

**DROUGHT MANAGEMENT WATER STATISTICS MONTHLY UPDATE**

**Issue**

In preparation for the 2024 outdoor watering season, the Drought Management Water Statistics Monthly Update is provided to Council for information.

**Motion Proposed by Administration**

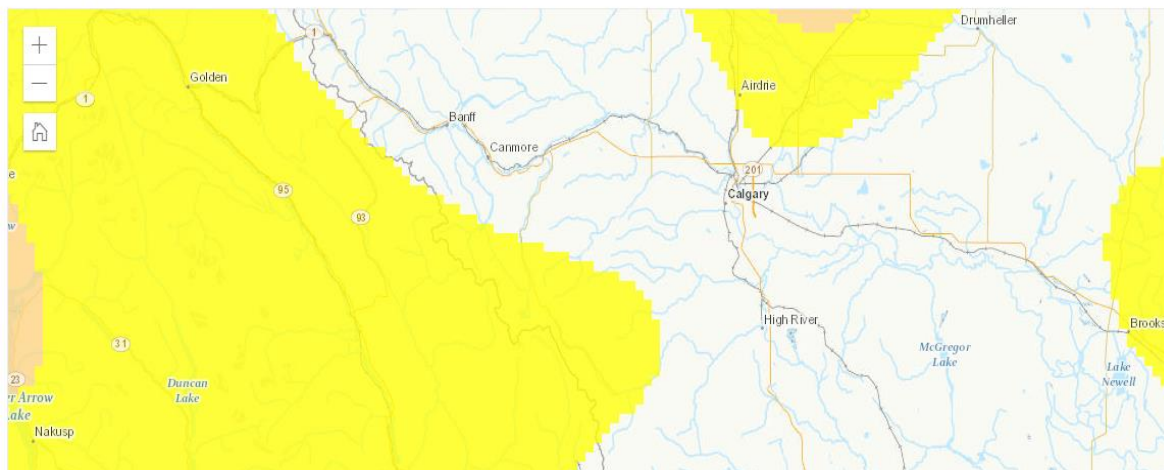
That the Drought Management Water Statistics Monthly Update for July 2024 be received as information.

**Report, Analysis and Financial Implications**

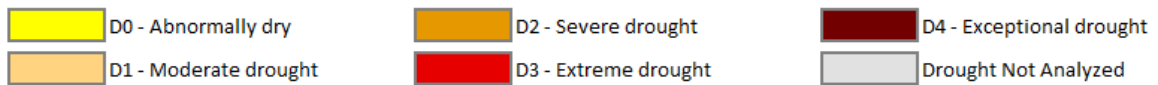
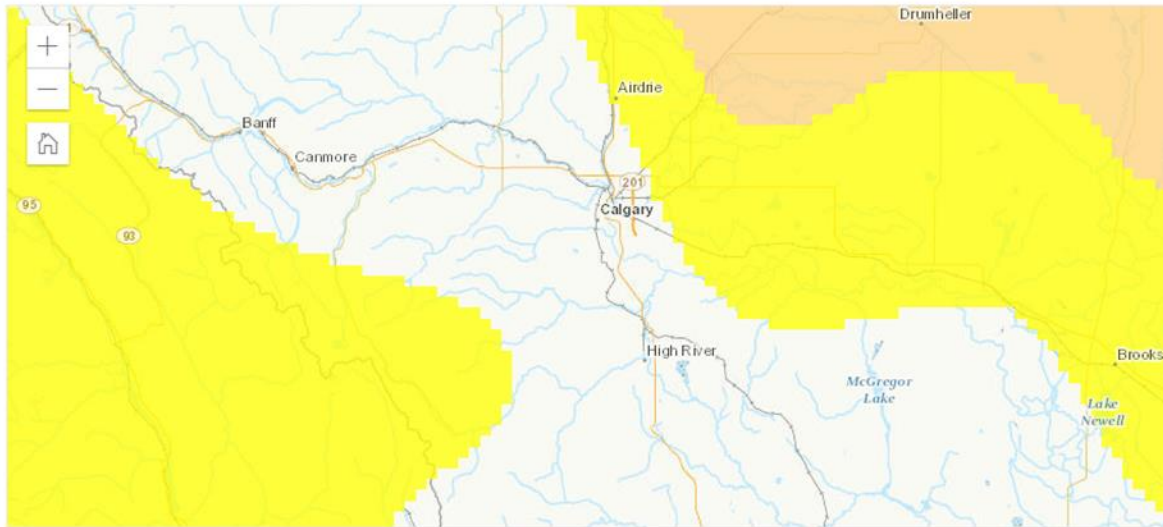
Monthly Drought Metrics	Result
Canadian Drought Monitor (Calgary region – drought conditions).	Drought not analyzed – drought conditions removed (as of June 30th, 2024). See Map #1 and notes below (May and June comparison).
Drought Outlook (for end of following month)	Conditions continue to improve. See Map #2 below.

