



DATE: August 1, 2019
 TO: Paul Gipps, CAO
 FROM: Allen Fillion, GM of Engineering & PW
 RE: Summer 2019 Water Supply Update #2

BACKGROUND:

An update on winter snowpack levels, current water reservoir storage levels and the CWK Drought Plan was provided to Council at the July 9th Council Meeting. The report discussed lower than normal snowpack levels in March and April with the impact on water reservoir levels being further complicated by an earlier than normal melt. Although reservoirs nearly all filled to full capacity, they were drawn upon much earlier than normal and levels dropped significantly throughout the month of June. Figure 1 below was provided in the report comparing current reservoir levels versus previous year's volumes.

FIGURE 1 – Total Reservoir Storage

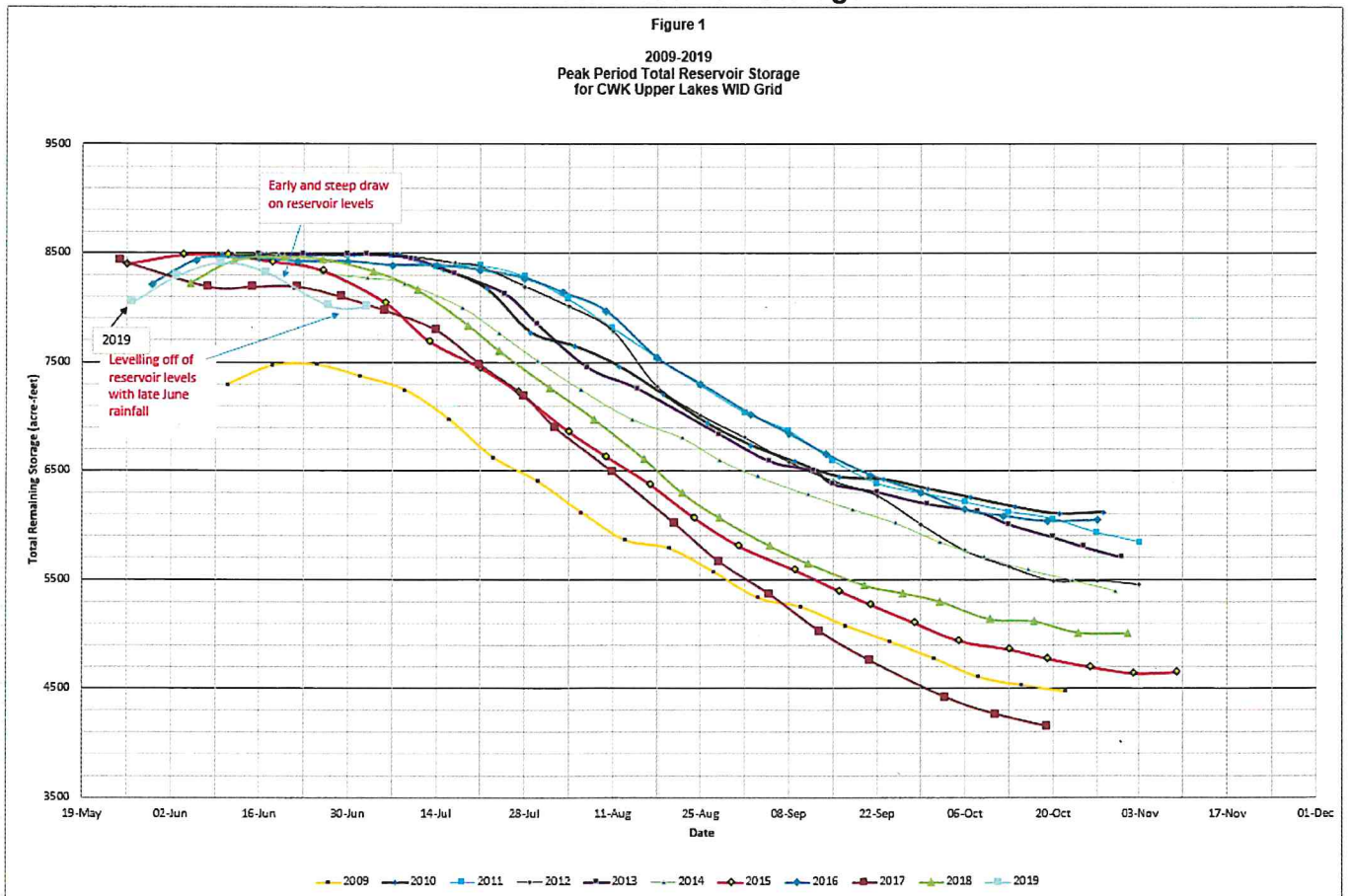
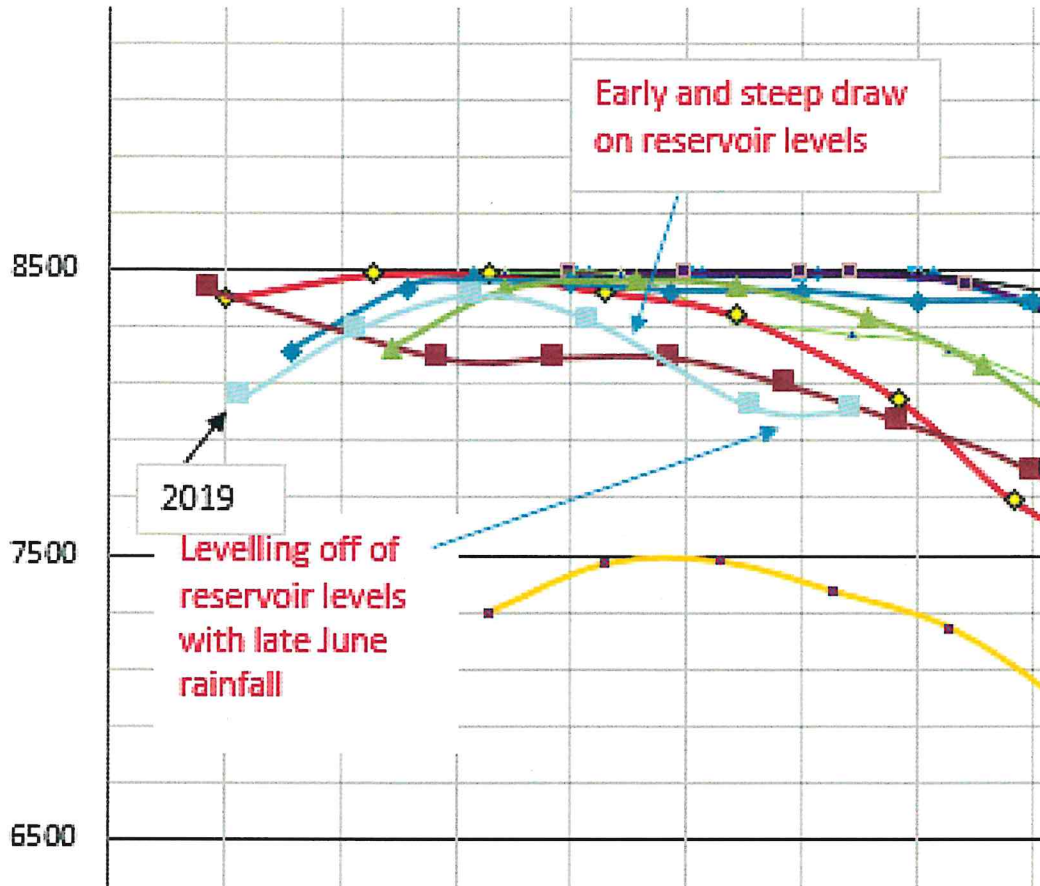


