

Annual Drinking Water Report
Drinking-Water Systems Regulation O. Reg. 170/03

Drinking-Water System Number:	210000791
Drinking-Water System Name:	Lake Huron Primary Water Supply System (LHPWSS)
Drinking-Water System Owner:	Lake Huron Primary Water Supply System Joint Board of Management
Drinking-Water System Operating Authority:	Ontario Clean Water Agency (OCWA)
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2025 through December 31, 2025

<p>Complete if your Category is Large Municipal Residential or Small Municipal Residential</p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <p>Lake Huron and Elgin Area Water Supply Systems c/o Regional Water Supply Division 235 North Centre Road, Suite 200 London, ON N5X 4E7 https://huroneginwater.ca/</p> <p>Lake Huron Water Treatment Plant 71155 Bluewater Hwy. Grand Bend, ON</p>	<p>Complete for all other Categories.</p> <p>Number of Designated Facilities served: N/A</p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Number of Interested Authorities you report to: N/A</p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes <input type="checkbox"/> No <input type="checkbox"/></p>
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List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Systems that receive their drinking water from the LHPWSS:

Drinking Water System Name	Drinking Water System Number
City of London Distribution System	260004917
Bluewater Lakeshore Distribution System	260006542
Hensall Zurich Distribution System	260091650
East Lambton Shores Water Distribution System	260006568
Lucan Biddulph Distribution System	260003071
Middlesex Centre Distribution System	260004202
North Middlesex Distribution System	260006529
Strathroy-Caradoc Distribution System	260080106
South Huron Water Distribution System	220001520

Systems that may receive their drinking water from the LHPWSS:

Drinking Water System Name	Drinking Water System Number
Municipality of Lambton Shores (West Lambton Shores Distribution System) *Normally supplied by the Lambton Area Water Supply System (LAWSS) but a connection to the LHPWSS exists	260006581

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 of its drinking water?

Yes No

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 _____

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Describe your Drinking-Water System

The Lake Huron Primary Water Supply System (LHPWSS) employs pre-chlorination, screening, powder activated carbon addition (seasonally on an as-required basis), coagulation, flocculation, sedimentation, dual-media filtration, post-chlorination, and pH adjustment using sodium hydroxide to treat raw water obtained from Lake Huron. The intake crib and raw water intake pipe have an estimated gross capacity of 454.6 megalitres/day (MLD). The Lake Huron Water Treatment Plant (WTP) rated capacity is 340.0 MLD.

A Residuals Management Facility (RMF) providing equalization, clarification, sediment thickening and dechlorination is also housed in the main complex. Thickened sediment is dewatered by centrifuges and the sediment is sent to the landfill for final disposal. Clarified and dechlorinated liquid streams are sent back to Lake Huron through the plant drain via the diversion chamber.

The transmission system is comprised of the McGillivray Booster Pumping Station and Reservoir, the Exeter-Hensall Booster Pumping Station and Reservoir, Arva Terminal Reservoir, Komoka-Mt. Brydges Booster Pumping Station (PS#4) and associated interconnecting transmission water mains, which includes the primary, Strathroy-Caradoc, Exeter-Hensall, and Komoka-Mt. Brydges transmission water mains.

The drinking water system is monitored at various locations throughout the system via a Supervisory Control and Data Acquisition (SCADA) system.

List all water treatment chemicals used over this reporting period

Filter Aid Polymer (on an as-required basis)
Aluminum Sulphate
Powder Activated Carbon (PAC)
Chlorine Gas
Sodium Hydroxide
Sodium Hypochlorite (Exeter-Hensall Pumping Station)
Dewatering Polymer (Residuals Management Facility)
Sodium Bisulphite (Residuals Management Facility)

Were any significant expenses incurred to?

