TOWN OF ERIE
BOARD OF TRUSTEES AGENDA ITEM
Board Meeting Date: August 22, 2017

SUBJECT: STAFF REPORT
FILE NUMBER: 16- (INFO ONLY DO NOT INCLUDE IN YOUR GRANICAS ITEM)
Water Treatment and Water Reclamation Report

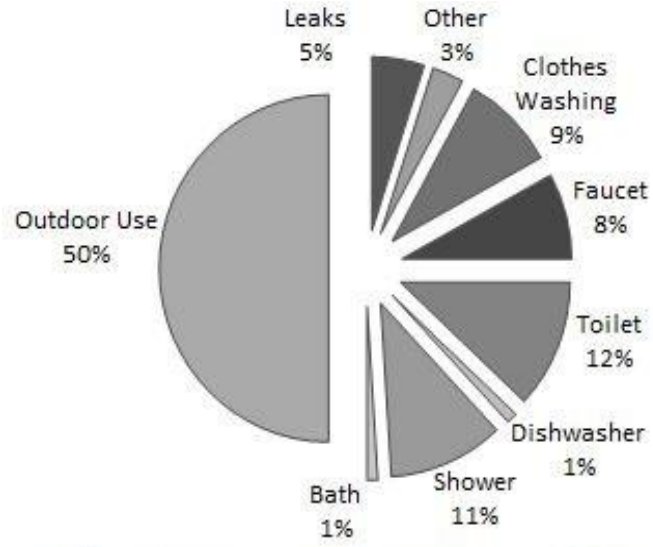
DEPARTMENT: Public Works

PRESENTER/PREPARER: Todd Fessenden, Deputy Public Works Director – Utilities

FISCAL INFORMATION:
Cost as Recommended: N/A
Balance Available: N/A
Budget Line Item Number: N/A
New Appropriation Required: No

STAFF RECOMMENDATION: N/A

SUMMARY AND BACKGROUND OF SUBJECT MATTER: The Water Treatment and Water Reclamation graphs depict the monthly production averages and the average per capita usage based on the population within the system at the Lynn R. Morgan Water Treatment Facility and North Water Reclamation Facility 2014 - 2017. Also included are plant treatment capacities, permit limits, peak demand data as well as pertinent weather information for the same period. The chart below is provided by Colorado State University and represents typical treated water usage in Colorado, as of 2014.

