

ANNUAL REPORT 2022

Drinking Water System Number:	260006529
Drinking Water System Name:	North Middlesex Distribution System
Drinking Water System Owner:	Municipality of North Middlesex
Drinking Water System Category:	Large Municipal Residential
Period being reported:	January 1 – December 31, 2022

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking Water System serve more than 10,000 people? Yes [] No [X]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> 229 Main St Parkhill, ON N0M 2K0 </div>	<p><u>Complete for all other Categories</u></p> <p>Number of Designated Facilities served: <div style="border: 1px solid black; padding: 2px; display: inline-block;">n/a</div> </p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p><div style="border: 1px solid black; padding: 2px; display: inline-block;">n/a</div> Number of Interested Authorities you report to:</p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Not Applicable</p>
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List all Drinking Water Systems (if any), which receive all their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Not applicable	Not applicable

Did you provide a copy of your annual report to all Drinking Water System owners that are connected to you and to whom you provide all drinking water?

Not applicable

Indicate how you notified system users that your annual report is available and is free of charge.

- Public access/notice via the web
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method _____

Describe your Drinking Water System

The North Middlesex Distribution System provides drinking water to consumers within the Municipality of North Middlesex. The North Middlesex Distribution System purchases potable water from the Lake Huron Primary Water Supply System; water can enter the North Middlesex Distribution System from five points along the Lake Huron Primary Water Supply System main transmission line. The North Middlesex Distribution System is comprised of:

- one water tower
- two underground water reservoirs
- two booster pump stations
- two booster pumps located in the Lake Huron Primary Water Supply System’s McGillivray Booster Station,
- multiple water-mains and other water main appurtenances such as valves, hydrants, air release chambers and pressure reducing and sustaining chambers.

The North Middlesex Distribution System is connected to the East Lambton Shores Distribution System (Thedford) and the Lucan Biddulph Distribution System (Lucan). The East Lambton Shores Distribution System connection can supply water to a section of the North Middlesex Distribution System if necessary or in an emergency situation. The East Lambton Shores Distribution System (Thedford) is located in the Municipality of Lambton Shores and is operated by Jacobs, OMI Canada. The Lucan Biddulph Distribution System (Lucan) operated by the Jacobs, OMI Canada, supplies water to the hamlet of Clandeboye located in the Municipality of North Middlesex.

List all water treatment chemicals used over this reporting period

Not applicable

Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

Water Service / Water Main Repairs
 PRV Replacement Ailsa Craig Main
 PRV Replacement McGillivray West
 UPS Replacement Parkhill Reservoir
 Flow Meter Replacement Parkhill Reservoir
 Level Transducer Replacement Parkhill Reservoir
 Water Haulage (Supply during LHPWSS Maintenance Shutdowns)
 Ailsa Craig Water Tower

Provide details on the notices submitted in accordance with subsection 18 (1) of the Safe Drinking Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
n/a	n/a	n/a	n/a	n/a	n/a

Drinking Water Systems Regulation O. Reg. 170/03

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period

	Number of Samples	Range of E. Coli Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Distribution	218	0 - 0	0 - 0	62	<10 - <10

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)	Unit of Measure
Distribution Free Chlorine	625	0.49 - 1.55	mg/L

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
n/a	n/a	n/a	n/a	n/a

Summary of Inorganic parameters tested during this reporting period or the most recent sample results
n/a

Summary of lead testing under Schedule 15.1 during this reporting period
(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Unit of Measure	Number of Exceedances
Distribution: April 12, 2022	3	0.16 - 4.70	ug/L	None
Distribution: August 09, 2022	3	0.04 - 0.34	ug/L	None

Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
HAAs (Note: show latest running annual average)	Jan - Dec. 2022	14.88	ug/L	No
THMs (Note: show latest running annual average)	Jan - Dec. 2022	26.25	ug/L	No

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards

n/a



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Annual Summary Report
North Middlesex Distribution System
2022

