

9.2 Toronto and Region Source Protection Area

The sub-watersheds identified in the table below, were confirmed to be moderately stressed from the Tier-2 Water Budget and Water Quantity Stress Assessment Studies.

Watershed	Sub-Watershed	Tier 2 Stress Level	Municipal DWS
Rouge River	Little Rouge River(RO02)	Moderate	Stouffville (PW1, PW2, PW3, PW5)
Duffins Creek	Stouffville/Reesor Creek (DU06)	Moderate	Stouffville (PW6) Uxville(MW1, MW2)

Subsequently, the Tier-3 Water Budget and Water Quantity Risk Assessment Studies completed in 2014 for the Stouffville (York Region) and Uxville (Durham Region) municipal wells (see above table) delineated water quantity vulnerable areas called WHPA-Q1 and WHPA-Q2; where,

WHPA-Q1: The combined area that is the cone of influence (or “drawdown” cones) of the municipal well and the whole of the cones of influence of all other (municipal and non-municipal) wells that intersect that area. Due to intersections of the modelled “drawdown” cones of many nearby municipal systems, the water quantity based vulnerable area WHPA-Q1 was geographically very extensive.

WHPA-Q2: WHPA-Q1 PLUS any area where a future reduction in recharge would significantly impact that area. Since future proposed land use change has no “measureable” impact on the municipal wells, WHPA-Q2 was therefore made coincident with WHPA-Q1 (i.e. WHPA-Q1/Q2; see Figure1 below).

The combination of WHPA-Q1 and WHPA-Q2 are called a “Local Area”. Activities considered drinking water quantity threats (i.e. activities contributing to consumptive water takings and activities which reduces recharge) within the local area are classified as low, moderate, or significant depending on the risk level assigned to the Local Area. If the risk level is significant, then all current and future water quantity threat activities are classified as significant drinking water threats. If the risk level is moderate, the current water quantity threat activities are classified as moderate drinking water threats, while the future such activities would be classified as significant drinking water threats.

In summary, the Tier-3 York/Durham Water Budget and Water Quantity Risk Assessment provided the following results:

“Exposure” level under scenario G (Table 4 – Exposure Scenarios; Technical Rules, 2009) is high due to impacts to “other users”: 20% decrease in base flows to cold water streams in the Yonge Street Aquifer area, greater than 1m incremental drawdown in other permitted wells and under PSWs.

“Tolerance” levels of Stouffville and Uxville drinking water systems are assessed to be high.

“Uncertainty” level of analysis was assessed to be low.

Therefore as per Technical Rule 98(2) and 100(1), a “moderate” risk level is assigned to the Local Area WHPA-Q1/Q2).

Since York/Durham Tier 3 Local Area (WHPA-Q1/Q2) was assigned a moderate risk level, all existing consumptive water takings and recharge reductions within this local area are classed as moderate threats and all future consumptive water takings (requiring PTTW) and future recharge reductions are classed as significant threats (Ref # 4 & 8, Table 5: Water Quantity Drinking Water Threats; Technical Rules, 2009).

A small portion of the Local Area in the Region of Durham (within the municipalities of Uxbridge & Scugog) extends into Kawartha-Haliburton Source Protection Area, part of the Trent Conservation Coalition SPR.

Policies are required to ensure that moderate threats in the local area do not become significant and to prevent future significant threats (i.e. increase to an existing taking or a new taking or reduction in recharge).

TCC SPC are technically required to implement policies with respect to York/Durham Tier 3 Local Area coming under the jurisdiction of Kawartha-Haliburton SPA after MOE approves TRSPA's Updated Assessment Report. MOE approved TRSPA's Updated Assessment Report on July 24, 2015. Therefore it is recommended that:

1. **TCC SPC be requested to develop water quantity policies aimed at future consumptive takings and/or future reductions in recharge activities for the Local Area (WHPA-Q1/Q2) falling within Kawartha-Haliburton SPA.**
2. **Public consultation would need to be carried out in relation to the updates to the Trent Assessment Report and Trent Source Protection Plan.**

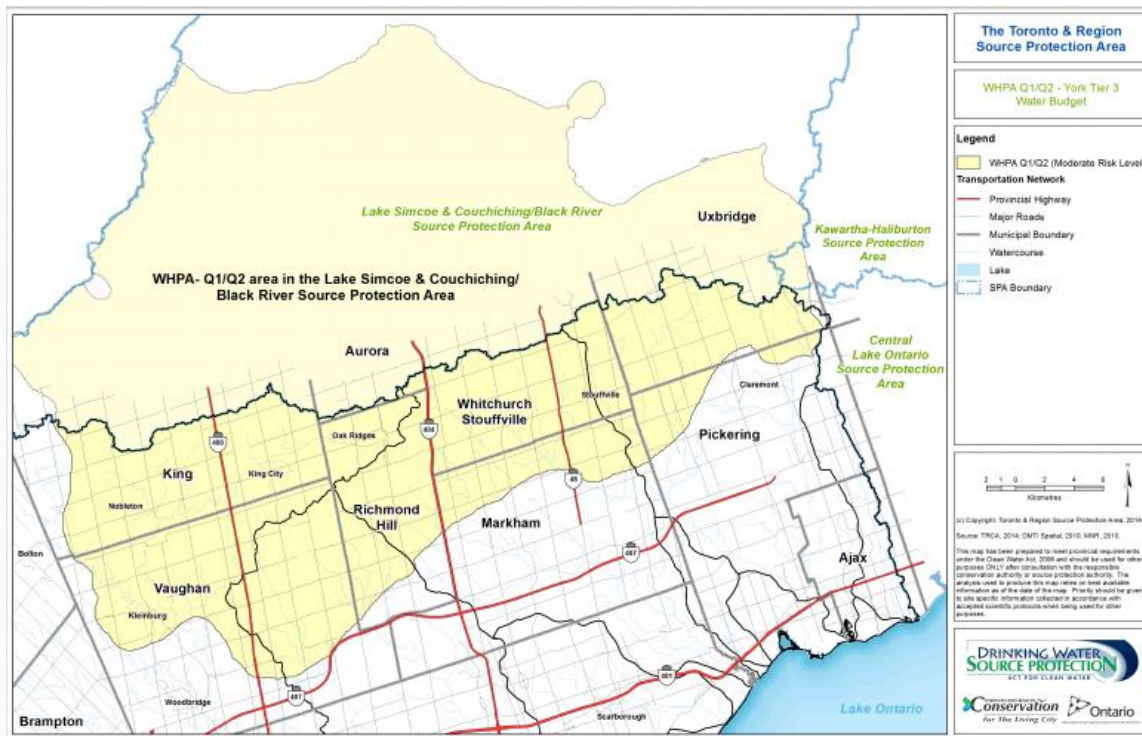


Figure 1: WHPA Q1 & Q2 Boundaries in Credit Valley, Toronto and Region, and Central Lake (CTC) and Lake Simcoe & Couchiching / Black River Source Protection Regions. Note the small area to the East which enters Kawartha-Haliburton Source Protection Area.