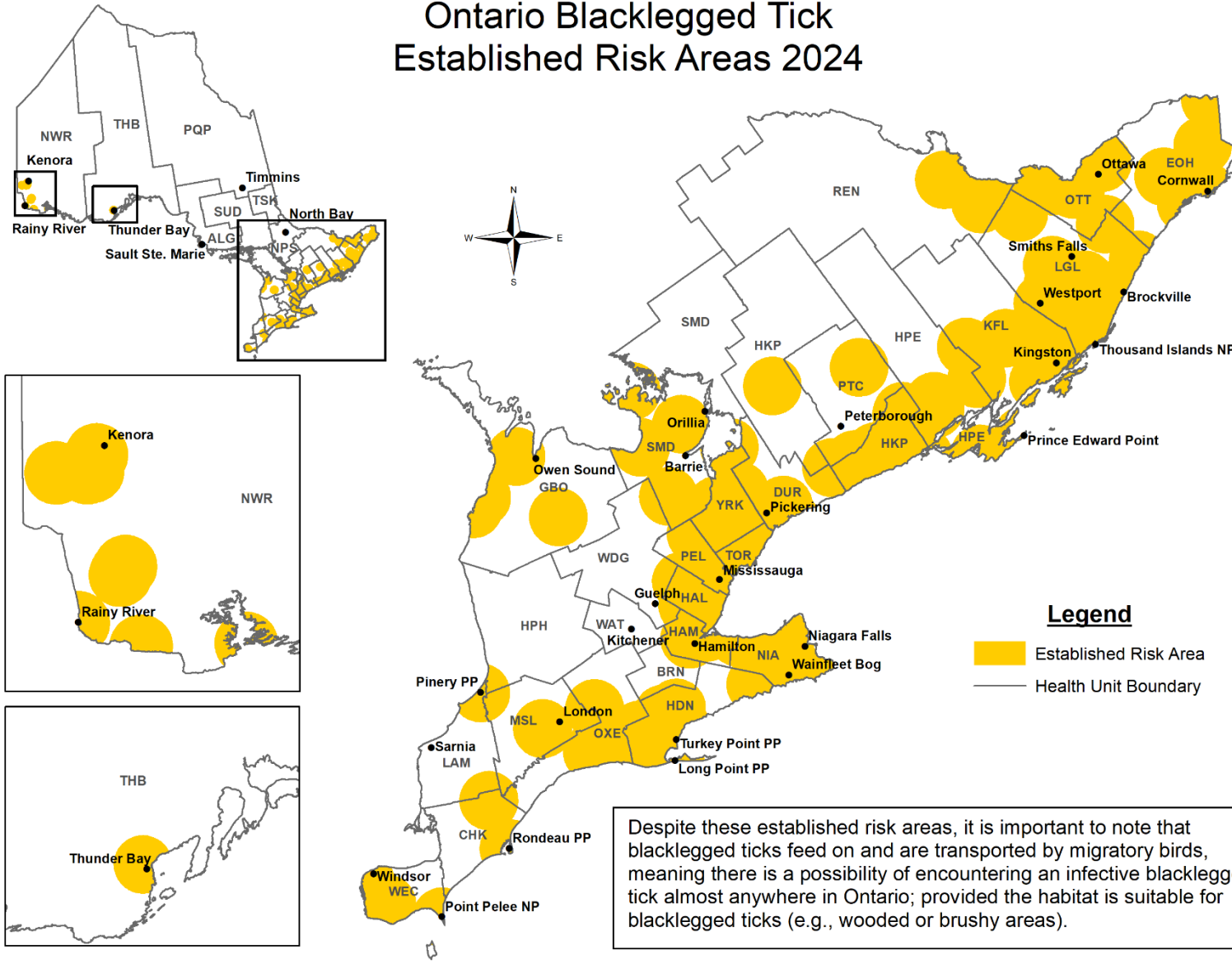


## Ontario Blacklegged Tick Established Risk Areas 2024



April 2024

[www.publichealthontario.ca/lymedisease](http://www.publichealthontario.ca/lymedisease)

# Ontario Blacklegged Tick Established Risk Areas 2024

## Purpose

The Ontario Blacklegged Tick Established Risk Areas map (formerly the Ontario Lyme Disease Map: Estimated Risk Areas) is updated annually. It provides information to assist public health professionals and clinicians in their management of tick-borne diseases. The blacklegged tick is the primary vector of the four tick-borne diseases listed as [Diseases of Public Health Significance](#): Anaplasmosis, Babesiosis, Lyme disease and Powassan virus infection.

## Public Health Professionals

The map assists local public health units in conducting tick-borne diseases case investigations. In addition, the map informs public health messaging aimed at raising awareness of established risk areas in Ontario.

## Clinicians

The map provides clinicians with background information on established risk areas when considering potential exposures to blacklegged tick (*Ixodes scapularis*) bites. This can help with decisions to pursue testing, prophylaxis and/or treatment.

