



BOARD OF DIRECTORS

March 5, 2026



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Board of Directors Meeting

Thursday, March 5, 2026 at 6:00 p.m.

Hamilton Conservation Authority conducts meetings in a hybrid format: in-person and via WebEx platform.

All meetings can be viewed live on HCA's You Tube Channel:
<https://www.youtube.com/user/HamiltonConservation>

1. **Call to Order** – Brad Clark
 - 1.1. Land Acknowledgment
2. **Declarations of Conflict of Interest**
3. **Approval of Agenda**
4. **Delegations**
5. **Consent Items for Applications, Minutes and Correspondence**
 - 5.1. Permit Applications Summary Report Page 1
 - 5.2. Approval of Board of Directors Minutes – February 5 ,2026 Page 5
 - 5.3. Approved – December 11, 2025 Conservation Advisory Board Minutes – for receipt only Page 17
6. **Foundation Briefing** Foundation Chair – André Chabot
7. **Member Briefing**
8. **Business Arising from the Minutes**

9. Reports from Budget & Administration Committee and Conservation Advisory Board

9.1. Conservation Advisory Board – February 12, 2025 – Wayne Terryberry
(Recommendations)

9.1.1. CA 2601 Volunteer Program Business Plan Page 23

9.1.2. CA 2602 2025 Westfield Artifact Accession and Deaccessions Page 37

9.1.3. CA 2603 Hemlock Woolly Adelgid Management Plan Page 59

10. Other Staff Reports/Memorandums

Reports to be approved

10.1. Valens Lake Conservation Area Campfire Wood Contract – Brandon Good Page 103

Memorandums to be received

10.2. 2025 Annual Monitoring Program Summary – Mike Stone Page 107

10.3. Watershed Conditions Memorandum – Jonathan Bastien Page 115

10.4. Conservation Areas Services Update – Brandon Good Page 119

11. New Business

12. In-Camera Items

12.1. Confidential Verbal Update - BD/Mar 01-2026
(Land Matter)

13. Next Meeting – Thursday, April 2, 2026 at 6:00 p.m.

14. Adjournment



Report to: Board of Directors

Approved for Circulation By: Lisa Burnside, CAO

Reviewed By: T. Scott Peck, MCIP, RPP, Deputy Chief Administrative Officer/Director, Watershed Management Services

Prepared By: Mike Stone, MCIP, RPP, Senior Manager, Watershed Planning, Stewardship & Ecological Services

Meeting Date: March 5, 2026

Subject: Permit Applications Summary Report

HCA permit applications approved by staff under the *Conservation Authorities Act* and *Ontario Regulation 41/24* between the dates of January 24, 2026 to February 20, 2026 are summarized in the following Permit Applications Summary Report (PASR-2/26).

Recommendation:

THAT the Board of Directors receive this Permit Application Summary Report PASR-2/26 as information.

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HAMILTON REGION CONSERVATION AUTHORITY**DEVELOPMENT, INTERFERENCE WITH WETLANDS, AND ALTERATIONS TO SHORELINES AND WATERCOURSES APPLICATIONS**

February 20, 2026

Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses Applications Report to the Board of Directors of the Hamilton Region Conservation Authority, March 05, 2026

The proposed works are subject to Ontario Regulation 161/06, and in particular Section 2, Subsection (1).

SUMMARY ENFORCEMENT REPORT SER 2/26

File Number	Date Received	Date Permit Issued	Review Days	Applicant Name	Location	Application Description	Recommendation / Conditions
F/F,C,A/25/82	30-Oct-25	10-Feb-26	15		277 Rock Chapel Rd Lot 19, Concession 2 Flamborough	for the installation of natural gas service lines and associated site alteration	Approved subject to standard conditions.
F/C/26/02	29-Jan-26	17-Feb-26	21		166 Highway No. 8 Lot 6, Concession 2 Flamborough	for the construction of an addition to an existing dwelling	Approved subject to standard conditions.
D/F,A/26/01	12-Jan-26	17-Feb-26	38		Olympic Dr at York Rd Lot , Concession Dundas	for the inspection of sections of NPS 20 gas pipeline	Approved subject to standard conditions.
F/F,A/26/03	25-Nov-25	19-Feb-26	57		522 Highway 6 Lot 13, Concession 3 Flamborough	pre-grading for the proposed iConnect subdivision	Approved subject to standard conditions.
A/A/26/06	29-Jan-26	19-Feb-26	14		Hydro corridor from Olympic Rd to Garner Rd E Lot , Concession Ancaster	Hydro One insulator replacement program for Q24HM-NEALE JCT-SOUTHCOTE JCT, Q25BM & Q23BM-NEALE JCT-BURLINGTON DSN	Approved subject to standard conditions using Hyrdo One SCR.

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2. Election of Officers

2.1 Election Procedures

Jo-Anne Rzaszki outlined the election procedures for members, indicating that nominations for each office would be called three times and should there be more than one nominee for each position, a vote by secret ballot would be held. Following this, all offices were declared vacant.

2.2 Appointment of Scrutineers

The scrutineers were appointed with the following motion:

BD12, 3580

**MOVED BY: Lisa DiCesare
SECONDED BY: Wayne Terryberry**

THAT, if more than one person is nominated, Scott Peck and Matt Hall be appointed scrutineers; and further

THAT all voting ballots (AGM Election Procedure) be destroyed after the meeting is concluded.

CARRIED

2.3 Election of 2026 Board Chair

Jo-Anne Rzaszki called for nominations for the 2026 Chair of the Hamilton Conservation Authority.

**Nominated: Brad Clark
By – Mover: Lisa DiCesare**

Nominations were called twice more; no additional nominations were received. Brad Clark accepted the nomination and the election for the office of Chair of the HCA Board of Directors for 2026 was then closed and the position acclaimed with the following resolution:

BD12, 3581

**MOVED BY: Jeff Beattie
SECONDED BY: Matt Francis**

THAT Brad Clark be confirmed as Chair of the Hamilton Conservation Authority Board of Directors for 2026

CARRIED

2.4 Election of 2026 Board Vice Chair

Nominations were called for the 2026 Vice-Chair for the Hamilton Conservation Authority.

Nominated: Susan Fielding
By – Mover: Wayne Terryberry

Nominations were called twice more; no additional nominations were received. Susan Fielding accepted the nomination and the election for the office of Vice Chair of the HCA Board of Directors for 2026 was then closed and the position acclaimed with the following resolution:

BD12, 3582

MOVED BY: Lisa DiCesare
SECONDED BY: Jeff Beattie

THAT Susan Fielding be confirmed as Vice-Chair of the Hamilton Conservation Authority Board of Directors for 2026

CARRIED

2.5 Board Representatives to the Budget and Administration Committee

Jo-Anne Rzaszki advised that the Budget & Administration Committee requires up to three members from the Board of Directors, joining the Chair and Vice-Chair to sit on the Committee. Following the call for expressions of interest, Jo-Anne Rzaszki read the motion that declared members of 2026 Budget and Administration Committee:

BD12, 3583

MOVED BY: Brad Clark
SECONDED BY: Jeff Beattie

THAT Lisa DiCesare, Alex Wilson and Maureen Wilson be confirmed as members of the Budget & Administration Committee for 2026.

CARRIED

2.6 Board Representatives to the Conservation Advisory Board

Jo-Anne Rzaszki indicated that the Conservation Advisory Board would be appointed; up to three directors may sit as members of CAB. Interested members were asked to indicate their willingness to serve on the Board. The following resolution was read, indicating the members of the Conservation Advisory Board:

BD12, 3584

MOVED BY: Susan Fielding

SECONDED BY: Alex Wilson

THAT Elise Copps, Craig Cassar and Wayne Terryberry be confirmed as members of the Conservation Advisory Board for 2026.

CARRIED

2.7 Election of 2026 Chair to Conservation Advisory Board

Nominations for the 2026 Chair of the Conservation Advisory Board were held.

**Nominated: Wayne Terryberry
By – Mover: Brad Clark**

Nominations were called twice more. Having no further nominations, Jo-Anne Rzdaki asked Wayne Terryberry if he accept the nomination. The election for the office of Chair of the HCA Conservation Advisory Board for 2026 was then closed and the position acclaimed with the following resolution:

BD12, 3585

**MOVED BY: Susan Fielding
SECONDED BY: Elise Copps**

THAT Wayne Terryberry be confirmed as Chair of the Hamilton Conservation Authority Conservation Advisory Board for 2026

CARRIED

3. Call to Order

The Chair called the meeting to order and thanked Jo-Anne Rzdaki for assisting with the 2026 Annual General Meeting.

4. Declarations of Conflict of Interest

The Chair asked members to declare any conflicts under the Board's Governance Policy. There were none.

5. Approval of Agenda

The Chair requested any additions or deletions to the agenda. Lisa Burnside indicated that an addendum was circulated, that contained one item of correspondence received will be added to number 7, Consent Items for Applications, Minutes and Correspondence, and will appear under 7.4 on the agenda, labeled an.

BD12, 3586**MOVED BY: Elise Copps
SECONDED BY: Craig Cassar****THAT the agenda be approved, as amended.****CARRIED****6. Delegations**

There were none.

7. Consent Items for Applications, Minutes and Correspondence

The following consent items were adopted:

- 7.1. Permit Applications Summary Report
- 7.2. Approval of Board of Directors Minutes – December 4,, 2025
- 7.3. Approved – October 9, 2025 Conservation Advisory Board Minutes – for receipt only
- 7.4. Email Correspondence Regarding ERO, 025 -1257, Changes to the Conservation Authorities Act, labeled a to am.

8. Foundation Briefing

André Chabot reported that the Foundation has had a great start to the 2025/26 fiscal year with strong fundraising performance. Total donations for December 1, 2025 to January 31, 2026 is **\$243,402**, significantly higher than the **\$117,202** recorded in the same period last year. This growth is driven by the Foundation's successful fall and year end appeals, two major gifts from new donors, and expanding community partnerships. The Foundation is very pleased with this strong Q1 performance. As a reminder, Q4 and Q1 are historically the Foundation's highest-performing fundraising periods, driven by fall appeals and year-end giving. Q2 and Q3 tend to be quieter months; this early momentum is important to help carry the Foundation through the slower fundraising cycle.

Gift Highlights include:

1. **\$100,000** in support of Saltfleet from two donors:

1. \$50,000 from Wawanesa Insurance, awarded through the Wawanesa Climate Champions: Local Grant program.

2. \$50,000 from an anonymous donor.
2. **\$40,000** from the Friends of Westfield for priority projects at Westfield.
3. **\$40,000** raised through our fall direct mail appeal, in support of outdoor education, trail development, land acquisition and greatest needs.
4. **\$20,000** gift from a former participant in HCA's landowner stewardship program.
5. **\$10,000** from the Hamilton Community Foundation in support of Transportation subsidies for the Outdoor Education Program in Dundas Valley.
6. **\$4,000** from the ScotiaMcLeod Share the Wealth Foundation, John Trim Group. John received a community builder award from Scotiabank for his volunteer work, including the Paris 2 Ancaster race. He donated his award to various charities, and we were honored to be selected as a recipient.

Looking Ahead to 2026: The fundraising priorities for the year will remain focused on:

1. Fully funding the Environmental Education Program with annual commitment up to \$125,000.
2. Securing funding for ongoing and future work done at Saltfleet Conservation Area.
3. Raising funds to support future land acquisition.
4. Continuing to support other projects outlined in the HCA master plans, in consultation with HCA staff.

The Foundation is optimistic about continuing this positive momentum and look forward to another successful year of partnership and support.

BD12, 3587

**MOVED BY: Matt Francis
SECONDED BY: Craig Cassar**

THAT the Foundation Briefing be received.

CARRIED

9. Member Briefing

There was none.

10. Business Arising from the Minutes

There was none.

11. Reports from Budget & Administration Committee and Conservation Advisory Board

- 11.1. Conservation Advisory Board – December 11, 2025
(Recommendations)

11.1.1 Ecological and Water Resources Monitoring Comprehensive Plan

Wayne Terryberry provided an overview of the staff report indicating the goal of the Plan is to integrate all of the current ecological monitoring programs: aquatic, terrestrial, water quality and the Natural Areas Inventory. Additionally, gaps in monitoring efforts will be addressed in order to provide a broader understanding of the health of the watershed.

BD12, 3588

**MOVED BY: Wayne Terryberry
SECONDED BY: Elise Copps**

THAT the Conservation Advisory Board recommend to the Board of Directors,

THAT the document titled “Hamilton Conservation Authority’s Ecological and Water Resource Monitoring Programs – A Comprehensive Plan for Program Development, Integration and Implementation November 2025”, be approved.

CARRIED

12. Other Staff Reports/Memoranda

Reports to be Approved

- 12.1. Hamilton Conservation Authority – Appointment of Officers under the Conservation Authorities Act

Liam Fletcher provided an overview of the report and answered members’ questions.

BD12, 3589

**MOVED BY: Wayne Terryberry
SECONDED BY: Susan Fielding**

THAT the HCA Board of Directors appoint the staff identified in Attachment A as Officers under Section 30.1 of the *Conservation Authorities Act*, for the purposes of enforcing the *Conservation Authorities Act* and related

regulations, as well as the *Trespass to Property Act*, as more specifically identified in Attachment A.

CARRIED

12.2. 2026 Schedule of Meetings

Lisa Burnside provided an overview of the staff report and answered members' questions.

BD12, 3590

**MOVED BY: Alex Wilson
SECONDED BY: Elise Copps**

THAT the HCA Board of Directors' 2026 Meeting Schedule contained within this report be approved.

CARRIED

12.3. 2026 Voting Members for Conservation Ontario

Lisa Burnside provided a summary of the staff report and answered members' questions.

BD12, 3591

**MOVED BY: Lisa DiCesare
SECONDED BY: Alex Wilson**

THAT the following members be appointed to Conservation Ontario for 2026:

Designate: Chair

Alternate: Vice Chair

**Second Alternate: Chief Administrative Officer,
and further**

THAT Conservation Ontario be advised of these appointments.

CARRIED

12.4. Appointment of Auditors for 2026 Fiscal Year

Scott Fleming provided an overview of the staff report and answered members' questions.

BD12, 3592**MOVED BY: Susan Fielding
SECONDED BY: Wayne Terryberry****THAT the Hamilton Conservation Authority appoints
KPMG LLP as its auditors for the 2026 fiscal year.****CARRIED**Memorandums to be Received**12.5. Annual Reporting on CA Permit Review Timelines – January 1, 2025 to
December 31, 2025**

Mike Stone provided a summary of the staff report indicating that the HCA issued 92 Permits in 2025 and achieved a high level of compliance with the review timelines established under the CA Act as well as the guidelines suggested by Conservation Ontario.

BD12, 3593**MOVED BY: Ales Wilson
SECONDED BY: Elise Copps****THAT the memorandum entitled Annual Reporting on CA
Permit Review Timelines – January 1, 2025 to December
31, 2025 be received.****CARRIED****12.6. Watershed Conditions Report**

Scott Peck presented a summary of the memorandum, highlighting November 24, 2025, to January 23, 2026, there were no significant watercourse flooding events, and no Lake Ontario shoreline flooding events. However, three rain and snowmelt events warranted issuing messages and additional monitoring of watercourse conditions. As the season progresses towards spring, the water containment in the snow along with the ground conditions will be monitored for flood conditions.

BD12, 3594**MOVED BY: Craig Cassar
SECONDED BY: Matt Francis****THAT the memorandum entitled Watershed Conditions
Report be received.****CARRIED**

12.7. Conservation Areas Services Update

Liam Fletcher provided a summary of the memorandum indicating that the conservation areas will be open for winter activities during the Family Day weekend, including on-ice activities at Valens Lake Conservation Area.

BD12, 3595

**MOVED BY: Wayne Terryberry
SECONDED BY: Susan Fielding**

THAT the memorandum entitled Conservation Areas Services Update be received.

CARRIED

13. New Business

There was none.

14. In-Camera Items

BD12, 3596

**MOVED BY: Wayne Terryberry
SECONDED BY: Jeff Beattie**

THAT the Board of Directors moves *in camera* for matters of law, personnel and property.

CARRIED

During the *in-camera* session, two land matters were discussed.

14.1. Confidential Report – BD/Feb 01-2026 (Land Matter)

Scott Peck provided a summary of the staff report and answered members' questions.

BD12, 3597

**MOVED BY: Craig Cassar
SECONDED BY: Wayne Terryberry**

THAT Report BD/Feb 01-2026 be approved and remain in camera.

CARRIED

14.2 Confidential Report – BD/Feb 02-2026
(Land Matter)

Scott Peck provided a summary of the staff report and answered members' questions.

BD12, 3598

MOVED BY: Susan Fielding
SECONDED BY: Alex Wilson

THAT Report BD/Feb 02-2026 be approved and remain in camera.

CARRIED

BD12, 3599

MOVED BY: Susan Fielding
SECONDED BY: Elise Copps

THAT the Board of Directors moves out of closed session.

15. Next Meeting

The next meeting of the Board of Directors will be held on Thursday, March 5, 2026 at 6:00 p.m. at the HCA Main Administration Office – Woodend Auditorium, 838 Mineral Springs Road, Ancaster, Ontario.

16. Adjournment

On motion, the meeting adjourned.

Scott Fleming
Secretary-Treasurer

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HAMILTON CONSERVATION AUTHORITY

Conservation Advisory Board

MINUTES

December 11, 2025

Minutes of the Conservation Advisory Board meeting held on Thursday, December 11, 2025 at 4:00 p.m., at the HCA main office, 838 Mineral Springs Road, in Ancaster, and livestreamed on YouTube.

PRESENT: Wayne Terryberry – in the Chair
Tyler Cunningham Jamie Freeman
Haley McRae Sherry O’Connor
Noah Stegman

REGRETS: Brad Clark, Craig Cassar, Susan Fielding, Natalie Faight, Cortney Oliver

STAFF PRESENT: Madolyn Armstrong, Jonathan Bastien, Lisa Burnside, Marlene Ferreira, Matt Hall, Lesley McDonell, Allison Morgan, Eva Novoselac, Scott Peck, Mike Stone, Jaime Tellier, Claire Webber, Sandra Winninger and Zgurzynski

OTHERS: Media – None

1. Welcome

The Chair called the meeting to order and welcomed everyone present.

2. Declaration of Conflict of Interest

The Chair asked members to declare any conflicts under the HCA Administrative By-law. There were none.

3. Approval of Agenda

The Chair requested any additions or deletions to the agenda. Lisa Burnside

THAT the Member Briefing regarding the Motion from the Board of Directors December 4, 2025 meeting regarding Bill 68/ERO be received.

CARRIED

5.1.3 HCA's response to Environmental Registry Ontario (ERO), 025 -1257 regarding the Consolidation of Ontario's Conservation Authorities

Lisa Burnside reviewed the HCA's response to ERO 025-1257 and answered members' questions.

CA 2528

**MOVED BY: Jamie Freeman
SECONDED BY: Tyler Cunningham**

THAT the Member Briefing regarding HCA's response to Environmental Registry Ontario (ERO), 025 -1257 regarding the Consolidation of Ontario's Conservation Authorities be received.

CARRIED

5.2 Trail Signage System Implementation Update

Madolyn Armstrong shared a presentation and provided an update of the trail signage system implementation and answered members' questions

CA 2529

**MOVED BY: Jamie Freeman
SECONDED BY: Hayley McRae**

THAT the Member Briefing regarding the Trail Signage System Implementation Update be received.

