

Monday

October, 24th 2022

1pm-2pm EST

Via Zoom

Elm Zigzag Sawfly is Here, Now What?

Presented by:

Thom Allgaier- NYS AGM

Jessica Cancelliere- NYS DEC

Megan Pistoiese-Shaw- SLELO PRISM

Special Guest- Veronique Martel-Canadian Forest Service



**INVASIVE SPECIES
MANAGEMENT**
SAINT LAWRENCE
EASTERN LAKE ONTARIO
SLELO PRISM



**NEW
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STATE**

**Department of
Environmental
Conservation**



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INVASIVE SPECIES MANAGEMENT

SAINT LAWRENCE
EASTERN LAKE ONTARIO



SLELO is Hosted by:
The Nature Conservancy

Where We Work:

Oneida
Oswego
Jefferson
Lewis
St. Lawrence

What We Do:

Collaborate with our
partners to protect our lands
and waters from the impacts
of invasive species.

**Protecting Lands & Waters
From Invasive Species**

www.sleloinvasives.org

Thom Allgaier

Invasive Species Coordinator



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Elm Zigzag Sawfly

SLELO PRISM

October 24, 2022



Kathy Hochul
Governor

Richard A. Ball
Commissioner

Thom Allgaier
*Division of
Plant Industry*

Elm Zigzag Sawfly



Photo: Gyorgy Csoka

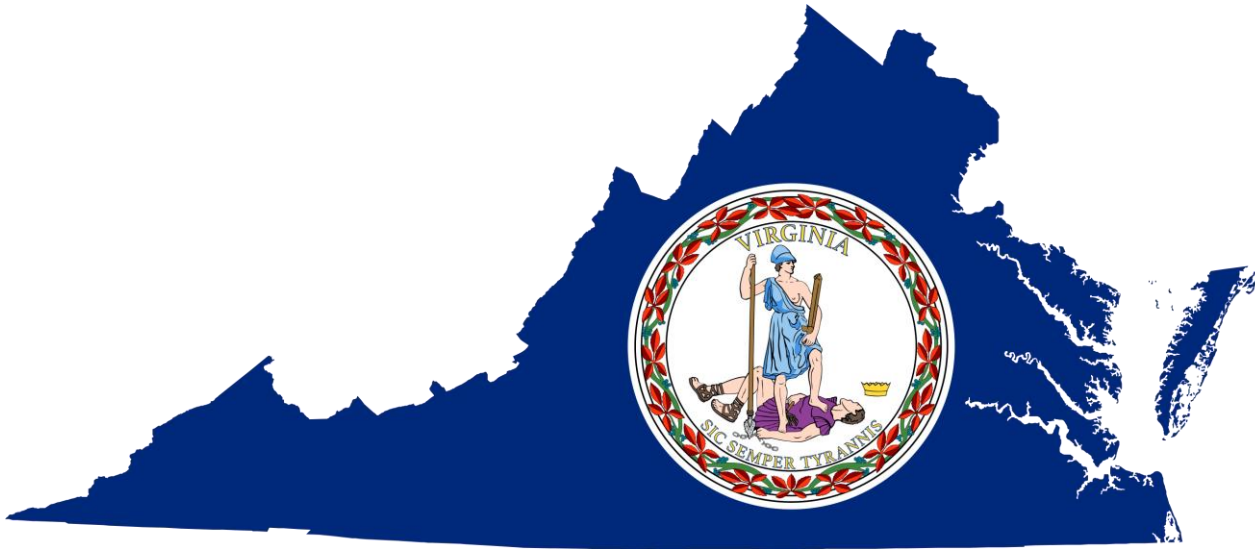
- Elm zigzag sawfly (*Aproceros leucopoda*) is an invasive pest native to parts of China and Japan

Elm Zigzag Sawfly



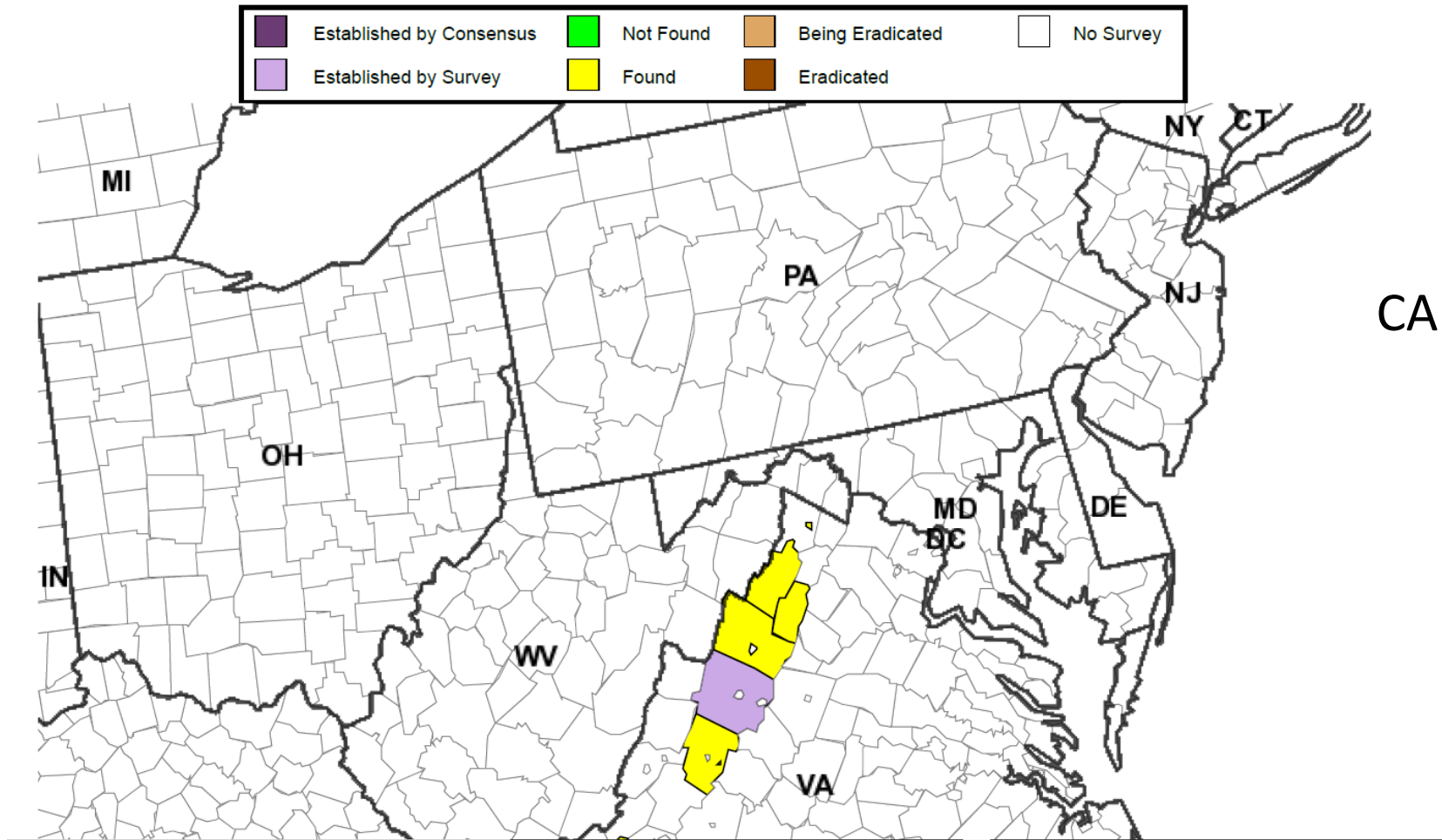
- Elm zigzag sawfly was first reported in North America July of 2020 in Sainte-Martine Quebec, Canada
- The pathway of introduction and the amount of time it has been in North America is unknown
- First reported by citizen scientists and then confirmed by the Canadian Food Inspection Agency (CFIA)

