



Growth in Calgary and the region relies on a safe, reliable, and secure water supply. The City's water security framework, approved in 2019, addresses risks to Calgary's water security, and provides guidance on Supply, Demand and Systems Operations initiatives to maintain water security now and in the future.

2020 Planned Actions: Make progress on the 6 water security actions, complete Phase 2 of the Drought Management Plan, deliver the Source Water Protection Policy to Council by Q2 2020, advance actions from the Wildfire Source Water and Bearspaw Reservoir Task Forces, broaden technical understanding of stormwater impacts on Calgary's source water, and provide input to the Calgary Municipal Region Board growth and servicing plans being developed in 2020.

2019 highlights



Completed The City's **Drought Risk and Vulnerability Assessment** so Calgary is better prepared to respond to future drought.



Accelerating removal of lead pipe services to address the public health risk posed by lead water pipes, with work to be complete by 2023.

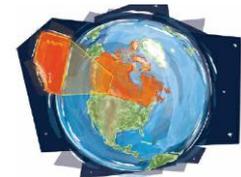


Calgary continues to have **high quality source water** in the Bow and Elbow Rivers. High quality water coming into our treatment plants allows us to provide **reliable, safe water for customers.**

One Calgary One Water: A framework for Calgary's water secure future

was approved by Council in 2019. The framework aims to ensure water security for the future.

All **6 key actions** to address water security are underway:



1. Develop future water supply scenarios
2. Address water licence limits on high demand days
3. Ensure collaboration on a regional solution for water security
4. Advocate for a new upstream reservoir on the Bow River
5. Finalize the Drought Management Plan
6. Finalize the Source Water Protection Policy.



GOAL #2: Use Water Wisely

ISC: Unrestricted

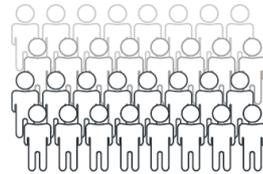
Since the 1980s, The City has invested over \$700M to reduce water demand through leak detection, water main replacement, metering, educational programs and water treatment plant improvements. This foresight has prepared Calgary for population growth and the impacts of climate change as we continue to take action to accommodate future generations. Guided by The City's 30-in-30 Water Efficiency Plan, in 2019, numerous citizen and business-focused programs and initiatives continued to keep water demand on track to meet goals.

2020 Planned Actions: Develop new water conservation tools for outdoor residential and business customers, expand program delivery for business customers, continue to partner with the irrigation industry to reduce water use, and examine short, medium and long term actions as part of the Water Loss Strategy.

2019 highlights

Peak day water use was 626 million litres on August 5, well below water treatment plant capacity. This means we **can sustain a population of 1.46 million** on a peak day.

total population calgary can provide water on a peak day

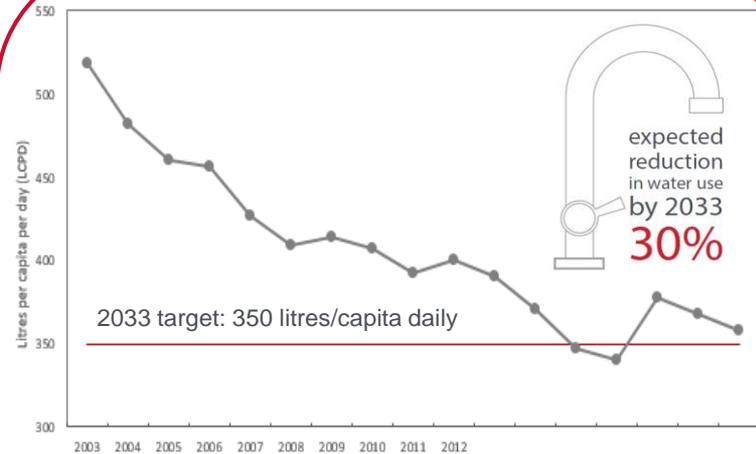


1,460,000

Developed a **Water Loss Strategy** to provide a holistic view of water loss and coordinate efforts across The Water Utility.

