



INFORMATION ONLY COUNCIL REPORT

To: Paul Gipps, CAO

Date: July 27, 2021

From: Allen Fillion, Director of Engineering & PW

File No: 5600

Subject: **Water Supply Update, July 2021**

BACKGROUND

On July 20, 2021, the City of West Kelowna initiated Stage 2 water restrictions for utility customers. This will help reduce demand during drought conditions in order protect available water supply. West Kelowna has experienced extreme weather in the past two months that has placed a strain on our water resources.

Drought is affecting much of British Columbia, including many parts of the Southern and Central Interior. Extreme heat conditions in late June and early July have placed great demands on our water resources. British Columbia ranks drought levels from zero to five, with Drought Level 5 rated as the most severe with adverse impacts to socio-economic or ecosystem values being almost certain. The Okanagan is currently at Drought Level 3. Drought Level 3 is summarized as severely dry conditions with adverse impacts to socio-economic or ecosystem values being possible and local water restrictions are likely.

WATER SUPPLY UPDATE

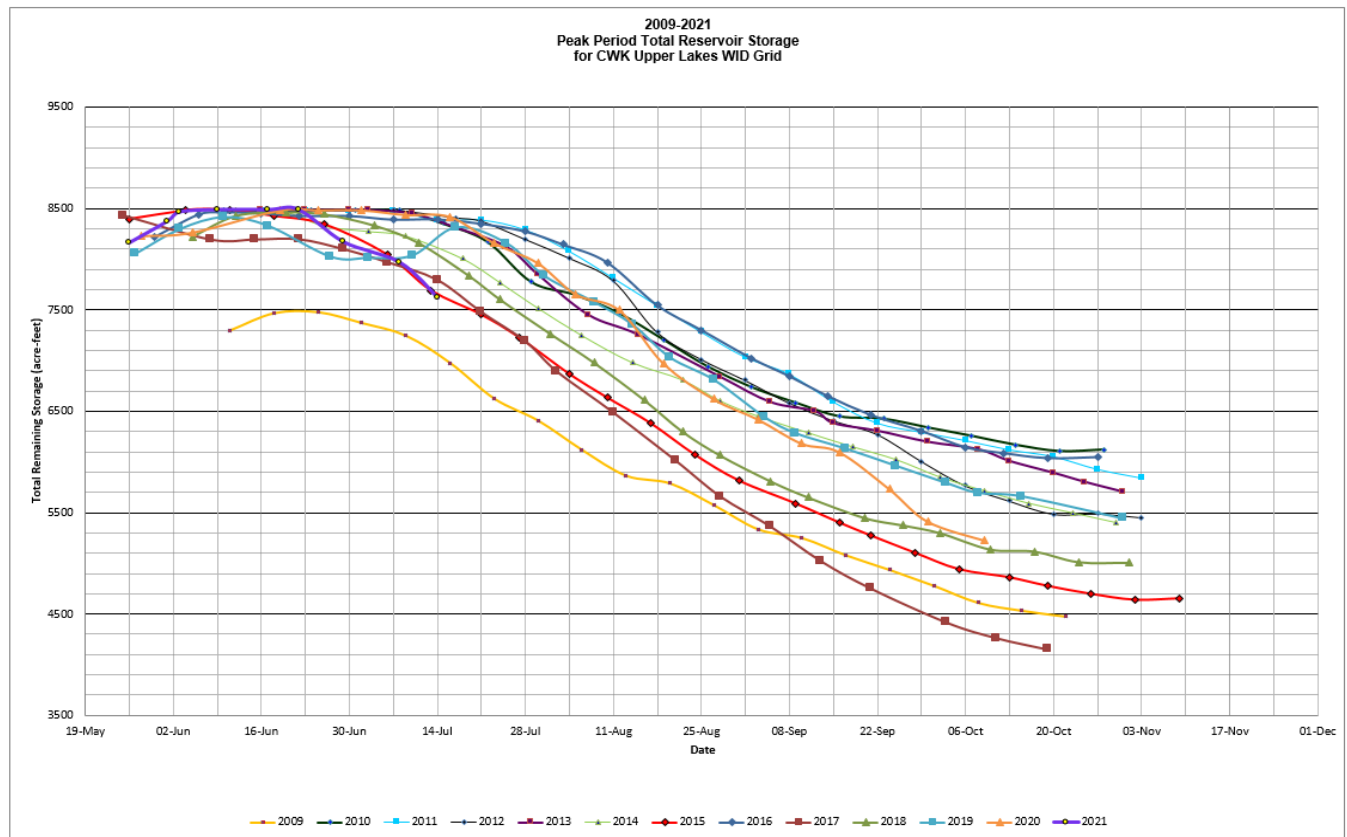
Adequate snowpack is a key contributor to ensuring our water storage reservoirs are able to fill in the spring. Full reservoirs in the spring ensures adequate water supply throughout the typically warm and dry summer months and into the fall without drawing our reservoirs down too low and compromising the ability to refill them for the following year. The main risk with our reservoir levels is subsequent drought years and hence the importance of always being able to refill our reservoirs over the winter and spring.

This past fall our reservoir levels were drawn down to levels slightly below average, however, over the winter we experienced mostly above or near normal snow pack levels. As such, our upland reservoirs were able to fill completely and reach spilling levels this spring. As of June 22nd our reservoirs were full and spilling, however, the extreme weather in the weeks that followed placed a strain on our water resources.

Figure 1 below (and attached) shows Total Reservoir Storage for the Powers Creek system for the last 13 years. The data shows that the current year remaining storage is somewhat consistent with previous years in which we were unable to fully replenish our reservoirs. The steep drop in the curve after June 22nd represents the intense demand

placed on our water supply system. The extreme temperatures and lack of precipitation have quickly negated the benefit of being able to reach full reservoir levels.