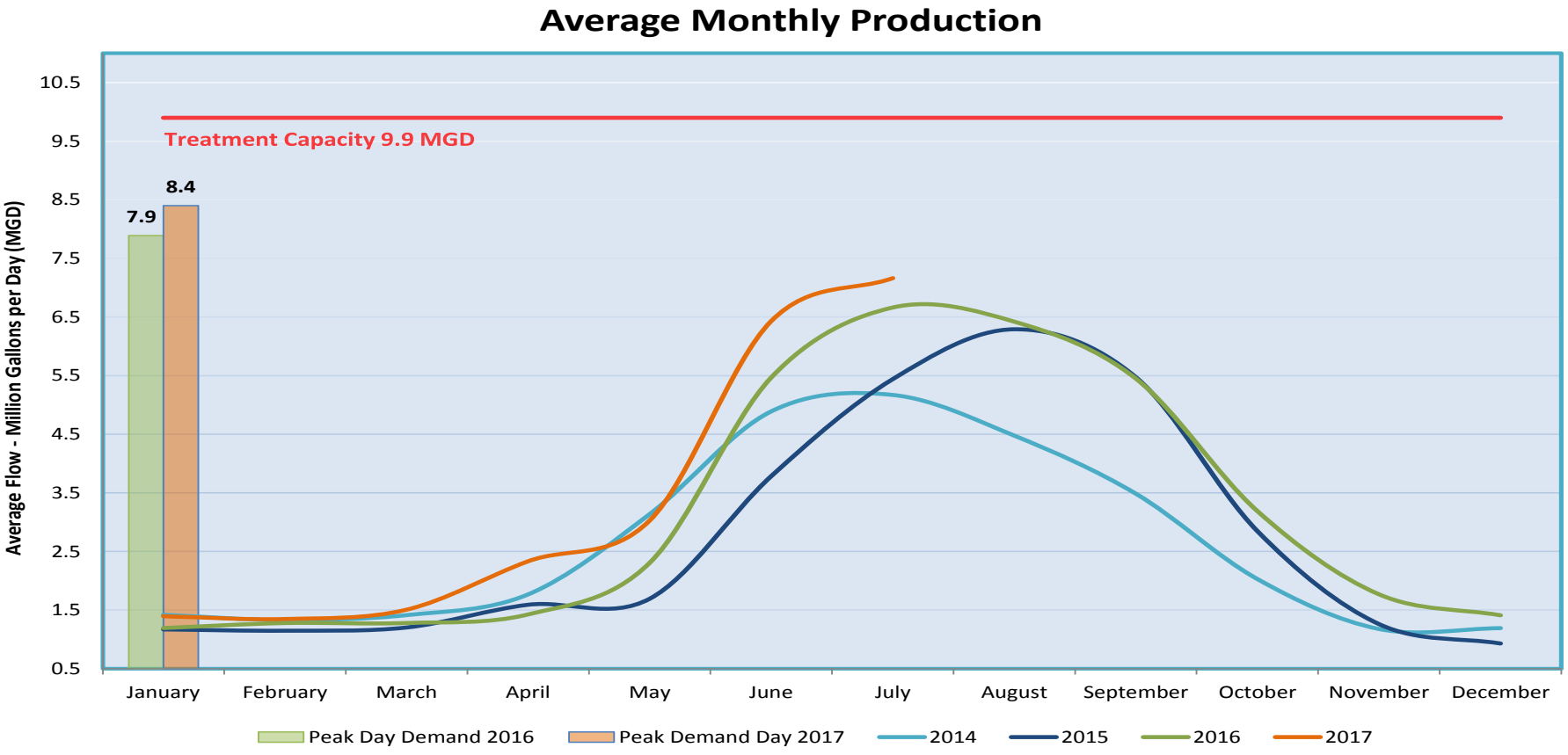


Lynn J. Morgan Water Treatment Facility

Annual Daily Average Flow: **2014** - 2.6 million gallons (MG) **2015** - 2.7 MG **2016** - 3.3 MG

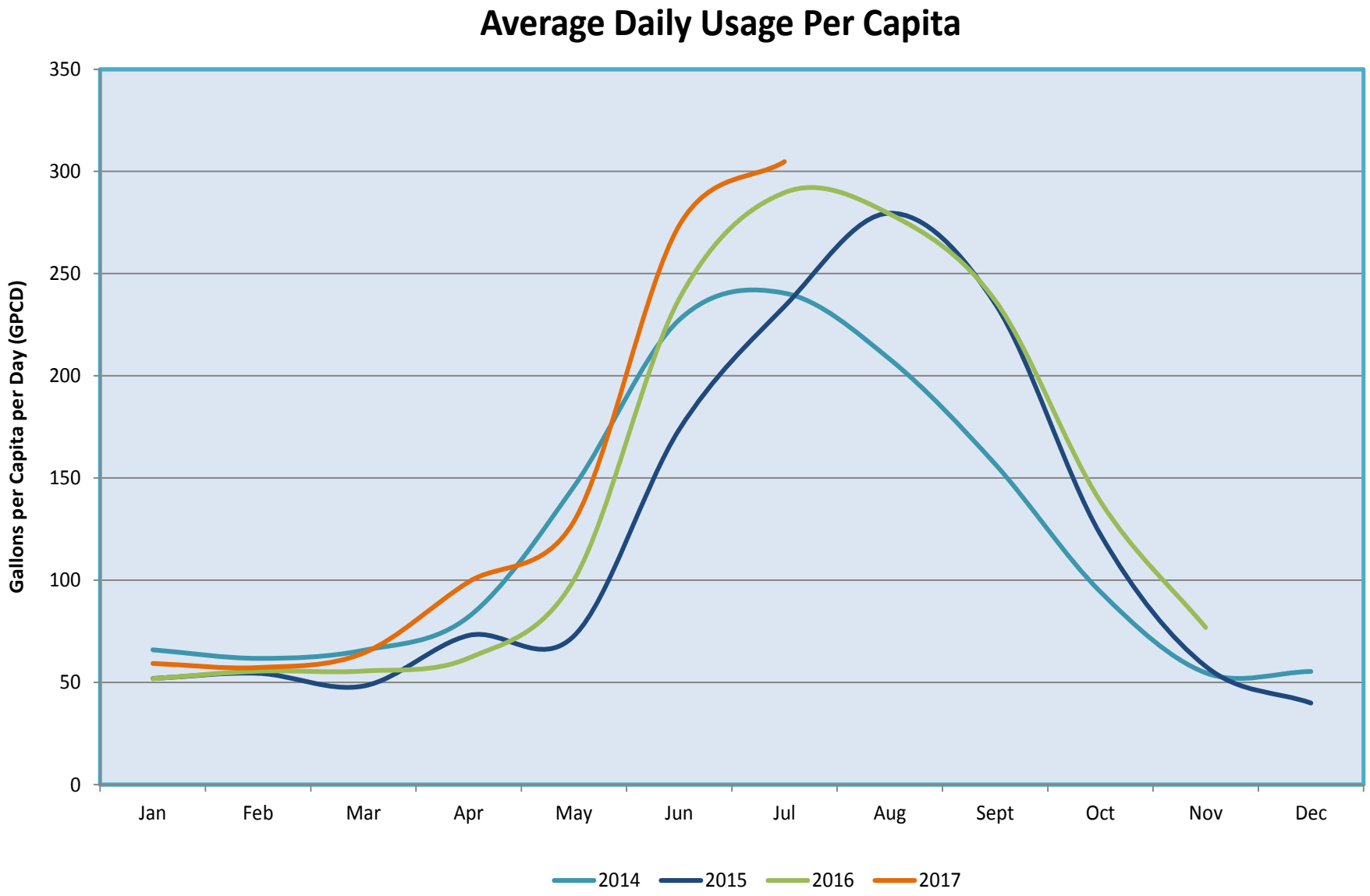
July 2017 set a record for the highest monthly average flows at 7.16 MG, while December 2015 had the lowest flows at 0.93 MG. Summer demands greatly affect the annual average due to outdoor irrigation. Water storage tanks in the distribution system play a key role in supplying peak overnight irrigation demands, and are refilled in the day when demands decrease. A notable shift on this chart is in May 2015, where we saw very high precipitation. Water use in 2014 was markedly lower, in conjunction with more consistent precipitation than in the summers of 2015 and 2016.

