

Ministry of Health

Spring and Summer Hazards Preparedness Reference Document

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1. Preamble




The impacts of climate change are increasing the frequency and severity of a wide range of seasonal hazards in Ontario¹. These include extreme temperatures, precipitation, flooding, wildfire smoke, poor air quality, food- and waterborne illnesses, and vector-borne diseases¹. Seasonal hazards can lead to human health impacts, acute surges in health service use, strains on local infrastructure, and can disproportionately impact rural, remote, and other vulnerable and high-risk populations². Local Public Health Units (PHUs), each face unique challenges in preparing for and responding to seasonal hazards³. This reference document can assist PHUs and their municipal and community partners in preparing for spring and summer hazards, coordinating effective local responses, and protecting vulnerable, high-risk, and equity deserving populations.

2. Purpose

This reference document provides an all-hazards approach to preparedness for environmental, waterborne, foodborne, and vector-borne health threats that are most likely to occur during Ontario's spring and summer months. It is organized around six phases of an annual planning cycle: pre-season planning, readiness and mitigation, risk assessment, monitoring and surveillance, response, and recovery. For each phase, the document offers operational checklists, practical templates, and evidence-informed recommendations to guide PHUs and their community partners in building surge capacity and maintaining public health system resilience. The principles and actions are designed to adapt to a broad range of hazards, including extreme heat, flooding, wildfire smoke, poor air quality, recreational water safety, and vector-borne disease (see **Table 1**). The recommendations are voluntary and are intended to complement existing provincial and local emergency management frameworks.

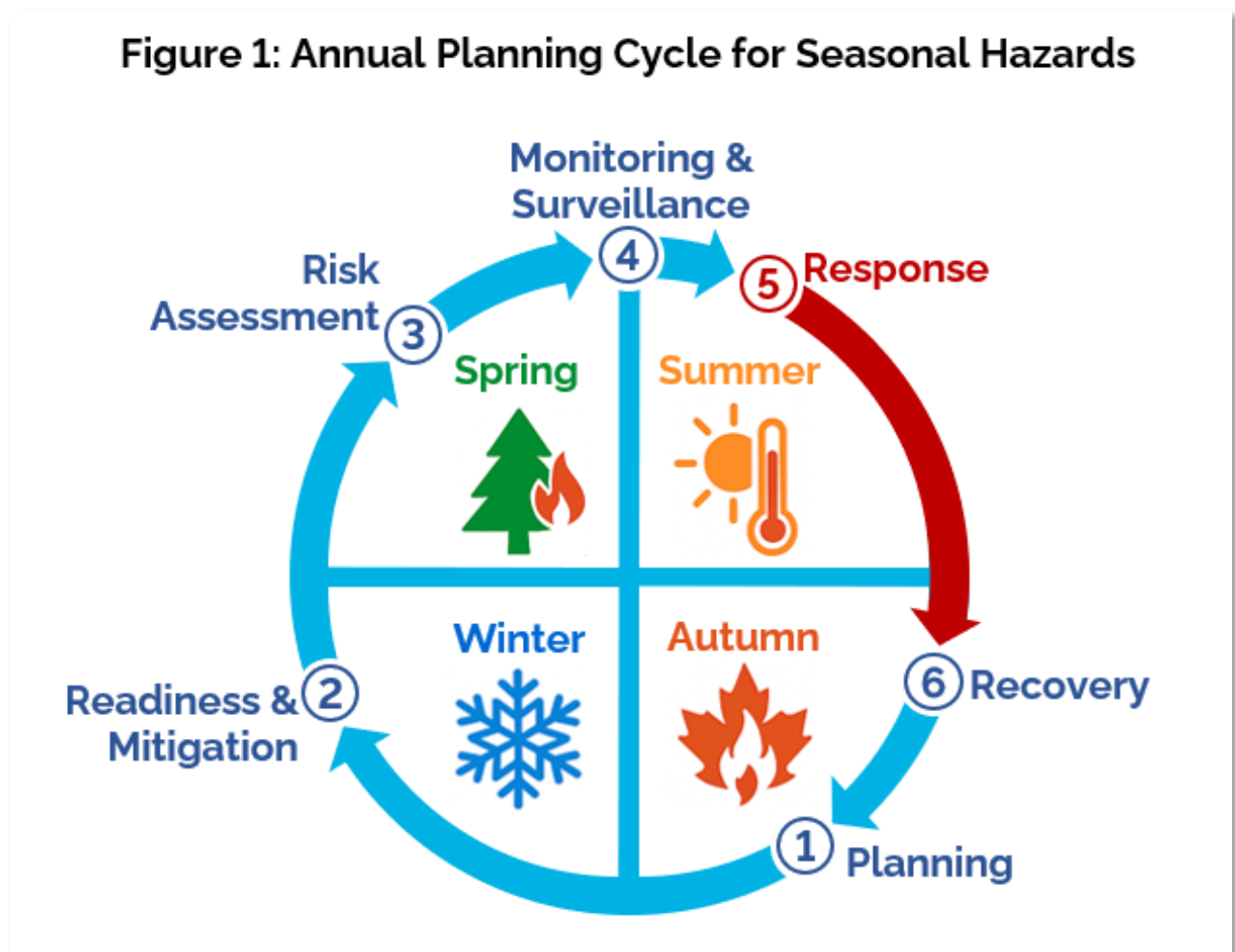
Table 1: Major Spring–Summer Public Health Hazards for Ontario PHUs

