

The Early Detection and Rapid Response Network

EOMF Forest Health Network- Pest
Review

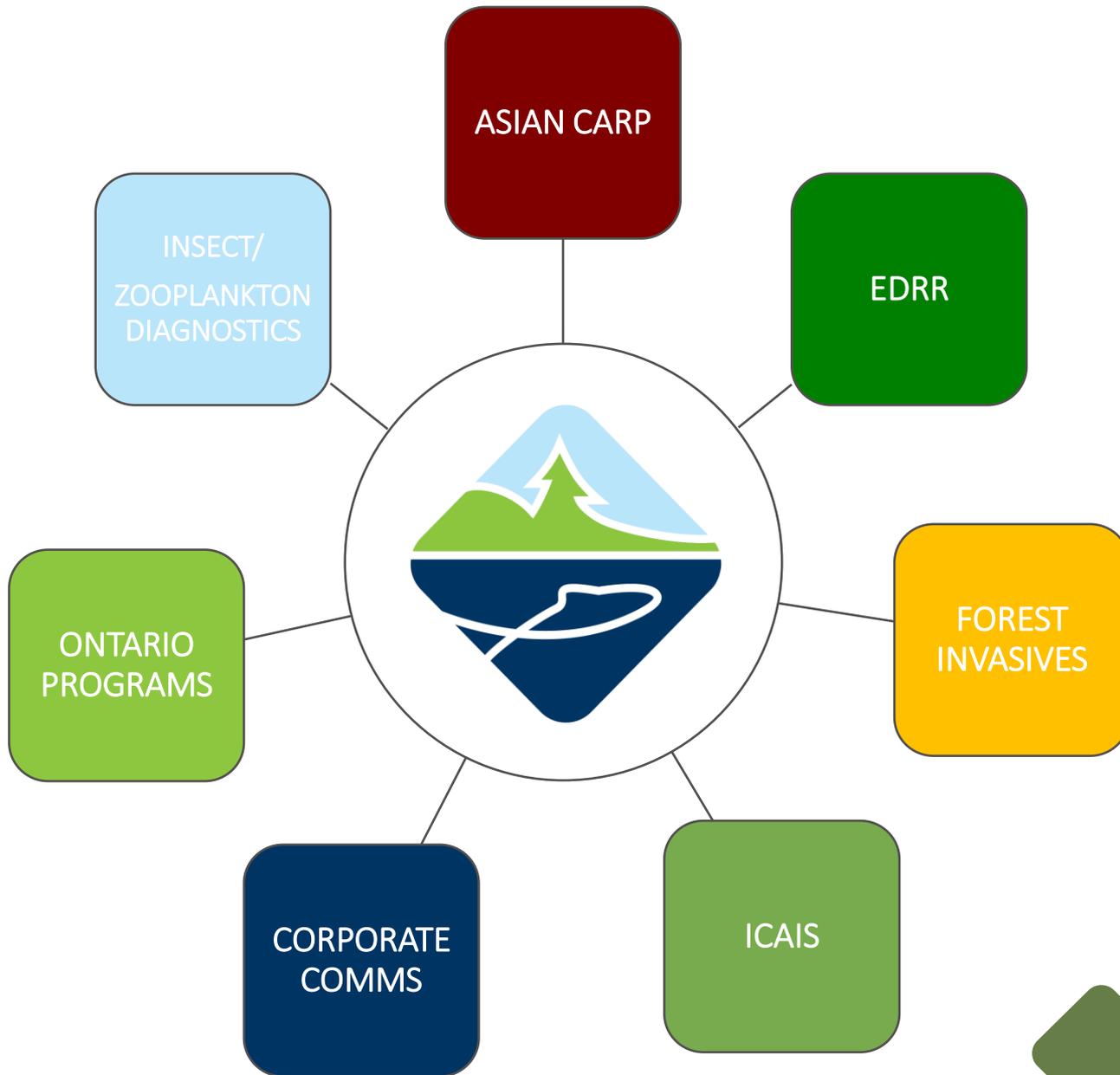


Invasive Species Centre

The **Invasive Species Centre** is a not-for-profit organization that connects stakeholders, knowledge and technology to prevent the introduction and spread of invasive species that harm Canada's environment, economy and society.

