Consent Agenda
April 22, 2024

DROUGHT MANAGEMENT WATER STATISTICS MONTHLY UPDATE – APRIL 2024

Issue

In preparation for the 2024 drought season, the Drought Management Report is provided monthly for Council's information.

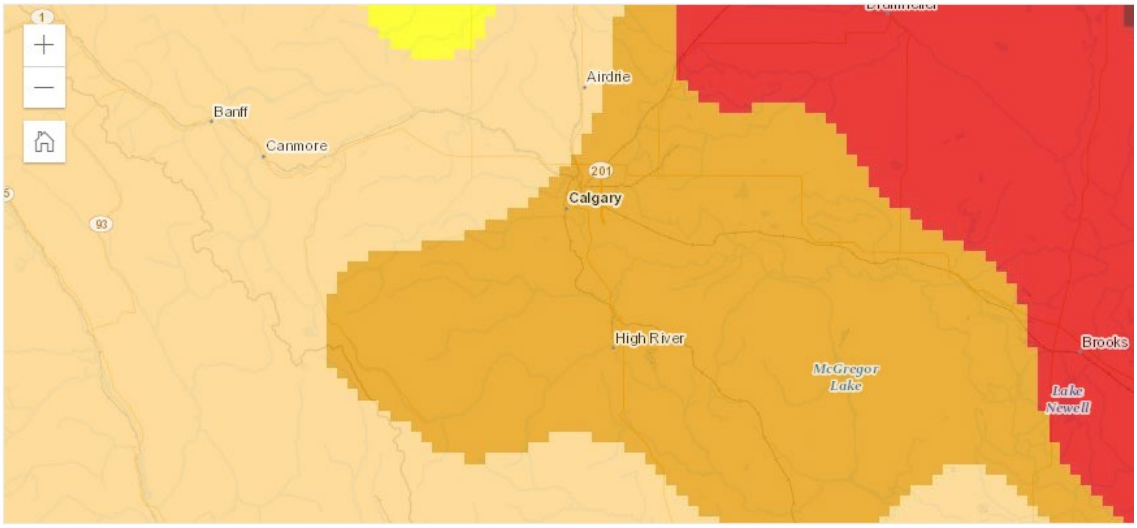
Motion Proposed by Administration

That the Drought Management Monthly Update for April 2024 be received as information.

Report, Analysis and Financial Implications

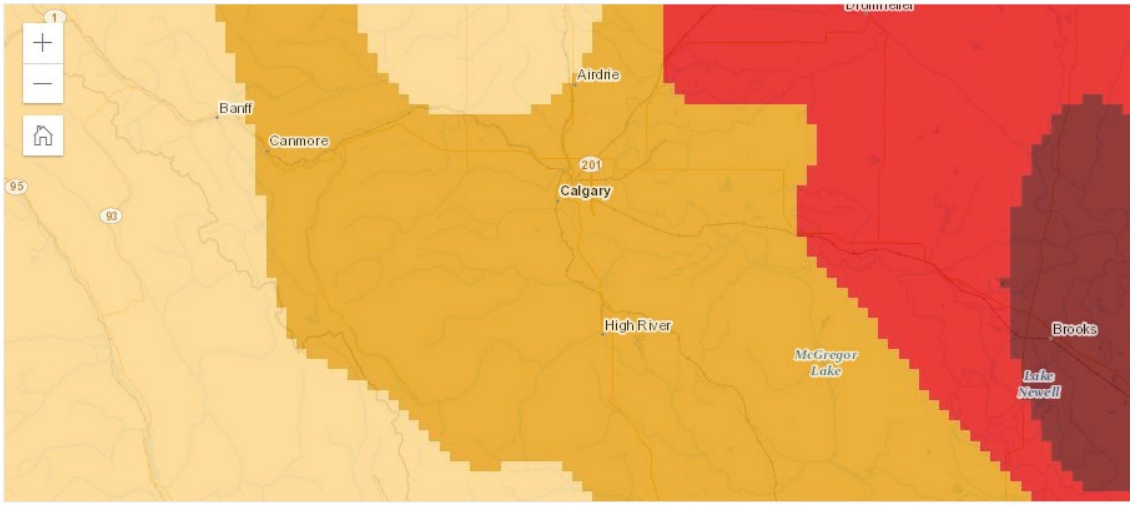
Monthly Drought Metrics	Result
Canadian Drought Monitor (Okotoks region – soil conditions)	D2 – Severe Drought (as of March 31st, 2024). See map 1 below (Feb/Mar comparison). Over the past month, drought conditions within the area have slightly improved.
Drought Outlook (for end of following month)	No change in drought but showing improvement in Southern Alberta (see Map # 2 below).
Drought Map # 1 – Two months provided (February and March)	