Hazard	Typical Season Window	Key PHU Preparedness Tasks	Common Surge Indicators /Triggers	Selected Hazard Specific Resources
 Extreme Heat	Late Spring - Summer	<ul style="list-style-type: none"> Update Heat Alert & Response Plan (HARS) Confirm cooling centre network Equity focused outreach & communications 	ECCC Heat Warning/ Extreme Heat Emergency criteria met	<ul style="list-style-type: none"> Harmonized Heat Warning and Information System WeatherCAN Mobile App ECAAlertMe
 Wildfire Smoke & Poor Air Quality	Late Spring - Summer	<ul style="list-style-type: none"> Prepare smoke health communications Identify clean air shelters Order and stock N95 masks 	Nearby wildfires; AQHI ≥ 7; ECCC Special Air Quality Statements or Air Quality Warnings	<ul style="list-style-type: none"> Wildfires in Canada Toolkit Ontario Air Quality Health Index Ontario Forest Fires PurpleAir real-time air monitoring
 Tornadoes & Severe Storms	Late Spring- Summer	<ul style="list-style-type: none"> Ensure alerting & shelter protocols Injury prevention messaging Liaise with municipal EMO 	ECCC Tornado watch/warning; severe thunderstorm watches	<ul style="list-style-type: none"> Prepare for Tornadoes Weather Alerts Canada Ontario Vigilance Bulletin
 Seasonal & Flash Flooding	Spring - Summer	<ul style="list-style-type: none"> Coordinate with municipal EMO & conservation authorities Prep boil water/well advisories Review flood prone facilities 	Rapid snow-melt; heavy rainfall warnings; local flood bulletins	<ul style="list-style-type: none"> Prepare for floods Flood Forecasting and Warning Program Floods: Prevention, preparedness, response and recovery

Hazard	Typical Season Window	Key PHU Preparedness Tasks	Common Surge Indicators /Triggers	Selected Hazard Specific Resources
 Recreational Water Illness	Late Spring-Summer	<ul style="list-style-type: none"> Plan beach water sampling program Bluegreen algae comms Beach closure signage/templates 	<i>E. coli</i> exceedances; cyanobacteria blooms; swim related outbreaks	<ul style="list-style-type: none"> Recreational Water Protocol Operational Approaches for Recreational Water Guideline PHO public beach water testing
 Foodborne/ Waterborne Illness	Spring - Summer	<ul style="list-style-type: none"> Pre-season food safety communications (BBQs, fairs) GI outbreak plan 	Unplanned power outages; GI case cluster; lab confirmed illness outbreak	<ul style="list-style-type: none"> Food recalls and safety alerts PHO Enteric Bacteria or Virus testing Legionella investigation reference document
 Vector-Borne & Zoonotic Diseases	Spring - Fall	<ul style="list-style-type: none"> Tick/Lyme surveillance & healthcare provider alerts Mosquito/WNV larviciding & pool testing Rabies PEP protocols 	Positive tick submissions; WNV positive mosquito pools; animal rabies cases	<ul style="list-style-type: none"> Tick-borne diseases West Nile Virus Preparedness Plan Rabies Prevention and Control Protocol Ontario Vector-Borne Disease Tool

3. Annual Planning Cycle

Preparing for spring and summer public health hazards is a year-round endeavor. The six phase cycle below (see **Figure 1**) outlines objectives and tasks that local PHUs may adapt to their context. The framework is modular to specific hazards (ex. flooding) with detailed resources in chapters 4-6.



3.1. Phase 1: Pre-Season Planning

During the fall and winter seasons, PHUs and partners can review the past spring and summer seasons, reevaluate/refresh plans, and confirm coordination for the upcoming season. Updating internal/partner roles, resources and priorities can prepare a public health unit in advance of the spring and summer.

☐ **Review last season:** Compile surveillance, partner debriefs, and after-action reports for all seasonal hazards to identify lessons learned.

- ☐ **Partner debrief & planning meeting:** Convene an all-hazards preparedness meeting with municipal Emergency Management Operations (EMO), conservation authorities, healthcare, social services, and community partners to confirm roles, review surge capacity, and priority gaps.
- ☐ **Update contacts & roles:** Verify internal duty officers and external partner liaisons (e.g., municipal EMO, conservation authorities, laboratories).
- ☐ **Equity & vulnerability scan:** Refresh maps/lists of high risk and equity deserving populations and facilities.
- ☐ **Resource inventory:** List critical supplies, staffing pools, IT systems/backup power, and data systems; note gaps for procurement.
- ☐ **Update hazard specific warning, response plans/protocols:** Revise response plans for heat, smoke, flooding, vector-borne disease, food/water safety, etc.; incorporate new federal/provincial guidance; secure PHU leadership signoff and circulate to partners.
- ☐ **Refresh communication templates:** Update alerts, advisories, media releases, and partner notification scripts.

