

# Healthy Beach Program – Frequently Asked Questions

## 1. Why monitor Saskatchewan's beaches?

Beaches are monitored to protect swimmers from illnesses associated with unacceptable levels of bacteria. Swimming in contaminated water can result in an increased risk of ear, nose, and throat infections or gastrointestinal illnesses.

Sampling is conducted in order to determine whether water quality meets the [Canadian Recreational Water Guidelines](#). Beach sampling results cannot be guaranteed as conditions can change quickly depending on weather.

## 2. How are the beaches (or recreational areas) chosen for sampling?

Recreational water quality is influenced by a number of environmental and built factors including: rainfall, wave action, water and ambient air temperatures, waterfowl, industrial waste discharges, storm water outflows, septic system discharges, and agricultural run-off.

The sampling program includes selected public beaches and waterfront areas used for aquatic activities at recreational camps with lands controlled by a provincial, regional, or municipal agency with access to a lake or river. Private beaches and “unofficial” swimming areas are not included in the program.

## 3. How often are beaches sampled?

Only selected beaches are monitored weekly, monthly or once per season but each of the public recreational areas included in the Healthy Beach Program is visited at least once every five years. Sampling is typically conducted from the end of June to the end of August. Water quality parameters (including *E.coli* and microcystins), site amenities, user information (bather load, ease of access, primary activities, etc.), physical safety, and environmental hazards of the recreational sites are used to prioritize and establish the frequency of sampling at public swimming areas.

## 4. Which tests are performed on the water?

Bacteriological tests for *E. Coli* are completed using the most probable number methodology by Roy Romanow Provincial Laboratory. Cyanobacteria a.k.a. Blue-Green Algae (or their toxins) regular samples are screened using ELISA (Enzyme-Linked-Immunosorbent Assay) protocol.

## 5. What is *E. coli*, what causes it, and why it is a health concern?

*Escherichia coli* (*E. coli*) is a member of a group of organisms known as coliforms, a common bacteria found in the digestive system of humans and animals. This organism is usually not a cause for concern however, there are a few strains that can cause serious disease in humans. If found in contaminated food or water and ingested, it can cause vomiting, nausea, diarrhea, and stomach cramps. Persons

experiencing adverse health effects from recreational water activity should consult a medical professional. In some people (elderly, immunocompromised, and children under five) it may lead to hemolytic uremic syndrome destroying red blood cells and causing kidney failure.

## **6. What is Blue-Green Algae, what causes it, and why it is a health concern?**

Certain types of Blue-Green Algae or Cyanobacteria produce a toxin called **microcystin** that can be produced in large quantities during algal blooms and pose a threat to drinking water supplies. If ingested, microcystin will travel to the liver where it can cause serious damage.

Recreational water users should avoid areas with visible algal blooms and/or scums, as all blooms have the potential to be toxic. Direct contact with bloom material or accidental ingestion of contaminated waters can be harmful to recreational water users. Users should shower or wash themselves, as well as any item that may have accidentally come into contact with algal material, as soon as is practical upon exiting the water.

The development of algal blooms in waters used for recreational purposes is dependent on many factors that can be difficult to predict. Blooms can develop very rapidly under the appropriate conditions, and lakes that have never had a problem can change unexpectedly. Development of algal blooms and the presence of algal toxins may be localized to parts of a lake and therefore advisories are issued for specific beach areas rather than the whole lake.

Pets and livestock may also be affected by cyanobacteria toxins and should not swim in or drink from areas where the water has taken on an abnormal discolouration consistent with that of a bloom. If pets encounter bloom-affected waters, they should be rinsed off with clean water immediately to remove all traces of cyanobacterial material that could accidentally be ingested.

