



WEST HANTS REGIONAL MUNICIPALITY REPORT

Information ☒	Recommendation ☐	Decision Request ☐	Councillor Activity ☐
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To: West Hants Committee of the Whole

Submitted by: _____
Kathy Kehoe, Director Community Development

Date: April 12, 2024

Subject: Recreational Use of Lake Pesaquid

LEGISLATIVE AUTHORITY

N/A

RECOMMENDATION or DECISION REQUEST

N/A

BACKGROUND

Property ☒	Public Opinion ☐	Environment ☐	Social ☒	Economic ☐	Councillor Activity ☐
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At the September 26, 2023, West Hants Municipal Council meeting the following motion was passed: That Council direct the CAO to engage staff to initiate communications following any combined overflows (CSO) over land or into water courses that occur within West Hants Regional Municipality to identify to the public the need for caution and potential risk to their health in the area the overflows occurred.

DISCUSSION

Staff have created a document that is now available on our website regarding Recreational Use of Lake Pesaquid that outlines recreational water testing information and Stormwater management in West Hants Regional Municipality. Additionally, two Standard Operating Procedures (SOP) have been created for Water Quality Testing for Recreational Swimming &

Recreational Swimming Waterbody Closure. These standard operating procedures include the following locations: Kempt Quarry Recreation Site; Falmouth Mini Park, Falmouth Boat Launch, Windsor Waterfront Park (Lake Pesaquid); Falls Lake Park (Pioneer Drive) and Armstrong Lake Park.

The SOP's also reference the procedure that is to be followed in the event of a known CSO that effects Lake Pesaquid.

Federal Regulations under the Fisheries Act subsection 38(5) Duty to Notify if there is a combined sewer overflow (CSO), requires the following procedure to be followed:

- Fisheries Act need to be called into the spill reporting line without delay; WHRM staff will assess the affected area for safety hazards and in case actions need to be undertaken, such as road and or park closures. WHRM staff also determine if secondary overflow pumpkin is required.
- Follow up reporting requires a written report under subsection 38(7) of the Fisheries Act notifying both the Federal and Provincial governing bodies of the CSO event. All CSO discharge volume data needs to be submitted on the Effluent Regulatory Reporting Information System (ERRIS) upon completion of the CSO.

WHRM staff will be installing a transducer on the WLS1 Lift station located on the Windsor side of Lake Pesaquid. This transducer is essentially an alarm that will notify staff when there is a CSO that impacts Lake Pesaquid. In the event of a confirmed CSO that impacts Lake Pesaquid staff will implement the water testing standard operating procedure.

In the event there is a CSO that impacts a municipal park the park will be closed and posted with a temporary "Park Closed" sign until the water recedes.

NEXT STEPS

n/a

FINANCIAL IMPLICATIONS

Impact on the operational budget for recreational water testing is approximately \$2,700 and has been included in the 2024-25 operational budget for Councils consideration.

ALTERNATIVES

N/A

ATTACHMENTS

WHRM Standard Operating Procedure – Water Quality Testing for Recreational Swimming
WHRM Standard Operating Procedure – Recreational Swimming Waterbody Closure

CBCL Memo – CSO Volumes and WSER (Wastewater Systems Effluent Regulations)
Recreational Use of Lake Pesaquid & Stormwater & YOU (website information)

CHIEF ADMINISTRATIVE OFFICER REVIEW

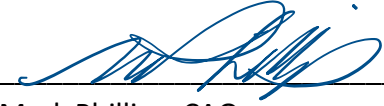
The Director through the report has described the improved operational procedures associated with recreational activities in the bodies of water noted. These procedures have been improved as a result of requests from Council.

