

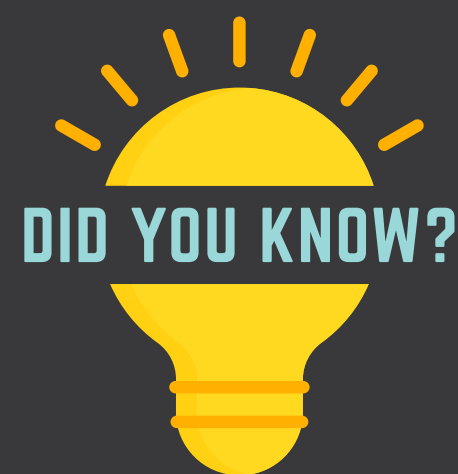
Science Walk: Buffalo Pound Lake Research Site

Buffalo Pound Lake provides drinking water for approximately 25% of Saskatchewan's population. It is also an important recreational site enjoyed by many.

However, nutrient-rich runoff (especially phosphorus and nitrogen), temperature, and wind conditions can lead to algae growth in the summer, affecting water quality.



Buffalo Pound Lake, Saskatchewan



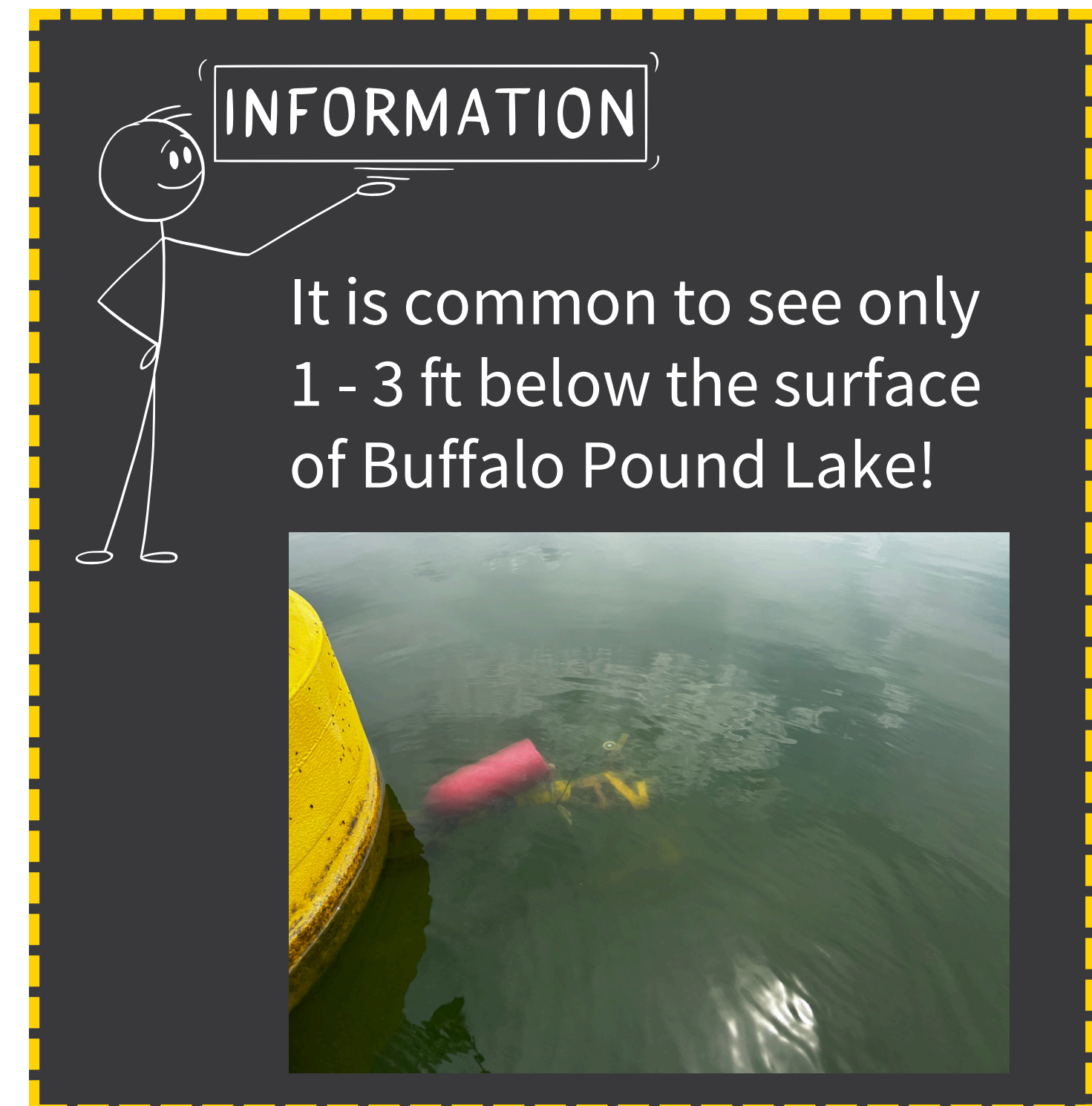
The lake supplies drinking water to communities including **Regina** and **Moose Jaw**, meaning water can travel over 50 km through pipelines before it reaches city taps.

