



**REPORT ON WATER TAKING FROM THE TAY RIVER.**  
2023 Calendar Year

May 21<sup>st</sup> 2024.



THINKING OF TOMORROW

omya.com

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**Health and Safety Commitment**



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At Omya we believe in following health and safety practices everywhere and every time, to avoid any injury and promote health.



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COMPANY PROFILE

## Health and Safety goes along with our Company Values



We always evaluate the hazards of any situation.



We always take care for the health and safety of people around us.



We always react and report any unsafe situation.



Our target is zero injury and a healthy life.

This document contains proprietary information which shall not be used and disclosed without Omya explicit written authorization.



PERMIT TO TAKE  
WATER MONITORING  
AND REPORTING

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## Omya Water Takings

- Omya Canada Inc. completed monitoring as required for Permit To Take Water (PTTW) Number P-300-1069049907
- Permitted Water Takings include:
  - *Groundwater wells (PW1, PW2, PW3, PW4, PW5, PW6, RW1, DPI and W1)*
  - *Surface water from the Tay River*
- Water takings are recorded using a flow meter and totalizer

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## Tay River Watershed

- The **Tay River Watershed** spans approximately **850 square kilometers**.
- The **Tay River** stretches about **95 kilometers** in length.
- On average, the Tay River descends **1.2 meters per kilometer** (equivalent to **6.4 feet per mile**).
- Within the Tay River Watershed, there are a total of **46 lakes**.
- The watershed encompasses **six municipalities**.
- Along the Tay River, there are **four dams** and **one set of locks**.
- The **headwaters of the Tay River** serve as a reservoir for the **Rideau Canal**.

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Source: Friends of the Tay Watershed (<https://www.taywatershed.ca/>)

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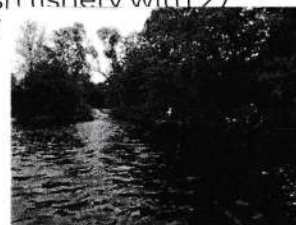


## Tay River

- The typical normal flow is **5.3 cubic meters per second** at Perth
- This flow was observed at this time of the year over the historic records of 31 years based on Rideau Valley Conservation Authority
- Observed water level at Perth is **133.05 meters above sea level (masl)**
- Warm and cool water recreational and baitfish fishery with 27 species observed in the Tay River during 2017



Canoeing in the Tay River  
Source: <https://www.perth.ca/en/index.aspx>



Fishing in the Tay River  
Source: <https://watersheds.rvca.ca/>

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## Water Taking Permitting Overview

- Under the *Ontario Water Resources Act.*, R.S.O. 1990, c. O.40, all water takings (groundwater and surface water) in excess of 50,000 L/day require a permit
- Water takings in excess of 50,000L/day and under 400,000 L/day are eligible to be registered under the Environmental Activity and Sector Registry (EASR)
- EASR's require self registration, usually with the help of a qualified professional and cover routine or lower risk water taking activities
- Water takings in excess of 400,000 L/day require a Permit to Take Water (PTTW), covering non routine or higher risk water taking activities

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### **P-300-1069049907 (PTTW)**

- Omya's PTTW P-300-1069049907, as amended on January 18, 2021, permits the following water taking until November 18, 2030:
  - *The maximum total combined taking from all sources shall not exceed 1,483,000 L/day*
  - *The maximum total combined taking from all groundwater sources shall not exceed 875,534 L/day*
- If groundwater takings exceed 50,000 L/day for more than seven consecutive days, monthly water levels must be recorded at a spare production/monitoring well
- If production wells are used for more than 30 consecutive days or a total of 60 days in a year, a report must be submitted summarizing the monitoring data including an interpretation of impacts on groundwater resources