While precipitation was also high this May, it came primarily in the form of snow. The daily peak demand (customer meter totals) in July of this year has already topped the previous record, set in June. This equates to a 0.5 MG increase in peak demand over last year. Staff is currently discussing options with design engineers to increase plant capacity ahead of the next expansion project, which is anticipated to be designed in 2018 and constructed in 2019.



Annual Daily Gallons Per Capita per Day (GPCD): **2014** – 122 GPCD **2015** - 120 GPCD **2016** - 144 GPCD.

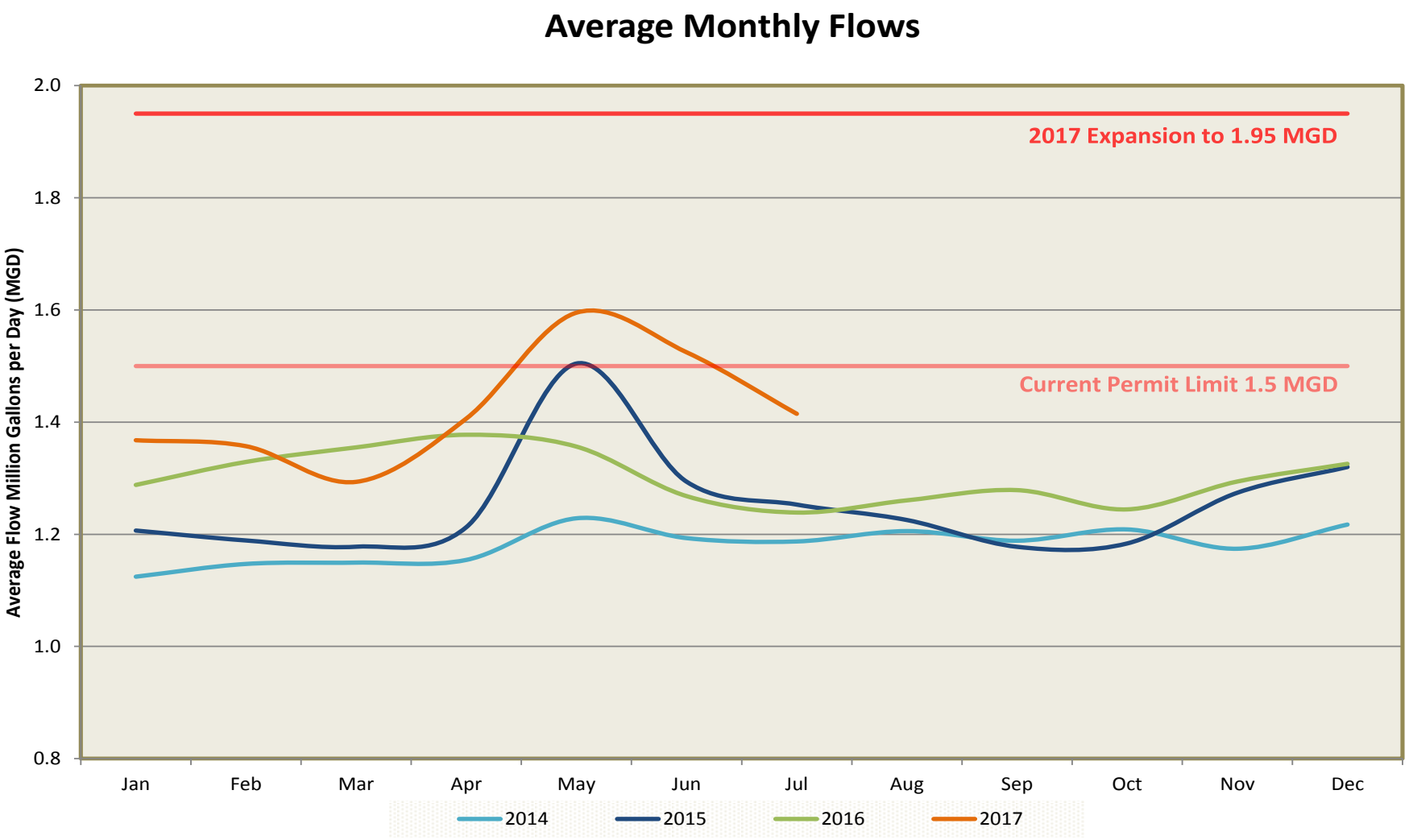
July 2017 has seen the highest usage at 305 gallons per capita per day (GPCD) an increase over the previous record set in July 2016 of 290 GPCD. December 2015 had the lowest usage at 40 GPCD. Reducing summer irrigation and increasing reuse water availability will reduce reliance on treated water supplies in the future.