3.2. Phase 2: Readiness & Mitigation

As spring and summer seasonal approach, PHUs can prepare by finalizing staff roles, responsibilities, training, resources and test response plans. By early spring PHU's and partners are ready to respond to seasonal events and launch public awareness campaigns.

- ☐ **Confirm staff scheduling & offer training:** Confirm on-call schedules and deliver refresher sessions on responding to specific seasonal hazards.
- ☐ **Exercise with partners:** Organize a collaborative readiness activity with partners, which might involve a tabletop exercise or another suitable format on priority hazards to develop and test decision thresholds, communications, and resource requests. Note any gaps for improvement.
- ☐ **Verify facilities & equipment:** Ensure shelters, clean air rooms, sampling kits, generators, and PPE are ready and accessible; document deficiencies.
- ☐ **Engage community & equity partners:** Formalize roles with social service agencies, Indigenous and newcomer organizations, faith-based communities, and volunteer networks to codesign wellness check systems, resource delivery plans, and culturally appropriate messaging for vulnerable, high-risk and equity deserving populations.
- ☐ **Launch seasonal public awareness campaign:** Issue coordinated messaging that bundles key advice for the top spring/summer hazards across web, social, and local media.

3.3. Phase 3: Risk Assessment

The Risk Assessment phase involves continuously evaluating weather forecasts, environmental conditions, and population vulnerabilities as spring transitions to summer. In this phase, PHUs assess the likelihood and potential impact of upcoming hazards. Essentially, PHUs should be asking: *“What is the risk of a seasonal hazard this year, and are there early indicators or special circumstances we should prepare for?”*

- ☐ **Review seasonal outlooks:** Scan [federal](#)/provincial forecasts and emerging risk bulletins for temperature, precipitation, wildfire, vector, and outbreak signals (see Chapter 4).
- ☐ **Issue internal risk brief:** Summarize overall season likelihood, potential impact, vulnerable groups, and recommended readiness adjustments for each hazard for PHU Leadership. Communicate the risk with partners and community as appropriate.
- ☐ **Hold routine risk analysis:** Schedule weekly multidisciplinary huddles to track triggers, monitor surveillance indicators, partner situational reports, and resource status.
- ☐ **Plan for mass gatherings:** Identify upcoming festivals, fairs, or sporting events and coordinate contingency plans with organizers.

3.4. Phase 4: Monitoring & Surveillance

This is the active phase, spanning late spring through summer, when PHUs maintain a continuous “operational watch” on environmental conditions, laboratory results, syndromic surveillance indicators, and partner situation reports.

The goal is to detect any emerging hazard, whether severe weather, deteriorating air quality, rising vector counts, or gastrointestinal clusters, early enough to trigger the appropriate response plan and to track health impacts in real time for tactical adjustments. Daily or weekly monitoring of weather forecasts, air and water quality indices, vector surveillance, and health system indicators underpins timely alerts and evidence-based public messaging across the season.

- ☐ **Assign duty monitoring:** Designate staff to log daily/weekly weather, environmental, laboratory, and syndromic surveillance in a shared situation log.
- ☐ **Test internal and external partner alert channels:** Validate email, SMS, and mass-notification lists at season start and after any system IT changes that can impact data integrity. Consider testing local/municipal emergency alert systems where appropriate.
- ☐ **Maintain partner situational awareness:** Share the hazard monitoring window and trigger levels at the beginning of the season, and send early alerts when indicators begin to rise to help partners ready their own response actions.

- ☐ **Log triggers & alerts:** Record all threshold exceedances, partner notifications, and public advisories to support after action evaluation.
- ☐ **Escalate when triggered:** Activate the Response phase and notify partners immediately once predefined thresholds are met.

3.5. Phase 5: Response

The Response phase begins the moment a predefined hazard threshold is crossed, whether that is a flood bulletin, wildfire smoke advisory, tornado warning, contamination alert, or outbreak signal. Here, advance planning turns into rapid, coordinated action: activating the relevant response plan, issuing public and partner communications, deploying community interventions, and managing real-time information flow across agencies.

These actions repeat for each event during the season.

- ☐ **Activate hazard response plan:** Implement the relevant response plan and issue partner notification without delay. Amplify any local, federal or provincial partner communications.
- ☐ **Mobilize community interventions:** Deploy measures appropriate to the hazard (e.g., shelters, clean air rooms where available, drinking water advisories, targeted inspections, larviciding, spill response).
- ☐ **Support evacuation efforts:** Support municipal EMO and provincial ministries in evacuating area residents or receiving evacuees in the region.
- ☐ **Enhance surveillance & coordination:** Intensify real-time data collection and hold scheduled partner huddles to share intelligence, adjust resources, and tailor messaging.
- ☐ **Escalate to Incident Management System (IMS) /Emergency Operations Centre (EOC) if needed:** When triggers are exceeded or multiagency coordination is required, activate the Incident Management System and request municipal or provincial EOC support.
- ☐ **Document actions & impacts:** Record activities, expenditures, health outcomes, media queries, and lessons learned in a response log for after action review.
- ☐ **End hazard response:** Once official advisories are lifted and conditions stabilize, notify partners, stand down emergency measures, update public messaging, restore routine services, and return to Phase 4 monitoring until season's end.

