

Attachment "A"



REGIONAL
DISTRICT
NORTH
OKANAGAN

MEMORANDUM

File No: 5790.10.09.2026

Date: September 9, 2026

TO: Greater Vernon Advisory Committee

FROM: Utilities Department

SUBJECT: September 2026 Greater Vernon Water Supply Update

SUMMARY

Based on the Water Storage Triggers Assessment for September 2026, and review of conservation measures to date, Greater Vernon Water (GVW) **Stage 3 water use restrictions** will continue. The Triggers incorporate reservoir levels, current moisture levels, weather forecasts and customer demands to assess water use restrictions. The assessment to remain with Stage 3 restrictions is based on the following:

- The weather forecast for this winter and into 2027 is for a “super El Niño”, which is predicting low precipitation and high temperature (i.e. continued drought conditions).
- Kalamalka Lake is at historic lows and considered in a dead pool, where the lake level is below the outlet weir.
- All efforts to supplement Duteau with Kalamalka Lake have been reversed to conserve water on Kalamalka Lake as requested by the Province to all water utilities supplied by mainstem lakes in the Okanagan.
- Duteau Creek is considered very low for the fall and still has approximately 1,200 ML outstanding allocation that could be used. Many agriculturalists with remaining allocation have applied for late turn off and have indicated they have preserved their allocation to “soak” their soil going into the fall.
- Not counting outstanding allocation, about 1,000 ML of storage was gained in Duteau Creek, mainly from supplementing from the Kalamalka Lake source. This needs to be conserved in the event of an emergency on the Kalamalka Lake source (i.e. power outage and/or cyanobacteria bloom), and any remaining storage could be critical for next year’s supply based on the predicted drought continuation and supplementing from Kalamalka Lake in 2027 may not be an available option.

GVW DROUGHT RESPONSE

Due to low water storage levels, Stage 3 water restrictions have been in place for GVW since June 4, 2026, with a goal of 50% reduction in overall water use for domestic users. The agricultural community was provided 30% of their normal allocation prorated as of June 14, translating into approximately a 33% reduction, as typical agricultural water use in prior years has been about 45% of total allocation. This allocation impacted each property differently as each property uses a different amount of their annual allocation.

MEMBER MUNICIPALITIES:

CITY OF ARMSTRONG
DISTRICT OF COLDSTREAM
CITY OF ENDERBY

VILLAGE OF LUMBY
TOWNSHIP OF SPALLUMCHEEN
CITY OF VERNON

ELECTORAL AREAS:

“B” – SWAN LAKE
“C” – B.X. DISTRICT
“D” – LUMBY (RURAL)

“E” – CHERRYVILLE
“F” – ENDERBY (RURAL)

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The goals were based on the minimum volume required to provide protection of infrastructure in the Aberdeen Reservoir Plateau dams (to avoid freeze damage of low-level outlet gates) and ensure that legal obligations for fisheries flows were met. Restrictions initially on Kalamalka Lake were to reduce distribution flows to allow supplementation into the Duteau supply area and then later focused on water conservation for Kalamalka Lake due to historic low levels.

Conserving Duteau storage was critical throughout the summer to support the agricultural community in the Duteau supply area, but also to maintain water supply for wildfire response and structural fire protection, ensure a backup source for potential water quality concerns in Kalamalka Lake (particularly cyanobacteria blooms), and manage historically low lake levels. The Duteau reservoirs are the backup source for the domestic Kalamalka Lake supply.

Coming into the fall, Duteau storage levels have exceeded the minimum storage goal set in June, largely due to reduced domestic water demand and supplementing supply from Kalamalka Lake, and to a lesser extent using the Antwerp Deep Well and moving irrigated fields from the Duteau source to King Edward. These efforts reduced demand on Duteau by an estimated 1,000 ML this season. Preserving this storage remains critical for system resilience, emergency response and may be critical in supporting water supplies in 2027. Hence, Stage 3 water use restrictions remain in effect for all Greater Vernon Water (GVW) customers, including properties within the City of Vernon, the District of Coldstream, portions of Spallumcheen and Electoral Areas "B", "C", and "D".