Prepared for the Municipality of North Middlesex

By the Ontario Clean Water Agency

North Middlesex Distribution System - Annual Summary Report 2022

Section Number	CONTENTS	Page Number
1	Overview	1
2	Compliance with Regulations Schedule 22-2 (2)(a) List the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water licence, and any orders applicable to the system that were not met at any time during the period covered by the report	1
3	Corrective Actions Schedule 22-2 (2)(b) For each requirement referred to in section 2 that was not met, specify the duration of the failure and the measures that were taken to correct the failure.	1
4	Flow Summary Schedule 22-2 (3) 1. A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows. 2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water licence, or if the system is receiving all of its water from another system under an agreement pursuant to subsection 5 (4), to the flow rates specified in the written agreement	1
APPENDICES Appendix A: Flows January 1, 2022 to December 31, 2022		

SECTION 1: Overview

This report is a summary of water quality information for the North Middlesex Distribution System and published in accordance with Schedule 22 of Ontario's Safe Drinking Water Act, Ontario Regulation 170/03 for the reporting period of January 1, 2022 to December 31, 2022. The North Middlesex Distribution System is categorized as a Large Municipal Residential Drinking Water System.

This report was prepared by the Ontario Clean Water Agency on behalf of the Municipality of North Middlesex.

SECTION 2: Compliance with Regulations

The North Middlesex Distribution System (NMDS) was operated and maintained in such a manner that the water supplied to the consumers serviced by the system satisfied all the requirements in the Safe Drinking Water Act, the Regulations, the NMDS Drinking Water Works Permit Number: 002-201, and the NMDS Municipal Drinking Water Licence Number: 002-101.

The last Ministry of Environment, Conservation and Parks (MECP) inspection occurred on August 08, 2022; there were no non-compliance issues identified. The routine MECP Inspections have an Inspection Rating Record, which evaluates the system to provide information for the owner/operator on areas that need to be improved. The particular areas that were evaluated for the North Middlesex Distribution System were: Treatment Processes, Operations Manuals, Logbooks, Certification and Training, Water Quality Monitoring, and Reporting and Corrective Actions. This system received 0 out of 242 non-compliance ratings and as such received 100% for the Final Inspection Rating.

SECTION 3: Corrective Actions

No follow up corrective action was required for the MECP inspection since there were no non-compliances received.

There were no adverse water quality issues in 2022.

SECTION 4: Flow Summary

The North Middlesex Distribution System total flow volume for the 2022 reporting period was 1,491,498m³. This flow is up 4.3% from the previous year. The maximum monthly flow for the reporting period was 141,194 m³ which was recorded for August 2022. Refer to Appendix A for a summary of North Middlesex Distribution System water flow from LHPWSS.

The North Middlesex Distribution System Municipal Drinking Water License (License Number: 002-101) does not identify a system rated capacity. The agreement between the Municipality of North Middlesex and the Lake Huron Primary Water Supply System Board of Management (Regional Water Supply) does not specify a maximum water taking volume.

Appendix A

Flows from Lake Huron Primary Water Supply System

2022	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Avg
Lucan (quarterly)			6,832			5,773			6,503			4,622	23,730	7,910
Parkhill-Mount Carmel	60,670	55,684	62,469	50,682	61,703	61,415	49,083	68,761	62,369	57,306	52,295	52,417	694,854	57,905
Parkhill-McGillivray Twp	17,464	14,584	17,132	16,445	18,086	19,736	18,302	20,732	16,959	17,308	17,159	17,380	211,287	17,607
Ailsa Craig Water Tower										14,573	17,489	19,448	51,510	17,170
Ailsa Craig Main Meter	102	94	77	87	110	175	140	124	109	49			1,067	107
Ailsa Craig 7 houses	125	125	100	122	169	221	277	154	179	107			1,579	158
Ailsa Craig-6" meter	16,377	17,667	16,404	17,481	17,839	15,406	19,493	20,829	8,117	13,349			162,962	16,296
Ailsa Craig Right of Way	169	148	131	148	286	652	92	93	214	93			2,026	203
Carlise-Hwy 7 Large Meter	6,532	9,897	5,465	6,021	7,480	6,600	7,277	6,447	2,221	0	0	21,984	79,924	6,660
McGillivray Pump Station	12,092	11,352	13,786	17,750	15,552	14,319	15,313	15,102	11,667	12,959	15,079	15,758	170,729	14,227
Nairn Rd-Strathroy Line	6,018	5,937	4,994	6,274	8,392	9,234	9,928	8,952	9,337	7,284	7,677	7,803	91,830	7,653
Total	119,549	115,488	127,390	115,010	129,617	133,531	119,905	141,194	117,675	123,028	109,699	139,412	1,491,498	124,292