North Water Reclamation Facility

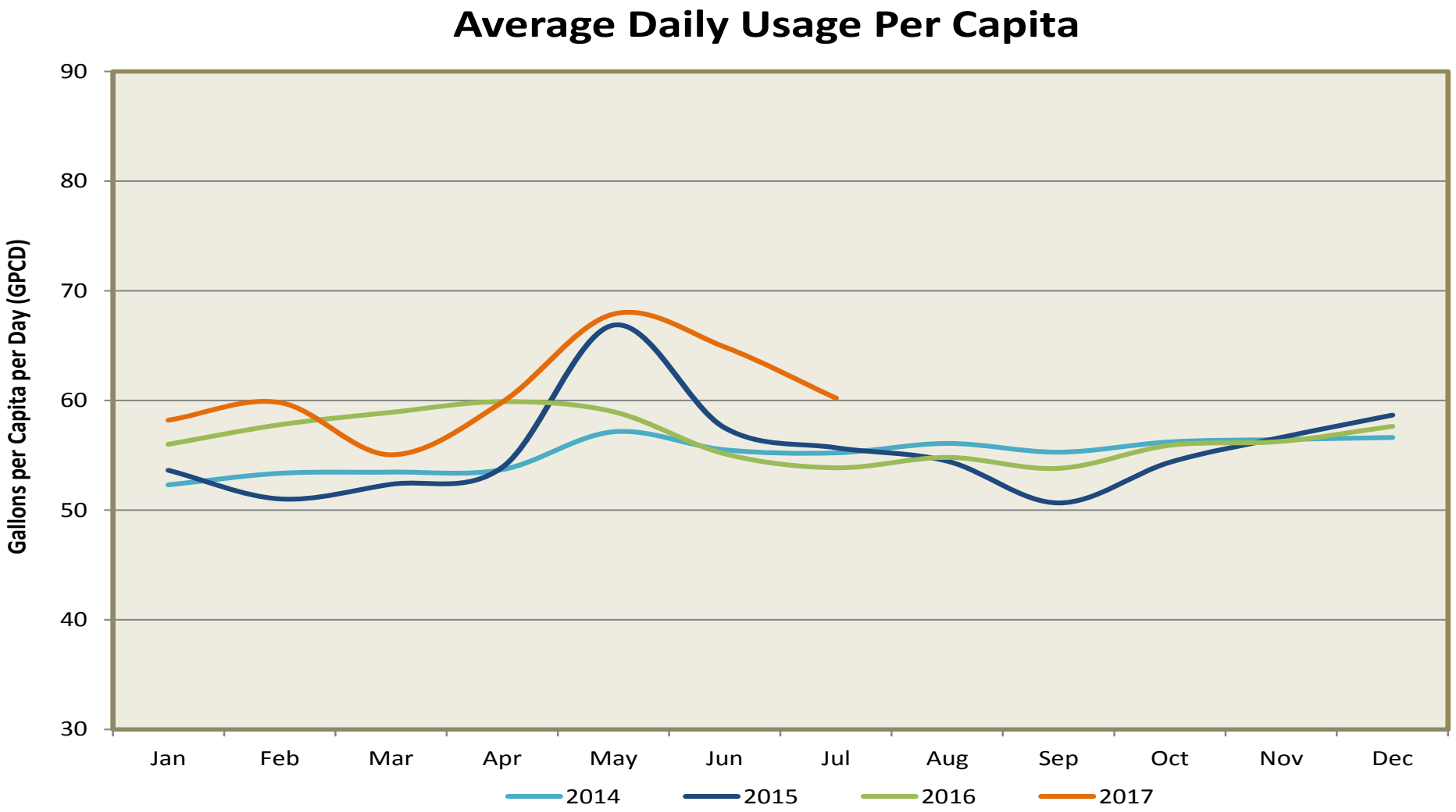
Annual Daily average flow: **2014** - 1.3 million gallons **2015** - 1.3 million gallons **2016** - 1.5 million gallons

January 2014 had the lowest average flow of 1.12 million gallons. May 2017 set a high average monthly flow of 1.60 million gallons per day, triggered by snowmelt and subsequent inflow into the collection system. Daily inflows in July have continued to drop with low precipitation and dropping ground water levels. The recent plant expansion which was substantially complete as of July 27, staff will work with the design engineer to apply for a new permit with a flow limit of 1.95 MGD.