FIGURE 1 – Total Reservoir Storage



The current trend is similar to conditions in 2015 which is the last time the City of West Kelowna (CWK) necessitated elevating watering restrictions to Stage 2.

DROUGHT PLANNING

Drought occurs naturally in the Okanagan and hence the Province and the Okanagan Basin Water Board (OBWB) are encouraging communities to conserve water and to have current drought plans in place. The City of West Kelowna Drought Plan was updated in 2019 in conjunction with the OBWB and Provincial initiatives on drought planning.

A key output of the plan is 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. Attachment No. 2 (Drought Response Decision Tree) shows an example of the matrix considered for current conditions.

Drought planning is a continuous process for City staff. The conditions last fall were slightly below normal. Staff have been monitoring storage levels and re-evaluating our storage requirements on a weekly basis since May and as mentioned above, the winter and spring conditions allowed us to fill all of our reservoirs and put us in a good position entering the summer. Prolonged hot and dry weather however has drastically impacted storage levels and puts us in a position to require Stage 2 watering restrictions. The long range forecast predicts hot and dry conditions to persist.

MANAGING WATER SUPPLY

Given the changes in weather patterns and with a focus on planning for the future it is imperative to continually focus on water conservation and education around the importance of water as a resource. Watering Regulations are one tool available to help manage water demand. The current City regulations are as such:

General Rules for Stages 1 to 3

- Hand watering of all landscape plant materials and vegetable plantings, excluding lawns, is permitted, except during Stage 4.
- Sprinkling is never permitted between 11 a.m. and 6 p.m.
- Only one half-inch diameter outside tap may be used at any one time for sprinkling.
- Never use an open, free flowing pipe, outlet or hose for any watering.
- Properties equipped with automated sprinkler systems may only water between midnight and 6 a.m. on the days described below.
- Properties equipped with manually controlled sprinkling systems, including those attached to outside taps, may only water from 6 a.m. to 11 a.m. or 6 p.m. to midnight on the days described below.

Stage 1

- Even numbered addresses may only water on even calendar days.
- Odd numbered addresses may only water on odd calendar days.

Stage 2

- Even numbered addresses may only water on Saturdays and Tuesdays.
- Odd numbered addresses may only water on Sundays and Wednesdays.

Stage 3

- Even numbered addresses may only water on Saturdays.
- Odd numbered addresses may only water on Sundays.
- No filling of swimming pools, hot tubs, garden ponds or decorative fountains is permitted.
- No washing of vehicles, boats, bikes - motorized or otherwise, RVs or ATVs is allowed.

- No washing of sidewalks, driveways, patios, or eaves can occur.

Stage 4

- No watering is permitted outdoors for any purpose.

COMMUNICATIONS CONSIDERATIONS

Subsequent to the announcement of the Stage 2 water restrictions on Tuesday, July 20, ongoing communication to water utility customers will occur throughout the summer in efforts to avoid moving to higher stages of water restrictions.

The information provided to residents will focus on delivering the message of the importance of using water wisely. Water conservation offers a number of benefits including:

- Environmental benefits: less water could be removed from the environment for human purposes;
- Competing beneficial uses: more water could be available for competing beneficial uses such as agriculture, or recreation;
- Stewardship: utilities that conserve water demonstrate leadership in resource management;
- Operations and maintenance cost savings by reducing the volume of water treated (further highlighted as we move towards full treatment for all systems);
- Future cost savings through deferral of capital investment as a result of population growth and expansion.

Staff will prepare a mix of print, electronic and community relations to raise awareness of water restrictions and encourage using water wisely.

Print	Electronic	Community relations
News release - July 20, 2021 – Stage 2 water restrictions Additional PSAs - mid-August - thank you WK	Water conservation webpage - Tips - Stages 1 - 4 - Highlight on City homepage - Rotating banner on homepage	Spread the word - Send updates to residents associations - Share with GWBOT
Newspaper advertising - Local papers (2 ads)	Social media post/stories to City channels Repost/share Make Water Work campaign - Coincide with PSAs - Share Make Water Works messaging as they become available	Frontline staff - Q&A to support inquiries
	Social media boosted posts - Launch, mid point and last call - Facebook	Electronic Message Board - Rotate electronic message boards throughout the community
Send e-news to 4,000 subscribers		

The City supports the OBWB's Waterwise Program by sharing of regional updates through City channels and preparation of annual videos hosted by Mayors to help with efforts for the "Make Water Work" campaign. This initiative aims primarily to educate residents of the Okanagan Valley about water issues in our region. This includes promoting water conservation and protecting water quality. There are also tips on how to conserve water in the home, yard and business.

The OBWB's Make Water Work program encourages residents to take the pledge by visiting makewaterwork.ca/pledge.

The City's website also has a number of tips for conserving water inside and outside the house, stages of water restrictions and more, which be found at westkelownacity.ca/water.

CONCLUSION

With unprecedented heat and lack of precipitation, water conservation is everyone's responsibility. Residential, agricultural and industrial water users in areas affected by drought should observe all water conservation bylaws, watering restrictions and advice from their local government, irrigation district or water utility.

Irrigators, water licensees and water users in watersheds experiencing water scarcity should prepare and plan in case additional targeted local water restrictions or provincial temporary protection orders under the *Water Sustainability Act* are required as the summer progresses.

REVIEWED BY

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APPROVED FOR THE AGENDA BY

Paul Gipps, CAO

PowerPoint: Yes ☐ No ☒

Attachments:

1. Total Reservoir Storage
2. Drought Response Decision Tree