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

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

Capital and Maintenance Projects:

- Distressed pipeline segment replacements
- Maintenance shop overhead door replacement
- Safety railing replacements (Flocculation area and North elevator stairwells, Arva Valve House)
- Generator fuel system spill sensor installation
- Low lift pump check valve and isolation valve replacements
- Chlorine line replacements (Chlorine injectors to Low lift)
- Interior lighting and emergency lighting upgrades (High lift and maintenance shop areas)
- Remote monitoring station generator connections
- Chlorine system switchover valve replacement
- Roof drain piping replacements (Flocculation area)
- Chlorine building electric heater installation
- Security upgrades (remote stations gate automation, intercom, card access, cameras, and exterior lighting upgrades)
- WTP high lift discharge flowmeter replacements
- Exeter-Hensall Pumping Station chlorine injection point relocation
- Instrumentation upgrades (in-line pH analyzers, handheld pocket colorimeters, benchtop zeta potential analyzer)
- Pipeline chamber flood prevention upgrades
- Pipeline pressure regulating valve upgrades
- Remote monitoring station enclosure upgrades and Uninterruptible Power Supply (UPS) installation
- Main line valve repair (GV7B)
- McGillivray Pumping Station inlet valve upgrades
- McGillivray Pumping Station discharge flow meter replacement
- McGillivray Pumping Station Heating, Ventilation & Air Conditioning (HVAC) and electrical upgrade
- IT Asset replacement program
- WTP seagull control system
- Sodium hydroxide system upgrades
- Programmable Logic Controller (PLC) replacements
- Raw water actuator replacements

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Studies & Design:

- Powder Activated Carbon (PAC) system upgrade
- Oneida Transmission Pipeline
- Water Treatment Plant (WTP) Administration Building Extension and Site Redevelopment
- Dechlorination at remote stations (Arva Terminal Reservoir)
- Flow Control Program Study
- Master Water Plan Update
- WTP Surge System rehabilitation – condition assessment

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 Report Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
June 3, 2025	Total Coliform	1	cfu/100 mL	Adverse Water Quality Incident (AWQI) reported (reference #168440). Resample upstream, downstream and at the AWQI location. All resample test results were non-detectable for Total Coliform.	June 6, 2025

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

Location	Number of Samples	Range of E. coli Results (CFU/100mL) (min #)-(max #)	Range of Total Coliform Results (CFU/100mL) (min #)-(max #)	Range of HPC Results (CFU/1mL) (min #)-(max #)
Raw Water	105	(0)-(210)	(0)-(11,400)	(<10)-(>2,000)
Treated Water (WTP)	240	(0)-(0)	(0)-(0)	(<10)-(50)
Distribution (McGillivray PS)	57	(0)-(0)	(0)-(1)*	(<10)-(10)
Distribution (North Exeter)	65	(0)-(0)	(0)-(0)	(<10)-(10)
Distribution (South Exeter)	56	(0)-(0)	(0)-(0)	(<10)-(10)
Distribution (Exeter-Hensall Reservoir)	52	(0)-(0)	(0)-(0)	(<10)-(40)
Distribution (Komoka-Mt. Brydges PS)	52	(0)-(0)	(0)-(0)	(<10)-(10)

*Maximum Total Coliform result of 1 CFU/100mL was reported as an AWQI (reference #168440) on June 3, 2025. Resample results were all non-detectable for Total Coliform.

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

Parameter	Number of Samples	Range of Results (min #)-(max #)
Treated Water Free Chlorine (mg/L)	Continuous Monitoring	(0.44)-(2.00)
Filter #1 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.017)-(0.129)
Filter #2 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.030)-(0.252)
Filter #3 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.033)-(0.285)
Filter #4 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.019)-(0.079)
Filter #5 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.018)-(0.318)
Filter #6 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.020)-(0.206)
Filter #7 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.018)-(0.610)
Filter #8 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.020)-(0.124)
Filter #9 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.024)-(0.900)
Filter #10- Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.021)-(0.532)
Filter #11- Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.015)-(1.998)*
Filter #12- Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.021)-(1.999)*
Distribution Grab Samples Free Chlorine (mg/L)	680	(0.62)-(1.41)

*Maximum turbidity >1 NTU was less than 3 minutes in duration, no Adverse Water Quality Incident (AWQI) as a result of the spike.

Filter performance criteria of <0.3NTU 95% of the time for the month was met for all 12 filters.

