



Canadian Food
Inspection Agency

Agence canadienne
d'inspection des aliments

CFIA Forest Pest Survey Update

Forest Health Network
Annual Pest Review
January 13, 2021



Erin Appleton
Plant Health Survey Biologist

Canada

Overview

Canadian Food Inspection Agency

- Mandate
- Legislative Authority
- Plant Health Surveillance

Preparedness

- Citizen Science
- Research
- Outreach and Education

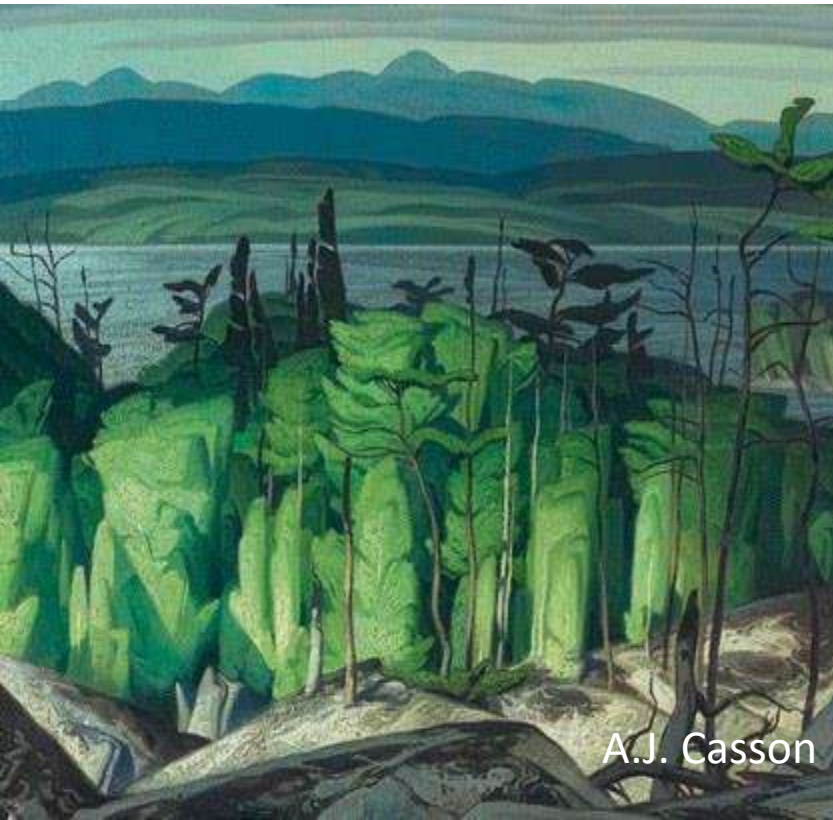
Early Detection

- Pathway based-surveillance
- Pest-specific surveys

Response

- Response Plans
- Interagency Technical Advisory Committees
- Collaboration

Our Mandate



The Canadian Food Inspection agency aims to mitigate risks to Canada's plant resource base, which is integral to a safe and accessible food supply, as well as to public health and environmental sustainability.

Plant Protection Act

S.C. 1990, c. 22

Assented to 1990-06-19

Duty to notify Minister

5 Where a person becomes aware of the existence of a thing that the person suspects to be a pest in an area where the pest has not previously been known to exist, the person shall immediately notify the Minister of the suspected pest and provide the Minister with a specimen of it.

