What are Invasive Species?

Invasive species are non-native plants, animals or pathogen introduced by human activity to new environments that cause harm to the environment, economy, or society.

Giant Hogweed **Credit:** Ontario Invasive Plant Council

In Ontario, invasive species impacts to agriculture, forestry, fisheries, tourism, and municipal infrastructure were estimated at $3.6 billion in 2019 and are rising each year.

Threats posed by Invasive Species in the Town of Halton Hills

Threat	Town Example
Environmental	• Invasive species outcompete native species in natural areas reducing habitat for native species like plants, birds, turtles and other animals. • Round Goby, an invasive fish found in Fairy Lake, outcompetes native fish.
Economic	• Invasive species outcompete native species in natural areas reducing habitat for native species like plants, birds, turtles and other animals. • Round Goby, an invasive fish found in Fairy Lake, outcompetes native fish.
Social	• Dense stands of Phragmites prevent access to and enjoyment of waterbodies, such as Fairy Lake. They can also interfere with sight lines along rural roads. • Giant Hogweed, found on roadsides and stream banks, can cause severe skin rashes, blisters, and potential permanent blindness. • Invasive species can reduce biodiversity, reducing enjoyment from nature recreation.

Examples of how Invasive Species Cost us

Phragmites

Adding Costs to Road Improvements

When the Region of Halton was expanding Trafalgar Road they found many of the ditches were filled with Phragmites (also known as European common reed), an invasive wetland plant listed as “restricted” in Ontario.

Phragmites is one of North America's most destructive invasive plants because it aggressively outcompetes native vegetation and forms dense and tall monocultures. These dense stands destroy native biodiversity, pose fire hazards, clog ditches and reduce sightlines along roads and waterfronts.

To mange this threat, the Region required the contractor to treat and dispose of the invasive Phragmites at an additional cost of about $710,000.

Source: Society of Botanical Artists, 2025

Emerald Ash Borer

Killing our Urban Forests

Ash trees represented a significant portion of Ontario's urban forests in many municipalities before the Emerald Ash Borer outbreak, commonly comprising 10% to 20% of the tree canopy.

The Emerald Ash Borer is a highly destructive, invasive green beetle from Asia that kills ash trees by feeding under the bark.

This small invasive insect has been responsible for well over 50% of municipal spending** on invasive plant management in Ontario over the past decade or so.

This management has included the removal of high risk and dead trees, selective chemical treatments, and replanting to replace trees removed.

Reported costs of management are in the millions (e.g., $4 million over 12 years in the City of Peterborough, $51 million over 10 years in the City of Mississauga, and $100 million in the City of Toronto over the past decade or so).

*** Estimated Expenditures on Invasive Species in Ontario: 2019 Survey Results (R. J. Vyn, 2019)*

Source: Penn State Extension, 2025

Invasive Species in Halton Hills

Invasive species are one of the greatest risks to sustaining biodiversity, natural areas and tree population, and the important services these “green assets” provide. They can also cause harm to infrastructure, create health and safety risks, and have a negative impact on our local economy. Recognizing this, in 2024, the Town partnered with Credit Valley Conservation to complete an Invasive Species Study for Halton Hills.

The Key findings from the study include:

Invasive species are **more numerous and widespread**

53 more species are at risk of arriving in the future

155 Invasive species were identified in Halton Hills

94% of invasive species are plants

60% can significantly harm natural habitats

EXAMPLES OF INVASIVE SPECIES IN HALTON HILLS

- Dog-strangling vine
- European buckthorn
- Garlic mustard
- Norway maple
- Phragmites
- Purple loosestrife
- Round goby
- Spongy moth

Because invasive species can negatively impact infrastructure, green assets, ecosystems, the economy, and community well-being, the 2024 study recommended that the Town develop an approach to proactively manage invasive species. Council approved the 2025 capital project to develop an Invasive Species Management Framework to ensure data-informed and cost-effective invasive species management decisions.

Managing Invasive species

When municipalities invest in prevention, early detection and proactive management, the longer-term costs of controlling invasives that pose serious threats are much lower and the effectiveness is greater.

