The Corporation of the City of Stratford

Community Services Committee

Open Session

AGENDA

Date:	Monday, July 22, 2024
Time:	7:05 P.M.
Location:	Council Chamber, City Hall
Committee Present:	Councillor Beatty - Chair Presiding, Councillor Henderson - Vice Chair, Mayor Ritsma, Councillor Biehn, Councillor Briscoe, Councillor Burbach, Councillor Hunter, Councillor Sebben, Councillor McCabe, Councillor Nijjar, Councillor Wordofa
Staff Present:	Joan Thomson - Chief Administrative Officer, Audrey Pascual - Deputy Clerk, Tim Wolfe - Director of Community Services, Kim McElroy - Director of Social Services, Karmen Krueger - Director of Corporate Services, Taylor Crinklaw - Director of Infrastructure Services, Adam Betteridge - Director of Building and Planning Services, Neil Anderson - Director of Emergency Services/Fire Chief, Dave Bush - Director of Human Resources, Miranda Franken - Council Clerk Secretary

To watch the Committee meeting live, please click the following link:
https://video.isilive.ca/stratford/live.html
A video recording of the meeting will also be available through a link on the City's website https://calendar.stratford.ca/meetings following the meeting.

Pages

1. Call to Order

The Chair to call the Meeting to Order.

2. Disclosure of Pecuniary Interest and the General Nature Thereof

The *Municipal Conflict of Interest Act* requires any member of Council declaring a pecuniary interest and the general nature thereof, where the interest of a member of Council has not been disclosed by reason of the member's absence from the meeting, to disclose the interest at the first open meeting attended by

the member of Council and otherwise comply with the *Act.*

Name, Item and General Nature of Pecuniary Interest

3. Sub-committee Minutes 1 - 2

As quorum was not reached at the July 11, 2024, Community Services Sub-committee meeting, the meeting was adjourned.

4. Delegations

4.1 Request for Delegation by the Friends of the Shakespearean Gardens 3 - 11

Reg White, Chair of the Friends of the Shakespearean Gardens will be speaking to Committee to provide information about the group and their activities.

Motion by
THAT Reg White, Chair of the Friends of the Shakespearean Gardens, be heard.

5. Report of the Council Committee Coordinator

5.1 Stratford Invasive Plant Plan 2024 (COM24-006) 12 - 80

Motion by
Staff Recommendation: THAT the Stratford Invasive Plant Plan be adopted;

AND THAT staff be directed to implement the recommendations contained in the Plan and to include sufficient resources and funding in the annual budget process for Council's consideration.

6. For the Information of Committee

6.1 Advisory Committee/Outside Board Minutes 81 - 93

The following Advisory Committee Minutes are provided for the information of Committee:

- Communities in Bloom Advisory Committee of March 7, 2024
- Communities in Bloom Advisory Committee of April 4, 2024
- Communities in Bloom Advisory Committee of May 9, 2024

7. Adjournment

Meeting Start Time:
Meeting End Time:

Motion by
Committee Decision: THAT the Community Services Committee meeting adjourn.

The Corporation of the City of Stratford
Community Services Sub-committee
MINUTES

Date:	July 11, 2024
Time:	4:30 P.M.
Location:	Council Chamber, City Hall
Sub-committee Present:	Councillor Henderson - Vice Chair, Councillor Sebben
Regrets:	Councillor Beatty - Chair Presiding, Councillor Briscoe, Councillor Wordofa
Staff Present:	Tim Wolfe - Director of Community Services, Danielle Clayton - Recording Secretary, Miranda Franken - Council Clerk Secretary, Victoria Trotter - Council Clerk Secretary

As quorum was not present at the July 11, 2024, Community Services Sub-committee meeting it was adjourned at 4:45 p.m.

1. Call to Order

The Chair to call the Meeting to Order.

Land Acknowledgment

Moment of Silent Reflection

Respectful Workplace Policy Statement

2. Disclosure of Pecuniary Interest and the General Nature Thereof

The *Municipal Conflict of Interest Act* requires any member of Council declaring a pecuniary interest and the general nature thereof, where the interest of a member of Council has not been disclosed by reason of the member's absence

from the meeting, to disclose the interest at the first open meeting attended by the member of Council and otherwise comply with the *Act.*

Name, Item and General Nature of Pecuniary Interest

3. Delegations

3.1 Request for Delegation by the Friends of the Shakespearean Gardens

Reg White, Chair of the Friends of the Shakespearean Gardens will be speaking to Sub-committee to provide information about the group and their activities.

Motion by
THAT Reg White, Chair of the Friends of the Shakespearean Gardens, be heard.

4. Department Update

The Director/Manager to provide an update on department activities and ongoing projects.

5. Advisory Committee/Outside Board Minutes

The following Advisory Committee Minutes are provided for the information of Sub-committee:

- Communities in Bloom Advisory Committee of March 7, 2024
- Communities in Bloom Advisory Committee of April 4, 2024
- Communities in Bloom Advisory Committee of May 9, 2024

6. Next Sub-committee Meeting

The next Community Services Sub-committee meeting is September 12, 2024 at 4:30 p.m. in the Council Chamber, City Hall.

7. Adjournment

Meeting Start Time:
Meeting End Time:

Motion by
Sub-committee Decision: THAT the Community Services Sub-committee meeting adjourn.

THE HISTORY OF STRATFORDS SHAKESPEAREAN GARDEN

1904...STRATFORDS BOARD OF PARK MANAGEMENT IS CREATED

1870s THE DUFTON WOOLEN MILL HAD BEEN IN OPERATION FOR YEARS

1912...THE DUFTONS BUILD A NEW FACTORY CHIMNEY

1922...DUFTON WOOLEN MILL IS ENGULFED IN FLAMES

THE DUFTONS DECIDED NOT TO REBUILD

1922 VISIONARY AND ORIGINAL PARK PROPONENT R.T. ORR LOBBYS CITY COUNCIL

TO PURCHASE THE SITE

1922...THE SITE INCLUDED A SMALL ISLAND WHICH WOULD ENTHRALL MOST CHILDREN IN THE FUTURE

1925...THE CITY PURCHASES THE HURON ST PROPERTY ALONG THE RIVER

1926...ORR RECEIVES APPROVAL TO BUILD A HANDSOM SUPERSTRUCTURE ON

TOP OF THE DUFTON CHIMNEY TOWER... WITH CONICAL ROOF ..BIRD BOXES AN WEATHER VANE

1930s... INTERNATIONAL FINANCIAL CRASH AND FOLLOWING DEPRESSION HALTS

ALL PROJECTS EVERYWHERE

1934...FINANCIAL WORLD RECOVERS AND R T ORR RECEIVES APPROVAL TO BEGIN THE GARDEN

1934 CANADAs RESPECTED LANDSCAPING FIRM DUNNINGTON GRUBB AND STENSON ARE

HIRED TIO PROVIDE BLUEPRINTS FOR THE GARDEN

1936...STRATFORDS NEW SHAKESPEAREAN GARDEN OPENS WITH CANADAS GOVERNOR GENERAL LORD TWEEDSMUIR

AS THE CITYS GUEST

1936...ONE OF THE GUESTS AT THE OPENING WAS SIR ARCHIBALD FLOWER OF THE BRITISH SHAKESPEARE TRUST WHO

PRESENTED A SUN DIAL FOR THE KNOT GARDEN

IT SHOULD BE SAID THAT R.T.ORR WAS THE GARDENS FOUNDER

1949...A CITY SERVICE CLUB RAISED FUNDS FOR A BUST OF WILLIAM SHAKESPEARE CREATED BY CANADIAN SCULPTOR CLEEVE HORNE WHOSE

WORK IS IN CANADAs NATIONAL GALLERY IN OTTAWA

1953...STRATFORDS INTERNATIIONAL THEATRE OPENED CHANGING THE CITY FOR EVER AND BRINGING

UNTOLD THOUSANDS OF VISITORS TO THE GARDEN

1958..A STRATFORD FAMILY CONTRIBUTED A DRINKING FOUNTAIN FOR GARDEN VISITORS

1960...THE GARDEN UNDERWENT A RESTORATION AND ONTARIOs LIEUTENAT GOVERNOR PAULINE MCGIBBON OFFICIATED AT THE

OPENING

SITE EXPANSION

1960...THE GARDEN SITE WAS EXPANDED BY THE PURCHASE OF LAND TO THE WEST OF THE ORIGINAL SITE

WHICH HAS BECOME AN WOODLAND OASIS

1960...A HANDSOM GAZEBO WAS GIFTED TO THE GARDEN AND IT NOW CROWNS THE WOODLAND AREA

SUPPORT ORGANIZATION

2017/2018 A NEW ORGANIZATION WAS FORMED TO SUPPORT THE BOARD OF PARK MANAGEMENT

THEY ADOPTED THE NAME....FRIENDS OF THE SHAKESPEAREAN GARDEN

2020...THE HORTICULTURAL SOCIETY DONATED AN URN AS A FOCAL POINT IN THE GARDEN

2022...THE FRIENDS CONTRIBUTED 50 ROSES BUSHES TO RESTORE THE ROSE GAREN

2021 AND 2022 THE FRIENDS CREATED AND PUBLISHED TWO VISITOR BROCHURES SEE ENCLOSED COPIES

2022 AND 2023 AND 2024..THE PEONY SOCIETY OF CANADA HAS DONATED 100 PEONY PLANTS

FOR THE LONG BED IN THE GARDEN THIS GIFT IS VERY SIGNIFICANT IN NUMBER OF PLANTS BUT FINANCIALLY AS WELL

IN 2022 THE FRIENDS WERE DELIGHTED TO HAVE INTERNATIONAL MUSICIAN ..LOREENA MCKENNITT AGREE TO BE THE PATRON OF THE FRIENDS

2023...IN DECEMBER THE FRIENDS MET WITH STRATFORDS PLANNING DEPARTMENT AND THE HERITAGE DEPARTMENT AND WITH MEMBERS OF THE FRIENDS TO BEGIN THE PROCESS OF HERITAGE RECOGNITION FOR THE HISTORIC GARDEN

2024...THE FRIENDS WILL CREATE AND BEGIN A NEW WEB SITE

2024...IN 2024 STRATFORDS SHAKESPEAREAN GARDEN WILL BE 88 YEARS OLD AND IN TERMS OF CANADA THAT IS AN HISTORIC ACHIEVMENT

1953 The Stratford Shakespeare Festival opened and the City of Stratford changed forever attracting hundreds of thousands of visitors from across North America and ultimately the City has hosted a million guests yearly.

In the 1960s The garden property was expanded by the acquisition of the woodland area providing our visitors with formal gardens and an environmental oasis.

1970 Woodland Garden receives donation of handsome gazebo.

2018-2019 A group of garden enthusiasts formed an organization, The Friends of Stratford's Shakespearean Garden. It was and is as the Friends go forward, a support group to the Board of Park Management in the Board's ongoing effort to maintain the historic garden here at Stratford. The Friends first supportive effort was the designing and publishing of the first ever visitors brochure for the garden in rich colours of red and gold.

In 2021 The Stratford and District Horticultural Society offered to donate a focal point urn at the end of the longpath.

In 2022 The Friends contributed the funds for fifty David Austen roses to completely renovate the rose garden.

In the winter of 2021/2022 For the first time ever an evening light show was installed in the garden by Lights On Stratford.
It was delightful and the lights on ***The Dufton Chimney*** foreshadowed the Friends of the Shakespearean Garden proposed floodlighting of ***The Dufton Chimney*** in the future.

2022/2023 Perhaps the most significant donation will be the planting of over 100 peony clumps to be installed in 2023. This very generous contribution is a gift of the Canadian Peony Society who will be celebrating their 25th anniversary in 2023.

Published by

Friends of the Stratford Shakespearean Garden
Suite 304, Park Towers
35 William St.
Stratford, Ontario Canada
N5A 4X9

Printed and designed by Stratford Business Centre

Stratford Shakespearean Gardens

Stratford, Ontario Canada • 1936

- Loreena McKennitt -
Patron of The Friends of the Garden

Photo by Kevin Petrie

The Dufton Woolen Mill Chimney Tower
survived the 1922 Mill fire to become a city landmark

Stratford's Shakespearean Garden with it's *Dufton Chimney Tower*

1870 The Dufton Woolen Mill was built on Huron Street along the Avon River

1878 Stratford Horticultural Society was formed.

1885 Stratford was incorporated as a city.

1904 Stratford's Board of Park Management is created

1910 *The Dufton Chimney* was built.

1917-1918 During this time as a staunch supporter of the park system, visionary R. T. Orr was mulling over another interesting project and that was a Shakespearean Garden for Stratford.
Orr looked along the developing river and could not find an appropriate garden site.

1918 Swans were introduced to the Avon River system for the first time.

1919 The City of Stratford declared the Iris as our civic flower.

1922 While R. T. Orr Stratford's visionary pondered about an appropriate garden location which he could not find, fate intervened with a devastating fire at the Dufton Woollen Mill on Huron Street.
The property if it could be purchased was ideal. The property was along the Avon River and the handsome and imposing Perth County Court House was on the other side.
After the fire the Dufton family assessed their losses and decided not to rebuild. The 65' *Dufton Chimney* survived the fire.

- Loreena McKennitt -
Patron of The Friends of the Garden

When R. T. Orr heard about the Dufton decision he began lobbying city council friends to consider purchasing the property. When the sale price was announced, Stratford City Council balked at what they considered an exorbitant dollar figure. Unfortunately for the Duftons they did not receive any offers for the property and finally they agreed to the city's offer.

1925 The City of Stratford acquired the Dufton Mill Site.

R. T. Orr who was a historian and a architect by profession and a savvy business man surveyed the burnt out site and stored away most of undamaged handsome quarry stone.
Then he sold much of the salvageable materials still on the site and those funds were returned to the city coffers thus reducing the city's cost of the property significantly.

1926-1927 Orr was pleased that the fire did not damage the factory chimney. As an architect he designed a handsome superstructure which contained bird boxes...a conical roof and topped with a weather vane.
During this time Orr travelled to Britain to find garden ideas and there he met the Shakespeare Birthplace Trust Chairman Sir Archibald Flower who would later donate an urn for the garden.

1929 With all the exciting garden developments no one expected the financial crash of the twenties and the following depression.
All building projects everywhere shut down for years and it would take 14 years for R.T. Orr's garden project to be realized.

In 1934 and 1935 Sensing an improved financial situation, R.T. Orr received City approval to restart the garden construction and as well at that time the City had contracted with Canada's celebrated landscape architects Dunnington, Grubb and Stenson to produce working blueprints for the garden site.

In 1936 the City of Stratford invited Canada's Governor General Lord Tweedsmuir and his wife to open the garden.

In 1937 The Province of Ontario designated the native trillium plant as the Province's official flower emblem.

Photo by Kevin Petrie

1949 the Sons of England commissioned a handsome bust of William Shakespeare and it was installed in the rose garden with the Canadian sculptor Cleeve Horne in attendance.

Stratford Shakespearean Garden

is now over eighty years of age. Our garden is the only complete garden of its kind in Canada and has a number of components which we describe below.

Woodland Garden

Many years ago the parks board were able to acquire a rather large property addition to the Shakespeare Garden site. The most westerly part of the garden is a beautiful natural area surrounded by trees and provides all visitors with a tranquil area to sit and rest. Crowning the middle of the sylvan Garden is an unexpected pergola providing a garden enhancement.

Rose Garden

The original intention was to have York and Lancaster roses and perhaps in the near future research will provide the garden once again with those rose varieties. The most significant element in this formal area is the handsome sculpture of William Shakespeare designed by Canadian sculptor Cleeve Horne. The dramatic pose of the bust suggests not so much an accurate depiction of the poet but a suggestion of greatness whcih has come down through the ages.

The Chimney

The chimney provides our garden with a dramatic element in that it is a 60 foot high original factory chimney which survived a disastrous fire in 1922. Mr. Thomas Orr had hoped that the chimney top could serve as a bird sanctuary, however, there were unforseen problems and so the nesting boxes were sealed permanatley years ago.