Drought Map #1 – Two (2) months provided (May and June)

**Drought conditions as of June 30, 2024**



## Drought conditions as of May 31, 2024

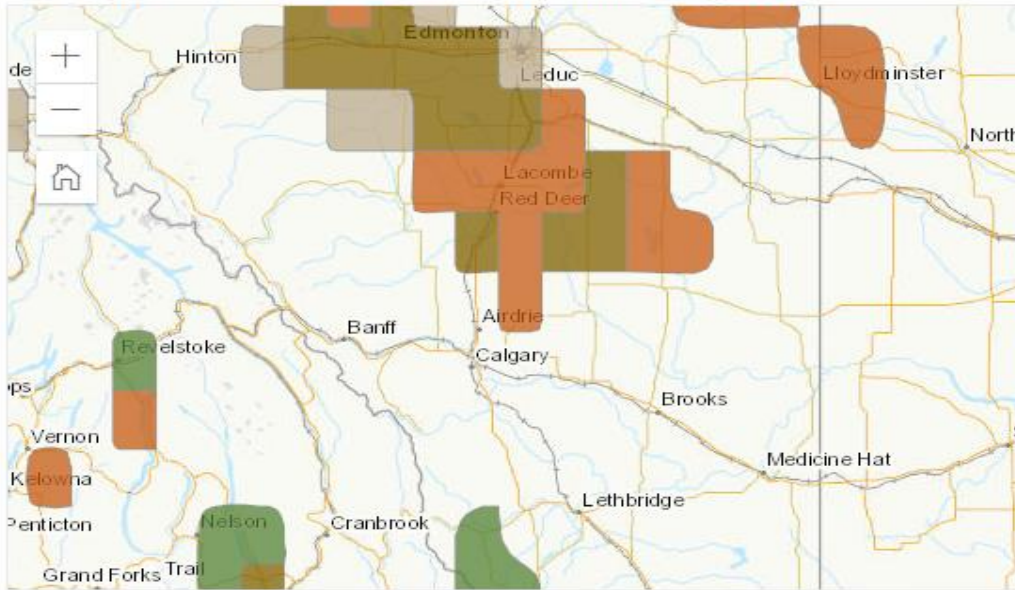


### June 2024 Drought Assessment

The Prairies received a significant amount of precipitation in June and the Calgary-Foothills region received near to above normal rainfall. Drought conditions remain at "Drought – Not Analyzed" for the Foothills area towards Calgary and have also improved in areas north and east of Calgary.

## Drought Map # 2

### Drought Outlook for end of the following month



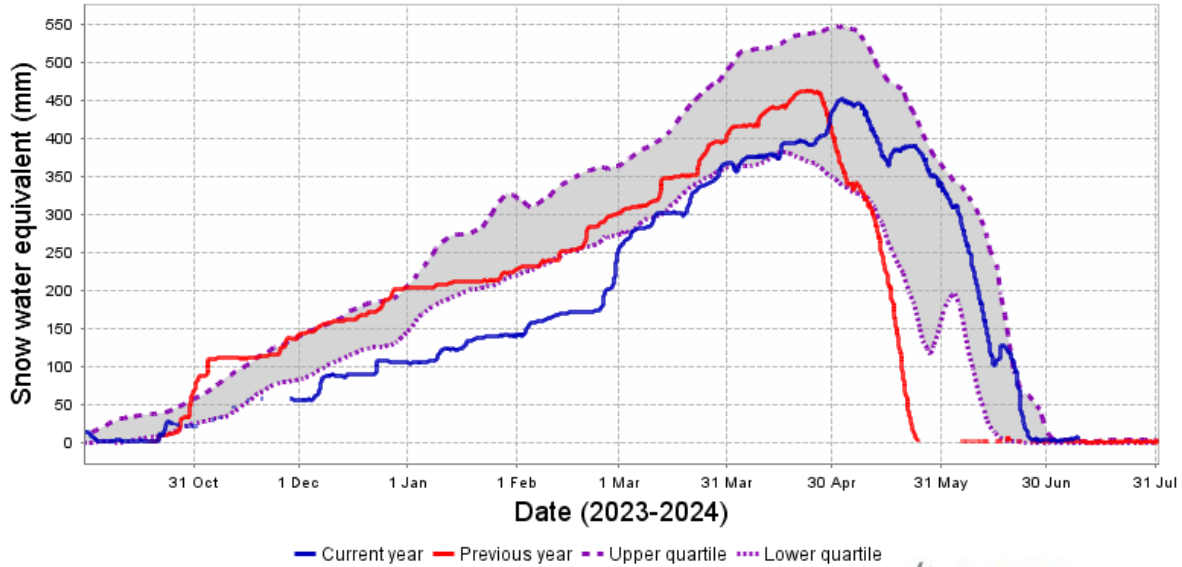
#### Legend for drought outlook:

- Drought Removal
- Drought Improves
- Drought Develops
- No change in drought
- Drought Worsens

Mountain Snowpack - Mount Odlum  
Monitoring Station

July 10th, 2024 – 5.7mm - mostly depleted.  
See graph below.

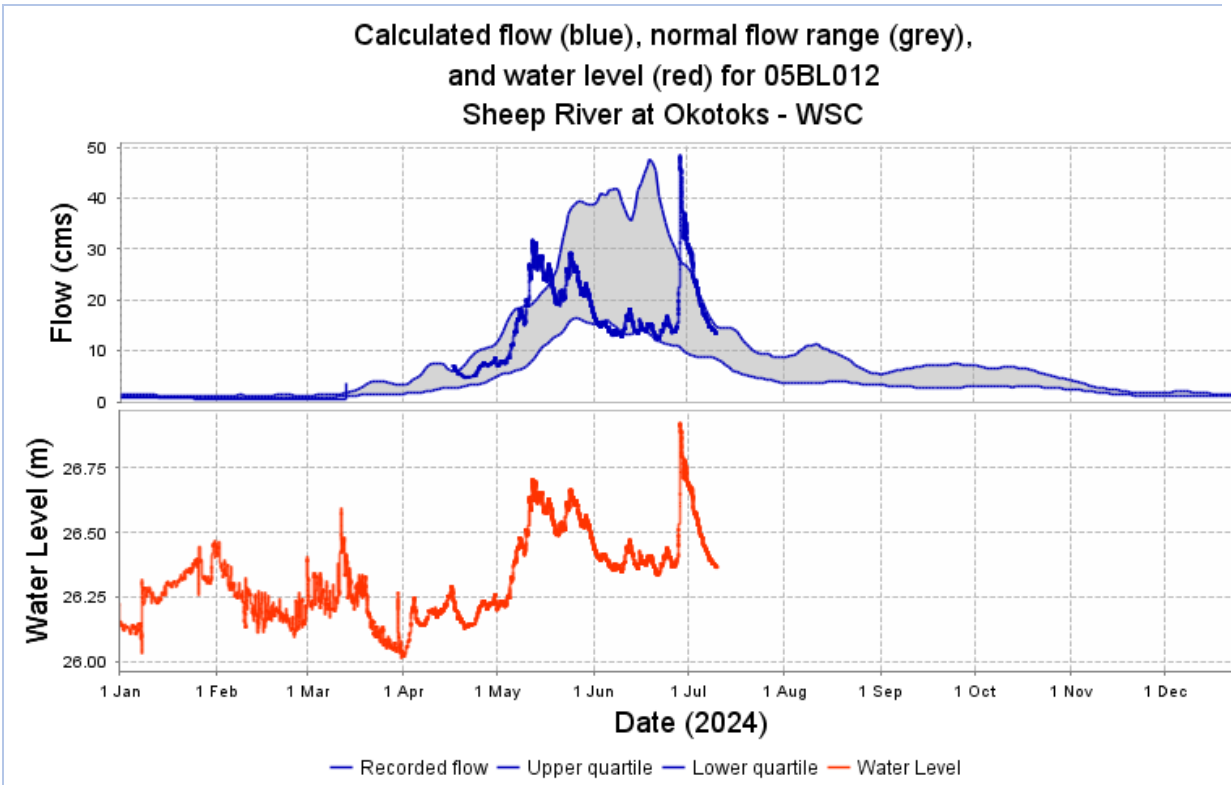
Snow water equivalent for the current year (blue),  
the previous year (red), and the normal range (grey)  
for station 05BL812  
Mount Odlum - EPA



