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Summer 2023

Welcome to Summer

Sue Styles, WWMC Chair

Greetings to all readers and a hearty welcome to our 2023-24 WWMC members! As a member, you are receiving this *Lakescape* newsletter and other WWMC communication directly to your inbox, where you will be the first to be informed about events and issues concerning the lake and watershed. If you are not a member (all previous members had to renew by June 30) but would like to become one, just go to our webpage [Get Involved](#). General Membership is free!

Summer came early to Wabamun, much as it did to most of Alberta. Heat waves, wildfires and fire smoke all remind us that our climate is changing. We at the WWMC are working hard to ensure that we understand what is going on with the lake and watershed so that all stewards of the lake are informed and are ready to take action where possible and necessary to maintain lake health.

This summer *Lakescape* edition contains pointed information about **lake water level**, a photostory on the **riparian/shoreline restoration at Whitewood Sands**, the [Lakewatch](#) **summer water sampling**, **Sundance Boat Launch** and **Alberta Health Services water monitoring**.

What Else Is Happening This Summer?

- The WWMC plans to undertake a two-part lake stewardship project in 2023. The two parts include a hardstem bulrush restoration pilot project on Wabamun Lake at 3 different sites, as well as a riparian/shoreline restoration project. This riparian/shoreline restoration will be associated with an on-site educational workshop. The workshop will include a portion of the day where participants will learn about the importance of conserving aquatic habitat along lake shores related to fish habitat and biodiversity, water quality and erosion protection, and a portion of the day as a hands-on event to gain experience in riparian restoration.

This initiative is being led by Kristen Andersen (Associated Environmental); Kristen is a restoration ecologist specializing in aquatic habitat. This lake stewardship project is generously funded with grants from the Alberta Conservation Association (Conservation, Community, and Education Grant) and the Land Stewardship Centre (Watershed Stewardship Grant). The project awaits regulatory approval at which time further details will be provided.

- The WWMC will host Outreach Information Booths at various venues around the lake/watershed in July and August. Keep an eye on [Facebook](#) for more information re: dates/location. We had many visitors at the WWMC Information Booth at the Seba Beach Market on June 17—a big thank you to all visitors for stopping by the booth to ask questions and engage in conversation about the lake and watershed.