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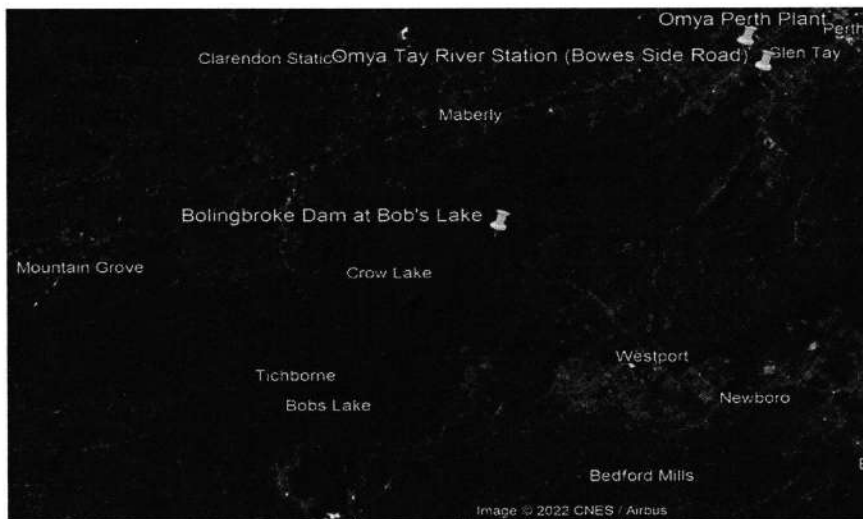
### **P-300-1069049907 (PTTW)**

- Water taking from the Tay River shall immediately cease if the discharge measured is equal to or less than 1 m<sup>3</sup>/s
- Instantaneous surface water takings cannot exceed 1,030 L/min
- Instantaneous groundwater takings are specified for each well on site and cannot exceed 60 L/min for PW1 to PW2 or 100 L/min for PW3 to PW6

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### Watershed Boundary at Omya Tay River Station

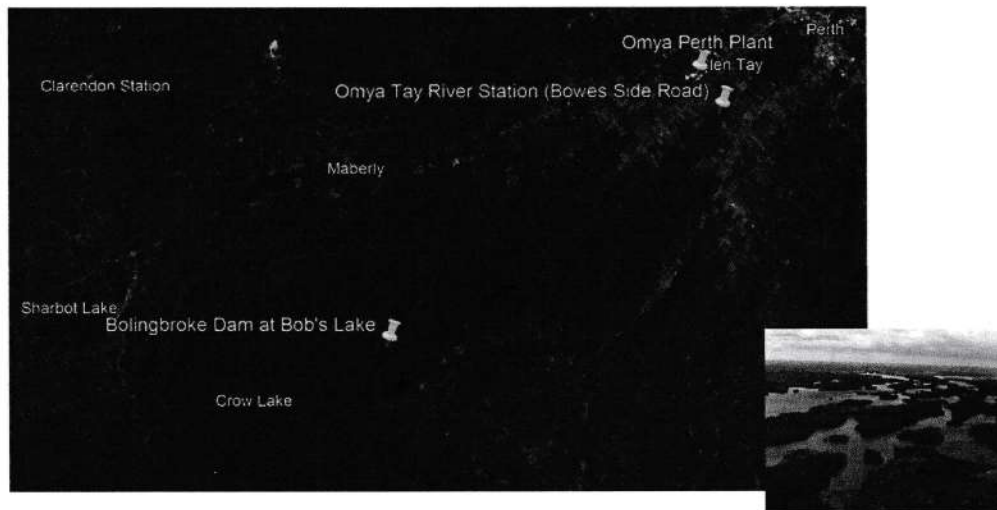


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### Site Location



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Bobs and Crow Lakes East End  
Source: <https://www.taywatershed.ca>

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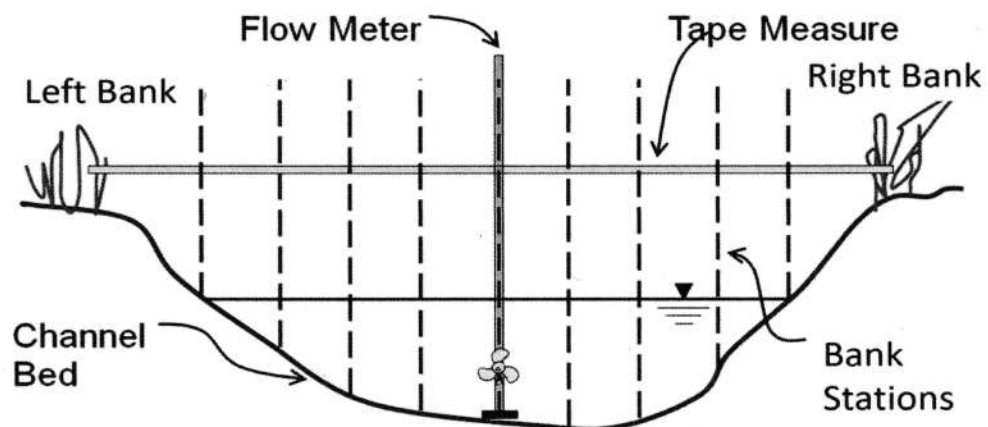
## Tay River Monitoring

