

COMMITTEE REPORT



Date: May 9, 2024
To: Agricultural Advisory Committee
From: Utility Services
Subject: Referral – Agricultural Water Supply

Recommendation:

THAT the Agricultural Advisory Committee receives, for information, the report from Utility Services dated May 9, 2024, with respect to the status of anticipated non-potable water supplies for 2024;

AND THAT the Agricultural Advisory Committee provides the following input on balancing water conservation with agricultural and environmental needs;

AND FURTHER THAT the Agricultural Advisory Committee provides Council the following input on the impacts of current drought conditions on Kelowna’s agricultural community.

Purpose:

To provide input on the impacts of drought on Kelowna’s agricultural community and any additional measures that can be taken to balance water conservation with agricultural and environmental needs.

Background:

On Monday, April 22nd, 2024, Utility Services provided a report to Council (See attachment) outlining staff’s concerns of potential water supply concerns in the City, particularly potential shortages in the Non-Potable supply from lack of runoff this spring to McCulloch Reservoir from the uplands watershed. Council passed the following resolutions:

THAT due to drought conditions leading to an anticipated shortage in supply of water in the Non-Potable water system, Council declare Stage 1 Water Use Restrictions be in effect for all water customers of the Kelowna Water Utility;

AND FURTHER THAT Council declare that Agricultural Customers of the Kelowna Water Utility cannot exceed their annual Allotment in 2024; and that the City may shut off water services in the event that Customers exceed their Allotment;

AND FURTHER THAT Council direct staff to request the Council Agricultural Advisory Committee to provide input on the impacts of current drought conditions on Kelowna’s agricultural community and any additional measures that can be taken to balance water conservation with agricultural and environmental needs.

The McCulloch Watershed is the only supply of water for agricultural irrigation and use in southeast Kelowna, and provides fire protection year-round. Precipitation levels over the winter have been below normal, whether snow or rainfall. Snowpack measurements in 3 snow pillows at elevations below 1,550 metres are now at zero. This early decline has resulted in reduced capacity for supplementing our supply at the Hydraulic Creek Intake, leading to earlier use of storage. This conservative outlook assumes that significant spring rainfalls do not materialize, and that drier conditions prevail. On a positive note, current weather patterns remain cool with some rain and snow.

As of May 1, 2024, McCulloch Reservoir is rising as runoff accumulates and sits at 10,500 ML. This again is positive, although water supply concerns remain until it reaches full pool. At this time, we continue to predict it will not fill, but this will be re-evaluated in the future. Table 1 provides the latest relevant local data for snow and upland storage levels.

Table 1. Select lake level, creek flow and climate measurements (to May 1, 2024)

	Readings			Comment
	May 1/24	April 1/24	Normal (May 1)	
McCulloch Reservoir	10,500 ML	8,530 ML	9,300 ML	Maximum = 16,650 ML
<u>Snow Pillows</u>				(Snow-Water Equivalent)
Mission Creek (1780 m)	440	391 mm	530 mm	82% of normal
Greyback (1550 m)	0	151 mm	159 mm	Complete.
Oyama Lake (1360 m)	0	100 mm	0 mm	Complete.
Brenda Mines (1460 m)	0	172 mm	127 mm	Complete

- Notes: m = metres; mm = millimetres; m³/s = cubic metres per second; ML = 1 million litres or 1 megalitre; ML/yr = megalitres per year.

Environmental Flow Needs (EFN) and Critical Flow Needs

The City is required to release a minimum flow of 31 litres per second daily at the Hydraulic Creek Intake. This flow is the City's obligation to the Mission Creek Water Use Plan in use since 2010, which assures minimum flows and releases in Mission Creek for fish passage and spawning. The Black Mountain Irrigation District also delivers water from their storage according to this Water Use Plan.

From an operational perspective, City staff monitor runoff levels from the lower watershed below McCulloch Reservoir. As lower watershed flows subside, staff then modulate releases from McCulloch to assure the minimum EFN at the intake. In 2023, the City met its EFN obligations to Mission Creek during a challenging Level 5 drought on Mission Creek.

Discussion:

In 2023, there were 406 farms and approximately 200 small non-farm services receiving non-potable water from the Utility for irrigation, stock watering and landscape use. 69 of these farm services (17% of

customers) exceeded their allotment of 685mm on their property. This is double what we normally see. The City has allowed allotment exceedances since the City took over operation of SEKID.

With allotments capped at 685mm for 2024, the City anticipates a savings of 5.6 percent of total storage from 2023. This will help ensure that all water users can reliably access their water allotment in 2024.

City Actions

To draw attention to the drought conditions and direct users to the importance of conservation to the City, the following actions have been taken:

1. Invoked clause 8.3.2. (b) of the water regulation bylaw by having Council declare that customers cannot exceed their Allotment and giving staff the power to shut off irrigation services if customers exceed their Allotment.
2. Declared Stage 1 water restrictions for all City of Kelowna water utility customers. This includes all users of both the potable and non-potable water systems.
3. Offered by letter to 34 agricultural service property owners that significantly exceed their allotment in 2023 to provide free irrigation assessments and a report to these properties to help them identify and plan for any improvements that may help reduce water consumption or improve irrigation efficiency. This service will be made available for any of the 70 properties that exceeded their 2023 allotment. As of May 1, only one property has signed up for this valuable service.
4. Reached out to City Parks staff requesting, as part of Stage 1 water restrictions, a goal of reducing irrigation consumption by 10 percent.

Conclusion:

For the non-potable supply, staff are anticipating a challenging year in 2024. As of May 1, 2024, staff are prepared for McCulloch reservoir not filling based on available measurement and detailed climate projections. Council have been advised, for now, that staff are not confident that there is enough water to supply normal agricultural and environmental practices expected by our customers for 2024.

It is Council's expectation that the agricultural community is better served by understanding these limitations early in the growing season and allowing for any private adjustments to be accommodated. Council is interested in hearing input on the impact of drought on agricultural irrigation and what other opportunities might be available to balance conservation, agricultural and environmental flow needs.

Report prepared by: Rod MacLean, Utility Planning Manager

Reviewed by: Kevin Van Vliet, Utility Services Manager

Dean Strachan, Community Planning and Development Manager

Approved for Inclusion: Nola Kilmartin, Development Planning Department Manager

Attachments:

Report to Council from Utility Services dated April 22, 2024: Potable and Non-Potable Water System - Supply Status Update