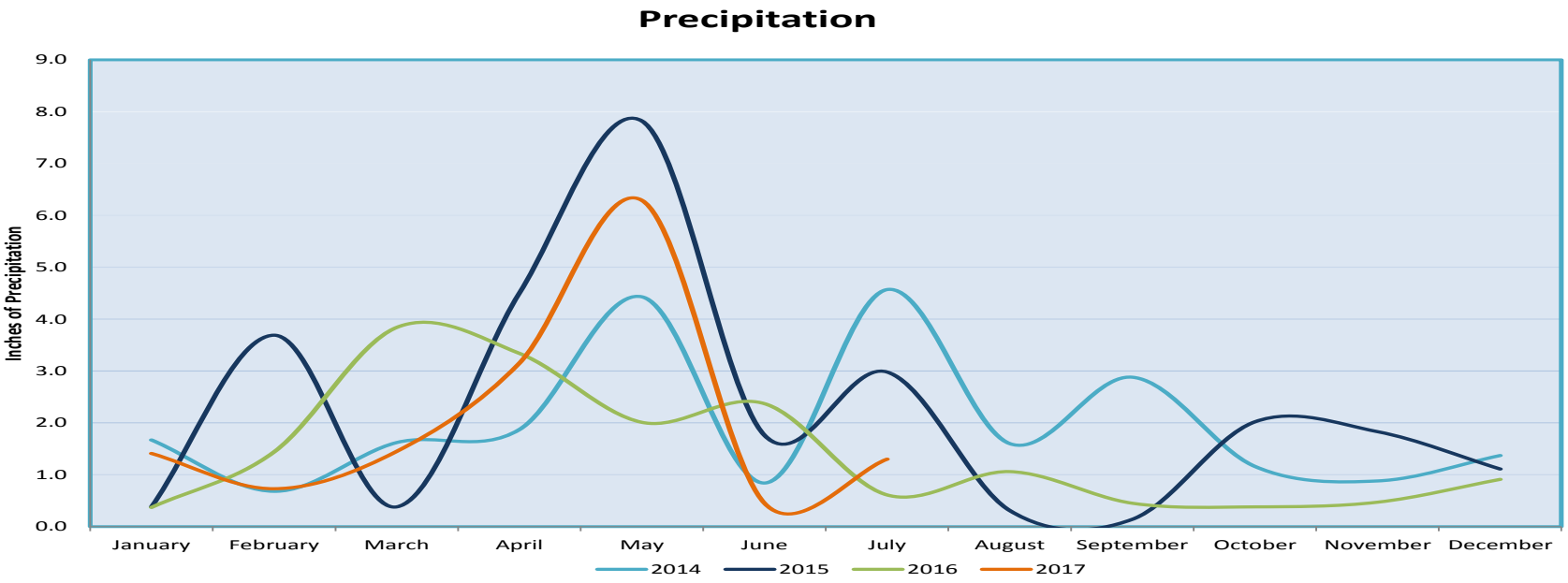


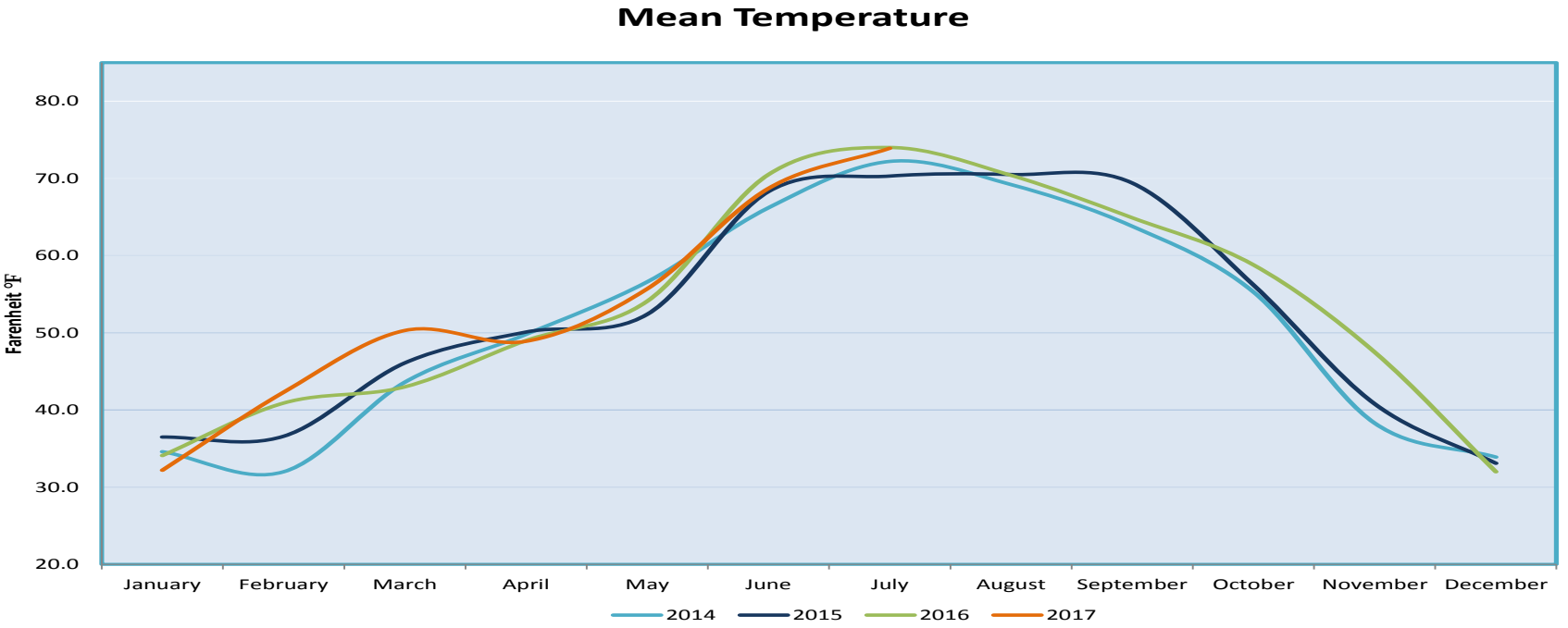
Annual Daily Gallons Per Capita per Day (GPCD): **2014** - 62 GPCD **2015** - 56 GPCD **2016** - 64 GPCD