3.6. Phase 6: Recovery

Recovery starts once the acute hazard has passed or the seasonal monitoring period ends. The focus shifts to demobilizing emergency measures, restoring routine services, supporting community and staff wellbeing, and conducting a structured evaluation of actions and

outcomes. Lessons learned feed directly into plan revisions, training updates, and mitigation priorities for the next preparedness cycle.

- ☐ **Stand down response operations:** Demobilize hazard specific resources, close temporary facilities or advisories, and return PHU services to routine status.
- ☐ **Convene after action review:** Bring together internal teams and external partners to analyze performance, equity impacts, and system gaps. Consider community feedback (surveys, hotline data) to measure communication effectiveness.
- ☐ **Compile & analyze incident data:** Aggregate logs on response indicators (e.g., alerts, cases, facility use, outages, expenditures, etc.), and partner feedback to quantify health and operational impacts.
- ☐ **Update plans, templates, and training:** Translate lessons learned/recommendations into revised SOPs, checklists, staff training curricula, and partner agreements for the next cycle.
- ☐ **Recognize people & support wellness:** Issue formal acknowledgements to staff and partners, and offer debrief or counselling sessions to promote post-event recovery.

4. Environmental Hazards





4.1. Extreme Heat

Category	Resource URL	Organization	Recommended use	Resource type, year
Key Provincial Documents	Harmonized Heat Warning and Information System (HWIS) for Ontario	Ontario Ministry of Health & Environment and Climate Change Canada	Defines regional temperature/ humidex triggers and roles for issuing warnings,	Information System, 2023
	Interim Recommendations for Ontario's Heat Alert and Response System	Ontario Public Health Emergencies Science Advisory Committee	Refine local alerts, communications, and identify vulnerable groups.	Seasonal Bulletin, 2023
Surveillance Data	WeatherCAN Mobile App	Environment and Climate Change Canada	Real-time push notifications of heat and humidex warnings.	Surveillance data, updated daily
	Ontario Vigilance Bulletin	Ontario Storm Prediction Centre	Daily severe weather warnings.	Surveillance data, updated daily
	ECAAlertMe	Environment and Climate Change Canada	Custom 1-hr advance notice of heat alerts.	Surveillance data, updated daily

Category	Resource URL	Organization	Recommended use	Resource type, year
Equity Deserving and Vulnerable Populations	Adapting to Extreme Heat Events: Guidelines for Assessing Health Vulnerability	Health Canada	Stepwise guide to prioritizing vulnerable/equity-deserving populations.	Vulnerability Assessment, 2011
	HealthyPlan.City	University of Toronto & Public Health Agency of Canada	Maps neighbourhood heat risk (summer temperature, tree canopy) and vulnerability in 150 cities.	Equity/ Vulnerability Map Tool, 2024
	Mapping Heat Wave Vulnerability	Université Laval	Maps neighbourhood heat exposure and socio-economic vulnerability in 156 cities.	Equity/ Vulnerability Map Tool, 2025
	Health Checks During Extreme Heat Events	National Collaborating Centre for Environmental Health	Guide for in-person and remote check-ins, recognizing and responding to heat-related illness	Checklist, 2024
Risk Communication	Communicating the Health Risk of Extreme Heat Events	Health Canada	Key messages, templates and visuals for public heat health communications (update forthcoming).	Communication Toolkit, 2011
	Extreme heat preparedness social media package	Government of British Columbia	Ready-to-use templates for social media posts.	Communication Templates, 2025
Other Resources	City of Toronto Heat Relief Strategy	City of Toronto	Model municipal plan outlining cooling locations, partner roles and activation triggers for replication.	Municipal Plan, 2025
	Occupational Heat Stress Toolkit	Occupational Health Clinics for Ontario Workers	Videos, calculators, posters and guidance to assess and control occupational heat stress.	Toolkit, 2022



4.2. Wildfire Smoke & Air Quality

Category	Resource URL	Organization	Recommended use	Resource type, year
Key Provincial and Federal Documents	Wildfire Smoke and Air Quality Health Reference Document	Ontario Ministry of Health	AQHI thresholds, communication, and response planning with local partners.	Reference Document, 2024
	Wildfires in Canada: Toolkit for Public Health Authorities	Public Health Agency of Canada	Toolkit of the emergency preparedness cycle during wildfires.	Toolkit, 2024
Surveillance Data	Ontario Air Quality Health Index (AQHI)	Ontario Ministry of the Environment, Conservation and Parks	Hourly local AQHI observations and next day forecasts.	Dashboard, updated daily
	Ontario Forest Fire Info Map	Ontario Ministry of Natural Resources and Forestry	Live map of active fires and regional fire-danger ratings.	Map Tool, 2025
	Ontario Forest Fires	Ontario Ministry of Natural Resources and Forestry	Written daily updates on regional forest fires.	Website, updated daily
	Ontario Air Quality Alerts	Ontario Ministry of Natural Resources and Forestry	Notices of Special Air Quality Statements (SAQS) and Air Quality Warnings.	Surveillance data, updated daily
	WeatherCAN Mobile App	Environment and Climate Change Canada	Real-time push notifications of AQHI warnings.	Surveillance data, updated daily

