

Sunderland Emergency Well Replacement

Vulnerability and Threats Assessment

Durham Region



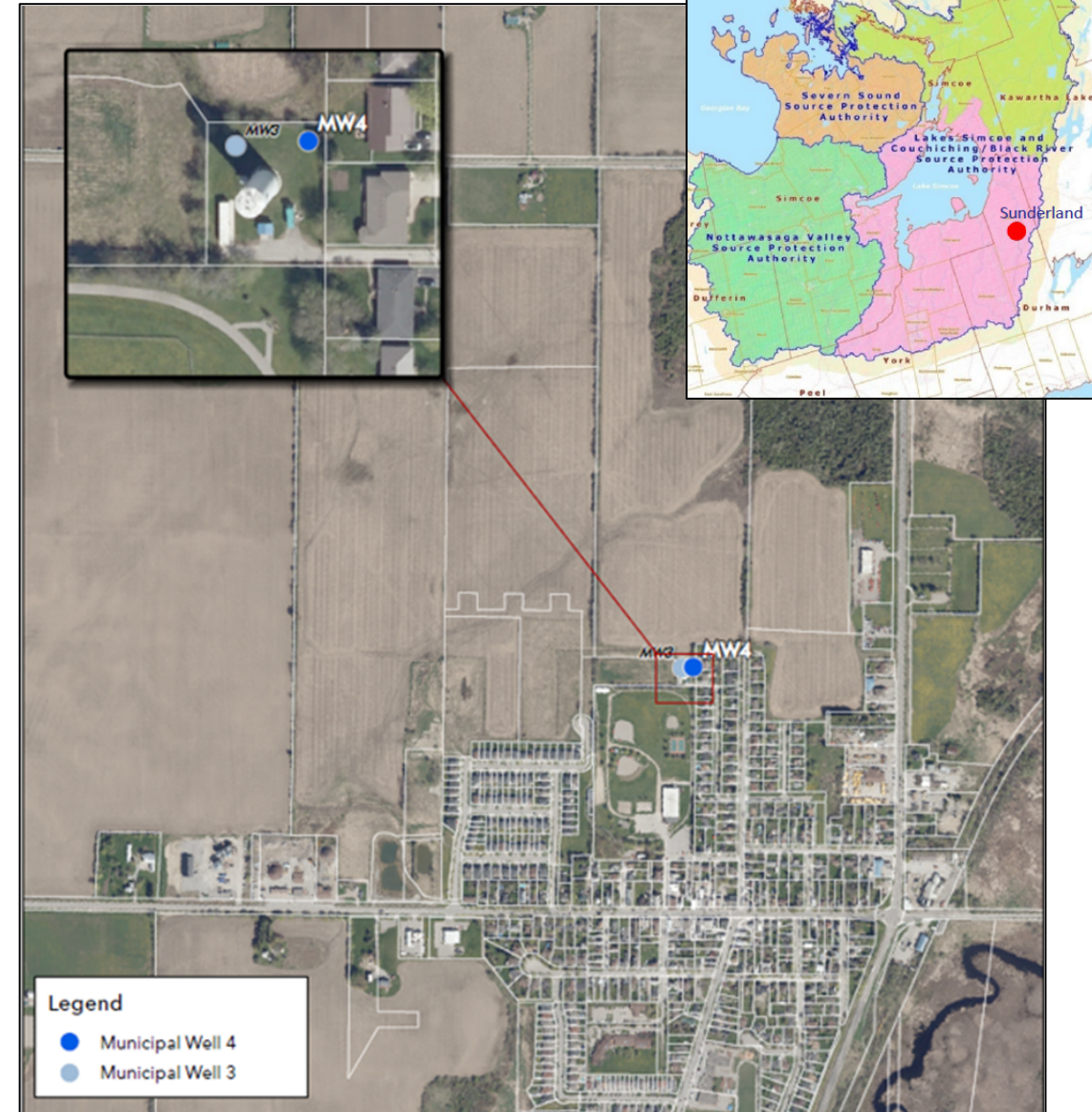
Source Protection Committee Meeting
October 16, 2025

Shelly Cuddy, P.Geo. – Hydrogeologist, Durham Region



Background

- Sunderland has historically (pre-2017) been supplied by two production wells, MW1 and MW2.
- MW2 was removed from service in 2017 due to a rapid decline in water quality and MW3 was commissioned to augment supply from MW1.
- After development and commissioning, MW3 has had issues with excess sand production.
- Given on-going concerns with the reliability of MW3, the Region initiated the commissioning of emergency replacement well MW4 in 2024.