Although water demand has reduced due to cooler temperatures and some rain, water use and customer trends are being closely monitored, and enforcement will still be being applied where necessary. Customers found to be in violation of the GVW Water Use and Regulation bylaw will receive one (1) warning; a second offence will result in a \$100 fine, and a third offence will result in a \$400 fine. Additional enforcement measures may be taken where necessary, including water shut-off with associated fees and fines.

Operations staff continue to actively conserve water. Routine distribution system flushing has been suspended, with only essential flushing undertaken to maintain water quality and public health requirements. The Antwerp Deep Well is also being used to supplement demand on the Duteau system with the addition of polyphosphate as of August 25, a National Sanitation Foundation (NSF) approved product for drinking water, to reduce aesthetic water quality issues.

Due to historically low Kalamalka Lake levels, areas previously supplemented by Kalamalka Lake were transitioned back to the Duteau system on August 18. Operations staff continue to coordinate closely with the District of Coldstream and the City of Vernon to optimize water movement within the system, efficiently manage Headgates, and conserve storage on the Aberdeen Plateau. Staff meet regularly to review reservoir storage levels, system performance, and operational measures to maximize water conservation.

GVW continues with customer outreach through roadside signage, radio advertising, social media, website communications, active patrols, and metering-based monitoring of water use. Regular engagement with the agricultural community throughout the season helped producers adapt to drought conditions and will continue into 2027. The successful implementation of allocation transfers between eligible properties sharing the same source provided additional flexibility in managing available supplies while supporting overall conservation objectives. These efforts helped producers manage limited water supplies, supported agricultural operations through the drought, and contributed to overall water conservation objectives.

TRIGGER ASSESSMENT

GVW uses the Water Shortage Management Plan (WSMP) decision tree to guide water management decisions. The decision tree considers four (4) triggers to assess the water supply

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and drought conditions, including current water storage, watershed moisture conditions, forecast weather conditions, and forecast customer demand.

Current Duteau storage levels are within the Step 1 range (Figure 1); however, storage levels alone do not fully reflect overall drought risk or system vulnerability for the current and forecasted conditions. Storage conditions have been maintained at higher levels than the minimum storage goal set for the fall, largely due to operational measures, primarily by increased use of Kalamalka Lake, as well as significant reductions in customer demand. Domestic water use reductions of approximately 45% to 65%, when looking at weekly averages, were achieved through much of the summer, substantially reducing pressure on Duteau storage.

While current storage levels correspond to a Step 1 trigger, several other WSMP considerations support maintaining Stage 3 restrictions. Watershed conditions remain well below average following a year of low snowpack and limited runoff, and climate forecasts continue to indicate an elevated risk of drought conditions extending into 2027. Current forecasts suggest the potential for warmer and drier conditions associated with a developing El Niño pattern, which could negatively affect snowpack accumulation and spring recharge¹.

In addition, it is anticipated that infiltration of precipitation from both rain and snow melt may increase due to low soil moisture resulting from multi-year drought. This impact results in reduced surface runoff and reduced inflow to reservoirs. This effect is demonstrated in Figures 1 and 3 where the recent rain events in August did not result in any significant spike in flows into the Duteau reservoirs or Kalamalka Lake even though there were relatively significant rain events and a significant reduction in customer use.

In addition, Kalamalka Lake reached dead pool conditions during the summer, resulting in the decision to return to normal operations of the Duteau distribution service area. As a result, one of the key operational measures that helped conserve Duteau storage during 2026 may not be available moving forward at the same capacity. Reservoir storage entering winter is also expected to remain well below historical norms, increasing the importance of conserving available supplies for next year.