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The lake is long, narrow, and shallow (~10 ft deep on average), with most water originating from Lake Diefenbaker in typical years. The clarity of the lake is often low because nutrients feed algae, and sometimes sediments get stirred up by wind. The clarity of the water can change quickly—you may even notice it change while you are at the lake!



Aerial view of Buffalo Pound Lake, Saskatchewan (Photo: Joe Mabel, 2013, Flickr)



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Changes in the lake environment can create challenges for water treatment.

By monitoring Buffalo Pound Lake and understanding conditions that can impact water treatment, the Buffalo Pound Water Treatment Plant can adapt its processes.



*Researchers launch a real-time buoy that monitors Buffalo Pound Lake's water quality
(Photo: Mark Ferguson, University of Saskatchewan)*



The Buffalo Pound Water Treatment Plant uses advanced technologies to clean the water before it reaches your tap. The plant is currently being upgraded to replace aging infrastructure, support increases in demand, and adapt to changes in lake water quality.

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A long-term partnership between the **Buffalo Pound Water Treatment Plant** and the **University of Saskatchewan** has supported real-time water quality monitoring of Buffalo Pound Lake for more than a decade.

Data from Big Buoy and Super Buoy provide early warnings of challenging water quality conditions, and helps researchers understand the effects of extreme wind or calm hot weather.



