

February 18, 2026

Peggy Van Mierlo-West, CAO
Municipality of Northern Bruce Peninsula
56 Lindsay Rd 5
Lion's Head, ON N0H 1W0

Re: 2025 Annual Report (O. Reg. 170/03, Section 11) Municipality of Northern Bruce Peninsula

Please see attached for the following 2025 Annual Report prepared by the Ontario Clean Water Agency on behalf of the Municipality of Northern Bruce Peninsula:

- Lion's Head Drinking Water System (Large Municipal Residential)

This report was prepared in accordance with [Section 11](#) of Ontario Regulation 170/03. Your receipt of this report by or before February 28, satisfies the regulatory requirement that *"The owner of a drinking water system shall ensure that an annual report is prepared in accordance with this section. O. Reg. 170/03 s.11 (1)."*

In general, the Section 11 Annual Report consists of the following:

- A brief description of the drinking water system
- A description of major equipment related expenses
- Where applicable, a summary of reports/notices submitted to the Spills Action Centre and any corrective actions taken
- A summary of microbiological, operational and chemical test results as required by the Regulation

[Section 12](#) of O. Reg. 170/03 requires that the Annual Report is available for inspection, at no charge, by any member of the public during regular business hours. It is recommended that the report be made available for inspection at the office of the municipality or at a location that is convenient for the users of the water system. Depending on the size and type of systems within a municipality, there may be additional requirements in [Section 11](#) and [Section 12](#) of that Regulation regarding the provision of the Annual Report to the public and other interested parties.

Should you require further clarification on the information found within the Annual Report, please feel free to contact me.

Sincerely,



Leo-Paul Frigault
Senior Operations Manager
Ontario Clean Water Agency, Georgian Highlands Region

February 23, 2026

Peggy Van Mierlo-West, CAO
Municipality of Northern Bruce Peninsula
56 Lindsay Rd 5
Lion's Head, ON N0H 1W0

Re: 2025 Annual Report (O. Reg. 170/03, Section 11) Municipality of Northern Bruce Peninsula

Please see attached for the following 2025 Annual Report – Version 2.0 by the Ontario Clean Water Agency on behalf of the Municipality of Northern Bruce Peninsula. The following minor administrative amendment was made to Table 6: Summary of Organic parameters sampled during this reporting period:

- The Maximum Allowable Concentration (MAC) column was updated with the appropriate limits for the corresponding parameters.

All other information including treatment chemicals used, significant expenses, details of notices submitted and reported to the Spills Action Centre, microbiological, operational, additional, inorganic, lead and organic parameters tested remains the same as the submission on February 18, 2026.

Should you require further clarification of information regarding this report, please feel free to contact me.

Kind regards,

Sincerely,



Leo-Paul Frigault
Senior Operations Manager
Ontario Clean Water Agency, Georgian Highlands Region

2025 SECTION 11 ANNUAL REPORT

LION'S HEAD
DRINKING WATER SYSTEM



For the period of:
JANUARY 1, 2025 TO DECEMBER 31, 2025

Prepared for the Municipality of Northern Bruce Peninsula by the Ontario Clean Water Agency

This report was prepared in accordance with the requirements of [O.Reg 170/03, Section 11, Annual reports](#) for the following system and reporting period:

Drinking Water System Number:	220002672
Drinking Water System Name:	Lion's Head Drinking Water System
Drinking Water System Owner:	Municipality of Northern Bruce Peninsula
Drinking Water System Category:	Large Municipal Residential
Reporting Period:	January 1, 2025 – December 31, 2025

Does your Drinking Water System serve more than 10,000 people?

No

Is your Annual Report available to the public at no charge on a website on the Internet?

Yes

Note: If a large municipal residential system serves more than 10,000 people, the owner of the system shall ensure that a copy of every report prepared under this section is available to the public at no charge on a website on the Internet. O. Reg. 170/03, Section 11. (10)

Location where Summary Report required under O. Reg 170/03, Schedule 22 will be available for inspection. (O. Reg 170/03, Section 11.(6)(f)):

- Municipality of Northern Bruce Peninsula, 56 Lindsay Rd #5 RR 2, Lion's Head ON, NOG 1W0
- <https://www.northbrucepeninsula.ca/develop/utilities/>

List all Drinking Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
N/A	N/A

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?