Provincial agencies, the Okanagan Nation Alliance, and water suppliers throughout the Okanagan continue to encourage water conservation measures in response to regional drought conditions. Given these factors, staff do not recommend reducing restrictions at this time despite current storage levels being within the Step 1 range.

Current Assessment:

1. Reservoir Levels (Water Storage)

- o **Duteau Reservoir** – Due to supplementing the Duteau Creek supply area with primarily the Kalamalka Lake source, the Duteau Creek reservoir storage levels have exceeded the minimum goal set in June to protect infrastructure and maintain legal fisheries flow obligations (Figure 1); however, this level is below the historic average level for this time of year (Figure 2) and GVW continues to maintain a conservative approach to managing Duteau Creek supplies for emergency response on the Kalamalka service area and as this water may be critical to supply in 2027.
- o **Kalamalka Lake** – Recognizing the continued decline in Kalamalka Lake levels, operations adjusted system flows beginning August 18, 2026, to reduce the volume of

¹ Environment and Climate Change Canada. *Weather: El Niño*. Updated August 21, 2026. Available at: <https://www.canada.ca/en/environment-climate-change/services/weather-general-tools-resources/el-nino.html>. Environment and Climate Change Canada notes that El Niño primarily affects Canada during winter and spring and often brings milder conditions to western Canada.

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Kalamalka Lake water being used to supplement Duteau service areas and preserve available Kalamalka Lake storage (Figure 3).

2. Current Moisture Conditions – Precipitation at the Vernon Auto climate station has been consistently below normal since October 2025, with the exception of March. While August precipitation was near average, the region remains in a significant cumulative moisture deficit (Figure 4).
3. Forecast Weather Conditions – Seasonal forecasts indicate an increased likelihood of warmer and drier than normal conditions through the fall. Forecasts for the Okanagan suggest a 50-59% probability of below normal precipitation and a 70-79% probability of above normal temperatures. While precipitation forecasts have low confidence, the strong likelihood of above normal temperatures may impact storage levels. With El Niño conditions forecasted to develop and extending drought risk into 2027, maintaining reservoir storage above minimum targets is critical to preserve water supply reliability and provide resilience against another year of limited recharge and increased demand.
4. Customer Demand Forecast – Over the last two (2) weeks of August, both potable and non-potable water use decreased from seasonal peak demands. Potable demand remained below the 2015-2025 average and non-potable demand remained below historical levels. Precipitation events during August contributed to further reductions in outdoor water use, helping to sustain lower customer demand. These sustained reductions have contributed to conserving reservoir storage by reducing flow out of storage; however, they did not result in recovery (i.e. positive inflow into the reservoirs) in either Duteau or Kalamalka Lake.

