North Irrigation System Update

penticton.ca

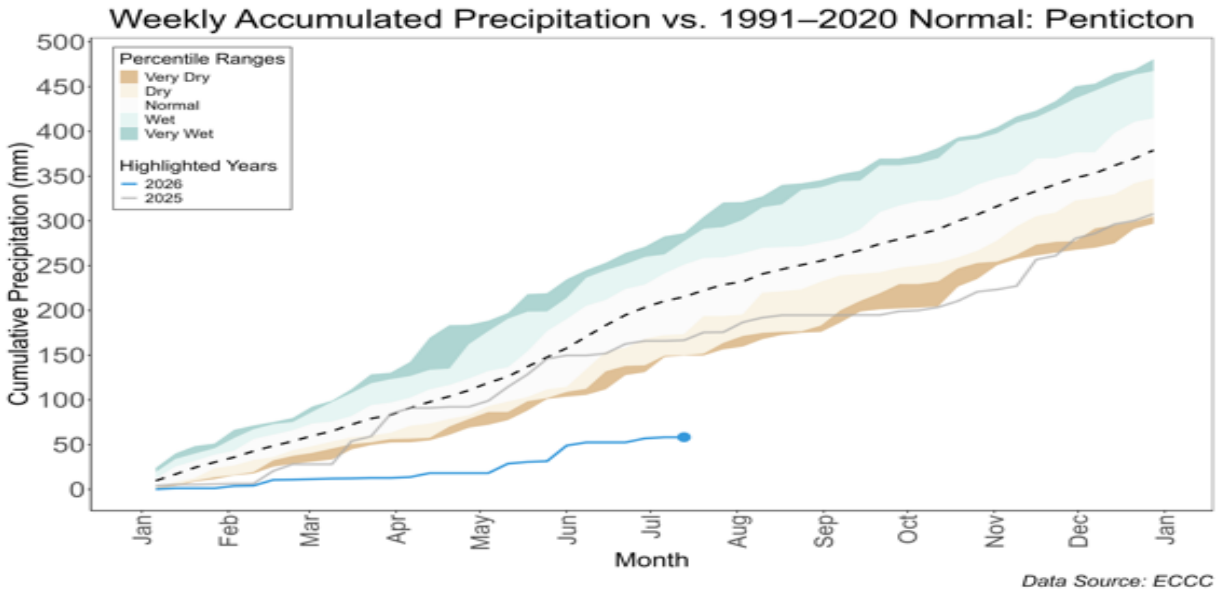
July 20, 2026

Dear North Irrigation System User,

The City of Penticton would like to thank North Irrigation System users for their efforts since Stage 2 water restrictions went into effect on May 01, 2026. This more detailed and technical update is being provided to inform you of current conditions, and to inform you of the factors being considered by the City as we continue to assess the need for potentially increasing stages of water restrictions.

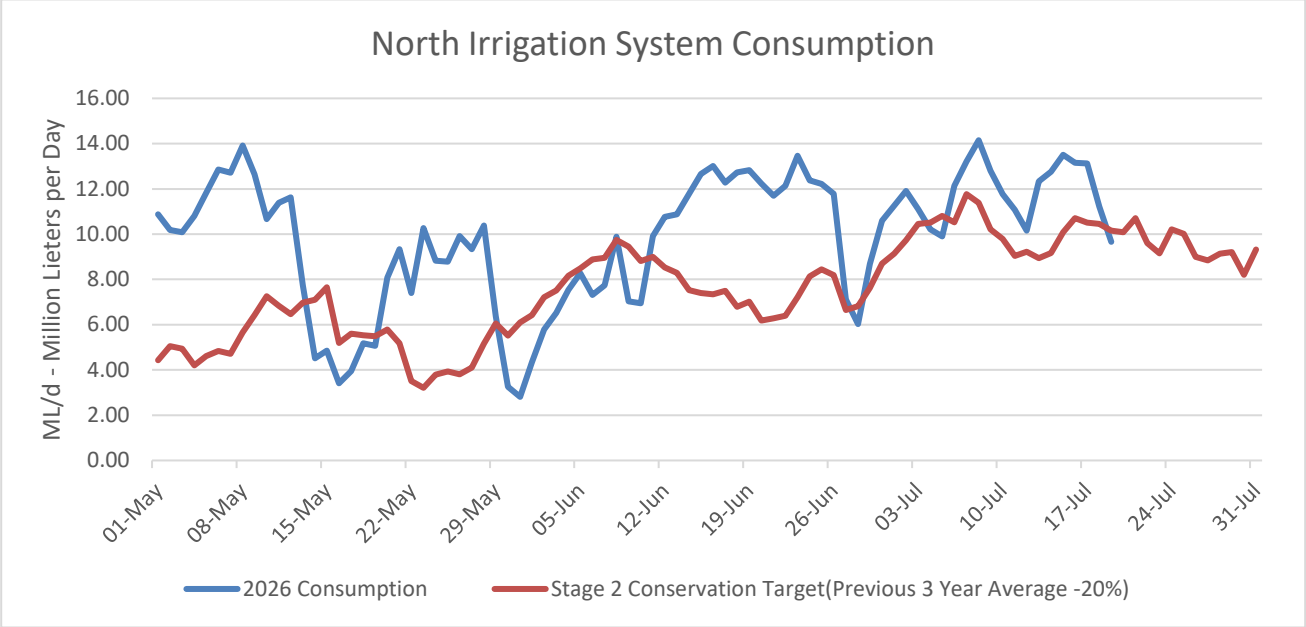
Drought Conditions and Precipitation:

While conservation efforts have helped to moderate water demand, continued drought conditions across the Okanagan Region are placing increasing pressure on available water supplies. The region has been experiencing prolonged hot and dry weather with very limited precipitation and remains under severe stage 4 drought conditions. For the period of May 01 till July 15th Penticton Airport station has only recorded a total 40.1mm of precipitation, which is significantly lower than historical low levels as shown in the graph below from Environment and Climate Change Canada.



Current and Past Year Average Demands:

The accompanying chart below illustrates North Irrigation System demand from May 1 though July 20 (blue line) and compares these flows to the Stage 2 conservation target flows in red (which are set at a 20% reduction from the previous three-year average). The chart highlights the gap between where we are, and where we want to be.



Peak Flows:

While total water consumption is important, managing peak demand presents an equally significant operational challenge. The North Irrigation System must be operated to both meet peak customer agricultural demand to ensure reliability, but also to maintain adequate environmental flows. Reservoir releases and creek diversion rates cannot be adjusted instantly to respond to rapid increases in water use. There is an 18-hour delay from when adjustments are made at the reservoirs, until the flow change is detected within City infrastructure. When irrigation demand spikes during hot weather, the system must be set to meet those peaks, even if brief, resulting in more rapid depletion of stored water.

The highest daily demand recorded this season, to date, occurred on July 8 when the system demand reached 14.15 ML/day. Compared to the average flow since stage 2 restrictions took effect, this represents a peak demand increase of 43%.