N/A

How system users are notified that the annual report is available, and is free of charge:

- | | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Public access/notice via the web |
| <input checked="" type="checkbox"/> | Public access/notice via Government Office |
| <input type="checkbox"/> | Public access/notice via a newspaper |
| <input checked="" type="checkbox"/> | Public access/notice via Public Request |
| <input type="checkbox"/> | Public access/notice via a Public Library |
| <input type="checkbox"/> | Public access/notice via other method: _____ |

Note: The owner of a drinking water system shall ensure that a copy of an annual report for the system is given, without charge, to every person who requests a copy. ((O.Reg 170/03, Section 11.(7))

Description of Drinking Water System (O.Reg 170/03, Section 11.(6)(a)):

The Lion's Head Drinking Water System (DWS) is classified as a Class II Treatment and Class I Water Distribution and Supply Subsystem. It is categorized as a Large Municipal Residential Drinking Water System under O.Reg 170/03, servicing an approximate population of 624 persons. The Lion's Head Drinking Water System is owned by the Corporation of the Municipality of Northern Bruce Peninsula and operated by the Ontario Clean Water Agency (OCWA) in Lion's Head, Ontario. The system is comprised of one surface water treatment plant that draws and treats water from Isthmus Bay.

The treatment system consists of the following components:

- Chlorination System (for zebra mussel control, primary disinfection and secondary disinfection)
- Membrane filtration
- Residuals Management (backwash wastewater tank, with supernatant transfer to the storm sewer)
- Chlorine Contact Tanks/ Baffled Reservoir (for storage and to achieve the required contact time)
- Standby diesel generator (one for the low lift pumping station and one for the treatment plant) in the event of power loss
- Process control and monitoring equipment

The Lion's Head Distribution System consists of approximately 12 kilometers of distribution watermains.

List of water treatment chemicals used by the system during the reporting period (O.Reg 170/03, Section 11.(6)(a)):

- Sodium Hypochlorite 12%

Significant expenses were incurred to:

- | | |
|-------------------------------------|---------------------------------------|
| <input checked="" type="checkbox"/> | Install required equipment |
| <input checked="" type="checkbox"/> | Repair required equipment |
| <input checked="" type="checkbox"/> | Replace required equipment |
| <input type="checkbox"/> | No significant expenses were incurred |

Description of major expenses during the reporting period to install, repair or replace required equipment (O.Reg 170/03, Section 11.(6)(e)):

- Replaced raw water flow meter
- Rebuild kits for chlorine dosing pumps

- Miscellaneous repair parts purchased
- Generator maintenance

Summary of any reports/notices submitted to the Ministry and/or Spills Action Centre in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 during the reporting period, including a description of any corrective actions taken under Schedule 17 or 18 (O. Reg 170/03, Section 11.(6)(b),(d):

Incident Date (yyyy/mm/dd)	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date (yyyy/mm/dd)
N/A	N/A	N/A	N/A	N/A	N/A

Table 1. Microbiological testing done under the Schedule 11 of Regulation 170/03 during this reporting period (O.Reg 170/03, Section 11.(6)(c)).

Location	Number of Samples	Range of E. Coli or Fecal Results		Range of Total Coliform Results		Number of HPC Samples	Range of HPC Samples	
		Min.	Max.	Min.	Max.		Min.	Max.
Raw ^{1a}	52	0	NDOGT	0	NDOGT	N/A	N/A	N/A
Treated ^{1b}	52	0	0	0	0	52	0	NDOGHPC
Distribution ^{1c}	104	0	0	0	0	51	0	2

Note: HPC = Heterotrophic Plate Count; NDOGT = No Data: Overgrown with Target Bacteria; NDOGHPC = No Data: Overgrown with HPC

Note: Units for E.Coli or Fecal Results are cfu/100 mL, units for Total Coliform Results are cfu/100 mL, units for HPC results are cfu/1mL

^{1a}O.Reg 170/03, Schedule 10-4. (1)(3) requires for a large municipal residential system that a water sample is taken at least once every week from the drinking water system's raw water, before any treatment is applied to the water and tested for E.Coli and total coliforms.

^{1b}O Reg 170/03, Schedule 10-3 requires for a large municipal residential system that a treated water sample is taken at least once every week and tested for E.Coli, total coliforms and general bacteria population expressed as colony counts on a heterotrophic count (HPC).

^{1c}O.Reg. 170/03 Schedule 10-2.(1)(2)(3) requires that a system that serves 100,000 people or less, at least eight distribution samples, plus one additional sample for every 1,000 people served by the system to be taken every month, with at least one of the samples being taken in each week and be tested for E.Coli, Total Coliforms. At least 25 percent of the samples required must be tested for general bacteria population expressed as colony counts on heterotrophic plate count (HPC). The number of people served by the system is 624 (as confirmed with the Owner on January 8, 2025), and therefore requires at minimum 8 distribution samples per month.