Big Buoy, est. 2013

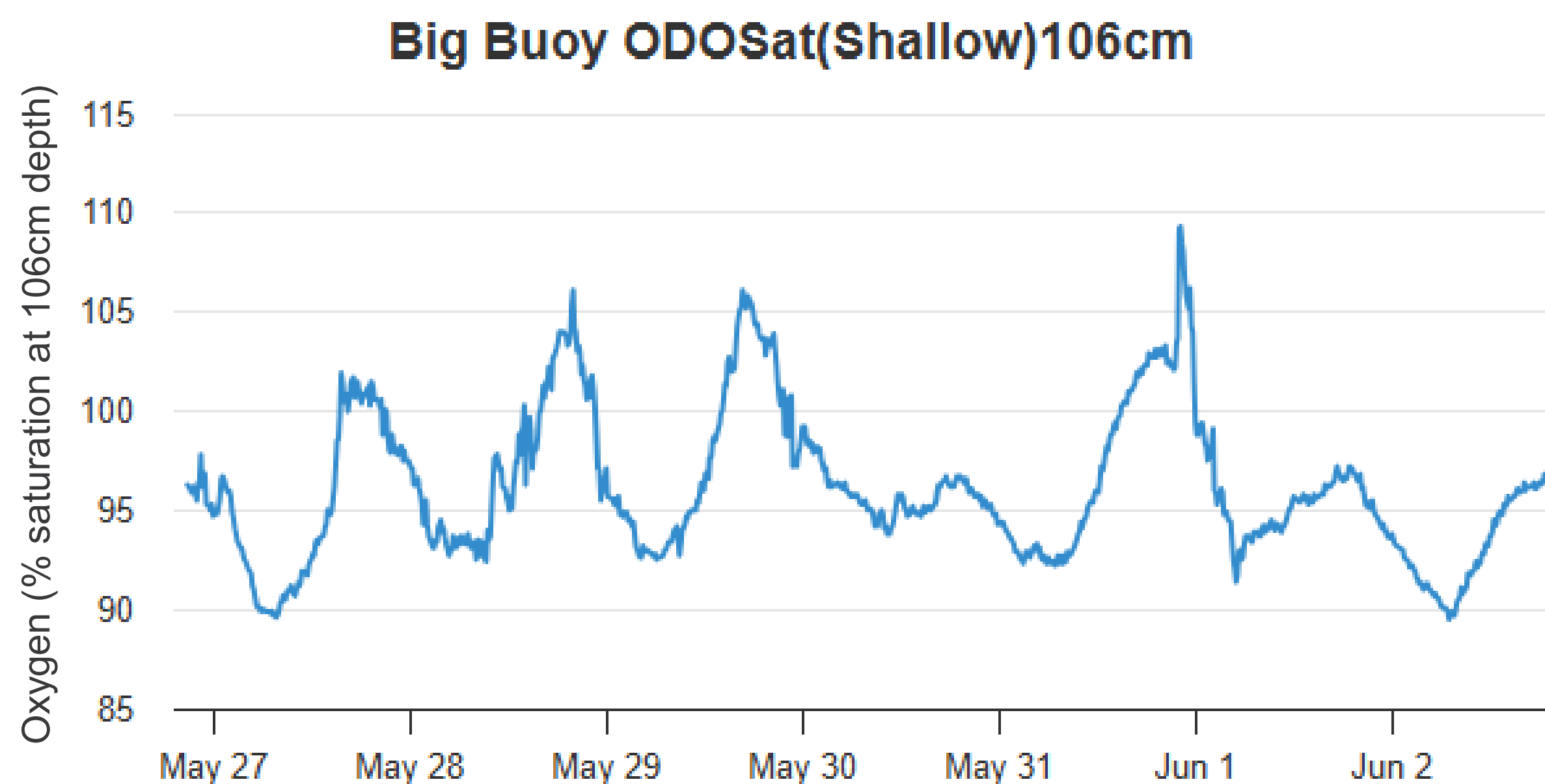


Super Buoy, est. 2022

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Data from the water quality buoys also helps researchers understand the lake ecology. For example, oxygen increases in the day due to photosynthesis from plants and algae, and declines at night (see graph below). These changes are important for understanding the lake's chemistry and ecology.

Ongoing scientific research, using data from the buoys, helps us understand the complex changes in the lake.



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View live data from Big Buoy and Super Buoy

Data and photos from Big Buoy and Super Buoy are livestreamed and freely available.

Scan the QR Code to see the current lake conditions.



research-groups.usask.ca/baulch/buffalo-pound-lake.php

The types of data you can view are:

- wind speed and direction
- air temperature and pressure
- water temperature at various depths
- water turbidity (i.e., 'cloudiness')
- other measurements that help monitor the lake's water quality



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Buffalo Pound Lake, Saskatchewan



Working together helps people share ideas, learn from each other, and find better solutions to complex problems.

Ongoing research helps us understand how the management of Buffalo Pound Lake and its watershed, along with factors such as changes in weather and climate, impact the lake.

The long-term research partnership can provide:

- a better understanding of Buffalo Pound Lake's water resources and how to manage them;
- support for continued high-quality drinking water and safe water for multiple uses.

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Learn more about the partnership and research happening at Buffalo Pound Lake!



research-groups.usask.ca/baulch/buffalo-pound-lake.php



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(Photo: Mark Ferguson, University of Saskatchewan)*

Supporters

Research on Buffalo Pound Lake is ongoing and covers multiple topics. It is supported by researchers at the University of Saskatchewan, the University of Regina and other universities, personnel at the Buffalo Pound Water Treatment Plant, government agencies, and funding agencies.



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