Sun Dial

The Knot Garden is designed as a quadrant with changing colour choices from year to year. Featured in the middle is the original sundial presented to R. Thomas Orr for his developing of Shakespeare Gardens, here in Stratford. Britain's Sir Archibald Flower, who at the time was in charge of Stratford's Shakespeare Trust. It is hoped that the sundial, which was vandalized some years ago, will find a sponsor to restore the dial.

The Island

Sitting in the middle of our Avon River adjoining the more formal area of the garden is an island measuring 130 ft by 30 ft. It provides us with intriguing mystery. Research has provided us with the information that the island was to have a formal element as well, however, for whatever reason that intent was not carried out. Perhaps at some point some enterprising landscape student will offer to design an appropriate island design for Stratford's historic Shakespeare Gardens.

Long Bed

Perhaps the most striking and visually attractive garden element is the long bed. A 270 foot long garden, running through most of the formal area filled from spring to fall with spring bulbs and the summer annuals providing for most of our visitors a garden size and length not usually seen anywhere by most visitors.

The Knot Garden

The first garden section is in the form of a quadrant as was the custom of Elizabethen/Shakesperian gardening. During summer, it has been filled with colourful summer plants.

The Common - A Lawn Element

Occupying a large area of the garden is a beautiful open central space with a handsome green lawn which reminds one of the public spaces in early times in which the community gathered to socialize.

R. Thomas Orr

The city of Stratford has had the good fortune of having a local citizen, R. Thomas Orr who was a trained architect, a historian and a visionary who strongly urged the community and city council to create a park system with a Shakespeare Garden both of which are known nationally and internationally. It is most fitting that the province of Ontario's Heritage Foundation installed a commemorative plaque on the river drive to honour the Stratford visionary who "wanted the best" for his various community projects. That personal ideal of R. Thomas Orr is now Stratford's beneficiary.

A history

- **1900's** - Today's Garden site was originally the site of the Dufton Woolen Mill
- **1903** - Parks Board proposal to City Council was promoted by R. Thomas Orr
- **1904** - A public vote was held and the proposal was passed
- **1911-12** - Canadian Pacific Railway proposes a Railway spur through the developing park area and very contentious arguments enveloped the community
- **1913** - A referendum was held and the park proponents won a narrow victory
- **1922** - A disastrous Woolen Mill fire forced the Dufton family to halt mill operations permanently
- **1926** - The Dufton site was finally cleared of debris and R. Thomas Orr was intent in his interest in creating a garden on the old Mill site
- **1927** - Mr. Orr travelled to Britain to find information and ideas for his proposed garden
- **1929** - The International Stock Market collapse halted the garden proposal for some years
- **1935** - Sensing that the time was more favourable, Mr. Orr once again pushed for his garden project. Council passed the proposal and a landscaping firm was hired to design a terraced site
- **1936** - The City invited Canada's Governor General, Lord Tweedsmuir, to officiate at the garden dedication
- **1949** - The Sons of England - A local organization donated funds to have Canadian Sculptor Cleeve Horne of Toronto create a striking bust of William Shakespeare, now gracing the Rose Garden

Vice Regal Visits to the Shakespeare Gardens

Stratford's Parks board was honoured in 1936 when the then Governor General of Canada Lord Tweedsmuir accepted an invitation to officiate at the opening of our Stratford Garden - probably unique in Canada at the time. In 1947 once again a vice regal visit was made to the classic city when Governor General Lord Alexander and his wife toured the garden. In 1978 after the long garden was renewed by a Stratford volunteer of the Horticultural Society of Stratford, the board invited Ontario's Lieutenant Governor Pauline McGibbon to re-open the garden.

A Shakespearean Garden by it's style, is actually Elizabethan, thus we display Queen Elizabeth the first, Coat of Arms.

Friends of the Shakespearian Garden
P.O. Box 21004 Stratford, ON N5A 7V4

Shakespearean Gardens

Stratford, Ontario Canada

Stratford's Elegant Park System

MANAGEMENT REPORT

Date: July 22, 2024
To: Community Services Committee
From: Victoria Trotter, Council Committee Coordinator
Report Number: COM24-006
Attachments: Stratford Invasive Plant Plan,
Invasive Plant Management Training

Title: Stratford Invasive Plant Plan 2024

Objective: To consider a recommendation from the Energy & Environment Advisory Committee to adopt the 2024 Stratford Invasive Plant Plan.

Background: In early 2023 the Ecological Working Group of the Energy & Environment Advisory Committee met with the Manager of Parks, Forestry and Cemetery to discuss how to best deal with invasive species and the process to move forward with the development of an invasive species management plan. At the March 2, 2023 meeting, the following motion was made by the Committee:

THAT the Energy & Environment Advisory Committee recognizes the value and recommends the development of an Invasive Species Management Plan for the City.

At the May 23, 2023 Regular Council meeting, Council adopted the following recommendation of the Infrastructure, Transportation and Safety Committee:

THAT the City of Stratford recognizes the value of an Invasive Species Management Plan for the City as a first step towards the goal of reducing invasive species in the City;

AND THAT staff be directed to develop an Invasive Species Management Plan for consideration of Council;

AND THAT Lot Maintenance By-law 94-2008 be amended to include Japanese Knotweed and Phragmites in the list of noxious weeds.

The Manager of Parks, Forestry and Cemetery contacted the Invasive Species Centre in Sault Ste. Marie, who have provided technical experience and produced substantial

supporting material for invasive species plans. The Invasive Species Centre provided a three-step proposal for the City of Stratford to develop a strategy for staff and volunteers to manage invasive species.

At the December 7, 2023 meeting, the following motion as made by the Committee:

THAT the Energy & Environment Advisory Committee spends $13,842.50 (HST included) from their 2023 Budget for a proposed Master Plan for Invasive Species as presented by the Invasive Species Centre, to continue their work by creating an Invasive Species Management Strategy for the City of Stratford.

Analysis: In April 2024 the Invasive Species Centre completed the Stratford Invasive Plant Plan (the Plan) and Invasive Plant Management Training.

At the May 2, 2024 Energy & Environment meeting the following motion was made by the Committee:

THAT the Energy & Environment Advisory Committee recommends that Stratford City Council adopt the Stratford Invasive Species Plant Plan and for City staff to follow its recommendations.

The Plan states invasive species are considered one of Canada's greatest threats to the survival of our native biodiversity and provides recommendations on management, prevention, and strategies.

A high-level overview of prevention includes staying informed on emerging and arriving threats, enhanced monitoring for Watch List species in priority areas, increase in public awareness and introduction of new policies.

Management includes continuing with current trail inspections, tracing the pattern of infestations, implementing control of high priority species, identifying potential candidates for eradication and incorporation of research and adaptive management.

The Plan recommends establishing a small, annual baseline funding amount as part of the implementation of an invasive plant strategy. Baseline funding would need to be a part of the annual budget process.

Staff in the Community Services Department have reviewed the Plan and have no concerns with adoption subject to the understanding that recommendations in the Plan will be implemented as funding allows.

The Plan recommends including funds in the annual budget to meet the recommendations and reduce invasive species in the City. The Plan does not include the costs associated for completing the recommendations. Staff will be reviewing the Plan

and including the financial impacts of implementation in the departmental workplans and budget for 2025 and subsequent years.

Financial Implications:

Financial impact to current year operating budget:
The impact on the 2024 budget is reflected in the costs approved for the plan. While this project was authorized in 2023, the payment of phases two and three, along with an offsetting transfer from reserve occurred in 2024, resulting in a variance to the 2024 budget for both the revenue and expense lines, and no bottom-line impact.

Financial impact on future year operating budget:
To be determined.

Alignment with Strategic Priorities:

Work Together for Greater Impact
This report aligns with this priority as reducing invasive species will require support from the community.

Alignment with One Planet Principles:

Land and Nature
Protecting and restoring land for the benefit of people and wildlife.

Staff Recommendation: THAT the Stratford Invasive Plant Plan be adopted;

AND THAT staff be directed to implement the recommendations contained in the Plan and to include sufficient resources and funding in the annual budget process for Council's consideration.

Prepared by:	Victoria Trotter, Council Committee Coordinator
Recommended by:	Tatiana Dafoe, City Clerk
	Karmen Krueger, CPA, CA, Director of Corporate Services
	Joan Thomson, Chief Administrative Officer

Invasive Species Centre

Stratford Invasive Plant Plan

Prepared by:
Colin Cassin and Emily Posteraro
Invasive Species Centre
Sault Ste. Marie, ON

Completed for the Corporation of the City of Stratford

Table of Contents

Table of Figures

Figure Description *Page Number*

Table of Tables

Table Description *Page Number*

Introduction

Invasive species are considered one of Canada's greatest threats to the survival of our native biodiversity. Non-native species arrive from other parts of the world unintentionally through several different pathways or are brought intentionally through horticulture or pet trades. When they establish, spread, and cause negative ecological, societal, or economic impacts in their non-native range, they are considered invasive. These species arrive, often accidentally, and establish in the absence of natural predators. Because Ontario is highly urbanized with a large, mobile population and is a hub for international trade, it has more species of invasive plants than any other province in Canada and is at the highest risk of new introductions (MNRF, 2012). These plants often outcompete native flora and create poorer quality habitat for native fauna, compromise human recreational activities and aesthetic values, and are costly and labour-intensive to manage. Invasive plants pose threats to agriculture and forest ecosystems due to their ability to spread quickly, out-compete crop and forest plants, and deteriorate soil quality. Some invasive plants even pose health risks and safety hazards, like giant hogweed, which causes severe chemical burns to the skin after contact, or *Phragmites australis* (henceforth referred to as invasive *Phragmites*), which can obstruct the sight line of drivers.

Municipalities are on the frontlines of invasive species management in Canada. Spending an estimated $247.9 million annually on invasive species, most respondents to a 2021 National Municipal Expenditures survey reported that they expect the costs of management to increase over the next five years (Vyn, 2021). Out of the five invasive species most frequently reported as a top priority in the province of Ontario, three of them (invasive *Phragmites,* giant hogweed, and wild parsnip) were plants (Vyn, 2021). In Ontario, municipalities and conservation authorities incur immense expenditures for the prevention, detection, control and management of invasive plants. A 2019 survey found that over $1.3 million was spent by municipalities and conservation authorities on invasive *Phragmites* alone, making up 6.3% of total expenditures on invasive species (Vyn, 2019). Out of the 25 invasive species reported in this survey, 11 were invasive plants, and 4 of these species were in the top 10 most costly invasive species.

To reduce the long-term impacts of invasive species, more investments in prevention are needed across all levels of government. Investing in prevention provides economic returns of up to 100 times higher than the management costs after a species has arrived and spread (Figure 1). Management costs increase and the likelihood of eradication decreases as time passes. At a certain point, populations become impossible to eradicate from an ecosystem and are either managed at a cost to the municipality, or they are left to spread across a landscape causing ever-increasing impacts and losses to the economy, society, and environment.

Although prevention is the most cost-effective approach to mitigating the impacts of invasive species, less than 20.4% of funds spent by Ontario municipalities are spent on prevention programs while an estimated 79.6% of municipal budgets available are spent on control and management (Vyn, Richard. 2019). This suggests that expanded investments in prevention can reduce the community's long-term

management costs.

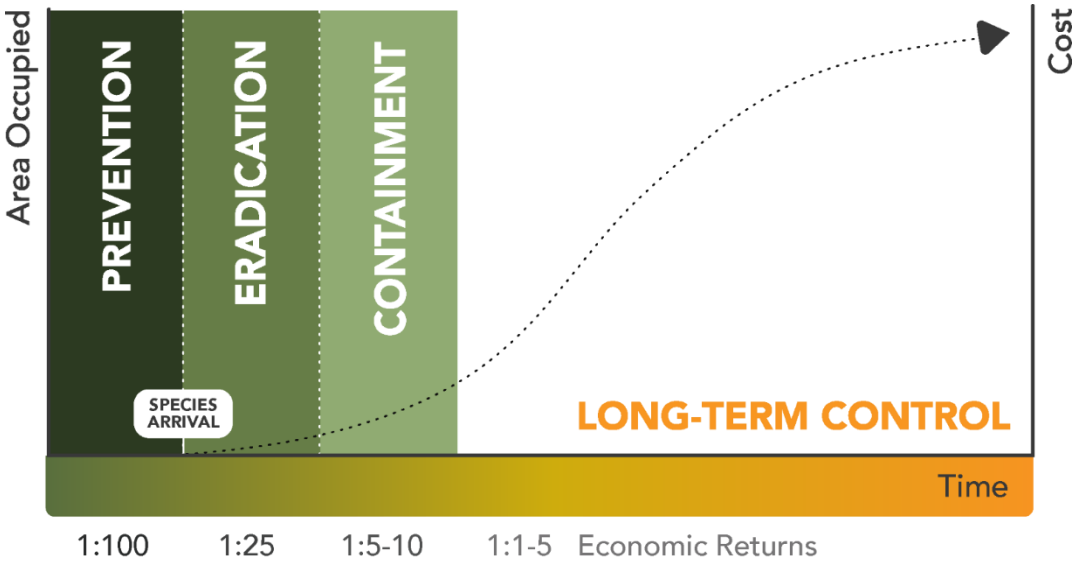

Figure 1. The Invasion Curve illustrates the rising costs of invasive species as they establish and spread over time and the economic impact that is potentially gained as the species is contained and eradicated. Prevention is the most cost-effective approach to invasive species management (Image via the Invasive Species Centre; Adapted from the Generalized Invasion Curve (Agriculture Victoria, 2010).

The City of Stratford has demonstrated a clear willingness to manage invasive plants through its collaboration with the Upper Thames River Conservation Authority and the Energy and Environment Committee, who suggested that the City develop an invasive plant plan. It is noted in the City's *Urban Forestry Plan* that while tree removal is a last resort in the care and maintenance of the urban canopy, a tree may be removed if it is host to virulent insects or diseases or is chronically invasive to public or private property. Decisions about what species to control, what programs to implement to prevent new arrivals, and how to ensure resources are shared and used effectively across implicated City departments are all challenges that can be addressed with some strategic thinking and an initial pilot program. Natural areas such as T.J. Dolan and Lake Victoria, where commendable invasive plant management efforts are already in progress, offer the City an opportunity to adopt a broader strategic approach to invasive species management.

The Invasive Species Centre (ISC) is a non-profit organization that offers expertise in invasive species management, policy, economics and education. The ISC presents the *Stratford Invasive Plant Plan* (SIPP). The plan is built around three lists of invasive species: the Occurrence List, the Management List, and the Watch List created for the City of Stratford. It synthesizes work done to date by the City and partners on invasive plants in and around the T.J. Dolan natural area and Lake Victoria. Recommendations and resources to improve prevention and management of invasive plants are included. The scope of management outlined by the SIPP includes City-owned and operated lands, as well as the situations where the City holds relevant oversight such as those governed under the Weeds Act (e.g., Noxious Weeds List) and Lot Maintenance by-law.

Invasive Species Management

The Invasion Curve (Figure 1) demonstrates that the most cost-effective way to address invasive species is prevention and early containment. Unfortunately, many invasive plants arrive undetected and spread

rapidly causing significant harm to Canada's environment, economy, and society. By the time a strategy is underway, there is typically already a long list of invasive plants that have been established in the focus area and require management. Additionally, it is very uncommon to have sufficient resources to remove every invasive species, so prioritizing where to allocate limited resources becomes a wise step to maximize public investment. Prioritization frameworks can be developed to help make management decisions, starting with sorting invasives into occurrence, management and watch lists. To maximize effectiveness, invasive plant management should be combined with new or updated policies, strategies and implementation plans, and public education.

Prevention

Prevention intercepts pathways of spread to stop a potentially invasive species from arriving in the first place. Pathways of spread are how invasive species move to new locations. They may include the movement of whole species or viable parts of a species via humans, wildlife, vehicles, and commodities, both locally and through international trade routes and borders.

Pathways analyses can inform prevention work. They can be species-specific or address an entire taxon such as invasive herbaceous plants or aquatic invasive species. Pathways can also be identified using geographic areas, such as a natural area or a city park. A natural area can be vulnerable to invasive species depending on the health and integrity of the ecosystems present, recreation and development pressure, and surrounding land use.

Prevention programs are most effective when they focus on multi-species-specific pathways and include a clear call to action. Preventative activities can include monitoring and detection, public education and awareness, and/or specific activities to reduce the likelihood of arrival.