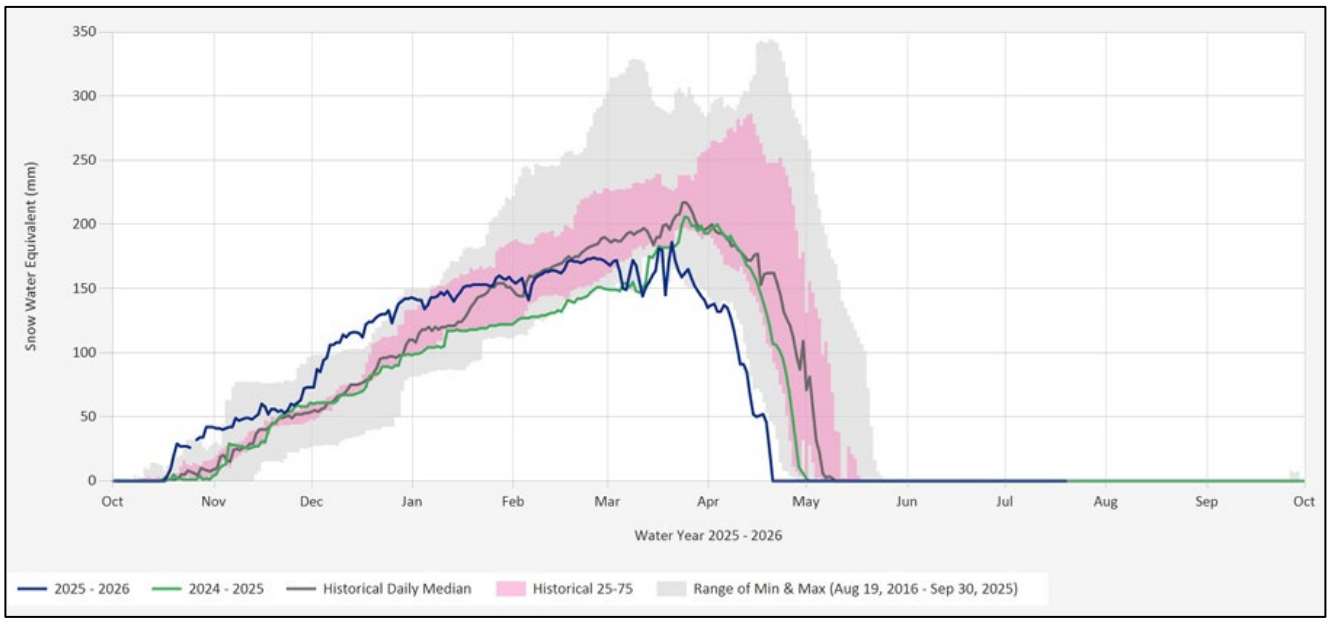
Where possible, maintaining consistent watering practices in accordance with current water restrictions will help ensure the City is not increasing flows to meet peak water demands and unnecessarily depleting stored water.

Reservoirs and Storage:

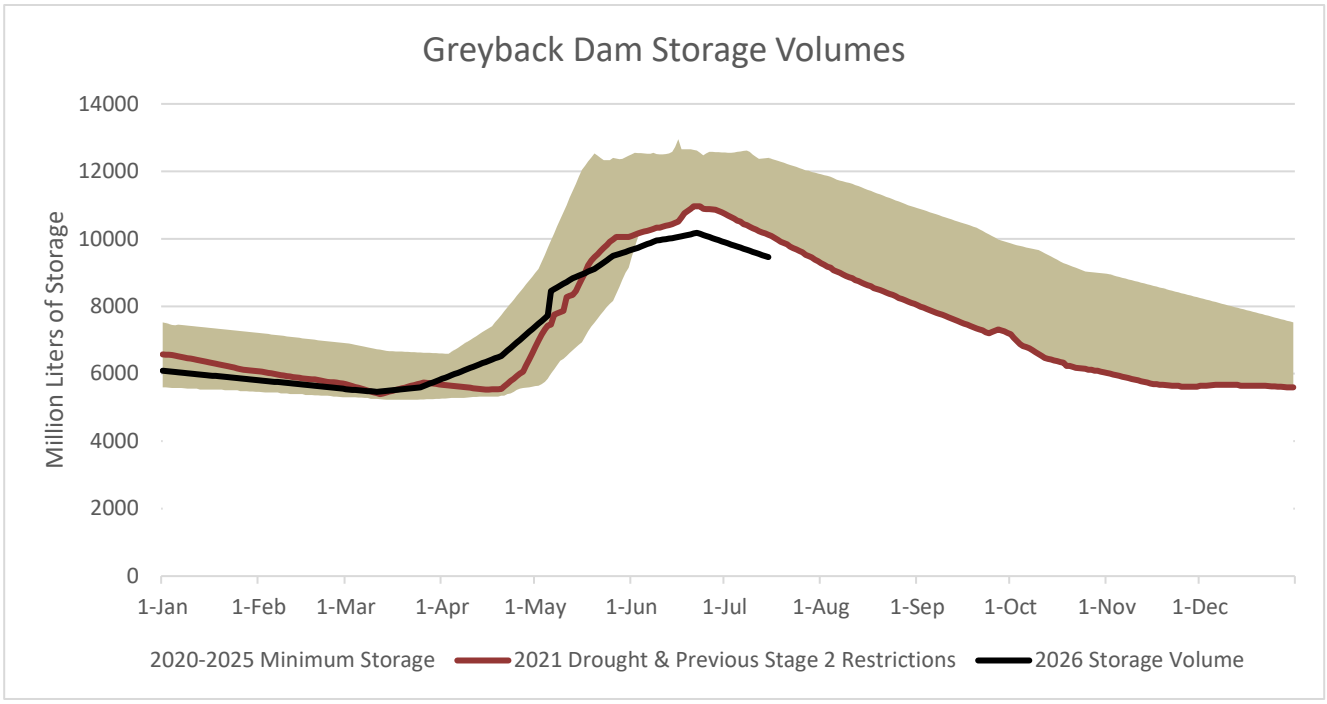
The North Irrigation System relies on a network of storage reservoirs and diversion structures to capture, store, and divert snowpack during freshet for municipal infrastructure. The North System or Penticton Creek Watershed is comprised of one main storage reservoir, Greyback Dam, and two diversion reservoirs, Campbell Mountain Diversion Dam (agricultural diversion), and Penticton #2 Dam (Water Treatment Plant diversion). Greyback Dam plays a critical role in providing water for domestic water, agricultural irrigation water, as well as downstream environmental flows as set by the Province.