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Summary of Inorganic parameters tested during this reporting period

*(*All tests were conducted on treated water leaving the WTP unless otherwise noted)*

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	January 22, 2025	Not Detected	mg/L	NO
Arsenic	January 22, 2025	Not Detected	mg/L	NO
Barium	January 22, 2025	0.0155	mg/L	NO
Boron	January 22, 2025	0.016	mg/L	NO
Cadmium	January 22, 2025	Not Detected	mg/L	NO
Chromium	January 22, 2025	0.00013	mg/L	NO
Lead (Komoka Mt- Brydges Monitoring Station #2)	January 14, 2025 April 10, 2025 July 10, 2025 October 8, 2025	Not Detected Not Detected Not Detected 0.00001	mg/L mg/L mg/L mg/L	NO
Mercury	January 22, 2025	Not Detected	mg/L	NO
Selenium	January 22, 2025	0.00014	mg/L	NO
Sodium	January 22, 2025	14.1	mg/L	NO
Uranium	January 22, 2025	0.000057	mg/L	NO
Fluoride	January 22, 2025	Not Detected	mg/L	NO
Nitrite	January 14, 2025 April 10, 2025 July 10, 2025 October 8, 2025	Not Detected Not Detected Not Detected Not Detected	mg/L mg/L mg/L mg/L	NO
Nitrate	January 14, 2025 April 10, 2025 July 10, 2025 October 8, 2025	0.318 0.757 0.233 0.234	mg/L mg/L mg/L mg/L	NO

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

(*All tests were conducted on treated water leaving the WTP unless otherwise noted)

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	January 22, 2025	Not Detected	mg/L	NO
Atrazine + N-dealkylated metabolites	January 22, 2025	0.00003	mg/L	NO
Azinphos-methyl	January 22, 2025	Not Detected	mg/L	NO
Benzene	January 22, 2025	Not Detected	mg/L	NO
Benzo(a)pyrene	January 22, 2025	Not Detected	mg/L	NO
Bromoxynil	January 22, 2025	Not Detected	mg/L	NO
Carbaryl	January 22, 2025	Not Detected	mg/L	NO
Carbofuran	January 22, 2025	Not Detected	mg/L	NO
Carbon Tetrachloride	January 22, 2025	Not Detected	mg/L	NO
Chlorpyrifos	January 22, 2025	Not Detected	mg/L	NO
Diazinon	January 22, 2025	Not Detected	mg/L	NO
Dicamba	January 22, 2025	Not Detected	mg/L	NO
1,2-Dichlorobenzene	January 22, 2025	Not Detected	mg/L	NO
1,4-Dichlorobenzene	January 22, 2025	Not Detected	mg/L	NO
1,2-Dichloroethane	January 22, 2025	Not Detected	mg/L	NO
1,1-Dichloroethylene (vinylidene chloride)	January 22, 2025	Not Detected	mg/L	NO
Dichloromethane	January 22, 2025	Not Detected	mg/L	NO
2-4 Dichlorophenol	January 22, 2025	Not Detected	mg/L mg/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	January 22, 2025	Not Detected	mg/L	NO
Diclofop-methyl	January 22, 2025	Not Detected	mg/L	NO
Dimethoate	January 22, 2025	Not Detected	mg/L	NO
Diquat	January 22, 2025	Not Detected	mg/L	NO
Diuron	January 22, 2025	Not Detected	mg/L	NO
Glyphosate	January 22, 2025	Not Detected	mg/L	NO
Haloacetic Acids (HAA's) (Arva Terminal Reservoir)	January 14, 2025 April 10, 2025 July 10, 2025 October 8, 2025	Not Detected 0.0056 0.0059 Not Detected	mg/L mg/L mg/L mg/L	NO

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Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Haloacetic Acids (HAA's) (Arva Terminal Reservoir) Running Annual Average	2025	< 0.0053	mg/L	NO
Haloacetic Acids (HAA's) (Exeter-Hensall Monitoring Station #3)	January 14, 2025 April 10, 2025 July 10, 2025 October 8, 2025	0.0150 0.0124 0.0070 0.0071	mg/L mg/L mg/L mg/L	NO
Haloacetic Acids (HAA's) (Exeter-Hensall Monitoring Station #3) Running Annual Average	2025	0.0104	mg/L	NO
Haloacetic Acids (HAA's) (Komoka Mt-Brydges Monitoring Station #2)	January 14, 2025 April 10, 2025 July 10, 2025 October 8, 2025	0.0117 0.0128 0.0070 0.0054	mg/L mg/L mg/L mg/L	NO
Haloacetic Acids (HAA's) (Komoka Mt-Brydges Monitoring Station #2) Running Annual Average	2025	0.0092	mg/L	NO
Haloacetic Acids (HAA's) (Strathroy-Caradoc Monitoring Station #2)	January 14, 2025 April 10, 2025 July 10, 2025 October 8, 2025	Not Detected 0.0058 0.0064 Not Detected	mg/L mg/L mg/L mg/L	NO
Haloacetic Acids (HAA's) (Strathroy-Caradoc Monitoring Station #2) Running Annual Average	2025	< 0.0053	mg/L	NO
Malathion	January 22, 2025	Not Detected	mg/L	NO