Elm Zigzag Sawfly



- First reported in the US by citizen scientists, then confirmed in Winston, VA 2021

Elm Zigzag Sawfly



CAPS Survey 2021MAP



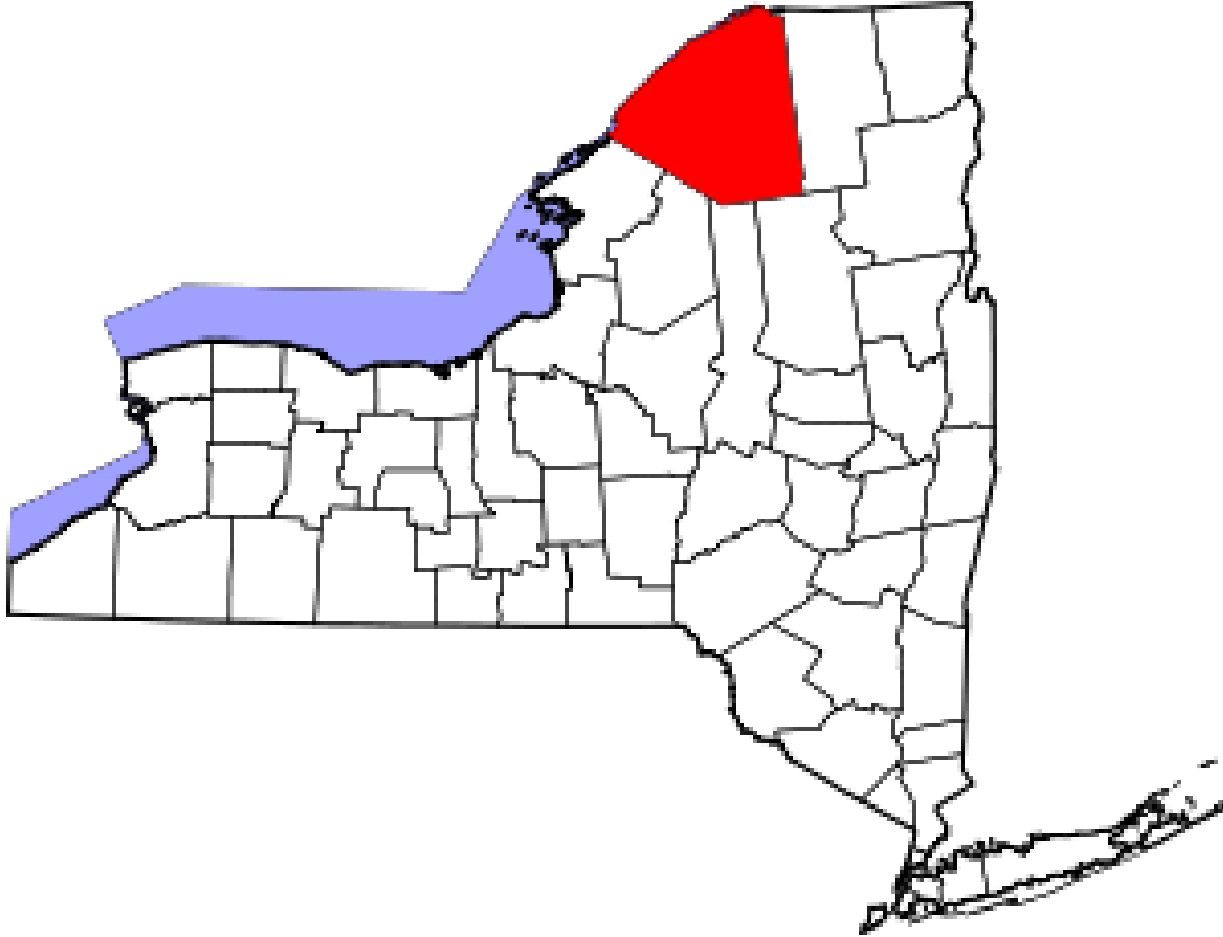
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Elm Zigzag Sawfly