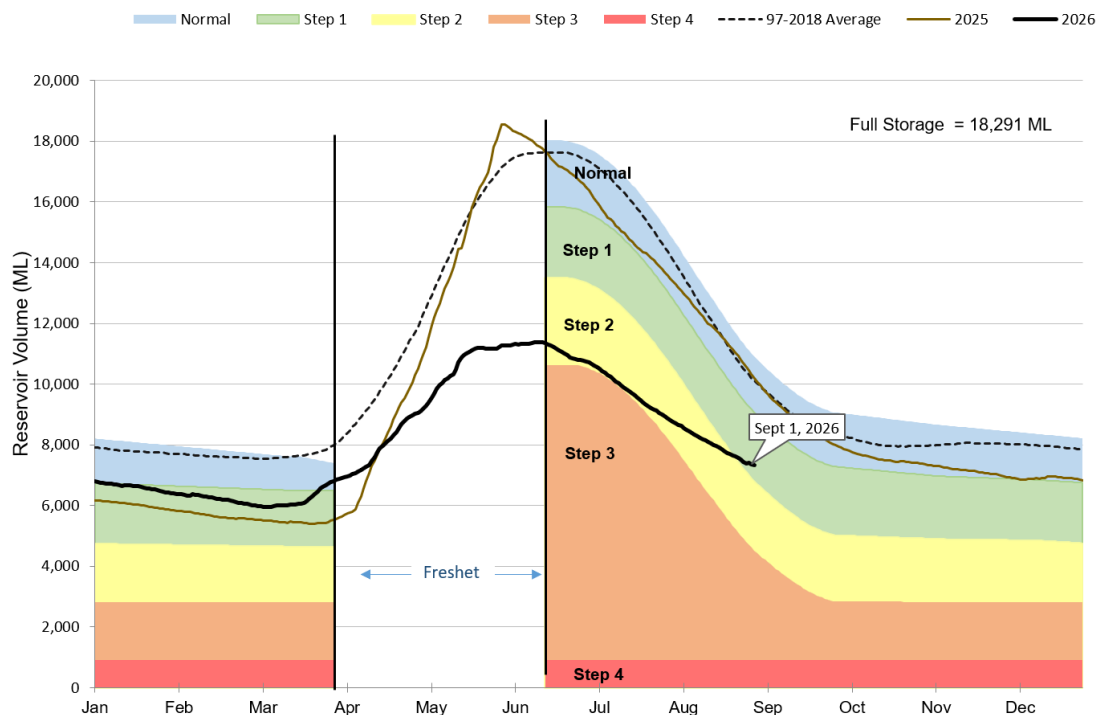


Figure 1: The Duteau reservoir levels in Megaliters (ML)

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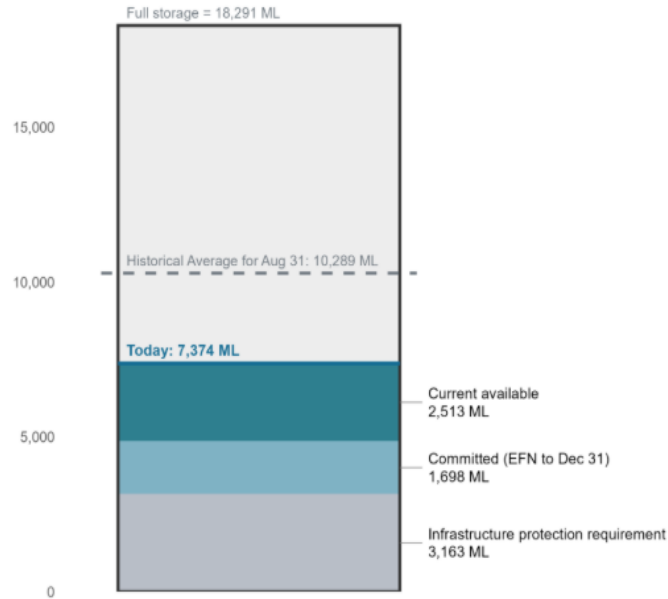


Figure 2. Duteau Reservoir Storage breakdown and remaining allocated water reserves