Report Prepared by: _____
Kathy Kehoe, Director, Community Development

Report Reviewed by: _____
Todd Richard, Director, Public Works

Report Reviewed by: _____
Troy Burgess, Manager of Operations

Report Reviewed by: _____
Carlee Rochon, Director, Financial Services

Report Approved by:  _____
Mark Phillips, CAO



**West Hants Regional Municipality
Standard Operating Procedure
Water Quality Testing for
Recreational Swimming**

Approval Date:	March 19, 2024	Reviewed By:	Kathy Kehoe, Director, Community Development
Revision Date:	May 9, 2024	Approved By:	 Mark Phillips, Chief Administrative Officer

1. Objective

To provide guidelines on the collection of lake water samples for testing to determine water quality for recreational swimming.

2. Applicability

This Procedure applies to four recreational swimming areas located adjacent the following municipal recreation parks: Falmouth Mini Park, Falmouth Boat Launch and Windsor Waterfront Park (Lake Pesaquid), Kempt Quarry Recreation Site, Falls Lake Park (Pioneer Drive) and Armstrong Lake Park; between July 1st & August 31st. Testing is solely for advisory purposes and is not regulated by the provincial or federal government. The results are to be used as a guide only and for public awareness purposes. The locations identified are not designated beaches through the Nova Scotia Environment and Climate Change Department and West Hants Regional Municipality is not required to complete regular testing. However, although not required by federal or provincial guidelines, West Hants Regional Municipality takes a higher level of care for the community and collects water samples at various water access points for recreational swimming purposes.

3. Definitions

- "Lake", "Pond" or "Waterbody" means a body of water.
- "Community Development Staff" hired by the Municipality to take the water samples.
- "Manager" means the Manager of Parks & Recreation Facilities, or their designee.
- "Director" means the Director of Community Development, or their designee.
- "Supervisor" means the Supervisor of Parks & Grounds under the Community Development Department.
- "Summer Season" means the period July 1st – August 31st.

- g. "CSO" – means combined sewer overflow.

4. References

- a. Canadian Recreation Water Quality Guidelines, Health Canada, 2012

5. Sample Frequency

- a. Water quality samples shall be collected a minimum of 48 hours prior to the start of the Summer Season and one sample bi-weekly collected during the Summer Season. Bi-weekly samples will be collected on the Monday of each week. If a statutory holiday falls on a Monday, the sample event for that week will be collected on the Tuesday.
- b. If a water quality test report showing E. coli contaminant level above 400 units (regardless of the geometric mean), additional samples shall be collected as follows:
 - I. An initial sample collected as soon as practical but, in any event, not later than three (3) days after receipt of the adverse water quality test report.
 - II. A second sample collected a minimum of 12 hours after the preceding sample.
 - III. If the water quality test report for either of the first two samples shows E. coli contaminant level above 400 units, additional samples shall be collected a minimum of 12 hours after the preceding sample until two (2) consecutive water quality test reports show E. coli contaminant level below 200 units.
- c. Water quality samples shall be collected from Falmouth Mini Park, Falmouth Boat Launch and Windsor Waterfront Park (Lake Pesaquid) in the event of a known CSO that occurs between June 1st and September 30th at the WLS1 lift station located on the Windsor side of Lake Pesaquid.

6. Sample Locations

Community Development staff shall collect a sample from both the eastern and western boundaries of the known swim areas in the following locations that are maintained by the West Hants Regional Municipality: Falmouth Mini Park, Falmouth Boat Launch and Windsor Waterfront Park (Lake Pesaquid); Kempt Quarry Recreation Site; Falls Lake Park (Pioneer Drive) and Armstrong Lake Park.

7. Sample Collection Procedure

Water quality samples will be collected by Community Development staff and will be taken from the locations designated per Subsection 6 above.

- a. Prior to collecting the sample, the person collecting the sample shall ensure the following.
 - I. They have clean rubber boots, laboratory paperwork, and sterilized Bacterial Sample Bottles (check the expiry date) to collect the samples.
 - II. Check lab day and time deadlines for sample acceptance to ensure meeting 24-hour criterion.
- b. Samples will be collected as follows.
 - I. The person collecting the sample will put on clean rubber boots.