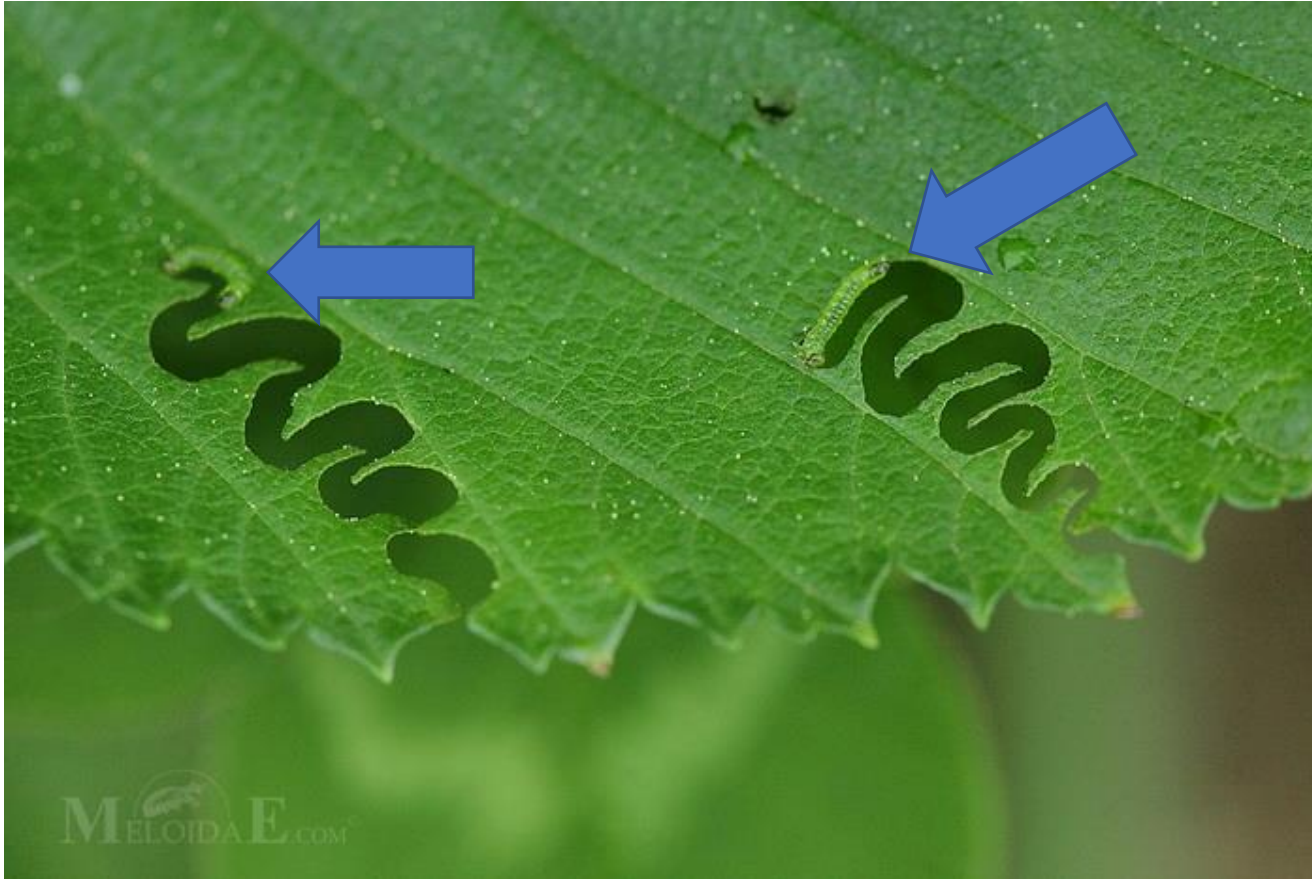
- Elm zigzag sawfly was first reported North Carolina in August 2022

Elm Zigzag Sawfly



- Elm zigzag sawfly was first reported St. Lawrence Couty New York -September 2022 by NYS DEC

Elm Zigzag Sawfly



- Its common name comes from the characteristic zigzag pattern left by the larva during feeding

Elm Zigzag Sawfly



Photo: Kelly Oten

- Severe defoliation of elm trees (*Ulmus spp.*) is an issue for forest ecology, the economy and societal values

Elm Zigzag Sawfly



Photo: Eric Day

- Elm zigzag sawfly reproduces parthenogenetically – female reproduces asexually
- Up to four generations a year in Asia - six generations in Europe
- Adult females live for 1 to 6 days and can lay eggs as soon as they emerge from their cocoon
- Females lay 7 – 49 eggs along the serrated margin of the elm leaf
- In 4 – 8 days, larva emerge and begin to feed on the leaf

100,000 to 13.8 Billion in a year

Elm Zigzag Sawfly



Photo: Matt Bertone

- Larvae go through six larval instars over 15 – 18 days
- This life stage is responsible for causing plant damage
- They then enter pre-pupal stage

Elm Zigzag Sawfly

Once the cocoon has been spun and attached to a structure, pupation will occur over 2 – 3 days and adults emerge 4 – 7 days later



Photo: CDFA



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and Markets**

Elm Zigzag Sawfly



Photo: Gyorgy Csoka

- Scouting for this pest is ongoing

Elm Zigzag Sawfly



Photo: Kelly Oten

- **Cocoons not always found on trees**
- **Check surrounding surfaces**

Elm Zigzag Sawfly



Early Feeding



50 +% Defoliated

Photos: Kelly Oten



Completely Skelontinization



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Elm Zigzag Sawfly



American Elm

Photos: Kelly Oten



Slippery Elm

Jessica Cancelliere
Research Specialist

Veronique Martel
Research Scientist in Entomology



**Department of
Environmental
Conservation**



Discovery and outreach in Canada



alainhogue

4.595 observations



Observé :

