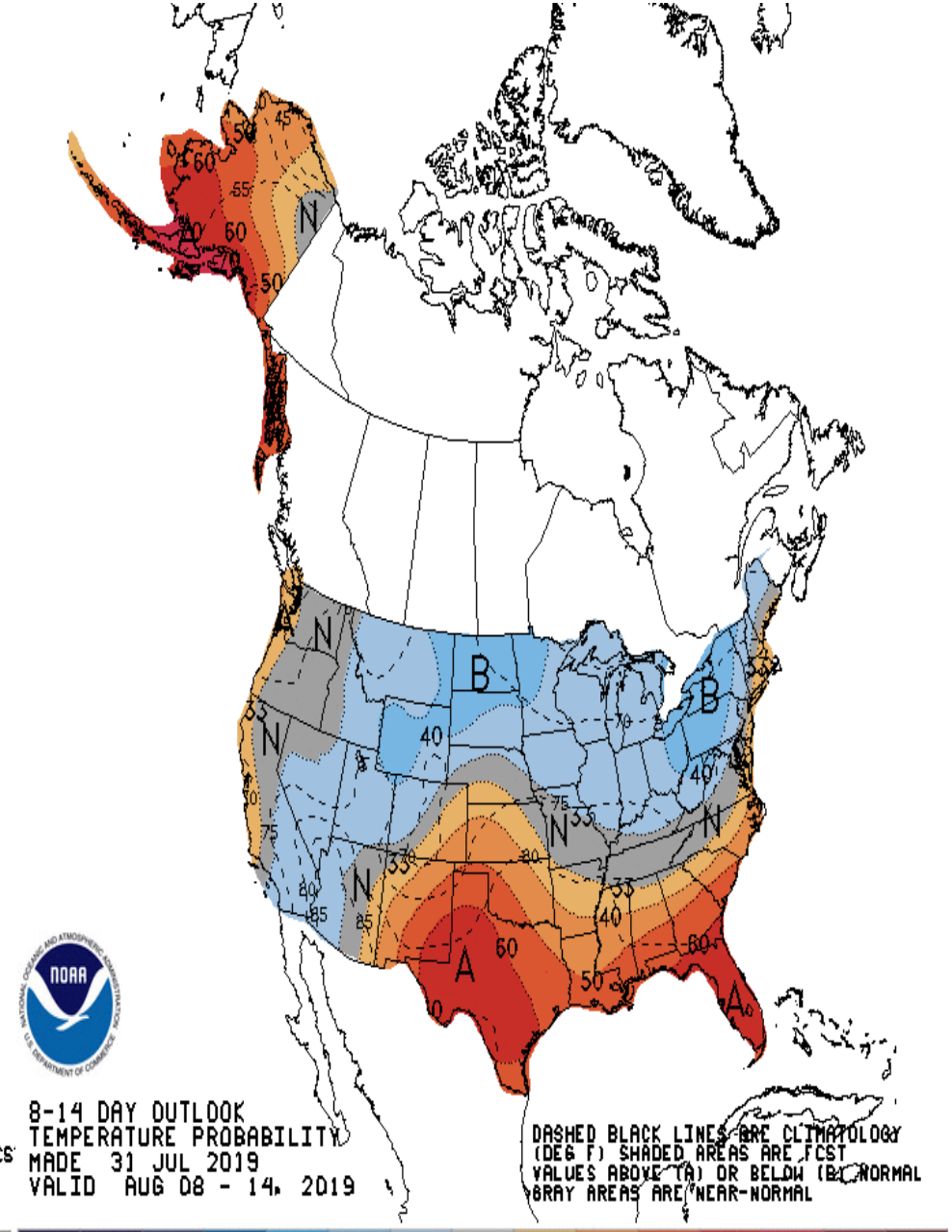
NOAA is predicting 33% chance of above normal precipitation and 33% chance of 33-40% above normal temperatures, through mid-month. The generally cooler weather and random precipitation has kept water demands down overll so far this year.