- Tay River is controlled upstream by the Bolingbroke Dam at Bob's Lake
- Hydrometric monitoring station maintained by Omya near Bowes Road
- Hydrometric monitoring station includes staff gauge and water level meter and data logger
- Streamflow records were derived from daily water level records using an open water rating curve and adjusted with a secondary rating curve to account for ice conditions

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## Streamflow Measurements

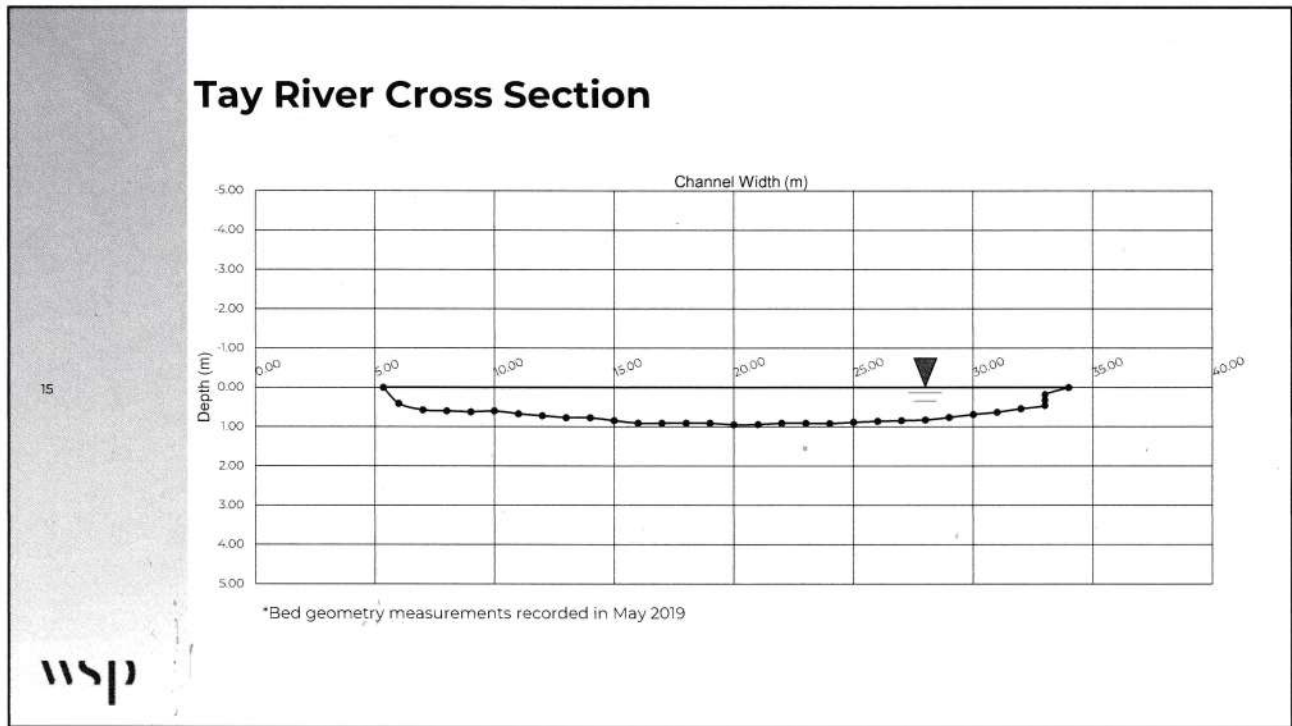


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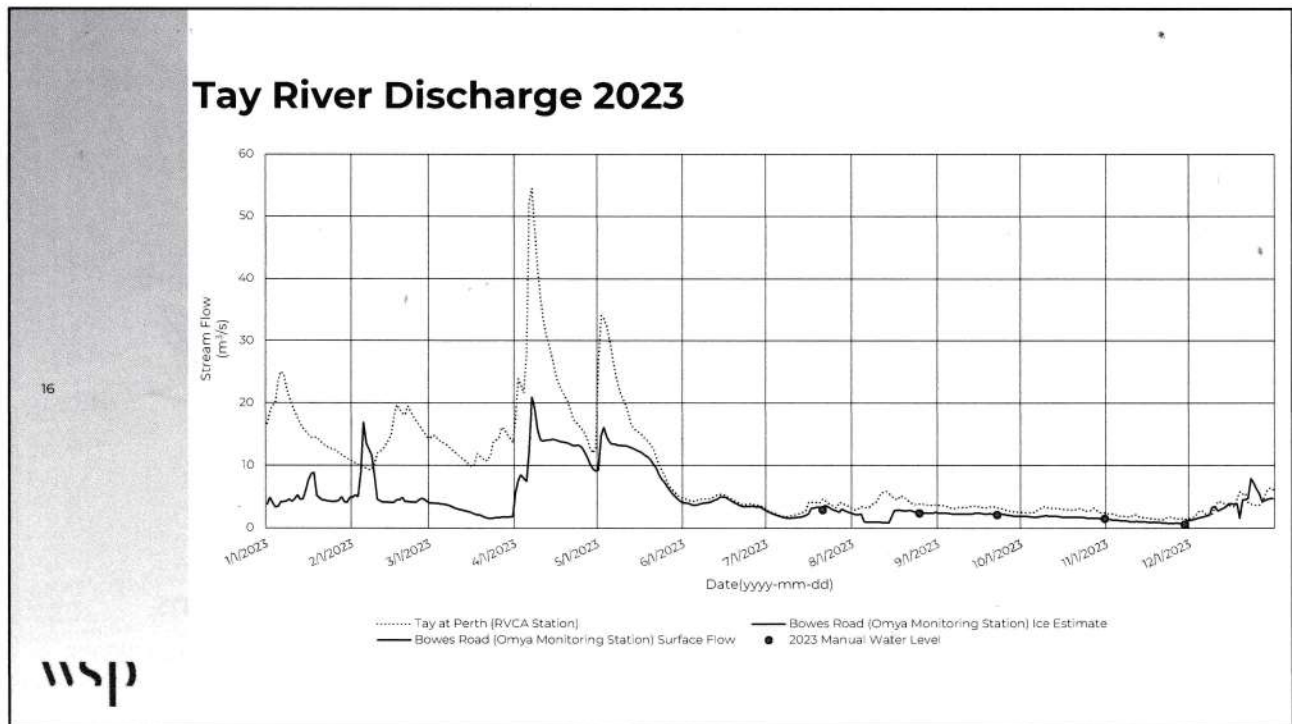
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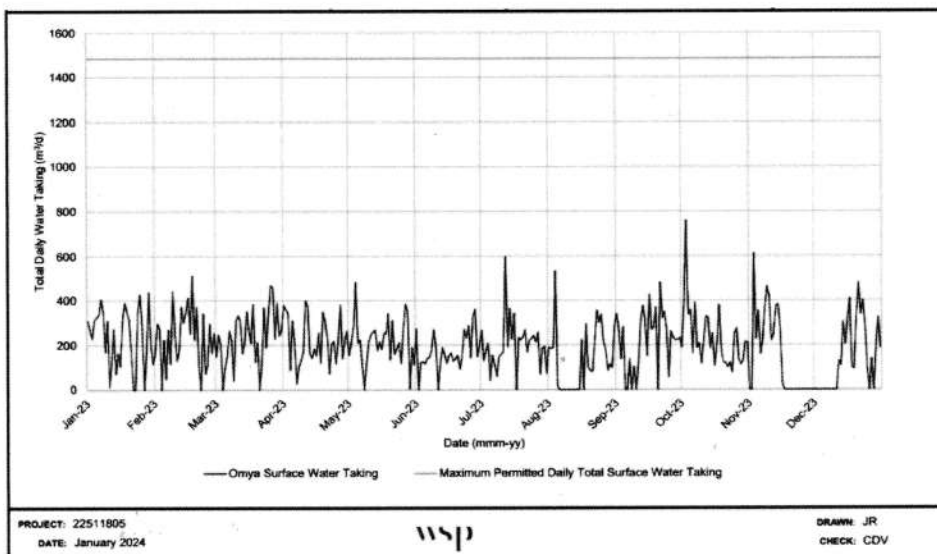