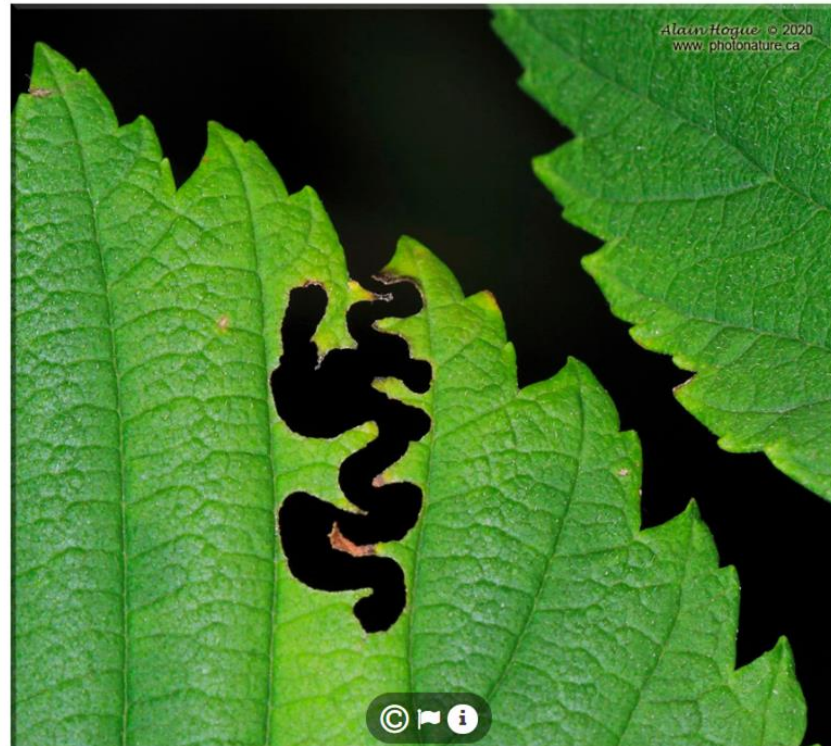
30 juil. 2020 · 20:41 EDT

Enregistré :

31 juil. 2020 · 12:52 EDT

Aproceros leucopoda !

Niveau de recherche



Ressources naturelles
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Citizen scientist spots a newcomer on Canadian elm trees

Forestry and insects

September 2020

By Véronique Martel, Ph.D. - research scientist in entomology, Natural Resources Canada, Laurentian Forestry Centre



Moteur de recherche

Publié le 27 juillet 2021



RADIO-CANADA

Discovering the Elm Zigzag Sawfly in Canada

The elm zigzag sawfly, an exotic insect found in Asia and Europe that feeds on elm trees, has never been found in North America... that is until now. On this episode, we talk about how a photo by a nature photographer lead to the discovery of the insect on this side of the



Véronique Martel @MartelVronique3 · Sep 11, 2020

Triste nouvelle pour les ormes du Québec... Mon équipe travaille avec @InspectionCanFR et les citoyens sur @inaturalist à mieux déterminer sa répartition et sa biologie ici. À suivre et gardez l'œil ouvert! #Sciencecitoyenne @cfiscf @RNCAN



stry and insects

d more



Quand vous trouverez un orme : cherchez les zigzags sur les feuilles et laissez leur un message.



La science simplifiée

19 mai ·

Notre scientifique Véronique a besoin de vous!

En 2020, une nouvelle espèce envahissante a été découverte au Canada. Il s'agit de la tenthrède en zigzag de l'... Afficher la suite