Table 2. Operational testing done under Schedule 7 of Regulation 170/03 during the period covered by this Annual Report (O. Reg 170/03, Section 11.(6)(c)).

Parameter & Location	Number of Samples	Range of Results	
		Min.	Max.
Turbidity, Filter Skid A (NTU) ^{2a}	8760	0.02	1.00 ^{2b}
Turbidity, Filter Skid B (NTU) ^{2a}	8760	0.03	0.26 ^{2b}
Free Chlorine Residual, Treated Water (mg/L) ^{2c}	8760	0.83	1.59
Free Chlorine Residual, Distribution Water (mg/L) ^{2d}	685	0.60	1.67

Note: The number of samples used for continuous monitoring units is 8760.

^{2a}If a drinking water system obtains water from a raw water supply that is surface water and the system provides filtration, subsection 7-3(1) does not apply and the owner of a system shall ensure that sampling and testing for turbidity is carried out by continuous monitoring equipment on each filter effluent line (O.Reg.170/03, Schedule 7-3.(2)(b))

^{2b}Over 0.1 NTU for 11 seconds on October 31, 2025. No adverse. Monthly filter efficiency of >99% was achieved at all times.

^{2c}O.Reg 170/03 Schedule 7-2.(1) requires a drinking water system that provides chlorination for primary disinfection to sample and test for free chlorine residual with continuous monitoring equipment in the treatment process at or near a location where the intended contact time has just been completed.

^{2d}O.Reg 170/03 Schedule 7-2.(3) requires a large municipal residential system that provides secondary disinfection to take at least seven distribution samples each week and immediately tested for free chlorine residual, if the system provides chlorination and does not provide chloramination. Sampling for distribution free chlorine residual at Lion's Head Drinking Water is taken daily.

Table 3. Summary of additional testing and sampling results carried out in accordance with the requirement of an approval, municipal drinking water licence or order (including OWRA) or other legal instrument. (O. Reg 170/03, Section 11.(6)(c))

Legal Instrument & Issue Date (yyyy/mm/dd)	Parameter	Date Sampled	Number of Samples	Annual Average	Allowable Annual Average
2020/12/20 MDWL 250-101 (Issue 4) / 2025/12/10 MDWL 250-101 (Issue 5)	Filter Backwash Suspended Solids (manual composite)	2025 (Monthly)	12	3.4	N/A
2020/12/20 MDWL 250-101 (Issue 4) / 2025/12/10 MDWL 250-101 (Issue 5)	Filter Backwash Free Chlorine Residual (grab)	2025 (Monthly)	12	0.00	0.02 mg/L

Table 4. Summary of Inorganic parameters tested during this reporting period or the most recent sample results (O.Reg 170/03, Section 11.(6)(c))

Parameter & Location	Sample Date ^{4a} (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Antimony: Sb (µg/L) - TW	2025/01/06	< MDL 0.6	6.0	No
Arsenic: As (µg/L) - TW	2025/01/06	0.4	10.0	No
Barium: Ba (µg/L) - TW	2025/01/06	12.9	1000.0	No
Boron: B (µg/L) - TW	2025/01/06	12	5000.0	No
Cadmium: Cd (µg/L) - TW	2025/01/06	0.003	5.0	No
Chromium: Cr (µg/L) - TW	2025/01/06	0.17	50.0	No
Mercury: Hg (µg/L) - TW	2025/01/06	< MDL 0.01	1.0	No
Selenium: Se (µg/L) - TW	2025/01/06	0.11	50.0	No
Uranium: U (µg/L) - TW	2025/01/06	0.165	20.0	No
Fluoride (mg/L) – TW	2023/01/09 ^{4b}	<MDL 0.06	1.5	No
Nitrate : (mg/L) - TW	2025/01/06	0.273	10	No
Nitrate : (mg/L) - TW	2025/04/07	0.256	10	No
Nitrate : (mg/L) - TW	2025/07/07	0.25	10	No
Nitrate : (mg/L) - TW	2025/10/07	0.219	10	No
Nitrite : (mg/L) - TW	2025/01/06	< MDL 0.003	1	No
Nitrite : (mg/L) - TW	2025/04/07	< MDL 0.003	1	No
Nitrite : (mg/L) - TW	2025/07/07	< MDL 0.003	1	No
Nitrite : (mg/L) - TW	2025/10/07	< MDL 0.003	1	No

Note: MDL = Minimum Detection Limit, TW = Treated Water

^{4a}The owner of a large municipal residential system that obtains water from a raw water supply that is surface water shall ensure that at least one water sample for inorganics is taken every 12 months (O.Reg 170/03, Schedule 13-2.(1)). The most recent set of samples were collected and tested in 2025, the next set of samples are scheduled to be collected and tested in 2026.