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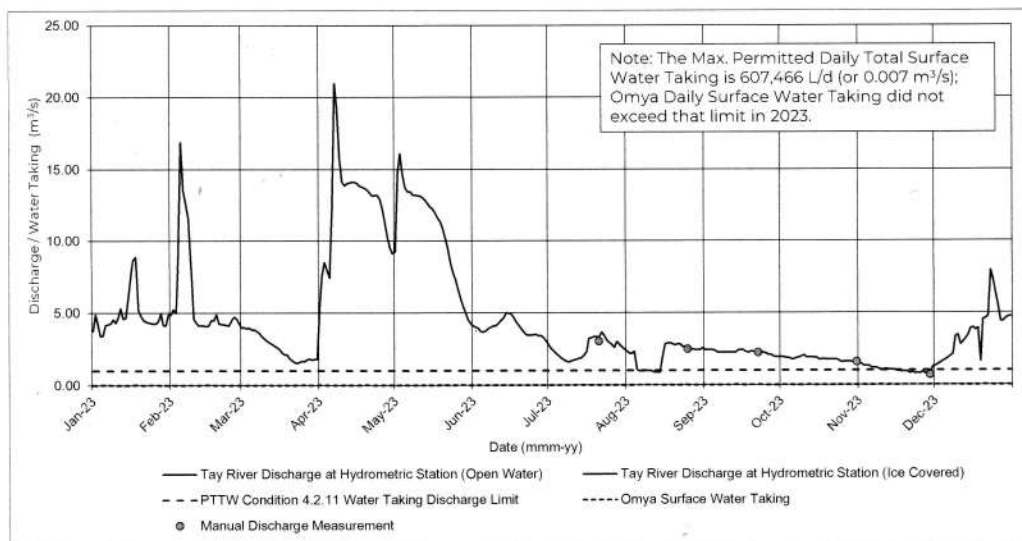
### Tay River Water Taking 2023



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### Tay River Discharge 2023



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## Tay River Surface Water Takings

- Hypothetically, when the river flow is equal to 1.0 m<sup>3</sup>/s (the minimum river flow for water taking), the maximum permitted water taking is still only 2.0% of the river flow.
- Flow at the hydrometric station was recorded to be less than 1.0 m<sup>3</sup>/s in mid November 2023 for approximately two weeks. Omya water takings were switched from the Tay River to production wells during this period.

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## Tay River Surface Water Takings

- The maximum permitted daily surface water taking amount of 1,483,000 L/day was not exceeded in 2023
- The maximum daily surface water taking in 2023 was 759,000 L/day
- Maximum instantaneous permitted surface water taking is 1,030 L/min
- The maximum instantaneous permitted surface water taking was not exceeded in 2023 for the available period of record except for on April 28 with a rate of 1,122 L/min and October 20 with a rate of 1,068 L/min because of fire hydrant testing
- The daily permitted amount was not exceeded during hydrant testing

