

A thick, yellow, curved line that starts on the left and tapers to the right, arching over the title.

Murray Beach Water Monitoring Protocol

Office of the Chief Medical Officer of Health
Department of Health

The requirements of this Protocol are in accordance with the
Guidelines for Canadian Recreational Water Quality

May 2017

Purpose

Faecal material from such sources as discharged sewage, stormwater runoff from agricultural or urban areas, wild or domesticated animals and even through faecal shedding by swimmers themselves, may contribute to poor recreational water quality. Many epidemiological studies have identified gastrointestinal and upper respiratory illnesses in swimmers as a result of such contamination.

The purpose of this Murray Beach Water Monitoring Protocol (Protocol) is to help ensure that a clear and transparent process is in place to ensure that the risk of water-borne illness and injury is minimized.

This Protocol defines the minimum requirements for the management of the designated recreational swimming area at Murray Beach. The Protocol also defines the responsibilities of the Department of Environment and Local Government (DELG), Department of Tourism, Heritage and Culture (THC) and the Office of the Chief Medical Officer of Health (OCMOH).

Application

The requirements outlined in this Protocol were developed using the same approach, references and rationale used to create the [Parlee Beach Water Monitoring Protocol](#). This Protocol is a concise summary of monitoring requirements at Murray Beach, and should be considered as a companion document to the Parlee Beach Water Monitoring Protocol. References and detailed rationale can be found in the [Parlee Beach Water Monitoring Protocol](#).

This Protocol will be re-evaluated on an annual basis.

Beach Water Sampling Program

Sampling Parameters

- **Water samples shall be collected and analyzed for Enterococci and *E.coli.**

*Historically, Enterococci and *E. coli* have been sampled at Murray Beach. While the Canadian Guidelines recommend Enterococci be sampled for coastal waters, for the 2017 swimming season both indicator parameters will continue to be monitored. The results will be compared and the need to monitor *E. coli* on a continual basis will be re-evaluated.

Guideline Values

- **For Murray Beach, the guideline values are as follows:**

Equal to or less than 35 enterococci/100 ml	Geometric mean of most recent 5 samples
Equal to or less than 70 enterococci/100 ml	Single-sample maximum
Equal to or less than 200 <i>E. coli</i> /100 ml	Geometric mean of most recent 5 samples
Equal to or less than 400 <i>E. coli</i> /100 ml	Single-sample maximum

Environmental Health & Safety Survey (EHSS)

- **Prior to the start of the recreational swimming season, an EHSS will be completed. This process will be led by OCMOH.**
- **Within one week prior to the opening of the beach for the swimming / bathing season, one set of five (5) samples shall be collected to confirm water quality.**

Sampling Location points

- **Five (5) water samples shall be collected from the designated swimming area at equally spaced intervals. The locations shall be identified as “East”, “East/Centre”, “Centre”, “Centre/West” and “West”.**

The length of the designated swimming area at Murray Beach is approximately 600m.

(Communication with THC, March 2017)

Sampling Frequency and Time

- During the swimming season, water samples shall be collected three times (3) per week, as per the attached **schedule. If for any reason a sample cannot be collected on the scheduled day, it shall be collected the following day.
- Water samples shall be collected, as practically as is possible, at the same time each day. It is recommended that they be collected late morning, between 10:30am – 12:00pm.

** yellow highlighted date indicates sample date

May 2017							June 2017							July 2017						
M/L	T/M	W/M	T/J	F/V	S/S	S/D	M/L	T/M	W/M	T/J	F/V	S/S	S/D	M/L	T/M	W/M	T/J	F/V	S/S	S/D
1	2	3	4	5	6	7				1	2	3	4						1	2
8	9	10	11	12	13	14	5	6	7	8	9	10	11	3	4	5	6	7	8	9
15	16	17	18	19	20	21	12	13	14	15	16	17	18	10	11	12	13	14	15	16
22	23	24	25	26	27	28	19	20	21	22	23	24	25	17	18	19	20	21	22	23
29	30	31					26	27	28	29	30			24	25	26	27	28	29	30
														/31						

August 2017							September 2017						
M/L	T/M	W/M	T/J	F/V	S/S	S/D	M/L	T/M	W/M	T/J	F/V	S/S	S/D
	1	2	3	4	5	6					1	2	3
7	8	9	10	11	12	13	4	5	6	7	8	9	10
14	15	16	17	18	19	20	11	12	13	14	15	16	17
21	22	23	24	25	26	27	18	19	20	21	22	23	24
28	29	30	31				25	26	27	28	29	30	

Sample Collection Depths

- All required samples shall be collected where the depth of water is approximately 0.5 m, from a location approximately 15 cm below the water surface.

Sample Collection Protocols and Laboratory Services

- DELG is responsible for the oversight of sample collection for the purpose of compliance monitoring and ensuring proper training is provided.
- All collected water samples must be analyzed by a laboratory accredited for *E. coli* and Enterococcus.
- All samples shall be collected, preserved and transported in sterile bottles provided by the accredited lab, and in accordance with the laboratory's standard procedures. The laboratory Sample Submission Form shall be properly completed and included.

Public Communication

Compliance Monitoring

- When the designated swimming area is suitable for swimming, an Informative Beach Sign indicating the area is suitable for swimming shall be posted.

An example of the "Suitable for Swimming" Sign can be found in Appendix "A".

- Monitoring results will be emailed directly from the accredited laboratory to OCMOH and DELG.
- The OCMOH is responsible for interpreting monitoring results, including the geometric mean.