www.inspection.gc.ca/pests

Acts and Regulations

Plant Protection Act
Infested Places Orders
Plant Protection Regulations

Import Requirements

Canadian Wood Packaging Import
Requirements



Risk Mitigation

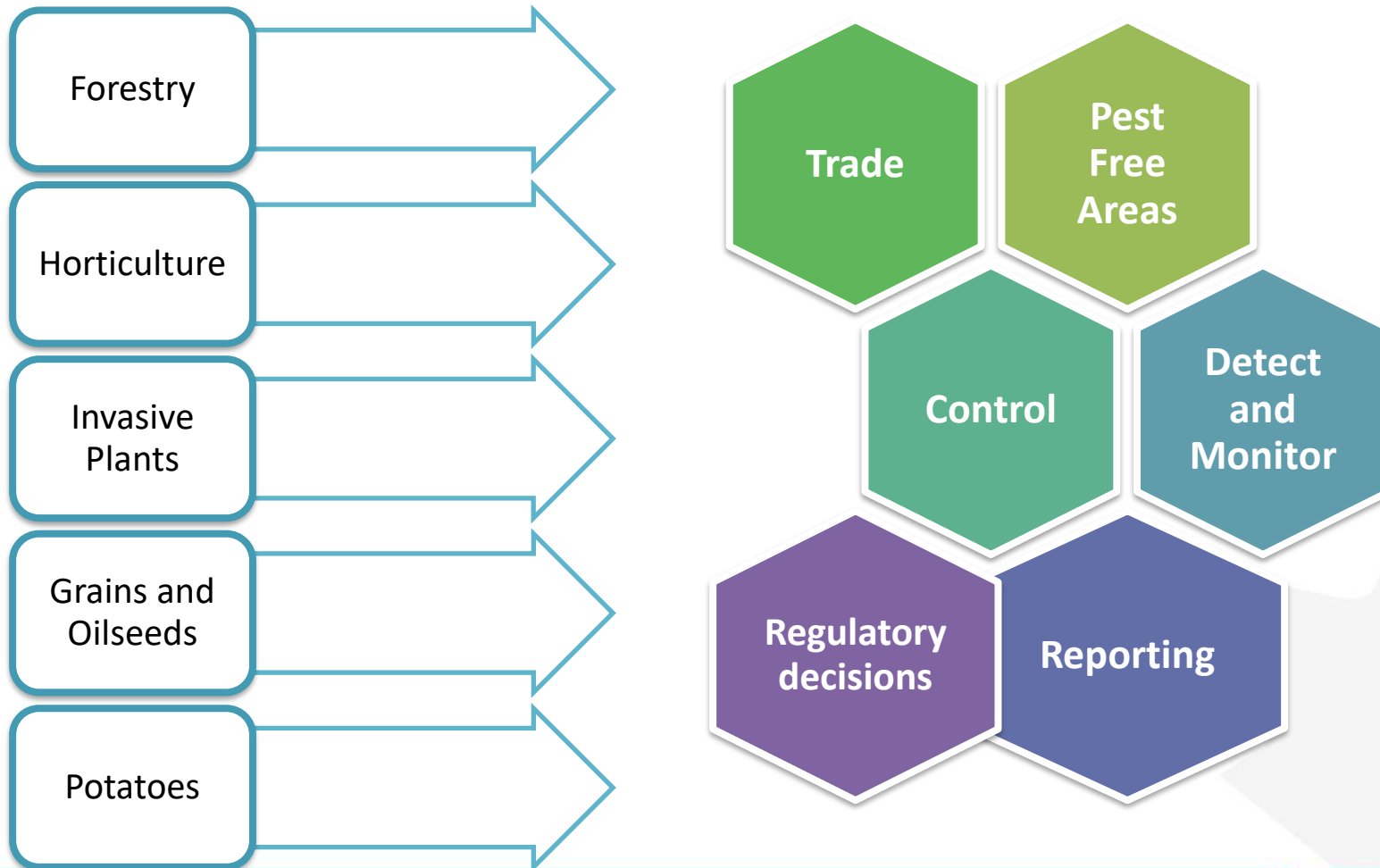
Policy Directives

Phytosanitary measures:
Wood packaging
Wood Products
Plants
Firewood

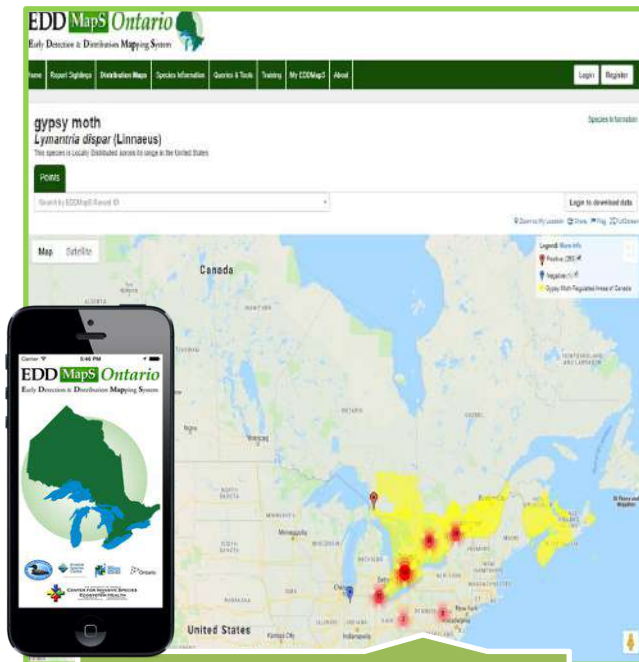
Outreach and Education

Citizen Science
Don't Move Firewood

CFIA's Plant Health Survey Program



Citizen Science



Reporting Tools

The poster is titled 'Help Us Find Box Tree Moth!' and features a photograph of a moth on a leaf. The text on the poster includes:

- Sign Up!** Email: Erin.Bullas-Appleton@canada.ca or text 519-820-4205
- Attend the training and pick up your kit!** Meet us at James Gardens, 99 Edenbridge Dr., Etobicoke May 9, 2019 from 11:00-1:00
- Check your trap weekly and submit your counts!** Traps will be placed between May and September. Support can be provided as needed.

 Logos for Canada, Ontario, and Toronto are at the bottom.

Monitoring Campaigns

The poster is titled 'Oak Wilt Signs and Symptoms' and features a central image of a tree with four circular insets showing different signs of oak wilt: a yellowing leaf, a dead branch, a cross-section of a tree trunk, and a close-up of a tree trunk. The text on the poster includes:

- Forest Health Volunteer Training Session** Learn to Detect Insect and Disease Problems in Trees
- Wednesday, July 26th** 6-8 pm
- Ojibway Nature Centre
- 5200 Matchette Road, Windsor, ON
- R.S.V.P. by emailing volunteers@bioforest.ca

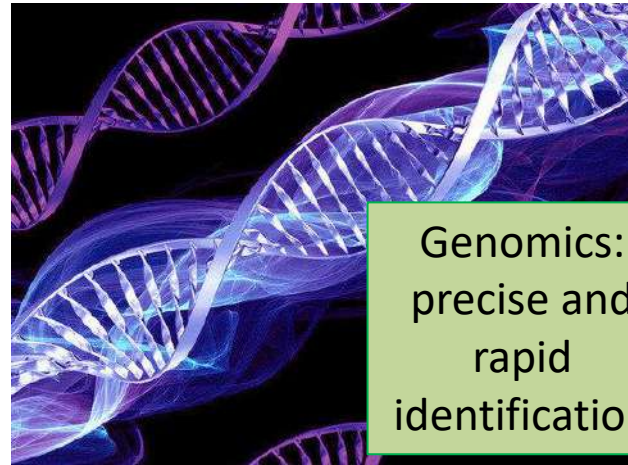
 Logos for Canada, Ontario, and the Invasive Species Centre are at the bottom.