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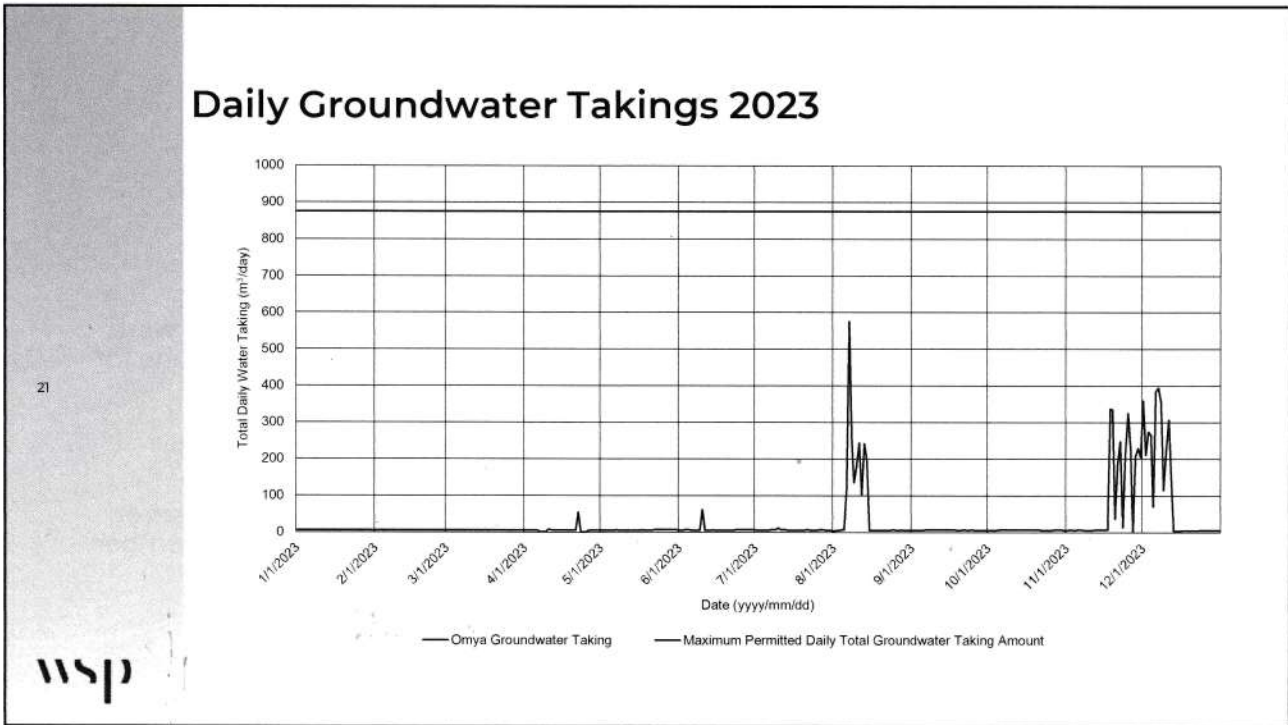
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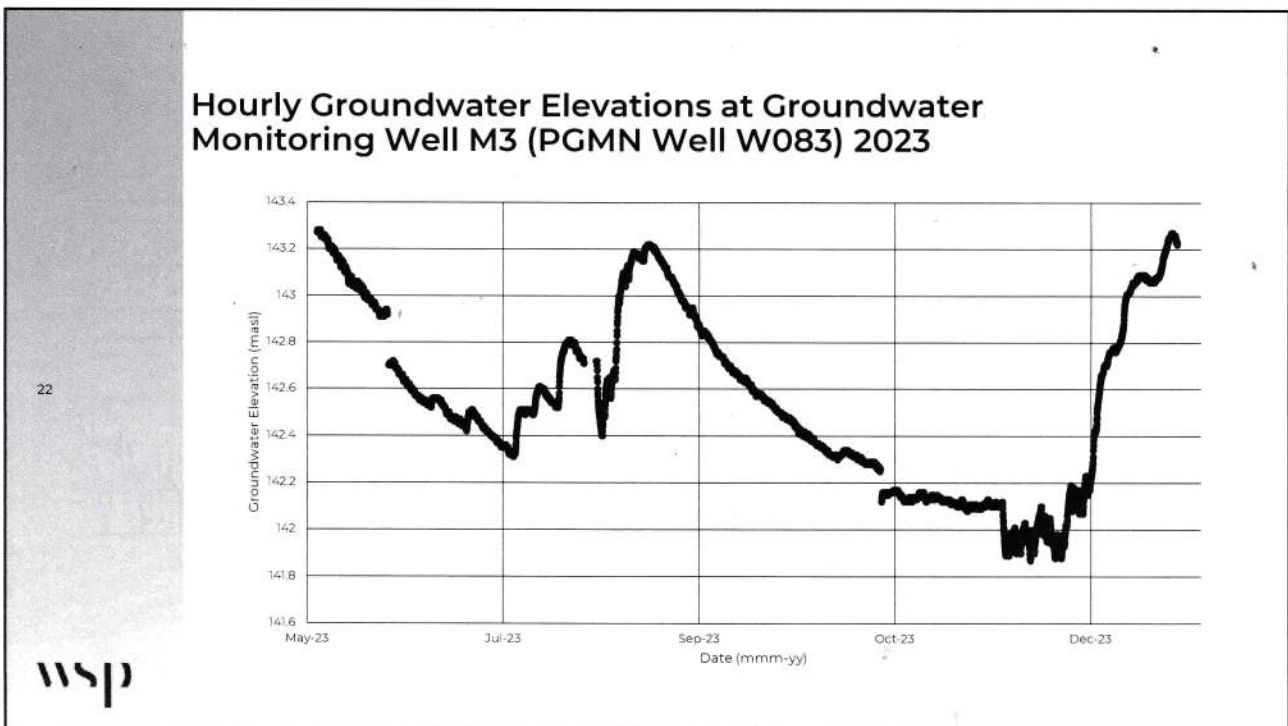
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## Groundwater Well Takings