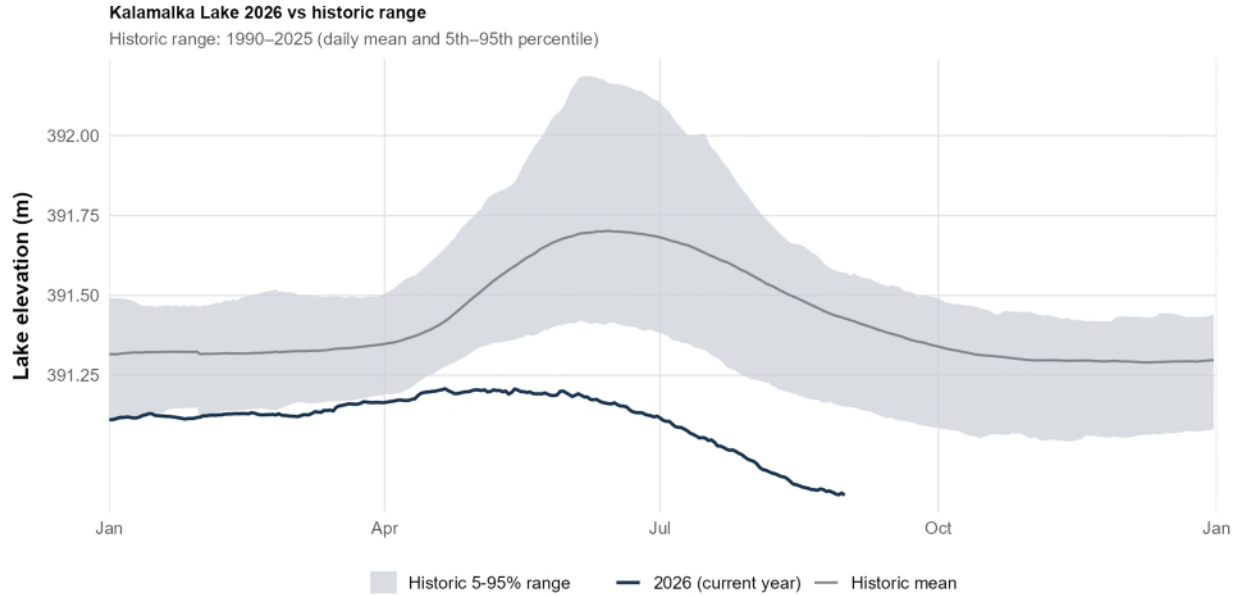


Figure 3: Kalamalka Lake elevation for 2026 compared to the 1990-2025 average

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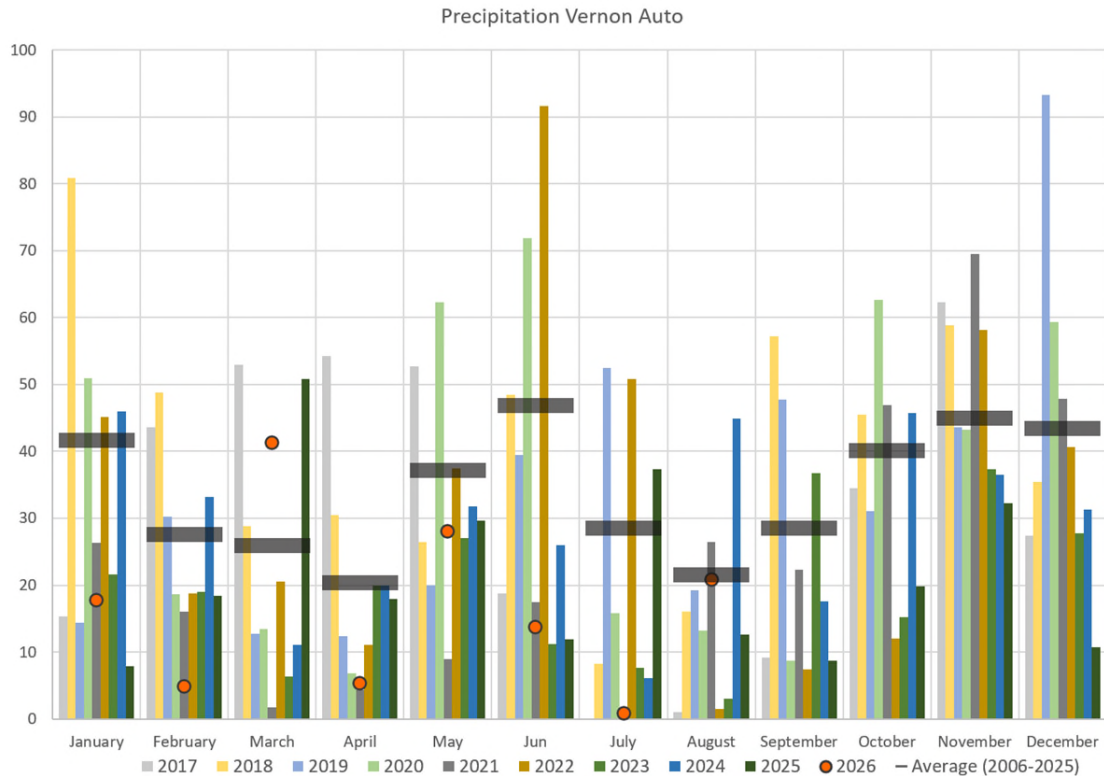