Training Events

Research



Identify
vulnerable
North
American
species



Genomics:
precise and
rapid
identification

New detection tools to address gaps and constraints



Collaborative Training



Simulation sites to promote awareness

Common learning framework
Build networks
Enhance surveillance capacity for priority pests



Outreach

Pest cards for distribution

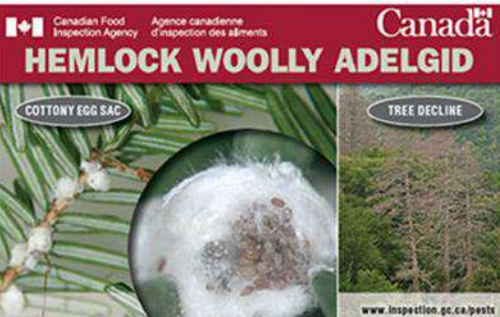
Temporary Tattoos



Signage

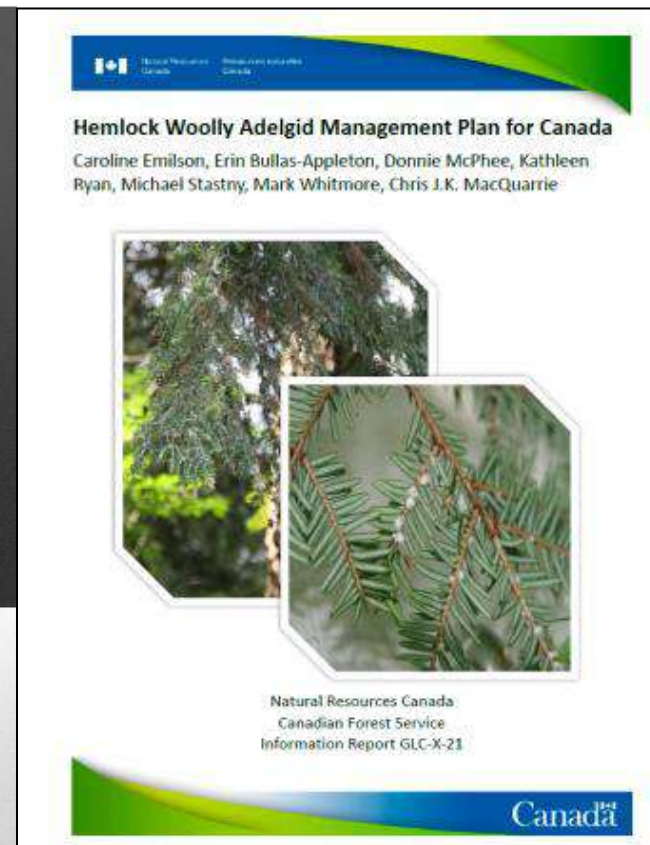


Social Media



Response Plans

- Comprehensive measures that may be implemented to address pest incursions
- Collaborative framework to mitigate risks and protect the resource



Interagency Technical Advisory Committees

- Coordinate multi-government information-sharing and actions
- Pool expertise and resources
- Facilitate and support research advancements
- Scientific and technical recommendations

Pathway-Based Surveillance



Wood Packaging Pathway

- Wood packaging and dunnage are high-risk pathways for invasive alien forest pests
- Target forests within 5 km of import centres, ports, industrial areas, disposal and storage sites



Rearing Survey

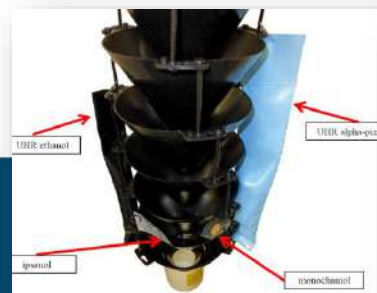
Trapping Survey



Lures are not attractive to all bugs
Target insects not on the radar
Logs from municipal hazard tree
removal



Semiochemical-based trapping
Detect non-indigenous
longhorned beetles and wood
boring insects associated with
this pathway