"No Swimming" Advisories

Water Quality Results

- The Medical Officer of Health (MOH) will issue a "No Swimming Advisory" when necessary. The advisory will remain in place until follow up sampling is completed and laboratory results confirm that water quality is within Guideline Values.

An example of the "No Swimming Advisory" sign can be found in Appendix "B".

“Beach Closure”

- **Where evidence suggests that continued operation of the beach is dangerous to the public, or poses a public health risk, the MOH may order a beach closure** as per Section 6 of the *Public Health Act*. The OCMOH is responsible for communicating with THC to advise that a beach closure is being ordered.

An example of a “Beach Closure” sign can be found in Appendix “C”.

A beach closure will remain in effect until the MOH is satisfied that the risk to the public has been appropriately addressed. In situations where a beach closure has been deemed necessary, the MOH will collaborate with all appropriate stakeholders in order to ensure a thorough investigation is completed.

Examples of events that may warrant the issuing of a Beach Closure:

Disease outbreak

- There is suspicion that the water may be responsible for a waterborne disease outbreak.

Chemical, Oil, Manure or Sewage Spill

- Evidence that a sewage, manure, chemical or oil spill exists that is expected to impact the recreational water area.

Severe Algae Growth

- There is accumulation that could cause entanglement or prevent the ability to see someone in distress.

Fish, waterfowl, or other wildlife die-off

- Suspicion that the recreational water area and/or vicinity is causing or contributing to wildlife kills.

Visible Debris, Metal or Sharp Objects in Water or Beach Area

- Objects and debris identified that could result in serious injuries.

Other Situations

- There could be other situations that arise that may require an assessment by the MOH.

Public Awareness

- **THC is responsible for placing the “Suitable for Swimming”, “No Swimming Advisory” or “Beach Closure” signs at the locations indicated in Appendix “D”.** OCMOH will randomly audit the facilities to verify that appropriate signs have been placed.
- **If it is determined that a “No Swimming Advisory”, or “Beach Closure” is necessary, OCMOH will verbally inform THC. A follow up in writing will be sent.**
- **OCMOH will update its website** to show that a “No Swimming Advisory” is in effect or if a “Beach Closure” has been ordered. THC’s website will be linked to the OCMOH website.
- **All monitoring results will be accessible from the OCMOH website.** The THC website will be linked to the OCMOH website.

Appendix "A" Suitable for Swimming Sign Example

**WATER OPEN
SUITABLE FOR
SWIMMING**



THE MOST RECENTLY COLLECTED SAMPLES
INDICATED THAT FAECAL INDICATOR BACTERIA
LEVELS WERE BELOW THE RECOMMENDED
LIMITS
FOR MORE INFORMATION ON THE
MONITORING
OF THIS BEACH, PLEASE VISIT:

gnb.ca/beaches

Issued by:
OFFICE OF THE CHIEF MEDICAL
OFFICER OF HEALTH

**PLAGE OUVERTE
BAIGNADE AUTORISÉE**



SELON LES PLUS RÉCENTS ÉCHANTILLONS
PRÉLEVÉS, LES CONCENTRATIONS
DE BACTÉRIES FÉCALES INDICATRICES SONT
INFÉRIEURES AUX LIMITES RECOMMANDÉES.

POUR PLUS D'INFORMATION SUR LA
SURVEILLANCE DE CETTE PLAGE,
CONSULTER:

gnb.ca/plages

Émis par le:
BUREAU DU MÉDECIN-HYGIÉNISTE EN CHEF

Appendix “B” No Swimming Advisory Sign Example

WARNING
WATER NOT SUITABLE
FOR SWIMMING



**FAECAL INDICATOR BACTERIA LEVELS EXCEED
RECOMMENDED LIMITS**

**CONTACT WITH THESE WATERS MAY CAUSE
ILLNESS**

**FOR MORE INFORMATION ON THE MONITORING
OF THIS BEACH, PLEASE VISIT:**

gnb.ca/beaches

**Issued by:
OFFICE OF THE CHIEF MEDICAL
OFFICER OF HEALTH**

ATTENTION
EAU IMPROPRE À LA
BAIGNADE



**CONCENTRATIONS DE BACTÉRIES FÉCALES
INDICATRICES SUPÉRIEURES AUX LIMITES
RECOMMANDÉES.**

**TOUT CONTACT AVEC CES EAUX PEUT
CAUSER DES MALADIES.**

**POUR PLUS D'INFORMATION SUR LA
SURVEILLANCE DE CETTE PLAGE,**

**CONSULTER:
gnb.ca/plages**

**Émis par le:
BUREAU DU MÉDECIN-HYGIÉNISTE EN CHEF**

Appendix “C” Beach Closure Sign Example

WARNING **BEACH CLOSED**

TO PROTECT THE PUBLIC’S HEALTH, **ACCESS TO THE BEACH AREA
AND WATER ARE NOT PERMITTED.**

BY ORDER OF THE MEDICAL OFFICER OF HEALTH

For more information, please visit www.gnb.ca/beaches



ATTENTION **PLAGE FERMÉE**

AFIN DE PROTÉGER LA SANTÉ DU PUBLIC, **L’ACCÈS À LA PLAGE ET
À L’EAU EST INTERDIT.**

PAR ORDONNANCE DU MÉDECIN-HYGIÉNISTE

Pour plus de renseignements, consultez le www.gnb.ca/plages



Appendix “D”

Locations of Informative Beach Signs

Informative beach signs will be placed at the four (4) designated beach entrance points, as well as one (1) sign located at the Park Entrance, as illustrated below.



(Communication with THC, March 2017)