Invasive Species Centre





The Early Detection and Rapid Response (EDRR) Network Ontario



Program partners:



EASTERN ONTARIO
MODEL FOREST

www.eomf.on.ca

Program funder:

Ontario
Trillium
Foundation



Fondation
Trillium
de l'Ontario

An agency of the Government of Ontario
Un organisme du gouvernement de l'Ontario



What is EDRR?

- Coordinated by the Invasive Species Centre since 2015
- Community action network aimed at training citizens on how to detect, report and respond to invasive species in Ontario
- Eyes on the ground approach to stopping new introductions or further spread of invasive species in Ontario
- Slowing the spread of invasive species one community at a time!



What do we do?

- Fill invasive species knowledge and tool gaps, and inform communities of incoming threats
- Help coordinate stewardship removals with local organizations and volunteers
- Link partners with invasive species resources, volunteers or other needs
- Opportunities to work on a wide range of organizations on various areas projects



What do we do?

- Help foster **community science and action**
- Resource production and dissemination
- Respond to public inquiries

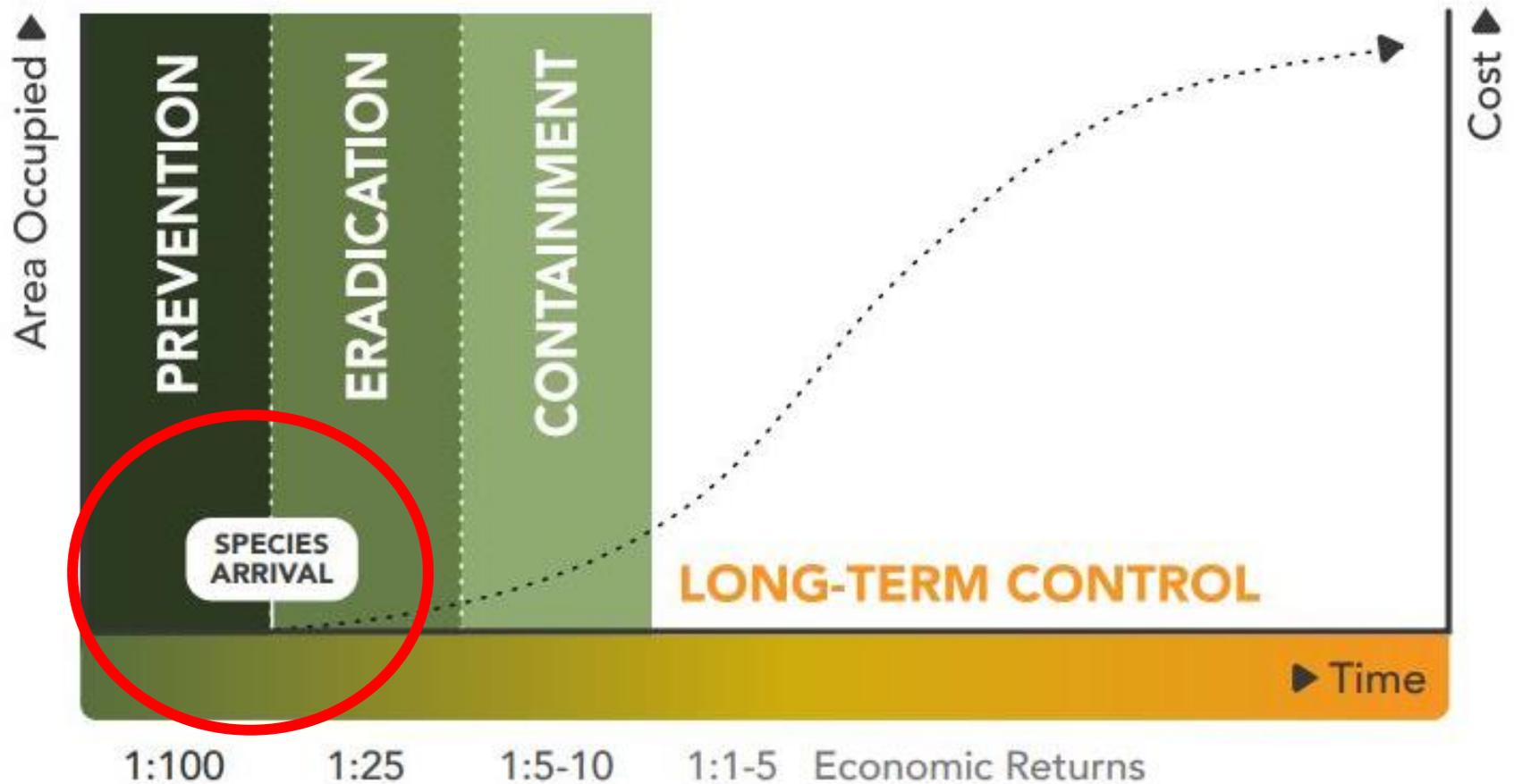


Overarching goal:

Provide the tools, training and resources necessary to help slow the spread and introduction of invasive species in Ontario through **education and outreach**



The Importance of Early Detection



Controlling invasive species before they become established in an area will reduce their impact on human health, biodiversity, the economy and society.

190+

Training workshops, presentations, plant removals and surveys, and outreach events held