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Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	January 22, 2025	Not Detected	mg/L	NO
Metolachlor	January 22, 2025	Not Detected	mg/L	NO
Metribuzin	January 22, 2025	Not Detected	mg/L	NO
Monochlorobenzene	January 22, 2025	Not Detected	mg/L	NO
Paraquat	January 22, 2025	Not Detected	mg/L	NO
Pentachlorophenol	January 22, 2025	Not Detected	mg/L	NO
Phorate	January 22, 2025	Not Detected	mg/L	NO
Picloram	January 22, 2025	Not Detected	mg/L	NO
Polychlorinated Biphenyls (PCB)	January 22, 2025	Not Detected	mg/L	NO
Prometryne	January 22, 2025	Not Detected	mg/L	NO
Simazine	January 22, 2025	Not Detected	mg/L	NO
Total Trihalomethanes (Arva Terminal Reservoir)	January 14, 2025 April 10, 2025 July 10, 2025 October 8, 2025	0.016 0.022 0.024 0.021	mg/L mg/L mg/L mg/L	NO
Total Trihalomethanes (THMs) (Arva Terminal Reservoir) Running Annual Average	2025	0.021	mg/L	NO
Total Trihalomethanes (Exeter-Hensall Monitoring Station #3)	January 14, 2025 April 10, 2025 July 10, 2025 October 8, 2025	0.031 0.027 0.032 0.032	mg/L mg/L mg/L mg/L	NO
Total Trihalomethanes (Exeter-Hensall Monitoring Station #3) Running Annual Average	2025	0.031	mg/L	NO
Total Trihalomethanes (Komoka Mt-Brydges Monitoring Station #2)	January 14, 2025 April 10, 2025 July 10, 2025 October 8, 2025	0.022 0.023 0.030 0.027	mg/L mg/L mg/L mg/L	NO

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Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Total Trihalomethanes (Komoka Mt-Brydges Monitoring Station #2) Running Annual Average	2025	0.026	mg/L	NO
Total Trihalomethanes (Strathroy-Caradoc Monitoring Station #2)	January 14, 2025 April 10, 2025 July 10, 2025 October 8, 2025	0.019 0.021 0.027 0.025	mg/L mg/L mg/L mg/L	NO
Total Trihalomethanes (Strathroy-Caradoc Monitoring Station #2) Running Annual Average	2025	0.023	mg/L	NO
Terbufos	January 22, 2025	Not Detected	mg/L	NO
Tetrachloroethylene	January 22, 2025	Not Detected	mg/L	NO
2,3,4,6- Tetrachlorophenol	January 22, 2025	Not Detected	mg/L	NO
Triallate	January 22, 2025	Not Detected	mg/L	NO
Trichloroethylene	January 22, 2025	Not Detected	mg/L	NO
2,4,6-Trichlorophenol	January 22, 2025	Not Detected	mg/L	NO
Trifluralin	January 22, 2025	Not Detected	mg/L	NO
Vinyl Chloride	January 22, 2025	Not Detected	mg/L	NO

NOTE: During 2025, no Inorganic or Organic parameter(s) exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

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Summary of Additional Legislative Samples during this reporting period

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Microcystin (Raw Water)	June 2, 2025 to November 3, 2025	All results <0.1	µg/L	NO
Microcystin (Treated Water)	June 2, 2025 to November 3, 2025	All results <0.1	µg/L	NO
RMF Total Suspended Solids (Effluent Discharge)	January 1, 2025 to December 31, 2025 (Annual Average)	6	mg/L	NO
RMF Total Chlorine Residual (Effluent Discharge)	January 1, 2025 to December 31, 2025 (Annual Average)	0.00	mg/L	NO