This graph depicts customer indoor water usage. May 2017 had the highest usage at 68 gallons, while February and September 2015 had the lowest usage at 51 gallons. Overall flows into the wastewater treatment plant are trending slightly upward over this period. Increased population appears to be offset by more efficient water use indoors, and possibly new homes with water saving appliances and fixtures. Worth noting again is the effect of precipitation in May of 2015 and 2016. Late summer, with relatively little precipitation, is a good indicator of true daily usage.



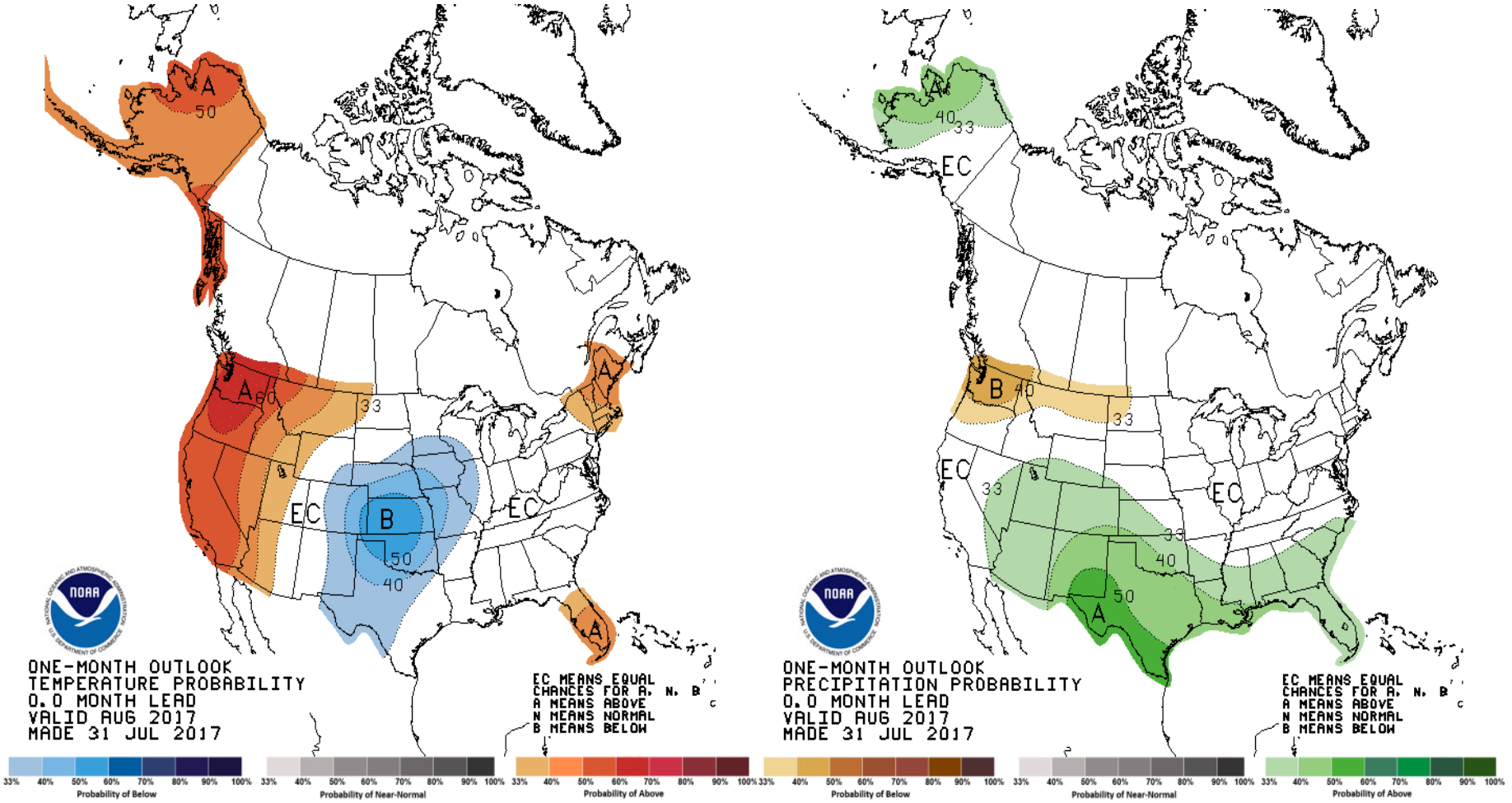
Monthly Data for Boulder – National Oceanic and Atmospheric Administration (NOAA)





