Source Water Monthly Update

APRIL 2026

Water Supply and Treatment

Overview

Source water monitoring and hydrology play a central role in understanding, protecting, and managing watersheds. Monitoring and hydrological analysis provide the data and insights needed to make informed decisions that sustain both ecosystems and human water needs.

The following report outlines the changes in the last month of monitoring by the Watershed Operations Team.

Hydrology in the Watershed

Hydrology examines how water moves through the watershed—how it falls as precipitation, infiltrates soils, flows across land as runoff, and is stored in rivers, lakes, and aquifers. This understanding is essential because changes in one part of the system often ripple throughout the entire watershed.

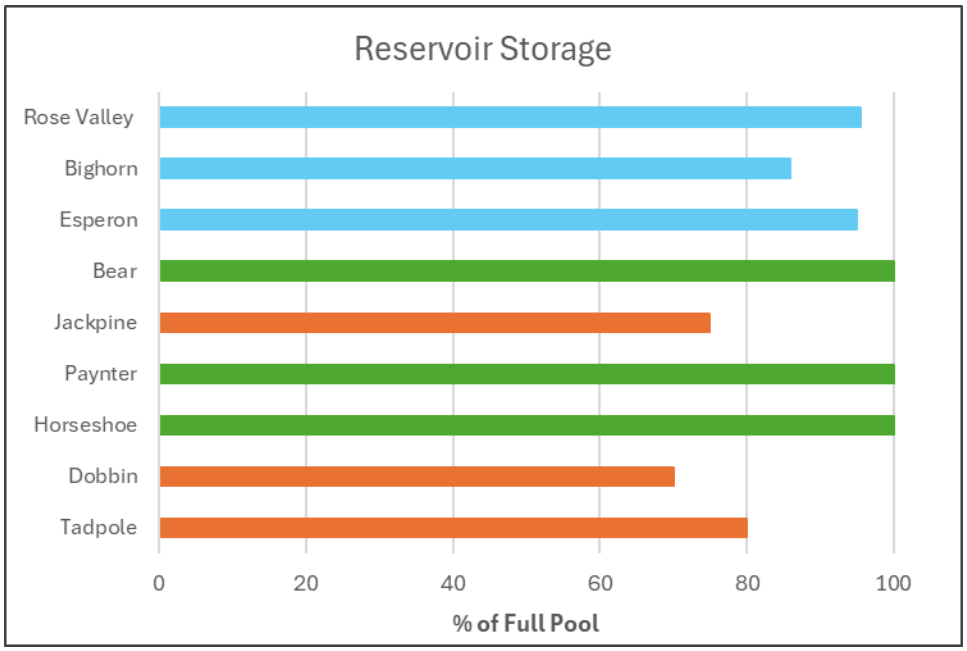

Figure 1: Visual representation of Raw Water Reservoir Storage.

Rose Valley Infrastructure Update

- **Dunwaters Diversion** is fully open and actively conveying water to Bighorn Reservoir.
- **Bear Creek Intake (BCI)** is currently spilling across all three tiers, indicating strong localized inflows. This supports early storage recovery and will continue to support Rose Valley levels as long as practically possible.

Powers Creek Infrastructure Update

- **The Nicola Creek Diversion (NCD)** has been opened with two stop logs installed to initiate controlled inflow.
- Crews are planning to install the remaining two stop logs (for a total of four) the first week of May, pending access.
- Access remains limited due to persistent snowpack at higher elevations, and vehicle access is not yet feasible.
- Sandburg Diversion and Whiterocks systems have been opened to actively support early season storage recovery.

Snow Course Update

Located at Horseshoe Lake, the snow course has been monitored for over 40 years. Here is a chart showcasing the snowpack averages for the last 10 years, as well as values from 2026. Note that the current snowpack levels depict roughly **17% of normal** levels. **This marks the lowest recorded value for this time of year within the available dataset.** See figure 2.