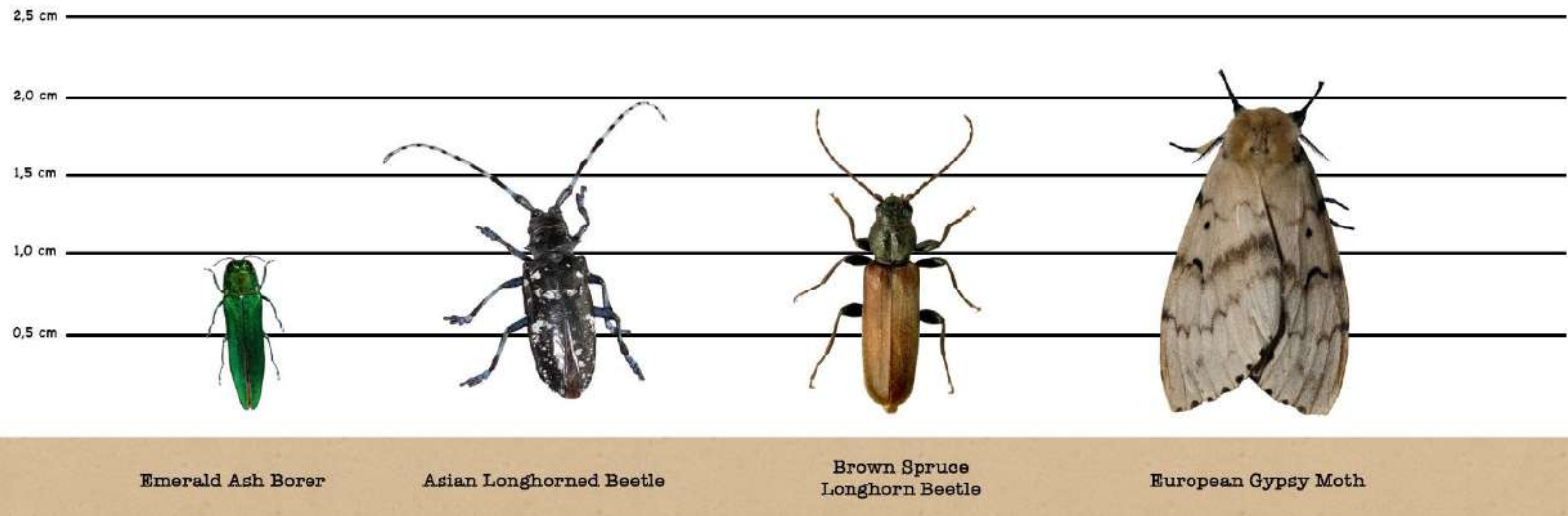


Working with the Biodiversity Institute of Ontario to build reference libraries to compliment morphological taxonomy





PEST-SPECIFIC SURVEYS



Asian Longhorned Beetle

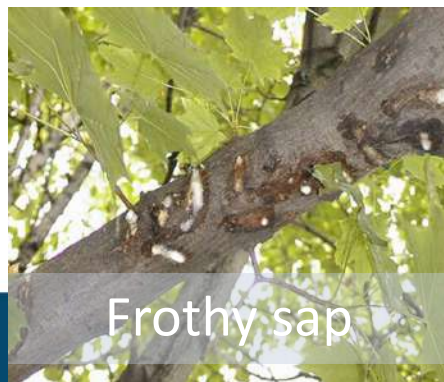
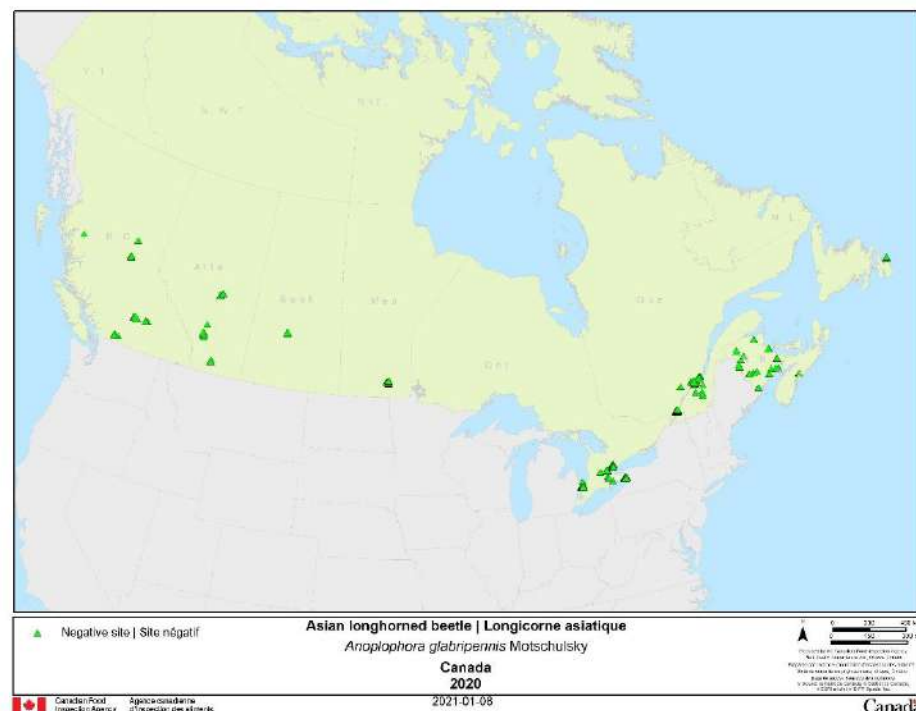
Eradicated from Canada!