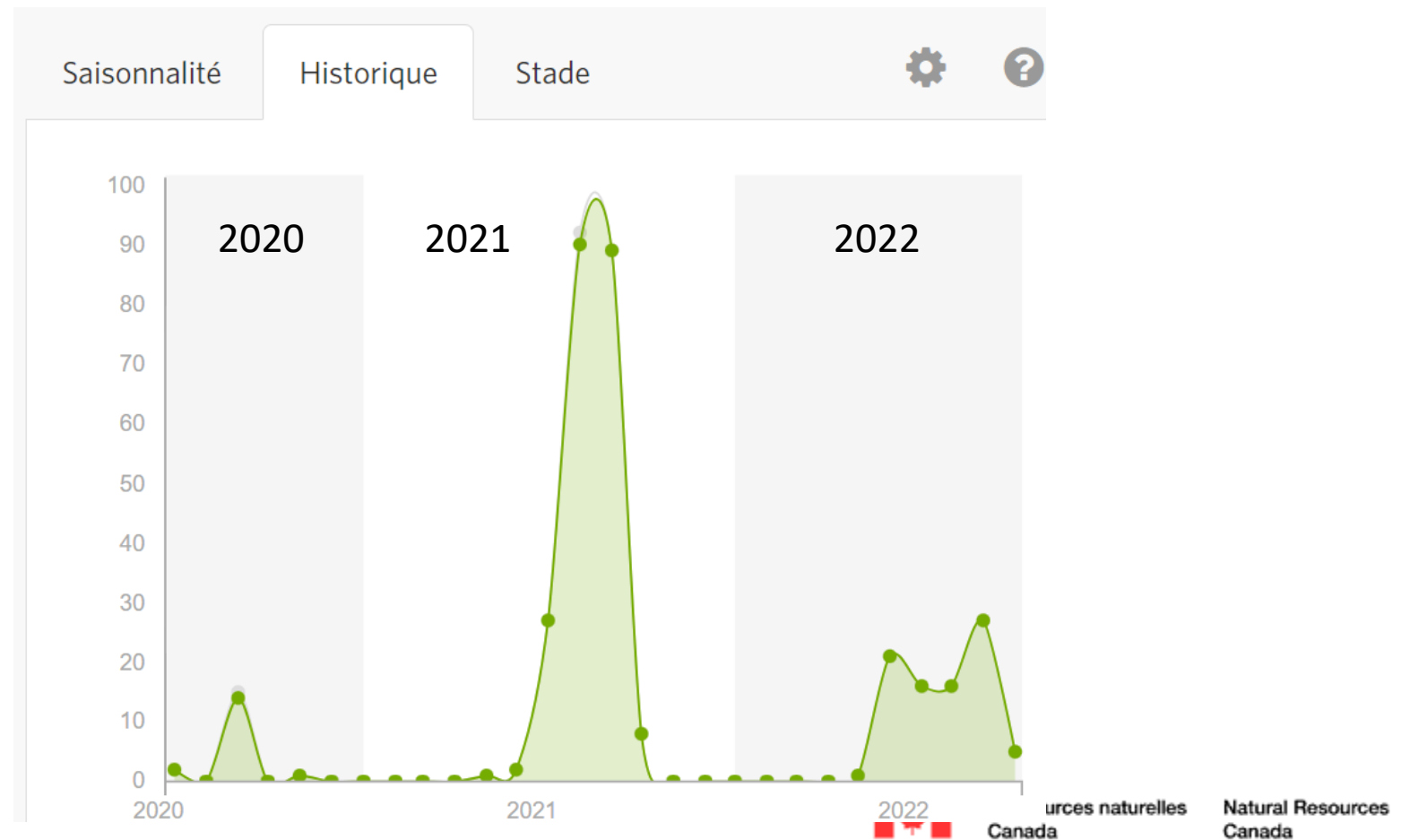
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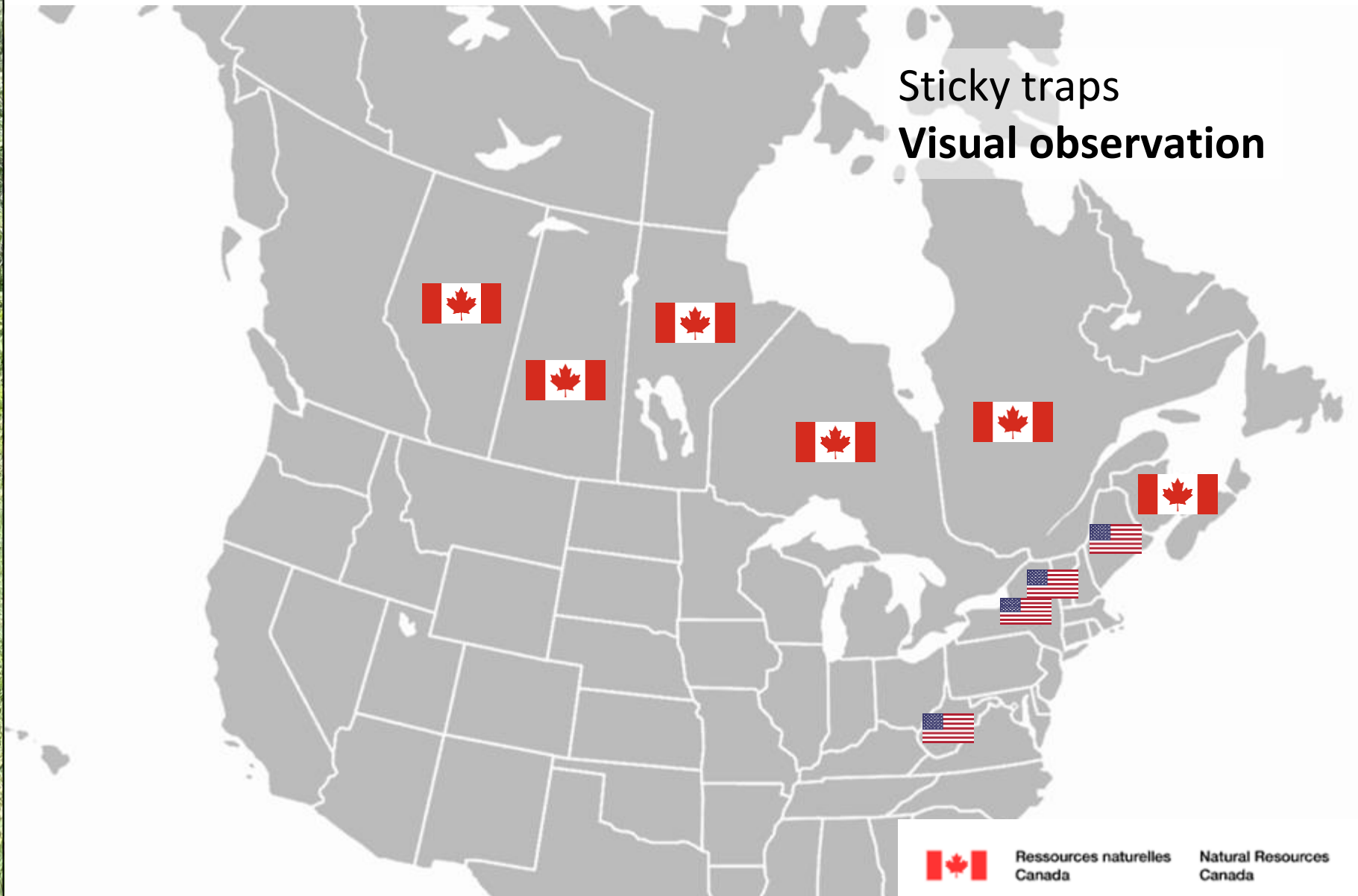


- media interviews
- social media posts





Trapping/survey network in 2021-2022





Presence detected in 2021-2022





Damage and defoliation observed

- Generally low levels of defoliation in Canada
- Other defoliators are more important on elm species
- Most elm species seem to be attacked
- Several predators/enemies observed