Examples:

- The Clean-Drain-Dry campaign aims to reduce the spread of aquatic invasive species through public education and the installation of watercraft decontamination stations. These stations enable boaters to clean their boats to reduce the likelihood of spreading invasive plants and invertebrates to other bodies of water. Accompanying signage educates the public about the impacts of invasive species and ways they can reduce their spread.
- Boot brush stations placed at trail heads encourage trail users to brush their boots clean of plant materials and seeds before entering the trail. They can stand alone or be associated with interpretive signage.
- The Play-Clean-Go campaign targets anyone who recreates outdoors with messaging about cleaning their boots and equipment, checking their pets, and staying on trails to prevent the spread of invasive plants and insects. It also encourages the public to learn to identify common invasive species and report them.
- The Grow Me Instead campaign targets the horticultural industry with information for the consumer about what native species can replace commonly sold ornamental plants that often escape gardens and establish in parks and natural areas. The campaign aims to encourage consumers to choose native species for their landscaping and gardening projects.
- The Don't Move Firewood campaign encourages the public to buy and burn their firewood locally. The movement of firewood is a major pathway of spread for many invasive insects, but invasive plant material and seeds can also travel on firewood.

Management

Eradication/Containment

When prevention is not successful, invasive plants establish and begin to spread. There is a limited time for eradication efforts to occur and succeed; more often the task is about containment. Containment involves stopping the spread of an invasive species and containing it to one area and requires confidence that the extent of a new invasive species is fully known. Eradication of a contained species can take years, depending on how many reproducing individuals have established and whether the containment activities were successful.

Eradication and containment of invasive species necessitates early detection and rapid response (EDRR). EDRR programs need to be informed to be effective: what species are coming next, what species are just arriving and have not yet widely spread, and what species will require rapid response and pre-arrival preparations for control. EDRR programs commonly focus on newly arriving invasive species from outside the management area, but some property management plans, or city-wide plans, may include species on the containment list when they are recently established, or slow spreading, and there is potential to eradicate them from the focus area. Decisions about rapid response investments are often guided by existing priorities, strategic plans, and property management plans as well as investments being made in adjacent jurisdictions. A land manager may sometimes be required to move quickly and prepare for a new invasive species. A notable example is the emerald ash borer (EAB). EAB arrived in Detroit on wood packaging materials in the early 1990s, reaching Stratford Ontario by 2011. When EAB arrived in North America, not much was known about these insects. The CFIA and local municipalities moved fast with attempts to contain its spread, but EAB proved too aggressive for any containment effort in southwestern Ontario. EAB continues to spread across Canada today.

Effective containment programs will include regular check-ins with a broader invasive species field of professionals to regularly update the watch list, and to keep land manager's alert. Regular updates to the public could increase the likelihood of detecting an incoming invader.

Successful containment and eradication programs are not common, but the eradication of Asian longhorned beetle is one example. After ten years of control work aimed at eliminating the Asian longhorned beetle from Toronto and Vaughan, the Canadian Food Inspection Agency declared the pest eliminated in 2013. The program involved cutting and chipping infested trees and all potential host trees within 400 metres of an infested tree, followed by surveys to determine if any beetles remained. After 5 years of no detection of beetles or infested trees, the pest was declared eradicated.

Long-term Management

If an invasive plant is not successfully prevented, contained, or eradicated, it may establish and spread beyond any possibility of eradication without a longer-term management strategy. Any species targeted for long-term management without a strategic plan for how to control its extent and spread will often fail to achieve containment of the target species.

Long-term management strategies can be specific to a species, a taxon (like in the case of a plant management plan) or more comprehensive. They usually include occurrence mapping to understand the pattern of infestation, control planning, hiring contractors for control implementation, and long-term monitoring. Some strategies may also include new policies, training and professional development, and extensive education and outreach programs to ensure the public is supportive and aware of control methods.

While controlling an invasive plant population, challenges will surface, new methods may arrive, and some species may develop resistance to tried and true methods. Long-term management programs should include research, monitoring and development activities because learning from the results of different techniques and adapting methodologies accordingly is essential to long-term success.

Some examples of long-term management programs include:

- The County of Norfolk where the Long Point *Phragmites* Action Alliance is leading a watershed approach to Phragmites management. The Control Implementation Plan suggested a Phrag-free watershed within 8 years and incorporates control activities on private and public land.
- Lambton Shores *Phragmites* Community Group has been implementing a *Phragmites* Management Plan over the last 10 years. Their work has transformed the shoreline into a Phragmites-free zone. This program engaged municipal drain superintendents, road departments, and associated private land, to ensure *Phragmites* was entirely controlled in these areas. The program is shifting to long-term management activities to ensure invasive *Phragmites* does not re-establish in the community.
- The York Regional Forest Invasive Species Action Plan includes a detailed prioritization framework that helps city staff make decisions about when to manage an invasive species.
- The Nature Conservancy of Canada will implement invasive species management on their properties using Property Management Plans. The non-profit organization will start with occurrence maps and then track stewardship activities over time, remapping target invasives using appropriate intervals (e.g., 5 years). Property Management Plans will target aggressive invasive species that threaten the specific ecosystems that occur on the property.

Goals and Objectives

The Stratford Invasive Plant Plan has 3 goals and 10 objectives.

Goal 1: Increase the efficiency of invasive plant management in the City of Stratford

- Compile a comprehensive occupancy list of invasive plants already present in the City
- Identify invasive plants that are high priority for long term management
- Provide resources that can support management and control of high priority species and containment species
- Recommend actions, programs, and initiatives the City of Stratford can implement to improve the effectiveness and efficiency of invasive plant management in the City

Goal 2: Prevent new invasive plants from arriving in the City of Stratford

- Review current policies that are aimed at preventing invasive plants
- Recommend policy, actions, programs, and initiatives that will prevent invasive plants
- Create a Watch List of invasive species that are not in the City of Stratford but are nearby or at a high risk of being introduced
- Provide resources that can support prevention activities

Goal 3: Increase public awareness about invasive plants in the City of Stratford

- Recommend actions, programs, and initiatives the City of Stratford can implement to increase public awareness and support for invasive plant management in the City

Using this Strategy

The Stratford Invasive Plant Plan is presented as two interrelated pieces:

1. **The Stratford Invasive Plant Plan** is this document that describes the Plan and includes 5 appendices.
2. **The Stratford Invasive Plant Plan Lists and Resources** is an associated Excel Spreadsheet that contains various lists associated with the Plan as well as resources and links to external information to help City staff find relevant information quickly. The written plan will refer to the spreadsheet as required throughout the document.

Priority Areas

Under the SIPP, the T.J. Dolan Natural Area and Lake Victoria are designated as priority areas for invasive plant management within the City of Stratford. This is to reflect the importance of maintaining the ecological integrity of natural recreation spaces within the City and to protect gains made in invasive plant management in these areas.

The T.J. Dolan Natural Area encompasses a heavily used trail that runs along the Avon River. A residential subdivision, seniors' home, and public school back onto the area to the north. It is also near a wastewater treatment plant and across the river from the Avondale Cemetery.

Lake Victoria is a seasonal reservoir within the City of Stratford, with the Avon River feeding into it. Located centrally in a tourist friendly part of the city, it is vulnerable to the establishment of invasive plants. Stabilization and the planting of cattails has taken place along its shores.

Invasive Species Management in Priority Areas

The City of Stratford's Parks, Forestry and Cemetery Department is responsible for the stewardship and management of the city's parks, natural areas, urban forest, and the Avondale Cemetery. City staff within this department have been collaborating with staff from the Upper Thames River Conservation Authority (UTRCA) and volunteers with the Energy and Environment Committee (ENE, an advisory committee to City Council) to conduct mechanical and chemical control of invasive plants largely within and around the above-noted priority areas.

The Parks, Forestry and Cemetery Department:

- Conducts trail inspections and integrates invasive plant management into regular operations
- Trims garlic mustard before it goes to seed, preventing it from proliferating, and pulls it in gardens and on other manicured properties along with other weeds
- Cuts down Japanese knotweed and pulls other weeds along the bank of Lake Victoria
- Conducts manual removal of buckthorn in woodlots and ravines
- Sprays giant hogweed, sometimes through a contractor
- Has a social media coordinator post information about spraying
- Manages invasive *Phragmites*

The UTRCA:

- For the last 6-7 years has been hired by the City annually for invasive plant control; there are informal agreements in place to do work as it comes up
- Uses an Integrated Pest Management (IPM) approach and will be rewriting its internal pesticide use policy in 2024

- Has managed buckthorn, Japanese knotweed, and dog-strangling vine over the course of two years, carrying out chemical control of buckthorn
- Has community education and stewardship staff who are active on social media, send out a monthly newsletter, and work with community and school groups
- Puts up educational signage alongside signs noting pesticide use well in advance of pesticide application and takes phone and email inquiries regarding chemical control

The ENE Committee:

- Advises City Council on matters pertaining to the environment, including invasive species
- Put forward a successful motion to put invasive *Phragmites* and Japanese knotweed on the noxious weed list
- Has allocated funding from their committee budget (which comes from the City) for invasive *Phragmites* and Japanese knotweed removal
- Conducts invasive species management through their Ecology Working Group, including invasive *Phragmites,* Japanese knotweed, oriental bittersweet, periwinkle, Himalayan balsam, and buckthorn
- Gets volunteer support from its own members, Parks, Forestry and Cemetery Department summer students, former UTRCA employees, and local community groups

Challenges and Needs

The City of Stratford is facing challenges concerning invasive plants, including but not limited to:

- While invasive plants have been managed collaboratively by City staff and the UTRCA annually for several years, there is no formal agreement, schedule, or progress reporting in place.
- Management is largely taking place on a reactive basis.
- The City of Stratford straddles a rural area, making it vulnerable to invasive plants that thrive in agricultural fields or acting as a pathway of spread for those plants into rural areas.
- Public perception of spraying is negative and the City and UTRCA have to field questions and complaints. Public understanding of invasive plants in general could be improved, as calls are often received regarding plants that are not actually invasive.
- Resources are needed for future staff to ensure continuity of knowledge.
- Being in a tourist friendly area, Lake Victoria is both highly susceptible to invasive plant establishment and highly impacted by it. Invasive *Phragmites* is a priority concern as it will have recreational and aesthetic impacts on the lake. Japanese knotweed is also a key species to manage as best as possible, as it is a very aggressive species that is one of the most difficult to control. The introduction of European water chestnut, water hyacinth, and water lettuce is a concern.
- Funding for the UTRCA, like many Conservation Authorities, to manage invasive plants has been inconsistent and insufficient.
- The process for applying for permits to manage aquatic invasive plants from the Ministry of the Environment, Conservation and Parks (MECP) is time-consuming and it can be challenging to complete. A lot of planning is required.
- There are concerns over other invasive plants establishing and spreading after buckthorn removal. Plans for native plant restoration should be in place before removal.
- Giant hogweed is being managed, but there is lots of it along the Thames River so it is an ongoing concern.
- Dog strangling vine has been cited by City and UTRCA staff and volunteers as a concern, as it could spread further from infestations just outside the city.

Collaborative Projects

The City of Stratford will work with partners to implement invasive plant management activities:

- The City will formalize a plan for each field season delineating what plants will be managed in which areas, assigned to City staff or UTRCA staff depending on resources and expertise.
- The UTRCA will manage invasive plants in accordance with the above-noted plan. They will summarize progress and challenges in a formal report after each field season for areas they managed.
- The ENE Committee will support the City by coordinating volunteer activities and engaging in public outreach and education in alignment with the priorities laid out in the SIPP.

Invasive Plants in the City of Stratford

Decisions about what prevention and management activities are best to reduce the impacts of invasive plants in the City of Stratford should concern the invasive plants that are already in the city, plus the invasive plants that are nearby enough or at a high risk of introduction to warrant preventative actions. To provide the City of Stratford with some species-specific guidance, the ISC created several lists of invasive species. Each List is presented on a Tab in the associated Excel spreadsheet titled: *Stratford Invasive Plant Lists and Resources*.

- **Occurrence List:** a comprehensive list of all invasive species known to occur in the city
- **Management List:** a shortlist of species that are considered higher priority to manage based on the level of threat each species poses to the forest and aquatic ecosystems in the T. J. Dolan Natural Area and Lake Victoria
- **Watch List:** a list of invasive species at risk of introduction to the city that are not yet recorded inside the city

The Source Material is a collection of species mentioned in the consultation meetings and species collected from reports on iNaturalist and EDDMapS that are present within the City of Stratford. Additions to this list include references to regulated species under the Ontario *Invasive Species Act* and Canadian Food Inspection Agency, and notable species from the Ontario Noxious Weed List and the Provincial Weed ID for Field Crops guide. Everything in the Source Material is then sorted into the above lists.

The Occurrence List

See: The Stratford Invasive Plant Lists and Resources
Tab: Occurrence List

The Occurrence List is a comprehensive list of non-native and invasive species currently known to the City of Stratford. There are 202 species on the Occurrence List. Three species on the list are currently being managed by either the UTRCA or the City of Stratford, including giant hogweed (*Heracleum mantegazzianum)*, Japanese knotweed (*Reynoutria japonica)*, and common buckthorn (*Rhamnus cathartica).*

To determine what invasive species are already in the City of Stratford, the ISC used the Early Detection and Distribution Mapping System (EDDMapS) and iNaturalist, a well-known and respected citizen science database.

The EDDMapS distribution function was used to search for positive invasive plant identifications reported within the City of Stratford. These results are verified by EDDMapS and were added to the Occurrence List. The iNaturalist Observation function was used to filter by area, plants, and non-native to search positive identifications of non-native species in the City of Stratford. These iNaturalist reports are verified by community scientists and were added to the Occurrence List. Additional species were included on the Occurrence List from the consultation meetings conducted by the ISC with the UTRCA, City of Stratford, and ENE Committee members and other volunteers.

The complete Occurrence List is presented in the associated Excel spreadsheet under the tab labelled: Occurrence List.

Legislation

17 invasive species in the City of Stratford are regulated under one or more of the following three resources, and should be prioritized for control and management:

- Canadian Food Inspection Agency (3 species)
    - The Canadian Food Inspection Agency (CFIA) prevents the introduction of invasive species through import regulations. The CFIA is concerned about species that may cause serious damage to Canada's economy and the environment when they invade farmland, forests, parks and other natural areas.
- Ontario Invasive Species Act (2 species)
    - The Ontario Invasive Species Act, 2015, S.O. 2015, c.22 – Bill 37 includes 33 regulated invasive species. Species are chosen for regulation based on their invasive qualities and their potential impact on the environment, the economy, and society well-being.
- Ontario Noxious Weed List (14 species)
    - The Ontario Weed Control Act, R.S.O. 1990 contains a list of plants that includes difficult to manage species on agricultural land once established and will reduce yield and quality of the crop being grown, negatively affects the health and well-being of livestock, or poses a risk to the health and well-being of agricultural workers.

The Source Material tab in the Stratford Invasive Plant Lists and Resources spreadsheet indicates which species appear on which piece of legislation.

Threat References

54 invasive species appear on one or both of the following two resources that were used to identify any species reported in the City of Stratford that have already been listed as a threat to the environment, economy, or society. Threat References can be used as a guide for prioritizing management resources.

- Urban Forest Associates Inc. Category 1 species (14 species)
    - Aggressive invasive exotic terrestrial plant species that can dominate a site to exclude all other species and remain dominant on the site indefinitely.
- Provincial Weed ID for Field Crops (40 species)
    - Species commonly found in agricultural areas or in Ontario and may pose a risk to human or crop health.

The Source Material tab in the Stratford Invasive Plant Lists and Resources spreadsheet indicates which species appear on which threat reference.

The Management List

See: The Stratford Invasive Plant Lists and Resources
Tab: Management List

The Management List consists of species present in the City of Stratford as identified by the SIPP consultation meetings and select species that are considered a threat to the city ecologically, socially, or economically.

There are 26 species on this list in total, with 5 that are already being managed by the City of Stratford or the UTRCA, including invasive *Phragmites* (*Phragmites autralis)*, Giant hogweed (*Heracleum mantegazzianum),* Common buckthorn (*Rhamnus cathartica)*, Japanese knotweed (*Reynoutria japonica)*, and Dog-strangling vine (*Cynanchum rossicum)*.