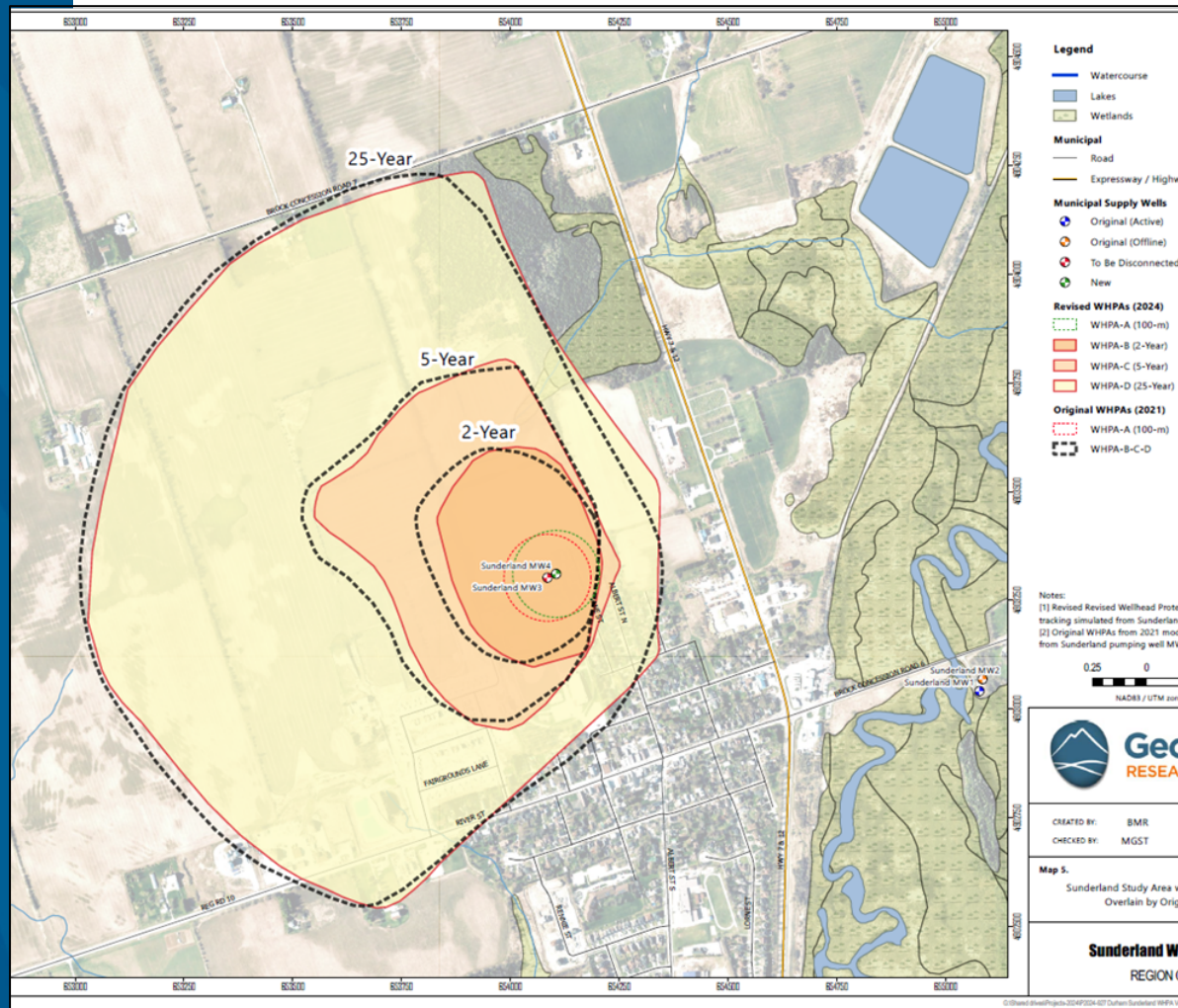


Municipal Supply Well MW4

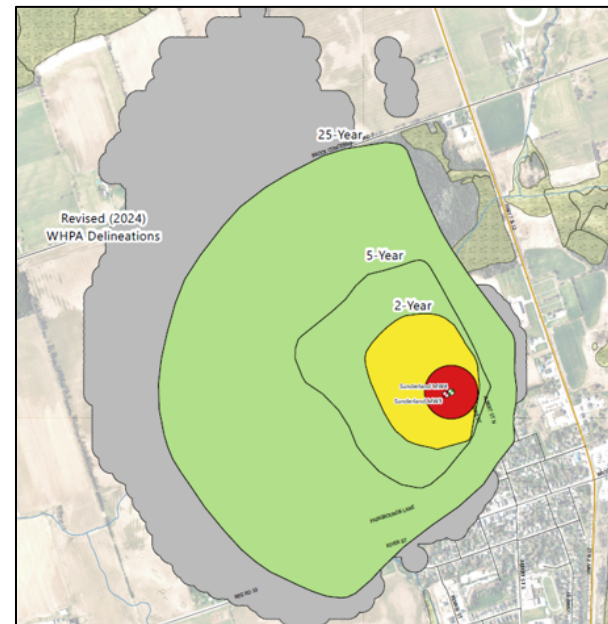


- MW4 was drilled and installed in September 2024
- A 24-hour pumping test was conducted to confirm the well capacity and water quality would be similar to MW3
- MECP has issued the new Permit To Take Water - no change in total permitted water taking rates and the Drinking Water Works Permit amendment (Schedule C).
- The connection of MW4 is planned this fall along with the commissioning of the new well.