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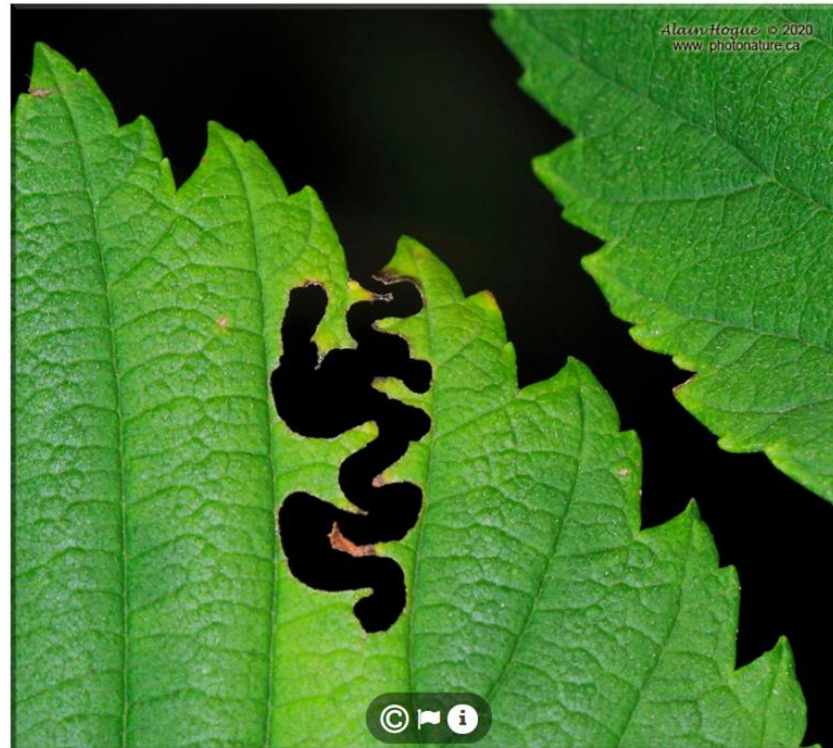
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