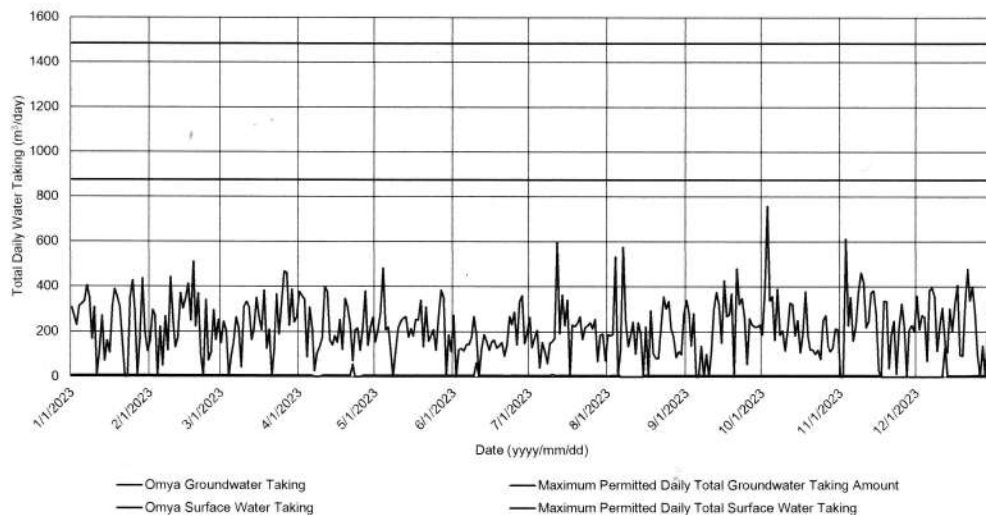
- The maximum permitted amount for daily groundwater takings, 875,500 L/day (875.5 m<sup>3</sup>/day), was not exceeded in 2023
- The maximum per minute water taking limit for individual wells were not exceeded during 2023, except for a short duration spike in June for PW5
- Water was taken at a rate greater than 50,000 L/day more than seven consecutive days starting on August 6, 2023 (9 days) and on November 25, 2023, and ending on December 12, 2023 (25 days)



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## Surface Water and Groundwater Takings 2023




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## Summary

- Daily water taking permitted amounts were not exceeded for the groundwater wells and the Tay River surface water takings.
- Maximum instantaneous (L/min) and overall daily amounts were not exceeded for the available records.
- Surface water takings occurred when river flow was above 1.0 m<sup>3</sup>/s; no impacts on the downstream river were expected.



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THANK YOU



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