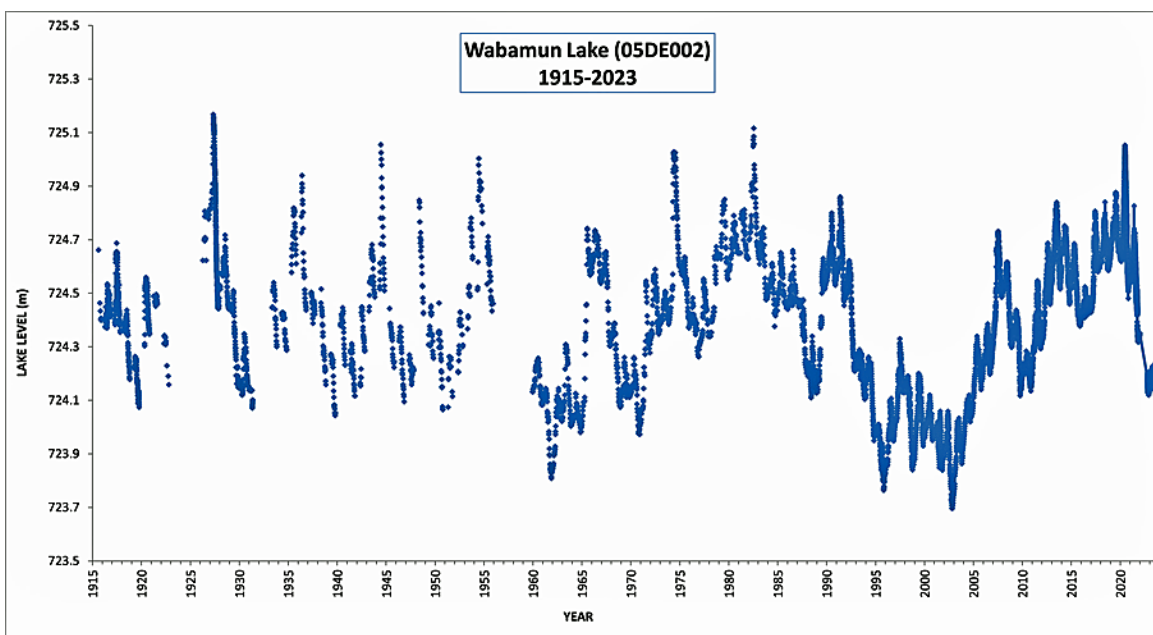


Kristen Andersen collecting Hardstem Bullrush seed

Lake Water Level and the Water Treatment Plant

by Neil Fleming

On the heels of low precipitation during the last few years, little snowfall last winter and a warm dry start to the summer, Alberta lakes are experiencing predictably low water levels. While down, the current Wabamun Lake level is still within the range of normal as can be seen from the historical graph (below). The current level (July 2) is about 724.24 meters above sea level, which is about 52 cm (20 in.) above the record low in 2003 and about 31 cm (12 in.) below the level of the weir. What the graph clearly shows is that lake levels fluctuate dramatically over relatively short periods of time. It was only about three years ago that many people were complaining the lake was too high and those that hard-armoured their shorelines are now having to climb over rock to get to the water.



Lake water level over the years 1915-2023, provided by Alberta Environment and Protected Areas. It should be noted that data for the years 2022-23 are unvalidated and include a period where no data was collected.

Because there is no inflow to the lake from outside the watershed, our lake level is almost entirely controlled by precipitation and evaporation. The presence of the TransAlta Water Treatment Plant (WTP) is a bit of a red herring as it is only being used to make up water that would have naturally flowed to the lake had the Highvale Mine not existed. So, when operating as directed by the Alberta Energy Regulator (AER), the net effect of the pumping operations is zero. The WWMC relies on TransAlta to provide us with the status of the WTP, and that they are meeting their commitments to the AER.

While used in the past to pay the water debt created by the operation of the Wabamun Power Plant, the WWMC believes that any talk of using the WTP now to draw water from the North Saskatchewan River to supplement inflow is a non-starter. It is extremely expensive to operate the WTP, and it is government policy not to take on the infrastructure or other costs related to these types of projects. Government policy is to allow natural functioning of the lake ecosystem. Cyclic fluctuations in lake water level are part of that natural lake functioning. Furthermore, as we have seen recently, a good weekend downpour can contribute as much water as a year's worth of pumping. So, as we have said before, be careful of what you wish for. If we can use the past to forecast the future, it won't be long before many will again be complaining that lake levels are too high! For more information, go to our [Lake Water Level page](#).

Photostory of Whitewood Sands Riparian Restoration (October 2022—June 2023)

by Sue Styles

A riparian area/shoreline restoration project was undertaken at Whitewood Sands on the north shore of Wabamun Lake in October 2022. See [Fall 2022 Lakescape](#) article – “Whitewood Sands Shoreline Restoration”. In this current *Lakescape* edition, photos are used to demonstrate how the Whitewood Sands shoreline restoration is progressing.



Left—Wattle fences constructed of willow uprights and balsam poplar horizontals (Oct 2022). The wattle fences stabilize this eroding bank and provide a stable growing surface for riparian vegetation. Right—The wattle fences in June 2023. The leafing out of willow and balsam poplar is evident. Watering hoses are also seen in this photo. Watering, particularly in the first season, is important for establishment of root development.



The Whitewood Sands riparian restoration site also included the planting/insertion of dense willow stakes on the shoreline adjacent to the wattle fence construction. Left—This is the dense willow staking as it appeared with snow cover in Jan. 2023. Right—Now, in June 2023, the dense willow stakes have leafed out and are thriving.

The Whitewood Sands Restoration project is considered to be doing well, progressing as anticipated so far in this first summer season. The WWMC is planning another riparian/shoreline restoration project/workshop this fall (2023). Stay tuned for further details.

Water Sampling

by Neil Fleming

One of the guiding principles from our [Watershed Management Plan](#) is a thorough understanding of how water quality adapts to seasonal and long-term changes as well as other effects such as development, eutrophication, disturbances and climate change. Wabamun Lake is very fortunate to be included as one of the over 100 lakes currently being studied by the Alberta Lake Management Society (ALMS). The data base they are developing will help us guide the way to the goals and directives of the WMP as we steward our lake.

Through the ALMS [Lakewatch Program](#), the water at Wabamun is sampled 8 times per year, 4 in the summer and 4 in the winter. The water is analysed for several parameters including temperature, dissolved oxygen, dissolved solids, pH, phosphorous, nitrogen, chlorophyll, microcystin (toxins produced from blue-green algae) and so on. We held our first sampling event on June 6th which produced some interesting findings. Water clarity is measured with the use of a "Sechi Disc". The black and white disc is lowered into the water and the depth at which one is unable to differentiate black from white is measured. At our main test site, that depth was recorded at 6.4 meters, by far the deepest reading on recent record. Caleb Sinn, ALMS director, supposed that the water clarity could be a result of many factors including the early sample date, the reduced amount of spring runoff and the large volume of zooplankton found happily munching on algae near the bottom.