CARRIED

6. Chairman's Report on Board of Directors Actions

Wayne Terryberry indicated that the following items were approved at the December 4, 2025 Board of Director's meeting:

6.1 CA 2522 HCA's Planning Regulations Policy Document

6.2 CA 2523 Final Eramosa Karst Conservation Area Master Plan and Chippawa Rail Trail Management Plan for Approval

7. Approval of Minutes of Previous Meeting

7.1. Minutes – Conservation Advisory Board (October 9, 2025)

**CA 2530 MOVED BY: Noah Stegman
 SECONDED BY: Sherry O'Connor**

**THAT the minutes of the October 9, 2025 Conservation
Advisory Board meeting be approved.**

CARRIED

8. Business Arising from the Minutes

There was none.

9. Staff Reports/Memorandums

Reports for Recommendation

9.1. Ecological and Water Resources Monitoring Comprehensive Plan Title

Lesley McDonell provided a summary of the report highlighting that the goal of the Plan is to integrate all of the current monitoring programs: aquatic, terrestrial, water quality and the Natural Areas Inventory, address gaps in monitoring efforts which will provide a broader understanding of the health of the watershed and will help report on trends and changes overtime. Communication strategies will also be developed to explain watershed science and report on the impacts of climate change.

Questions regarding monitoring locations were raised. Scott P noted that monitoring occurs on HCA owned/managed lands, except for three sites, where there are existing agreements (City of Hamilton and Bruce Trail Association) as part of Category 1 programs. Noah Stegman indicated that McMaster University has sensors in lower Ancaster Creek as part of a well monitoring program in addition to reports relating the tracking of insect populations that could be shared with the HCA's ecology department.

In response to a question regarding the monitoring of erosion in the Dundas Valley, it was noted that the Dundas Valley receives storm water run-off from the communities of Dundas and Ancaster, which effects the Valley recreationally as well as environmentally. Monitoring will help determine the overall health of the Valley.

CA 2531 MOVED BY: Jamie Freeman

CARRIED**9.4 HCA 2025 Climate Change Initiatives Update and 2026 Priorities**

Allison Morgan gave an overview of the memorandum, highlighting the HCA uses its Climate Change Strategy to guide the organization's efforts to reduce greenhouse gas emissions. Since 2019, total green house gas emissions have been reduced by 66 tCO_{2e}, due in part to the upgrade fleet vehicles; two hybrid electric trucks and one electric truck were purchased. Additional projects are planned for 2026, such as implementing charging stations for HCA fleet vehicles at HCA conservation areas.

Discussion occurred with respect to finding ways to further reduce greenhouse emissions. It was noted that by 2034, 100% of the eligible vehicles within the fleet will be replaced with alternately fueled vehicles. Some vehicles and equipment are not eligible for replacement as the alternative is not operationally efficient.

CA 2534**MOVED BY: Haley McRae
SECONDED BY: Noah Stegman****THAT memorandum HCA 2025 Climate Change Initiatives
Update and 2026 Priorities be received****CARRIED****10. New Business**

There was none.

11. Next Meeting

The next meeting of the CAB is scheduled for Thursday, February 12, 2026 at 4:00 p.m., at the HCA Main Administration Office – Woodend Auditorium.

12. Adjournment

On motion, the meeting was adjourned.

Report to: Conservation Advisory Board

Approved for Circulation By: Lisa Burnside, CAO

Reviewed By: T. Scott Peck, MCIP, RPP, Deputy CAO, Director, Watershed Management Services
Amanda Martin, Executive Director, Hamilton Conservation Foundation

Prepared By: Claire Webber, Volunteer Engagement Coordinator

Meeting Date: February 12, 2026

Subject: Volunteer Program Business Plan

Recommendation:

THAT the Conservation Advisory Board recommends to the Board of Directors:

THAT the HCA Volunteer Business Plan be approved as presented

Executive Summary:

The Volunteer Program Business Plan works towards the strategic priority of “Connecting People to Nature” and encompasses both the Corporate and Community Volunteer Programs, setting clear goals for the 2026 programming season and beyond.

The aim of the Volunteer Program is to increase the involvement of community members and interest groups, businesses, and partner organizations in a variety of environmental-based projects within HCA property. This will lead to increased public awareness of the efforts of the HCA team to prioritize ecological stewardship and emphasize the great work that is being done to enhance conservation efforts in our spaces.

As such, the Volunteer Program will expand community engagement, connect people to nature, and advance HCA’s strategic goals.

Staff Comment / Discussion:

The HCA's Strategic Plan 2025-2029 under the "Connecting People to Nature" priority has identified the following initiative.

- Enhance volunteer engagement opportunities and outreach efforts, promoting a sense of stewardship and community involvement.

The Volunteer Program Business Plan addresses this strategic initiative and highlights the HCA's priority to providing the community with opportunities to meaningfully engage in natural areas by participating in volunteer projects. Further, it also highlights our interest in fostering relationships within the community through non-governmental organizations, the municipality, academic institutions, community groups, interest groups, and individuals.

Likewise, the Hamilton Conservation Foundation's new strategic plan has identified the opportunity to formalize its Corporate Engagement Strategy to offer employee engagement and team-building opportunities for corporate groups, while raising funds to support the important work that HCA does.

This work directly coincides with HCA's Strategic Plan (2025-2029) Priority under "Connecting People to Nature" to support the volunteer engagement coordinator to review existing and upcoming projects and identify new opportunities and outreach efforts.

Program Enhancements

- Experience Menu
 - Establish a menu of volunteer experiences to offer to corporate and community groups (tree plantings, invasive species removals, trail maintenance, guided hikes, etc.)
- Website Updates
 - Publish experience menu content and ongoing offerings on HCA & HCF websites to allow for open access to event and booking details
- Group Bookings
 - Organize and deliver five corporate volunteer experiences for the 2026 programming season. This will include a gift or sponsorship of the program, and groups will receive an Impact Report and social media features
 - Facilitate 12 open community events that are accessible to the general public as an entry point to the community of volunteers
- Shared Calendar
 - Create a seasonal suite of community volunteer opportunities and input dates into shared events calendar

- Stats Tracking
 - o Track all volunteer profiles, hours, and event details via DonorPerfect for easier reporting and data analysis
- Volunteer Recognition
 - o Facilitate three levels of volunteer appreciation—thank you messages, personalized thank you cards & calendars, a Volunteer Appreciation Night in November 2026 at Woodend

Implementation

HCA will minimize the need for additional resources by matching volunteer opportunities with current projects outlined in the Ecology and Stewardship workplans.

The number of volunteer events per department will be limited in an effort to alleviate the existing workload and provide human power to assist with projects like invasive removals, plantings, and trail maintenance.

This thoughtful approach ensures that the program is not a burden on the staff team but rather a boon to park operations and internal departmental goals.

Collaboration with the marketing and communications team is critical to support each volunteer offering, including access to EventBrite, promotional support, digital and social media promotion.

Participation in the suite of volunteer events will be monitored and evaluated throughout the programming lifecycle to inform future decision making.

Strategic Plan Linkage:

The initiative refers directly to the HCA Strategic Plan 2025 – 2029:

- **Strategic Priority Area – Connecting People to Nature**
 - Expand volunteer engagement opportunities through the establishment of an HCA Volunteer Program

Agency Comments:

N/A

Legal / Financial Implications:

Costs associated with the proposed 2026 Volunteer Programming season will be offset

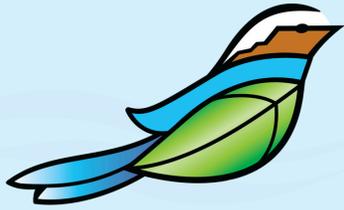
through corporate donations raised through the program itself, with any excess funds supporting HCA restoration and trail improvement projects.

A budget line will be established through the Hamilton Conservation Foundation to track revenue and spending and allow for accurate reporting and responsible fiscal management. This will also provide opportunities to forecast budget requirements in future years as the program continues to grow and evolve.

Volunteers will sign off on all liability waivers, Notice of Collection and photo consent prior to engaging in volunteer activities through HCA.

Related Reports and Appendices:

Volunteer Program Business Plan 2025-2026.pdf



**Hamilton Conservation
Authority | Foundation**

Volunteer Program Business Plan 2025 - 2026



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Introduction

The Hamilton Conservation Authority and Hamilton Conservation Foundation previously offer a small number of volunteer opportunities for corporate groups and community members. As the need for Corporate Social Responsibility (CSR) and Environmental Social Governmental (ESG) strategies and recognition grow, so does our opportunity to make an impact. Additionally, developing Corporate and Community Engagement Strategies within the Volunteer Program is central to both the Hamilton Conservation Foundation and Hamilton Conservation Authority's Strategic Plans.

In this proposal, we will outline how the Corporate and Community Volunteer Engagement Strategies will work in tandem, defining the scope of each program and highlighting the goals that we will work towards. It is worthy of note that these programs will be facilitated simultaneously, and will require dedication and flexibility to best achieve both sets of goals during the 2026 programming season.



Background Research



Prior to the creation of this proposal, I conducted a series of Discovery Calls with various Conservation Authorities to gain an understanding of how their programs function operationally, as well as how their volunteer and corporate engagement strategies were initially developed. This information was used to inform our Business plan by developing comparable processes and procedures, as well as using lessons learned from these colleagues.

Further details are outlined in **“HCA Volunteer Program Discovery Call Summary Report” (June 2025)**

Programming Elements:

- Program numbers & scale
- Staffing
- Software
- Waivers
- Reporting
- Budget
- Participant Recruitment
- Volunteer Recognition
- Corporate Engagement Program Pricing

Results & Discussion:

- All CAs facilitate private events for corporate groups and ask for a donation to offset the costs of event facilitation, though this ask varies greatly
- Ensuring that there are enough projects for both corporate and community groups within the field season can be difficult and we will need to figure out our priorities as a CA

Corporate Volunteer Strategy

Developing a Corporate Engagement Strategy is central to the Hamilton Conservation Foundation’s Strategic Plan to offer **employee engagement and team-building** opportunities for corporate groups.

Additionally, these opportunities will be aligned with the HCA’s priority projects and Conservation Area plans, and will work towards the strategic goal of **Connecting People to Nature**



01 | Experience Menu

Establish a menu of volunteer experiences for corporate groups

- Tree Plantings
- Invasive Species Removals
- Trail Maintenance
- Beyond!

02 | Website Updates

Publish experience menu content and ongoing offerings on HCF website

- Accordion-style display
- Prices included, with flexibility for budgets
- See “Ways of Giving” proposal for more information & pricing suggestions

03 | Group Bookings

Goal to book 5 corporate volunteer experiences for 2026 season

- Includes an event sponsorship
- Impact Reports & social media features

5
Corporate Group
Volunteer Experiences

10k
Fundraising Goal for
2026

Community Volunteer Strategy

Further to the goal of **Connecting People to Nature**, the community volunteer strategy will aim to foster relationships within the community through non-governmental organizations, the municipality, academic institutions, community groups, interest groups, and individuals.

We will strive to become a haven for new graduates by providing opportunities for hands-on experiential learning, career development, and building networks within the environmental field.

01 | Shared Calendar

Create a seasonal suite of community volunteer opportunities and input dates into Shared Events Calendar

- Goal: 1 open community volunteer event per month

02 | Stats Tracking

Track all volunteer profiles, hours, and event details via Volunteer Management Software for easier reporting and data analysis

- Goal: Add 100 active volunteers to the DonorPerfect VMS database in 2026

03 | Working Group

Establish a Volunteer Engagement Working Group with stakeholders from across various departments.

- Goal: increase number of volunteer opportunities and cross-departmental collaborations



12

open community events
in 2026

100

active volunteers in
2026

Volunteer Committees

The previous Volunteer Committee included a wide range of stakeholders involved in various aspects of the volunteer program. With the appointment of the Volunteer Engagement Coordinator, and to ensure that everyone’s time is well-spent, we are suggesting that the group is split into a Steering Committee and a Working Group.

01 | Steering Committee

- **Waivers & Liability**
 - Digital Waivers (migration to SmartWaiver as per Digital Transformation Plan)
 - Review Liability Concerns & ensure best practices are being met (creation of Youth Liability Waiver, etc.)
- **Business Planning**
 - Review ongoing proposals and program changes, review & approve budgeting and offer recommendations
- **Programming**
 - Opportunity to bring ideas and new collaborators to the program
 - High-level insight on strategic direction & planning for upcoming priorities within the Strategic Plan and Master Plans

02 | Working Group

- **Waivers & Liability**
 - Review Superintendents role during volunteer events
 - Review volunteer event booking protocol
- **Programming**
 - Opportunity to bring ideas and new collaborators to the program
 - Disclose any volunteer events that have been booked by parks staff (sent in advance of the meeting to compile a seasonal calendar)



This change will result in:

- Increased staff engagement in the volunteer program across HCA
- Opportunities to collaborate & create a rich and diverse set of experiences for our volunteers

Volunteer Recognition

To ensure that our volunteers feel that their contributions are acknowledged, we will facilitate three levels of volunteer appreciation. This will provide volunteers with insight into how their efforts support the broader picture at HCA.

Thank you messages

After each event, including post-event report with impact statistics
Includes survey link to provide anonymous feedback



Personalized thank you letters & calendars

Volunteers with 10+ hours
Corporate groups who made a donation
Sent in December 2025

Volunteer Appreciation Night

Hosted at Woodend in 2026
Light refreshments and mingling
Slideshow of photos & kudos from the year
Trivia game with prizes



Budget Proposal 2026

In order to effectively run a Volunteer Program, we are requesting an annual operating budget. This will allow for accurate fiscal reporting, responsible financial management, and budget forecasting for future years as the program continues to grow and evolve.

Below are the proposed budget expenses for the 2026 fiscal year. Revenue sources can be generated from corporate donations and grants, allowing the program to become self-sustaining in years to come.

HCA & HCF Volunteer Program Budget Proposal 2026

Revenue Sources	Estimated Revenue	Notes
Events		
5+ Corporate Events	\$5,000.00	Existing partnerships for annual events (RBC, Aviva, etc.) new leads and connections
Grants related to volunteering	\$5,000.00	Trans Canada Trail, Wawanesa, etc.
Total=	\$10,000.00	
Expense	Estimated Cost	Notes
Direct Costs		
Food & Refreshments	\$2,000.00	Granola bars, apples, etc.
Volunteer Appreciation	\$1,200.00	Annual volunteer appreciation night, swag for volunteers with 50+ hours
Training & Development	\$250.00	Creating videos and other training resources for leadership positions
Trail Clean Up Equipment	\$750.00	Garbage bags, recycling bags, gloves
Pick Stick Replacements	\$300.00	Replacing broken pick-sticks over time
Misc. Event Supplies	\$500.00	Name tags, Cups for water jug, hand sanitizer, etc.
Capital Expenditures		
DonorPerfect Volunteer Matrix or Better Impact	\$3,000.00	\$100/month when invoiced and paid annually + HST (DP) or annual fee (BP)
Canopy for Outdoor Events	\$350.00	Extra canopy for use when tent is unavailable
Indirect Costs		
Staff Travel (mileage)	\$1,650.00	When HCA Fleet Vehicles are unavailable in busy field season
Total=	\$10,000.00	

Next Steps

We look forward to putting these goals and strategies into action! As the program continues to grow and evolve, we encourage all stakeholders to:

- **Provide feedback** to help build HCA's Volunteer Program into something we can all be proud of
- **Get involved** by joining in on a volunteer event or collaborating as a host
- **Build the HCA volunteer community** by speaking with volunteers and connecting with them to learn about their own goals and experiences

Let's continue Connecting People to Nature in meaningful ways throughout our beautiful watershed!

Thank you for your continued support and guidance as we continue to enhance the volunteer program at HCA & HCF



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Report to: Conservation Advisory Board

Reviewed & Approved for Circulation By: Lisa Burnside, CAO

Prepared By: Rondalyn Brown, Manager, Westfield Heritage Village
Peter Lloyd, Collections Officer, Westfield Heritage Village

Meeting Date: February 12, 2026

Subject: 2025 Westfield Artifact Accessions and Deaccessions.

Recommendation:

THAT the Conservation Advisory Board recommends to the Board of Directors:

THAT the Westfield 2025 Artifact Accessions and Deaccessions List be accepted as the artifacts to be added to the Westfield Heritage Village Conservation Area and the Hamilton Conservation Authority collection or artifacts to be removed from the WHVCA and HCA collection.

Executive Summary:

Westfield is a living history museum dedicated to the collection, preservation and presentation of objects associated with the cultural and natural history of this area. Westfield maintains an artifact and archival collection consisting of more than 25,000 objects reflecting the social, cultural and material history of the area. The museum is committed to managing this collection according to current professional standards for acquisition, preservation, documentation, research, deaccession and use of the artifact collection.

Objects acquired for the collection will be consistent with the mandate, goals and priorities of the site. Objects collected will normally represent the types of material goods that would have been locally manufactured, routinely available or the product of local activity in Southern Ontario from the period 1790-1925. They must be in a condition suitable for display or research.

Objects in the collection that have been accessioned in error or that are in very poor condition, and or incomplete to the extent that they are no longer an asset to the museum, will be removed from the collection in accordance with our collection policy and the best practices of the Ontario Museums community.

The purpose of this report is to bring forward items to add to, or subtract from, the artifact collection as detailed by staff below.

Staff Comment / Discussion:

Westfield staff is diligent about adhering to the very important collections management and provincial museum standards to ensure the HCA is managing the artifact collection in a professional manner.

Westfield 2025 Artifact Accessions List

The following items are recommended to be accepted into the Westfield Heritage Village Conservation Area permanent artifact collection in 2025.

- Deck of playing cards, early 20th Century
- Card Table cover
- Bridge Tournament score cards, group of 5
- Fabric art patterns, group of 3
- 1 Pair checkered mittens
- Set of four brass beading trays
- 6 miniature china doll torsos
- Steel guitar slide
- Brass pocket match box
- Dress, 1898
- 1 Pair, brass carriage lamps
- Set of 7 cups and saucers Mason's Vista pattern, mid 1800's
- Medical weigh scale and bassinet for weighing babies
- Electric lamp, S and S brand, Brass shade, early 20th Century
- Buggy Jack
- Group of two garden rakes, wood and metal
- Group of three glass decanters
- Silver plate decanter stand
- Clockwork rotisserie "spit jack" for open hearth cooking
- Wooden tea cart early 20th Century

- Group of 3 rug hooking devices
- Group of two hooking awls
- Group of seven crochet hooks
- 1 Pair, sewing scissors, crane motif.
- Group of 12 glass bottles, hand made
- Telephone, Daffodil style, early 20th Century

Westfield 2025 Artifact Deaccessions List

Please see the attached Excel file (Westfield deaccession list 2025.xlsx) to review the list of items recommended to be removed from the Westfield Heritage Village Conservation Area permanent artifact collection, due to their very poor and incomplete condition, in 2025.

Strategic Plan Linkage:

The initiative refers directly to the HCA Strategic Plan 2025 - 2029:

- **Strategic Priority Area – Connecting People to Nature**
 - Initiatives – Strengthen and continue to deliver environmental and cultural heritage education and outreach programs that connect people to nature and foster conservation

Agency Comments:

Not applicable.

Legal / Financial Implications:

HCA assumes liability and responsibility for the appropriate and professional management of the Westfield Heritage Village artifact collection.

