

# CreekWatch Safety: Hazards, Risk Management and Best Practices

Updated July 2020

Thank you for participating with CreekWatch Citizen Science and helping to make a difference in the monitoring and management of our urban and rural creeks and stormwater. The combination of your enthusiasm, training, awareness and common-sense should help keep you safe. The safety of all volunteers and staff is our top priority. CreekWatch safety, hazards and best practices are describe below, including pandemic considerations, safe access to creeks and proper use of testing chemicals.

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## First Priority is Health and Safety

No water sample is worth risking health or life, and under normal circumstances, water quality monitoring should be a relatively low-risk activity. This document describes safety and hazard considerations for pandemic times, field sampling and the proper handling of chemicals. When in doubt, please remain safe and contact the Program Manager.

## Insurance Coverage

Water quality monitoring is a listed activity under the RiverWatch Institute of Alberta liability insurance policy and Worker's Compensation Board coverage.

## Make a Site Inspection and Hazard Assessment

Before beginning each sampling session, make time for an on-site inspection and act accordingly. There are hazards associated with water quality monitoring along creeks that may include but are not limited to:

**Terrain:** any manner of falls on slippery, rocky, loose, steep, icy or uneven shoreline.

**Weather:** any exposure to cold or heat, rain, hail, lightning, reflected sunlight or wind.

**Animals:** insects, stings, bites, spiders or dogs

**Plants:** any algae, water weeds, stinging nettles, branches or thorns.

**Disease:** exposure to water-borne E.coli bacteria, Giardia parasite, novel corona virus, allergens or asthma irritants.

**People:** other participants, strangers, drivers, cyclists, runners or park users.

**Equipment:** the use, misuse, non-use, carrying or failure of any equipment including containers, chemistry kits or safety equipment.

**Litter:** the entanglement in fishing line, machinery, glass, hypodermic needles, condoms or shopping carts submerged or discarded in or along the creek.

**Water:** the possibility of sudden immersion in cold moving water complicated by pinning, entanglement or collision with rocks, trees or bridges.

## Safety Equipment

Each portable water quality lab should contain band-aids, gauze, gauze pads, white tape, sterile wipes, bottled water, mosquito spray, hand sanitizer, disinfectant wipes, safety glasses, broken glass container, sharps container for used syringe needles and two wastewater bottles for general liquids and chloride testing.

### **Used Syringe Disposal or Needle Pricks**

Intravenous drug use in city parks is a fact of life that may be exacerbated by stormwater runoff that can carry used syringe needles into creeks. If you encounter a used syringe at your sampling site:

- Closed-toe shoes are the best footwear for sampling.
- Avoid the entire area and hazard if you so choose.
- If you feel able to deal with the hazard, open the yellow sharps container.
  - Carefully pick-up and place the used syringe needle-down into the sharps container.
  - Close the container lid and double-snap the lid shut.
  - Never empty the container.
- Seek emergency medical care if you incur a needle prick

### **Environmental Emergencies or Poaching**

If you spot an environmental emergency such as oil on the creek surface, contact the Alberta Energy and Environmental Response 24 Hour Hotline 1-800-222-6514; Non-Emergency Toll Free Alberta 310-ESRD (3773) or email [ESRD.Info-Centre@gov.ab.ca](mailto:ESRD.Info-Centre@gov.ab.ca). Possible poaching, fishing infractions or wildlife emergencies can be reported toll-free to Report A Poacher 1-800-642-3800.

### **Pandemic Best Practices**

Participants should stay home if not feeling well, complete the Alberta Health online assessment and forego monitoring activities if:

- Experiencing COVID symptoms such as fever, cough, shortness of breath, runny nose and sore throat.
- Recently exposed to someone who has been diagnosed with or has symptoms of COVID-19.
- They or someone in their household has traveled internationally in the past 14 days

When conducting creekside monitoring activities:

- Monitor in small family groups or use 2m physical distancing with people outside your cohort.
- When 2m distancing is not possible, wear non-medical face coverings.
- Use as available all distance learning and training opportunities provided by CreekWatch.
- Ensure proper hand hygiene, including use of hand sanitizer.
- Avoid touching your face, nose, mouth and inside surfaces of face coverings.
- Cough or sneeze into elbows.
- Ensure lab equipment disinfection with wipes and Lysol spray before handing over to a new participant. The next lab recipient can also re-clean the lab and contents before use.
- Sign-off on enhanced cleaning of high-touch areas.