Category	Resource URL	Organization	Recommended use	Resource type, year
Mask Procurement	sco.supplies@supplyontario.ca	Supply Ontario	Ordering NIOSH-certified N95 masks for free, including delivery.	e-mail address
Equity Deserving and Vulnerable Populations	An intersectional analysis of the disproportionate health impacts of wildfires on diverse populations and communities	Public Health Agency of Canada	Intersectional research proposes equity approach to wildfire response.	Rapid Review, 2024
	HealthyPlan.City	University of Toronto & Public Health Agency of Canada	Maps neighbourhood air pollution risk and vulnerability in 150 cities.	Equity/ Vulnerability Map Tool, 2024
	Indigenous Disaster Response	National Collaborating Centre for Environmental Health	Wildfire evacuation experiences from Indigenous communities, frameworks for Indigenous emergency management.	Website, 2019
Risk Communication	Wildfire smoke and your health	Health Canada	Plain language handout.	Factsheet, 2024
Other Resources	Wildfire Smoke Response Strategy	City of Toronto	Threshold triggers, response tiers, messaging, and partner roles	Municipal plan, 2024
	Guidance for Cleaner Air Spaces during Wildfire Smoke Events	Health Canada	Establishing community-based cleaner air spaces/shelters, air filtration recommendations.	Guidance, 2020
	Wildfire smoke with extreme heat	Health Canada	Advice for preparing for outdoor smoke during extreme heat.	Factsheet, 2024



4.3. Tornadoes & Severe Storms

Category	Resource URL	Organization	Recommended use	Resource type, year
Key Provincial Documents	Prepare for Tornadoes	Public Safety Canada	Personal guidance before, during and after a tornado.	Website, 2024
	Tornadoes	Government of Ontario	Guidance on personal safety, power outages.	Website, 2025
Surveillance Data	WeatherCAN Mobile App	Environment and Climate Change Canada	Realtime push notifications of tornadoes and severe thunderstorms.	Surveillance data, updated daily
	Weather Alerts Canada	Environment and Climate Change Canada	Map and table of Ontario tornado/severe storms watch and warnings.	Map tool, 2025
	Ontario Vigilance Bulletin	Ontario Storm Prediction Centre	Daily severe weather warnings.	Surveillance data, updated daily
Equity and Vulnerable Populations	No specific resource			
Risk Communication	Alert Ready: emergency alerting system	Environment and Climate Change Canada	Defines when tornado warnings are auto-pushed via Alert Ready to cellphones.	Alert tool, 2021
	Tornado Safety Tips	Canadian Red Cross	Ready-to-share safety tips.	Website, 2025
Other Resources	Northern Tornadoes Project	Western University	Annual report, dashboard of past Ontario tornadoes. Note: advanced dashboard access requires an account.	Website and dashboard, 2025



4.4. Seasonal & Flash Flooding

Category	Resource URL	Organization	Recommended use	Resource type, year
Key Provincial and Federal Documents	Prepare for floods	Public Safety Canada	Personal guidance before, during and after a flood.	Website, 2024
	Ontario's flooding strategy	Ontario Ministry of Natural Resources and Forestry	Outlines preparedness, mitigation and recovery from flood events.	Provincial framework, 2024
Surveillance Data	Flood Forecasting and Warning Program	Ontario Ministry of Natural Resources and Forestry	Live Ontario flood watches/warnings, provincial flood messages.	Dashboard, updated daily
	Weather Alerts Canada	Environment and Climate Change Canada	Map and table of Ontario heavy rainfall.	Map Tool, 2025
	WeatherCAN Mobile App	Environment and Climate Change Canada	Real-time notifications of severe thunderstorm watches and warnings.	Surveillance data, updated daily
	Ontario Vigilance Bulletin	Ontario Storm Prediction Centre	Daily severe weather warnings, including thunderstorms.	Surveillance data, updated daily
Equity Deserving and Vulnerable Populations	HealthyPlan.City	University of Toronto & Public Health Agency of Canada	Maps neighbourhood flood susceptibility and vulnerable populations in 150 cities.	Equity/ Vulnerability Map Tool, 2024
	Indigenous Disaster Response	National Collaborating Centre for Environmental Health	Flooding evacuation experiences from Indigenous communities, frameworks for Indigenous emergency management.	Website, 2019

Category	Resource URL	Organization	Recommended use	Resource type, year
Risk Communication	Floods	Ontario Ministry of Natural Resources and Forestry	Ready-made provincial safety tips and personal preparedness steps.	Website, 2025
	Using Flood Maps for Community Flood Risk Communication	University of Waterloo	Overview of best practices for effective flood risk communication.	Guideline, 2018
Other Resources	Floods: Prevention, preparedness, response and recovery	National Collaborating Centre for Environmental Health	Focus on flood research, re-entry hazards post-flood, food/water safety.	Website, 2023