Due to lower than normal snowpack, significantly below average precipitation and ongoing drought conditions, storage reservoirs and the watershed have not received the normal recharge that is anticipated annually and are being depleted more rapidly than anticipated. The chart below from the Ministry of

Environment and Climate Change Strategy is of Greyback Reservoir snow station 2F08P and highlights how the Penticton Creek water shed not only received significantly less snow during the 2025/2026 season, but also saw its reserves depleted earlier than ever before on record.



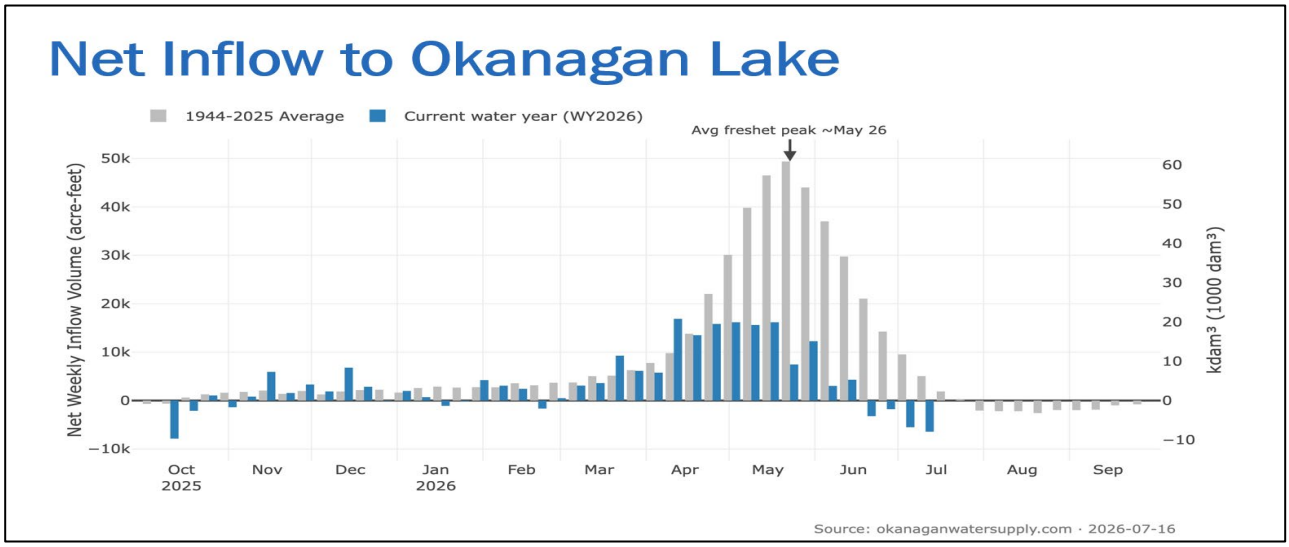
The graph below illustrates the historical Greyback storage volumes from 2020 – 2026. The graph demonstrates that the current storage volume is significantly below the previous five years, which includes 2021, which is the last time the City was on stage 2 water restrictions as the valley was facing similar, but not as severe, drought conditions. While Greyback Dam is of significant size and will have the ability to provide agricultural flows, potable flows and required downstream environmental flows for the remainder of this year, potentially continued drought conditions and another winter with low snowpack and precipitation could seriously impact the City's ability to meet these flows in 2027.