The complete Management List is presented in the associated Excel spreadsheet under the tab labelled: Management List.

Table 1. The Management List is the shortlist of invasive plants that are a priority to control in the City because they are considered to be economic, ecological or social threats.

Management List Species		
Management Categories	***Scientific name***	**Common name**
Aquatic	*Iris pseudacorus*	Yellow iris
	Lythrum salicaria	Purple loosestrife
	Phragmites autralis	Common reed (phragmites)
Herbaceous	*Aegopodium podadraria*	Goutweed
	Alliaria petiolata	Garlic mustard
	Concallaria majalis	Lily of the valley
	Heracleum mantegazzianum	Giant hogweed
	Hesperis matronalis	Dame's rocket
	Impatiens glandulifera	Himalayan balsam
	Vinca minor	Periwinkle
Woody	*Berberis thunbergii*	Japanese barberry
	Celastrus orbiculatus	Oriental bittersweet
	Elaeagnus angustifolia	Russian olive
	Elaeagnus urmbellata	Autumn olive
	Ligustrum vulgare	Common privet
	Lonicera tatarica	Tatarian honeysuckle
	Lonicera x bella	Bell's honeysuckle
	Morus alba	White mulberry
	Reynoutria japonica	Japanese knotweed
	Rhamnus cathartica	Common buckthorn
	Robinia pseudoacaia	Black locust
	Rosa multiflora	Rambler rose (Multiflora rose)

The Watch List

See: The Stratford Invasive Plant Lists and Resources
Tab: The Watch List

The Watch List is a list of aggressive invasive plants that are close enough to the City of Stratford or are at a high enough risk of introduction to warrant concern and investment in preventative programs and activities. The Watch List was created with suggestions from the SIPP consultations and through using a search in EDDMapS and iNaturalist looking for invasive plant reports in Ontario, areas around Ontario, and areas around the City of Stratford. Additional species were added to the Watch List using the Noxious Weed List in Ontario from the Ontario Ministry of Agriculture, Food and Rual Affairs (OMAFRA). These species are known to cause significant economic, ecological, or social damage once present in the

city. The list was then compared to the Occurrence List and if not yet reported in the city, was left on the Watch List.

The resulting list of invasive species was compared to the Occurrence List. If a species appeared on both lists, it was already reported in the city. If it was not yet reported in the city, it was left on the Watch List. The complete Watch List is presented in the associated Excel spreadsheet under the tab labelled: Watch List.

There are 21 invasive species on the City of Stratford Plant Species Watch List.

Table 2. The Watch List identifies invasive plant species that are not known to occur in the City of Stratford, and possibly not yet in Ontario, but justify future awareness based on potential ecological and economic consequences.

Watch List	
Species	
Scientific name:	**Common name:**
Abutilon theophrasti	Velvetleaf
Ailanthus altissima	Tree-of-heaven
Cicuta maculata	Spotted water-hemlock
Cuscuta spp.	Field dodder
Erochloa villosa	Woolly cup grass
Euphorbia cyparissias	Cypress spurge
Euphorbia esula	Leafy spurge
Galium mollugo	Hedge bedstraw
Jacobaea vulgaris	Tansy ragwort
Microstegium vimineum	Japanese stiltgrass
Miscanthus sinensis	Silvergrass
Nassella trichotma	Serrates tussock
Persicaria maculosa	Spotted lady's thumb
Pilosella aurantiaca	Orange hawkweed
Pueraria montana	Kudzu
Reynoutria x behmica	Bohemian knotweed
Reynoutria sechalinensis	Giant knotweed
Sonchus arvensis	Perennial sow thistle
Stratiotes aloides	Water soldier
Trapa natans	European water chestnut
Ulmus pumila	Siberian elm
Vincetoxicum rossicum	Dog-strangling vine

Improving Management of Invasive Species

To improve the management of invasive plants across the City of Stratford, the SIPP focuses on high priority species that are good candidates for long term control and/or eradication. It is intended to identify drivers of decision making, helping the City navigate working within both ecological and species-priority frameworks. Working under an ecological framework, the City may take a specific plot of land and determine what their ecological goals are for the plot and how removal of certain invasive plants and post-removal restoration can achieve those goals. If feasible, different plant species with similar removal techniques and timing windows can be grouped together for management. Under a species-priority framework, the City may decide to significantly reduce or eradicate a particular plant species

from all areas of occurrence within the City. These frameworks are not mutually exclusive and may complement each other.

The SIPP does not provide specific control implementation plans for target invasive species, but it does provide some high-level advice on when to implement common control methods along with links to resources and information to allow the City to access information quickly.

Management Resources

See: The Stratford Invasive Plant Lists and Resources
Tab: Management Resources
The Management Resources tab provides helpful resources meant to support control and management of these high priority invasive plants. Links to Ontario Best Management Practices are provided, along with links to other beneficial resources in Ontario or from other jurisdictions.

Ontario Best Management Practices (BMPs) guide the implementation of control for specific invasive plants. They are helpful to consult because they include all the possible control methods that are permitted, and/or have been tried by Ontario land managers. Not all invasive plants have associated Ontario BMPs, but since other jurisdictions have high quality resources that are applicable, these have been included in the Resources Tab. While utilizing resources from other jurisdictions, it is important to remember that there will likely be differences in legislation and regulations between Canada and other countries.

Management Timing Windows

See: The Stratford Invasive Plant Lists and Resources
Tab: Management Timing Windows

Management Timing Windows provides a summary of the time of year to best control each invasive species on the management list. The visual includes some text indicating what control method is suitable for that time of the year. The Ontario BMPs are used wherever possible, but other sources may be referenced if an Ontario BMP was not available.

Table 3. BMP Timing Windows for all control methods for species on the Management List.

Best Management Practices Timing Windows for all control methods													
Scientific name	**Common name**	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Aegopodium podadraria	Goutweed						Hand Pulling						
Ailanthus altissima	Tree-of-heaven						Herbicide/Cutting						
Iris pseudacorus	Yellow iris				Manual Removal								
Lythrum salicaria	Purple loosestrife						Before going into seeds						
Phragmites autralis	Common reed (phragmites)	Remove Biomass					Cutting			Herbicide			
Alliaria petiolata	Garlic mustard				Before seed production								
Centaurea maculosa	Spotted knapweed					Herbicide							
Concallaria majalis	Lily of the valley				Herbicide								
Dipsacus fullonum	Common teasel				Cut plants at ground level								
Heracleum mantegazzianum	Giant hogweed				Before it flowers								
Hesperis matronalis	Dame's rocket									Herbicide/hand pull			
Pastinaca sativa	Wild parsnip					Mowing							
Vinca minor	Periwinkle				During active growth								
Berberis thunbergii	Japanese barberry									Herbicide			
Elaeagnus angustifolia	Russian olive									Herbicide			
Elaeagnus urmbellata	Autumn olive									Herbicide			
Euonymus euroaeus	Spindle				Anytime the ground is not frozen (cut stump method)								
Impatiens glandulifera	Himalayan balsam				Hand Pulling before going into seeds								
Ligustrum vulgare	Common privet												
Lonicera tatarica	Tatarian honeysuckle								Cut Stump method				
Lonicera x bella	Bells honeysuckle												
Morus alba	White mulberry								Herbicide			Cut Stump Method	
Reynoutria japonica	Japanese knotweed					Herbicide		Herbicide					
Rhamnus cathartica	Common buckthorn						Herbicide/Cutting						
Robinia pseudoacaia	Black locust						Cutting/Girdling						
Rosa multiflora	Rambler rose (Multiflora rose)						Cut Stump Method						

Partner Advice

Upper Thames River Conservation Authority

- Distribute UTRCA pamphlets on waste disposal in parks to the public
- Try to keep giant hogweed out of the city and invasive *Phragmites* out of Lake Victoria
- Japanese knotweed is a key species to keep under control, as mechanical methods do not work and applying glyphosate can have low effectiveness
- Should not worry too much about garlic mustard; it can be a problem in conifer plantations, but it is easy to get a community group to remove
- Black locust puts out a bumper crop of seeds every year, which becomes a problem if you are planning to do restoration after for e.g. buckthorn removal
- Continue to use signage to educate the public on the use of herbicides on invasive plants

Energy & Environment (ENE) Committee and Other Volunteers

- Ensure that there is proper solarization or disposal of invasive plants
- Verify that the ornamentals the City plants every year do not have the potential to be invasive, and use native plants in gardens as much as possible
- Enforce Lot Maintenance by-law with regards to yard waste dumping on properties bordering park lands
- Restoration after the removal of invasive plants needs to be coordinated. Some invasive plants are being left alone because removing them will leave an area without any greenery
- It is essential to keep track of progress and continue monitoring. Ongoing monitoring and adjusting is key to managing future plant invaders, like dog-strangling vine
- Map out and study the full extent of an invasive plant infestation and detail a pragmatic plan to manage it in advance. Quality maps and graphics, plans and budget estimates will help management actions to get approved by City Council. For e.g. create a GPS map of an infestation and overlay it on a map with property boundaries and trails
- Touch base with the with the Perth County weed inspector, neighboring farmers or certified crop specialists at local companies selling pesticides to determine priorities for managing invasive plants that are prominent in agricultural fields
- A presentation from the Canadian Wildlife Service on their management of invasive *Phragmites* in a sensitive biosphere site just 1.5 hours away from Stratford would lend credibility to managing invasive *Phragmites*
- Time is of the essence; an invasive plant infestation only gets more expensive over time
- Invasive species are not a problem that is traditionally dealt with by municipalities, but community needs are changing and people increasingly value nature, parkland and trails, especially in the wake of the pandemic

Recommended Actions for Management

1. Continue with:
    a. Conducting trail inspections and integrating invasive plant management into regular operations
    b. Managing invasive plants and restoring the shoreline along the banks of Lake Victoria
    c. Delegating certain management activities to the UTRCA or the ENE Committee/community volunteers where appropriate
2. Know and track the pattern of infestation for high priority species

   a. Compile available species maps and/or create original maps for species on the management list.
   b. Create a GIS project that holds occurrence data layers (original infestation pattern) along with a stewardship layer to hold information about control implementation each year.
   c. Connect the GIS project to ArcGIS Field Maps and ensure Field Staff and/or Contractors can update the project as control activities are implemented.
3. Implement control of high priority species
   a. Use occurrence maps and the Management List Timing Windows to create Control Implementation Plans. Plans can be created for one species (e.g., invasive *Phragmites*), or a group of species that can be managed at the same time with the same methods (e.g., invasive honeysuckles). They can include staff activities, hired help, and/or volunteer roles. Creative mapping can incorporate colours and legends to help differentiate what control methods are planned for certain areas, species polygons, or entire parks and make dividing the work easier (e.g., contractor, staff, volunteer event). Archive stewardship layers and start fresh each year; this will make it easier to layer the history of stewardship activities by species or park.
   b. Review control plans well ahead of implementation and send staff for any necessary professional training and certifications. Some examples may include chainsaw safety, exterminator licenses, or prescribed burns. The application of newly registered products like Habitat Aqua may require additional certifications (Aquatic Pesticide License).
   c. Continue obtaining a Letter of Opinion on a 5-year rotation and add all management and watch list species that require herbicide use.
4. Identify potential candidates for eradication, if applicable. This might be an invasive plant that is relatively contained and feasible to remove, even if not the highest priority in terms of impacts.
5. Incorporate research and adaptive management
   a. Consider opportunities to partner with research teams on new management techniques such as biological control. Some municipalities have found mutually beneficial opportunities through contributing research sites. These research projects are often looking for new partners and project sites at scale. Two great examples are the biocontrol research for *Phragmites australis* and garlic mustard underway by the University of Toronto.
6. Increase staff knowledge and develop supporting resources
   a. Host Invasive Species Training Days for City staff to review identification resources for management list species. Include Watch List species and other prevention measures that may be added to annual work plans (see Prevention Recommendations).
   b. Train all field staff on reporting protocols and move toward the creation of one GIS project for invasive species.
   c. Distribute public messaging and helpful resources to ensure staff are consistent and well-informed about invasive species.
   d. Implement the Clean Equipment Protocol (see prevention recommendations and refer to the Clean Equipment Protocol for Industry summary and full document). The Clean Equipment Protocol is also used to prevent the spread of established invasive species and is particularly effective on invasive *Phragmites*. Several municipalities have reported that implementing the Protocol is only effective if a cleaning station and paid time to clean equipment is also provided.
7. Increase collaboration on invasive species management

   a. Supplement the hiring of Ontario Federation of Anglers and Hunters (OFAH) Hit Squad students to implement invasive species control in the Complex every year (May to September). The OFAH Hit Squad program is funded by Canada Summer Jobs and may provide up to 8 weeks of funding for multiple students to work on invasive species control and programs.
   b. Formalize a plan for collaborating with UTRCA and the ENE Committee/community volunteers. Formal reports should be submitted in between field seasons by collaborating groups to help the City keep track of progress.
8. Increase public engagement in invasive species management
   a. Offer volunteer events for local naturalists' clubs to target species like garlic mustard and Himalayan balsam. Offer Corporate Workdays for local corporations looking for team building and community projects. For volunteer events, choose species which are amenable to stewardship, even if they are not high management priorities. These plants should be easier to identify and manage, enabling volunteers to gain a sense of satisfaction and empowerment which helps with volunteer retention.
   b. Create a Communications Plan to employ consistent messaging, expectations, and signage that can be used to support all invasive species control implementation activities on an annual schedule. Consider targeted campaigns (e.g., Grow me Instead).
   c. Utilize existing capacities and networks. Existing groups in the area (naturalists clubs, master gardeners and other environmental organizations) can be brought on as either direct partners or to help get the word out through their email list. Reach out to school groups and guidance counselors to showcase the activity as an avenue to gain high school credits or to be integrated into science class curricula.
   d. Use social media and traditional media (local newspaper ads, local radio interviews) to reach new people outside of the existing networks above. Media can be especially powerful as on the ground action garners a lot of attention and invasive species can be framed as both the "negative catch for a story" and the "empowering ending."
   e. If you are working in a neighborhood, invite the neighbors. This accomplishes multiple goals: (1) increased volunteer recruitment; (2) increased understanding from neighbors of why certain plants are being removed; (3) increased awareness and the likelihood that they will manage or avoid planting invasive plants in their own yards; (4) creating a neighborhood watch for this species in the future when it becomes less abundant; (5) increased awareness of pathways of spread by using this plant as an example which will limit the introduction of future species. Neighborhoods could be reached through neighborhood Facebook groups, associations and flyer mailouts explaining the project and inviting them to the event.
   f. Consider a "train the trainer" approach to distribute the workload.
   g. When working with multiple organizations, create and use common messaging to amplify your voice and remain consistent.
   h. When budgets allow, consider including contests and incentives for management efforts (on public or private lands) and monitoring efforts (i.e. reporting to iNaturalist or EDDMapS). Reporting contests can help increase knowledge of distribution of your target species and inform future management plans or event locations. Other incentives could include food at an event or native plants or seeds if the public replaces invasive plants on their own property.
   i. Focus on engagement, not just eradication. Use this opportunity to educate and reach new audiences to prevent further introductions in the future.

j. Consider a two-tier approach for more difficult to manage species like buckthorn. One day is focused on public removal of smaller stems, with a second day planned for contractors to go in with chainsaws and herbicide applicators or buckthorn baggies.
k. Look to what your neighboring municipalities are doing, and you could do similar events or projects and amplify your voice by advertising the same things at different locations.

Preventing Invasive Species

The City of Stratford straddles a rural area, making it vulnerable to invasive plants that thrive in agricultural fields. It is also vulnerable to aquatic and riparian invasive plants due to the Thames River flowing through it. As a tourist destination, the city brings in thousands of visitors each summer, who can easily transfer invasive plant seeds or fragments into and around the city via trail or boat use.