17,000

People engaged various training and outreach events



800

Volunteers with

2,500

On-the-ground action hours



History of EDRR

- Started in 2015, partnership between OIPC and ISC
- 2nd OTF Grant moved us into Northern Ontario in 2017
- In August 2019 we wrapped up our last Grow Grant
- In April 2020 we were approved for a 3rd OTF Grant to expand the network into Eastern Ontario



Ontario Trillium Foundation funding acknowledgement event, 2018

Current Focus Area: Eastern Ontario

- Filling invasive species gap needs
- Developing new resources
- Providing presentations, webinars, community science opportunities and outreach to local organizations and the public

Kingston, Rideau and Quinte catchment

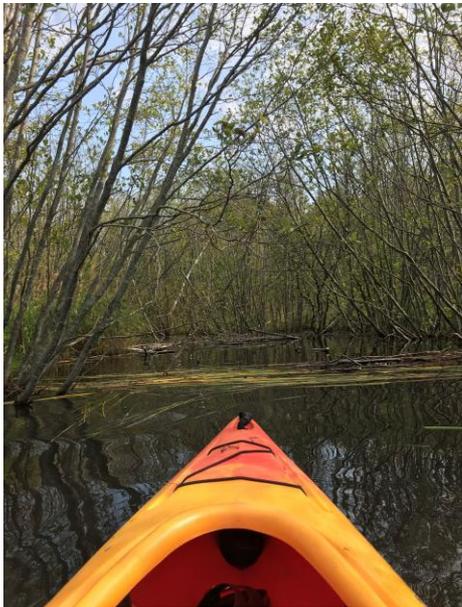


THE INVASIVE SPECIES CENTRE MODEL FOR ESTABLISHING THE EARLY DETECTION AND RAPID RESPONSE (EDRR) NETWORK INTO A NEW COMMUNITY

Our model equips communities with information, tools, and resources for invasive species detection and management. These cyclical, interconnected steps are supplemented by ongoing community consultation and ensure long-term network sustainability.



Examples of Past Events



Lake Huron European frog-bit volunteer survey



Ontario Parks detection training



Thunder Bay garlic mustard pull

Aquatic invasive species workshop



HWA training workshop for land managers



Manitoulin Island workshop



What can you expect from us?



Webinars



Community science opportunities



Early detection alerts and outreach



Outreach and educational materials



Best Management Practices and expertise



Site tours



Presentations



Resource sharing between partners

...and much more!