FIGURE 1 Blown Up



The graph highlights the steep drop in reservoir levels in early June resulting in the second lowest recorded storage levels in the last eleven years. The graph also highlights a levelling off of the storage levels associated with rainfall in last week of June.

The report also discussed the CWK Drought Plan and more specifically a Drought Response Decision Tree that was developed to guide decision making related to setting the appropriate level of watering restrictions. The intent is to ensure a science based and consistent approach to this critical decision making. The decision tree considers reservoir levels in the fall, the amount of fall precipitation, snowpack levels over the winter, information provided from the Province's River Forecast Centre, reservoir levels in May and June, and finally the anticipated demand heading into the summer months. Council was advised that the decision tree was leading towards Stage 2 watering restrictions being implemented however the recent rainfall had delayed the necessity and further rainfall in the forecast could further delay the necessity.

The purpose of this report is to provide an update on how reservoir storage levels have performed since July 4th, the time of writing of the previous report.

WATER SUPPLY UPDATE

July weather in the Okanagan was near normal conditions. Although the perception to many was that it was wetter and colder than normal the reality is that the last few years have been extremely dry and this year was a return to close to normal conditions that have not been seen since 2014. Rainfall in July in 2019 was 42.4 mm, slightly higher than the normal rainfall for July of 37.2 mm. 2018 saw only 9.4 mm and 2017 saw no rainfall at all. Hence the perception that this July was much wetter than normal.

Although the rainfall amount for July was near normal conditions, the impact on reservoir storage levels was substantial. The rainfall not only serves to replenish the reservoirs it also decreases the demand on the water system as less irrigation is required. The impact is therefore two fold. An updated graph of reservoir storage levels is provided in Figure 2.

The 2019 graph is unique in comparison to the other graphs dating back to 2009. Typically once July starts the reservoirs decline at a rate proportional to the demand. Never before have we seen the graph actually climb back up once this initial decline has begun. In 2019, not only did the graph begin to climb, reservoirs replenished to near full levels by mid July, thus negating the impact of the early spring melt.

