

Blogging The Battle

Water Shortages

October 27, 2023

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The Government of Alberta has issued an important notice related to water shortage in our province.



Alberta is currently in water shortage management stage 4, where multiple water management areas are impacted by water shortage. Alberta's government is monitoring the situation and is working closely with water users and local governments to help manage and conserve water where possible. Learn more about [current conditions on Alberta River Basins](#).

Captured from [Government of Alberta](#) on October 10, 2023.

The 5 Stages of Water Shortage Management

Environment and Protected Areas (EPA) has defined the following "[Water Shortage Management Stages](#)", which outline actions the Government of Alberta may take depending on the length and severity of a water shortage. As stated above, the Government of Alberta is in stage 4 of their water management response and will be taking additional action this fall.



Captured from [Government of Alberta](#) on October 10, 2023.

Drought in the Watershed

In the Battle River and Sounding Creek watersheds, there have been very low water levels and flow conditions this year. Since the end of May 2023, the Government of Alberta has issued a [Water Shortage Advisory](#) for the entire Battle River watershed. As of September 30, 2023, the [Canadian Drought Outlook](#) shows drought conditions varying from abnormally dry (D0) to exceptional drought (D5) across our watersheds.

As prairie-fed watersheds, the primary source of water is precipitation. Many communities and industries rely on the Battle River as a water source. For example, the Heartland Generation facility in the Battle River valley relies on large volumes of water to make power for our communities. Water is a limited resource, so if people end up taking [more than 40% of water available](#), it can threaten the ecosystem functions and economic development. Progressively monitoring levels and availability is important in preparing for future droughts. Data from the [Alberta River Basins](#) website displays the water levels of the Battle River and Sounding Creek from April to October 2023. Figure 1, the Battle River, shows that the amount of precipitation over a short period of time was not enough to improve levels for the long term. Sounding Creek, in Figure 2, had some high flows after the spring snow melt, but it quickly depleted over time. In July, many municipalities moved to stage 2 of water shortage management as expected flows did not improve. Now in stage 4, active management is needed to keep sufficient resources for areas most affected. Having this real-time data allows for municipalities, industry, and residents to manage their water usage and conserve when needed.

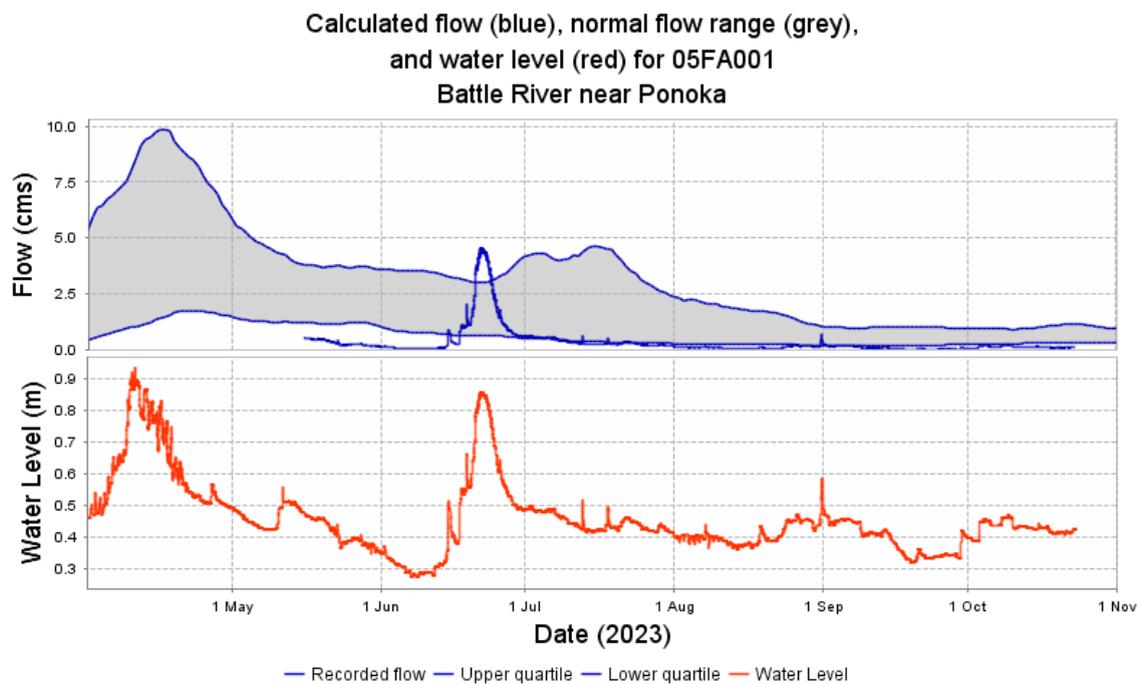
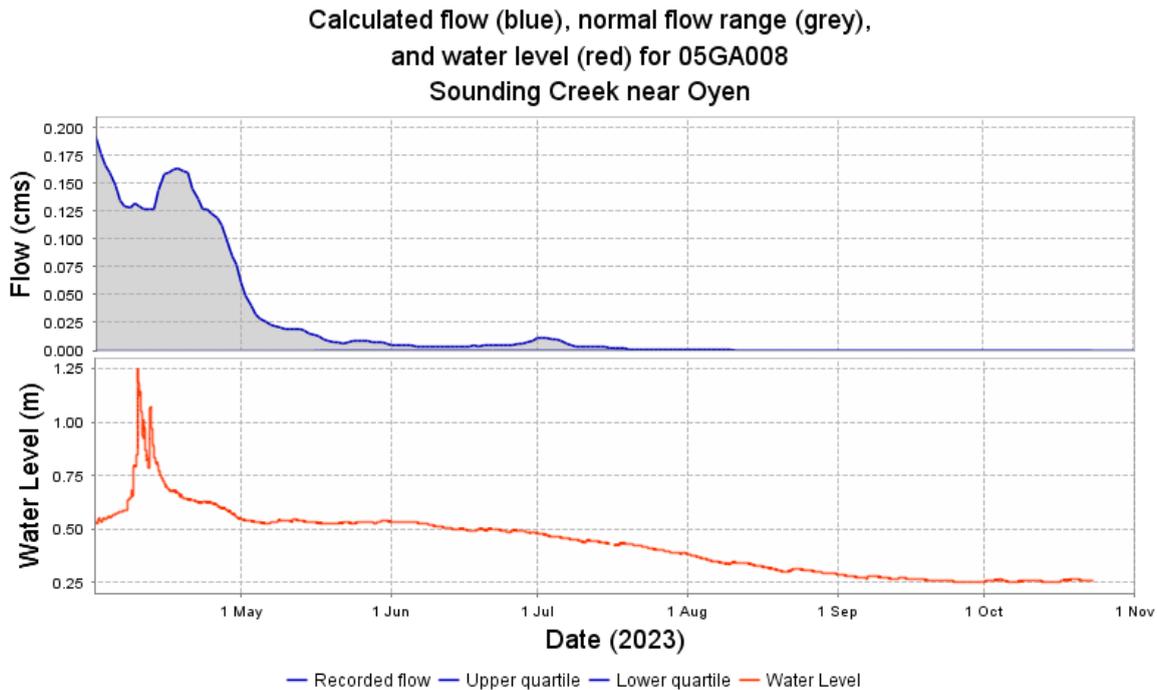