- No detections since 2014
- Native to Korea, Japan and China
- Newly recorded in Russia's far east
- Attacks and kills a wide range of deciduous tree species
- Spread by movement of infested wood packaging material or pallets, natural dispersal and passive spread by hitch-hiking on vehicles



Visual Detection Survey

- National grid-based survey designed to ensure high probability of detecting infestations with a radius of 750 m or greater in the target cities
- At each grid point, 30 maple trees inspected for signs and symptoms
- Inspection focusing on major urban centers on a 5-year rotation



Visual Detection



Flagging and thinning
crowns



Discoloured, bronzing
leaves and early leaf
drop



Bark cracks



Sapwood staining



Pressure pads

Hemlock Woolly Adelgid

- Introduced invasive insects that feeds on hemlock, causing bud death, needle loss and eventual tree mortality
- Naturally spread by wind, birds and mammals
- Long distance dispersal via infected nursery stock
- Visual surveys May to March in eastern Canada
- Detection efficacy in high risk areas enhanced by integrating other methods

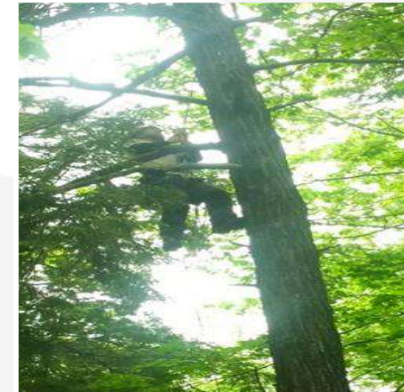
Ball Sampling



Visual

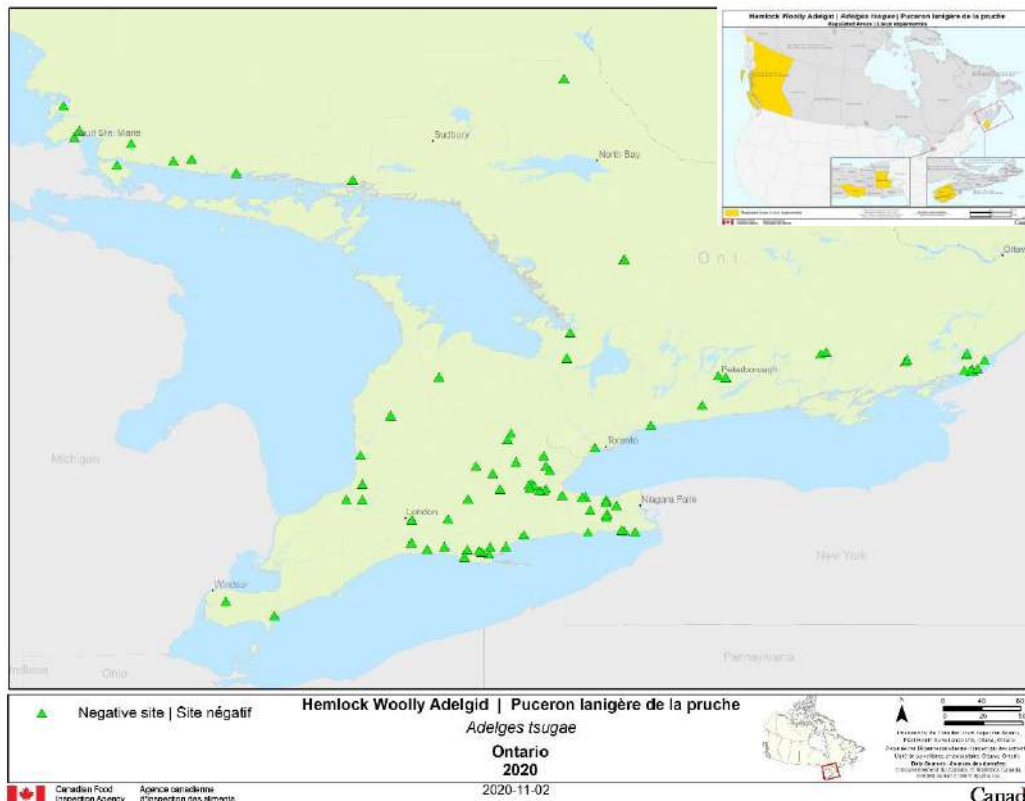


Climbing



ON: 90 Sites (204 Total)

22



Ongoing Priorities and Next Steps



Collaborative Response

- Enhance hemlock inventories
- Address survey gaps
- Site-specific response plans
- Working groups

Regulatory Controls

- Regulated areas
- Import and domestic movement requirements
- HWA Approved Processing Facility Compliance Program