**Despite these established risk areas, it is important to note that blacklegged ticks feed on and are transported by migratory birds, meaning there is a possibility of encountering an infective blacklegged tick almost anywhere in Ontario.**

Public Health Ontario's [enhanced epidemiological summary](#) highlights the 2023 epidemiology of anaplasmosis and babesiosis (excludes Powassan virus disease since there were no cases reported). For epidemiological information on Lyme disease, please refer to PHO's [Infectious Disease Trends in Ontario](#).

# Established Risk Areas: Definition and Methods for Identification

## Definition

Established risk areas are locations where blacklegged ticks have been identified or are known to occur and where people have the potential to encounter infective ticks.

Public Health Ontario calculates established risk areas as a 20 km radius extending from the location where blacklegged ticks were found through drag sampling (dragging a cloth over and around vegetation where ticks may be present). This definition is based on work done in Nova Scotia and adopted by the Public Health Agency of Canada for its Lyme disease risk mapping.<sup>1,2</sup>

## Methods

An established risk area in Ontario is determined by methods described in *Assessment of a screening test to identify Lyme disease risk*, by Ogden et al.<sup>3</sup> Initially, passive surveillance indicators are required to designate an established risk area, and are used to inform where tick dragging should be conducted. Passive surveillance indicators may include, but are not limited to:

- Information about the location of ticks submitted to PHO from the public and health care providers for identification.
- Information on location of ticks submitted to [eTick](#) from the public; ticks identified through pictures uploaded to eTick and identified by experts.
- Assessment of exposure location information from locally acquired human tick-borne diseases cases.
- A suitable tick habitat.

Once passive surveillance indicators are present, tick dragging should take place. Ogden et al.'s methods require conducting three person-hours of drag sampling in potential risk areas between May and October.<sup>3</sup> In new locations with no history of blacklegged tick populations, tick dragging should be conducted at two different times in a one-year period, during the spring and fall, to confirm the presence of blacklegged ticks. Finding at least one blacklegged tick during both the spring and fall indicates an established risk area.

**The habitat and host animal species required for tick establishment and tick-borne diseases transmission are not uniformly distributed within the established risk areas indicated on the map in yellow. Ticks require wooded and brushy areas to establish themselves. Therefore, if there are no wooded or brushy areas present within a section of the indicated risk area (for example, a parking lot), it is expected that blacklegged ticks will not be present.**

## Public Health Unit Codes

Public Health Unit Code	Public Health Unit
ALG	Algoma Public Health
BRN	Brant County Health Unit
CHK	Chatham-Kent Health Unit
DUR	Durham Region Health Department
EOH	Eastern Ontario Health Unit
GBO	Grey Bruce Public Health Unit
HAL	Halton Region Public Health
HAM	Hamilton Public Health
HDN	Health and Social Services Haldimand and Norfolk
HKP	Haliburton, Kawartha, Pine Ridge District Health Unit
HPE	Hastings and Prince Edward Public Health
HPH	Huron Perth Public Health
KFL	Kingston, Frontenac, Lennox & Addington
LAM	Lambton Public Health
LGL	Leeds, Grenville & Lanark District Health Unit
MSL	Middlesex-London Health Unit
NIA	Niagara Public Health
NPS	North Bay Parry Sound District Health Unit
NWR	Northwestern Health Unit
OTT	Ottawa Public Health
OXE	Southwestern Public Health
PEL	Peel Public Health
PQP	Porcupine Health Unit

Public Health Unit Code	Public Health Unit
PTC	Peterborough Public Health
REN	Renfrew County and District Health Unit
SMD	Simcoe Muskoka District Health Unit
SUD	Public Health Sudbury & District
THB	Thunder Bay District Health Unit
TOR	Toronto Public Health
TSK	Timiskaming Health Unit
WAT	Waterloo Region Public Health and Emergency Services
WEC	Windsor-Essex County Health Unit
WDG	Wellington-Dufferin-Guelph Public Health
YRK	York Region Public Health

## References

1. Nova Scotia. Department of Health and Wellness. Lyme disease: a report on Lyme disease epidemiology and surveillance in Nova Scotia [Internet]. Halifax, NS: Nova Scotia. Department of Health and Wellness; 2012 [cited 2024 Feb 13]. Available from: <https://novascotia.ca/dhw/populationhealth/documents/Lyme-Disease-Epidemiology-and-Surveillance-in-Nova-Scotia.pdf>
2. Government of Canada. Risk of Lyme disease to Canadians [Internet]. Ottawa, ON: Government of Canada; 2020 [cited 2024 Feb 13]. Available from: <https://www.canada.ca/en/public-health/services/diseases/lyme-disease/risk-lyme-disease.html>
3. Ogden NH, Koffi JK, Lindsay LR. Assessment of a screening test to identify Lyme disease risk. Can Commun Dis Rep. 2014;40(5):83-7. Available from: <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/14vol40/dr-rm40-05/dr-rm40-05-2-eng.php>

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## Public Health Ontario

Public Health Ontario is an agency of the Government of Ontario dedicated to protecting and promoting the health of all Ontarians and reducing inequities in health. Public Health Ontario links public health practitioners, front-line health workers and researchers to the best scientific intelligence and knowledge from around the world. Public Health Ontario's work also includes surveillance, epidemiology, research, professional development and knowledge services.

For more information about PHO, visit: [publichealthontario.ca](https://publichealthontario.ca).