2020 Collaborations

Webinars



**EUROPEAN GYPSY MOTH
TECHNICAL WEBINAR**

Presented by Taylor Scarr from Natural Resources Canada and Dan Rowlinson from the Ontario Ministry of Natural Resources and Forestry, this webinar will feature updates on the provincial 2020 survey and data collection techniques used in the field. This webinar will also examine best management options for gypsy moth and the measures landowners, land managers and municipalities can take to help slow the spread and protect our forests from this invasive pest. This webinar is presented to you by the Invasive Species Centre's Early Detection and Rapid Response Program and the Eastern Ontario Model Forest.

Wednesday, October 7, 2020 | 10:30 AM - 12:00 PM EST

[CLICK HERE TO REGISTER!](#)



Promoting Community Action Events



EUROPEAN GYPSY MOTH

A destructive pest threatening forests



What is it?	Trees at risk	Impacts
European gypsy moth (EGM), <i>Lymantria dispar dispar</i> is an invasive and destructive pest that poses a risk to deciduous and coniferous tree species.	Gypsy moth has over 300 known plant hosts, including many hardwood and some softwood tree species. Favoured tree species include oak (<i>Quercus</i> spp.), maple (<i>Acer</i> spp.), birch (<i>Betula</i> spp.), white pine (<i>Pinus strobus</i>), and white spruce (<i>Picea glauca</i>).	<ul style="list-style-type: none"> A single gypsy moth caterpillar can eat one square metre of leaves in a season Repeated defoliation makes trees susceptible to other pests and diseases, and can eventually lead to tree death Defoliation in orchards can increase vulnerability to agricultural pests and diseases and can negatively impact farm stock Loss of species in natural areas can affect biodiversity and forest wildlife

Life cycle

Eggs: Tan-coloured and can be found on tree trunks, bark, or other hard surfaces. Egg masses are about 4 cm and contain 100-1,000 eggs.

Larvae: Charcoal grey with a double row of five blue and six red dots on its back. This is the life stage that causes defoliation.

Adult females: Larger than males with white colouring and dark zig-zag markings. Adult females are flightless.

Adult males: Greyish-brown with dark markings and can fly and survive about one week, mating with several different females.



Header: Ryan Hooker, Wikimedia Commons; Egg: Karl Sals; Washington State Department of Agriculture; Buprestid.org; Larvae: Richard Kralj, Pennsylvania; USDA APHIS PHS, Buprestid.org

LA SPONGIEUSE EUROPÉENNE

Un ravageur qui pourrait détruire nos forêts



De quoi s'agit-il?	Arbres en danger	Importance
La spongieuse européenne (<i>Lymantria dispar dispar</i> , European gypsy moth en anglais) est un insecte ravageur envahissant qui menace nos arbres.	La spongieuse s'attaque à plus de 300 plantes connues, dont de nombreux feuillus et gymnos. Parmi ses hôtes favoris, on retrouve le chêne (<i>Quercus</i> spp.), l'érable (<i>Acer</i> spp.), le bouleau (<i>Betula</i> spp.), le pin blanc (<i>Pinus strobus</i>) et l'épinette blanche (<i>Picea glauca</i>).	<ul style="list-style-type: none"> Une seule chenille de spongieuse peut dévorer un mètre carré de feuilles en une saison Une défoliation répétée rend les arbres moins résistants à d'autres ravageurs et maladies, ce qui peut entraîner leur mort Dans les vergers, le défoliation peut causer des pertes de production En milieu naturel, la perte d'espèces menace la biodiversité et la faune sauvage

Cycle de vie

Œufs: de couleur beige, présents sur le tronc, l'écorce ou autres surfaces dures. Une masse d'œufs d'environ 4 cm contient 100 à 1 000 œufs.

Larves (chenilles): gris charbon avec une double rangée de six points bleus et six points rouges sur le dos. Ce sont les chenilles qui dévorent les feuilles.