Mean Temperature




8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 4 AUG 2019
VALID AUG 12 - 18, 2019
DASHED BLACK LINES ARE CLIMATOLOGY
(TENTH OF INCHES) SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) MEDIAN
GRAY AREAS ARE NEAR-MEDIAN
90% 80% 70% 60% 50% 40% 33% 33% 40% 50% 60% 70% 80% 90%
Probability of Below
Normal
Probability of Above


8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 31 JUL 2019
VALID AUG 08 - 14, 2019
DASHED BLACK LINES ARE CLIMATOLOGY
(DEG F) SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) NORMAL
GRAY AREAS ARE NEAR-NORMAL
90% 80% 70% 60% 50% 40% 33% 33% 40% 50% 60% 70% 80% 90%
Probability of Below
Normal
Probability of Above

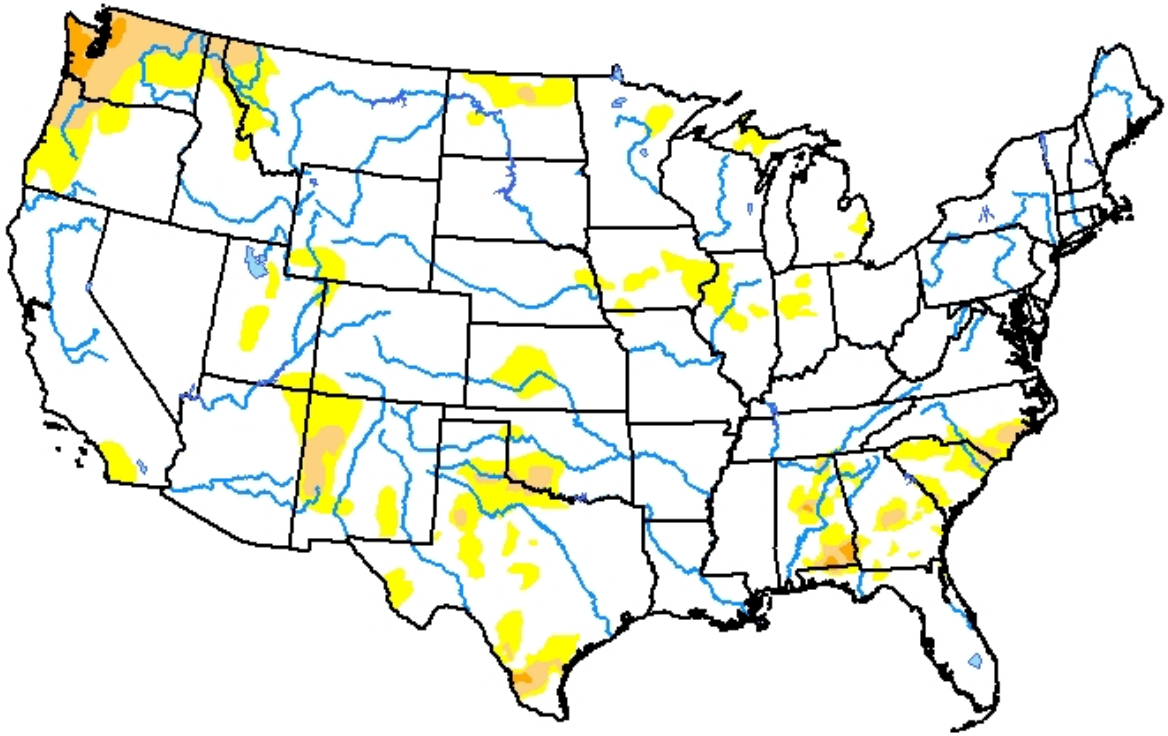
U.S. Drought Monitor

Continental U.S. (CONUS)

July 30, 2019

(Released Thursday, Aug. 1, 2019)

Valid 8 a.m. EDT



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

Curtis Riganti
National Drought Mitigation Center

droughtmonitor.unl.edu