To prevent an invasive plant species from arriving in Stratford, the City must know where and when to look and what to look for. The Watch List Resources are meant to help the city know what to keep a look out for and provide the city with quick access to relevant resources and information, such as common pathways of spread and preferred habitats. Comprehensive pathways analysis is more informative, but at a high-level, vehicles, gardening, and contaminated soil are the more common artificial pathways for the Watch List (select species). Knowing how a species might arrive is important for intercepting its arrival.

Watch List Resources

See: The Stratford Invasive Plant Lists and Resources
Tab: Watch List Resources
This tab includes links to external resources to help identify each invasive species on the Watch List, along with training opportunities, and links to Best Management Practices available for control and management of these species.

Watch List Timing Windows

See: The Stratford Invasive Plant Lists and Resources
Tab: Watch List Timing Windows
This tab lays out what time of year to look for each invasive species on the Watch List and an associated identification resource.

Watch List Pathways

See: The Stratford Invasive Plant Lists and Resources
Tab: Watch List Pathways
This tab lays out common natural and artificial pathways for each invasive species on the Watch List along with the nearest municipality to Stratford where each species is present.

Table 4. Common pathways of spread for each species on the Watch List.

Common Pathways				
Scientific Name	**Common Name**	**Proximity to Stratford**	**Natural Pathways**	**Artificial Pathways**
Ailanthus altissima	Tree-of-heaven	Kitchener, ON	Seed dispersal through wind, sprouts from shoots	Planted intentionally as an ornamental
Microstegium vimineum	Japanese stiltgrass	Niagara, ON	Seed dispersal through wind, water, and animals	Contaminated recreational equipment (boots, bikes)
Pueraria montana	Kudzu	Kingsville/Leamington, ON	Stolons, rhizomes, seeds	Contaminated soil, recreation equipment (boots, bikes, vehicles)
Reynoutria sechalinensis	Giant knotweed	Brantford, ON	Fragmentation, rhizomes, water	Pruning activities, improper disposal
Reynoutria x behmica	Bohemian knotweed	Kitchener, ON	Rhizomes, fragmentation, water	Pruning activities, improper disposal
Stratiotes aloides	Water soldier	Lucan, ON	Fragmentation through offsets or clones	Boating through infested areas and dislodging plants
Trapa natans	European water chestnut	Welland, ON	Dropping seeds from parent plants, attached to waterfowl feathers	Boating through infested areas and snapping floating seeded plants
Vincetoxicum rossicum	Dog-strangling vine	St. Marys, ON	Seed dispersal through wind	Contaminated equipment (mowing, tires)

Recommendations for Prevention

1. Stay informed on emerging and arriving threats
    a. Sign up for Invasive Species Centre quarterly newsletter, *The Spread*
    b. Sign up for Invasive Species Centre events, media, and news updates
    c. Attend relevant conferences and workshops (e.g., Ontario Invasive Plant Council Annual Conference)
    d. Invest in professional training for staff to learn about Watch List species when training courses are available
    e. Join the Invasive Species Centre's Municipal Community of Practice and attend spring and fall conference calls to connect with municipal practitioners in Ontario
    f. Learn from other land managers by creating and facilitating an annual meeting about invasive plant management in forest and freshwater habitats. Bring land managers together from Ontario and close U.S. states to share knowledge about emerging threats and new invaders, and what control methods are working to contain them.
2. Enhance monitoring for Watch List species in the Priority Areas
    a. Use the Watch List Resources to create a training program for staff. Ensure all city staff who do work in and around the Priority Areas can identify Watch List species and know how to report potential observations.
    b. Use the Watch List Resources and timing windows to create a monitoring program for Priority Areas.
    c. Designate Highly Probable Areas (HPAs) in the City. HPAs are places where invasive plants are more likely to arrive (parking lots, shorelines, trail heads, disturbed areas, fence lines, etc.). Use HPAs to prioritize monitoring activities.
3. Increase public awareness and engagement opportunities
    a. Create a webpage where residents can report concerning and/or invasive plant species. Include information on the Watch List. Require all submissions to include photos. Have 311 direct calls about invasive plants to the webpage so staff can respond via email and use photos to triage complaints that require a site visit.
    b. Construct and install boot-brush stations at trail heads throughout the T.J. Dolan Natural Area. Include interpretive signs about invasive species and explain why boot-brushing helps prevent invasive species.
    c. Purchase 'Grow Me Instead' program materials and make them available at locations across the city such as public libraries, recreation centres, and plant nurseries.
    d. Share the Watch List with the UTRCA, the ENE Committee, and local naturalist clubs and encourage reporting of any potential observations of Watch List species.
    e. Create species-specific calls-to-action and send information to residents with property adjacent to the T.J. Dolan Natural Area. E.g., a one-page sheet on a priority plant including instructions on how to make a report (using the reporting webpage).
4. Introduce new policies
    a. Require all city staff and contractors hired to do work in and around Priority Areas to follow the Ontario Clean Equipment Protocol as a component of their work. Prepare to pay for the time required to invest in this Protocol and consider providing a Cleaning Station at an appropriate location where crews would go to wash equipment.

Summary of Recommendations

The Stratford Invasive Plant Plan includes recommendations to improve prevention and management of invasive plants. The City is already investing in detection and management activities, with most resources being absorbed by long-term management. Investing in additional prevention activities will reduce the likelihood of new invasive plants establishing in Stratford. Meanwhile, continuing to improve and grow the long-term management program will help the City begin to observe reductions in occurrence and spread of invasive plants already present in Priority Areas. Table 5 summarizes the key proposed prevention and management activities in this plan to illustrate a balanced approach to invasive species management. Undertaking these activities will lead to a reduction of impacts from invasive plants in the City of Stratford.

Table 5. Summary of high-level prevention and management activities for invasive plants in the City of Stratford.

Prevention	Management
• Stay informed on emerging and arriving threats • Enhance monitoring for Watch List species in the Priority Areas • Increase public awareness and engagement opportunities • Introduce new policies	• Continue with current trail inspections and management activities • Know and track the pattern of infestation for high priority species • Implement control of high priority species • Identify potential candidates for eradication • Incorporate research and adaptive management • Increase collaboration on invasive species management • Increase public engagement in invasive species management

Funding Invasive Species Action

Funding for invasive species management and prevention activities is often a limitation. While any budget is helpful, there is a certain level of funding that should be established and maintained to ensure the strategy is making progress. Knowing what the number is will require more information about the extent of invasive species, chosen activities and control methods, timelines, and staffing resources. Budgets for invasive species management tend to be high when control programs are just getting started, and over time will decrease as the invasion is brought under control. Budgets for this strategy should be placed in categories: Prevention, Containment, Management.

Generally invasive species programs are initiated using existing staff within key departments. Mapping and some control activities can easily be done by seasonal or part-time staff. Projects involving more comprehensive responses generally seek out external funding sources to support additional costs including contracted control services, significant staff time, specialized equipment, etc.

Integration into City Operations

- Establishing a small, annual baseline funding amount is an important first step in the implementation of an invasive plant strategy. This baseline funding should be designed to cover

key staffing time, as well as some regular control activities in known scenarios (e.g., roadside nuisance vegetation control).

- When more costly invasive species are identified in neighbouring communities, it's wise to begin planning for more substantial investments in a species-specific response. Many municipalities were faced with considerable budget pressures when emerald ash borer became widely established in Ontario, with some municipalities being forced to spend millions of dollars annually to remove and replace lost ash trees throughout the urban environment.
- Asset Management / Natural Asset Management (NAM) is widely used by Ontario municipalities and is an important approach to guide invasive species program implementation. Using asset management opportunities to complete an inventory of select species of that may be at risk to new noteworthy pests is one example of how municipalities can leverage asset management to support invasive species program goals.

External Funding Sources

Grants and donations are an important addition to baseline funding provided by municipalities in implementing invasive species activities. They can be valuable additions to specific priority projects benefiting one or more locations.

- The Invasive Species Centre administers the Invasive Species Action Fund. This fund supports municipalities in implementing projects to address an array of priority invasive species such as giant hogweed and dog strangling vine. During the 2023 cycle, 3 streams were available with funding caps ranging from $2,500 to $25,000.
- The Invasive Species Centre also administers the Invasive Phragmites Control Fund. This fund supports municipalities in implementing mapping and control activities on invasive Phragmites. During the 2023 cycle, projects were capped at $10,000.
- There are a range of other sources of funding that can support municipalities in implementing invasive species projects, however they are typically designed to support other activities as a primary focus. Some funding programs that other municipalities have been successful with include Ontario's Ministry of Environment, Conservation and Parks (e.g., Wetlands Conservation Partner Program, Species At Risk Stewardship Fund, Ontario Community Environment Fund, etc.), Environment and Climate Change Canada (e.g., Eco Action, Environmental Damages Fund, Habitat Stewardship Program, etc.) and Fisheries and Oceans Canada (e.g., Habitat Stewardship Program, Aquatic Invasive Species Prevention Fund, etc.). Some of these funding programs include municipalities as eligible recipients, however some may require a key partner (e.g., Conservation Authority, etc.) to lead an application to meet eligibility requirements.

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APPENDIX 1: Partner Interview Summaries

Brandon Williamson, Land Management Coordinator, Upper Thames River Conservation Authority

The Upper Thames River Conservation Authority (UTRCA) has conducted invasive plant removal in Stratford for the last several years through informal agreements with the City.

Species that have been managed by UTRCA in the past include:

- European buckthorn and other buckthorn species
- Invasive *Phragmites*
- Dog strangling vine
- Periwinkle
- Japanese knotweed
- Giant hogweed

Concerns about incoming species:

- Water chestnut
- Water hyacinth
- Water lettuce
- Forest pests and pathogens – beech leaf disease, beech bark disease, oak wilt, spotted lanternfly, hemlock woolly adelgid, emerald ash borer

Challenges:

- Public understanding regarding herbicide use
- Funding

- Obtaining herbicide permits for aquatic invasive species

Recommendations:

- Get a community group to remove garlic mustard
- Suggest putting on a watchlist, especially to look out for after buckthorn removal - Norway maple, honeysuckle, oriental bittersweet, autumn olive, Scots pine, black locust

Anita Jacobsen, Volunteer, Energy and Environment Committee

The Energy and Environment (ENE) Committee advises City Council on matters pertaining to the environment and coordinates volunteer management of invasive plants.

Species that have been managed by the ENE Committee in the past include:

- Invasive *Phragmites*
- Japanese knotweed
- Oriental bittersweet
- Himalayan balsam
- Periwinkle
- Buckthorn

Concerns about incoming species:

- Oak wilt
- Dog strangling vine

Challenges:

- Volunteer recruitment
- Few access points along river to get materials and equipment for invasive plant removal to T.J. Dolan
- Volunteers require permission to remove invasive plants

Recommendations:

- Conduct invasive plant removal on a scheduled rather than reactive or complaint-driven basis
- Enforce lot maintenance by-law
- Distribute UTRCA waste disposal pamphlets to the public
- Coordinate native plantings after invasive plant removal
- Avoid any potentially invasive species for City property plantings and establish native plant gardens

Jeff Brick, Volunteer

Jeff is a former staff member at the UTRCA and former CAO of West Perth, where he managed invasive *Phragmites,* Japanese knotweed, and giant hogweed.

Concerns about incoming species:

- Weeds on the Perth County noxious weeds list
- Dog strangling vine

Recommendations:

- A presentation from the Canadian Wildlife Service on their management of invasive *Phragmites* in a nearby, environmentally sensitive biosphere would lend credibility to invasive *Phragmites* management in and around Stratford
- Time is of the essence as invasive plant management only gets more expensive as a population expands and spread
- Community needs are changing and people increasingly value nature, parkland and trails, especially in the wake of the pandemic
- Ongoing monitoring and adjusting (i.e. adaptive management) are key to managing future invasive species
- Watch out for hogweed and other invasive plants when monitoring for invasive *Phragmites* and Japanese knotweed
- When developing a plan to control an invasive plant population, start with a GPS map and overlay the map with property and trail boundaries. A pragmatic plan with good maps and graphics, plans, and budget estimates will likely help these projects get approved by City Council.

APPENDIX 2: Policy Review Summary

Lot Maintenance By-law 94-2008

This by-law requires the owner of the land to clean and clear the land. In essence, property owners must keep their natural or landscaped area free from weeds, and they cannot allow grass or weeds to grow more than 20 centimetres in height. Weeds designated as noxious under the *Weed Control Act* R.S.O. 1990, c.W.5. that are on private property are dealt with through this by-law. However, it does not affect the application and enforcement of the *Weed Control Act* including in natural or landscaped areas.

Urban Forestry Plan (Revised 2023)

The objective of the City of Stratford's Urban Forestry Plan places emphasis on diversification and risk management in the care and maintenance of trees. One of the goals of the Urban Forestry Plan is to train staff in recognizing tree hazards, including rot and disease. The Plan outlines 5 main responsibilities for the City: the safety of city trees, plant health care, which includes insect and disease consultation, public education and outreach, and work with other organizations, emergency response, a tree planting program, and environmental protection.

Large tree maintenance, which is supervised by the City Parks and Forestry Manager, runs on a 5-year cycle and is contracted out due to high equipment costs. Tree removal is a last resort that entails comprehensive tree inspection. A tree may be removed if it is "host to virulent insects or diseases" or is "chronically invasive to public or private property", especially if "the health and vitality of the City's Urban Forest is at risk". Under this plan, a mature, healthy tree could therefore be removed if deemed to be harmful due to its invasive properties.

Demand for forestry maintenance services will continue to grow as trees in newer subdivisions mature. There is increasing pressure on the City's response time due to increasing parkland, aging subdivisions, aging trees in neighborhoods between 90-120 years old, the silver maple monoculture that was planted in the 19th century (which is over 90% of the trees planted in older neighborhoods), and an increasing number of traffic intersections.

An increasing percentage of the City's operating budget is going towards tree removal and stumping charges, due to the aging of trees in the 90–120-year-old age class and the declining health of the silver maple monoculture. The plan states that tree diversification is the only solution to the monoculture problem. 20 different species of trees, many of them native to Ontario, have been selected as having potential for street plantings. Ash species were eliminated as an option in Stratford in 2006 due to the invasive emerald ash borer. Overall, the workload demand is expected to increase dramatically.

Energy and Environment Advisory Committee 2023 Update

The ENE Committee's invasive species work is completed under an Ecology Working Group, which also carries out a native grasses project, shoreline work, and work in the T.J. Dolan Natural Area. Volunteer support with these projects comes from Parks department summer students, former UTRCA employees, and community groups.

The Ecology Working Group manages invasive *Phragmites,* Japanese knotweed, oriental bittersweet, Himalayan balsam, periwinkle, and buckthorn, with support from an Invasive Species Centre grant in 2023. Shoreline restoration, including erosion control, is being conducted along Lake Victoria, and a native grasses project is being carried out along T.J. Dolan Drive. With seedlings from the Chestnut Council of Canada, American Chestnut is being planted in the T.J. Dolan Natural Area.

Future projects and priorities for the ENE Committee include:

- Working with the City to contract the development of an invasive species management plan
- Finish native grasses planting on T.J. Dolan Drive
- Liaise with and support local environmental groups and service clubs
- Explore the feasibility of a "Friends of…" group to help improve and protect the ecology of the T.J. Dolan Natural Area
- Continue with Lake Victoria shoreline maintenance and improvement
- Develop education initiatives

APPENDIX 3: The Occurrence List

Definition: The Occurrence List is a comprehensive list of invasive plants currently known to occur in the City of Stratford.

APPENDIX 4: The Management List

Definition: The Management List is the shortlist of invasive plants that are a priority to control in the City because they are considered to be economic, ecological or social threats.

APPENDIX 5: The Watch List

Definition: The Watch List identifies invasive plant species that are not known to occur in the City of Stratford, and possibly not yet in Ontario, but justify future awareness based on potential ecological and economic consequences. Several species have been indicated for priority consideration based on Legislation and other research materials used to sort the Occurrence List, as well as professional advice and expertise.