Surveillance

- Early detection
- Delimitation
- Training

Hemlock Preservation

- Education and outreach
- Biocontrol rearing and release program for Canada

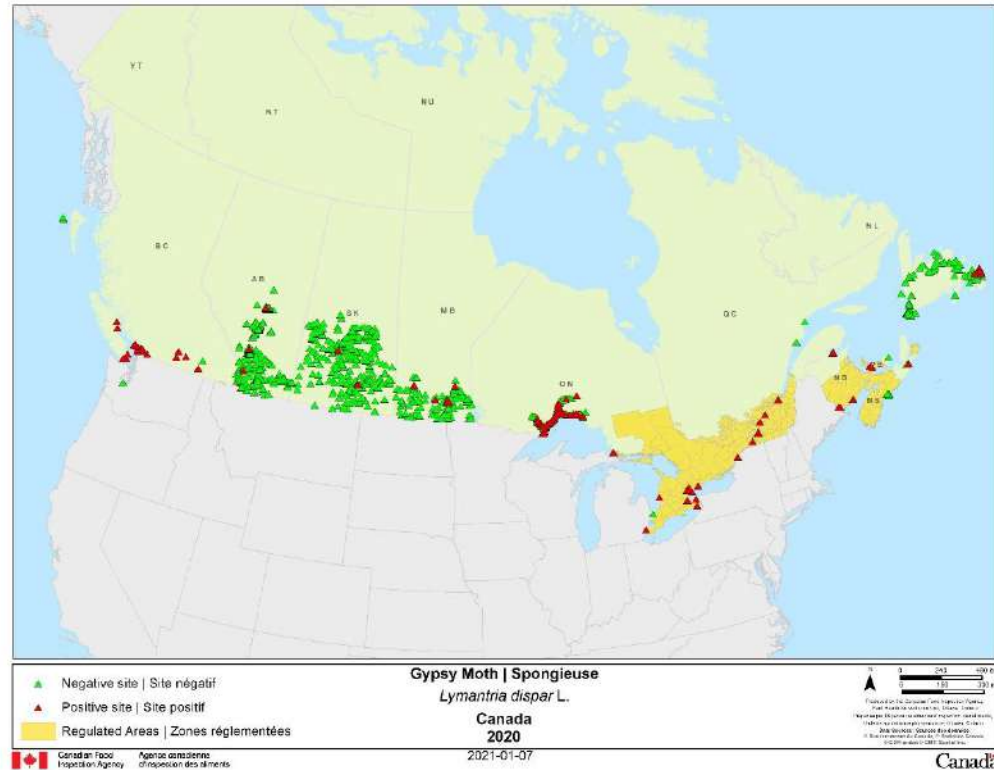
Gypsy Moth

Trapping survey to inform regulatory decisions

- Molecular analysis for *Lymantria dispar asiatica*
- High risk ports in regulated areas



- Trapping for *Lymantria dispar* detection in unregulated areas



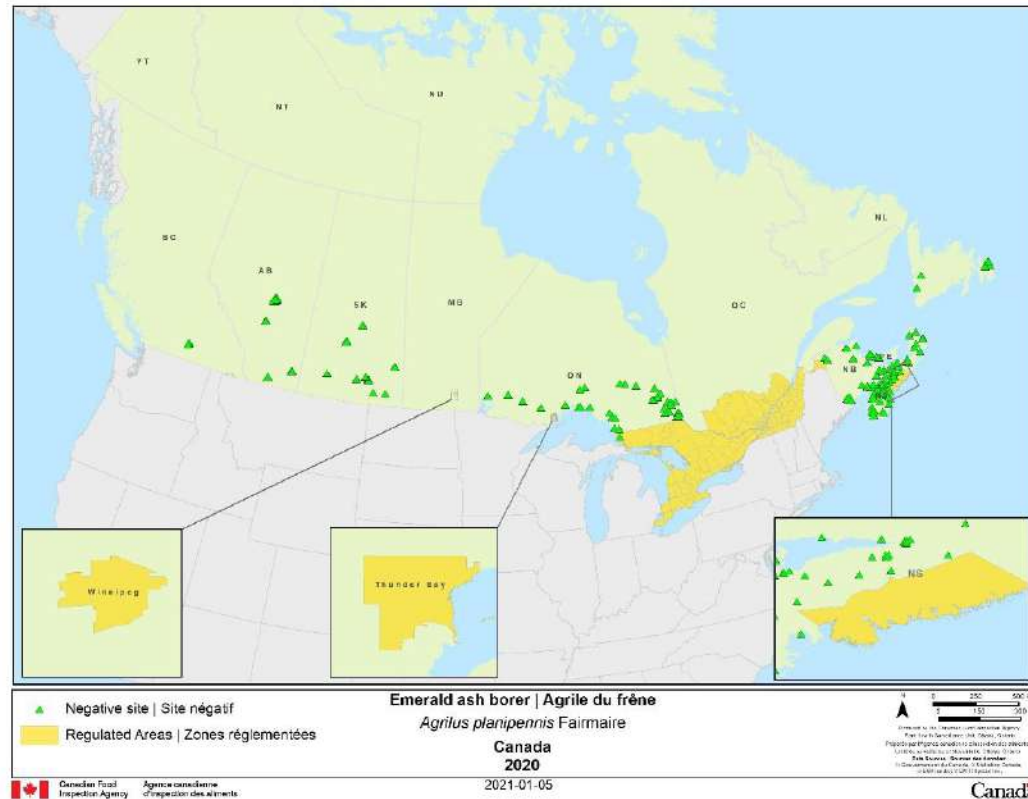
ON: 142 sites (2011 Total)

EGM finds outside regulated areas will be delimited to assess for established populations. If multiple life stages are detected, a Provincial eradication program is recommended.