FIGURE 2 – Total Reservoir Storage Updated

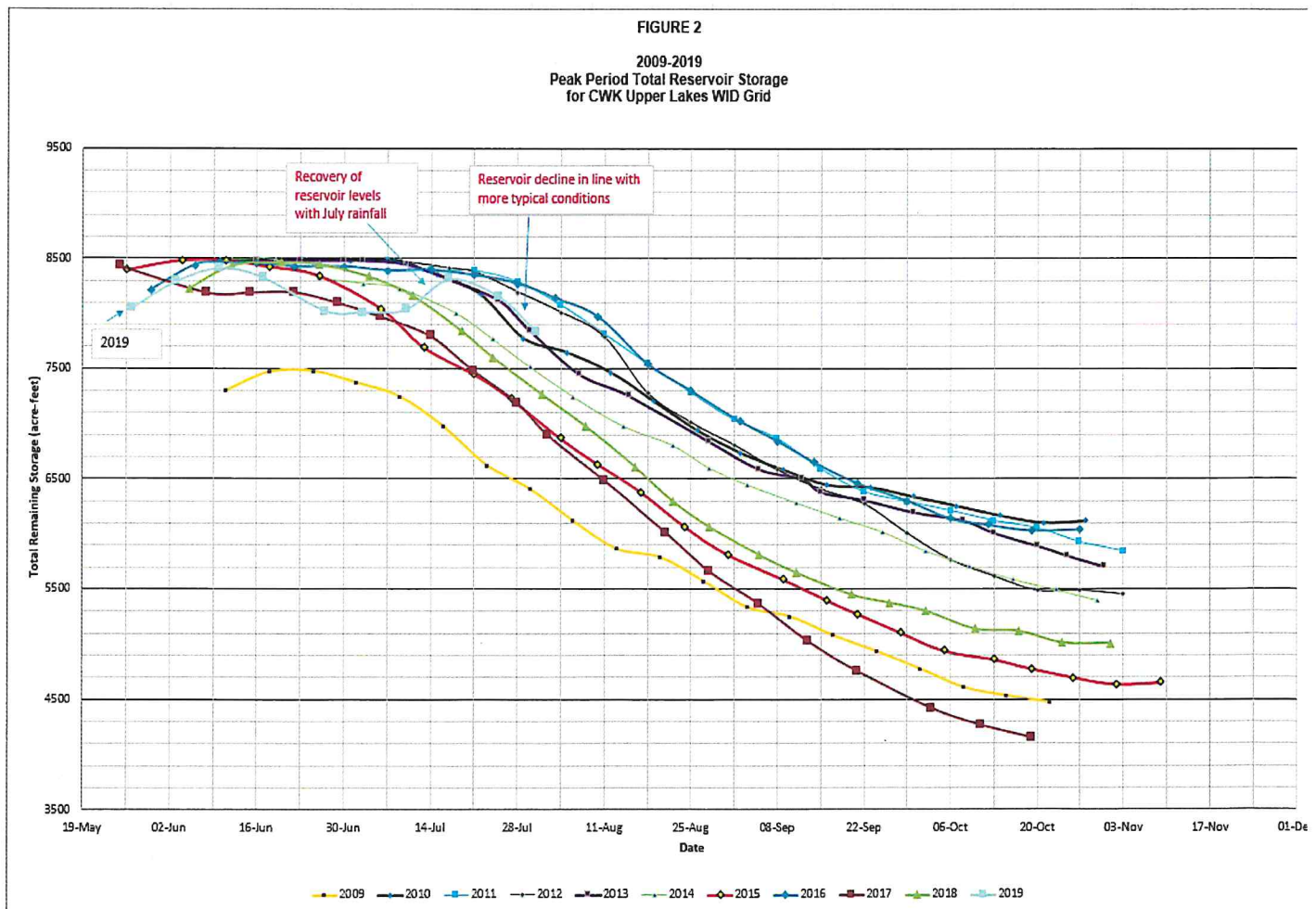
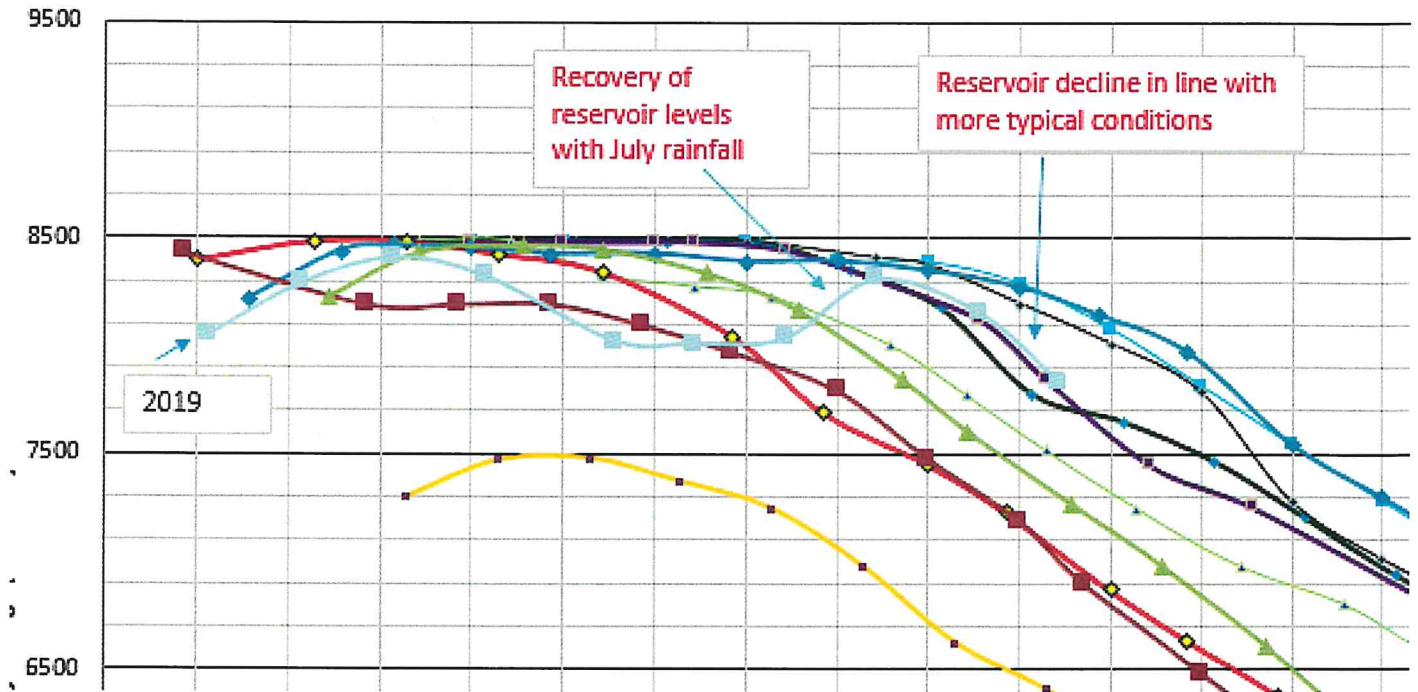


FIGURE 2 Blown Up



Given the significant impact of the rainfall over the month of July there is no need to advance to Stage 2 watering restrictions.

Staff will continue to monitor the water reservoir levels closely and take weekly readings as per standard operating procedures.

Allen Fillion
GM of Engineering & PW

Powerpoint: Yes No

Approved for Agenda

Paul Gipps, CAO
AUG 7, 2019
Date