Drought conditions as of March 31, 2024



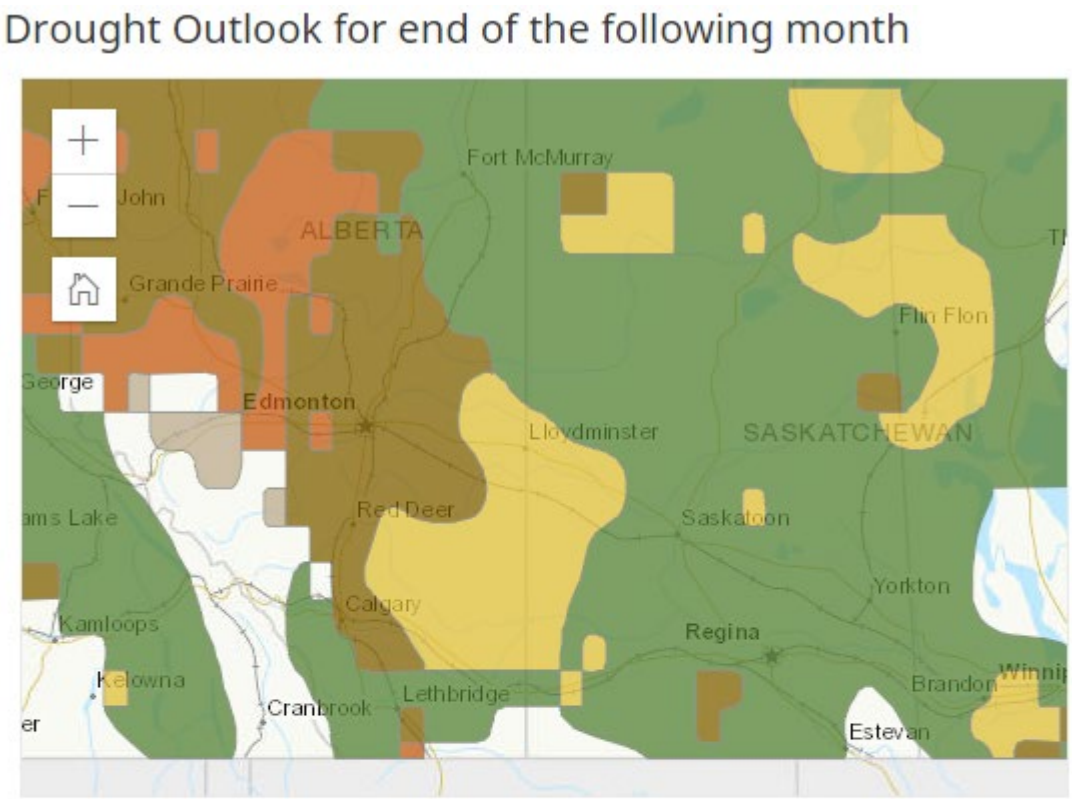
D0 - Abnormally dry
D1 - Moderate drought
D2 - Severe drought
D3 - Extreme drought
D4 - Exceptional drought
Drought Not Analyzed