Related Reports and Appendices:

- Westfield Deaccession List 2025

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Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	001.0013.0001	eye glasses, pince				Deaccessioned 2025	Warehouse	
O	001.0074.0004	rug, rag - canvas				Deaccessioned 2025	Warehouse	
O	005.0040.0006	tin container "instant aids for cuts and				Deaccessioned 2025	Storehouse	
O	005.0040.0007	tin container "instant aids for cuts, bu				Deaccessioned 2025	School	
O	005.0052.0066	rag rug, hooked				Deaccessioned 2025	Storehouse	
O	005.0053.0003	crock, 1 gallon, medalta				Deaccessioned 2025	Warehouse	
O	007.0006.0010	soup bowl			china, bridgewood and son, white with gold trim, gold grape design, @ 1880s	Deaccessioned 2025	Warehouse	
O	014.0008.0001	Hooked Rug, small			Hooked rug, displaying red house child and cat, by cinderella price (from binkly church)	Deaccessioned 2025	Warehouse	
O	015.0016.0002	medicine bottle, clear glass, scapsici			medicine bottle, clear glass, capsici	Deaccessioned 2025	Warehouse	
O	015.0051.0002	apothedcary stock bottle, P. curcum a e				Deaccessioned 2025	Drug Store	
O	018.0005.0001	tea tin			marshall bros. london, on., gray	Deaccessioned 2025	Warehouse	
O	018.0006.0001	tea tin			marshall bros. london, on., gray	Deaccessioned 2025	Warehouse	
O	018.0007.0001	tin, square			grey	Deaccessioned 2025	Warehouse	
O	018.0014.0001	fuel can, red cap			red cap, 1gal.	Deaccessioned 2025	Warehouse	
O	018.0017.0001	crate, corned beef			small, wood, hereford corned beef	Deaccessioned 2025	Warehouse	
O	018.0020.0001	tin, neilson pure cocoa			cylinder	Deaccessioned 2025	Warehouse	
O	018.0030.0001	tin			squared, no label	Deaccessioned 2025	Warehouse	

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	018.0038.0001	tea tin			dragon and stork images, white with rust	Deaccessioned 2025	Warehouse	
O	018.0042.0001	tin, painted white			silver gloss starch, burned bottom	Deaccessioned 2025	Warehouse	
O	018.0048.0001	scale, columbia, functional, 17489			landers, frary & clark, green	Deaccessioned 2025	Warehouse	
O	018.0055.0001	tin, chewing tobacco			big ben chewing tobacco, red and yellow, no lid	Deaccessioned 2025	Warehouse	
O	018.0056.0001	tin, chewing tobacco			big ben chewing tobacco, red and yellow, no lid	Deaccessioned 2025	Warehouse	
O	018.0061.0001	cigarette maker, model a, v-master			10147, metal, wood, paper	Deaccessioned 2025	Warehouse	
O	018.0064.0001	lid, silver colour, unknown item			raised top	Deaccessioned 2025	Warehouse	
O	018.0067.0001	tea tin			marshall bros. & co. tea merchants	Deaccessioned 2025	Warehouse	
O	018.0078.0001	can, sample gin pills			small, worn condition	Deaccessioned 2025	Warehouse	
O	018.0079.0001	tin, puretest a.s.a tablet				Deaccessioned 2025	Warehouse	
O	018.0092.0001	tin, cigarettes			buckingham cigarettes, philip morris & co., rough shape	Deaccessioned 2025	Warehouse	
O	018.0099.0001	box, cigars			marguerite long, no lid	Deaccessioned 2025	Warehouse	
O	018.0100.0001	lid, cigar box			millgan's arabella habana cigar box lid, woman on cover	Deaccessioned 2025	Warehouse	
O	018.0115.0001	tin, bean and westlake's			black, unknown blue stones were inside	Deaccessioned 2025	Warehouse	
O	018.0193.0001	scale tray holder, black, large				Deaccessioned 2025	Warehouse	
O	018.0197.0001	scale, health-o-meter			broken glass	Deaccessioned 2025	Warehouse	
O	018.0200.0001	jar, phosphate buffer drymix ph7.2			brown, fisher science co.	Deaccessioned 2025	Warehouse	
O	018.0205.0001	jar, benzocaine merch powder			small	Deaccessioned 2025	Warehouse	

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	018.0206.0001	jar, gray's syrup of red spruce gum			small	Deaccessioned 2025	Warehouse	
O	018.0213.0001ab	jar and package, riasol external fluid			4oz, poisonous	Deaccessioned 2025	Warehouse	
O	018.0215.0001	tin, cough lozenges			keating's	Deaccessioned 2025	Warehouse	
O	018.0216.0001	jar, sedocaine ointment			clear, roberts biological labratories, black and green	Deaccessioned 2025	Warehouse	
O	018.0231.0001	tin, grey, large				Deaccessioned 2025	Warehouse	
O	018.0234.0001	tin, medium, silver				Deaccessioned 2025	Warehouse	
O	018.0235.0001	tin, medium, silver				Deaccessioned 2025	Warehouse	
O	018.0236.0001	tin, medium, silver				Deaccessioned 2025	Warehouse	
O	972.0036.0000	BOTTLE, MEDICINE				Deaccessioned 2025	WAREHOUSE	
O	972.0038.0000	BOTTLE, MEDICINE				Deaccessioned 2025		
O	972.0043.0000	BOX				Deaccessioned 2025	WAREHOUSE	
O	973.0635.0003	CANE				Deaccessioned 2025		
O	973.0642.0000	TIN				Deaccessioned 2025		
O	973.0667.0000	CAN				Deaccessioned 2025		
O	973.0668.0002	BOX plaster				Deaccessioned 2025	Warehouse	
O	973.0669.0000	CAN furnace cement				Deaccessioned 2025	Warehouse	
O	973.0682.0000	LID				Deaccessioned 2025		
O	973.0686.0001	PIPE				Deaccessioned 2025	WAREHOUSE	

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	973.0696.0001	BOX				Deaccessioned 2025	WAREHOUSE	
O	973.0696.0002	BOX				Deaccessioned 2025	WAREHOUSE	
O	973.0696.0003	BOX				Deaccessioned 2025	WAREHOUSE	
O	973.0698.0001	CAN				Deaccessioned 2025	WAREHOUSE	
O	973.0800.0003	INDIAN CLUB				Deaccessioned 2025	WAREHOUSE	
O	973.0908.0001	SKATE, ICE				Deaccessioned 2025	WAREHOUSE	
O	976.0041.0001	BOX				Deaccessioned 2025		
O	977.0003.0896	CAN				Deaccessioned 2025		
O	977.0003.0941	JAR				Deaccessioned 2025	WAREHOUSE	
O	978.0341.0001 a-c	BAND BOX				Deaccessioned 2025	Gillen	
O	978.0346.0003	TRAY, SERVING				Deaccessioned 2025	WAREHOUSE	
O	978.0346.0012	ORNAMENT, HAIR				Deaccessioned 2025	WAREHOUSE	
O	978.0346.0015	ORNAMENT, HAIR				Deaccessioned 2025	WAREHOUSE	
O	978.0346.0037	FILE, NAIL				Deaccessioned 2025	WAREHOUSE	
O	978.0386.0001	CHALKBOARD				Deaccessioned 2025		
O	978.0389.0001	CHALKBOARD				Deaccessioned 2025		
O	978.0414.0001	BOTTLE				Deaccessioned 2025	WAREHOUSE	
O	978.0418.0001	BOTTLE				Deaccessioned 2025	WAREHOUSE	

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	978.0423.0001	BOTTLE				Deaccessioned 2025	WAREHOUSE	
O	978.0428.0001	BOTTLE				Deaccessioned 2025	WAREHOUSE	
O	978.0435.0001	BOTTLE				Deaccessioned 2025	WAREHOUSE	
O	978.0441.0001	PROBLEMATICAL				Deaccessioned 2025	WAREHOUSE	
O	978.0442.0001	PROBLEMATICAL				Deaccessioned 2025	WAREHOUSE	
O	978.0448.0001	BOTTLE				Deaccessioned 2025	WAREHOUSE	
O	978.0453.0001	BOTTLE				Deaccessioned 2025	WAREHOUSE	
O	978.0466.0001	LID				Deaccessioned 2025	WAREHOUSE	
O	978.0467.0001	LID				Deaccessioned 2025	WAREHOUSE	
O	978.0469.0001	LID				Deaccessioned 2025	WAREHOUSE	
O	978.0470.0001	LID				Deaccessioned 2025	WAREHOUSE	
O	978.0471.0001	LID				Deaccessioned 2025	WAREHOUSE	
O	978.0472.0001	LID				Deaccessioned 2025	WAREHOUSE	
O	978.0473.0001	LID				Deaccessioned 2025	WAREHOUSE	
O	978.0474.0001	LID				Deaccessioned 2025	WAREHOUSE	
O	978.0476.0001	LID				Deaccessioned 2025	WAREHOUSE	
O	978.0477.0001	LID				Deaccessioned 2025	WAREHOUSE	
O	978.0478.0001	LID				Deaccessioned 2025	WAREHOUSE	

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	978.0479.0001	LID				Deaccessioned 2025	WAREHOUSE	
O	978.0481.0001	BOTTLE				Deaccessioned 2025	WAREHOUSE	
O	978.0482.0001	BOTTLE				Deaccessioned 2025	WAREHOUSE	
O	978.0486.0001	BOTTLE				Deaccessioned 2025	WAREHOUSE	
O	978.0492.0001	FLASK, POCKET				Deaccessioned 2025	WAREHOUSE	
O	978.0494.0001	BOTTLE				Deaccessioned 2025	WAREHOUSE	
O	978.0503.0001	LID				Deaccessioned 2025	WAREHOUSE	
O	978.0513.0001	FLASK, POCKET				Deaccessioned 2025	WAREHOUSE	
O	978.0518.0001	JAR, CANNING				Deaccessioned 2025	WAREHOUSE	
O	978.0519.0001	JAR, CANNING				Deaccessioned 2025	WAREHOUSE	
O	979.0001.0001	BOTTLE				Deaccessioned 2025	WAREHOUSE	
O	979.0008.0001	BOTTLE				Deaccessioned 2025	WAREHOUSE	
O	979.0010.0001	BOTTLE				Deaccessioned 2025	WAREHOUSE	
O	979.0066.0001	SAUCEBOAT				Deaccessioned 2025	WAREHOUSE	
O	979.0071.0001	JUG				Deaccessioned 2025		
O	979.0076.0001	TEAPOT				Deaccessioned 2025		
O	979.0077.0001 a-b	TEAPOT				Deaccessioned 2025		
O	979.0140.0005	RUG				Deaccessioned 2025	Warehouse	

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	980.0571.0001-66	JAR				Deaccessioned 2025	WAREHOUSE	
O	980.0572.0030	HAIRPIN				Deaccessioned 2025	WAREHOUSE	
O	980.0585.0008	HATPIN				Deaccessioned 2025	WAREHOUSE	
O	980.0585.0011	IRON, CURLING				Deaccessioned 2025	WAREHOUSE	
O	982.0031.0017	BOTTLE				Deaccessioned 2025	WAREHOUSE	
O	982.0032.0006 a-b	JAR, CANNING				Deaccessioned 2025		
O	983.0007.0018	TABLE COVER, Tassled				Deaccessioned 2025	Storehouse	Box a-36
O	983.0017.0002	BOX				Deaccessioned 2025	WAREHOUSE	
O	983.0017.0003	BOTTLE				Deaccessioned 2025	WAREHOUSE	
O	983.0028.0008	CASE, MEDICINE				Deaccessioned 2025	SERVICE, GEN-4	
O	985.0468.0001	BOTTLE, APOTHECARY				Deaccessioned 2025	WAREHOUSE	
O	986.0342.0001	TRAY, SERVING				Deaccessioned 2025	WAREHOUSE	
O	986.0371.0001 a-b	POT, CHAMBER				Deaccessioned 2025		
O	986.0493.0001	LID				Deaccessioned 2025	WAREHOUSE	
O	986.0494.0001	LID				Deaccessioned 2025	WAREHOUSE	
O	986.0508.0001	Cup, tea				Deaccessioned 2025		
O	986.0517.0001	LID				Deaccessioned 2025		
O	986.0522.0001	BOTTLE, APOTHECARY				Deaccessioned 2025		

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	986.0523.0001	BOTTLE, APOTHECARY				Deaccessioned 2025		
O	986.0525.0001	BOTTLE, APOTHECARY				Deaccessioned 2025	Warehouse	
O	986.0526.0001	BOTTLE, APOTHECARY				Deaccessioned 2025	Warehouse	
O	986.0528.0001	PENDULUM				Deaccessioned 2025		
O	986.0540.0001	BOX				Deaccessioned 2025		
O	986.0547.0001	CAN				Deaccessioned 2025		
O	986.0554.0001	JAR, CANNING				Deaccessioned 2025		
O	986.0573.0001	CANISTER				Deaccessioned 2025		
O	986.0588.0001 a-b	JAR, CANNING				Deaccessioned 2025		
O	986.0592.0001 a-c	JAR, CANNING				Deaccessioned 2025		
O	986.0656.0001	LID				Deaccessioned 2025		
O	986.0665.0001	LID				Deaccessioned 2025		
O	986.0951.0001	HAIRPIN				Deaccessioned 2025	WAREHOUSE	
O	986.1116.0001 a-b	HOOP, EMBROIDERY				Deaccessioned 2025	STOREHOUSE	
O	986.1482.0001	BOWL				Deaccessioned 2025	WAREHOUSE	
O	986.1517.0001	TRAY, SERVING				Deaccessioned 2025	WAREHOUSE	
O	986.1562.0001	GOBLET				Deaccessioned 2025	WAREHOUSE	
O	986.1592.0001	CHALKBOARD				Deaccessioned 2025		

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	986.1613.0001	BOX				Deaccessioned 2025		
O	986.1621.0001	TIN				Deaccessioned 2025		
O	986.1684.0001	TIN				Deaccessioned 2025	Warehouse	
O	986.1685.0001	TIN				Deaccessioned 2025		
O	986.1686.0001	BIN, STORAGE				Deaccessioned 2025	WAREHOUSE	
O	986.1740.0001 a-b	PLATE, HOT				Deaccessioned 2025	WAREHOUSE	
O	986.1741.0001	CADDY				Deaccessioned 2025	WAREHOUSE	
O	986.1847.0001	INSULATOR				Deaccessioned 2025		
O	986.1950.0001	TIN				Deaccessioned 2025	WAREHOUSE	
O	986.1951.0001	TIN				Deaccessioned 2025	WAREHOUSE	
O	986.2352.0001	BOX				Deaccessioned 2025		
O	987.0029.0001	RAZOR				Deaccessioned 2025	WAREHOUSE	
O	987.0166.0001	BOX				Deaccessioned 2025	WAREHOUSE	
O	987.0313.0001 a	BOTTLE				Deaccessioned 2025		
O	987.0316.0001 a	BOTTLE				Deaccessioned 2025	Warehouse	
O	987.0318.0001 a	BOTTLE				Deaccessioned 2025	SERVICE, GENERAL-1C	
O	987.0566.0001	COFFEE POT				Deaccessioned 2025	WAREHOUSE	
O	987.0676.0001	RAZOR				Deaccessioned 2025	WAREHOUSE	

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	987.0676.0002	RAZOR				Deaccessioned 2025	SERVICE, MAIN-2E	
O	987.0676.0003	RAZOR				Deaccessioned 2025	SERVICE, MAIN-2E	
O	987.0676.0004	RAZOR				Deaccessioned 2025	SERVICE, MAIN-2E	
O	987.0676.0005	RAZOR				Deaccessioned 2025	SERVICE, MAIN-2E	
O	987.0676.0006	RAZOR				Deaccessioned 2025	SERVICE, MAIN-2E	
O	987.0676.0007	RAZOR				Deaccessioned 2025	SERVICE, MAIN-2E	
O	987.0677.0001 dp1	RAZOR				Deaccessioned 2025	WAREHOUSE	
O	987.0677.0002	RAZOR				Deaccessioned 2025	SERVICE, MAIN-2D	
O	987.0677.0003	RAZOR				Deaccessioned 2025	SERVICE, MAIN-2D	
O	987.1502.0001	BOWL				Deaccessioned 2025	Warehouse	
O	987.2113.0001	PROBLEMATICAL				Deaccessioned 2025	WAREHOUSE	
O	987.2151.0001	TIN				Deaccessioned 2025	WAREHOUSE	
O	987.2228.0001	SPOOL				Deaccessioned 2025	Marr Shop	
O	987.2386.0001	CAN				Deaccessioned 2025	BARN 2A-2	
O	987.2551.0001	MIRROR, HAND				Deaccessioned 2025	WAREHOUSE	
O	987.2642.0001	IRON, CURLING				Deaccessioned 2025	WAREHOUSE	
O	987.2741.0001	KNIFE, PAPER				Deaccessioned 2025	WAREHOUSE	
O	987.2850.0001	BOX				Deaccessioned 2025	BARN 2A-5	

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	987.2867.0001	CHEST, SILVER				Deaccessioned 2025	WAREHOUSE	
O	987.2905.0001	PROBLEMATICAL				Deaccessioned 2025	WAREHOUSE	
O	987.3075.0001	STEREOSCOPE				Deaccessioned 2025	SERVICE, UP-3	
O	987.3493.0001 a-c	TELEPHONE				Deaccessioned 2025	SERVICE, MAIN-6C	
O	987.3625.0001	HATPIN				Deaccessioned 2025	WAREHOUSE	
O	987.3626.0001	HATPIN				Deaccessioned 2025	WAREHOUSE	
O	987.3632.0001	HATPIN				Deaccessioned 2025	WAREHOUSE	
O	987.3633.0001	HATPIN				Deaccessioned 2025	WAREHOUSE	
O	987.3634.0001 a-b	HATPIN				Deaccessioned 2025	WAREHOUSE	
O	987.3635.0001	HATPIN				Deaccessioned 2025	WAREHOUSE	
O	987.3636.0001	HATPIN				Deaccessioned 2025	WAREHOUSE	
O	987.3665.0001	CASE, MEDICINE				Deaccessioned 2025	WAREHOUSE	
O	987.4109.0001 a-b	EYEGLASSES				Deaccessioned 2025	WAREHOUSE	
O	987.4110.0001 a-b	EYEGLASSES				Deaccessioned 2025	WAREHOUSE	
O	987.4111.0001	EYEGLASSES				Deaccessioned 2025	WAREHOUSE	
O	987.4113.0001	EYEGLASSES				Deaccessioned 2025	WAREHOUSE	
O	987.4134.0001	LID, CHAMBER POT				Deaccessioned 2025	WAREHOUSE	
O	987.4135.0001 a-e	CRUET STAND				Deaccessioned 2025	WAREHOUSE	