Invasive Species Centre
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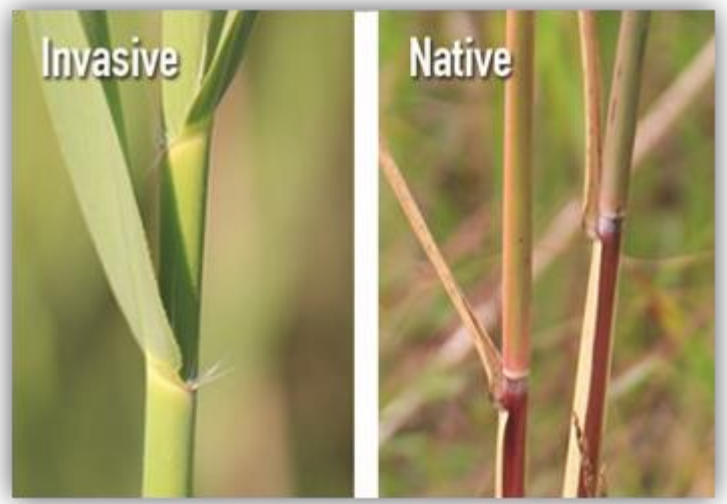
Invasive Plant Management Training

Invasive Species Centre

Common Reed *Phragmites sp.* Identification



Mitt Watershed Council

Invasive	Native
Rough, dull stem	Smooth shiny stem
Blue-green leaf	Yellow-green leaf
Leaf sheaths remain attached, difficult to remove	Leaf sheaths easily removed in fall
Base stem tan coloured in spring/summer	Base stem red coloured in spring/summer
High density	Low density

Caleb Slemmons, National Ecological Observatory Network, Bugwood.org

Rob Routledge, Sault College, Bugwood.org

Common Reed
Phragmites sp.

Impacts

Travis McMahon, MIA Consulting, Bugwood.org

Economic	Social	Ecological
• High maintenance costs on roadways and private property • Fire hazard • Reduced visibility	• Impedes access to natural areas • Cut stocks can post health risk	• Serious losses to plant and animal diversity • Affect all reptiles that are considered SAR

Common Reed *Phragmites sp.* Management

Dry-Land Management

- Herbicide
  - Active ingredients: Glyphosate or Imazapyr
  - **Refer to legislation for requirements on applying herbicide to your project*
- Selective cutting and spading
  - Manually cutting stalks below the soil surface- may be required more than once in a growing season

Wet Land Management

- Flooding
  - During spring to summer
  - Location- areas to control water levels or flood prone areas
- Selective cutting and spading in water
  - Cut close to substrate with a minimum of 30cm water depth
  - Handheld tools or amphibious cutting vehicles

Additional Control

- Cultural control
- Mulching (does not impact root system)
- Prescribed burning (combined with other management techniques)
- Excavating
- Cutting seed heads

Caleb Slemmons, National Ecological Observatory Network, Bugwood.org

[Best Management Practices – Ontario Invasive Plant Council]

Periwinkle
Vinca minor

Identification

Common ID features:

Flowers	Leaves	Growth form
• 20-30 mm wide • Flowers are purple to white in colouration • 5 petals per flower • Visible in late spring to early summer • White star-shaped silhouette sometimes present in center of flower	• Oblong to ovate shaped leaves • Oppositely arranged • Dark glossy green in colour • Short petiole (leaf stem) • Exude a milky juice when crushed/ broken • Faint white veins present	• Vine-like growth • Trailing stems grow close to the ground • Vines can reach up to 15 cm long

Deena C, Bugwood.org

Invasive Species Centre

Jil Swearingen, USDI National Park Service, Bugwood.org

Periwinkle *Vinca minor*

Impacts

Social	Ecological
• Is readily available at local nurseries	• Can aggressively out-compete native ground-layer species • Shallow, trailing roots allow it to escape ornamental gardens and spread to natural forested areas • Grows as a dense ground cover that prevents native tree seedlings from becoming established

Invasive Species Centre

Periwinkle
Vinca minor

Management

Manual Removal

•Cutting plants during active growing season (spring)

•Digging out plants by hand

•Removal of all plant and roots

*can be used as a species for volunteer community pulling events

Invasive Species Centre

Giant hogweed
Heracleum mantegazzianum

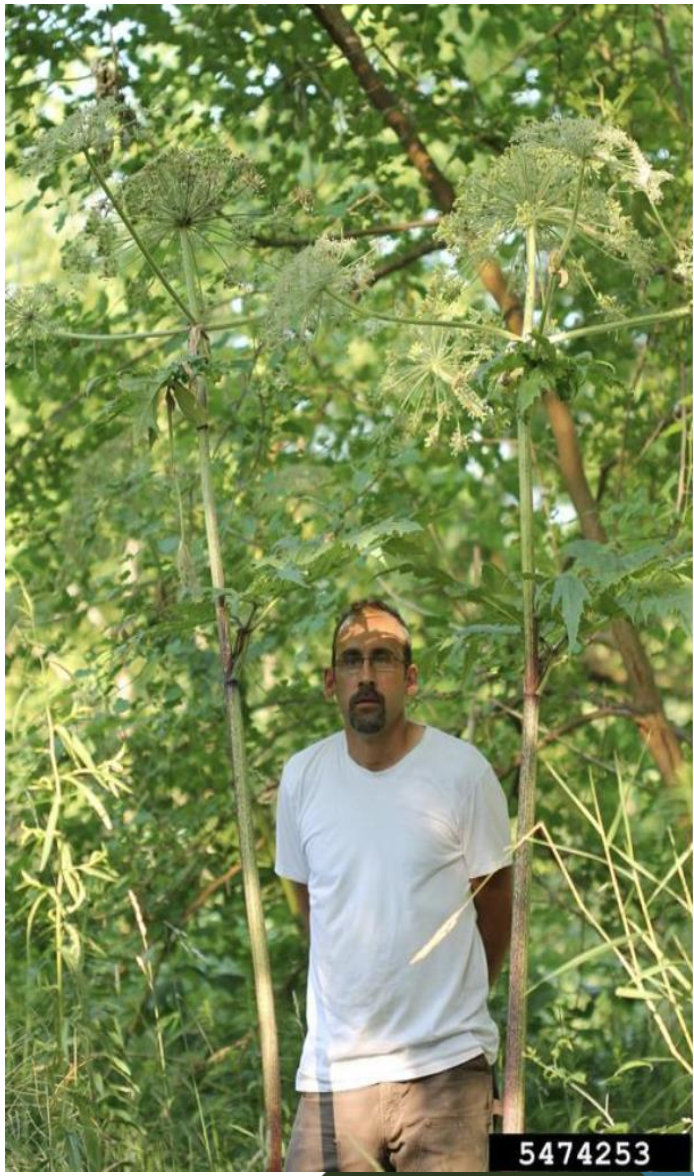
Identification

Common ID features:

Flowers	Growth form
• Flowers appear in early to mid-June • Clustered in white umbel-shaped heads • Can measure up to 1 m in diameter • Each compound umbel can have 50-150 rays (separate stems) which can lead to a single plant producing well over 50,000 flowers	• Under ideal growing conditions, can reach heights up to 5 meters • Heights of 3 - 4.5 meters are most common

Terry English, USDA APHIS PPQ, Bugwood.org

Invasive Species Centre



Rob Routledge, Sault College, Bugwood.org

Giant hogweed *Heracleum mantegazzianum*

Identification Continued

Common ID features:

Leaves	Stem
• Prominently spiked with a pronounced jagged appearance • Mature plant leaves are divided into three equal parts which are then divided into a further 3 parts (ternate) • Smaller plants may just be deeply lobed • Leaves can grow up to 1 m wide. • Leaf tips come to a sharp point	• Can range from 10-15 cm in diameter • Covered in coarse sharp hairs/prickles • Bright green and often speckled with red/ purple blotches • Stems can be entirely purple

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

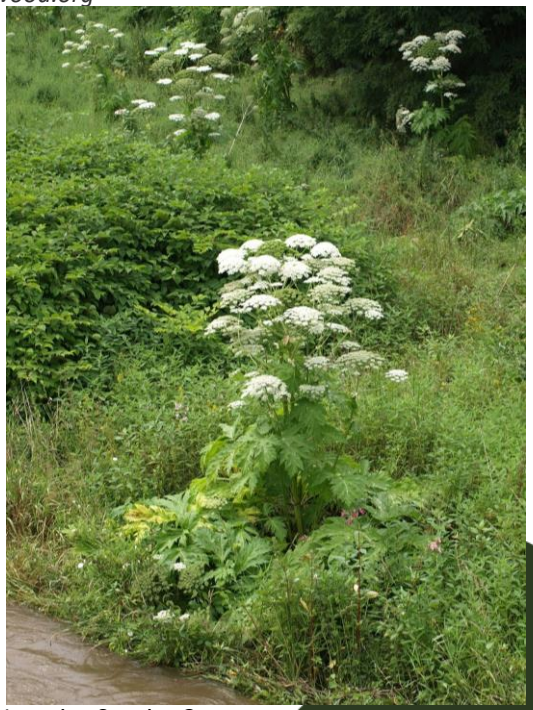
Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Giant hogweed
Heracleum mantegazzianum

Impacts

Economic	Social	Ecological
• Growth in agricultural fields may impacts crop yields	• Contains phototoxic sap which can cause second degree burns with skin contact when exposed to UV light • Can also cause temporary blindness sap is in contact with eyes and exposed to sunlight • May discourage outdoor recreation in areas it is present • Pets are often the ones going blind as they walk through stand	• Shades out native plants • Rapid growth can out compete native plants • Forms dense stands in riparian areas resulting in increased erosion in stream banks, threatening salmon spawning sites

USDA APHIS PPQ - Oxford, North Carolina , USDA APHIS PPQ, Bugwood.org



Invasive Species Centre

Giant hogweed
Heracleum mantegazzianum

Management

Terry English, USDA APHIS PPQ, Bugwood.org

Thomas B. Denholm, New Jersey Department of Agric

***Proper PPE must be worn when working with this plant**

The best time to remove the plant is in late April or early May.

Mechanical Control

- Handpulling/digging
- Mowing
- Tilling
- Flower removal

Chemical Control

- Systematic herbicide

Disposal

- **DO NOT BURN**
- **DO NOT COMPOST**
- Dispose of plant material in construction grade black (labeled) or clear garbage bags & leave in sunlight to dry out (1 week)

Best Management Practices – Ontario Invasive Plant Council

Himalayan balsam *Impatiens glandulifera*

Identification

Leaves	Stem	Growth form
• 6-15 cm long and are widest in the middle • Oblong/egg-shaped with finely serrated margins • Arranged in whorls (usually in threes) • Purple mid-vein	• Stems can be easily snapped or broken • Hollow & square shaped • Green in colour, with tinges of purple and red throughout	• Shallow thin roots • Can reach heights exceeding 2 m

Invasive Species Centre

Invasive Species Centre

Invasive Species Centre

Invasive Species Centre

Himalayan balsam *Impatiens glandulifera*

Identification continued

Common ID features:

Flowers	Seed pods/ capsules
• Light to dark pink • Helmet-shaped • Drooping appearance • 5 irregular petals per flower • Up to 5-10 flowers on each stem.	• Seed pods are light green when young • 3-5 cm long, up to 1.5 cm wide • Contain up to 16 seeds per pod • Seed pods break open and curl when touched dispersing seeds within • Seeds disperse up to 5 m away from parent plant

Invasive Species Centre

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Himalayan balsam
Impatiens glandulifera

Impacts

Invasive Species Centre

Economic	Social	Ecological
• Can be costly to remove large amounts of material	• Can completely take over an area, including walking trails • Spread commonly by people through improper dumping and yard clippings	• Replaces native plants along riparian areas • Shallow root system increases erosion, impacting water quality • Produces a lot of nectar, pulls pollinators from other native species

Himalayan balsam *Impatiens glandulifera*

Management

Mechanical Control

- Hand pulling plants before seed sets (flowered)
- Removing entire plant from shallow root when soil is soft
- Dispose plants in sealed black garbage bags, in direct sunlight for 1-3 weeks
- Larger stands may be mowed with repeated maintenance - essential to get below first node to ensure no regrowth

*herbicide may be used per permit approval (consideration on herbicide treatment around riparian areas)

Invasive Species Centre

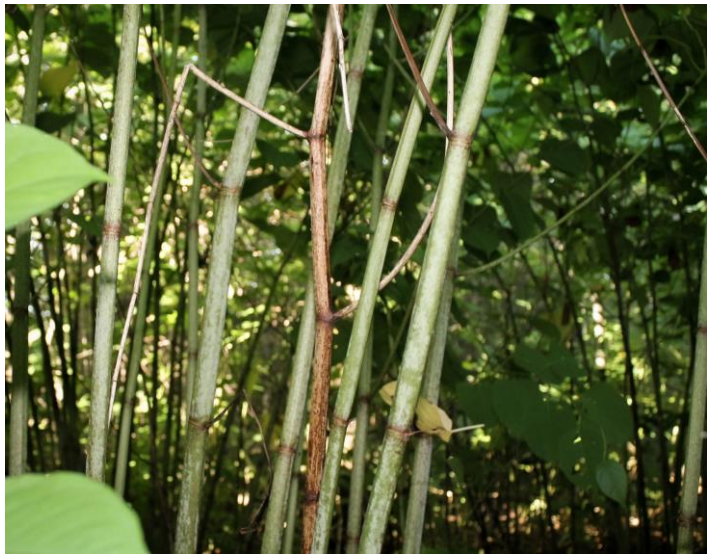
Japanese knotweed
Fallopia japonic

Identification

Common ID features:

Stems	Growth form
• Height 1-3 m • Hollow & bamboo-like in appearance	• New stems appear red to purplish • Turning green with purple specks as they mature • Grows rapidly in large bamboo-like clumps

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org



Invasive Species Centre

Emma Erler, University of New Hampshire, Bugwood.org

Japanese knotweed
Fallopia japonic

Identification Continued

Common ID features:

Leaves	Flowers
• Alternate 10-17 cm long, 1-10 cm wide • Oval to heart shaped with a flat base with pointed tip	• Flowers are greenish-white • Flowers cluster upright along the stem • Flower clusters are longer than closest leaves • Fruits are small and winged which helps wind dispersal

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Jan Samanek, Phytosanitary Administration, Bugwood.org

Invasive Species Centre

Japanese knotweed

Fallopia japonic

Impacts

Invasive Species Centre

Economic	Social	Ecological
• Very expensive to control • Can break through concrete, damaging infrastructure, costing homeowners and reducing property values	• Can take over an area, including public parks/ trails	• Outcompetes native species • Reproduces via rhizomes (only 1 cm fragment needed) • 2/3 of its biomass is underground • Degrades wildlife habitats

Japanese knotweed
Fallopia japonica

Management

Mechanical Control

Mowing or cutting

- Stems once a month throughout growing season
- Combination with other control methods

Tarping plants

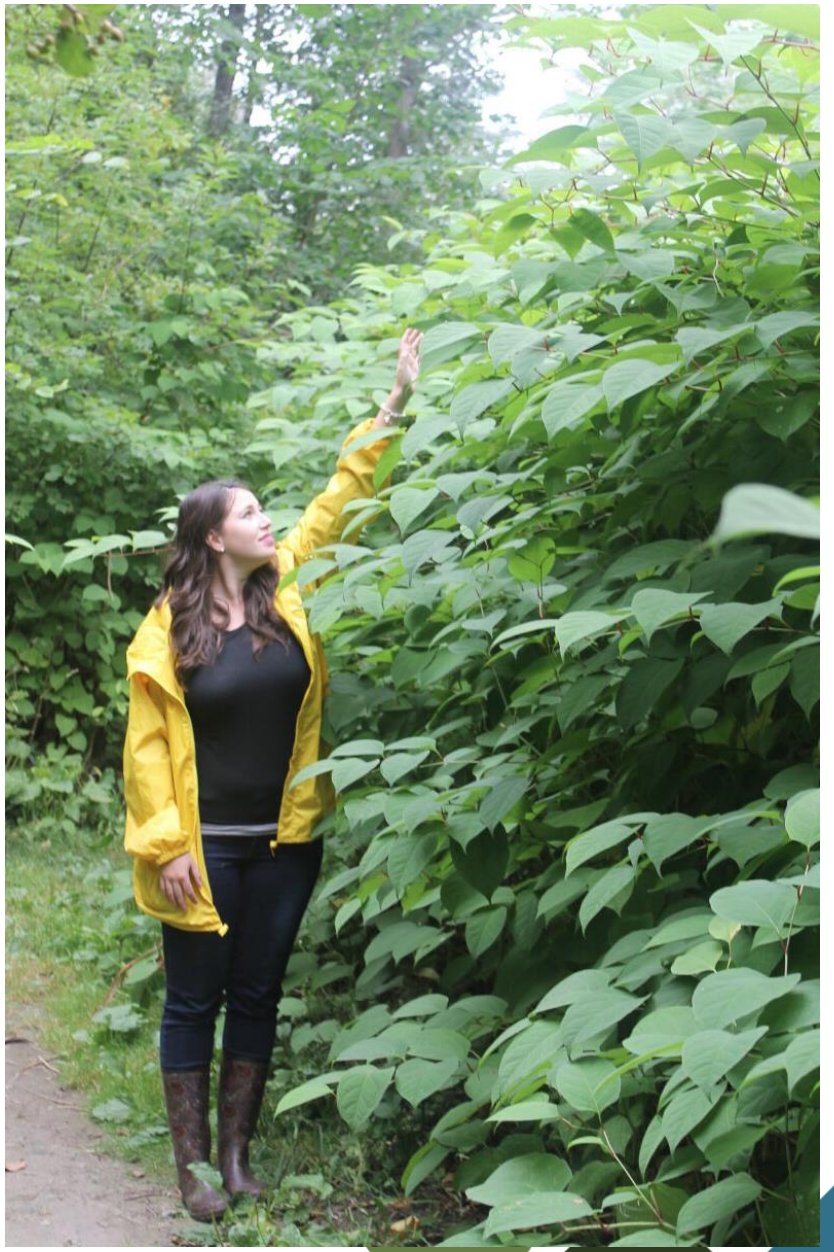
- Late spring and continue through season
- Covering population with dark material to block sunlight, “cooks” the root system
- Re-plant when area is cleared to prevent resprouting

Chemical Control

Herbicide

- Following label directions
- Needs multiple application

BMP is being updated based on emerging research.