Figure 1. Alberta River Basins graph of the flow and water levels of the Battle River near Ponoka from April to October 2023.



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Figure 2. Alberta River Basins graph of the flow and water levels of the Sounding Creek near Oyen from April to October 2023.

Agricultural land uses (crop and pasture land) cover around three-quarters of the land base within the Battle River and Sounding Creek watersheds. The County of Stettler, County of Paintearth, and Special Areas have declared an [agricultural disaster](#) due to this year's early drought. The implications of long-term drought on farming are significant. A [local article](#) about the impacts in the County of Paintearth highlights the challenges for the farming community. Crop yields were low, contributing to an added financial strain on top of the high input costs of farming. In the southern part of the watershed, many [cattle farms](#) were forced to sell livestock when pastures could no longer sustain grazing and prices for feed became unaffordable. Drought also affects the natural cycle, such as when grasshoppers appear. This year, very dry conditions and little rain provided the opportunity for grasshopper populations to reproduce and expand more quickly. In parts of the [Special Areas](#), infestations were an added challenge to the producer's growing season. To help protect these producers, the government has created a [livestock assistance program](#) and other quick release funds and insurances from the [Agriculture Financial Service Corporation](#).

Across Alberta

Alberta has experienced drought many times throughout the years, but more communities are facing alarming water shortages in 2023. The [Canadian Drought Monitor](#) is a good resource that shows how drought has progressed both historically and currently. Central and Southern Alberta have been the most impacted this year, with areas in extreme (D3) and exceptional (D4) drought since May. Looking at the

precipitation of the past 3 years and comparing it to the long term normal in Figure 3, this has been one of the driest years for the province in recent history. [Watersheds in Southern Alberta](#) have been experiencing the majority of water shortages, with levels dropping below 30% of capacity in the Oldman Dam, and to 2% of capacity in the St. Mary reservoir. With such little precipitation, the provincial government recommends that Albertans monitor their water usage and conserve where they can, so those downstream can also have access to water. Environment and Climate Change Canada has predicted that we will have below average precipitation levels this winter from the [El Nino conditions](#). With less snowpack expected, Albertans will have to prepare for the possibility of lower water levels in spring.