Drought conditions as of February 29, 2024

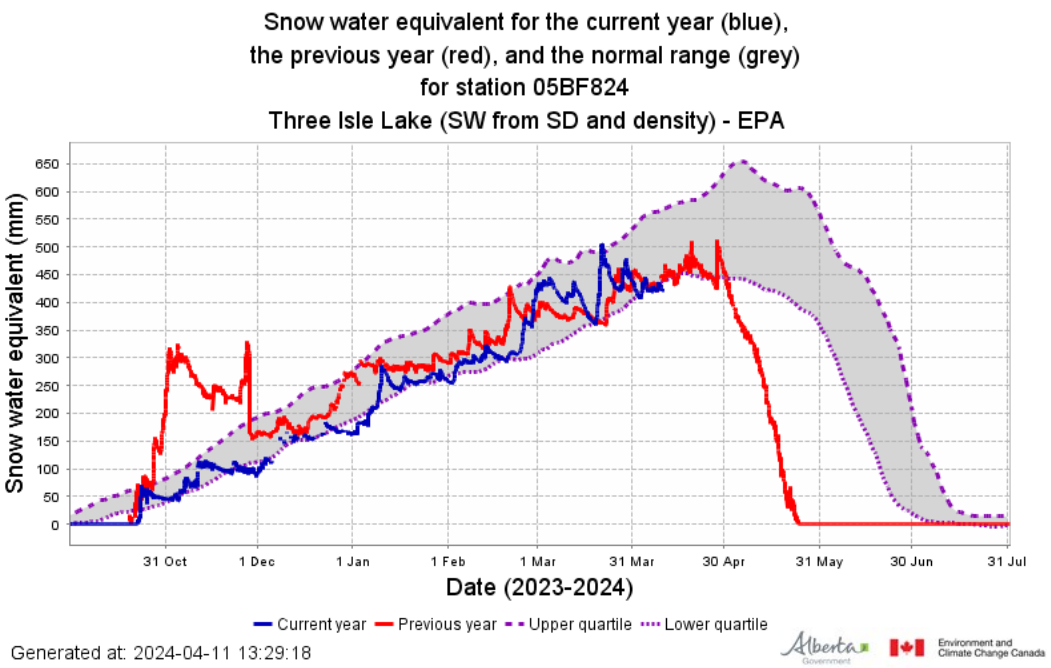


D0 - Abnormally dry
D1 - Moderate drought
D2 - Severe drought
D3 - Extreme drought
D4 - Exceptional drought
Drought Not Analyzed

Drought Map # 2



Mountain Snowpack - Mount Odlum Monitoring Station	April 11th – **421mm** (84% of historical average; increase from 83% on March 4th). See graph below.



Mountain runoff forecasts – Bow River Basin	Much below average to below average for the March to September 2024 period
Sheep River flows (taken from Diamond Valley and Threepoint Creek flow stations)	**Water Shortage Advisory - Low Flow Condition** Combined Flow – n/a Instream Objective – n/a **Note: River flow monitoring currently not available**
Well Production Capacity vs Water Demand	Production Capacity: **10 - 11 MLD** Water Demand: **6.6 – 7.6 MLD** (week of Apr 4th – 11th)
Reservoir Levels (as of April 11th, 2024)	**90-95%**

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).

Well Production Capacity vs Water Demand
Current total well production capacity (raw water supply) compared with water demand (treated water to distribution). Based on 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

☐	Responsibly Managed Growth
☐	Strong Local Economy
☐	Organizational Excellence

☐	Demonstrated Environmental Leadership
☐	Enhanced Culture & Community Health

Equity/Diversity/Inclusivity Impacts and Strategy
n/a

Environmental Impacts
In the years 2022-2023, several river basins in Alberta faced critical water shortage conditions attributed to below-average precipitation, diminished snowpack, and elevated temperatures. These conditions persist into 2024, exacerbated by a robust El Niño winter forecast, anticipated above-normal temperatures, and minimal precipitation projections. Alberta is presently in water shortage management stage 4 (out of 5), with the potential to escalate to stage 5 before spring/summer 2024 if conditions persist. 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.

Public Participation Strategy
n/a

Alternatives for Consideration
n/a

CAO Comments

Attachment(s)

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April 11, 2024