Invasive Species Centre

Best Management Practices- Ontario Invasive Plant Council

Common buckthorn *Rhamnus cathartica*

Identification

Common ID features:

Berries	Leaves	Flowers
• Black fruits are produced on the female trees and are found in dense clusters in the leaf axils (where the leaf attaches to the stem) • Appear in July and August • Each fruit contains 3-4 seeds and has deep narrow grooves on the back. • Fruits remain well into winter	• Dark green & smooth to the touch • Oppositely to sub oppositely arranged • 3-5 strongly curved veins arching toward the tip of the leaf • Finely serrated leaf margins	• Pale green/ yellow • Four-petals per flower • 6 mm across and appear in early June on short threadlike stalks.

Paul Wray, Iowa State University, Bugwood.org

Invasive Species Centre

Invasive Species Centre

Common buckthorn *Rhamnus cathartica*

Identification Continued

Growth	Bark
• Ranges in size from a shrub to small tree • Can reach heights of up to 6 - 7 meters tall • Older specimens can have trunks up to 25 cm in diameter	• The cambium layer (directly under the bark) is bright orange. • Bark is dark greyish brown in colouration with distinct small lenticels (small circular or elongated scars) scattered throughout the trunk and branches. • Younger bark will appear smoother and shinier, while older bark develops a roughened texture as it matures.

Richard Webb, Bugwood.org

Chris Evans, University of Illinois, Bugwood.org

Common buckthorn *Rhamnus cathartica*

Impacts

Economic	Social	Ecological
• Outcompeting forest regeneration • Creates even-aged stands	• Encroaching on established trails • Reducing aesthetic value by reducing wildflowers • Openings left by the loss of ash trees are being taken over by buckthorn • Hazardous due to terminal thorns	• Berries are purgative • Outcompetes forest regeneration and vegetation • Allelopathic • Spreads quickly

Invasive Species Centre

Common buckthorn *Rhamnus cathartica*

Management

Mechanical Control

Hand pulling

- When soil is soft (fall/ early winter)
- Removing entire root (re-sprouting occurs)
- Weed wrench tool for plants up to 5cm in diameter

Cutting

- Causes sprouting (other management required)
- Cut stump without herbicide, place bag to cover over stumps

Girdling

Larger plants that cannot be pulled

- Girdle down to the Cambrian layer
- Band should be 3 inches wide

*girdling will cause resprouting

Disposal at municipal compost, pile branches before they dry and ensure no seeds are present

*ensure there are no seed present if disposing at compost

Chemical Control

Herbicide application

- Following label instructions
- Cut stump method late to early spring

Chris Evans, University of Illinois, Bugwood.org

[Best Management Practices in Ontario- Ontario Invasive Plant Council]

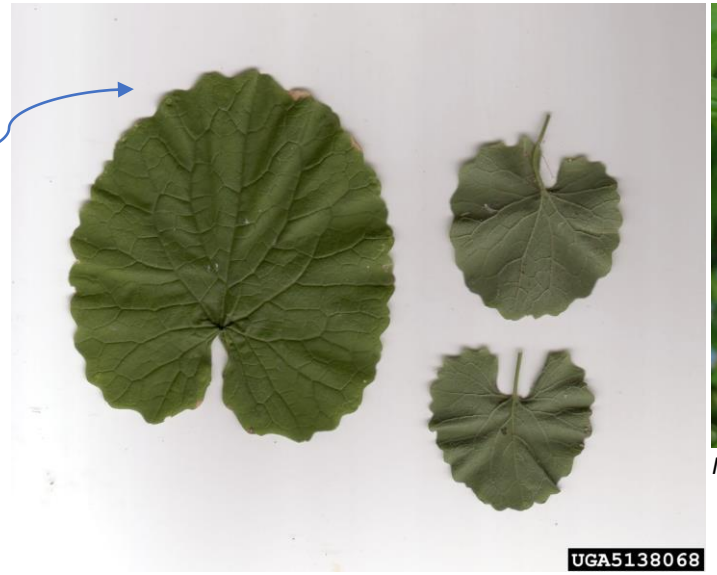
Garlic mustard

Alliara petiolata

Identification

Growth	Flowers	Leaves
• "S" shaped taproot	• 4 white petals, 2nd yr flowering stalk • Flowers in early May	• 3-4 leaves per rosette • Dark green kidney shape • Scalloped margins, deep veins • Appear alternate on stem 2nd year growth • Smells like garlic when crushed

First Year Leaf



Lynn Sosnoskie, University of Georgia, Bugwood.org

Invasive Species Centre

Invasive Species Centre

Second Year Leaf (seed Producing plant)

David Cappaert, Bugwood.org

Garlic mustard
Alliara petiolata

Impacts

Economic	Ecological
• Long-term management plans are required to control populations • Stands can double in size every four years	• Outcompetes and inhibits the growth of native species, including species at risk like American ginseng • Allelopathic • Thrives in wide variety of conditions, including forest understory • Not a valuable food source for animals

Steven Katovich, Bugwood.org

Garlic mustard

Alliara petiolate

Management

Manual Removal

- Hand pulling
  - Plants can be hand pulled- remove the whole “S” shaped taproot
  - Focus your control efforts on the second year (seed-producing) plants, removing these prevents further seed dispersal
  - Start with outlying populations and work your way in, this will prevent edge expansion

Connie Gray, GA-EPPC, Bugwood.org

*Remove before seeds drop: mid-May to early June

*Do not compost, place is construction grade garbage bags sealed tightly, and place in direct sunlight for 1 week.

*Ideal plant for a community invasive species pull

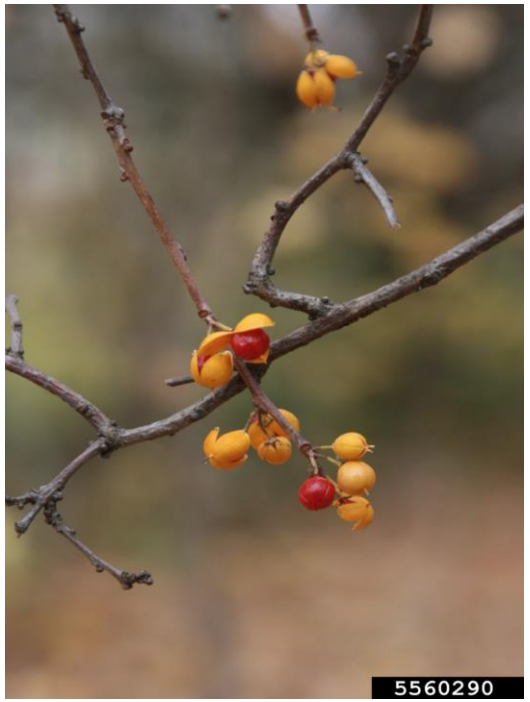
Oriental bittersweet
Celastrus orbiculatus

Identification

Growth	Bark
• Young stem looks bright green and grows to have red-brown bark • Leaves are round with toothed edge • Alternates leave along stem • Yellow fruit appear in late summer and splits with red center on the fall	• Bark has cracked fish netted texture • Smooth stems climb by winding around host plants

Chris Evans, University of Illinois, Bugwood.org

Chris Evans, University of Illinois, Bugwood.org



Chris Evans, University of Illinois, Bugwood.org

Chris Evans, University of Illinois, Bugwood.org

Oriental bittersweet *Celastrus orbiculatus*

Impacts

Ecological	Social
• Grows rapidly and shades out native vegetation • Weaken mature trees with weight of woody vines • Displaces native plants by stealing space, light, water and other crucial resources •Girdles trees which can “cut” off flow of water and nutrients	• Trees that are covered with Oriental bittersweet are susceptible to damage in ice, snow and windstorms, due to the added weight, creating a hazard to human health

David L. Clement, University of Maryland, Bugwood.org

Oriental bittersweet
Celastrus orbiculatus

Management

Mechanical Control

Cutting – consistent cutting or mowing vines if done often throughout the growing season, may eventually deplete the plant's energy reserves.

Hand pulling - Manage seedlings and small populations by hand pulling or digging. Monitor sites where it has been observed and removed for possible regrowth.

• Be cautious when moving soil in areas where Oriental bittersweet is present. Root fragments can resprout and become a new plant.

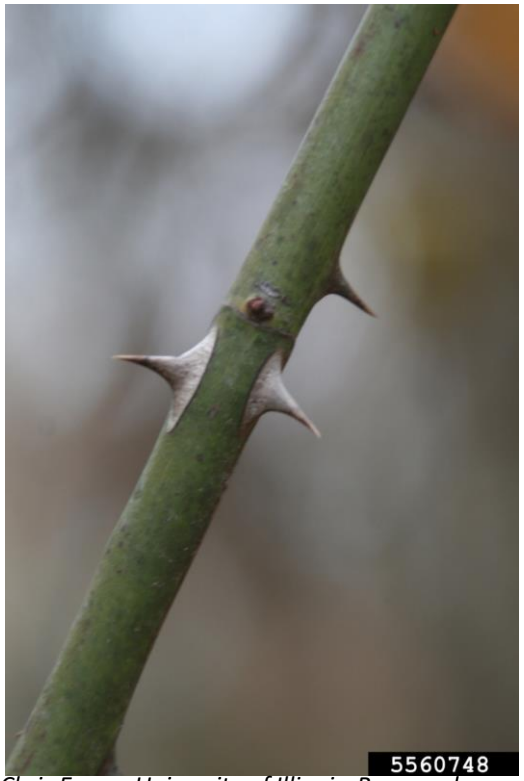
Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Multiflora rose *Rosa multiflora* Identification

Leaves	Flowers	Fruit
• Alternate; pinnately compound • 5-11 leaflets with serrated edges • Green and smooth on surface, paler with short hairs on underside	• Clusters of white/pink flowers • Blooms May-June	• Oval, bright red and fleshy • <6mm diameter • Fruits Aug-winter

Rob Routledge, Sault College, Bugwood.org

Chris Evans, University of Illinois, Bugwood.org



Chris Evans, University of Illinois, Bugwood.org

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Multiflora rose

Rosa multiflora

Impacts

Richard Gardner, Bugwood.org

John M. Randall, The Nature Conservancy, Bugwood.org

Economic	Social	Ecological
• Thickets can invade agricultural fields • Reduce grazing areas • Degrade forage quality	• Can invade and restrict recreational areas with thickets	• Grows rapidly once established • Invades native plant communities • Thickets shade out native species for light and nutrients

Multiflora rose
Rosa multiflora

Management

Nancy Dagley, USDI National Park Service, Bugwood.org

Mechanical Control

Hand pulling

- Seedlings
- Digging out the root

Hand cutting

- Pruning back thickets to allow other plants to grow (continued maintenance)
- Early spring or summer followed by another cut in the fall

Mulching

- Before leaf-out (winter/early spring)

Chemical (not during bird nesting season)

- Foliar – when leaves are fully opened (July- mid Sept)
- Cut Stump/Stem - during dormant season, cut stem as close to the ground as possible
- Basal bark- dry conditions, apply all around stem

Disposal in municipal compost

* Proper PPE must be worn when working with this plant

[Best Management Practice- Ontario Invasive Plant Council]

Yellow iris
Iris pseudacorus

Identification

Flowers	Leaves	Seed pods
• Irregular yellow flowers • 3 large drooping sepals with purple veins & brown spots at the base • 3 smaller erect petals • 2-3 flowers per stalk • Flowers May-July	• Blue-green in colour • Sword-shaped & flattened in a “V” as they emerge • Emerge from base of plant • Pink rhizomes	• Glossy green, oblong capsules • Seeds are “puck” shaped

Nancy Loewenstein, Auburn University, Bugwood.org

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

John Ruter, University of Georgia, Bugwood.org

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Yellow iris
Iris pseudacorus

Impacts

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Economic	Social	Ecological
• Mats may clog irrigation systems and storm management ponds • Decreases recreational areas in areas of infestation	• Toxic to humans and animals if ingested • Plant sap can cause skin irritation	• Forms dense mats to shade out native vegetation

Yellow iris
Iris pseudacorus

Management

Mechanical Control

Hand pulling & digging

- April-June
- Several times throughout growing season
- Wear gloves pulling entire rhizome
- Use sharp spade & remove entire rhizome

Selective cutting in water

- April-June
- Remove leaves and cut stem below waterline, submerge all stems in 10cm of water

Remove seed pods

- Wear gloves & use clippers to sever seed pods
- Dispose in garbage bags

Benthic barriers

- Once a year to be placed over several growing seasons
- Cut plant down to base
- Place heavy PVC barrier (dig trench & push liner into sediment)

Disposal should be removed from site & placed into garbage bags in the sun for 2-3 weeks

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

[Best Management Practices – Ontario Invasive Plant Council]

Communities in Bloom Advisory Committee

MINUTES

A meeting of the Stratford Communities in Bloom (CIB) Advisory Committee was held on Thursday, March 7, 2024 at 12:00 p.m., in the Mansbridge Room at the Stratford Rotary Complex.

Committee Members: Councillor Brad Beatty – Chair Presiding, Mary-Anne Krutila, Carys Wyn Hughes, Cindy Carlson, Councilor Bonnie Henderson, Barb Hacking

Staff: Vicky Trotter – Council Committee Coordinator, Casey Riehl – Recording Secretary

Also Present: Lucy Chung, Lucas Tingle

Absent: Kimberly Richardson

1. Call to Order

Councillor Beatty, Chair presiding, called the meeting to order at 12:02 p.m.

Land Acknowledgment

Moment of Silent Reflection

2. Declaration of Pecuniary Interest

None declared.

3. Delegation: Stratford District Secondary School Eco Club Urban Farming Project – Presentation by Lucy Chung

Lucy Chung, from the SDSS Eco Club presented an outline and plan for the new urban farming project that the students are working on. The location is near the end of Smith Street at O'Loane Avenue. They presented a letter of intent to the City and the residents in the area and followed up with a petition for them to sign in support of the

garden. In August 2023, students tarped the area to kill off the grass to start preparing the garden. They have received $1,000.00 from a Youth in Action grant to help fund the garden and have also received a donation of all the seeds they will need to start the project. They will be starting seeds in the greenhouse in March and April and then begin planting in the garden in May and June.

Some of the planting practices they are using are sustainable and regenerative farming, two different planting times with two harvest cycles, netting in lieu of pesticides and they plan to purchase a large water tote to water the garden and the City's Community Services Department has agreed to fill the tote with water as needed.