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<p>Mountain runoff forecasts – Bow River Basin</p>	<p><u>Below average to average</u> for July to September period (currently slightly above average for Sheep River).</p>
<p>Sheep River flows (taken from Diamond Valley and Threepoint Creek flow stations).</p>	<p><u>River Flows as of July 10th, 2024:</u>  Combined Flow – 13.96 m<sup>3</sup>/sec  Instream Objective – 5.56 m<sup>3</sup>/sec  Note: ‘Combined Flow’ is Black Diamond + Threepoint Creek. <i>At present, there is no water shortage advisory issued for the Sheep River.</i></p>



Well Production Capacity vs Water Demand	Production Capacity: 11-12 MLD Water Demand: 7.4 – 9.4 MLD (week of July 2nd to 8th). <b>Note:</b> with forecasted hot temperatures, demand is expected to increase to above 10 MLD on watering days. <i>MLD = mega liters per day</i>
Reservoir Levels (as of May 8, 2024)	90-95% - normal operating levels (Stage 1 Water Conservation Schedule)

References

*Canadian Drought Monitor*  
Classification scheme

**Drought categories are based on precipitation percentiles that generally relate to the statistical return period.**

D0 - Abnormally Dry	1 in 3 year event
D1- Moderate Drought	1 in 5 year event
D2 - Severe Drought	1 in 10 year event
D3 - Extreme Drought	1 in 20 year event
D4 - Exceptional Drought	1 in 50 year event

<https://agriculture.canada.ca/en/agricultural-production/weather/canadian-drought-monitor>

### *Mountain Snowpack*

Measured in “snow water equivalent” (mm), compared with the historical average (% of historical average).

<https://rivers.alberta.ca/>

### *Mountain Runoff Forecasts*

Based on predicted stream flows for the period of March – September (2024).

<https://rivers.alberta.ca/>

### *Sheep River Flows*

Information relating to Sheep River flow rates (taken from Diamond Valley & Threepoint Creek flow stations). Includes any posted water advisories and instream objectives (during spring/summer months). Yearly flow graph provided for Okotoks flow monitoring station.

### *Well Production Capacity vs Water Demand*

Current total well production capacity (raw water supply) compared with water demand (treated water to distribution). Based on seven (7) day average, measured in mega litres per day (MLD). Total well production is influenced by groundwater levels (i.e. production increases or decreases with groundwater levels).

### *Reservoir Levels*

Operating levels across three main reservoirs: South Reservoir, Zone 2 North and Zone 3/4 North.

## **Strategic Plan Goals**

<input type="checkbox"/>	Responsibly Managed Growth	<input checked="" type="checkbox"/>	Demonstrated Environmental Leadership
<input type="checkbox"/>	Strong Local Economy	<input type="checkbox"/>	Enhanced Culture & Community Health
<input type="checkbox"/>	Organizational Excellence		

## **Equity/Diversity/Inclusivity Impacts and Strategy**

n/a

## **Environmental Impacts**

In the years 2022 to 2023, several river basins in Alberta faced critical water shortage conditions attributed to below-average precipitation, diminished snowpack, and elevated temperatures. These conditions have persisted into 2024, worsened by a robust El Niño winter forecast, anticipated above-normal temperatures, and minimal precipitation projections.

Alberta is currently in water shortage management stage 4 (out of 5). However, there continues to be improvements observed across the province, particularly in the Foothills area towards Calgary. Specific data on precipitation levels, temperature anomalies, and snowpack measurements can provide additional context for understanding the severity of the situation.

Concurrently, efforts to mitigate the impacts of the water shortage through conservation measures and sustainable water management practices are underway, with recommendations for individuals and communities to participate in water-saving initiatives.

**Community Engagement Strategy**

n/a

**Alternatives for Consideration**

n/a

**CAO Comments**

This monthly monitoring report captures the drought indicators to keep the community informed and guide decision making.

**Attachment(s)**

n/a

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July 10, 2024