A Sechi Disk, used to measure water clarity. The depth of the water is recorded at the point where one is unable to differentiate between the black and white areas of the disk.

Another interesting finding was the consistency of readings of the different parameters at all depths. Caleb referred to this as a "mixed" water column meaning that the water has been mixed or stirred instead of being stratified in layers with different readings in each layer.

In addition to our Lakewatch samplings, we are now in the second year of a project referred to as "[Satellite Derived Algae Monitoring](#)". This project is being run through the University of Alberta and involves the collection of water samples from many locations on the lake on a clear day when satellite imagery is also collected. The water samples will be cross referenced to the satellite image for each location. The presence of chlorophyll-a in the samples would indicate the presence of algae including cyanobacteria. The satellite images will be logged so that in future the presence and type of cyanobacteria may be identified and possibly predicted by remote imaging. This is a new and developing technology which we will keep you updated on in future editions of *Lakescape*.

Sundance Boat Launch and Recreation Area

Parkland County has decided to name the new southshore boat launch the "[Sundance Boat Launch and Recreation Area](#)". As we reported in the Spring *Lakescape*, more work needs to be done on the launch, including dredging the lake bottom to ensure safe passage of vessels. However, that work could not occur until after July 1 and is expected to be completed by mid-July. Once completed, an opening date will be announced. For more information, go to Parkland County's [lake access web page](#), where you can also sign up for email updates.

Alberta Health Services Recreational (Beach) Water Monitoring Program

by Bradley Peter, Alberta Lake Management Society

What is the Recreational (Beach) Water Monitoring Program?

This program, coordinated by Alberta Health Services and partners, supports the monitoring of public beach areas during the recreational water season (May 23 2023-September 3 2023). This program is designed to assess and manage public health risks associated with recreational waters throughout Alberta. Each year, priority beach locations are selected based on their usage by the public and their water quality history. Therefore, not every recreational beach in Alberta is monitored every summer.

Will Wabamun Lake Be Monitored under the Recreational (Beach) Water Monitoring Program?

Yes. In 2023, three locations at Wabamun Lake have been designated as priority beach locations. These locations are Seba Beach, Camp Yowochas, and the Wabamun Lake Provincial Park.

What is Monitored for at Priority Beach Locations

Priority beach locations may be monitored for either *Enterococcus*, a measure of faecal contamination, or cyanobacteria blooms, a measure of blue-green algae cells and their common toxins. In 2023, Seba Beach and Camp Yowochas are priority sites for *Enterococcus*, and the Provincial Park is monitored for both *Enterococcus* and cyanobacteria. Ideally, these sites are monitored on a weekly basis, however sampling may occur more infrequently depending on sampler availability.



Even if samples are not collected for cyanobacteria blooms at every priority site, all beaches should still be monitored visually for cyanobacteria blooms. If you suspect a public beach area is experiencing a cyanobacteria bloom, take a photograph and report this information to:

<https://www.albertahealthservices.ca/eph/Page13916.aspx>

Where Can I Find More Information?

[Alberta Safe Beach Protocol \(PDF\)](#) contains information on water quality thresholds, advisories, and photos of cyanobacterial blooms.

Our Partners

The WWMC thanks the following governments and organizations for their support of specific WWMC projects:



Donors

The WWMC gratefully thanks the following people who have donated to the WWMC to continue our work protecting the health of Wabamun Lake: Kelly & Mary Aldridge, Margaret Bakker, Todd Baldwin, Rob Cowley, Sandy Drummond, Carol & Keith Epton, Neil Fleming, Colleen & David Judge, Kobylko Family, Averie & Carman McNary, Don Meredith, Peter & Jordyce van Muyden, Julia & Tony Nelson, Cliff Richard, Robarts Family, Bill & Kate Russell, Denise & Bernie Wade. Edmonton Community Foundation: *Stan & Janet Franklin Fund, McIvor Kent Endowment Fund.*

Remember: Donors to the WWMC will now receive a tax receipt. Go to our [Donate page](#) for more information.

Corporate Members

The WWMC thanks the following businesses, governments and organizations for joining the WWMC as corporate members and helping the council achieve its goals. Go to [Get Involved](#) for more information about Corporate Membership.

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