- II. Walk out until the approximately one (1) foot deep.
- III. If the bottle has a plastic seal, hold the sample container at the base and remove the seal around the cap before attempting to open the bottle.
- IV. Remove the cap with your free hand. Do NOT touch the inside of the bottle or bottle lip.
- V. Continue to hold the cap in one hand with the inside facing down while the bottle is being filled. Do NOT touch the interior of the cap or lay it down. Do NOT breathe on the bottle or cap.
- VI. Do NOT rinse the bottle.
- VII. The sample must be placed in the designated cooler with ice packs immediately and stored at a temperature between 1°C and 10°C (do not freeze) until it can be delivered to the laboratory.
- VIII. Complete the laboratory requisition form in full.
- IX. Transport the designated cooler to the sample drop off location identified or directly to the laboratory as soon as practical (i.e. by 11:00 am the day of the sample collection) but in any event not later than 24 hours after collection.
- X. The person who delivered the designated cooler to the laboratory shall return all paperwork to the Supervisor, Parks and Grounds or designee.

8. Notices

All laboratory test results are to go to the Director, Community Development, Manager, Parks and Recreation Facilities and the Supervisor, Parks & Grounds, or designee.



**West Hants Regional Municipality
Standard Operating Procedure
Recreational Swimming
Waterbody Closure**

Approval Date:	March 19, 2024	Reviewed By:	Kathy Kehoe, Director Community Development
Revision Date:	April 3, 2024	Approved By:	 Mark Phillips, Chief Administrative Officer

1. Objective

To provide guidelines on when to close and re-open a waterbody that is currently tested for recreational swimming water quality when potentially hazardous water quality conditions are detected.

2. Applicability

This Procedure applies to four recreational swimming areas located adjacent to the following municipal recreation parks: Falmouth Mini Park, Falmouth Boat Launch and Windsor Waterfront Park (Lake Pesaquid); Kempt Quarry Recreation Site; Falls Lake Park (Pioneer Drive) and Armstrong Lake Park. Closures, if necessary, are solely for advisory purposes and is not regulated by the provincial or federal government. The results are to be used as a guide only and for public awareness purposes. The locations identified are not designated beaches through the Nova Scotia Environment and Climate Change Department and West Hants Regional Municipality is not required to complete regular testing. However, although not required by federal or provincial guidelines, West Hants Regional Municipality takes a higher level of care for the community and collects water samples at various water access points for recreational swimming purposes.

3. Definitions

- "Lake", "Pond" or "Waterbody" means a body of water.
- "Community Development Staff" hired by the Municipality to take the water samples.
- "Director" means the Director of Community Development, or their designee.
- "Manager" means the Manager of Parks & Recreation Facilities, or their designee.
- "Supervisor" means the Supervisor of Parks & Grounds, or their designee.
- "Summer Season" means the period July 1st – August 31st.

4. References

- a. Canadian Recreation Water Quality Guidelines, Health Canada, 2012
- b. SOP for Water Quality Testing for Recreational Swimming

5. Signage

The park(s) adjacent the waterbody will be signed warning that that water is not suitable for swimming immediately upon a single receipt of a water quality test report from a sample taken by a West Hants Regional Municipality employee showing E. Coli contaminant level above 400 units (regardless of the geometric mean). If such a report is received, the following actions will be undertaken. The signage will be placed near the water access point that is located in a prominent location within the park.

- a) The Parks & Grounds Supervisor will:
 - I. Immediately notify the Manager, Parks & Recreation Facilities of the test results.
 - II. Notify Director of the test results.
 - III. Coordinate with Parks & Grounds staff to initiate the re-sampling procedure per SOP Water Quality Testing for Recreational Swimming as soon as practicable but in any event not later than three (3) days.
 - IV. Immediately install "Water Not Suitable for Swimming" signage.
 - V. Coordinate with the Parks and Grounds Supervisor to initiate the resampling procedure as per SOP for Water Quality Testing for Recreational Swimming.
- b) Director will:
 - I. Arrange for notices of waterbody closure to be posted on the Municipality's social media sites and the municipal webpage as soon as practical.
 - II. Notify the CAO and Municipal Council of the closure via email.

