2021 Annual Drinking Water System (DWS) Quality Report
Keswick-Sutton Distribution Subsystem

Prepared by the Town of Georgina pursuant to Section 11 of O.Reg. 170/03

Drinking Water System Number: 260062686
Drinking Water System Name: Keswick-Sutton Distribution Subsystem
Drinking Water System Owner: The Town of Georgina
DWS Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution II
Reporting period: Jan 1, 2021 - Dec 31, 2021

The Keswick-Sutton Distribution Subsystem serves 39,527 people
This annual report is available to the public at no charge on the Town's website https://www.georgina.ca/living-here/home-and-property/municipal-water-and-wastewater/drinking-water-reports and upon request at the Civic Centre.

Summary report required under O.Reg. 170/03 Schedule 22 will be available for inspection at:
The Town of Georgina
Civic Centre
Office of the Clerk
26557 Civic Centre Road, Keswick, Ontario, L4P 3G1
and online, https://www.georgina.ca/living-here/home-and-property/municipal-water-and-wastewater/drinking-water-reports

List all Drinking Water Systems which receive their drinking water from the Keswick-Sutton Distribution Subsystem
None

Description of the Keswick-Sutton Distribution Subsystem

Introduction
Municipal drinking water is being supplied to the communities of Keswick and Sutton, located on the south shore of Lake Simcoe. Surface water from Lake Simcoe is treated by the Regional Municipality of York, while the Town of Georgina distributes treated water to end users. The Province governs the Region and Town of Georgina operations with its Acts and Regulations, a Permit to Take Water (PTTW), a Municipal Drinking Water License (MDWL) and an Operating Permit (OP).

Raw water source
Lake Simcoe

List of water treatment chemicals used over this reporting period
None

Brief description and breakdown of monetary expenses incurred
N/A

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Notices submitted under Section 18(1) of the Safe Drinking Water Act or Section 16-4 of O.Reg. 170/03 and reported to MECP Spills Action Centre (SAC) as potential / suspected Adverse Water Quality results

Incident Date	Parameter	Result (Present or Absent)	Unit of Measure	Corrective Action	Corrective Action Date
September 1, 2021	**Operational** **Chlorine Residual**	**< 0.05**	mg/L	Flush, monitor and rush microbiological samples in accordance with O.Reg. 170/03	Sep 1, 2021 – Flush, test for chlorine residual and take microbiological samples
September 1, 2021	**Operational** **Chlorine Residual**	**< 0.05**	mg/L	Flush, monitor and rush microbiological samples in accordance with O.Reg. 170/03	Sep 1, 2021 – Flush, test for chlorine residual and take microbiological samples
September 9, 2021	**Watermain / Water Service Break / Leak** **TC - (Total Coliform)** **EC - (E.Coli)**	**Absent**	Presence/ Absence	Resample (at, upstream, and downstream), flush, & test for chlorine residuals + microbiological samples in accordance with O.Reg. 170/03	Sep 9, 2021 – 1st sample + test & monitor
September 13, 2021	**Operational** **Chlorine Residual**	**< 0.05**	mg/L	Flush, monitor and rush microbiological samples in accordance with O.Reg. 170/03	Sep 13, 2021 – Flush, test for chlorine residual and take microbiological samples
September 20, 2021	**Operational** **Chlorine Residual**	**< 0.05**	mg/L	Flush, monitor and rush microbiological samples in accordance with O.Reg. 170/03 (Upstream, Downstream and at-site tested)	Sep 20, 2021 – Flush, test for chlorine residual and take microbiological samples
October 12, 2021	**Operational** **Chlorine Residual**	**< 0.05**	mg/L	Flush, monitor and rush microbiological samples in accordance with O.Reg. 170/03	Oct 12, 2021 – Flush, test for chlorine residual and take microbiological samples
October 25, 2021	**Watermain / Water Service Break / Leak** **TC - (Total Coliform)**	**Absent**	Presence/ Absence	Resample (at, and downstream), flush, & test for chlorine residuals + microbiological	Oct 25, 2021 – Flush, test for chlorine Rush microbiological

	EC - (E.Coli)			samples in accordance with O.Reg. 170/03	samples to laboratory.

Compared to 2020, 2021 saw seven (7) *potential* Adverse Water Quality Incidents (AWQI's, as identified in the table above). This is neither an increase nor decrease from the seven (7) separate events as compared to the previous year. Sample results for each incident returned negative for microbiological contamination. Town staff reported each potential adverse incident to the MECP SAC and the York-Durham Public Health Unit (PHU) as a precaution to ensure due diligence and to keep the public safe from water borne harm.