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	987.4149.0001	JAR				Deaccessioned 2025	WAREHOUSE	
O	987.4159.0009	Container			contained in 987.4159.0001	Deaccessioned 2025	Warehouse	
O	987.4184.0001	BOWL				Deaccessioned 2025	WAREHOUSE	
O	987.4209.0001	EYEGLASSES				Deaccessioned 2025	WAREHOUSE	
O	987.4210.0001	EYEGLASSES				Deaccessioned 2025	WAREHOUSE	
O	987.4211.0001	EYEGLASSES				Deaccessioned 2025	WAREHOUSE	
O	987.4212.0001	EYEGLASSES				Deaccessioned 2025	WAREHOUSE	
O	987.4213.0001	EYEGLASSES				Deaccessioned 2025	WAREHOUSE	
O	987.4218.0001	KNIFE, BUTCHER				Deaccessioned 2025	WAREHOUSE	
O	994.0025.0034	SAUCER				Deaccessioned 2025	WAREHOUSE	
O	994.0027.0022	PAN				Deaccessioned 2025	WAREHOUSE	
O	995.0005.0010	RUG WOVEN RED/GOLD				Deaccessioned 2025	Warehouse	
O	995.0005.0011	RUG, WOVEN RED/GREEN				Deaccessioned 2025	STOREHOUSE	
O	995.0305.0001	RUG RAG 5' x 6' RED WHI BLA PUR BLU				Deaccessioned 2025		
O	995.0493.0001	BOX MEAT WOODEN				Deaccessioned 2025	Warehouse	
O	995.0542.0001	BOTTLE WITH GLASS STOPPER TOBACCO JUICE				Deaccessioned 2025	Warehouse	
O	995.0703.0001	BASKET, ROUND, CLOTH LINED				Deaccessioned 2025	STOREHOUSE	
O	996.0027.0001	RAG RUG				Deaccessioned 2025	STOREHOUSE	

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	996.0030.0001	TIN, CARR'S CHOCHLATE BISCUITS				Deaccessioned 2025	WAREHOUSE	
O	996.0044.0002	GLASSES, MAGNIFYING				Deaccessioned 2025	WAREHOUSE	
O	997.0432.0001	KNIFE, BUTTER, SILVER SABRE BLADE, FRENC				Deaccessioned 2025	Warehouse	
O	997.0435.0001	KNIFE, DINNER, FAUX IVORY HANDLE				Deaccessioned 2025	Warehouse	
O	997.0443.0001	tray, silver plate, large				Deaccessioned 2025	Warehouse	
O	997.0575.0001	metal crest "ala"				Deaccessioned 2025	Warehouse	
O	997.0580.0001	TWEEZERS, sTEEL				Deaccessioned 2025	Warehouse	
O	997.0585.0001	NAIL FILE				Deaccessioned 2025	Warehouse	
O	997.0589.0001	SEALER, PERFECT SEAL				Deaccessioned 2025	Warehouse	
O	997.0610.0001	BOTTLE, VIOLET BLUE, BROKEN NECK				Deaccessioned 2025	Warehouse	
O	997.0619.0001	BOTTLE, LOZEGE, LGE, ROBERT GIBSON				Deaccessioned 2025	Warehouse	
O	997.0626.0001	SEALER, GEM				Deaccessioned 2025	Warehouse	
O	997.0668.0001	razor, straight				Deaccessioned 2025	Warehouse	
O	997.0672.0001	barrette, tortoise shell look				Deaccessioned 2025	Warehouse	
O	998.0041.0001	bottle medicine, "bronchial mixture"				Deaccessioned 2025	Warehouse	
O	999.0016.0001	rag rug, oval, 4', multi colour			spiral weave, stitched together	Deaccessioned 2025	Warehouse	
O	999.0017.0001	rag rug, hooked, primitive,			red, white and blue, 3'x2'	Deaccessioned 2025	Warehouse	
O	x970.0006.0001	RUG				Deaccessioned 2025	Storehouse	

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	x970.0032.0001	PROBLEMATICAL				Deaccessioned 2025	WAREHOUSE	
O	x970.0339.0001	BOTTLE, APOTHECARY				Deaccessioned 2025		
O	x970.0359.0001	TIN				Deaccessioned 2025		
O	x970.0361.0001	TIN				Deaccessioned 2025		
O	x970.0363.0001	BOTTLE, APOTHECARY				Deaccessioned 2025		
O	x970.0402.0001 dp1	JAR				Deaccessioned 2025	WAREHOUSE	
O	x970.0469.0001	IRON, CURLING				Deaccessioned 2025	WAREHOUSE	
O	x970.0531.0001	TIN				Deaccessioned 2025		
O	x970.0532.0001	TIN				Deaccessioned 2025		
O	x970.0556.0001	CAN, OIL				Deaccessioned 2025	SPINNING SHOP	
O	x970.0557.0001	CAN, OIL				Deaccessioned 2025	SPINNING SHOP	
O	x970.0558.0001	CAN				Deaccessioned 2025	SPINNING SHOP	
O	x970.0561.0001	CAN				Deaccessioned 2025	SPINNING SHOP	
O	x970.0562.0001	CAN				Deaccessioned 2025	SPINNING SHOP	
O	x970.0563.0001	CAN				Deaccessioned 2025	SPINNING SHOP	
O	x970.0588.0001	TIN				Deaccessioned 2025	SPINNING SHOP	
O	x970.0869.0001	TEAPOT				Deaccessioned 2025		
O	x970.0946.0001	CUP				Deaccessioned 2025		

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	x971.0095.0002 a-b	HOLDER				Deaccessioned 2025	SERVICE, GEN-5	
O	x971.0309.0001	VASE				Deaccessioned 2025	Misener	
O	x971.0322.0001	VASE				Deaccessioned 2025	WAREHOUSE	
O	x971.0355.0001	PITCHER, SYRUP				Deaccessioned 2025	WAREHOUSE	
O	x971.0369.0001	BOWL				Deaccessioned 2025	WAREHOUSE	
O	x971.0380.0001	VASE				Deaccessioned 2025		
O	x971.0384.0001	GLASS, PARFAIT				Deaccessioned 2025	WAREHOUSE	
O	x971.0389.0001	GLASS				Deaccessioned 2025	WAREHOUSE	
O	x971.0510.0001	VASE				Deaccessioned 2025	SERVICE, MAIN-2F	
O	x971.0519.0002	GLASS				Deaccessioned 2025		
O	x971.0533.0001	JAR, CANNING				Deaccessioned 2025	WAREHOUSE	
O	x971.0568.0001	PITCHER				Deaccessioned 2025	WAREHOUSE	
O	x971.0577.0002	PITCHER				Deaccessioned 2025	WAREHOUSE	
O	x971.0579.0001	POT, CHAMBER				Deaccessioned 2025	D'Aubigny Inn	
O	x971.0723.0001	BOTTLE, MEDICINE				Deaccessioned 2025	WAREHOUSE	
O	x971.0856.0001	BOTTLE, APOTHECARY				Deaccessioned 2025		
O	x972.0029.0001	CUP, MUSTACHE				Deaccessioned 2025	SERVICE, MAIN-2F	
O	x972.0109.0000	Cup, tea				Deaccessioned 2025		

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	x972.0110.0000	Cup, tea				Deaccessioned 2025	WAREHOUSE	
O	x972.0150.0000	COMPACT				Deaccessioned 2025	WAREHOUSE	
O	x972.0187.0000	BOWL				Deaccessioned 2025	WAREHOUSE	
O	x972.0248.0000	KNIFE, DINNER				Deaccessioned 2025	WAREHOUSE	
O	x972.0365.0000	CHALKBOARD				Deaccessioned 2025		
O	x972.0413.0000	TIN				Deaccessioned 2025		
O	x972.0417.0000	TIN				Deaccessioned 2025		
O	x972.0474.0000	PITCHER				Deaccessioned 2025	WAREHOUSE	
O	x972.0485.0000	PLATE, DESERT				Deaccessioned 2025		
O	x972.0530.0000	POT, CHAMBER				Deaccessioned 2025	WAREHOUSE	
O	x972.0661.0001	BOWL, MIXING				Deaccessioned 2025	SERVICE, MAIN-2F	
O	x972.0867.0001	BOWL				Deaccessioned 2025	WAREHOUSE	
O	x974.0152.0001	cup, tea				Deaccessioned 2025	WAREHOUSE	
O	x974.0154.0001	Cup, tea				Deaccessioned 2025		
O	x974.0155.0001	cup, tea				Deaccessioned 2025	WAREHOUSE	
O	x974.0215.0001 a-b	TEAPOT				Deaccessioned 2025	WAREHOUSE	
O	x974.0220.0001 a-b	BOWL, SUGAR				Deaccessioned 2025	WAREHOUSE	
O	x974.0223.0001 a-b	BOWL, SUGAR				Deaccessioned 2025	WAREHOUSE	

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	x974.0224.0001	BOWL, SUGAR				Deaccessioned 2025	WAREHOUSE	
O	x974.0227.0001 a-b	DISH, VEGETABLE				Deaccessioned 2025	WAREHOUSE	
O	x974.0230.0001	BOWL, SUGAR				Deaccessioned 2025	WAREHOUSE	
O	x974.0239.0001	PITCHER				Deaccessioned 2025	MISENER	
O	x974.0245.0001 dp2	PITCHER, CREAM				Deaccessioned 2025	WAREHOUSE	
O	x974.0276.0001	PLATE, DINNER				Deaccessioned 2025	WAREHOUSE	
O	x974.0277.0001	PLATE, SOUP				Deaccessioned 2025	WAREHOUSE	
O	x974.0407.0001	CAN, varnish			contains varnish!	Deaccessioned 2025	Warehouse	
O	x974.0836.0001	BASIN, WHITE CHINA/ STONEWEAR				Deaccessioned 2025	WAREHOUSE	
O	x974.0889.0001	BASIN				Deaccessioned 2025	Warehouse	
O	x974.0994.0001	CHALKBOARD				Deaccessioned 2025		
O	x974.0995.0001	CHALKBOARD				Deaccessioned 2025		
O	x975.0093.0001	FAN				Deaccessioned 2025	WAREHOUSE	
O	x975.0319.0001	ORNAMENT, HAIR				Deaccessioned 2025	WAREHOUSE	
O	x975.0343.0001 b	BOX				Deaccessioned 2025		
O	x975.0355.0001	HATPIN				Deaccessioned 2025	WAREHOUSE	
O	x975.0359.0001	HATPIN				Deaccessioned 2025	WAREHOUSE	
O	x975.0379.0002	HATPIN				Deaccessioned 2025	WAREHOUSE	

Westfield Deaccession List 2025

CAT	OBJECTID	OBJNAME	CREATOR	TITLE	DESCRIP	STATUS	HOMELOC	LOCFIELD1
O	x975.0417.0001	HATPIN				Deaccessioned 2025	WAREHOUSE	
O	x975.0420.0001	HATPIN				Deaccessioned 2025	WAREHOUSE	
O	x975.0456.0001	RUG				Deaccessioned 2025	WAREHOUSE	

Amended Report

Report To: Conservation Advisory Board

**Approved for
Circulation By:** Lisa Burnside, CAO

Reviewed By: T. Scott Peck, MCIP, RPP, Deputy CAO/ Director, Watershed
Management Services
Mike Stone, MCIP, RPP, Senior Manager, Watershed Planning,
Stewardship & Ecological Services

Prepared By: Lesley McDonell, Supervisor Stewardship and Ecological Services
Ben Laing, Invasive Species Technician
Bryson McEwen, Invasive Species Technician

Meeting Date: February 12th, 2026

Subject: Hemlock Woolly Adelgid Management Plan

Recommendation:

THAT the Conservation Advisory Board recommends to the Board of Directors;

THAT the *Hemlock Woolly Adelgid Management Plan (January 2026)* be adopted; and further

THAT the management plan's recommended strategy, Strategy 5 – Protect Trees in Riparian Areas, be implemented.

THAT staff undertake further review on other HCA lands;

THAT staff undertake outreach to Biodiversity Action Plan partners for possible collaborative approaches to support regional management and funding;

THAT staff undertake further review on the scale of management approaches if additional funds were available;

THAT staff report back to Conservation Advisory Board on these items at a future meeting

Executive Summary:

Hemlock woolly adelgid (HWA) is an invasive insect that feeds on eastern hemlock trees and typically results in tree death within 4-15 years regardless of tree age or health. HWA was first detected in Hamilton in 2023 at the Royal Botanical Gardens and has since been found in Dundas Valley Conservation Area (DVCA) through a 2025 survey project. In response, HCA has drafted a management plan to guide prioritization, treatment and monitoring of HWA in the watershed. This includes proposed chemical treatment of eastern hemlocks in selected riparian areas on a rotating basis to prioritize the protection of the most valuable trees and ecologically significant areas.

Staff Comment / Discussion:

HWA is an invasive aphid-like insect which feeds on eastern hemlock trees by diverting water and nutrients found in the needles. This insect reproduces rapidly, resulting in a population of insects that eventually starve and kill their host trees. In 2023, local stakeholders and land managers began to identify HWA as an emerging threat based on detection sites at the Royal Botanical Gardens in the Spencer Creek sub-watershed. In response, HCA staff began conducting passive visual surveys in 2024. In 2025 grant funding from the Invasive Species Centre allowed the HCA to hire two summer invasive species field staff. These staff conducted a detailed visual survey and tree inventory program in high priority areas, beginning at Lower Spencer Conservation Area and working west into DVCA. These surveys confirmed the presence of HWA throughout the area, in a distribution that suggests the pest is present in low numbers but widespread throughout DVCA.

HWA is expected to continue to spread across southern Ontario throughout the native range of eastern hemlocks. Based on case studies from the United States and experience of local land managers such as Royal Botanical Gardens, HWA is forecasted to kill many of the over 20,000 eastern hemlocks found in DVCA. This impact to eastern hemlocks would reduce local biodiversity, both from the loss of individual trees, and the species of birds, insects, and mammals that rely on them, some of which are species at risk. Eastern hemlocks are frequently found on north facing ravine slopes near water, and in some cases close to HCA trails and infrastructure, and the decline of these trees may also lead to erosion, water quality, and hazard tree management issues.

Currently, there is no long-term solution available for the management of HWA, though research is underway to certify the use of a biological control agent in Ontario. To mitigate some of the forecasted impacts to eastern hemlocks found on HCA property, a management plan is required to complete the following:

- To identify priority areas of hemlock dominated ecosystems and individually inventory trees in those areas to facilitate future treatment;
- To provide the most cost-effective and efficient management recommendations and strategies based on existing best management

practices and consultation with local stakeholders, land managers, and contractors;

- To outline a multi-year plan to reflect the persistence of this pest and the need for integrated pest management techniques until a long-term management option is available; and
- To meet the HCA’s strategic goal of natural heritage conservation by managing natural lands through monitoring, strategies, and management plans.

The management plan recommends a treatment strategy (Strategy 5) that prioritizes the protection of eastern hemlock trees that are immediately adjacent to creek systems, in an area called the riparian zone. Eastern hemlock trees in the riparian zone provide notable benefits including erosion control, flood mitigation, and stream cooling that is key to maintaining fish habitat. The management plan proposes a four-year cycle involving the treatment of a subset of trees in priority areas each year. Treatment would consist of injecting a chosen herbicide (“IMA-jet”) into the base of selected trees, which would kill any HWA feeding on the tree. IMA-jet is a neonicotinoid, a class of chemical pesticides which do not target specific species and will kill any species that feeds on the tree; however, the management plan provides rationale, based on cost, impact, and existing scientific literature to support this mode of action as the preferred management strategy.

Sample Population	Number of Trees Included
Estimated eastern hemlocks in DVCA	20,000+
Hemlocks inventoried in 2025	1798
Trees that meet treatment requirements	928
Trees selected for strategy 5 for year 1	273

The use of pesticides and herbicides by HCA as part of its land management activities has been previously considered by the Board of Directors. In July 2013 the Board approved a staff policy recommendation that pesticides may be used in a very minimal way as part of land management practices and on a project specific basis when required to combat invasive species or for ecological restoration purposes. Larger scale pesticide and herbicide proposals require approval of the Board of Directors. This is a project specific proposal needed to address a significant invasive species issue and is not considered a large-scale project.

During the lifetime of the management plan, HCA staff will continue to:

- Coordinate with local stakeholders, including the City of Hamilton, government agencies, and land managers to share resources, knowledge, and facilitate a collaborative response to HWA;
- Inventory trees in the selected priority areas to facilitate treatment; and
- Explore long term management options, including other pesticides, bio-controls, and silvicultural techniques.

Strategic Plan Linkage:

The initiative refers directly to the HCA Strategic Plan 2025 – 2029:

- **Strategic Priority Area – Natural Heritage Conservation**
 - Managing natural areas of HCA lands through monitoring, inventories, strategies and approved master and management plan recommendations to ensure the enhancement of natural areas and ecosystems

Agency Comments:

All positive detections of HWA were reported to the Canadian Food Inspection Agency (CFIA). Following numerous detections on HCA property and elsewhere in Hamilton, the CFIA has designated the City of Hamilton as a regulated area through an Infested Place Order. Under this designation, the movement of hemlock nursesey stock, timber, firewood, or other plant products from inside the boundaries of Hamilton to another area is forbidden.

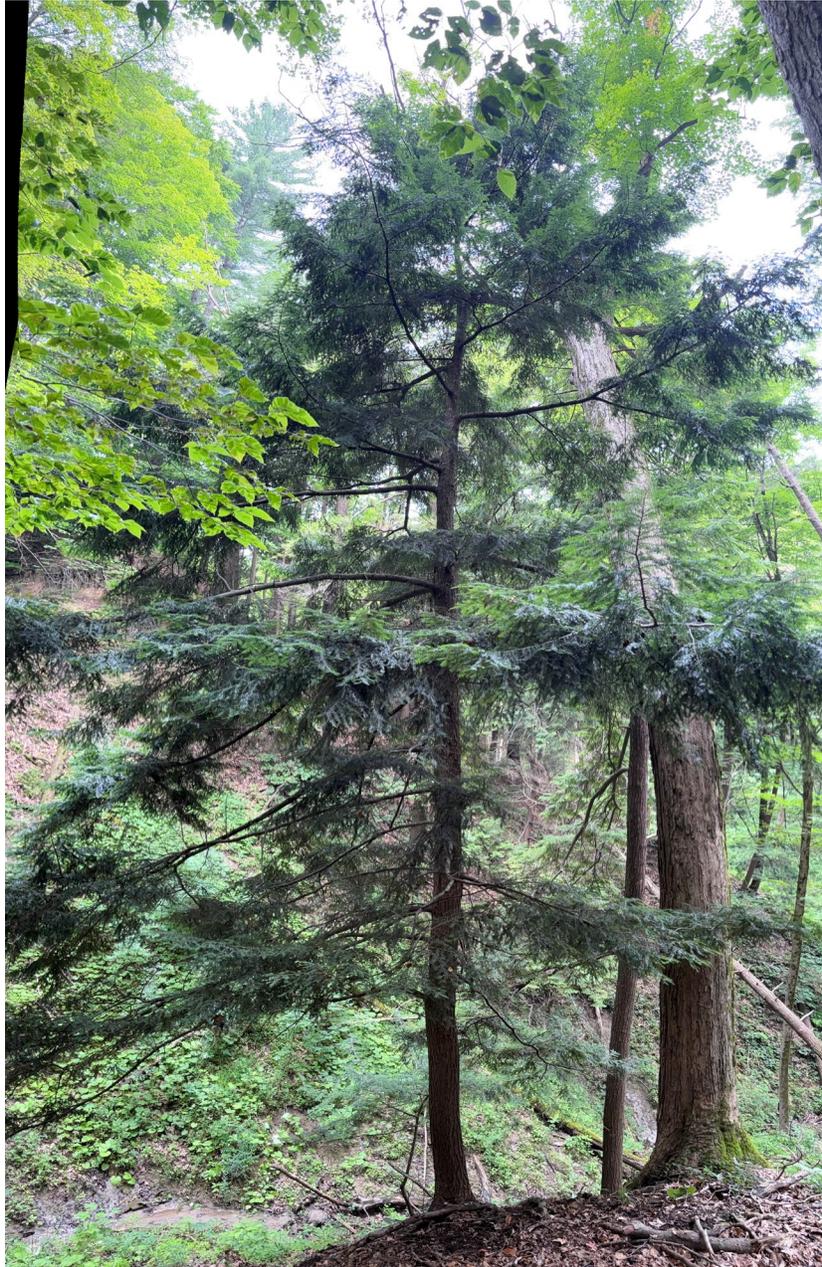
Financial Implications:

The HWA management plan outlines project costs for the treatment of hemlock trees and associated costs for staff time and materials. A matrix is provided that estimates a range of costs based on the chosen chemical and whether the treatment is completed by HCA staff or via a hired contractor. The recommendation to use a contractor to treat between 150 and 300 trees per year would cost between \$10,000-\$20,000 per year, based on quotes received in 2025. These costs are accounted for in the HCA's 2026 Invasive Species budget. It is also noted that these costs do not include related initiatives, such as hazard tree management and restoration plantings which have separate budget allocations included in the 2026 operating budget.

