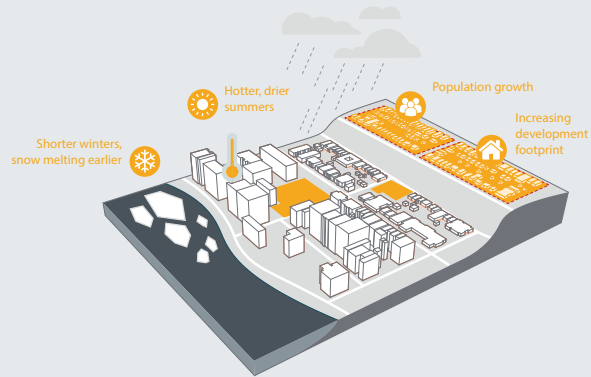


Executive Summary

Calgary is a drought city

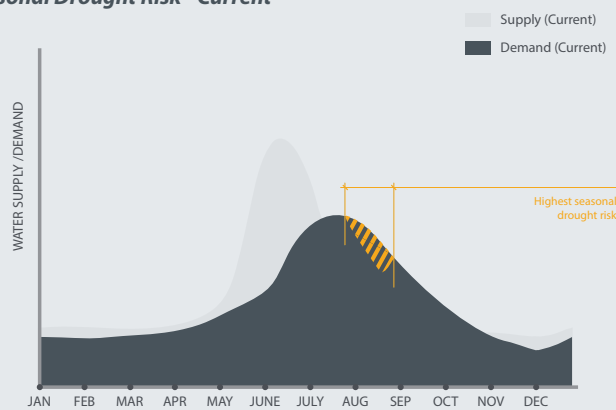
Calgary is located in an arid region of southern Alberta and depends on its river systems for access to water. Because these river systems experience variations in flow rate over the seasons and years, Calgary is vulnerable to seasonal dryness and multi-year drought. At least five major droughts have occurred in the Calgary region in the last century.



Droughts impact more than just the municipal water supply. They have wide-ranging ecological, economic and social consequences. These impacts can be difficult to trace because droughts can emerge gradually.

In Calgary, drought is defined as the condition when the water required for municipal supply, irrigation, and minimum environmental flows diminishes below City of Calgary drought triggers and supporting indicators. The City experiences peak precipitation in the early spring but has the most significant demands on its water supply in the summer. Drought risk is highest in this period where supply is low and demand is high.

Seasonal Drought Risk - Current



Calgary's commitment to drought resilience

The City of Calgary has made a commitment to drought resilience. Drought resilience means that people, ecosystems, and businesses are prepared to withstand and recover from the impacts of prolonged periods of dry conditions and water shortages.

In the face of increasing drought risk due to climate change, The City is committed to working toward a drought-resilient city for all Calgarians.

This is a shared commitment—drought resilience requires coordinated action from citizens, industry, and government, and purposeful relationships with neighbours and licence holders in the Bow River Basin. The City's commitment is captured in this Drought Resilience Plan. The Drought Resilience Plan is aligned with policy at the provincial, regional and municipal levels.

The Drought Resilience Plan builds on many years of work that have positioned Calgary well to become drought-resilient. Highlights from The City's journey include:

- 1980s to 90s** – Calgary initiates distribution leak detection and main replacement program, water meter incentive program and water conservation and education programs.
- 2002** – Mandatory water metering implemented through the Water Utility Bylaw.
- 2005** – City Council approves the Water Efficiency Plan.
- 2006** – The South Saskatchewan River Basin is closed to new water licences.
- 2016** – Calgary initiates seasonal drought response operations.
- 2020** – City Council approves the Water Security Framework: One Calgary, One Water.
- 2021** – Culmination of a two-year strategic planning process captured in the Drought Vulnerabilities, Risks and Mitigation Strategies report.
- 2022** – Engagement with the public and interested parties on drought plan completed.
- 2023** – Drought Resilience Plan is finalized.