Some plants that they hope to plant and harvest are spinach, carrots, beets, lettuce, kale, tomatoes, peppers, zucchini, swiss chard and onions. They plan to donate a large portion of the fresh produce to the SDSS student run kitchen, the Screaming Avocado, to use for classes and community meal events that they organize.

They will be planting trees that have been donated along O'Loane Avenue and also some pollinators to protect the garden from debris and dust from the road.

The Eco Club would like to put up an educational sign at the garden explaining what it is they are doing and how they can contact them if they are interested in getting involved. They are looking into one of the trades classes at SDSS to possibly make the sign for them.

Councillor Beatty inquired if the students were available this summer to share their presentation with the CIB National judges that will be visiting Stratford in July. Lucy Chung stated that they look forward to doing a presentation for them.

Councillor Beatty stated that CIB has a relationship with an organization called Nutrition for Life and they currently have a grant application available for community groups. Cindy Carlson will forward the information to Christine Ritsma. Barb Hacking suggested the TD Friends of the Environment grants might be a good option also.

Mary-Anne Krutila suggested that the students could partner with CIB for their annual plant sale at the Stratford market in the spring. The students also have a spring plant sale and Lucy Chung suggested that they could bring any plants that are left from their sale.

Cindy Carlson reported that there is a great interest in the garden with local residents and there should be no problem getting volunteers to help with the garden over the summer.

4. Adoption of the Previous Minutes – January 25, 2024

Motion by Barb Hacking
Seconded by Mary-Anne Krutila

THAT the minutes from the Communities in Bloom Advisory Committee meeting dated January 25, 2024 be adopted as printed. Carried

5. Business Arising from Previous Minutes

5.1 Update on Ted Blowes Garden – Barb Hacking

Barb hacking provided the following update on the Ted Blowes Garden:

- There is a lot of dog waste bags being thrown into the garden. She will contact the Parks & Forestry Manager to inquire if extra garbage cans can be placed there.
- Cleanup has not started in the garden yet as they are waiting until the weather gets consistently warmer for the pollinators.
- The lights on the bridge and the lights on the waterfall are now coordinated. There has not been any vandalism lately, however one bench will require repainting in the spring.

5.2 2024 CIB National Update/CIB Initiatives/Judging Plans – Councillor Beatty

Councillor Beatty has received the registration form for Stratford to register for the International Challenge Category for 2024. On the application, Stratford has requested dates in early July for the judges to visit.

Staff will forward a copy of the 2022 profile book to CIB members for their reference working on this year's book.

Motion by Carys Wyn Hughes
Seconded by Mary-Anne Krutila

THAT the Communities in Bloom Advisory Committee spends $1,975.00 from their 2024 Budget to register for the 2024 CIB National Judging in the International Challenge Category. Carried

5.3 Hosting the 2025 National Symposium – Carys Wyn Hughes/Kimberly Richardson/Mary-Anne Krutila

Councillor Beatty reported that the request to host the 2025 CIB Symposium here in Stratford has gone to Council and they have supported the request. Currently, staff is preparing a management report for this request. Subsequently, CIB National has stated that Stratford does not need to secure a loan, create an Ad-Hoc Committee as originally discussed. CIB National only requires $5,000.00 in order to be in Charlottetown for the Saturday dinner this year. Stratford will be required to supply support for CIB National when they are here. The Stratford CIB Committee will need to arrange for volunteers to assist during the event.

Councillor Beatty reported that the staff management report will be going to the March 25, 2024 Council meeting. Once the report has gone to Council and they have approved the event, CIB can begin moving forward with plans.

5.4 Landscape Design Plan Update – Councillor Beatty/Barb Hacking

Barb Hacking, Councillor Beatty and Quin Malott, Parks & Forestry Manager, will arrange a meeting with Scott Wentworth to discuss continuing plans.

5.5 City Gateways Project Update – Carys Wyn Hughes/Kimberly Richardson

Vicky Trotter, Council Committee Coordinator, explained the current wayfinding plan is to complete signage in the downtown area and work their way out. Without the funding to support moving ahead with the wayfinding plan, staff is unable to progress through the list. Without securing a grant or alternate funding, this huge multi-million dollar plan is moving at a slow pace. The gateway signs are part of the City's wayfinding plan.

6. New Business

6.1 2024 CIB Planter Day – Councillor Beatty

The committee discussed the upcoming CIB planter day at the Stratford Market. As in the past, they will hold the event the first Saturday after the Victory Day long weekend in May. The date for this year will be Saturday, May 25, 2024.

Councillor Beatty will make the arrangements for a booth at the market that day. He also noted that the CIB colour for plantings in 2024 is orange. Carys Wyn Hughes will contact the Corporate Communications Specialist and let him know the date of this year's event and to post some information. Barb Hacking will arrange for flowers to be purchased. Cindy Carlson will contact SDSS to inquire if they would like to participate.

Motion by Carys Wyn Hughes
Seconded by Mary-Anne Krutila
THAT the Communities in Bloom Advisory Committee spends up to a maximum of $300.00 to purchase flowers to give away at the CIB Planter Day on May 25, 2024. Carried

6.2 Stratford District Secondary School/St. Michael's Secondary School Perimeter

The Eco Club from SDSS has been working at cleaning up around their school. CIB member would like to discuss with the Parks & Forestry Manager the possibility to place additional garbage cans in that area. Further discussion at upcoming meetings to facilitate a change.

7. Upcoming Events

- Planter Day - Saturday, May 25, 2024

8. Date of Next Meeting

The next meeting of the CIB Advisory Committee will be held on Thursday, April 4, 2024, at 12:00 p.m., City Hall – Council Chamber, 1 Wellington Street, Stratford.

9. Adjournment

Motion by Mary-Anne Krutila
Seconded by Carys Wyn Hughes
THAT the March 7, 2024 Communities in Bloom Advisory Committee meeting adjourn. Carried

Meeting Start Time: 12:02 P.M.
Meeting End Time: 1:03 P.M.

Communities in Bloom Advisory Committee

MINUTES

A meeting of the Stratford Communities in Bloom (CIB) Advisory Committee was held on Thursday, April 4, 2024 at 12:00 p.m., Stratford City Hall – Council Chamber, 1 Wellington Street, Stratford

Committee Members: Councillor Brad Beatty – Chair Presiding, Mary-Anne Krutila, Cindy Carlson, Councilor Bonnie Henderson

Staff: Vicky Trotter – Council Committee Coordinator, Casey Riehl – Recording Secretary

Absent: Kimberly Richardson, Carys Wyn Hughes, Barb Hacking

1. Call to Order

Councillor Beatty, Chair presiding, called the meeting to order at 12:00 p.m.

Reading of the Land Acknowledgement and a Moment of Silent Reflection.

Reading of the Respectful Workplace Policy.

2. Declaration of Pecuniary Interest

None declared.

3. Adoption of the Previous Minutes

The minutes from the March 7, 2024 meeting will be listed on the May 9, 2024, agenda for consideration.

4. Business Arising from Previous Minutes

4.1 Update on Ted Blowes Garden

Barb Hacking confirmed there are no updates at this time.

4.2 2024 CIB National Update/CIB Initiatives/Judging Plans

Councillor Beatty reported that he has not yet received the dates that the judges will be visiting Stratford. He has shared with CIB members the link to access the CIB National Website so members can keep up to date with events and projects.

On April 6, 2024 Councillor Beatty will be participating in a CIB Ontario course to be re-certified with his CIB judging credentials.

4.3 2025 National Symposium

Councillor Beatty reported that Stratford City Council has voted in support of Stratford hosting the 2025 CIB National Symposium. On June 5, 2024, the representatives from the CIB National office will be visiting Stratford to begin discussing plans.

Vicky Trotter, Council Committee Coordinator, sent a memo to all Advisory Committees regarding the composition of working groups within Advisory Committees. Ms. Trotter will inquire further with the Clerk on parameters that CIB should be following, specifically people volunteering with garden upkeep and volunteers assisting with the symposium.

Councillor Beatty suggested that CIB could possibly submit a request to Council to increase the citizen positions on the Committee for 2025 to assist during the symposium.

4.4 Landscape Design Plan Update

Councillor Beatty reported that Barb Hacking has contacted Scott Wentworth and he will be providing a more detailed landscape design plan in May.

5. New Business

5.1 Advisory Committee Budget Memo

Vicky Trotter, Council Committee Coordinator reminded Advisory Committee members that plans should be in place by the end of the June CIB meeting to

ensure that projects get completed and invoices are paid before year-end. Unspent budget funds cannot be carried over to the next year.

5.2 Sponsorship Requests

Councillor Beatty inquired with Vicky Trotter regarding how CIB and CIB National can reach out to the community for sponsorship funds for the National Symposium they will be hosting in 2025. Ms. Trotter will inquire with the Director of Corporate Services on the City's policies surrounding grant applications and sponsorships and how CIB can move forward if grants and sponsorships become available in the future.

6. Upcoming Events

- CIB Garden Fling (Stratford Farmer's Market) - Saturday, May 25, 2024

7. Date of Next Meeting

The next meeting of the CIB Advisory Committee will be held on Thursday, May 9, 2024, at 12:00 p.m., Rotary Complex – Mansbridge Room, 353 McCarthy Road W., Stratford.

8. Adjournment

Motion by Cindy Carlson
Seconded by Mary-Anne Krutila
THAT the April 4, 2024 Communities in Bloom Advisory Committee meeting adjourn. Carried

Meeting Start Time: 12:00 P.M.
Meeting End Time: 12:33 P.M.

Communities in Bloom Advisory Committee

MINUTES

A meeting of the Stratford Communities in Bloom (CIB) Advisory Committee was held on Thursday, May 9, 2024 at 12:00 p.m., Rotary Complex – Mansbridge Room, 353 McCarthy Road W., Stratford ON

Committee Members: Councillor Brad Beatty – Chair Presiding, Mary-Anne Krutila, Cindy Carlson, Councilor Bonnie Henderson, Kimberly Richardson, Carys Wyn Hughes, Barb Hacking

Staff: Vicky Trotter – Council Committee Coordinator, Casey Riehl – Recording Secretary

1. Call to Order

Councillor Beatty, Chair presiding, called the meeting to order at 12:02 p.m.

Reading of the Land Acknowledgement and a Moment of Silent Reflection.

Reading of the Respectful Workplace Policy.

2. Declaration of Pecuniary Interest

None declared.

3. Adoption of the Previous Minutes

Motion by Carys Wyn Hughes
Seconded by Mary-Anne Krutila
THAT the minutes from the Communities in Bloom Advisory Committee meetings dated March 7, 2024 and April 4, 2024 be adopted as printed.
Carried

4. Business Arising from Previous Minutes

4.1 Update on Ted Blowes Garden

Barb Hacking and Bernie Van Herk have cleaned up the garden and cleared it of debris.

The bridge was lit up with red, green and white to welcome the Welsh Festival visitors to Stratford as the Ted Blowes Garden was included in their bus tour.

Ms. Hacking will purchase flowers for the garden soon and they also have sunflowers left over from a couple of years ago that can be planted on either side of the bridge. The canna lilies will also be replanted and some will be used for the Garden Fling at the Stratford Market.

Motion by Councillor Henderson
Seconded by Carys Wyn Hughes
THAT the Communities in Bloom Advisory Committee spends up to a maximum of $1,000.00 from their 2024 budget to purchase supplies and flowers for the Ted Blowes Memorial Garden. Carried

4.2 2024 CIB National Update/Judging Plans

Councillor Beatty reported that the dates for the National Judges visiting Stratford has been confirmed and they will be visiting from July 21-23, 2024. Susan Ellis and Bob Ivison will be the judges this year. Mr. Ivison has previously visited Stratford as a judge so members will have to adjust the tours to be mindful that Mr. Ivison has previously toured Stratford.

CIB members will each take a section of the profile book to update and highlight new events or efforts since the last book:

- Itinerary – Councillor Beatty;
- Tidiness – Kimberly Richardson;
- Environment – Councillor Henderson;
- Heritage – Mary-Anne Krutila;
- Landscaping/Urban Forestry – Quin Malott;
- Floral Displays – Barb Hacking;
- Community Involvement – Cindy Carlson/Carys Wyn Hughes.

Councillor Beatty will send the 2022 profile book to Vicky Trotter to download as a working document. Kimberly Richardson suggested having one working

document on Microsoft Teams that members can add to and update. Ms. Trotter will work on setting up the Teams document. Alternatively, members can update their section and send it to Ms. Trotter to upload.

Some items that members suggested adding to this year's itinerary are:

- talk about Winterfest;
- tour of Stratford Hospice and new serenity garden;
- visit the Screaming Avocado at SDSS;
- activity at the Stratford Chef School;
- Music in the Park (Sunday evening);
- judges as delegates at Council meeting (Monday evening);
- ghost walk (Monday evening);
- Indigenous talk/event (Falstaff Centre);
- new peony garden;
- visit the Stratford-Perth Archives;
- SDSS eco-garden tour with students or meet for a social or meal.

Kimberly Richardson will also set up a Teams document to collect new pictures. Members can e-mail the pictures to Ms. Richardson and she will upload them.

Members are requested to have their updated section to Brad Beatty no later than June 17, 2024.

Staff will send the 2022 evaluation report that was received from the judges for everyone's information.

4.3 2025 National Symposium

Councillor Beatty reported that Sonia Parrino will be in Stratford on June 5, 2024 to tour venues, discuss tour options, view gardens, tour accommodations and discuss plans and sponsorship opportunities for the symposium. A block of time has been booked from 10:00 a.m. to 3:00 p.m. to take her on a tour. Kimberly Richardson, Carys Wyn Hughes and Vicky Trotter will create an itinerary for the day. Councillor Beatty will contact Mike Mousley, Transit Manager to arrange for transportation, Tim Wolfe, Director of Community Services, to discuss the Rotary Complex, and Quin Malott, Cemetery Manager, Parks & Forestry Manager for tours of the City parks and gardens.

Kimberly Richardson suggested stopping at Destination Stratford to meet with their Director to discuss options.

Councillor Beatty has contacted all local hotels and booked all available rooms for the symposium. Currently, there are 184 rooms reserved, however this is not an adequate number of rooms that will be required to accommodate all the visitors.

4.4 Landscape Design Plan Update

Barb Hacking spoke with Scott Wentworth regarding the design plan and they will meet to discuss an updated plan. Ms. Hacking will provide an update for the June CIB meeting.

4.5 SDSS Eco-Club Community Garden

Vicky Trotter discussed with CIB members the process required if they wish to make a donation to the SDSS Eco Club for their community garden. As an Advisory Committee, they are not permitted to make donations with their budget funds, nor purchase items as a donation. If CIB members would like to proceed with a donation, they would be required to make a motion requesting that Council consider re-allocating the funds specifically for a donation to the Eco Club. When setting their budget request in the future, the committee can outline the purchase of materials for community projects.

Members discussed purchasing signage for the garden in lieu of a donation. This could be CIB's 30th Anniversary project in partnership with SDSS. Cindy Carlson will contact Christine Ritsma at SDSS and request a budget breakdown of specific items that the students require for the garden. Ms. Carlson will also inquire if a partnership is something that SDSS would be interested in and if the partnership would be a one-time financial obligation with signage or would it be ongoing financial support.

Kimberly Richardson is no longer present at the meeting (1:04 p.m.)

5. New Business

None noted.

6. Upcoming Events

- CIB Garden Fling (Stratford Farmer's Market) - Saturday, May 25, 2024

- Meeting with CIB National - Wednesday, June 5, 2024 (10-3 p.m.)

- National Judges Visiting Stratford – July 21-23, 2024

7. Date of Next Meeting

The next meeting of the CIB Advisory Committee will be held on Wednesday, June 5, 2024, at 3:00 p.m., Rotary Complex – Mansbridge Room, 353 McCarthy Road W., Stratford.

8. Adjournment

Motion by Councillor Henderson
Seconded by Carys Wyn Hughes
THAT the May 9, 2024 Communities in Bloom Advisory Committee meeting adjourn. Carried

Meeting Start Time: 12:02 P.M.
Meeting End Time: 1:12 P.M.