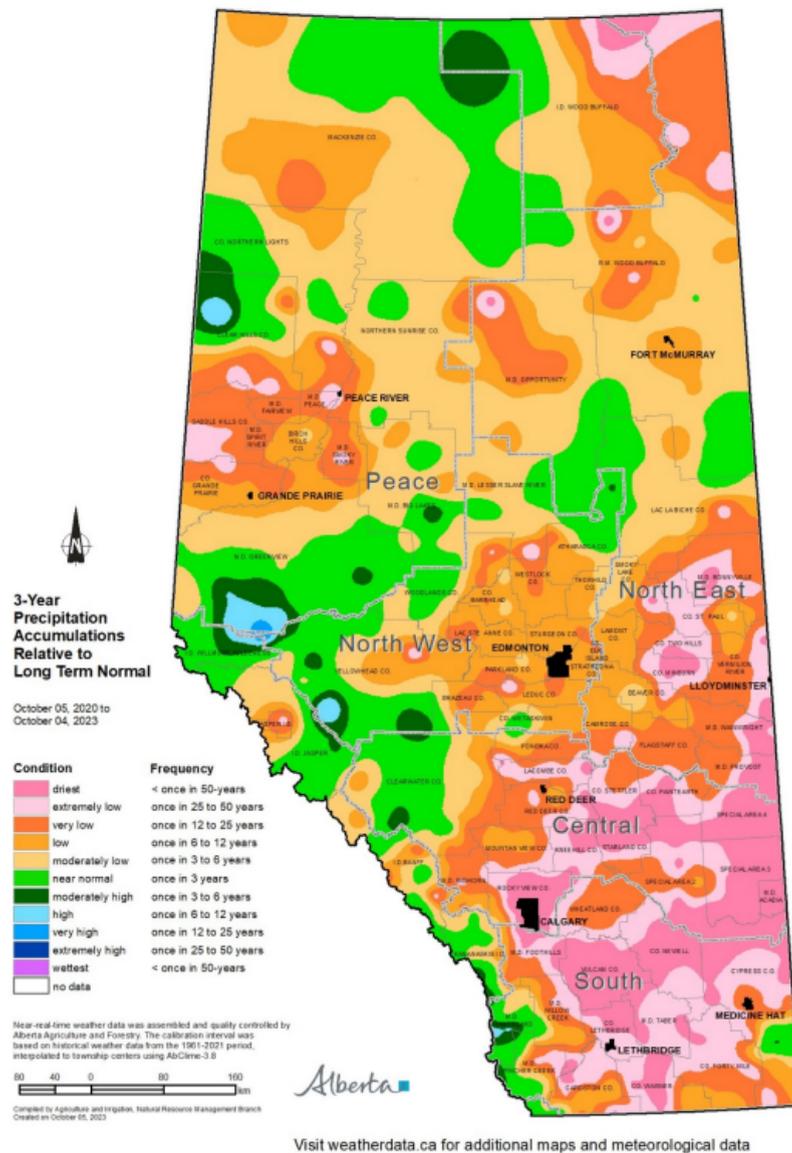


Figure 3. The precipitation accumulation over 3 years compared to the long term normal of Alberta from October 2020 to October 2023. Found on the [Agriculture Moisture Situation Update](#) of October 4, 2023.

Next Steps

The Government of Alberta is continuing to monitor precipitation levels, reservoir and lake levels, stream flows rates in rivers, and water demand. Staff from Environment and Protected Areas, Agriculture and Irrigation, and Alberta Energy Regulator are working together to provide support to water licence holders (including municipalities, agricultural users, irrigation districts, and utilities) and ensure people are aware of the water shortage situation and conditions on their water licences.

Everyone has a role to play in helping conserve water in their community and for their neighbours downstream. Some of the additional resources available are:

- [Government of Alberta drought webpage](#)
- [Learn to use Rivers Alberta \(Video\)](#)
- [Get to know your water flow factsheet](#)

Upcoming Workshops and Events

Various Watershed Planning and Advisory Councils will be hosting and attending events throughout the fall and winter to discuss water shortage conditions and potential drought mitigation and resiliency actions. Details are included below.

“Building Resilience to Multi-Year Drought in Alberta” Workshops

Hosts: Battle River Watershed Alliance, North Saskatchewan Watershed Alliance, Red Deer River Watershed Alliance

Workshop 1: November 30, 2023, Sunshine Club in Vegreville, Alberta

Workshop 2: January 26, 2023, Abbey Centre in Blackfalds, Alberta

Designed for Municipal CAOs, Councillors, and staff; Government of Alberta; Alberta Energy Regulator; Alberta Emergency Management Agency; Alberta Urban Municipalities Association; and Rural Municipalities of Alberta

The Watershed Planning and Advisory Councils will be at the Rural Municipalities of Alberta Fall Convention and Tradeshow (November 7 in Edmonton) and at the Provincial Agricultural Service Board Conference (January 23-25 in Lethbridge).