### **Creek Access Best Practices**

Water quality monitoring is likely a one-hour/week activity once participants arrive on-site. Under normal circumstances, water quality monitoring should be a relatively low-risk activity. There are hazards and best practices associated with public areas, weather, terrain and water immersion:

- Closed-toed shoes are the best footwear for sampling, and probably not flip-flops.
- Carry a cell phone within a 911 EMS call area.
- Avoid sampling alone and especially if young children accompany you.
- Always inform someone where you are sampling and your expected return time.
- Conduct monitoring with at least one other adult family or group member, partly in case of slipping from shore into a creek.

- Keep household or group members together and children within reach at all times.
- Conduct monitoring in safe public areas and in open view.
- Stop and postpone any sampling activities if you feel unsure or unsafe.
- Collect water samples and then retreat further back from the watercourse to conduct the testing.
- Traverse uneven ground and creekbanks only if physically able.
- Use common sense to reduce or avoid risk in times of inclement weather or swollen creek flows.
- Modify or reschedule monitoring activities in the event of rain, snow, cold or wind.
- Consult the CreekWatch Program Manager when increased creek flow rates could temporarily suspend monitoring activities.
- Do not sample if conditions are unsafe (e.g. higher swifter water than usual, extreme weather watches, lightning, suspicious people or unusual activities in the area, construction, weed spraying).
- Be alert and look both ways before stepping onto paved pathways used by cyclists and boarders.
- Do not wade into creeks - ideally, use a bucket from a pathway bridge or a painter's extension pole to obtain a mid-creek sample.
- Avoid sampling at the outer bend of a creek where the bank drops-off into deeper, swifter water.
- Notify the Citizen Science Manager of any unsafe conditions or injuries.
- Notify the CreekWatch manager if you have questions or concerns.

### **Chemical Use Best Practices**

CreekWatch water quality monitoring is conducted outside of formal laboratory environments, but there are still risks and best practices associated with chemical test kits and the use of chemicals:

- Follow all sampling and safety procedures demonstrated in CreekWatch in-person training or video sessions.
- For each water quality testing kit, follow the procedures step-by-step.
- Wear safety glasses while using all wet or dry chemicals.
- Open all dry chemical packets away from eye level and while oriented favorably to the wind.
- Avoid touching eyes, nose or mouth.
- Do not eat or drink while conducting water quality testing.
- If dry or wet chemical contact or irritation is a concern, refer to the WHMIS Summary Sheets and follow the first-aid procedures.
- Store wastewater and do not dump.
- Do not use pH paper strips for testing water pH; these strips are used when emptying wastewater bottles.
- Use as warranted Workplace Hazardous Materials Information System (WHMIS) content, first-aid kit, insect repellent, emergency response plan, wastewater container, broken glass container and sharps needle container included in each portable lab.
- Wipe and/or wash hands immediately after each sampling session concludes.
- Use hand-sanitizer when sample testing is completed on-site.
- Wash your hands when back at home.

### **Eye or Skin Irritation**

If your eyes burn or skin itches due to a possible chemical contact, rinse the affected area with bottled water provided in the portable lab. Seek any necessary medical care.

### **Broken Glass Disposal or Cuts**

There may be broken glass at your sampling site or, you may inadvertently break glassware used in testing procedures. If you have broken glass at your sampling site, take care and place it in the broken glass container for later disposal. If you incur a cut, use first-aid materials stocked in the portable lab and seek any necessary medical treatment.

### **Wastewater Disposal**

Chloride testing wastewater has a separate bottle that should last the season without disposal. When the general wastewater bottle is full, neutralize and then dispose the contents down a toilet.

- Wear safety glasses.
- With access to a toilet, test the wastewater pH by dipping a pH paper strip into the bottle contents.
- If the pH is acidic (lowering than 7), add small amounts of baking soda with repeated pH paper testing until you achieve neutral pH (7).
- Pour the general wastewater into a toilet and flush. Wash your hands.
- The wastewater bottle is once again ready for use.

### **When in Doubt, Ask**

If you have questions or concerns about safety, testing procedures, equipment or injuries, you should stop or postpone further water quality sampling until you have contacted:

Reed Froklage, Citizen Science Programs Manager  
[science@riverwatch.ab.ca](mailto:science@riverwatch.ab.ca)  
403.369.8499

### **Thank You!**

Thank you for participating in CreekWatch Water Quality Monitoring and helping to make a difference in the management of our creeks and stormwater. The combination of your enthusiasm, training, awareness and common-sense should help keep you safe and make your experience a positive one. We hope enjoy the science and contributions you make to safeguarding the environment!