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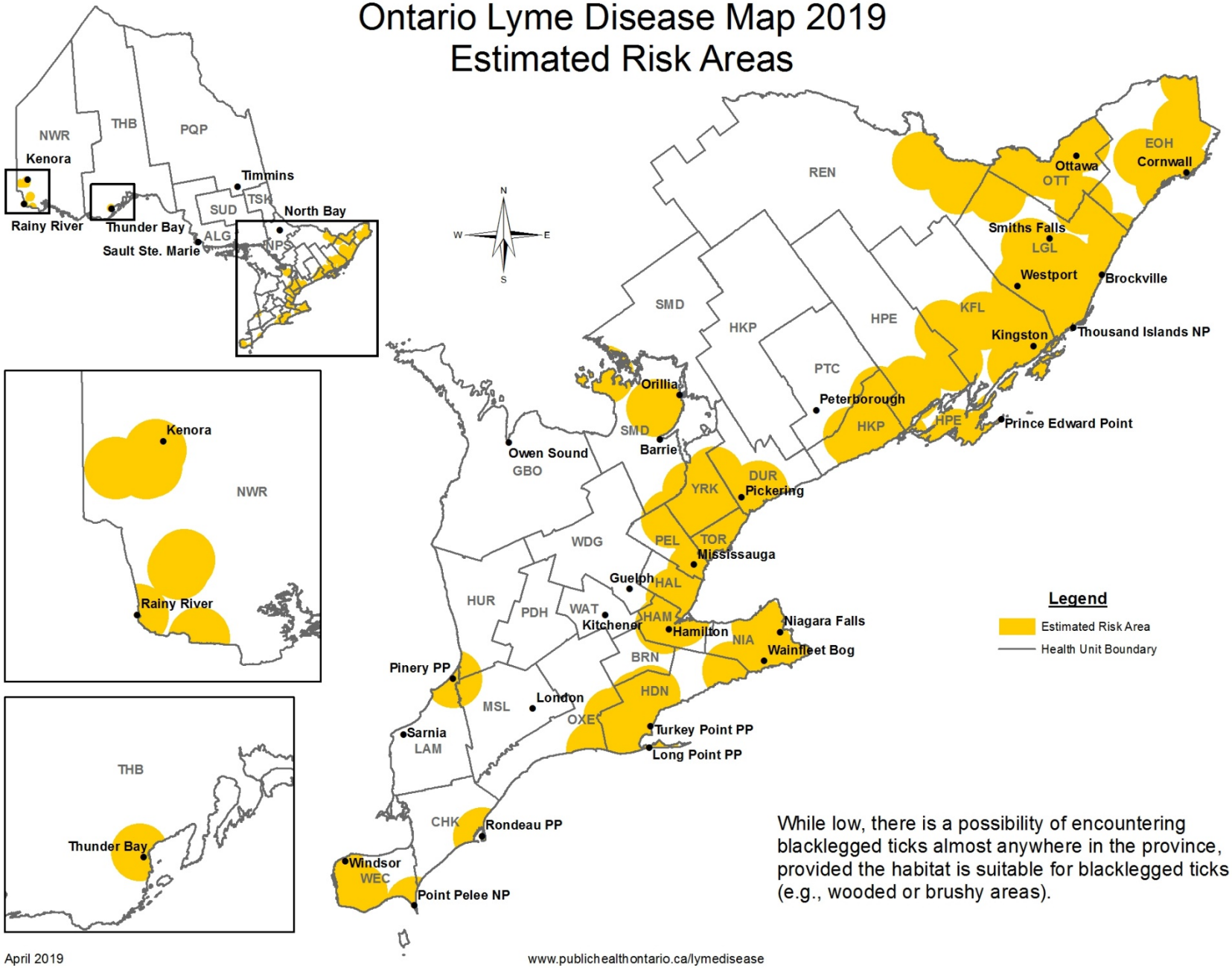
Ontario Lyme Disease Map 2019
Estimated Risk Areas



While low, there is a possibility of encountering blacklegged ticks almost anywhere in the province, provided the habitat is suitable for blacklegged ticks (e.g., wooded or brushy areas).

Purpose of Lyme Disease Estimated Risk Areas Map

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 Lyme disease.

Public Health Professionals

The map assists local public health units as they conduct Lyme disease case investigations. This map will also help to inform public health messages aimed at raising awareness of Lyme disease risk areas in Ontario.

Clinicians

The map provides clinicians with background information on estimated risk areas when considering potential exposures or tick bites. This can help with decisions to pursue testing and/or treatment.

> **Despite these estimated 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.**

Estimated Risk Areas: Definition and Methods for Identification

Definition

Estimated risk areas are locations where blacklegged ticks have been identified or are known to occur and where humans have the potential to come into contact with infective ticks.

Estimated risk areas are calculated as a 20 km radius from the centre of a location where blacklegged ticks were found through drag sampling. This is based on work done in Nova Scotia and adopted by the Public Health Agency of Canada for its Lyme disease risk mapping.[1,2]

Methods

An estimated Lyme disease risk area in Ontario is determined by methods described in *Assessment of a screening test to identify Lyme disease risk*, by Ogden et al. [3] Initially, passive surveillance indicators are

required to establish an estimated 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 for identification and/or testing for the Lyme disease bacteria.
- Assessment of exposure location information from locally acquired human Lyme disease 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. In new locations with no history of blacklegged tick populations, tick dragging should be conducted at two different times in a one year period (spring and fall) to confirm the presence of the blacklegged ticks. Finding at least one blacklegged tick (*Ixodes scapularis*) during one of these time periods may indicate a possible risk area for Lyme disease; and could be re-dragged the following season/year.

> **The habitat and host animal species required for tick establishment and Lyme disease transmission are not uniform within the estimated 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

Health Unit Code	Health Unit
ALG	Algoma District
BRN	Brant County
CHK	Chatham-Kent
DUR	Durham Regional
EOH	Eastern Ontario
GBO	Grey Bruce
HAL	Halton Regional
HAM	Hamilton
HDN	Haldimand-Norfolk
HKP	Haliburton-Kawartha-Pine Ridge District
HPE	Hastings and Prince Edward Counties
HUR	Huron County
KFL	Kingston-Frontenac and Lennox and Addington
LAM	Lambton
LGL	Leeds-Grenville and Lanark District
MSL	Middlesex-London
NIA	Niagara Regional Area
NPS	North Bay Parry Sound District
NWR	Northwestern
OTT	Ottawa
OXE	Oxford Elgin St. Thomas
PEE	Peel Regional
PDH	Perth District
PQP	Porcupine
PTC	Peterborough County-City
REN	Renfrew County and District
SMD	Simcoe Muskoka District
SUD	Sudbury and District
THB	Thunder Bay District
TOR	Toronto
TSK	Timiskaming
WAT	Waterloo
WEC	Windsor-Essex County
WDG	Wellington-Dufferin-Guelph
YRK	York Regional

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 2018 Mar 19]. 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; 2017 [cited 2018 Mar 19]. 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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For more information, visit www.publichealthontario.ca.

Disclaimer

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