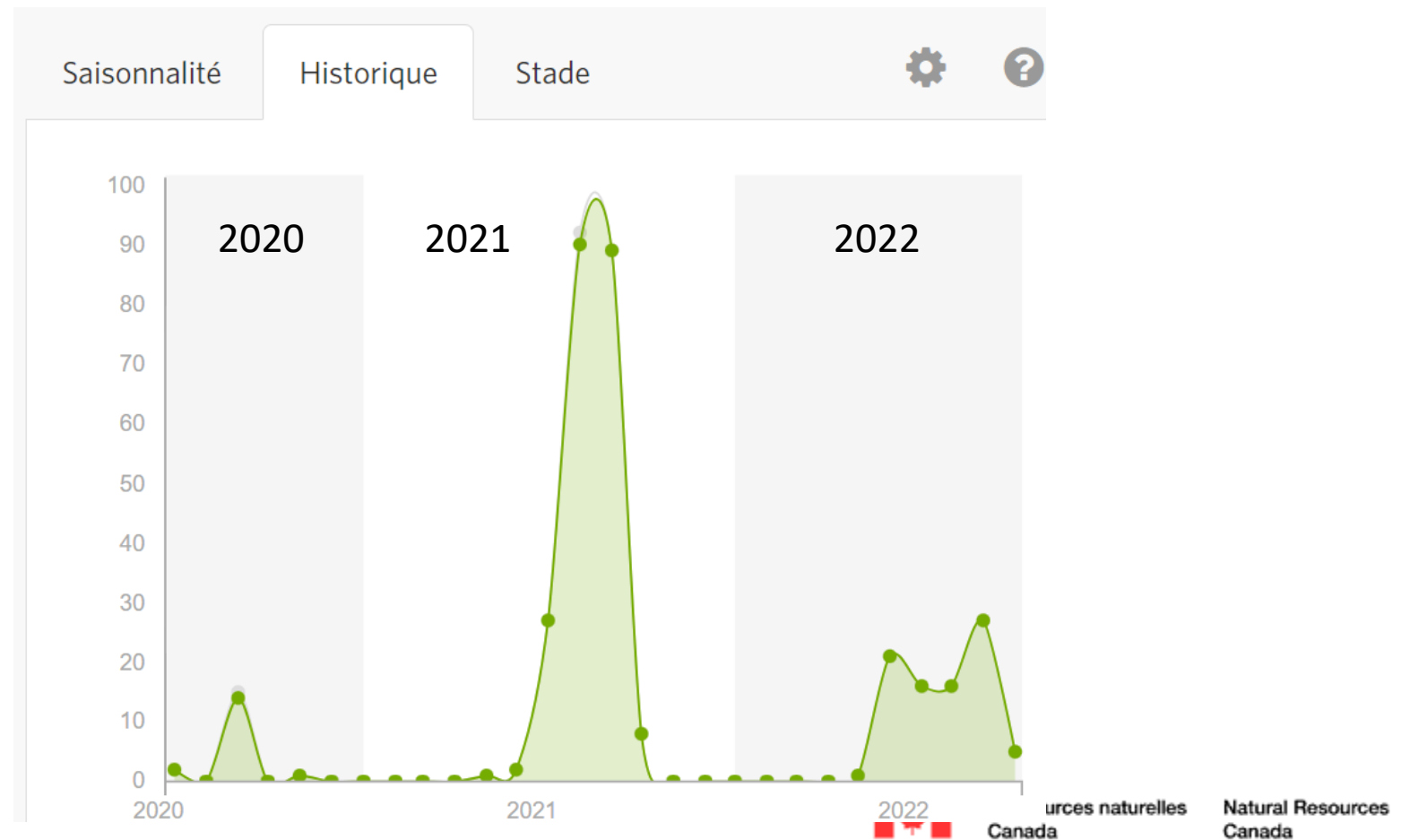
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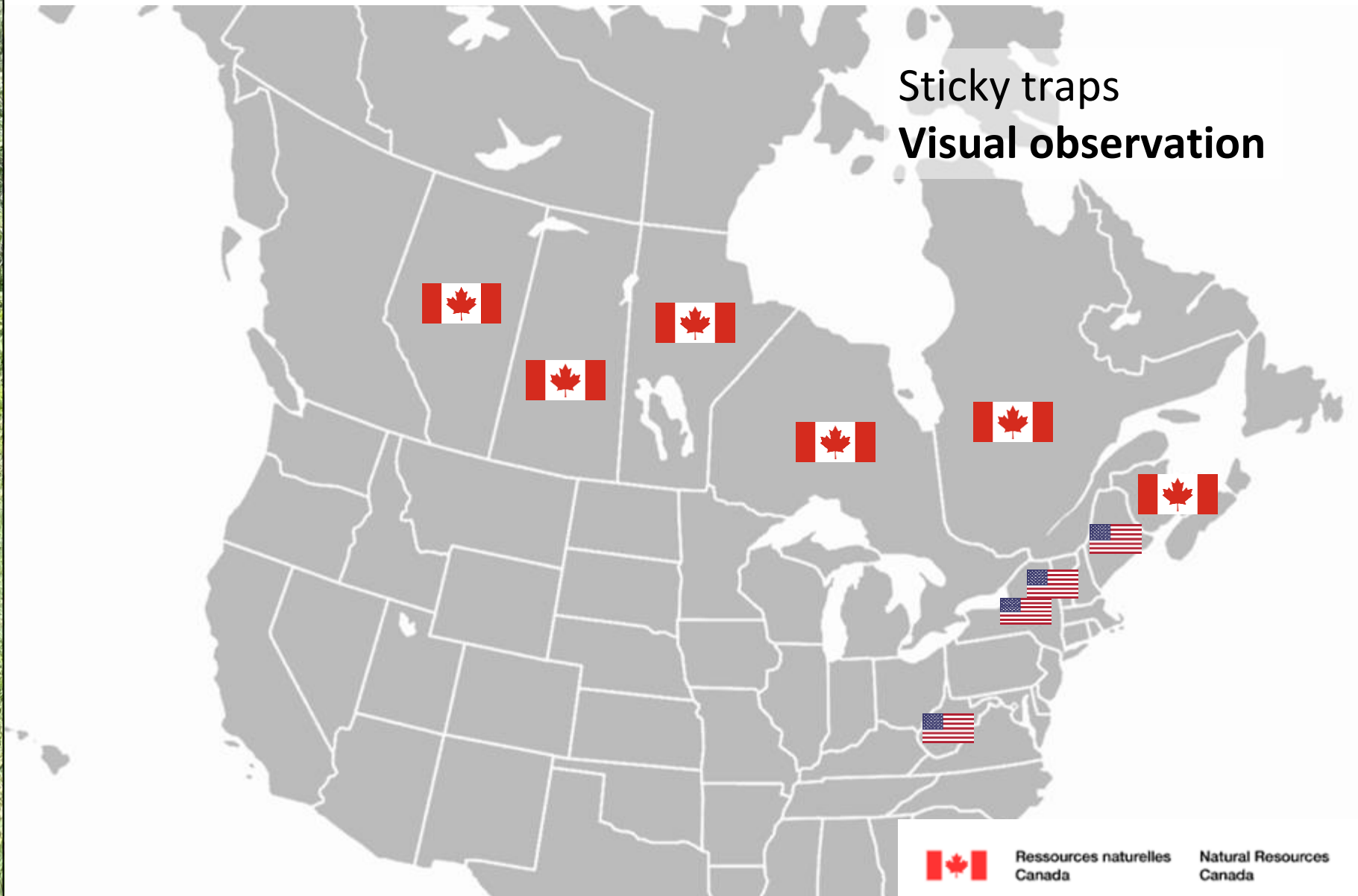