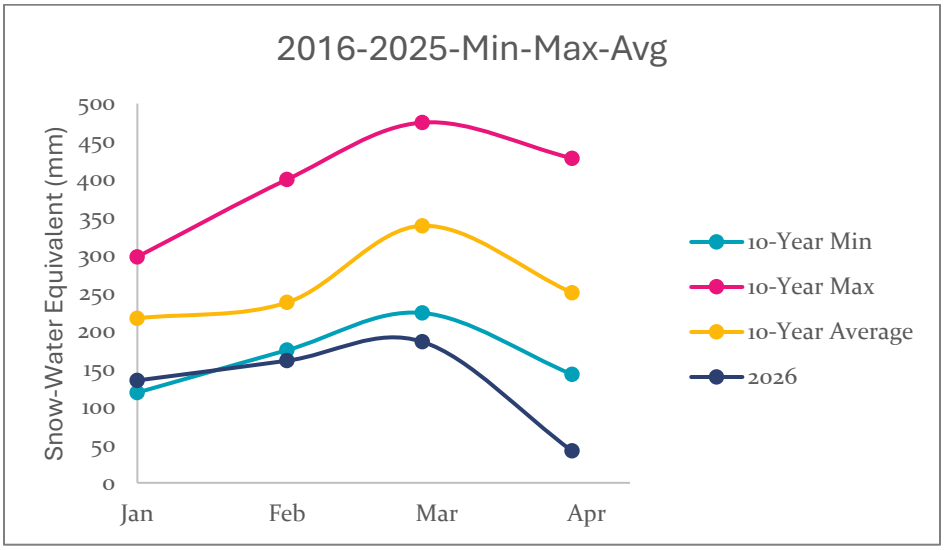

Figure 2: 2026 Snowpack Levels currently at 17% of Average levels for this time of year.

Brenda Mines Snow Pillow

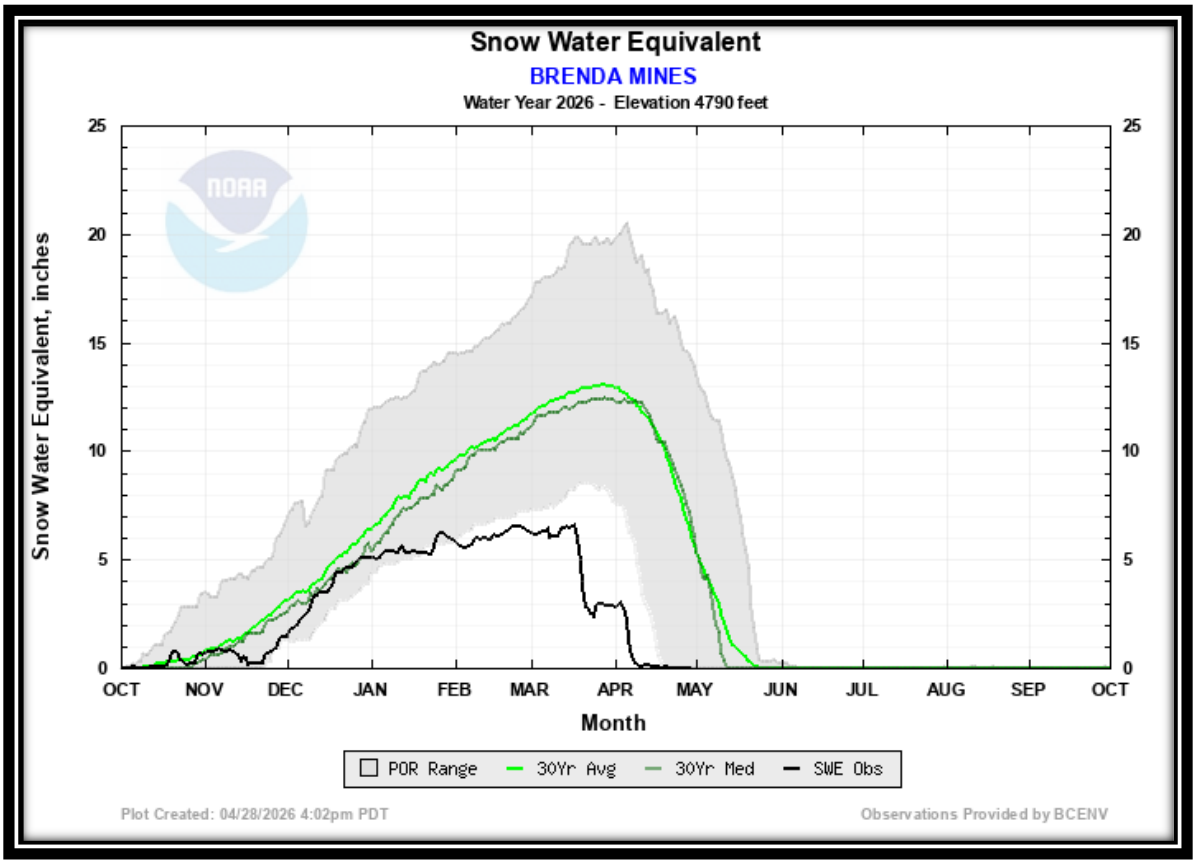

Figure 3: The snow pillow at Brenda Mines mimics that of the Powers Creek Watershed. It is a good reliable representation of available snow in the watershed. Note the black line representing the Snow Water Equivalent for 2026.