4.5. Recreational Water Illness

Category	Resource URL	Organization	Recommended use	Resource type, year
Key Provincial Documents	Recreational Water Protocol	Ontario Ministry of Health	PHU requirements for inspection, sampling, posting and enforcement.	Protocol, 2019
	Operational Approaches for Recreational Water Guideline	Ontario Ministry of Health	Approach to a pre-seasonal and seasonal beach monitoring program.	Guideline, 2018
	Recreational Water Reference Document	Ontario Ministry of Health	Risk reduction in pools, spas, splashpads & waterfronts, for public health inspectors.	Reference, 2025

Category	Resource URL	Organization	Recommended use	Resource type, year
Testing Protocols	Public Beach Water	Public Health Ontario	Beach water testing indications and specimen collection instructions.	Website, 2024
	Recreational Water Facilities and Public Pools Spas	Public Health Ontario	Public pool and spa testing indications and specimen collection.	Website, 2024
	Inspector's Guide to Environmental Microbiology Laboratory Testing	Public Health Ontario	Reporting and Interpretation of Environmental Microbiological Test Results	Website, 2024
Equity and Vulnerable Populations	Post-flooding community-level psychosocial impacts and priorities in Canada	National Collaborating Centre for Environmental Health	Flooding-related trauma in Indigenous communities.	Report, 2022
	Water Safety - Caring for Kids	Canadian Pediatric Society	Guidance on open-water and backyard-pool hazards for parents.	Website, 2023
Risk Communication	Blue-green algae	Ontario Ministry of the Environment, Conservation and Parks	Public-ready advisory content: how to report algae blooms, precautions for people and pets.	Website, 2024
	Healthy and Safe Swimming Week Communications Toolkit	US Centre for Disease Control	Risk communication for safe swimming, including suggestions for engagement, social media posts.	Toolkit, 2025

Category	Resource URL	Organization	Recommended use	Resource type, year
Other Resources	Cyanobacteria in recreational freshwaters: Understanding exposures and health effects	National Collaborating Centre for Environmental Health	Summarizes health risks of cyanobacteria inhalation by children.	Rapid Review, 2024
	Pools, hot tubs and other treated recreational water venues	National Collaborating Centre for Environmental Health	Guidelines, best practices and health research in recreational water.	Website, 2022

5. Foodborne & Waterborne Hazards



5.1. Seasonal Food Safety

Category	Resource URL	Organization	Recommended use	Resource type, year
Key Provincial Documents	Food Safety Protocol	Ontario Ministry of Health	PHU inspection, sampling and enforcement at food premises and temporary special events.	Protocol, 2019
	Ontario's Foodborne Illness Outbreak Response Protocol (ON-FIORP)	Ontario Ministry of Health	Defines roles, reporting and lab coordination when investigating foodborne disease outbreaks.	Protocol, 2023

Category	Resource URL	Organization	Recommended use	Resource type, year
Surveillance Data	Food recalls and safety alerts	Canadian Food Inspection Agency	Live alerts on contaminated food products.	Website, updated daily
	Public Health Notices	Public Health Agency of Canada	E-mail subscription for active enteric illnesses in contaminated food.	Website, 2025
Testing Protocols	Enteric Bacteria - Culture and PCR	Public Health Ontario	Fecal bacterial testing indications and specimen collection instructions.	Website, 2025
	Gastroenteritis - Stool Viruses	Public Health Ontario	Multiplex PCR indications in suspected viral outbreak settings.	Website, 2021
Equity and Vulnerable Populations	Food safety for vulnerable populations	Health Canada	Food safety for pregnant people, children < 5 year of age, weakened immune systems and older adults.	Website, 2024
	Food safety for First Nations	Health Canada	Food safety at home, when hunting and when fishing.	Website, 2013
Risk Communication	Safe cooking temperatures	Health Canada	Minimum safe temperatures; useful for local factsheets.	Website, 2020
	Summer food safety tips	Health Canada	Tips on thawing, grilling and preventing cross contamination.	Website, 2013
Other Resources	Food safety tips to keep you safe this summer	Public Health Ontario	Public facing instructions for safe food preparation.	Blog post, 2019



5.2. Potable Water & Legionella

Category	Resource URL	Organization	Recommended use	Resource type, year
Key Provincial Documents and Webinars	Safe drinking water and fluoride monitoring protocol	Ontario Ministry of Health	PHU inspection, surveillance, management, and response to waterborne illness.	Protocol, 2023
	Small drinking water risk assessment guideline	Ontario Ministry of Health	Risk assessment, investigation and sample testing of small drinking water systems.	Guideline, 2018
	Legionella investigation reference document	Public Health Ontario	PHU roles and responsibilities, investigation and outbreak management of Legionella.	Reference document, 2025
	Legionella Outbreak Investigations: A Practical Approach Part 1	Public Health Ontario	Approach to Legionella case exposure investigation, Legionella ecology, and environmental risk assessment.	Webinar recording, 2023
	Part 2	Public Health Ontario	Legionella sampling plan components, interpreting Legionella data, and control and remediation measures.	Webinar recording, 2023
	Part 3	Public Health Ontario	Cooling tower-associated outbreak, environmental testing protocols, and Legionella communication strategies.	Webinar recording, 2024
	Legionella in Healthcare Settings: When Risk Becomes Reality	Public Health Ontario	Water management plan to mitigate the risk of Legionella in healthcare facilities, Legionella testing.	Webinar recording, 2024