^{4b}Fluoride is reportable every 60 months. The most recent Fluoride samples were tested in 2023, the next set of samples is scheduled to be tested in 2028.

Parameter & Location	Sample Date (yyyy/mm/dd)	Sample Result	Aesthetic Objective (AO)	Exceedance	
				AO	> 20 mg/L
Sodium: Na (mg/L) - TW	2023/01/09 ^{4c}	6.03	200	No	No

Note: MDL = Minimum Detection Limit, TW = Treated Water

Note: There is no regulatory Maximum Allowable Concentration (MAC) for Sodium. The aesthetic objective (AO) for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

^{4c}Sodium is reportable every 60 months. The most recent Sodium samples were tested in 2023, the next set of reportable samples is scheduled to be tested in 2028.

Table 5: Summary of lead testing under Schedule 15.1 during this reporting period (O.Reg 170/03, Section 11.(6)(g))

Location/Type & Parameter	Number of Samples ^{5a}	Range of Results		Number of Lead Exceedances (MAC = 10 µ/L)
		Min.	Max.	
Period: January 1 to April 15				
Plumbing – Lead (µg/L) ^{5b}	N/A	N/A	N/A	N/A
Distribution – Lead (µg/L) ^{5c}	N/A	N/A	N/A	N/A
Distribution – Alkalinity (mg/L as CaCO ₃)	2	75	78	N/A
Distribution – pH	2	8.18	8.21	N/A
Period: June 15 to October 15				
Plumbing – Lead (µg/L) ^{5b}	N/A	N/A	N/A	N/A
Distribution – Lead (µg/L) ^{5c}	N/A	N/A	N/A	N/A
Distribution – Alkalinity (mg/L as CaCO ₃)	2	80	82	N/A
Distribution – pH	2	8.16	8.17	N/A
Period: December 15 to 31				
Plumbing – Lead (µg/L) ^{5b}	N/A	N/A	N/A	N/A
Distribution – Lead (µg/L) ^{5c}	N/A	N/A	N/A	N/A
Distribution – Alkalinity (mg/L as CaCO ₃)	N/A	N/A	N/A	N/A
Distribution - pH	N/A	N/A	N/A	N/A

Note: this is required for large municipal residential systems, small municipal residential systems or non-municipal year-round residential system. (O.Reg 170/03, Section 11.(6)(g))

^{5a}This system follows a reduced sampling schedule (O.Reg. 170/03, Section 15.1.5). The number of sampling points for the system is based on the population served by the system. The number of people served by the system is 624 (as confirmed with the Owner on January 8, 2025), and therefore requires 2 distribution sampling points per sampling period.

^{5b}Plumbing samples are not applicable as this system qualifies for the plumbing exemption per O. Reg 170/03 Schedule 15.1-5 (9) (10).

^{5c}This system follows a reduced sampling schedule (O.Reg 170/03, Section 15.1.5). Distribution lead samples are collected every 36 months. The most recent set of distribution lead samples were collected within the winter period of December 15, 2023 to April 15, 2024 and summer period of June 15, 2024 to October 15, 2024. The next set of distribution lead samples is scheduled to be collected within the winter period of December 15, 2026 to April 15, 2027 and summer period of June 15, 2027 to October 15, 2027.

Table 6: Summary of Organic parameters sampled during this reporting period or the most recent sample results (O.Reg 170/03, Section 11.(6)(c)).