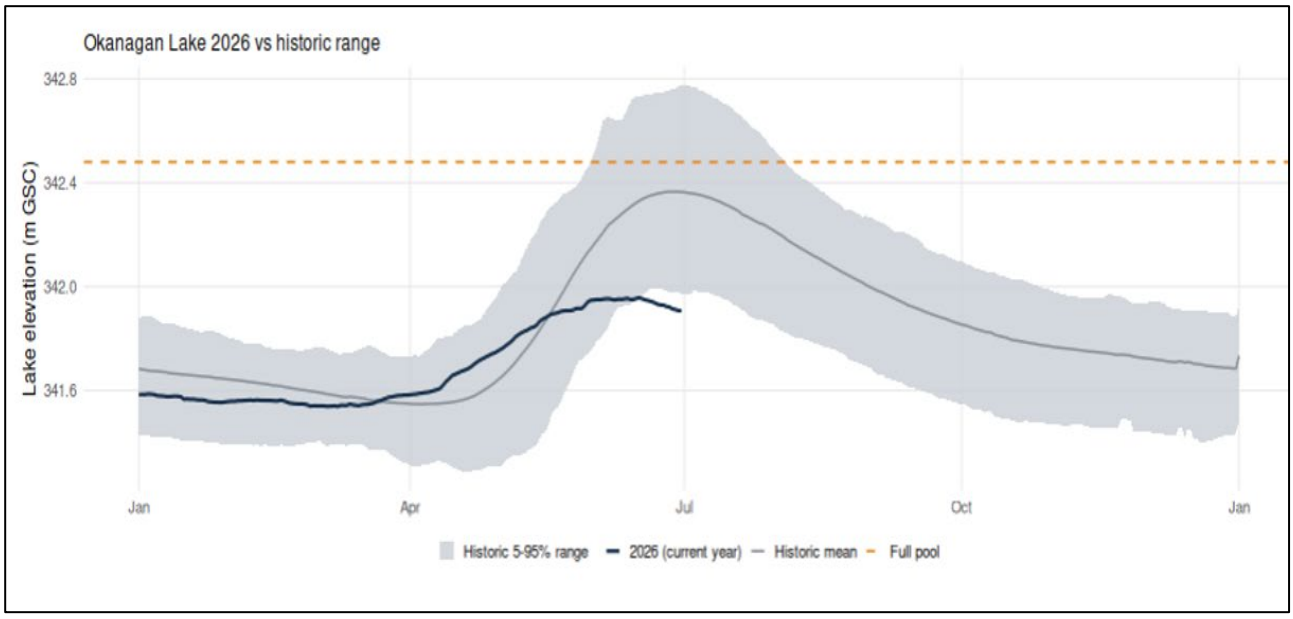


To proactively mitigate this risk, the City has already made changes to reduce the volume of water being diverted from Greyback Dam for use in the treated water system. Under normal conditions, Greyback Dam provides on average 10% of the total volume of water treated at the Water Treatment Plant for the potable water system. Given the above current conditions, the City has already reduced the percentage of water being drawn from Penticton Creek for treated water to 5%, to help preserve the storage. This also means that we are relying more heavily on Okanagan Lake for the treated system.

Okanagan Lake:

The City pumps roughly 90% of it's domestic water from Okanagan Lake (currently adjusted to 95%). Okanagan Lake levels have also been severely impacted by the lower than normal snowpack and lack of precipitation. The graph below shows the current year inflow for Okanagan Lake which is at low levels not experience in the past 3 decades. At a time when Okanagan Lake is normally still receiving influent flows from tributary streams, we have already been seeing levels decreasing since mid June.





Overall Outlook:

Continued conservation efforts by both North Irrigation System users, and the Community as a whole, will help preserve available water supplies, support reliable irrigation service, and reduce pressure on both source water supplies and treatment infrastructure. Every effort to reduce unnecessary irrigation and avoid peak demand periods contributes to the long-term sustainability of the systems.

The City appreciates your continued cooperation and commitment to responsible water use during these challenging conditions. We will continue to provide updates on the status of these assets as the season progresses.

Sincerely,

Dave Best

Manager of Utilities