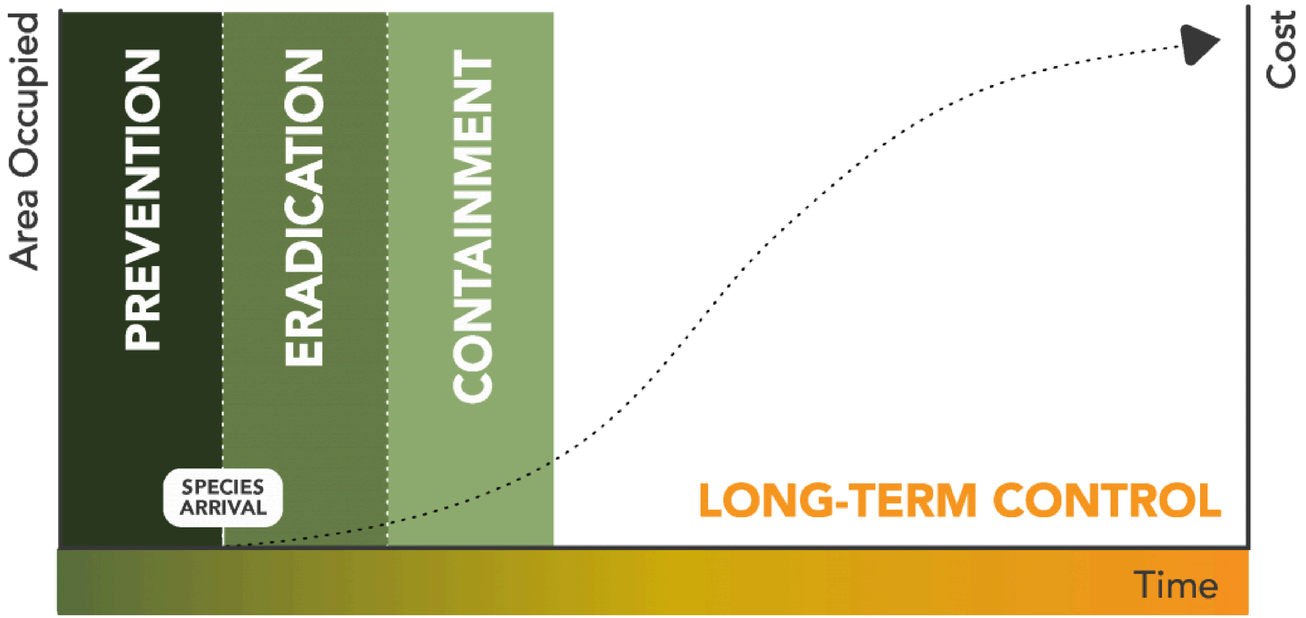

Illustration of how invasive species management costs are lowest at the prevention stage
Credit: Invasive Species Centre

Since the 1990s, the Town has managed and controlled certain invasive species in a reactive and ad-hoc way by ...

- Focusing on addressing urgent threats to health and safety of community or infrastructure after they arise.
- Collaborating with community groups and others as opportunities arose.

Having an Invasive Species Management Framework will help avoid or minimize impacts on the community and infrastructure by ...

- Guiding prioritized management of certain species and areas.
- Outlining a program focused on proactive and cost-effective prevention and management strategies.
- Emphasizing collaboration, partnerships, and community knowledge.
- Strengthening grant applications to help fund Town management activities.

Management Approach

The Town's draft Invasive Species Management Framework follows best practices divided into four approach areas:

Prevention and Protection

Prevention: Focuses on stopping the arrival and introduction of invasive species.

Protection: Relates to the actions taken to safeguard native ecosystems and other assets as needed from the impacts of established invasive species populations.

Collaboration and Engagement

Effective management requires a collaborative approach with various agencies and organizations to help gather data, track changes in species status, and undertake invasive species control and related habitat restoration where it is identified as a priority.

Prioritization and Management

It is not possible or feasible for all the Town's invasive species to be fully eradicated or controlled. Therefore, prioritization is needed to determine how and where available resources can be directed most effectively.

Monitoring and Evaluation

Monitoring and evaluation at the site-specific and Town-wide scales is key to informing species tracking, supporting an adaptive management approach, and guiding/updating management priorities.

Prevention and Protection Approach

What We Want to Do:

- Build capacity to support proactive invasive species management.
- Prioritize initiatives focused on preventing new invasive species from being established.
- Protect the community and the environment in the Town from serious social, economic and environmental impacts caused by established invasive species.