Related Reports and Appendices:

HCA Hemlock Woolly Adelgid Management Plan

HCA Hemlock Woolly Adelgid Management Plan



Hamilton Conservation Authority

2025



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1.0 Executive Summary

Hemlock woolly adelgid (HWA) is an invasive sap-sucking insect which feeds on, and eventually kills, eastern hemlock trees. Once introduced to an area, HWA spreads and multiplies rapidly, resulting in a population of insects that typically kill their host tree within 4-15 years. HWA was first detected in the HCA watershed near Cootes Paradise in 2023 and has now been detected as a widespread, low to medium level infestation throughout the Dundas Valley. The presence of this insect is a major threat to the health of Hamilton Conservation Authority (HCA) owned forests since eastern hemlock is common throughout certain properties, particularly in Dundas Valley Conservation Area. Eastern hemlock trees have no natural resistance to HWA, and there are currently no native or introduced predators of the insect in Ontario, meaning that widespread mortality of this tree species is likely to occur without intervention by local landowners. This report provides a summary of the current state of HWA in Hamilton and reviews the management strategies and actions which can be used to mitigate the impact of this emerging forest pest.

2.0 Background Information

The following background information on eastern hemlock trees and hemlock woolly adelgid has been included in this report to emphasize the importance of hemlock ecosystems to the health of the watershed and to provide context for the management strategies and actions recommended in this plan.

2.1 Eastern Hemlock

2.1.1 Significance

The eastern hemlock is a large, slow-growing conifer, and is the only species of its genus to be found in Ontario. These trees reach maturity around 250-300 years old, though some trees can live to a maximum of 1000 years and have been termed the “Redwoods of the East” due to their long life and size (Barr et al., 2025; U.S. Forest Service, 2025).

Eastern hemlocks are widely considered to be a foundation species with high ecological value (Havill et al., 2014). Foundation species have profound effects on the areas they inhabit, to the degree of defining many of the ecosystem’s characteristics (Ellison et al., 2005). Eastern hemlocks prefer cool, moist sites, which are commonly found in north-facing ravine slopes in the Dundas Valley, and can also be found in some wetland ecosystems (Farrar, 1995). Eastern hemlock trees create shaded, cool environments which are beneficial or necessary for many species of plants and animals and provide unique native understory growth due to the shady environment they create



(Hemlock Restoration Initiative, n.d.). These cool environments also help maintain cool water temperature in local water courses for sensitive species (Ross et al., 2003).

Hemlock-dominant ecosystems provide habitat for many bird species such as the Blackburnian warbler, black throated green warbler, Acadian flycatcher, hermit thrush, and blue-headed vireo. These bird species are specialists which require the use of hemlocks for nesting and roosting (Tingley et al., 2003). The Acadian flycatcher and Louisiana waterthrush, which have been recorded in the Dundas Valley and utilize eastern hemlocks, are listed as species at risk (Ministry of Environment, Conservation and Parks, 2024).

Stands of eastern hemlock also provide other ecosystem services such as carbon storage, erosion control, flood mitigation, and streambed stabilization (Barr et al., 2025; Nova Scotia Hemlock Initiative, 2021; Ford & Vose, 2007). Ravine and stream bank stabilization reduces sedimentation loads which in turn mitigates negative water quality impacts that are caused by the runoff of nutrients into streams (Hemlock Restoration Initiative, n.d.; Poling & Dolloff, 2016). Through stabilizing streambeds, eastern hemlocks prevent trail washouts caused by stream erosion and simultaneously prevent flooding by up-taking a large volume of water per tree per day during spring flows (Ford & Vose, 2007).

Hemlock trees also play significant recreational and cultural roles as well. The large stands of hemlocks in Dundas Valley Conservation Area provide aesthetic value for recreational trail users, and Indigenous communities use hemlocks in traditional crafts and medicinal practices (Barr et al., 2025; Nova Scotia Hemlock Initiative, 2021).

2.1.2 Distribution on HCA Properties

From HCA ecological land classification (ELC) data, the Dundas Valley Conservation Area and Lower Spencer Conservation Area are estimated to have 181.6 hectares of hemlock dominated ecosystem (Figure 1). Using hemlock density data collected from surveys completed in 2025, it is estimated that there are approximately 27,900 eastern hemlock trees in the Dundas Valley and Lower Spencer Conservation Areas alone.

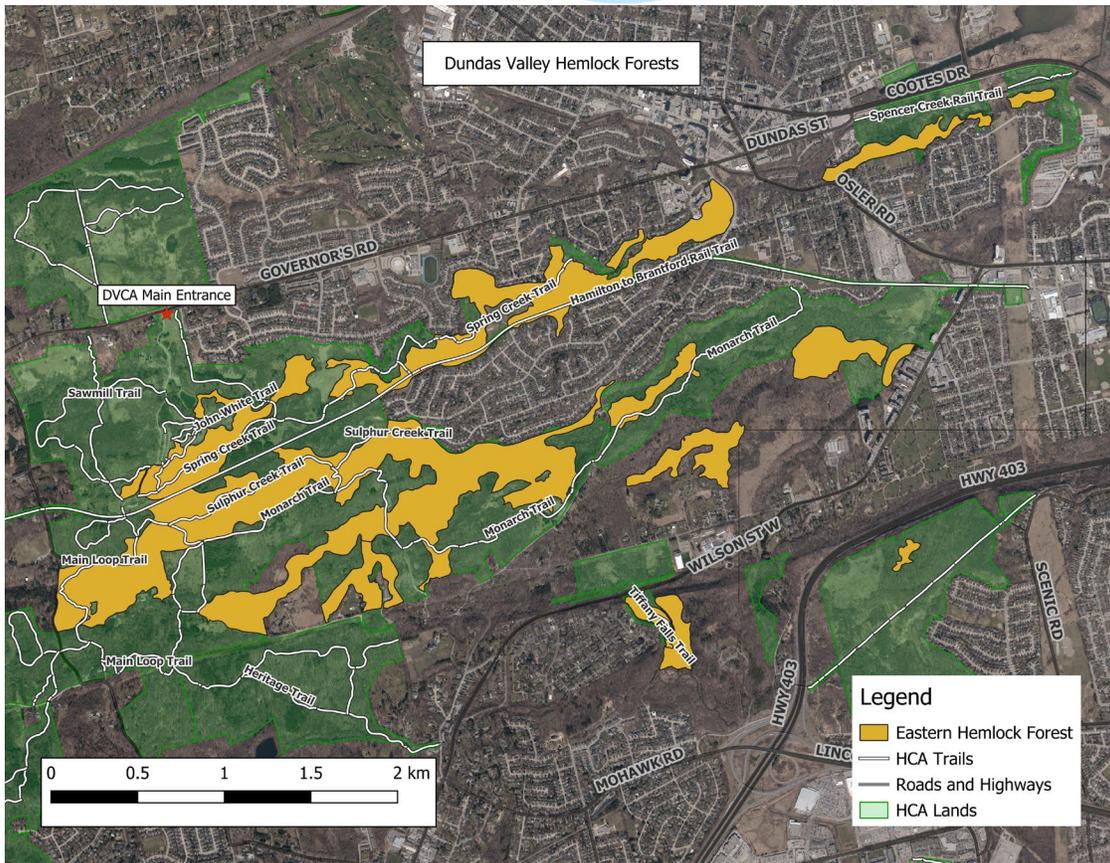


Figure 1. Eastern hemlock dominant forests within the Dundas Valley area.

Outside the Dundas Valley, HCA manages an additional 18.6 hectares of land that has been identified as hemlock dominant, spread across Tiffany Falls, Iroquoia Heights, Spencer Gorge, and Crooks Hollow, though this does not capture mixed forests in places like Fletcher Creek and Felker's Falls. This represents an estimated 2,850 additional eastern hemlock trees.

2.2 Hemlock Woolly Adelgid

2.2.1 Identification

In eastern North America, hemlock woolly adelgid reproduces asexually (without mating). This reproduction style allows HWA to rapidly expand its population once established in a new area, quickly surpassing the threshold where damage to eastern hemlock starts to occur. It is during the reproductive cycle that the namesake white cottony ('woolly') egg sacs appear on the underside of needles on eastern hemlock trees, often found at the tips of branches, and are most prominent in early spring

(Figures 2 & 3). However, in high-level infestations, remnants of woolly masses can be seen more readily at other times of year, including throughout summer and fall.



Figures 2 & 3. Hemlock woolly adelgid egg masses found on HCA lands.

The presence of HWA on a tree causes its health to decline, which is another possible indicator of an infestation. Specific signs include premature dieback of branches and twigs, grey coloration of needles, needle loss, and a lack of new growth (Havill et al., 2014). These signs can be used to identify groups of eastern hemlock trees which may be infested with HWA before inspecting in detail.

2.2.2 Regional Distribution and Spread

HWA was first introduced from Japan to eastern North America some time before 1951 in the state of Virginia and has spread to over half of the eastern hemlock's range since then (Havill et al., 2014). In the northeastern United States, most ecosystems containing eastern hemlock are now infested with HWA, and within the last 15 years, detections have begun to occur in Canada. The insect was first detected in Ontario in 2012 and 2013 in Etobicoke and Niagara Falls respectively. HWA was also detected in Nova Scotia in 2017, which is currently the site of the largest infestation in eastern Canada (Canadian Food Inspection Agency, n.d.).



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As of October 2025, HWA has been found in several locations throughout southern Ontario, including the Regional Municipality of Niagara, Haldimand County, the Township of Alwick/Haldimand, the City of Toronto, and the City of Hamilton. These municipalities, except for the City of Toronto, have been declared as regulated areas for HWA by the Canadian Food Inspection Agency (CFIA) (Canadian Food Inspection Agency, n.d.) The regulated area designation prohibits the movement of eastern hemlock materials out of the municipality to slow the spread of HWA (Figure 4).

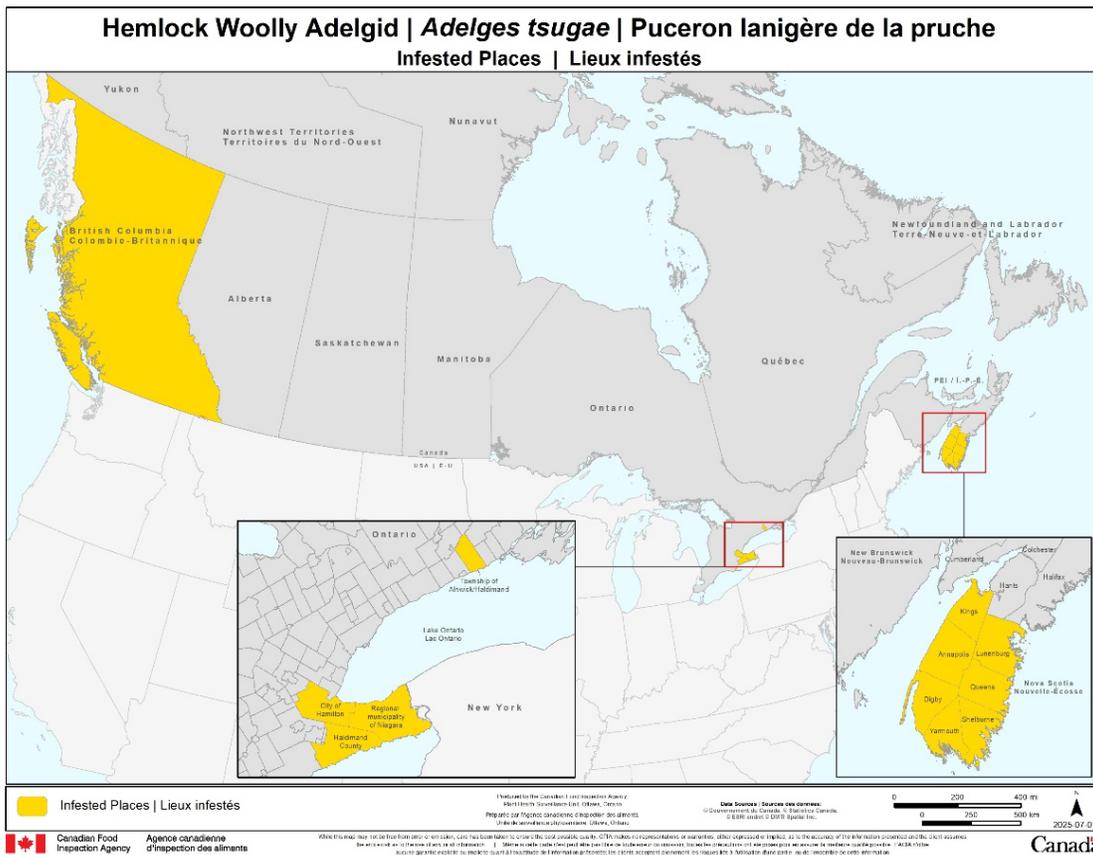


Figure 4. Map of CFIA regulated areas as of Aug 31, 2025.

HWA can spread over both short and long distances. Over short distances within a continuous forest, HWA spreads between the trees by crawling, being carried by wind, through human activities, and by clinging to birds and other animals as they move (Havill et al., 2014). Over long distances, HWA spreads on migrating birds and through human movement of hemlock plant material, including nursery stock (Parker et al., 2023).

2.2.3 Local HWA Distribution and Stakeholders

HWA was first detected in Hamilton in March 2023 at the Royal Botanical Gardens (RBG) Cootes Paradise Nature Sanctuary, and subsequently on neighboring City of Hamilton and McMaster University owned lands (Barr et al., 2025). As of October 2025, HWA has been found on HCA land throughout most of the Dundas Valley and Lower Spencer Conservation Areas. There have also been recent detections at the McMaster Nature Forest Reserve and the RBG Arboretum (Figure 5).

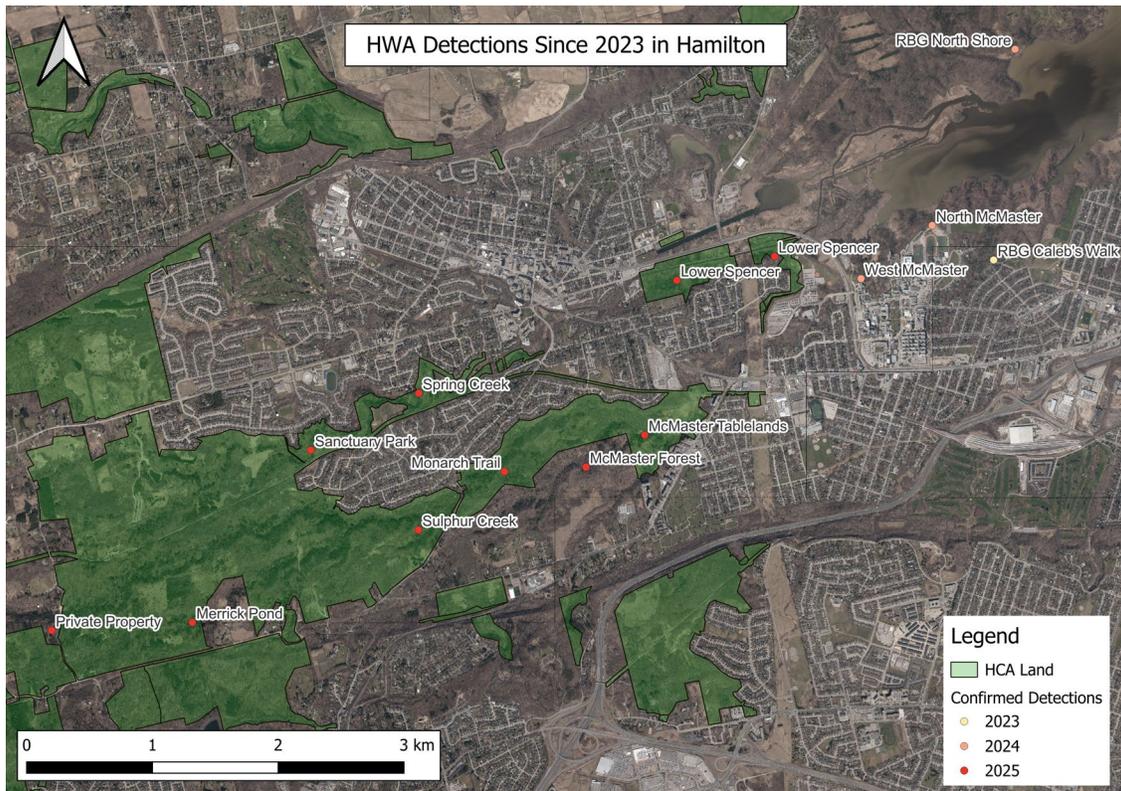


Figure 5. All hemlock woolly adelgid detection sites in Hamilton to date.

The primary regulatory organization involved in the management of hemlock woolly adelgid is the CFIA. The CFIA confirmed the positive detection of HWA in the Dundas Valley Conservation Area in 2025 and has declared the City of Hamilton a regulated area. Other organizations currently involved in the study and management of HWA in Ontario and Canada more broadly include the Canadian Forest Service (CFS) and Natural Resources Canada (NRC), the Ministry of Natural Resources (MNR), Invasive Species Centre (ISC), Ontario Nature, and the Ontario Woodlots Association (OWA). On the local level, HCA staff have been actively coordinating HWA work with the RBG, City of Hamilton, Hamilton Naturalists Club (HNC), McMaster University, Conservation Halton, and the Niagara Peninsula Conservation Authority (NPCA).



2.2.4 Impacts of HWA

Every eastern hemlock tree is susceptible to infestation and mortality by HWA regardless of size or age of the tree (Emilsson et al., 2018). Historically, HWA induced mortality has been limited by cooler northern temperatures, though HWA's range is expanding with rising average temperatures due to climate change (Paradis et al., 2008). According to observations made at infestation sites in the United States, HWA is typically fatal to all eastern hemlocks within a time span of 4-15 years, depending on habitat quality (Havill et al., 2014). In some severely infested areas, eastern hemlock mortality has been as high as 95% (Havill et al., 2014).

With the decline of eastern hemlock, forest communities that were once hemlock dominated will shift to new ecosystem types. Newly created gaps in the forest canopy may result in colonization by invasive species including common and glossy buckthorn, multiflora rose, and garlic mustard (Eschtruth and Battles, 2009; Frappier et al., 2003; Invasive Species Centre, n.d.). Areas not colonized by fast-growing invasive species may become hardwood-dominated or mixed forest stands containing trees such as maple, yellow birch, American beech, and oak (Jenkins et al., 2000; Havill et al., 2014). Succession of any remaining eastern hemlock trees may be impacted by deer browsing on young tree seedlings, which is applicable to the Dundas Valley Conservation Area as white-tailed deer are abundant in this area. Additionally, reproduction of new hemlock trees is slow since eastern hemlocks are considered a slow growing tree and don't reach sexual maturity until they are 15 years old. Eastern hemlocks require specific conditions to facilitate sapling growth and show a strong preference or dependence on nurse logs.