Microbiological testing completed under Schedule 10 of O.Reg. 170/03

	Number of Samples	**Range of E.Coli Or Fecal Results (min #)-(max #)**	**Range of Total Coliform Results (min #)-(max #)**	**Number of HPC Samples**	**Range of HPC Results (min #)-(max #)**
Raw	N/A				
Treated	N/A				
Distribution	768	Range: (Absent)	Range: (Absent)	231	Range: 0 – 69 CFU

Operational testing done under Schedule 7 of Regulation 170/03 during the period covered by this Annual Report

	Number of Grab Samples	**Range of Results (min #)-(max #)**	**Unit of Measure**
Chlorine	4969	0.01 – 1.97	mg/L

Water Quality Monitoring (Cockburn Subdivision, Sutton) done under the SDWA – Standard of Care

	Number of Grab Samples	**Range of Results (min #)-(max #)**	**Unit of Measure**
Chlorine	967	0.05 – 2.17	mg/L

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Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

	Date of Sample	Running Annual Average (µg/L)	ODWS Regulatory Limit	Exceedance
Trihalomethanes (THM's)	February 1, 2021	58.61	100 µg/L	No
	May 3, 2021	58.86		
	August 9, 2021	60.67		
	November 1, 2021	**63.35**		
Haloacetic Acid (HAA's)	February 1, 2021	37.38	80 µg/L	No
	May 3, 2021	38.88		
	August 04, 2021	40.25		
	November 1, 2021	**40.63**		
Nitrate		*Refer to Regional Municipality of York Annual Report O.Reg 170/03 requires these parameters to be tested at the point where water enters the distribution system. The Town of Georgina relies on the Region of York to undertake this sampling and testing when the water leaves the treatment plant.		
Nitrite				
Sodium				
Fluoride				

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 as chosen to be sampled for;

	Date of Sample	MAC*	Results
Nitrite (NO_2^-) as N	February 8, 2021	1mg/L	<0.05mg/L
Nitrate (NO_3^-) as N		10mg/L	<0.50mg/L
Nitrite (NO_2^-) as N	May 10, 2021	1mg/L	<0.05mg/L
Nitrate (NO_3^-) as N		10mg/L	<0.50mg/L
Nitrite (NO_2^-) as N	August 11, 2021	1mg/L	<0.05mg/L
Nitrate (NO_3^-) as N		10mg/L	<0.50mg/L
Nitrite (NO_2^-) as N	November 8, 2021	1mg/L	<0.05mg/L
Nitrate (NO_3^-) as N		10mg/L	<0.50mg/L

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Lead testing under Schedule 15.1 of O.Reg 170/03

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Unit of Measure	ODWS Regulatory Limit	Number of Exceedances
Plumbing	N/A				
Distribution	10 (6 – Keswick) (4 – Sutton)	<0.0005 – 0.0034	mg/L	0.01mg/L	N/A

Summary of Inorganic (Schedule 23 of O.Reg 170/03) parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	*Refer to Regional Municipality of York Annual Report O.Reg 170/03 requires these parameters to be tested at the point where water enters the distribution system. The Town of Georgina relies on the Region of York to undertake this sampling and testing when the water leaves the treatment plant.			
Arsenic				
Barium				
Boron				
Cadmium				
Chromium				
Mercury				
Selenium				
Sodium				
Uranium				
Fluoride				
***Lead**	*See above table; Schedule 15.1 results			

Summary of Organic (Schedule 23 of O.Reg 170/03) parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	*Refer to Regional Municipality of York Annual Report O.Reg 170/03 requires these parameters to be tested at the point where water enters the distribution system. The Town of Georgina relies on the Region of York to undertake this sampling and testing when the water leaves the treatment plant.			
Aldicarb				
Aldrin + Dieldrin				
Atrazine + N-dealkylated metobolites				
Azinphos-methyl				
Bendiocarb				
Benzene				
Benzo(a)pyrene				
Bromoxynil				
Carbaryl				
Carbofuran				
Carbon Tetrachloride				

Chlordane (Total)	
Chlorpyrifos	
Cyanazine	
Diazinon	
Dicamba	
1,2-Dichlorobenzene	
1,4-Dichlorobenzene	
Dichlorodiphenyltrichloroethane (DDT) + metabolites	
1,2-Dichloroethane	
1,1-Dichloroethylene (vinylidene chloride)	
Dichloromethane	
2-4 Dichlorophenol	
2,4-Dichlorophenoxy acetic acid (2,4-D)	
Diclofop-methyl	
Dimethoate	
Dinoseb	
Diquat	
Diuron	
Glyphosate	
Heptachlor + Heptachlor Epoxide	
Lindane (Total)	
Malathion	
Methoxychlor	
Metolachlor	
Metribuzin	
Monochlorobenzene	
Paraquat	
Parathion	
Pentachlorophenol	
Phorate	
Picloram	
Polychlorinated Biphenyls(PCB)	
Prometryne	
Simazine	
THM (NOTE: see table below)	
Temephos	
Terbufos	
Tetrachloroethylene	
2,3,4,6-Tetrachlorophenol	
Triallate	
Trichloroethylene	
2,4,6-Trichlorophenol	
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	
Trifluralin	
Vinyl Chloride	

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Organic and inorganic parameter(s) that exceeded half the standard prescribed in Schedule 2 of O.Reg. 169/03 Ontario Drinking Water Quality Standards

	Date of Sample	Running Annual Average (µg/L)	Value exceeded over half of regulatory standard (ODWS Standard 100 µg/L)
Trihalomethanes (THM's)	February 1, 2021	58.61	Yes
	May 3, 2021	58.86	
	August 9, 2021	60.67	
	November 1, 2021	**63.35**	