Category	Resource URL	Organization	Recommended use	Resource type, year
Testing Protocols	Water sample analysis	Public Health Ontario	Public health inspector testing of drinking water.	Website, 2024
	Well water testing (private drinking water)	Public Health Ontario	<i>E. coli</i> and total coliforms testing for private water operators.	Website, 2022
	Legionella Investigations	Public Health Ontario	PCR/culture testing and support for legionella investigations.	Website, 2024
Equity and Vulnerable Populations	Ending long-term drinking water advisories	Indigenous Services Canada	Progress towards lifting water advisories, promoting sustainable access to water on reserves.	Dashboard, 2025
	Health Disparities in Legionnaires' Disease	US Centre for Disease Control	Racial inequalities in Legionnaires' Disease in the United States.	Website, 2024
Risk Communication	Testing and treating private water wells	Ontario Ministry of Agriculture, Food and Agribusiness	Consumer ready steps on testing, shock chlorination, and recognizing water sources at risk of flooding.	Website, 2024
	What is legionella	Health Canada	Sources of legionella, health effects, and people at greatest health risk.	Infographic, 2023
Other Resources	Well safety during and after emergencies	Health Canada	Protecting well water safety during floods, droughts, fires and power outages.	Website, 2024
	Legionella	National Collaborating Centre for Environmental Health	Resources for Legionella outbreak investigation, management and current research.	Website, 2022

6. Vector-Borne & Zoonotic Diseases



6.1. Ticks (Lyme disease and others)

Category	Resource URL	Organization	Recommended use	Resource type, year
Key Provincial Documents	Tick-borne diseases	Ontario Ministry of Health	Updated plain-language guidance for preventing four tick-borne diseases.	Website, 2024
	Update on Ontario's New Tick-Borne Diseases of Public Health Significance	Public Health Ontario	Clinical identification and testing for: Lyme disease, anaplasmosis, babesiosis or Powassan virus.	PHO Rounds slide deck, 2024
Surveillance Data	Ontario Vector-Borne Disease Tool	Public Health Ontario	Year-to-date human cases of tick-borne disease by PHU, current year map of blacklegged tick risk areas.	Dashboard, updated weekly

Category	Resource URL	Organization	Recommended use	Resource type, year
Testing Protocols	Tick microscopy	Public Health Ontario	Voluntary tick identification following a human blacklegged tick bite (alternative: eTick image submission)	Website or App, 2023
	Lyme disease: serology or PCR	Public Health Ontario	Indications for testing if symptoms are consistent with Lyme disease.	Websites, 2024
	Anaplasmosis serology	Public Health Ontario	Indications for bacterial testing if fever 5-21 days following tick bite.	Website, 2023
	Powassan virus serology or PCR	Public Health Ontario	Virus not routinely tested, requires approval by a PHO laboratory microbiologist.	Website, 2024
	Babesiosis microscopy, PCR or serology	Public Health Ontario	Indications for parasite microscopy (preferred detection method).	Website, 2024
Equity and Vulnerable Populations	Lyme Disease awareness and safety	Native Child and Family Services of Toronto	Infographic designed with culturally appropriate messaging.	Infographic, 2020
	Lyme Disease - Caring for Kids	Canadian Pediatric Society	Guide for parents on deer tick identification, removal and Lyme disease symptoms in children.	Website, 2020
Risk Communication	Lyme disease: Awareness resources	Public Health Agency of Canada	Video (French), wallet cards, posters, infographics and pamphlets.	Website, 2023
	Lyme disease prevention toolkit	Public Health Agency of Canada	Plain-language summary of Lyme disease prevention and treatment.	Toolkit, 2019
Other Resources	Lyme disease: How to remove a tick	Public Health Agency of Canada	Instructions for tick removal and uploading a photo to eTick .	Website, 2024



6.2. Mosquitoes (West Nile Virus and others)

Category	Resource URL	Organization	Recommended use	Resource type, year
Key Provincial and Federal Documents	West Nile Virus Preparedness and Prevention Plan	Ontario Ministry of Health	Provincial plan for WNV surveillance, vector surveillance and larviciding risk assessment.	Reference document, 2023
	Overview of the National West Nile Virus Surveillance System in Canada	Public Health Agency of Canada	One health approach to collect, integrate, analyze and disseminate national WNV surveillance data.	Peer-review publication, 2022
Surveillance Data	Ontario Vector-Borne Disease Tool	Public Health Ontario	Year-to-date human cases of WNV or EEEV by PHU, current year map of mosquito trap counts.	Dashboard, updated weekly
	Seasonal update: Mosquito-borne disease surveillance in Canada	Public Health Agency of Canada	Federal and provincial cases of human and animal cases of WNV or EEEV.	Website, updated twice a month (Jul – Oct)
Testing Protocols	West Nile Virus serology or PCR	Public Health Ontario	Indications for human WNV serology (preferred) and PCR.	Website, 2025
	Eastern Equine Encephalitis Virus serology and PCR	Public Health Ontario	Testing indications for human EEEV serology (preferred) or PCR (if immunocompromised).	Website, 2025