6. Waterbody Reopening Procedure

When a Municipally tested waterbody is closed due to water quality issues, it will only be reopened when two (2) consecutive water quality test reports show E. Coli contaminant level below 400 units and a geometric mean of less than 200 units of samples taken as per SOP for Water Quality Testing for Recreational Swimming. Upon receipt of two such reports the following actions will be taken:

- a) Parks and Grounds Supervisor
 - I. Notify the Manager, Parks & Recreation Facilities that the waterbody may be re-opened.
 - II. Notify Director of the test report and that the waterbody may be reopened.
 - III. Coordinate with Parks & Grounds staff to remove all "Warning Water Not Suitable for Swimming" signs.
- b) Director
- c) Director will:
 - I. Arrange for notices of the waterbody re-opening to be posted on the Municipality's social media sites and the municipal webpage as soon as practical.
 - II. Notify the CAO and Municipal Council of the waterbody re-opening via email.

Project Name:	Windsor CSO Query	Project No.:	
Date:	March 22, 2022		
Subject:	CSO Volumes and WSER		
To:	Todd Richard		
From:	M. Abbott		
Copies to:			

Todd,

To address your current queries we first summarized the relevant sections of the WSER, followed by estimates of discharge volumes and characteristics.

WSER Summary

Reporting requirements for combined sewer overflows may arise from both Federal and Provincial sources. Provincial requirements would be contained in the Approval to Operate, while Federal requirements arise from the Wastewater Systems Effluent Regulations (WSER), which are summarized below.

Combined Sewer Outfalls in WSER legislation

The requirements of the WSER are summarized below, using excerpts (highlighted in grey) which relate to combined sewer overflows.

Reporting of overflow events at combined sewer overflow points is required as described below:

Authorization to deposit

6 (7) The authorization granted to an owner or operator under subsection (1) is conditional on the owner or operator

...

- o **(g)** sending the overflow report, if applicable, required under section 20 in accordance with subsections 19(4) and (5).

The following information must be recorded:

17 The owner or operator of a wastewater system must keep the report on each determination made by an accredited laboratory referred to in section 16 and a record that contains the following information:

...

- (b) for each combined sewer overflow point via which effluent is deposited because of precipitation, including the melting of snow or ice, that resulted in excess wastewater in the wastewater system,
- (i) the date of each day on which effluent was deposited via the overflow point,
 - (ii) for each of those days, the duration or estimated duration, expressed in hours, of the deposit, along with an indication of whether it is the duration or an estimated duration and
 - (A) the daily volume of the effluent deposited, expressed in m^3 , if that volume is yielded by a continuous measure, and
 - (B) the estimated daily volume of the effluent deposited, expressed in m^3 , in any other case,
 - (iii) the volume or estimated volume, expressed in m^3 , of effluent for each month during which effluent was deposited via the overflow point, and
 - (iv) the number of days in each of those months during which effluent was deposited via the overflow point;

The following information must be reported in the initial Identification Report:

18 (1) The owner or operator of a wastewater system must send to the authorization officer an identification report that contains the following information:

...

- (g) the number of overflow points for each of the combined sewers and sanitary sewers of the wastewater system and the latitude and longitude of each of those overflow points;
- (h) for a point of entry in relation to each overflow point, a description of the water frequented by fish into which effluent is deposited, including
 - (i) a description of its use, if any, and
 - (ii) its name, if any, and the name, if any, of the body of water that includes that water; and

The following annual report format is required:

19 (4) The report must be sent electronically in the form and format specified by the Minister of the Environment and must bear the electronic signature of the owner or operator, or their duly authorized representative.