Emerald Ash Borer

Trapping survey to determine whether EAB is present in areas where it is not known to occur

- Confirmed in Canada in 2002
- Surveys provide information in support of regulatory decisions
- ON: 66 sites (332 Total)

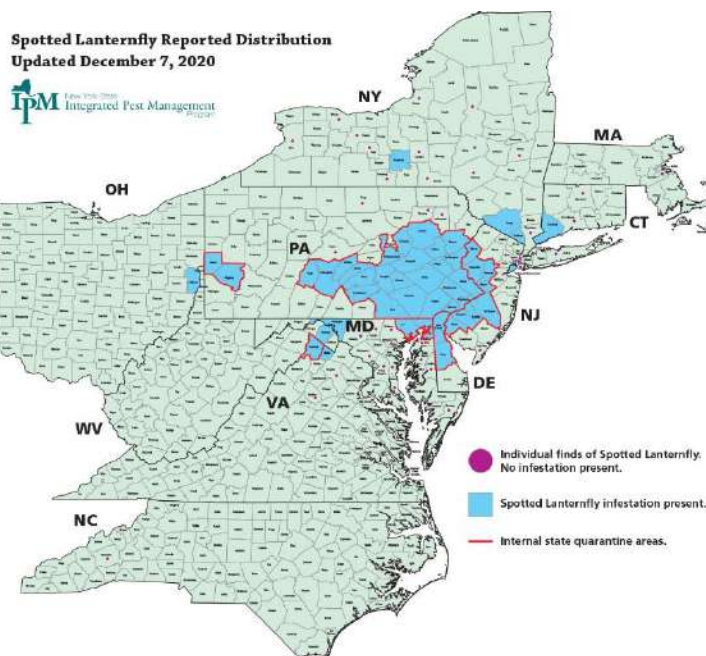


On the Horizon



Spotted Lanternfly

- Native to Asia
- Over 70 host species, but Tree-of-Heaven is preferred
- Damages grapes, hops, orchards and potential impacts on hardwoods
- Good hitchhiker



OUTREACH



PRIORITY

In September 2020, the Canadian Food Inspection Agency (CFIA) confirmed the identification of two dead spotted lanternflies. This regulated pest is not known to be present in Canada. No live insects were detected. Each insect was identified on a commercial truck travelling from Pennsylvania to Quebec. The first one was in Lévis and the second in Moncton.

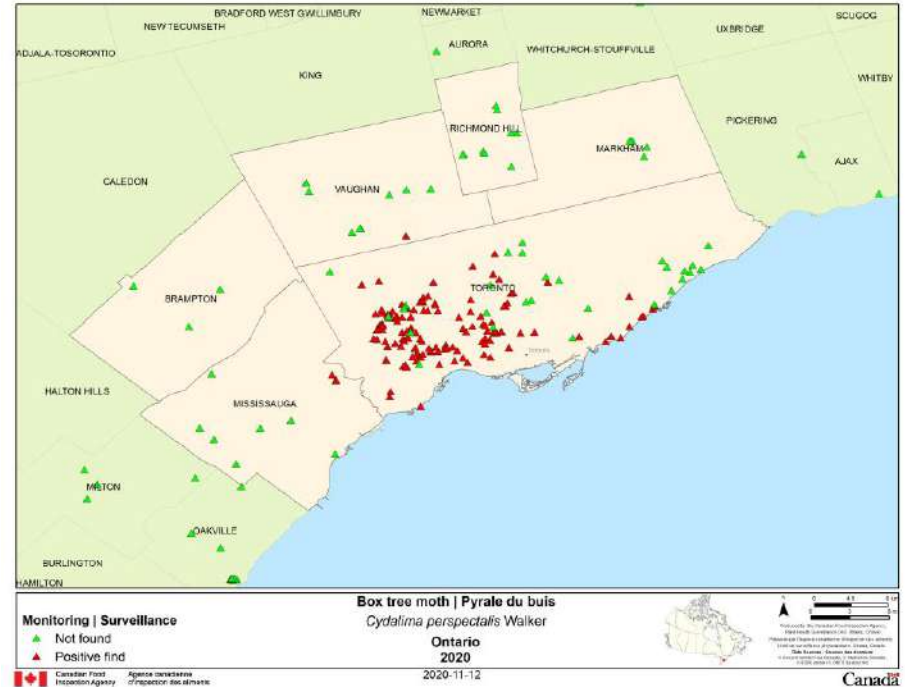
Box Tree Moth

An Invasive Moth is Recorded in Ontario, Canada for the First Time - Observation of the Week, 9/9/18



This Box Tree Moth, seen in Ontario, Canada by @kyukich is our Observation of the Week!