WATER QUALITY

Source water monitoring focuses specifically on the quality and quantity of water at its origins—such as streams and lakes used for drinking water. By continuously measuring parameters like temperature, turbidity, nutrient levels, contaminants, and flow rates, monitoring programs can detect changes early. This early detection is critical for preventing pollution events, identifying emerging threats, and ensuring safe drinking water supplies.

Rose Valley Reservoir Algae Monitoring

Algae monitoring in RVR continued weekly throughout April. Cooler temperatures and the influx of cooler water from Bear Creek meant there was a decrease in levels of both diatoms and green algae species. The last week of April saw slightly increased levels of chained and colonized diatoms in the tow sample, typical for this time of year.

Sample Location	Comment
Surface Samples	Low cell counts. Expect increase throughout May
Plant Intake level (10m)	Low total cell counts.
Raw Tap	Low total cell counts. Expecting an increase throughout May
Tow samples	Influx of colonized diatoms in Late April sample. Typical Copepod species noted.

Figure 4: General Speciation for April 2026

Algae Type	RV Raw Tap	Surface (0m)	RV – 10m
Total Cells	180-380	70-530	140-220
Diatoms	30-140	0-40	10-40
Yellow. Brown	0-10	0	0
Green	120-310	70-510	100-170
Cyanobacteria	0	0	0
Dinoflagelates	0	0	0
Other flagellates	0	0	0

Figure 5: Values listed are cell count ranges for the month. Decreasing numbers were noted toward the end of the month.

Nutrient loading, Manganese, DO and temperature?

Nutrient loading in Rose Valley Reservoir remains at relatively low values at all sampled levels of the reservoir. (surface, 17 meters, and raw tap-10m).

Both total and dissolved manganese samples were sent to a third-party lab as confirmation that manganese was not becoming a problem in the reservoir. Samples from both the raw tap as well as the 17-meter mark in the reservoir showed extremely low levels of both total and dissolved manganese. Manganese was not an issue in the month of April.

A dissolved oxygen (DO) profile is measured on a weekly basis in RVR. Dissolved oxygen levels continue to remain above 8mg/L for the time being. See figure 6 below. We are expecting DO levels to shift slightly as the reservoir continues to fully stratify in the month of May. Levels at the end of April were comparable to those of Early May last year.

The month of April saw slightly warmer temperatures than March, as expected, and temperatures continue to rise in the reservoir, at expected intervals. Bear Creek Intake was opened on the 14th of April to begin filling RVR. As cooler water is brought in from Bear Creek, it aids in slowing the stratification of the reservoir. We have seen this in the profile data for the last two weeks, and it is comparable to that of last year. See figure 6 below.