HWA-induced mortality will remove habitat for certain terrestrial species, some of which are species at risk. These include the hemlock dependent bird species listed in section 2.1.1 and other common bird species such as the northern cardinal, eastern wood pewee, tufted titmouse and several species of woodpeckers (Tingley et al., 2003). Some mammals that rely on shade created from hemlock-dominant stands and therefore will be impacted include white-tailed deer, flying squirrels, and American minks (Nova Scotia Hemlock Initiative, 2021).

Additionally, eastern hemlock decline will result in the lessening of stream-cooling properties, negatively impacting local cold and cool water fisheries (Ross et al., 2003). Watercourses may be further impacted by the loss of stream stabilization benefits, leading to erosion, trail washouts, and worsened stream flooding (Ford & Vose, 2007). Soil erosion will result in the loading of sediment and nutrients into waterways, which further degrades the habitat of fish and other aquatic organisms (Wood & Armitage, 1997; Poling & Dolloff, 2016).

Trees such as eastern hemlocks also sequester carbon from the atmosphere which remains stored in dead tree trunks for long periods. A significant percentage of



this carbon storage capacity will be lost with the rapid die-off of eastern hemlocks (Ignace et al., 2018; Barr et al., 2025).

The aesthetic value of hemlocks in Dundas Valley Conservation Area is high. Spring Creek Trail, the Hamilton-Brantford Rail Trail, Monarch Trail, Sulphur Creek Trail, and sections of the Main Loop Trail heavily feature ravines populated with eastern hemlocks. This is also true for areas within Spencer Gorge and Tiffany Falls Conservation Areas. As HWA-driven tree mortality increases, visitor experiences in those areas may be negatively affected.

In addition, it is likely that significant costs related to hazard tree management will be incurred in the future, caused by the impacts of HWA. Mass tree die-off will result in dead standing trees immediately adjacent to trails, posing health and safety risks for staff and patrons. HCA and privately-owned infrastructure may also be threatened by this increase in hazard trees. The HCA Hazard Tree Policy also provides guidance on management, monitoring, and evaluation of hazard trees (HCA, 2022). As hemlocks are observed to decline in the valley, this document can be used to support risk assessment of specific trees or stands to help prioritize management and project costs.

Understanding the wide-ranging and profound harm that is projected to occur from hemlock woolly adelgid in Hamilton, acting to mitigate these impacts is strongly recommended (Derry et al., 2024).

3.0 Actions Taken to Date

3.1 Prior to 2025

Since 2023, HCA has participated in the Hemlock Woolly Adelgid Hamilton Chapter Working Group, consisting of members from the City of Hamilton, HNC, McMaster, RBG, and HCA. Each of the member organizations owns land with significant amounts of eastern hemlock and are either actively managing HWA or seeking to undertake management activities. This working group has been a valuable outlet for sharing information and coordinating management on a local scale.

In 2024, HCA's Invasive Species Technicians completed a brief survey for HWA, primarily along the Sulphur Creek corridor. The survey was very limited due to time constraints, and no positive detections were found. Staff also deployed passive interception traps in spring 2024 at Lower Spencer Conservation Area, and similarly, no positive detections were made. eDNA traps at Felkers Falls have also yet to detect HWA further east in the HCA watershed.



3.2 2025 Survey and Inventory

With the close proximity of the HWA detection on RBG and McMaster lands, it was determined that a more thorough survey was necessary for HCA lands.

To assess the potential level of infestation of HWA on HCA property, staff applied for funding from the Invasive Species Centre's Invasive Species Action Fund to hire two contract technicians to complete a thorough survey of the Lower Spencer Conservation Area and portions of the Dundas Valley Conservation Area. The survey had two objectives: to detect and accurately map the presence of the HWA infestation and to complete an inventory of hemlock trees in targeted areas to gather information for management activities.

Areas of dense hemlock forest within these areas were chosen for the survey and were divided into the following sections: Lower Spencer, Spring Creek East, Spring Creek Central, Sulphur Creek East, and Sulphur Creek Central (Figure 7). These areas were chosen based on their proximity to existing detections of HWA at the RBG and McMaster, and due to the high likelihood of HWA spreading on migrating birds through the ecological corridors of Dundas Valley. Specific survey locations within the conservation areas were identified through Ecological Land Classification (ELC) data which outlines concentrated eastern hemlock populations. Considering the severe infestation of HWA on RBG property, the nearby forest at Lower Spencer was surveyed first, before moving west into other parts of the Dundas Valley.

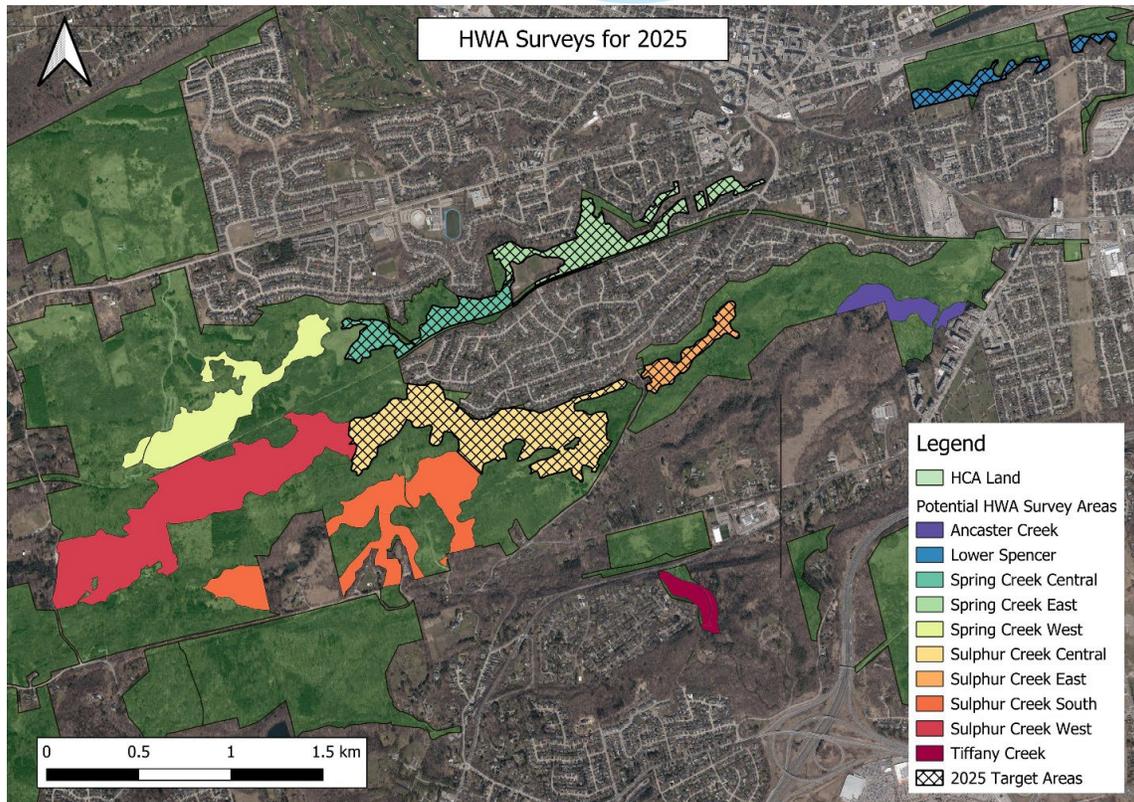


Figure 6. Survey areas identified and prioritized for 2025.

While initially marked for survey by HCA staff, the Ancaster Creek area was incidentally surveyed in 2025 by students from McMaster University and was subsequently removed from the target areas list.

The remaining areas, Spring Creek West, Sulphur Creek South, Sulphur Creek West, and Tiffany Falls were not surveyed due to both time limitations and visual surveys becoming less effective for emerging infestations by mid-summer. Presence surveys could be expanded in the future to finish the remaining areas of Dundas Valley, but with the results of the 2025 survey as summarized below, it is assumed that HWA has spread throughout the entirety of the Dundas Valley, supported by further sightings at Merrick Orchard and a private property on Sulphur Springs Road later in 2025.

3.2.1 Presence Survey Results

Presence surveys began on May 16th, 2025, and continued until July 18th, 2025. During this survey, every one in ten eastern hemlock trees encountered was inspected for HWA. Over a total area of 53.1 hectares, 816 individual trees were inspected, representing a coverage area of approximately 8,160 trees. Staff were able to cover the entire target area set out at the beginning of the field season. During the presence surveys, staff identified 77 trees which displayed woolly masses or other clear signs of

HWA, representing 9.3% of the surveyed trees. The passive interception traps deployed at Lower Spencer Conservation Area also yielded several insects matching the description of HWA, although these were all found in areas later confirmed to have HWA based on the visual survey method, and so were not investigated further. The locations of positive detections are broken down below, and in Figure 8:

- 5 trees at Lower Spencer
- 14 trees at Spring Creek Central
- 9 trees at Spring Creek East
- 40 trees at Sulphur Creek Central
- 8 trees at Sulphur Creek East (Monarch Trail)
- 1 tree at Merrick Orchard (incidental observation)

When a tree with HWA was discovered, a suspected detection notice was submitted to the CFIA. The CFIA then completed follow-up investigations and collected samples, confirming the presence of HWA. Resulting from these detections, a CFIA-issued prohibition of movement of all hemlock tree material was established for the Lower Spencer and the Dundas Valley Conservation Areas. In August 2025, the entire Regional Municipality of Hamilton was declared a regulated area for HWA.

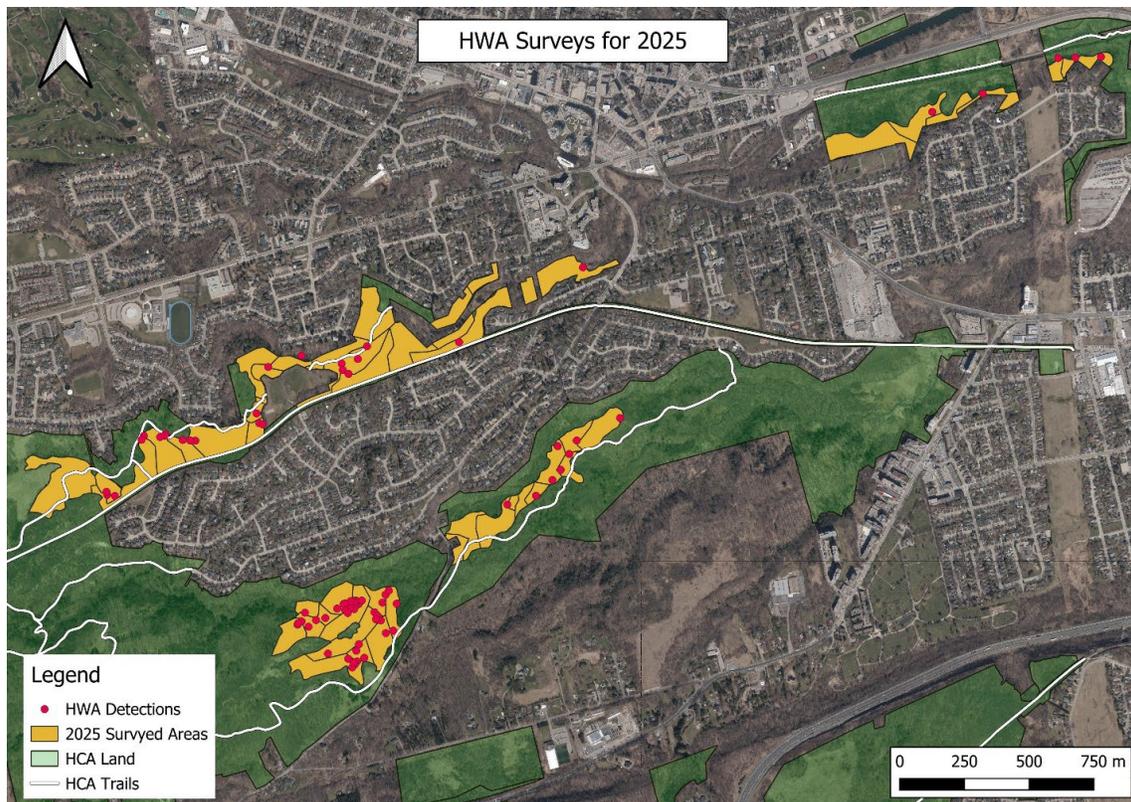


Figure 7. Locations of HWA detections on individual trees during 2025 survey.

3.2.2 Tree Inventory Results

Following the completion of presence surveys, an inventory of hemlock trees in high priority areas was completed in August 2025. Across these high-priority areas, location and characteristic data was captured for 1798 trees (Figure 9). 1596 trees were recorded along Spring Creek in the vicinity of Bumble Bee and Sanctuary Park, with an additional 202 trees inventoried along Monarch trail. These areas were chosen for key characteristics including high traffic trails, hazard risks, stream cooling, steep slope and riverbank erosion concerns, large and healthy trees, and species at risk habitat.

The purpose of the tree inventory was to collect information that HCA will use to evaluate response strategies and to plan management and is especially necessary to forecast the cost of chemical control methods. Since inventory is required prior to management, the dataset of trees inventoried in 2025 will provide the scope of management activities for 2026. Management in areas beyond the current scope will require further prioritization and inventory.

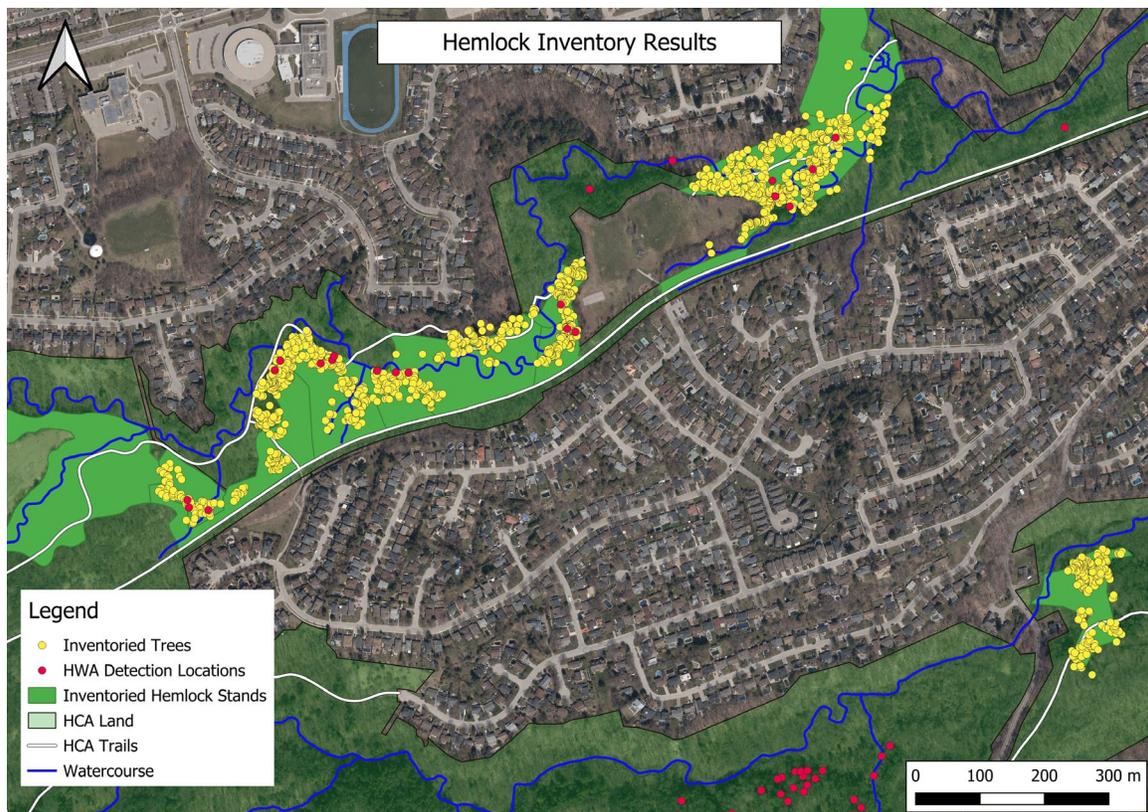


Figure 8. Hemlock trees inventoried in priority areas, overlaid with positive detections.



4.0 Management Strategies

Due to the cost of HWA management, the short time frame before onset of tree mortality, and the large volume of eastern hemlock trees on HCA land, it will not be feasible to protect every tree from hemlock woolly adelgid. Therefore, it is necessary to define a management strategy that will provide the greatest benefit with available resources. The management strategy will define which specific trees are eligible to be treated, and the subset of those which will be focused on. Eligible trees are defined by having a diameter at breast height of at least 15 centimeters to allow for herbicide injection and must show indicators of tree health. Using these criteria, the number of eligible eastern trees in the sample size decreases from 1798 to 929.

Each of the following strategy options evaluates a different approach to managing HWA stemming from a specific objective. Five management strategy options have been identified and evaluated by HCA staff. These strategies have been drawn from available resources including the New York State Hemlock Initiative landowner toolkit (Cornell University, 2025), the Kejimikujik National Park hemlock stand prioritization framework (Kejimikujik National Park and National Historic Site, 2021), the Royal Botanical Gardens hemlock management options assessment (Barr et al., 2025) and discussions with other land managers in Ontario who have experience managing HWA infestations.

Each strategy estimates the percentage of forecasted hazard trees that would be mitigated by that approach, using the sample area described in Section 2.2.4. This calculation is based on the best information available but should only be used as an estimate when extrapolating to areas outside of the sample.

Accompanying each strategy is an explanation of why it is or is not recommended for adoption. **“Strategy 5: Protect Trees in Riparian Areas”** is the only strategy recommended by HCA at this time, which would protect 273 trees in year 1.

Table 1. Sample tree counts during surveying and inventorying

Sample Population	Number of Trees Included
Estimated eastern hemlocks in DVCA	20,000+
Hemlocks inventoried in 2025	1798
Trees that meet treatment requirements	928
Trees selected for strategy 5 for year 1	273

4.1 Strategy 1: Do Not Manage and Monitor Impacts

The objective of this strategy is to commit no resources to HWA management or the protection of eastern hemlock ecosystems in the HCA watershed.



Under this strategy, it is expected that eastern hemlock trees throughout Dundas Valley and Lower Spencer Creek would begin to experience noticeable decline within four years, and death within 15 years, based on case studies for HWA infestations elsewhere in North America. HCA would observe and note changes to natural areas but take no direct action to mitigate the spread of HWA. This response could include monitoring to observe HWA impacts and could also include restoration activities such as planting conifers in former hemlock ecosystems.

The death of eastern hemlocks throughout the Dundas Valley would result in widespread impacts, especially in riparian areas, including degraded water quality, loss of habitat for many species, erosion, colonization by invasive plant species, and loss of cultural value. Significant annual hazard tree management costs would be incurred as many dead standing trees would become hazards to both trail users and to any nearby infrastructure within striking distance. No (0%) forecasted hazard trees in the sample area would be mitigated by this strategy.

Conclusion: HCA staff do not recommend this management strategy. The impact to the rare and sensitive ecosystem of Dundas Valley would be profound, and taking no preventative action does not align with HCA's Natural Heritage Conservation Strategic Priority through the 2025-2029 Strategic Plan. Additionally, cost savings from choosing to not manage HWA would be counteracted by the resources required to manage hazard trees.