Parameter & Location	Sample Date ^{6a} (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
1,1-Dichloroethylene (ug/L)-TW	2025/01/06	< MDL 0.33	14	No
1,2-Dichlorobenzene (ug/L)-TW	2025/01/06	< MDL 0.41	200	No
1,2-Dichloroethane (ug/L)-TW	2025/01/06	< MDL 0.35	5	No
1,4-Dichlorobenzene (ug/L)-TW	2025/01/06	< MDL 0.36	5	No
2,3,4,6-Tetrachlorophenol (ug/L)-TW	2025/01/06	< MDL 0.2	100	No
2,4,6-Trichlorophenol (ug/L)-TW	2025/01/06	< MDL 0.25	5	No
2,4-Dichlorophenol (ug/L)-TW	2025/01/06	< MDL 0.15	900	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L)-TW	2025/01/06	< MDL 0.19	100	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L)-TW	2025/01/06	< MDL 0.12	100	No
Alachlor (ug/L) -TW	2025/01/06	< MDL 0.02	5	No
Atrazine + N-dealkylated metabolites (ug/L)-TW	2025/01/06	0.02	5	No
Azinphos-methyl (ug/L)-TW	2025/01/06	< MDL 0.05	20	No
Benzene (ug/L)-TW	2025/01/06	< MDL 0.32	1	No
Benzo(a)pyrene (ug/L)-TW	2025/01/06	< MDL 0.004	0.01	No
Bromoxynil (ug/L)-TW	2025/01/06	< MDL 0.33	5	No
Carbaryl (ug/L)-TW	2025/01/06	< MDL 0.05	90	No
Carbofuran (ug/L) -TW	2025/01/06	< MDL 0.01	90	No
Carbon Tetrachloride (ug/L) -TW	2025/01/06	< MDL 0.17	2	No
Chlorpyrifos (ug/L) -TW	2025/01/06	< MDL 0.02	90	No
Diazinon (ug/L)-TW	2025/01/06	< MDL 0.02	20	No
Dicamba (ug/L)-TW	2025/01/06	< MDL 0.2	120	No

Drinking Water System Regulation: O. Reg 170/03
 Section 11 Annual Report: January 1, 2025 to December 31, 2025
 Municipality of Northern Bruce Peninsula: Lion's Head Drinking Water System

Parameter & Location	Sample Date ^{6a} (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Dichloromethane (Methylene Chloride) (ug/L)-TW	2025/01/06	< MDL 0.35	50	No
Diclofop-methyl (ug/L)-TW	2025/01/06	< MDL 0.4	9	No
Dimethoate (ug/L)-TW	2025/01/06	< MDL 0.06	20	No
Diquat (ug/L)-TW	2025/01/06	< MDL 1	70	No
Diuron (ug/L)-TW	2025/01/06	< MDL 0.03	150	No
Glyphosate (ug/L)-TW	2025/01/06	< MDL 1	280	No
Malathion (ug/L)-TW	2025/01/06	< MDL 0.02	190	No
Metolachlor (ug/L)-TW	2025/01/06	< MDL 0.01	50	No
Metribuzin (ug/L)-TW	2025/01/06	< MDL 0.02	80	No
Paraquat (ug/L)-TW	2025/01/06	< MDL 1	10	No
PCB (ug/L)-TW	2025/01/06	< MDL 0.04	3	No
Pentachlorophenol (ug/L)-TW	2025/01/06	< MDL 0.15	60	No
Phorate (ug/L)-TW	2025/01/06	< MDL 0.01	2	No
Picloram (ug/L)-TW	2025/01/06	< MDL 1	190	No
Prometryne (ug/L)-TW	2025/01/06	< MDL 0.03	1	No
Simazine (ug/L)-TW	2025/01/06	< MDL 0.01	10	No
Terbufos (ug/L)-TW	2025/01/06	< MDL 0.01	1	No
Tetrachloroethylene (ug/L)-TW	2025/01/06	< MDL 0.35	10	No
Triallate (ug/L) -TW	2025/01/06	< MDL 0.01	230	No
Trichloroethylene (ug/L)-TW	2025/01/06	< MDL 0.44	5	No
Trifluralin (ug/L)-TW	2025/01/06	< MDL 0.02	45	No
Vinyl Chloride (ug/L)-TW	2025/01/06	< MDL 0.17	1	No
Trihalomethane: Total (µg/L) Annual Average - DW	2025 (Quarterly)	31.3	100.0	No
HAA Total (µg/L) Annual Average - DW	2025 (Quarterly)	7.9	80.0	No

Note: DW = Distribution Water, TW = Treated Water, MDL = Minimum Detection Limit, MAC = Maximum Allowable Concentration

^{6a}The owner of a large municipal residential system that obtains water from a raw water supply that is surface water shall ensure that at least one water sample for organics is taken every 12 months (O.Reg 170/03, Schedule 13-4.(1)). The most recent set of samples were collected and tested in 2025, the next set of samples are scheduled to be collected and tested in 2026.

Table 7: List of Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards for the reporting period.

Parameter & Location	Sample Date (yyyy/mm/dd)	Sample Result
N/A	N/A	N/A