Vulnerable Areas



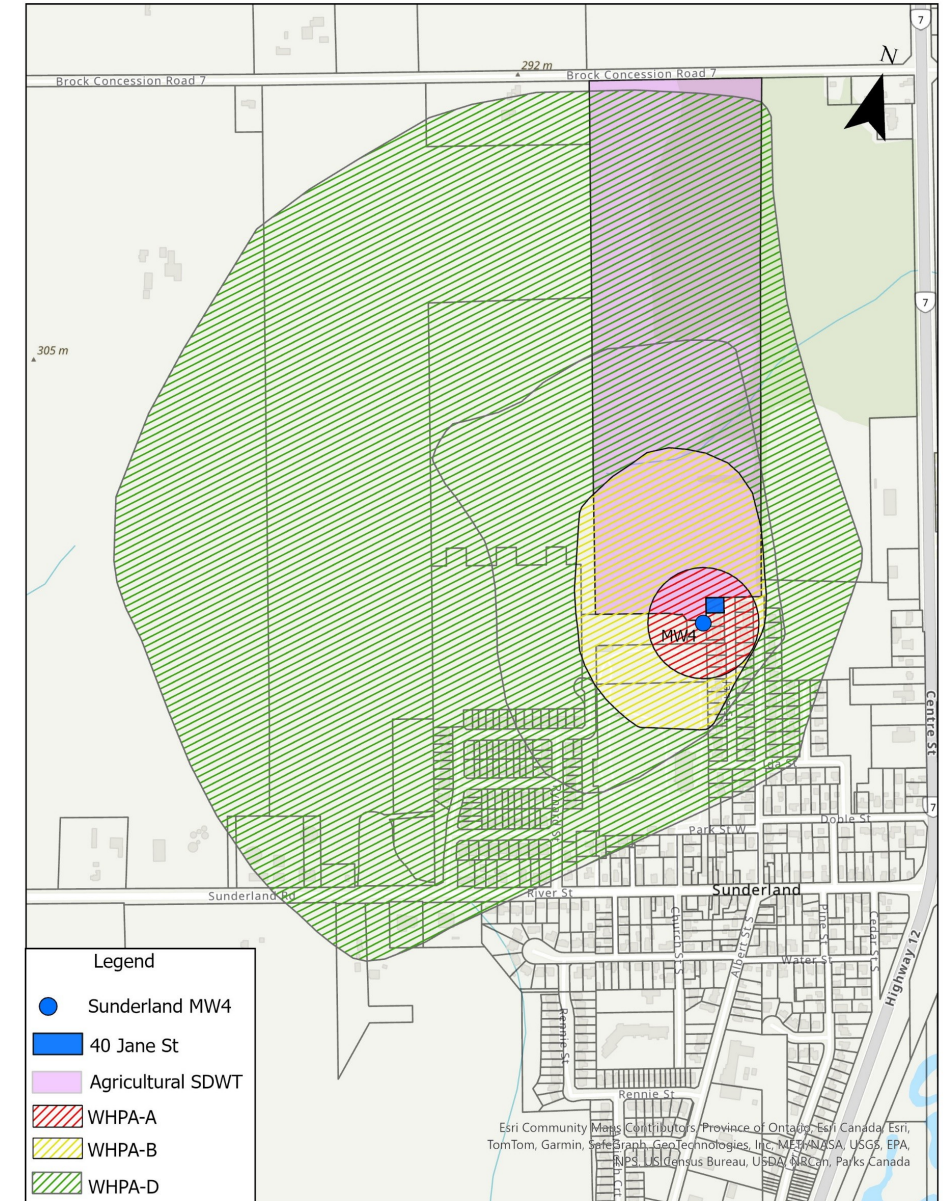
- GeoProcess used the existing Durham model to update the WHPA to reflect the new location of MW4 (WHPA's shifted approximately 20 m east)



Threats Assessment – MW4

- The Region updated assessment of drinking water threats (no new threats/properties identified).
- Potential Significant Drinking Water Threats remain unchanged for the WHPA adjustment
- On-site sewage systems = 2
- Application of ASM = 1
- Application of Pesticides = 1

Total 4 signifiation drinking water threats on 3 properties





THANK YOU

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