## **7. What do these sample results mean?**

Recreational water is considered to be **safe for swimming** and other in-water activities when:

- No single sample result is greater than 400 *E. coli* organisms in 100 milliliters (mLs) of water;
- The geometric mean of five samples is  $\leq 200$  *E. coli*/100 mLs; and/or,
- Cyanobacteria or their toxins is less than 20  $\mu\text{g/L}$ .

## **8. When are swimming advisories posted at beaches?**

The public is advised to avoid swimming and in-water activities at recreational areas when poor water quality test results are received and public officials determine that there is the need to issue an advisory. Warning signs advising the public that the water may be unsafe for swimming are posted at several locations at the beach/recreational area until the risk to public health is resolved.

The need for a Swimming Advisory is assessed when:

- a single sample result containing  $\geq 400$  *E. coli* in 100 milliliters (mLs) of water;
- the geometric mean of five samples is  $\geq 200$  *E. coli* /100 mLs; and/or,
- the guideline value for cyanobacteria or their toxins is greater than 20  $\mu\text{g/L}$ ; and/or,
- conditions that pose a significant risk to public health are present.

A suspected waterborne disease outbreak, a sewage or chemical spill, a confirmed cyanobacteria bloom may also trigger a Swimming Advisory.

### **9. If the water isn't safe for swimming, is it still safe to visit the beach?**

A Swimming Advisory or Caution posting applies to the water quality conditions at the public beach. Activities on the beach may continue, however, young children and pets should be supervised to avoid contact with the water.

### **10. If there's a Swimming Advisory, can my dog still go in the water, or is it dangerous for them too?**

It is recommended that pets avoid swimming in or drinking from areas where a Caution or Swimming Advisory for Blue-Green Algae (cyanobacteria) is posted, especially if the water has taken on an abnormal colour. If pets enter the water at a posted beach, they should be rinsed off with clean water to remove any material that could be accidentally ingested.

### **11. If the water isn't safe for swimming, isn't there a risk going on the lake for boating/sailing and falling into the water?**

Water sampling occurs at public recreational areas and may not reflect the conditions at all areas of a particular lake or water body. Advisories are specific to the monitored beach area only. Activities in and on the water that occur away from an area posted with a Swimming Advisory or Caution notification may not be at risk.

Most on-water activities such as, boating, kayaking, and sailing are not affected by advisories posted at specific public recreational areas.

### **12. There is an advisory at the beach but not on the website. Which is correct?**

Presence of warning signs at a recreational water area are correct. Occasionally, water quality results that require Caution or Swimming Advisory signs to be posted at a beach occur after normal office hours and are not immediately updated on the website.

### **13. What happens after a caution or advisory is posted at a beach?**

Beaches continue to be monitored and advisories will be lifted when sampling indicates that the water is considered safe.

#### **14. Why can't I find my beach on the list?**

Development of the Healthy Beaches program began in 2012. Since then, all known public beaches within province's jurisdiction have been assessed at least once. Only the sampling results for beaches selected for the Healthy Beach Program in 2019 are posted to the website.

#### **15. Who can I contact for more information on advisories?**

More information on beach advisories may be obtained from Saskatchewan Health Authority Public Health Inspectors. A listing of local offices may be found at:

<http://www.saskatchewan.ca/residents/health/public-health/public-health-inspectors>.

#### **Recreational Water Information**

- Blue-Green Algae (Cyanobacteria) [https://pubsaskdev.blob.core.windows.net/pubsask-prod/108552/108552-Blue-Green\\_Algae\\_Cyanobacteria.pdf](https://pubsaskdev.blob.core.windows.net/pubsask-prod/108552/108552-Blue-Green_Algae_Cyanobacteria.pdf)
- Health Canada – Recreational Water <https://www.canada.ca/en/health-canada/services/environmental-workplace-health/water-quality/recreational-water-water-quality.html>
- Swimming, Boating and Water Safety Tips (Canadian Red Cross) <https://www.redcross.ca/training-and-certification/swimming-and-water-safety-tips-and-resources/swimming-boating-and-water-safety-tips>