Figure 4: 2017 – 2026 Comparison of monthly precipitation at Vernon Auto

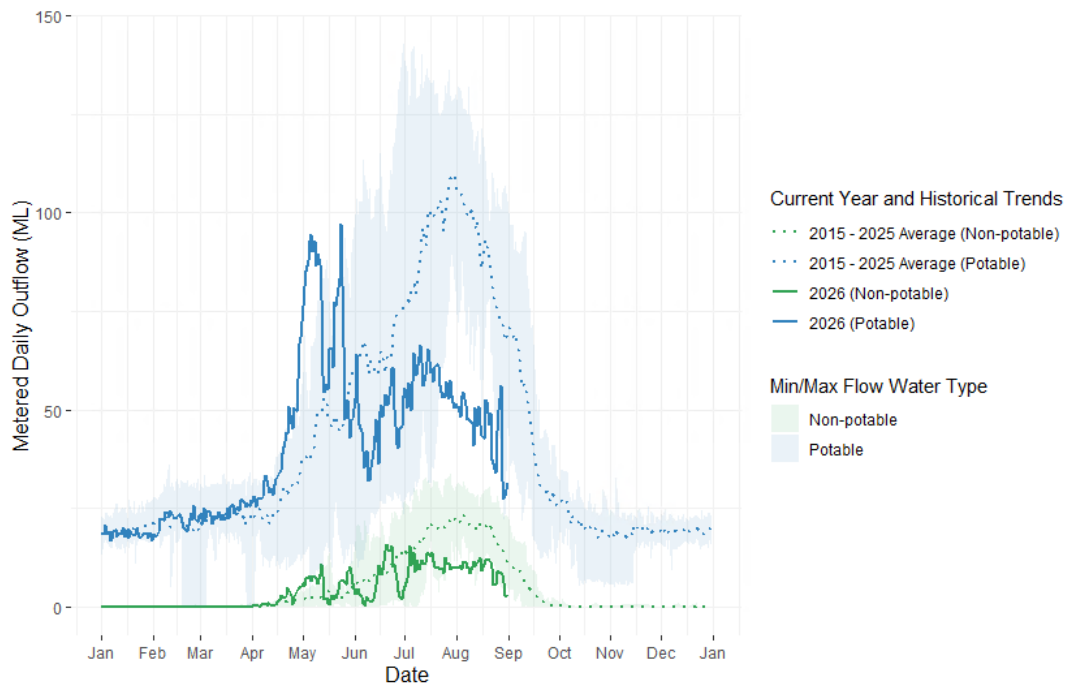


Figure 5: Potable and Non-Potable customer demand trends

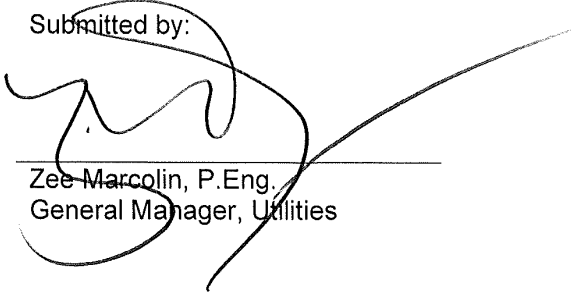
The GVW Water Shortage Management Plan and further information on the triggers and the water system can be found at www.rdn.ca/restrictions.

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