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Possible Actions

1. Build internal capacity to manage invasive species proactively and implement this Framework.
2. Develop and implement annual workplans to ensure priority activities are being advanced.
3. Track and update watch list species to help ensure any occurrences in the Town are identified and contained quickly.
4. Train staff/contractors and to assist with invasive species identification and best practices.
5. Update operational processes to avoid spreading invasive species.
6. Develop and maintain invasive species maps and data to share internally, with partners and the community.
7. Develop an Early Detection and Rapid Response (EDRR) Plan to be prepared when outbreaks occur and require action.

**** put a dot beside the numbers you think are most important***

“STICK” YOUR THOUGHTS HERE

Share any ideas or feedback on the Prevention and Protection Approach

TOWN OF HALTON HILLS

Collaboration and Engagement Approach

What We Want to Do:

- Build awareness and encourage action through outreach and education.
- Expand capacity by supporting and collaborating on stewardship initiatives with local First Nations, residents, businesses, community groups and other partners.
- Streamline communications and coordination with local agencies and all levels of government to enable information sharing, mutual support, and effective responses to identified threats.

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Possible Actions

1. Pursue external funding opportunities (grants) to enhance the Town's capacity for active management.
2. Encourage and support local stewardship through outreach and partnerships.
3. Engage with First Nations and other interested Indigenous peoples.
4. Develop a Community Communications Program to support effective outreach.
5. Enhance internal communications and coordination to keep Staff and Council informed.
6. Improve collaboration with governmental agencies and non-governmental organizations to stay on top of changes in species statuses, new funding opportunities, resources, etc.

**** put a dot beside the numbers you think are most important***

“STICK” YOUR THOUGHTS HERE

Share any ideas or feedback on the Collaboration and Engagement Approach

TOWN OF HALTON HILLS

Prioritization and Management Approach

What We Want to Do:

- Use tools developed for the Town to prioritize species and areas for management and restoration.
- Use established, safe and proven approaches for managing priority invasive species to reduce their spread and impact.
- Be prepared to respond to urgent invasive species outbreaks or issues.

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Possible Actions

1. Use the implementation tools being created as part of this Framework to prioritize species and/or sites for active management.
2. Identify priority natural areas for invasive plant management and restoration to help guide community and partner stewardship efforts.
3. Identify priority green assets outside natural areas for invasive species management based on identified concerns (e.g., trail safety, stormwater pond functioning, etc.).
4. Develop multi-year management plans for priority species and areas to ensure invasive species are effectively controlled.

**** put a dot beside the numbers you think are most important***

“STICK” YOUR THOUGHTS HERE

Share any ideas or feedback on the Prioritization and Management Approach

TOWN OF HALTON HILLS

Monitoring and Evaluation Approach

What We Want to Do:

- Understand and characterize the status of invasive species in the Town and changes in their status over time.
- Share monitoring results widely and use these results to guide future efforts and adaptive management.

Possible Actions

1. Complete a baseline inventory of priority invasive plant species focusing on Town properties.
2. Monitor the Town's priority invasive species - including species that are nearby but not yet in Halton Hills.
3. Evaluate and report back on Town-wide invasive species management to keep the community informed and engaged on this topic.

**** put a dot beside the numbers you think are most important***

Monitoring: The continual process of tracking the spread, abundance, and impact of a known and potential invasive species.

Evaluation: Evaluation ensures the findings of monitoring are considered and can inform updates to management approaches and priorities going forward.

Adaptive Management: A structured, iterative approach for improving management practices by tracking and learning from the outcomes of strategies or programs.

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“STICK” YOUR THOUGHTS HERE

Share any ideas or feedback on the Monitoring and Evaluation Approach

TOWN OF HALTON HILLS

Prioritizing Management

As part of this Framework, the Town is developing Prioritization tools to help identify the most critical species and locations that need management.

The Top Priority for Management will be:

- Regulatory: When the Town is required to take management action based on Provincial or Federal legislation.
- Health and Safety (human and infrastructure).

What is most important to you for the Town to consider when prioritizing invasive species management?

Remaining outbreaks will be scored considering the following criteria, and will be managed in priority of highest score:

- Economic (e.g., threat to agriculture, forestry).
- Ecological / Biological (e.g., threat to natural area).
- Social / Cultural (e.g., threat to area of cultural value or significance).
- Landscape Context / Logistical (e.g., can it be controlled with available methods?).
- Resource Requirements (e.g., do we have access to the needed funds, tools and/or labour?).

“STICK” YOUR THOUGHTS HERE

Share any ideas or feedback on Prioritizing Management

TOWN OF HALTON HILLS