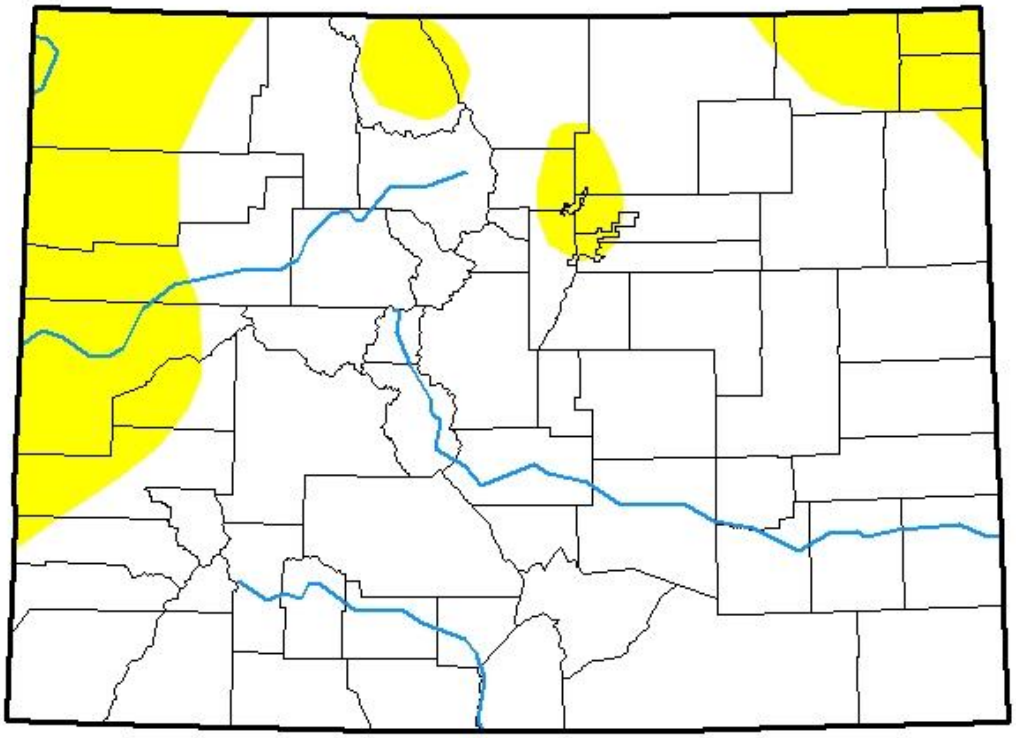
1 Month Weather Forcasts – NOAA

NOAA is predicting a 33% chance of below normal temperatures for Colorado in August, a strong shift from predictions of a 33% chance of above normal temperatures just over a week ago. NOAA continues to predict a 33% chance of above normal precipitation. The drought monitor, as of August 8, shows prior dry conditions significantly subsiding.



U.S. Drought Monitor

Colorado



August 8, 2017

(Released Thursday, Aug. 10, 2017)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	82.69	17.31	0.00	0.00	0.00	0.00
Last Week *08-01-2017*	79.02	20.98	0.00	0.00	0.00	0.00
3 Months Ago *05-09-2017*	87.62	12.38	2.19	0.00	0.00	0.00
Start of Calendar Year *01-03-2017*	31.88	68.12	37.21	2.88	0.00	0.00
Start of Water Year *09-27-2016*	70.49	29.51	2.45	0.00	0.00	0.00
One Year Ago *08-09-2016*	73.34	26.66	0.38	0.00	0.00	0.00

Intensity:

- 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:

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National Drought Mitigation Center

http://droughtmonitor.unl.edu/