Femelles adultes: plus grandes que les mâles. Blanchâtres avec bande en zigzag sombre. Elles ne volent pas.

Mâles adultes: gris brun avec marques sombres. Ils volent et survivent environ une semaine, s'accouplant avec différentes femelles.

They: Ryan Hooker, Wikimedia Commons; Œuf: Karl Sals; Washington State Department of Agriculture; Buprestid.org; Larvae: Richard Kralj, Pennsylvania; USDA APHIS PHS, Buprestid.org



ASIAN LONGHORNED BEETLE

A significant threat to deciduous forests.



What is it?	Trees at risk	Impacts
The Asian longhorned beetle (<i>Anoplophora glabripennis</i>) or ALHB is an invasive wood-boring beetle native to China and Korea. It infests and kills numerous hardwood species, including maple trees.	ALHB prefers maples (<i>Acer</i> spp.) over all other genera. It also attacks birch (<i>Betula</i> spp.), poplar (<i>Populus</i> spp.), yellow birch (<i>Betula</i> spp.), and other hardwoods to a lesser extent. It is a threat to Canada's maple syrup industry urban and natural forests.	<ul style="list-style-type: none"> Larvae bore large diameter (9-14 mm) feeding galleries in trunks and branches, causing breakage and eventual death of affected trees. Has the potential to cause catastrophic damage to the maple syrup industry, and to disrupt and degrade natural and urban forest ecosystems. Early detection is key. If uncontrolled, ALHB can have catastrophic financial, cultural and ecological consequences.

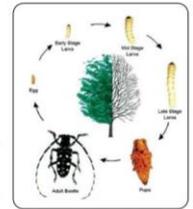
Life cycle

Adults: Adults are active from early summer to early fall. They feed on the bark of twigs periodically throughout the mating and egg-laying period. On sunny days, the adult beetles are most active from mid-morning to early-afternoon. They usually rest in the canopy on cloudy days.

Eggs: In preparation for egg laying, females chew oval pits in the bark in which they lay one egg about 5-7 mm in length. Sap stains are well associated with fresh egg-laying wounds. On average, each female will lay approximately 40 eggs and during that period will lay about 25-40 eggs. The wounds may occur anywhere on the tree, including branches, trunk, and exposed roots. Eggs will hatch in one to two weeks.

Larvae: Young larvae begin feeding in the phloem tissue. As they mature, they migrate into the wood creating tunnels as they feed. These galleries cause tree stress and dieback, and in high densities lead to tree death.

Pupae: Larvae mature into pupae in the galleries before turning into adults in summer. The new adults exit the tree by creating large round exit holes about 10-15 mm in diameter.



Header: Melody Kozma, USDA Forest Service, Buprestid.org
Life cycle: ALHB Life Cycle, North Dakota State University, Michael Falkiewicz, USDA, https://www.nrd.ca.gov/ncrc/ncrc_of_asian-longhorned-beetle/asian-longhorned-beetle-life-cycle

New ISC/EOMF EDRR Resources

invasivespeciescentre.ca
eomf.on.ca



Protecting Canada's land and water from invasive species



Learn about invasive species

- Invasive Species Profiles
- Best Management Practices
- Protect Species at Risk



Get technical information

- Technical Bulletins
- Legislation and Policy
- Economic Impacts
- Risk Assessment Database



Take action

- Early Detection and Rapid Response Network
- Get News
- Upcoming Events



Upcoming Events



Newsletter Sign-Up

To learn more about the EDRR Network and how to get involved visit:

invasivespeciescentre.ca/EDRR

Join our mailing list to get notifications of upcoming events and webinars!

Post-Event Questionnaire

Fill out the quick survey following this event and help us get a better understanding of who is actively monitoring or managing invasive species in Ontario!

- Filling out the survey helps us better serve our communities and helps us reach our project goals





Visit our website to sign up for

- Quarterly newsletters
- Bi-weekly media, research, and events scans
- Event and webinar invitations

www.invasivespeciescentre.ca



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