Vulnerability and risk

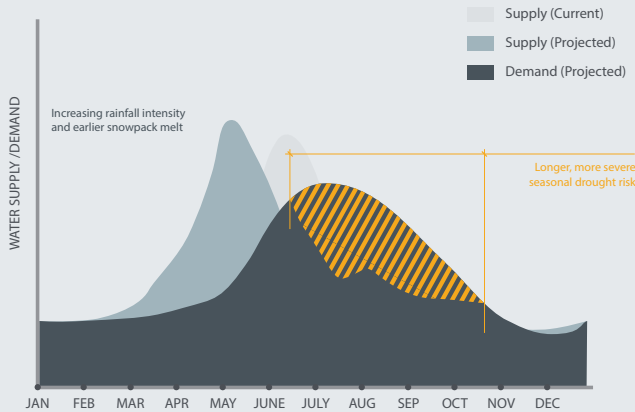
Calgary's current vulnerabilities were assessed in the 2021 Drought Vulnerabilities, Risks, and Mitigation Strategies report. The report highlighted the following areas of drought vulnerability in Calgary:

- + Environmental needs and in-stream flows
- + Stormwater quality degradation and vulnerabilities of green stormwater infrastructure during drought

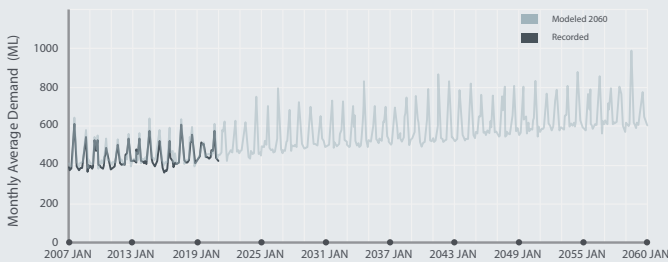
- + Water supply availability and source water quality for municipal uses (particularly on the smaller Elbow River)
- + Wastewater impacts to river quality
- + Impacts to utility revenues during drought

These vulnerabilities will be compounded as Calgary sees increased drought risk due to climate change. Heavier, earlier rainfall in the spring and hotter, drier summers mean that Calgary’s seasonal drought risk is extended and deepened. This elevated risk is compounded by increased demand from projected urban growth and limitations on water licensing.

Seasonal Drought Risk – Projected



Calgary’s Projected Water Demand



Framework for a drought-resilient Calgary

This plan sets out a Framework for a Drought-resilient Calgary. The framework is comprised of goals and strategic actions that will move Calgary toward drought-resilience in the short, medium and long-term.

Goals

- Reduced water demand
- Protected water supply
- Drought preparedness
- Healthy landscapes
- Strong relationships

These goals are premised on guiding principles of climate resilience, water stewardship, equity & inclusion and innovation.

Strategic Actions

For each goal, this plan presents three strategic actions.

Reduced Water Demand

- A1 – Update the 2005 Water Efficiency Plan
- A2 – Understand the financial impact of drought on City operations and customers
- A3 – Evaluate water restrictions as a tool to support drought resilience and operations

Protected Water Supply

- B1 – Leverage water management legislation and policy
- B2 – Evaluate and implement alternate water supply sources
- B3 – Identify and advocate for new water storage options

Drought Preparedness

- C1 – Monitor for drought
- C2 – Ensure The City, businesses and Calgarians are ready for drought
- C3 – Model long term climate impacts to water supply

Healthy Landscapes

- D1 – Protect the aquatic environment in low flow and drought conditions
- D2 – Preserve and restore natural landscapes
- D3 – Integrate drought considerations into the built form

Strong Relationships

- E1 – Collaborate with water users in the Bow River Basin
- E2 – Build ongoing dialogue with Indigenous groups for drought resilience
- E3 – Reduce Calgarians’ vulnerability to drought

These strategic actions will be built out into more detailed workplans through implementation.

Conclusions

All Calgarians have a role to play in building a more drought-resilient city. Fortunately, if holistically implemented, the Drought Resilience Plan will provide a framework for building resilience. Its actions and initiatives will make Calgary more adaptable in the face of drought—helping the city better withstand, endure and recover from extended periods of dry weather.