4.2 Strategy 2: Protect Entire Areas of High General Value

The objective of this strategy is to preserve cohesive pockets of eastern hemlock forest that rank highly across multiple attributes.

Trees chosen for management under this strategy are all eastern hemlocks eligible for treatment that fall within defined areas determined to be of high value on a ranked list. This ranking is determined using stand prioritization frameworks which have been employed to manage HWA in both New York State and Nova Scotia. The frameworks consider an array of attributes which include existing tree health, proximity to water, erosion prevention, public use, likeliness of hazard tree creation, climate resilience, and species at risk habitat. Within areas covered by the 2025 eastern hemlock inventory, the seven highest scoring areas were selected. These seven stands contain 513 trees, which could be further prioritized or treated in order of stand importance.

To accomplish this objective within currently surveyed areas, HCA would apply pesticide to all healthy and eligible trees within designated areas and monitor for effectiveness moving forward. This response could include restoration activities such as re-planting in areas where untreated eastern hemlocks would still be killed by HWA.



Pesticides would be chosen based on site conditions, including proximity to water and presence of sensitive species.

Enacting this response beyond currently surveyed areas would first require a desktop assessment followed by a more comprehensive survey of future potential treatment areas to gather data required for the stand prioritization framework. In areas identified as high value, an inventory of all eastern hemlocks within the vicinity would be required to appropriately plan for treatment. HCA staff would then conduct (or arrange) pesticide application, efficacy monitoring, and planning for future re-treatments. The resources required for survey and inventory to implement this strategy are high.

The primary benefits of this strategy are the preservation of larger intact areas of hemlock ecosystem and that protected trees would provide a benefit across multiple axes – water resources management, ecological conservation, visitor experience, and hazard mitigation. However, there are drawbacks to this approach. Choosing this method would require treating a greater number of trees to achieve the benefits of protecting whole stands, significantly increasing costs. Since priority stands often consist of several hundred trees, a four-year program would likely only treat a small selection of stands and have much smaller geographic coverage. By treating exclusively riparian trees, a strategy outlined later, a similar four-year program would protect trees across a much larger area. Additionally, this strategy poorly addresses the preservation of stream cooling and stabilization since only some of the hemlocks chosen for treatment would be next to watercourses. These are critical ecosystem functions of eastern hemlocks which, if lost, would impact ecosystem functions that support water quality, flood prevention efforts, and fisheries. Lastly, treating a concentrated area of trees is not conducive to mitigating future hazard trees alongside HCA's trail system. Thirty-three (33%) of forecasted hazard trees in the sample area would be mitigated by this strategy, but this number is expected to be lower in other areas of Dundas Valley.

Conclusion: HCA staff do not recommend this strategy. While this approach does align well with HCA's strategic priorities related to natural heritage conservation and addresses multiple risks of HWA, the degree of mitigation provided for each of the impacts is limited, specifically with respect to water resource management (HCA, 2024). Additionally, the time required for survey of future treatment locations is significantly greater than strategy 5.

4.3 Strategy 3: Protect the Largest and Healthiest Trees

The objective of this strategy is to protect individual large, healthy hemlocks which have high ecosystem value and are most likely to remain healthy if treated.

Trees chosen for protection under this strategy are those which are over 40 cm DBH and are not suppressed by other trees in the canopy. These trees also received the



highest score for canopy health, which is a positive indicator that treatment is more likely to be effective. Of the trees currently inventoried, 168 eastern hemlocks were identified as large and healthy canopy trees. This approach is derived from literature which supports that isolated, healthy hemlocks are valuable on the landscape due to the number of species that rely on them (Nova Scotia Hemlock Initiative, 2021). Protecting scattered individuals would help maintain ecosystem services and habitat across many different areas of HCA land.

To implement this strategy, target trees would be identified in the current sample and treated chemically. Staff would monitor the treated trees for health moving forward. Similar to the other strategies, this response could include restoration activities such as re-planting in areas where untreated eastern hemlocks would still be killed by HWA.

Beyond currently inventoried areas, a more thorough survey and inventory of hemlock ecosystems in Dundas Valley and satellite properties would be required to identify more trees that meet the criteria for treatment. HCA staff would then conduct or arrange pesticide application, efficacy monitoring, and planning for future re-treatments. The resources required for survey and inventory to implement this strategy are high.

Advantages of this strategy include the protection of high value old-growth trees and an increased likelihood that more treated trees would survive in the long term. The primary drawback of this strategy is that inventory work to identify trees for future treatment would be very time-consuming and is beyond the capacity of current staff. Further, although some of the trees treated with this approach would also be considered potential hazards and located in general high value areas or in riparian areas, others would be in areas that do not match any of the desired criteria. Lastly, the dispersed nature of the targeted trees would result in greater labour costs for treatment by arborist contractors or increased staff time if pesticide application occurs in-house. Fifteen (15%) of forecasted hazard trees in the sample area would be mitigated by this strategy.

Conclusion: This strategy is not recommended by HCA staff. Due to the intensive survey requirements of this approach, implementation is not feasible with current resources. Additionally, several key risks of HWA are not addressed by this option, and costs are high in relation to the forecasted benefit.

4.4 Strategy 4: Protect Trees with High Cultural, Hazard, and Public Access Value

This strategy reflects a more patron and cost-focused approach to protecting hemlocks in the Dundas Valley and selects trees for protection based on hazard risk and trailside aesthetic value.



All trailside and potential hazard trees within the 2025 inventory area were selected for this strategy. Potential hazard trees are all trees which could conceivably strike the trail if they were to fall in that direction once dead. During the 2025 inventory, 458 trees that are eligible to be treated were also identified as potential hazard trees. These trees are centered around the major trails passing through the inventoried area, including the Monarch Trail, the Hamilton-Brantford Rail Trail, and the Spring Creek Trail. Hazard trees also include those along private property boundaries and those that were identified near unofficial trails. To reduce the number of trees which would need to be treated, trees by unauthorized trails could be removed from the sample.

To most effectively implement this strategy, more extensive internal consultation would be required. Hazard trees are among the largest sample sizes of the possible management strategies and would need to be refined further to create a manageable list of trees. This may include identifying which trails receive the most public traffic, or which areas are valued by patrons for their hemlock populations.

The primary advantage to this strategy is reducing the number of potential hazard trees and associated removal costs, which is projected to require significant budget investment from HCA over the next few decades as eastern hemlocks experience dieback due to HWA. Additionally, hemlocks are a key aspect of the valley's identity, and protecting trees easily in public view would help maintain the shade and stability of public trails, as well as continue to support some ecological integrity. Under this strategy, the scope of treatment would be well defined, which would result in a faster inventory before engaging in treatment beyond currently surveyed locations. Disadvantages include a possible initial delay in responding to HWA. It is also possible that focusing solely on hazard tree mitigation would result in sensitive ecological areas remaining untreated.

The amount of forecasted hazard trees in the sample area that would be mitigated by this strategy is not known, but it is assumed this strategy would result in the highest percentage of the available options.

Conclusion: This strategy is not recommended at this stage since the prioritization of trailside trees over those that may provide greater ecological function and water resources management benefits could result in significant long-term impacts on watershed health. The ecosystem services provided by eastern hemlocks are nearly unique to this tree species. Additionally, more information is needed under this approach before further mapping, prioritization, and management can occur. Lastly, hazard tree prevention is still considered under the recommended strategy, though to a lesser degree. Any hazard tree mitigation on HCA property will need to be implemented in conjunction with the HCAs Hazard Tree Policy.

4.5 Strategy 5: Protect Trees in Riparian Areas

The objective of this strategy is to preserve continuous corridors of eastern hemlock trees that immediately border creek systems.

Trees chosen for management under this strategy are all eastern hemlocks eligible for treatment that are adjacent to creek systems and are actively providing stream cooling and streambank stabilization. This includes all trees which provide shade to nearby streams. Within areas covered by the 2025 eastern hemlock inventory, 273 trees are of the appropriate size and health level for treatment and meet the location criteria (Figure 10).

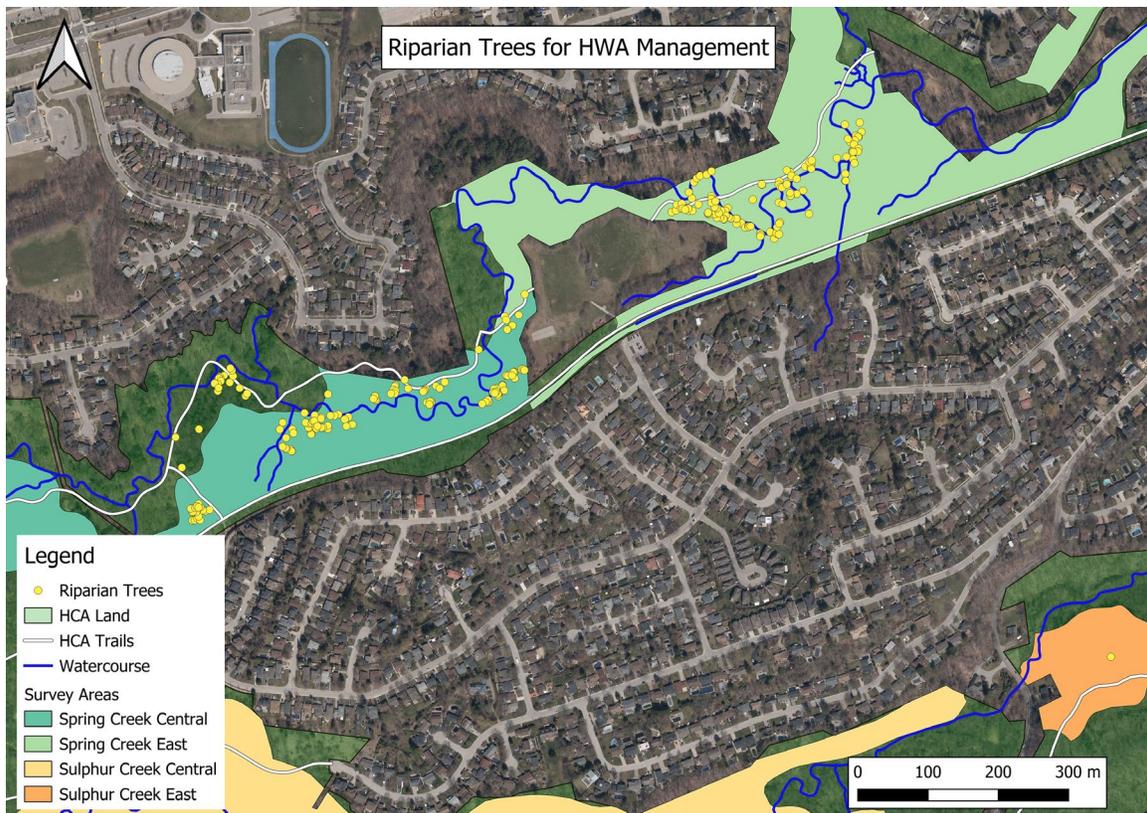


Figure 9. Riparian trees identified as priority for management.

To enact this strategy within currently-surveyed areas, HCA would apply pesticide to the selected trees using the services of a licensed contractor and possibly internally by HCA staff in the future. The trees would then be monitored for effectiveness of treatment. This response could also include restoration activities such as re-planting in riparian areas where trees were either too unhealthy or too small to chemically treat, and in non-riparian areas where untreated eastern hemlocks would still be killed by HWA.



In locations beyond currently surveyed areas, a tree inventory in the upper reaches of Spring and Sulphur Creeks would be required to collect the data necessary for treatment beyond 2026. This could expand to other not-yet-surveyed HCA properties listed in section 2.1.2 depending on the speed of the inventory. Staff would then conduct or facilitate pesticide applications, efficacy monitoring, and planning for future re-treatments. Silviculture could also be explored as a management technique during either the current or future stage of treatments if and where appropriate.

The main benefit of this strategy is the preservation of trees in highly valuable riparian zones, which provide stream shading, erosion control, flood mitigation, and critical animal habitat. Further, this approach also mitigates some of the risks to visitor experience and natural hazard creation. For example, 135 of the 273 trees are also identified as hazard risks, 54 meet the requirements of an ideally large and healthy tree, and 38 meet all the desirable criteria. In the Dundas Valley Conservation Area, HCA trails are often located in riparian corridors, so many trees in those areas meet multiple criteria which make them desirable for treatment. A secondary benefit of this strategy is the clearly defined treatment area and set objectives. The clear scope of the creek-side buffer will result in an efficient tree inventory process which could be completed more quickly than the comprehensive survey required by the other strategies. Additionally, trees that are next to water are more resistant to the adverse effects of HWA, meaning that pesticide applications have an increased chance of success compared to drier sites. The slopes found in riparian areas are also generally less severe than other areas, which will simplify treatment efforts. Lastly, many of the key ecosystem services provided by hemlocks – stream shading, water uptake, and habitat for example – are qualities difficult to replicate with other tree species. With riparian trees protected, restoration plantings could focus on mimicking the ecosystem services that are able to be replicated more easily by other species, namely slope stabilization and carbon storage.

One major drawback of this strategy is that riparian areas naturally lie on and at the base of slopes. If exclusively treating trees that are in riparian areas, there is a risk that untreated trees growing up-slope of the treated trees will fall into the protected trees when they die. This may break or uproot the riparian trees, counteracting the benefits of preserving them. Additionally, this strategy does not prioritize eastern hemlock trees which are valuable for cultural and aesthetic value. Other HCA forests containing eastern hemlock forests would still experience widespread decline and require restoration efforts. Twenty-nine (29%) of forecasted hazard trees in the sample area would be mitigated by this strategy.

Conclusion: Staff recommend that this strategy be adopted by HCA. Treating riparian trees not only protects ecological integrity and mitigates flooding and erosion, but also preserves canopy hemlocks, mitigates hazard tree risks and costs, and



preserves visitor experience in some locations. The risk of up-slope dead trees falling on preserved riparian trees can be mitigated by slightly expanding the treatment area to provide a protective buffer.

5.0 Management Actions

The following section provides a summary of the actions HCA can take to control HWA under the chosen management strategy. Immediate actions recommended under “Strategy 5: Protect Trees in Riparian Areas” are tree monitoring, inventory, and chemical control. Other available management actions include biological control, silviculture, and restoration, which together form an integrated approach as recommended by industry best practices (Emilson & Stastny, 2019; Jackson, n.d.).

5.1 Chemical Control

Chemical control involves the inoculation of eastern hemlock trees through systemic pesticide application to mitigate the impact of HWA on HCA property. Systemic pesticides are applied to the host trees and kill insects which feed on them. This pesticide application will be completed by licensed contractors accompanied by HCA staff, and possibly by HCA Invasive Species Technicians if/when appropriate. Trees in riparian areas will be prioritized for treatment according to the recommended management strategy. The application frequency, application method, and pesticide have all been chosen to best fit the recommended management strategy and target areas.

Using chemical control to manage HWA is a stop-gap solution until long-term control options become available. As will be discussed in more detail in the biological controls section, it is likely that a viable long-term management option for HWA will not be available for several years at minimum. A rapid response using a targeted application of pesticide will protect selected eastern hemlock trees from HWA mortality for as long as HCA can continue treating them. Due to the amount of eastern hemlock trees on HCA property, it will not be feasible to treat all trees, even those exclusively in riparian areas, so it will be necessary to prioritize which trees to protect with chemical applications. Successful pesticide treatment requires a multi-year approach and eventual re-treatment of areas once the chemical protection window expires.

Four chemical options are currently available for use in Ontario, with some on emergency-use basis due to the threat of HWA (Table 2). Emergency-use registration permits chemicals that are not usually available to manage an emerging threat and are generally approved on a 3-year cycle by the Pest Management Regulatory Agency (PMRA). Using a chemical under emergency use does mean it may not be available in future years depending on need and approval from the PMRA.



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Table 2. Approved Chemical Control Options available in Ontario as of 2025.

	Tree Azin	IMA-jet 10%	Starkle 20SG	Xylect 2F
Active Ingredient	Azadirachtin 5% (non-Neonicotinoid)	Imidacloprid (Neonicotinoid)	Dinotefuran (Neonicotinoid)	Imidacloprid (Neonicotinoid)
Application Mode	Tree injection	Tree injection	Spray (basal bark)	Spray (basal bark)
Status	Registered	Emergency use	Emergency use	Emergency use
Years of Protection	1-2 years	4-5 years	1-2 years	5-7 years
Time before effective	48 hours or 1-3 months	6-9 months	3-4 weeks	6-9 months
Usage near water	Yes	Up to water's edge	5-7 m buffer from water	3m buffer from water
Cost (40 cm DBH)	\$ 72	\$ 13.68	\$ 3.88	\$ 3.48
Application timing	April-June or September-first frost	April-May or August-September	March-November	April-May or September-October



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	Tree Azin	IMA-jet 10%	Starkle 20SG	Xytect 2F
Benefits	<ul style="list-style-type: none"> - Not a neonicotinoid. - Fast acting. - Can be injected near water. - Degrades naturally. - Readily available for purchase. - Available through contractor. - No risk of spray drift/wash off due to injection. 	<ul style="list-style-type: none"> - Cost effective due to lower chemical cost and longer effective period. - Lower labour requirement, enabling wider coverage. - Readily available for purchase. - Available through contractor. - Can be injected near water. - No risk of spray drift 	<ul style="list-style-type: none"> - Very cost effective due to low chemical cost and long effective period. - Moderate labour requirement. - Spray does not wound tree. - Can be simultaneously applied with Xytect 2F for immediate and persistent coverage. 	<ul style="list-style-type: none"> - Very cost effective due to low chemical cost and long effective period. - Moderate labour requirement. - Spray does not wound tree. - Can be simultaneously applied with Starkle 20SG for immediate and persistent coverage.
Drawbacks	<ul style="list-style-type: none"> - Very expensive due to chemical cost and requirement to inject every 1-2 years. - Labour intensive, limiting possible coverage area. - Repeat injection more severely wounds the tree. - Requires purchase of injection equipment. 	<ul style="list-style-type: none"> - Neonicotinoid, will result in non-target impacts to other canopy-feeding insects. - Highly toxic to aquatic organisms. - Infrequent injection mildly wounds the tree. - Requires purchase of injection equipment. 	<ul style="list-style-type: none"> - Neonicotinoid, will result in non-target impacts to other canopy-feeding insects. - Highly toxic to aquatic organisms. - Risk of spray drift. - Cannot be applied near water. - Less readily available for purchase. - Not available through contractor. 	<ul style="list-style-type: none"> - Neonicotinoid, will result in non-target impacts to other canopy-feeding insects. - Highly toxic to aquatic organisms. - Risk of spray drift. - Cannot be applied near water. - Less readily available for purchase. - Not available through contractor. - Application limit per hectare.



The chemical control method presents challenges and drawbacks. Since the longest-acting chemical controls protect eastern hemlock trees for a maximum of 5-7 years, it is likely that repeat treatments will be necessary due to HWA's persistence on the landscape. The chemical control method will have significant costs for staff time, pesticide equipment and supplies, and/or contractor fees. Another potential challenge is the limited availability of some pesticides and the possibility that any products under emergency registration may be de-registered. Local stakeholders have indicated this as an issue for Starkle 20SG and Xytect 2F specifically. Lastly, all chemical treatments pose risks to insect populations who use hemlocks as a host. Despite these challenges, chemical treatment is still being evaluated as an option as it currently is the only available control method for HWA.