Saved more than 240,600 L/day by fixing leaks in Calgary's water distribution system, equivalent to almost 800 bathtubs/day. This also results in financial savings for The Water Utility.

Planned to explore additional **water conservation** solutions for **residential outdoor** water use and in the **business** sector.



Calgary is **on track to meet 30% water reduction** by 2033.

Single-family residential daily demand was the **lowest on record** for this customer group.

197 L of water used by average citizen daily

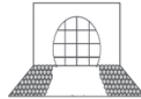




Pollutants in the rivers can negatively impact fish and wildlife, the ecosystem and drinking water. The City works diligently to manage risks through efficiencies in wastewater treatment, mitigating the impacts of city-building on stormwater quantity and quality, and protecting riparian areas adjacent to rivers and creeks.

2020 Planned Actions: Continue implementing major upgrades of Bonnybrook Wastewater Treatment Plant (WWTP), initiate ammonia toxicity study, draft the updated Stormwater Management Strategy, evaluate progress on riparian restoration and fish habitat compensation projects, initiate Phase 2 of the Watershed Health Indicators project and report to Council on the progress on the Nose Creek Watershed Management Plan.

2019 highlights



Renewed 10-year **Approval to Operate** Wastewater Treatment Plants, which will ensure a **clean and healthy river** and optimize operational efficiency.

Major upgrades to the Bonnybrook Wastewater Treatment Plant are **on time and on budget**. Upgrades will accommodate growth, help protect the environment, and improve energy efficiency.

Continued stakeholder engagement to develop a new **Stormwater Management Strategy**, which will be drafted in 2020. The purpose is to provide new opportunities to address stormwater and city-building challenges.



Stormwater Pollution Prevention Program efforts contributed to healthier rivers by reducing soil loss from construction sites by 28,346 tonnes. **Training and education** helped achieve 95% compliance with Erosion & Sediment Control guidelines.

Calgary remained under The City's benchmark for Total Suspended Solids (TSS) loadings into the Bow River from stormwater, demonstrating **the effectiveness of The City's stormwater quality investments** to keep our rivers healthy.

30 new bioengineering and riparian planting projects were complete or underway, providing **natural infrastructure** used by fish and wildlife, improving riparian health and providing flood resiliency.



GOAL #4: Build Resiliency to Flooding

ISC: Unrestricted

The City’s Flood Resilience Plan is adaptable and flexible. It includes a combination of upstream, community, and property-level flood mitigation to make Calgary more resilient to river flooding considering climate uncertainty and continued urban development. The Community Drainage Improvement (CDI) program increases stormwater capacity to minimize localized flooding risks, address to address climate impacts and future densification in mature communities.

2020 Planned Actions: Continue to work with communities to build resiliency, explore policy tools in advance of future flood hazard mapping updates, continue advocating for upstream flood mitigation efforts, support research and development, continue advocacy efforts and support the delivery of the Community Drainage Improvement program.

2019 highlights



payback
on flood
investments
10:1



Integrated prioritization of **river flood** and **Community Drainage Improvement** projects to address all flooding as a single priority.

Advanced detailed design for the **Downtown Flood Barrier** and **Upper Plateau Separation** resilience projects to improve flood resiliency in these communities.

Made significant progress on gate **upgrades at the Glenmore Dam**. The gates will be operational before the 2020 flood season, **minimizing flood damage** from smaller more frequent flood events on the Elbow River.



Worked **closely with at risk communities** to progress key community-mitigation barrier projects **to ensure stakeholder concerns were well understood** by The City and considered as projects progress.

Focused advocacy efforts on **upstream mitigation** on the **Elbow** and **Bow Rivers** projects required for flood resiliency.

Identified a **need for new policy direction** in anticipation of Government of Alberta flood hazard mapping **to ensure appropriate land use and policy** measures to reduce Calgary’s flood risk.