19 (5) If the Minister of the Environment has not specified an electronic form and format or if it is not feasible to send the report electronically in accordance with subsection (4) because of circumstances beyond the owner's or operator's control, the report must be sent on paper, signed by the owner or operator, or their duly authorized representative, and in the form and format specified by the Minister of the Environment. However, if no form and format have been specified, it may be in any form and format.

The following annual report timing and reported data is required:

20 The owner or operator of a wastewater system that includes at least one combined sewer overflow point must, in accordance with subsections 19(4) and (5), send to the authorization officer a combined sewer overflow report in respect of each calendar year by February 15 of the following calendar year and the report must contain the following information:

- (a) for each month of the calendar year during which effluent was deposited via a combined sewer overflow point, the information referred to in subparagraphs 17(b)(iii) and (iv); and
- (b) for each month of the calendar year during which effluent was not deposited via a combined sewer overflow point, a statement indicating that no effluent was deposited via an overflow point during the month.

There is a factsheet on the Environment Canada website (address shown below) giving additional information on unauthorized deposits which states that all deposits at overflow points due to precipitation are unauthorized and that immediate reporting of any unauthorized deposits are required. However, we are not aware of any municipalities with combined sewers that in fact routinely report overflows due solely to precipitation. Reporting all precipitation-based overflows immediately would seem to be overuse of the emergency reporting system referred to on this website, and possibly cause higher-risk overflows to be overlooked in the sheer volume of low-risk, generally dilute overflow reporting.

<https://www.canada.ca/en/environment-climate-change/services/wastewater/system-effluent-regulations-reporting/overview/factsheet-unauthorized-deposits.html>

CSO Volume & Characteristics

The 42 inch line is constructed at a slope of 1%. If it is not surcharged, totally clean, with an unimpeded discharge the capacity of the line is 6.5 mgd at 25% full; 23 mgd at 50% full; 43 mgd at 75% full; and 50 mgd at max capacity. This is consistent with what we would require for a CSO that might discharge 30-50 times the dry weather wastewater flows during significant rainfall events.

This discharge is stormwater mixed with raw sewage that at those flows would be 1/30 to 1/50 (2-3%) the strength of raw sewage. The deleterious substance definition is not used in the WSER as it favours a toxicity approach. The CSO discharge at these flow rates would be cleaner than your WWTF effluent and would almost certainly be non-toxic.

Recreational Use of Lake Pesaquid

IMPORTANT NOTICE

Our testing for recreational use is conducted solely for advisory purposes and is not regulated by the provincial or federal government. Please be aware that the results will be used as a guide only and for public awareness purposes.