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Elm Zigzag Sawfly in New York

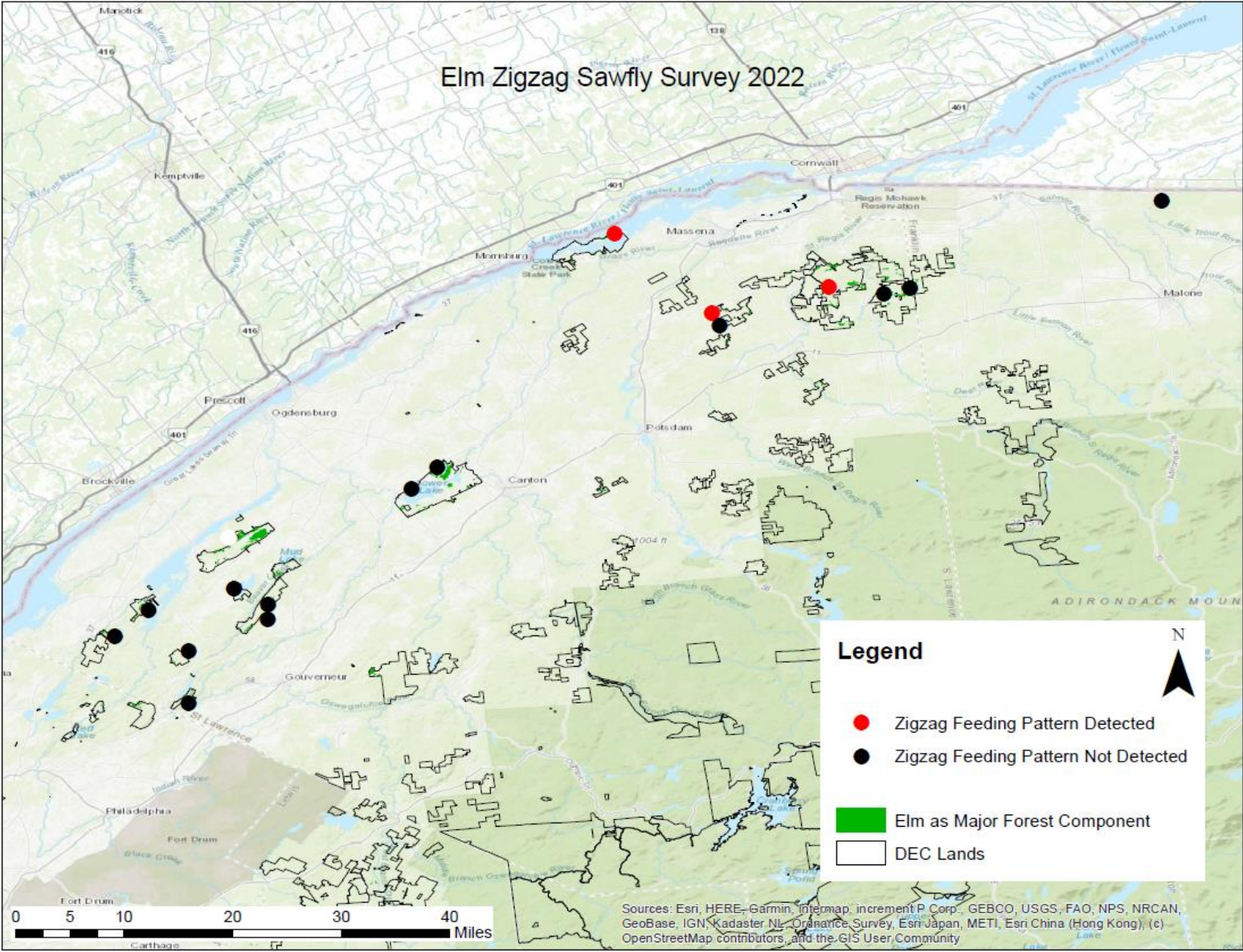
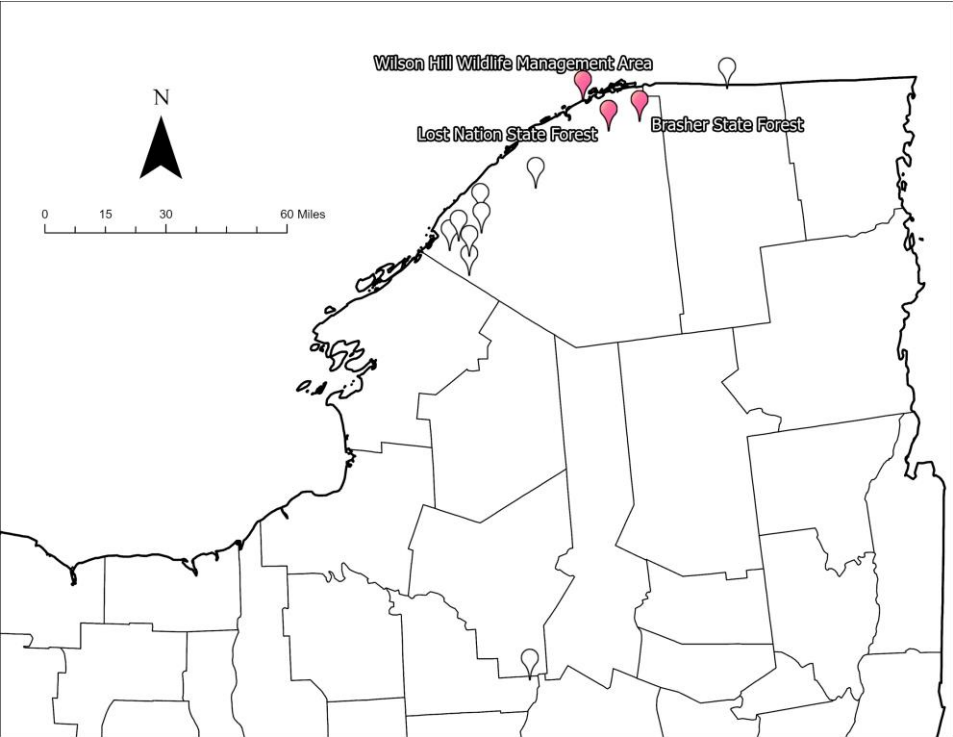
Jessica Cancelliere, Research Scientist





Survey

July-August 2022



Official confirmation – September 2022

For Release: Monday, September 26, 2022

DEC Finds New Exotic Pest Affecting Elm Trees in St. Lawrence County Surveys Underway to Determine Extent of Insect Populations and Potential Impact to Native Elms

The New York State Department of Environmental Conservation (DEC) today announced that the elm zigzag sawfly (*Aproceros leucopoda*) was detected for the first time in New York State locations in St. Lawrence County, including Wilson Hill Wildlife Management Area, Brasher State Forest, and Lost Nation State Forest. This exotic pest feeds exclusively on elm, causing severe defoliation, branch dieback, and crown thinning. Although the sawfly has not yet been shown to cause tree mortality, repeated defoliation by established sawfly populations can cause stress on native elm trees already heavily impacted by Dutch elm disease.



Threat

- Dispersal
- Potential to cause severe defoliation
- Outcompetes native species in Europe
- Dutch elm interactions



Kelly Oten, North Carolina



North Carolina Forest Service

Elm Identification- Leaves

- Doubly serrate
- Offset base with pubescence underneath
- Pinnate venation



Gobotany.nativeplanttrust.org



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Elm Identification- Form & Bark

- Vase-shaped, large buttresses
- Dark gray bark with flat braided ridges



UGA5038066

Elm Zigzag Sawfly

Early Detection Volunteer Opportunity

Scan to Volunteer



Where to Look:



- Public Trails Nearby Known EZZ-Sawfly Presence with Elm Trees
 - Wilson Hill WMA*
 - Brasher Falls State Forest*
 - St. Lawrence Park/Lost Nation SF*
 - Grantville State Forest
- Urban Street Trees/Parks
(email megan.Pistolese@tnc.org and Robert.l.smith@tnc.org)

Questions?

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"Teaming Up To Stop The Spread of Invasive Species"

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