Category	Resource URL	Organization	Recommended use	Resource type, year
Equity and Vulnerable Populations	Pursuing Social Equity Goals	Cary Institute of Ecosystem Studies, USA	Ongoing research on wet urban environments and neighborhood SES and risk of WNV infection.	Website, 2025
	Risks of West Nile virus	Public Health Agency of Canada	Information of most at-risk for severe WNV illness.	Website, 2015
	West Nile Virus Infection in Occupational Settings	University of Bari Aldo Moro, Italy	Higher risk occupations include military workers, veterinarians, agricultural workers, farmers, and laboratory workers.	Systematic review, 2024
Risk Communication	West Nile virus ontario.ca	Ontario Ministry of Health	Plain-language WNV prevention tips, symptoms and reporting guidance.	Website, 2024
	CCOHS: Prevent Mosquito-borne Diseases at Work	Canadian Center for Occupational Health and Safety	Poster for mosquito prevention, WNV symptoms and reporting at work.	Workplace poster, 2024
Other Resources	Permit applicant guide for municipalities and health units	Ontario Ministry of Health	Step-by-step application guide for PHUs & municipalities for a WNV larvicidal program.	Website, 2023
	Controlling mosquitoes on rural and farm properties	Ontario Ministry of Agriculture, Food and Agribusiness	Reducing mosquito breeding grounds, use of insecticides and larvicides on rural properties and farms.	Website, 2024



6.3. Bats and Terrestrial Mammals (Rabies)

Category	Resource URL	Organization	Recommended use	Resource type, year
Key Provincial Documents	Rabies Prevention and Control Protocol	Ontario Ministry of Health	Protocol for rabies animal surveillance and human case management.	Protocol, 2023
	Management of Potential Rabies Exposures Guideline	Ontario Ministry of Health	Post-exposure management of animals and humans (rabies vaccine and rabies immunoglobulin).	Guideline, 2020
Surveillance Data	Map of Ontario Rabies Terrestrial Surveillance	Ontario Ministry of Natural Resources	Tool shows geographical range of rabies in arctic foxes and raccoons.	Surveillance Data, Map
	Rabies in Canada	Canadian Food Inspection Agency	Summarizes animal cases of rabies by province/territory and by species.	Year to date rabies cases, updated monthly
Testing Protocols	Rabies serology	Public Health Ontario	Indications for rabies serology pre/post immunization (not diagnostic testing for rabies infection).	Website, 2025
Equity and Vulnerable Populations	Northern Animal Health Initiative	Veterinarians Without Borders	From a One Health approach, rabies awareness and prevention in animals in rural and Indigenous communities.	Website, 2025

Category	Resource URL	Organization	Recommended use	Resource type, year
Equity and Vulnerable Populations	Weeneebayko Area Health Authority (WAHA) dog population management pilot	Weeneebayko Area Health Authority	Pilot project of microchipping and vaccinating free-roaming dogs in a northern rural community.	Peer-review publication, 2016
Risk Communication	Rabies in humans Rabies in pets	Ontario Ministry of Natural Resources	Plain-language summary of rabies prevention, symptoms, post-exposure management and animal vaccination.	Websites, 2025
	Bats and Rabies in Canada	Public Health Agency of Canada	Infographic on preventing bat and terrestrial rabies exposures.	Infographic , 2024
Other Resources	Wildlife rabies outbreak and control operations	Ontario Ministry of Natural Resources	Information on annual rabies vaccine baiting operations.	Website, 2025
	Rabies through a One Health lens	National Collaborating Centre for Environmental Health	Resources on rabies surveillance, student education, factsheets and One Health approach to rabies control.	Website, 2025
	Tatqiaq Learns About Rabies	Global Alliance for Rabies Control	Learning guide for students about rabies from the perspective of a young Indigenous girl from the Northwest Territories.	PDF, 2018
	Want a Friend? Be a Friend! A Guide to Pet Care and Bite Prevention	Global Alliance for Rabies Control	Activity book for children teaching basic animal behaviour to help prevent bites and scratches from dogs.	PDF, 2025

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2. Wilk, P., Gunz, A., Maltby, A., Ravichakaravarthy, T., Clemens, K. K., Lavigne, É., Lim, R., & Vicedo-Cabrera, A. M. (2020). Extreme heat and paediatric emergency department visits in Southwestern Ontario. *Paediatrics & child health*, 26(5), 305–309. <https://doi.org/10.1093/pch/pxaa096>
3. Interior Health Authority. (2020). Heat alert and response planning for Interior BC communities: A toolkit [Report]. <https://www.interiorhealth.ca/sites/default/files/PDFS/heat-alert-response-planning-toolkit.pdf>

Document History

Revision Date	Document Section	Description of Revisions