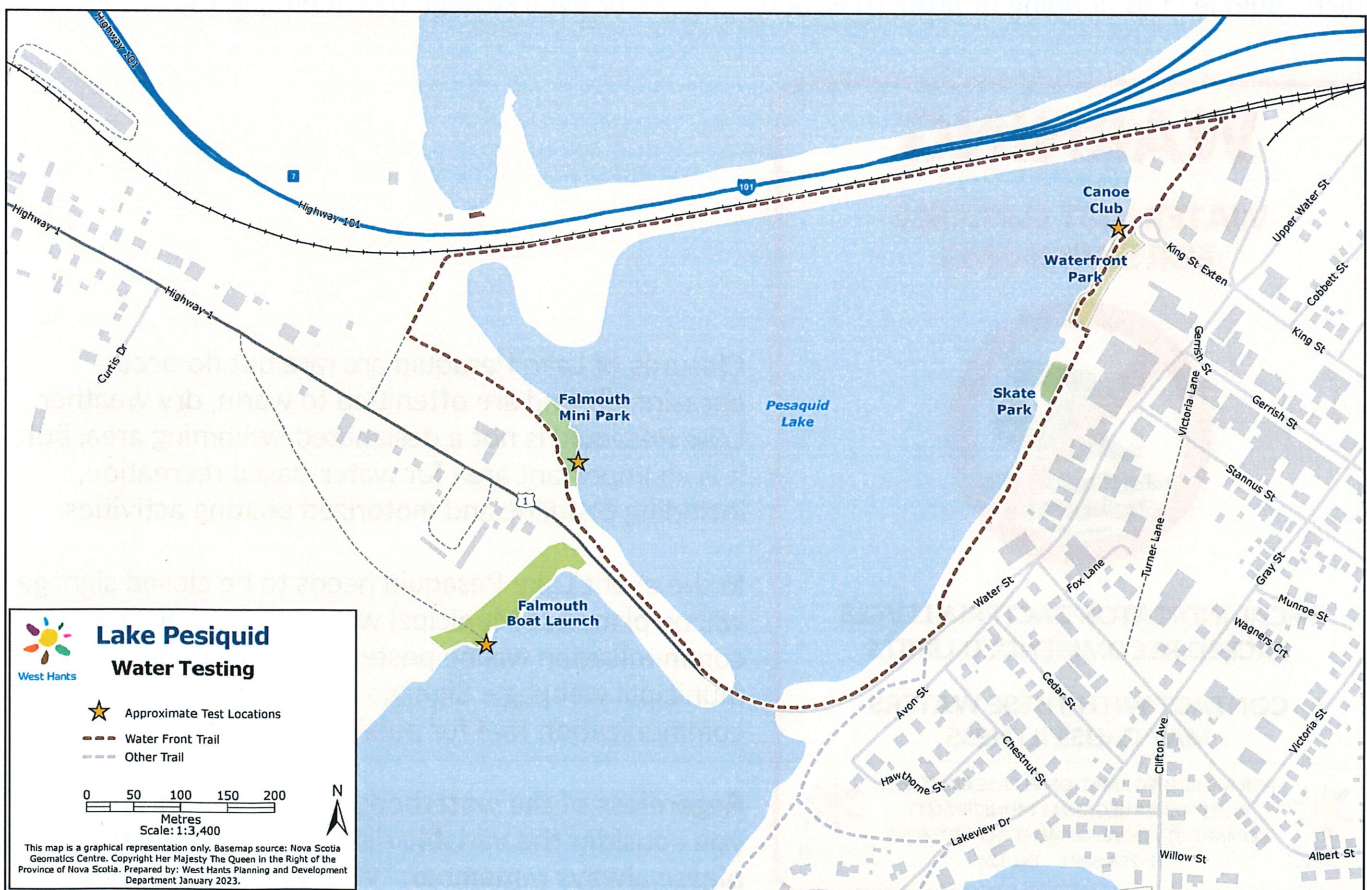
Lake Pesaquid is a recreational space that is a hub of activity during the summer months. Typical uses throughout the summer include swimming, paddling, boating, and paddle boarding.

Where this space is not a designated beach through the Nova Scotia Environment and Climate Change Department, West Hants Regional Municipality is not required to complete regular testing. However, although not required by federal or provincial guidelines, West Hants Regional Municipality takes a higher level of care for the community and collects water samples at various water access points for recreational swimming purposes. These water samples are collected and then tested at AGAT Laboratories for bacteria levels and include water quality tests for Lake Pesaquid.

The guideline for Canadian Recreational Water Quality for E.Coli in a single-sample maximum concentration is equal to or less than 400 CFU/100 ml. (if a test comes back with less than 400 CFU/100ml the water is considered safe for recreational use at the time the test was taken)

Sources of E. Coli can include untreated human sewage, failing septic tanks, livestock, agriculture, pets, wildlife, and illegal connections from home sewer systems to surface water.

Water testing takes place during the summer months (July 1-August 31) and this sampling program will be increased starting in the summer of 2024. Please refer to the map for information regarding testing location points.



Stormwater and YOU!



The practice of stormwater management is constantly evolving and helping to make residents better aware of how stormwater is managed is important.

Stormwater and Wastewater Overflows: Why do they still happen?