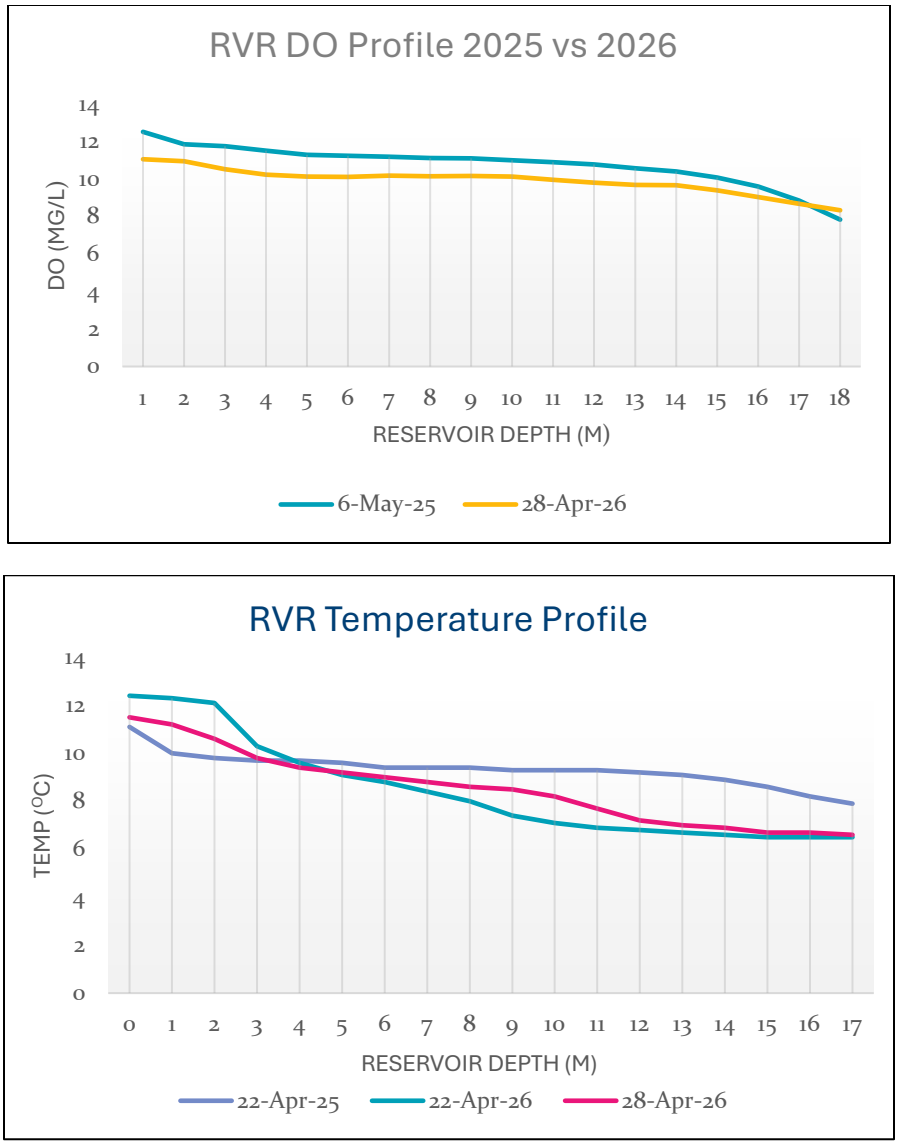

Figure 6: RVR DO and Temperature profiles for the last two weeks of April, with comparable weeks in 2025.

PROVINCIAL DROUGHT RATING AND WATER RESTRICTIONS

Drought conditions continue across the Okanagan Valley into 2026. The Okanagan Basin Water Board (OBWB) outlines past drought conditions continuing into Spring 2026. As seen in Figures 2 and 3 above, snowpack levels remain lower than average as of April 2026, at only 17%. **This extremely low snowpack suggests reduced and shortened spring runoff.** This, compounded by extremely low spring precipitation levels, means the watershed is seeing a shortage of reserves that would normally last until late summer. Mean temperatures for summer are predicted to be higher than normal, increasing the drought risk. (OBWB, 2026)

KEY RISKS, CONSIDERATIONS AND RECOMMENDATIONS

While several reservoirs are at or near full capacity due to early freshet conditions, **extremely low snowpack levels (17.22% of normal)** remain a significant concern. The lack of sustained snowpack at higher elevations suggests that **runoff volumes may be limited and short-lived**, increasing the potential for **early-season peak flows followed by reduced inflows later in the season**.

Operationally, the focus remains on:

- Maximizing early-season water capture
- Maintaining infrastructure readiness
- Preparing for potential **drought conditions and supply constraints**

Remaining vigilant about water use during drought conditions is essential to protecting both our community and the environment. When water supplies become limited, every drop counts, and small daily actions—such as reducing unnecessary water use, fixing leaks, and conserving wherever possible—can make a significant difference. Careful water management helps ensure there is enough clean water available for households, agriculture, wildlife, and emergency services. By staying mindful of our consumption during droughts, we can help reduce strain on local water systems and contribute to a more sustainable and resilient future.

As current indicators suggest an elevated risk of drought and water scarcity conditions, it is recommended that implementing elevated water conservation efforts be considered. This forecast supports proactive demand management to preserve available resources and to avoid more severe restrictions later in the season.

Regards,

Water Supply and Treatment Team.