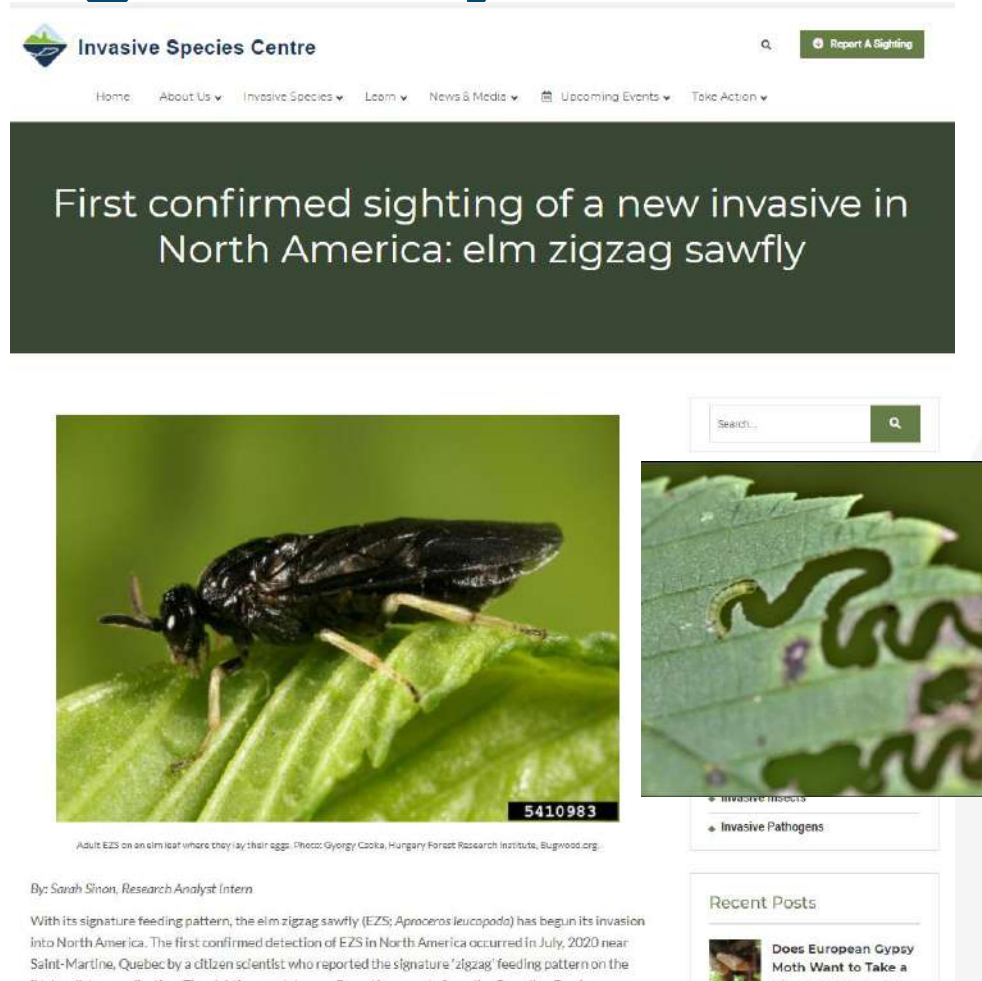
As our world becomes more interconnected through commerce and transportation, the likelihood of organisms native to one region of the planet being transported another region has of course increased, and the Box Tree Moth (*Cydalia perspectalis*) is an example of how quickly this can happen.



- Causes severe damage to boxwood plants in Europe
- Collaborative project to determine extent of infestation and assess management options

Elm Zigzag Sawfly

- An invasive leaf eater that defoliates elm hosts at any age or stage of development.
- Larvae create characteristic zigzag feeding damage
- CFIA working with partners to determine extent of the infestation and regulatory status.



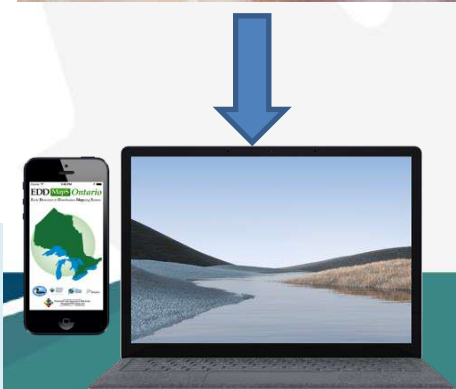
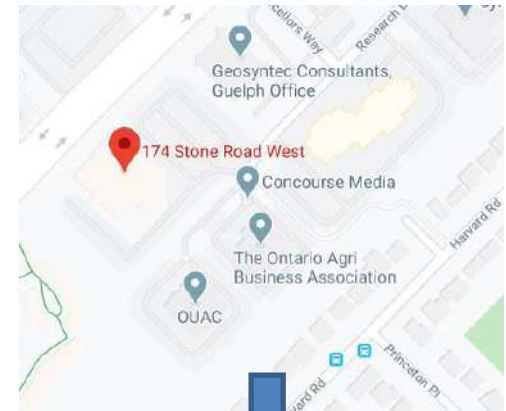
In August 2020, the Canadian Food Inspection Agency (CFIA) confirmed the presence of *Aproceros leucopoda* (elm zigzag sawfly) on *Ulmus* spp. (elm trees) in a rural property located in Ste. Martine, Québec. It is the first time that detection of this pest has been reported in North America.

Report Your Findings!

- Map it!
Record the address and/or latitude longitude for your report
- Snap it or Trap it!
Take a picture or collect a specimen if possible
- Tap it!
Submit your observations
 - Learn about native pests in your area and report unusual finds

www.inspection.gc.ca/pests

Conducting surveys for regulated plant pests?
Share your data so we can plot our collective efforts!



Reflections

- Research, outreach and citizen science are essential
- Detection surveys are prioritized to support regulatory decisions and are refined based on new tools and technologies
- Response plans provide a collaborative framework for managing pest issues
- Pooling our expertise will help us protect the resource more effectively

Questions?

Contact:

Erin.Bullas-Appleton@canada.ca

519-820-4205

<http://www.inspection.gc.ca/plantsurvey>