Overflows can happen when heavy rainfall overloads the sewer system. Heavy rainfall and capacity limitations in the conveyance (pipe) systems can trigger overflows at emergency fallout locations.

Overflows can also occur due to mechanical failure or operational issues. The system is designed this way to prevent major damage to infrastructure and surrounding environment.

What is the stormwater system that WHRM owns and maintains?

Storm drains, off-street drainage corridors, buried pipes and manholes, in street (cross) culverts, detention ponds and roadside ditches.

What is a combined sewer?

A combined sewer is a system of pipes and pump stations etc. that transports both sewage and storm water to a wastewater treatment plant where the water is treated and discharged.

What is a CSO (Combined Sewer Overflow) and what are the regulations around it?

Most of the time, combined sewers carry all contents (rain, melted snow and sewage) to a wastewater treatment plant for full treatment. During periods of intense, heavy rainfall, or a power outage the volume of stormwater that enters these combined sewers may exceed the system's capacity and some of the combined sewer flow (a mix of stormwater and sewage) is diverted (or overflow) untreated.

Combined sewer overflows (CSOs) were designed to act as a relief valve: preventing sewer overloads, which could lead to flooding of properties, public spaces or even sewage treatment plants.

WARNING

**WATER NOT SUITABLE
FOR SWIMMING**



**FECAL INDICATOR BACTERIA LEVELS
EXCEED RECOMMENDED LIMITS**

**CONTACT WITH THESE WATERS
MAY CAUSE ILLNESS**

FOR MORE INFORMATION PLEASE CONTACT:
WEST HANTS REGIONAL MUNICIPALITY
COMMUNITY DEVELOPMENT DEPARTMENT
902-798-8391 Ext 124



West Hants
something inspiring awaits

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Closures of Lake Pesaquid are rare but do occur occasionally and are often tied to warm, dry weather. Lake Pesaquid is not a designated swimming area, but it is an important area for water-based recreation, including paddling and motorized boating activities.

In the event Lake Pesaquid needs to be closed signage will be placed at Municipal water access points and communication will be posted to social media and the municipal webpage. Signage is used as a communication tool for public awareness.

Regardless of the waterbody and conditions, when you consider the variable risks to people and pets, please always remember: "When in doubt, Stay out"



Federal Regulations under the Fisheries Act:

Subsection 38(5)

Duty to notify – deleterious substance

- (5) If there occurs a deposit of a deleterious substance in water frequented by fish that is not authorized under this Act, or if there is a serious time imminent danger of such an occurrence, and detriment to fish habitat or fish or to the use by humans of fish results or may reasonably be expected to result from the occurrence, then every person shall without delay notify an inspector, a fishery officer, a fishery guardian or an authority prescribed by the regulations if the person at any material time
- (a) owns or has the charge, management, or control of
 - (i) the deleterious substance, or
 - (ii) the work, undertaking or activity that resulted in the deposit or the danger of the deposit; or
 - (b) causes or contributes to the occurrence or the danger of the occurrence.

What is the procedure in the event of a CSO?

Any unauthorized deposits (CSO) that trigger subsection 38(5) of the Fisheries Act need to be called into the spill reporting line without delay at 1-800-565-1633. WHRM staff will assess the affected area for safety hazards and in case actions need to be undertaken, such as road and/or park closures. Staff also determine if secondary overflow pumping is required.

Follow up reporting requires a written report under subsection 38(7) of the Fisheries Act notifying both the Federal and Provincial governing bodies of the CSO event. All CSO discharge volume data needs to be submitted on the Effluent Regulatory Reporting Information System (ERRIS) upon completion of the CSO.

How will I know where there has been an overflow that affects municipal parks?

If there is a CSO that includes standing water in a Victoria or Elmcroft Park, the property will be posted with a temporary "Park Closed" sign.

Permanent signage is also in place at the (WLS1) lift station located on the Windsor side of Lake Pesaquid.