5.1.1 Assessment of Neonicotinoid Pesticides

Apart from TreeAzin, each of the approved pesticide control options for hemlock woolly adelgid contain a neonicotinoid class chemical. When assessing the use of a neonicotinoid pesticide for control of HWA, the potential negative impacts of the pesticide should be weighed against both the other available chemical options and the impacts of electing to not control HWA.

The Canadian Forest Service (CFS) publication entitled "Review of non-target impacts of imidacloprid" reviews a group of studies that examine the toxicity of imidacloprid, the chemical present in most neonicotinoid chemical options for HWA (Sweeney, 2021). This review concludes that imidacloprid is "practically non-toxic" to most fish and frogs, except for rainbow trout fry to which it is moderately toxic. The chemical was also found to be moderately toxic to mammals and some birds but is highly toxic to other bird species. Additionally, it is not carcinogenic based on studies in rats and mice. Unfortunately, Imidacloprid is highly toxic to a wide range of insects and does not specifically target hemlock woolly adelgid.

Beyond measures of pure toxicity, it is valuable to examine the level of risk to organisms once the chemical is injected into trees in the environment. To analyze this issue, concentrations of imidacloprid measured in the environment were compared to the lethal concentration threshold for species that are found in habitats around eastern hemlock. It should be noted that most of the studies referenced were completed in areas where direct soil injection or soil drenching (pouring pesticide into the soil around tree roots) were the main application method. The chemical application methods in Ontario involve stem injection or basal bark spray, both of which are more targeted methods.

In stream systems, the CFS review concludes that even the most sensitive fish and amphibians (rainbow trout fry) are unlikely to be directly affected by imidacloprid near treated eastern hemlock stands. Benthic macroinvertebrates were also found to not be affected by imidacloprid in those same areas. In the tree canopy, it was found that



some needle-feeding species of insect did experience population declines within the first year following treatment, but that overall arthropod abundance and diversity were not impacted. Additionally, populations of hemlock-dependent bird species that were sampled similarly experienced no decline in population. Some concerns were raised about the long-term impacts of imidacloprid on arthropod populations, and by extension on the birds which feed on them. HCA staff have found no research addressing the long-term impacts of imidacloprid on these populations. Further, very little study has been completed to date on impacts to pollinators in eastern hemlock forests. Neonicotinoids are known to cause unintended negative and sometimes lethal effects in many pollinating organisms. However, imidacloprid use in hemlock forests is expected to have little impact on pollinators because eastern hemlock is wind pollinated and hemlock pollen is not likely to be collected much by pollinating insects. In the soil, some arthropods were found to be harmed by imidacloprid, though this was not consistent across studies. Should HCA elect to apply chemical via stem injection in particular, risk to organisms in the soil could be limited compared to the studies which used soil injection or soil drenching. Lastly, concerning risk to people, imidacloprid within eastern hemlock trees was found to exist in concentrations that would have an extremely low likelihood of harming a human.

To summarize the findings of this review, it is likely that the use of a neonicotinoid pesticide would harm some insect species that feed on eastern hemlock needles and potentially some organisms in the soil near treatment areas. In the short term, birds, fish, amphibians, benthic invertebrates, and pollinators are not likely to be adversely affected. However, there is limited research on the long-term effects of neonicotinoids on organisms in hemlock-dominant ecosystems, which is a significant knowledge gap in the decision of whether to use this class of chemical.

5.1.2 Assessment of Non-Neonicotinoid Pesticide

To provide a point of comparison to imidacloprid, staff have completed research into the other chemical control option, azadirachtin, which is the active chemical ingredient in TreeAzin. The Canadian Pesticide Management Regulatory Agency (PMRA) has produced a consultation document which outlines possible risks of this chemical (Pesticide Management Regulatory Agency, 2018). While azadirachtin is potentially harmful to bee broods, when examined in the context of use in eastern hemlock stands, it is not expected to harm pollinators for the same reason stated above for imidacloprid. Potential risks to birds and mammals were below the level of concern, and impacts to organisms in the soil are also expected to be low. The potential for azadirachtin to enter streams near treated trees has not been studied, however the chemical is toxic to aquatic organisms and has been labelled accordingly. Impacts to non-target needle-feeding organisms has also not been outlined.



The PMRA has determined that azadirachtin is not expected to pose significant risk to non-target organisms due to its general low toxicity levels and targeted application method. However, the use of this chemical in eastern hemlocks has not been widely studied and there are significant knowledge gaps of impacts to organisms feeding on hemlock needles and those in neighboring aquatic environments.

5.1.3 Assessment of No Pesticide Use

While chemical controls are likely to have some undesirable impacts on organisms other than HWA, the loss of most, or all, eastern hemlock trees in the Dundas Valley would ultimately result in an absence of the habitat required to support those same organisms. Therefore, they would eventually disappear from the area even if chemical treatment is not chosen. This conclusion is supported by the CFS review examined in section 5.1.1 (Sweeney, 2021). In addition to the loss of habitat, degraded water quality, erosion, colonization by invasive plant species, and loss of cultural value would occur as a result of electing for no chemical treatment. Living trees preserved by chemical treatment will continue to provide valuable benefits to the ecosystem, keep hazard tree costs down, control erosion, and provide shade, aesthetic value, and cultural value for trail users.

5.1.4 Chemical Recommendation

Bearing in mind the long-term and impacts of opting for no chemical control, staff recommend that HCA should choose to implement pesticide applications for the management of hemlock woolly adelgid. **Based on the best practice recommendations, pricing, benefits, and drawbacks of the chemicals available, it is recommended that IMA-jet be selected to control HWA in riparian areas.** The concerns related to neonicotinoids and impacts on other species are noteworthy and undesirable. However, the sole non-neonicotinoid option, TreeAzin, is prohibitively expensive and largely impractical in the long term. Based on current chemical and contractor costs, treating the trees selected for 2026 with TreeAzin would cost between \$20,000-\$25,000 more than an IMA-jet treatment of the same sample, and would need to be repeated at more frequent intervals in future years. IMA-Jet is applied to eastern hemlock trees through injection. Injections limit the risk of chemical runoff or drift into watercourses, which could occur with a basal bark spray. As a result, it is considered one of the safer application options.

Table 3 outlines the cost of various chemical control scenarios using TreeAzin and IMA-Jet 10, completed by a licensed contractor, HCA staff in-house, or a combination of both. The table assumes that 150 high-priority trees will be treated per year, though this number may change in reality depending on cost and funding. There are also increased staff time expenses for further surveys and inventory to facilitate the treatment of new trees which must be cataloged until Year 3. A four-year budget cycle was chosen as IMA-jet loses viability after four years inside the tree, requiring



retreatment. TreeAzin has a two-year cycle, meaning retreatment of trees under a TreeAzin management plan would start in year 3.



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Table 3. Estimated cost of chemical options for four years of treatment with available methods.

		TreeAzin (Contractor)	TreeAzin (In house)	TreeAzin (Combo)	IMA-jet 10 (Contractor)	IMA-jet 10 (In house)	IMA-jet 10 (combo)
Year 1	Contractor	\$30,000.00	\$ -	\$15,000.00	\$10,000.00	\$ -	\$6,000.00
	Staff Time	\$6,160.00	\$8,120.00	\$8,120.00	\$6,160.00	\$8,120.00	\$8,120.00
	Equipment	\$ -	\$5,050.00	\$5,050.00	\$ -	\$5,050.00	\$5,050.00
	Product	\$ -	\$26,900.00	\$13,450.00	\$ -	\$3,200.00	\$1,700.00
	Subtotal	\$36,160.00	\$40,070.00	\$41,620.00	\$16,160.00	\$16,370.00	\$20,870.00
Year 2	Contractor	\$30,000.00	\$ -	\$15,000.00	\$10,000.00	\$ -	\$6,000.00
	Staff Time	\$6,160.00	\$8,120.00	\$8,120.00	\$6,160.00	\$8,120.00	\$8,120.00
	Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Product	\$ -	\$26,900.00	\$13,450.00	\$ -	\$3,200.00	\$1,700.00
	Subtotal	\$36,160.00	\$35,020.00	\$36,570.00	\$16,160.00	\$11,320.00	\$15,820.00



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Year 3	Contractor	\$30,000.00	\$ -	\$15,000.00	\$10,000.00	\$ -	\$6,000.00
	Staff Time	\$6,160.00	\$8,120.00	\$8,120.00	\$6,160.00	\$8,120.00	\$8,120.00
	Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Product	\$ -	\$26,900.00	\$13,450.00	\$ -	\$3,200.00	\$1,700.00
	Subtotal	\$ 36,160.00	\$ 35,020.00	\$36,570.00	\$16,160.00	\$ 11,320.00	\$15,820.00
Year 4	Contractor	\$30,000.00	\$ -	\$15,000.00	\$10,000.00	\$ -	\$6,000.00
	Staff Time	\$6,160.00	\$8,120.00	\$8,120.00	\$6,160.00	\$8,120.00	\$8,120.00
	Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Product	\$ -	\$26,900.00	\$ 13,450.00	\$ -	\$3,200.00	\$1,700.00
	Subtotal	\$36,160.00	\$35,020.00	\$36,570.00	\$16,160.00	\$11,320.00	\$15,820.00
Total	Product(s)	\$ -	\$107,600.00	\$53,800.00	\$ -	\$12,800.00	\$6,800.00
	Contractor	\$120,000.00	\$ -	\$60,000.00	\$40,000.00	\$ -	\$24,000.00
	Staff Time	\$24,640.00	\$32,480.00	\$32,480.00	\$24,640.00	\$30,380.00	\$32,480.00
	Equipment	\$ -	\$5,050.00	\$5,050.00	\$ -	\$5,050.00	\$5,050.00
	Grand Total	\$144,640.00	\$145,130.00	\$151,330.00	\$64,640.00	\$48,230.00	\$68,330.00



5.2 Monitoring and Inventory

Monitoring and inventory are methods of collecting data in the field which track the status of trees in management areas and provide necessary information to plan HWA control.

Under the chosen management strategy, it is recommended that staff complete monitoring for tree health during and after treatment in areas where chemical control will occur. This ensures that HCA can monitor the efficacy of treatment and adapt to changing conditions as they arise.

“Strategy 5: Protect Trees in Riparian Areas” will require the completion of future tree inventories to determine the number and location of eastern hemlock trees that are eligible for preservation through chemical control. This inventory will also collect data such as tree size which is required to budget and plan for chemical control. Due to the defined scope of this inventory, the current objective is for HCA’s Invasive Species Technicians to complete this work. As of the writing of this management plan, Conservation Areas that may be targeted for future inventory and chemical control include Dundas Valley CA along Sulphur Creek west of Bumblebee Park and Spring Creek west of Old Dundas Road, and Tiffany Falls and Spencer Gorge. One week of inventory work by the existing two invasive species staff is accounted for in the first three years of costs in the proposed management plan.

Since the proposed treatment area under “Strategy 5” is defined by creek corridors, widespread surveys such as those completed in 2025 are not needed at this time. Field work will focus on inventorying trees for treatment instead of further detection of HWA. However, future presence surveys HWA may be conducted in auxiliary properties such as Tiffany Falls where HWA has not yet been detected, should staff time allow.

5.3 Biological Control

Biological control involves the release of a species-specific predator into the environment that reduces the population of HWA by eating or parasitizing it. When successful, it is a sustainable long-term control method that allows for passive management of pests such as HWA by reducing insect populations to levels below where damage occurs. Biological control is the end goal for the long-term protection of hemlocks on HCA land, since it is not practical to continue chemical treatments indefinitely. It has been shown that biological controls are successful in maintaining the health of eastern hemlocks following preventative chemical management (Mayfield et al., 2015). However, the introduction of a biological control would require either the release of the predators on a nearby property or for HCA to work with biocontrol researchers to release on HCA land.



Research to certify a biological control is underway, with releases of candidate insects in locations as close as New York State and Nova Scotia. However, no releases have yet taken place in Ontario, and the insects spread very slowly so are not expected to reach Hamilton through natural movement for several decades. The release of these insects is delayed in Ontario due to movement restrictions and operational roadblocks, but work is being completed by the CFS and academic institutions to bring the solution to Ontario.

Biological controls would likely require little staff input or time and may be overseen by a government agency or academic institution. Monitoring for efficacy could be worthwhile, and staff time to coordinate with relevant authorities may also be required, but this management option would largely be passive.

Since the possibility of biocontrol for HWA in southern Ontario is still a long way away, management by other means is strongly recommended to support hemlock stands until a predatory species can be introduced.

5.4 Silviculture

Silviculture is a forest health management technique which uses stand thinning, tree planting, and other tools to affect the composition of forest stands to promote health. Relating to HWA, this technique is recommended for use in un-infested stands as a proactive measure to promote forest quality. In forests with widespread infestations, silviculture can provide some mitigation of harm from HWA but is primarily used to gain an economic return from trees that will likely succumb to the insect.

When felling, pruning, or cutting hemlocks, material should remain on site wherever possible. With the CFIA ruling the City of Hamilton a regulated area, no hemlocks parts or products can be taken out of the municipality, however, they are technically allowed to be moved around within it. Regardless, the movement of material may still expedite or create an infestation in a new area with the Dundas Valley or other HCA properties. Leaving cut material on site will mitigate local spread and allow for potential regrowth of hemlocks by utilizing fallen trunks or stumps as nurse logs. Although small trees may fail in a heavy HWA infestation, promoting positive conditions for regeneration may be beneficial over the long term. If plant material must be removed from site, it should be taken the shortest distance required.

Some areas surveyed for HWA and inventoried for treatment are located within lands defined under the HCA's Managed Forest Plan (Puttock, 2017). This includes the corridor around Spring Creek that has been targeted for the first phase of treatment. Under the Managed Forest Plan, there is consideration given to invasive insects, including HWA, and it is recommended these areas be monitored for presence, which



has been completed. The management of HWA and the Managed Forest Plan will continue to be updated to reflect the shared priorities and areas of focus when required.

Implementation of the silviculture technique would require further research and consultation with a forestry services provider. This option may be explored in the future, but it is unclear whether this technique would be feasible and provide a significant enough benefit to invest in.

5.5 Restoration

Restoration involves planting new tree species in areas currently or formerly dominated by hemlocks. Details of a replanting program are beyond the scope of this report and will need to be addressed in a separate document such as a master plan or other strategy.

The primary benefit of tree planting in impacted areas is that these trees would mimic ecosystem functions such as stream cooling, erosion control, and habitat for some species, as well as maintain a similar aesthetic for trail users. However, replanted trees will also take many years to grow to the point where their benefits can compare to those provided by the thousands of mature hemlocks found in the Dundas Valley. As stated previously, many of the ecosystem functions and habitat provided by eastern hemlocks are unique, and a replanting program, though beneficial, will not on its own restore the environment in which hemlocks used to dominate in the overstory. Therefore, it is recommended to begin plantings in tandem with chemical treatment, and restoration should include replacement trees in areas expected to lose their hemlocks, as well as plug plantings and shrubs in the understory and in riparian areas to prevent the encroachment of other invasive species. Replanting with younger eastern hemlocks is unlikely to be effective unless a biocontrol is introduced.

6.0 Conclusion

Hemlock woolly adelgid is an invasive insect recently detected in the Dundas Valley Conservation Area, and it has been found throughout the property as of 2025. The presence of HWA is predicted to have a profound and long-lasting negative impact on the health of forests in HCA's Conservation Areas which contain eastern hemlock trees.

Eastern hemlock trees are a long-lived, foundational species on the landscape, defining the ecosystems which they inhabit. These trees provide specialized habitat for rare plant and animal species, control erosion, prevent flooding, and provide aesthetic benefits to trail users. In areas where HWA is not controlled, it is forecasted that these trees will begin to die in as few as four years.



There exists a number of options for mitigating the damage caused by HWA, most of which involve the application of pesticides to preserve the health of selected trees. The objective of pesticide application is to act as a stop-gap by preserving tree health until a biological control predator for HWA can be introduced as a long-term solution. However, the biological control option has several operational and regulatory obstacles to overcome before being implemented in Ontario. This will likely not occur for several years, resulting in the need for other immediate management action.

Due to the large number of eastern hemlocks on HCA property, it will not be possible to chemically treat all eastern hemlock. Staff have reviewed five strategies for prioritizing which trees to preserve through pesticide application. The chosen strategy focuses on maintaining the health of trees immediately bordering creek systems, in an area called the riparian zone. This strategy was chosen in part because eastern hemlock trees in the riparian zone provide many unique benefits to the environment that other tree species cannot replicate.

For the application of pesticide to preserve tree health, staff recommend the use of IMA-jet 10%, applied by a licensed contractor to targeted areas. Based on the budget estimation in this report, staff aim to treat 150 trees annually for four years, resulting in the protection of 600 trees total. The efficacy of the chosen herbicide will lapse after four years, meaning that it will be necessary to return to the previously treated trees to re-apply after that period. The objective is to continue this approach until a viable biological control is released in or reaches Hamilton.

The management strategy outlined in this report is based on the most recently available knowledge and recommendations from resources such as Natural Resources Canada, the Invasive Species Centre, and scientific publications. The chosen management approach may need to be adapted in the future to reflect updated information or due to available resources.



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Report to: Board of Directors

Approved for Circulation By: Lisa Burnside, CAO

Reviewed By: T. Scott Peck, MCIP, RPP, Deputy CAO/Director, Watershed Management Services

Prepared By: Brandon Good, Senior Manager, Conservation Area Services

Meeting Date: March 5, 2026

Subject: Valens Lake Conservation Area Campfire Wood Contract

Recommendation:

THAT the contract for the supply and delivery of campfire wood at Valens Lake Conservation Area be awarded to The Firewood Guys, for the 2026 calendar year for an estimated total of \$75,900.00 (excluding HST).

Executive Summary:

HCA sells approximately 11,000 bags of campfire wood annually at Valens Lake Conservation Area (VLCA) as both a visitor service and revenue source. An RFQ for the 2026 firewood supply received two submissions. Although, one bid was slightly lower, The Firewood Guys have a proven track record supplying VLCA since 2018 with consistent quality and dependable service. Given the modest price difference and the operational importance of reliable supply, staff recommend that the contract be awarded to The Firewood Guys for an estimated \$75,900 (excluding HST), subject to Board approval in accordance with the Purchasing policy.

Staff Comment / Discussion:

HCA operates 231 campsites at VLCA. As a revenue stream and a service to conservation area patrons, prepackaged campfire wood is offered for sale. On average, HCA sells approximately 11,000 bags of campfire wood annually at VLCA.

A request for quotes (RFQ) process was conducted for the 2026 campfire wood supply. Two quotes for the supply and delivery of campfire wood to VLCA were received and the quote results are shown in Table A.

Table A

Supplier	Total Approximate Price
Ed's Firewood	\$70,950
The Firewood Guys	\$75,900

While Ed's Firewood offered a marginally lower total price (6.7% difference), they are a newly established company with no demonstrated experience or references. In contrast, The Firewood Guys has a proven track record of delivering high-quality service and products to HCA and has reliably supplied campfire wood to VLCA since 2018. Given the modest price differential and the operational importance of consistent, dependable supply, the reduced performance risk associated with an established and proven vendor provides greater overall value to HCA.

It is therefore recommended that the 2026 Firewood Supply Contract be awarded to The Firewood Guys for an estimated \$75,900 (excluding HST).

Strategic Plan Linkage:

The initiative refers directly to the HCA Strategic Plan 2025 – 2029:

- Connecting People to Nature – Manage and enhance conservation lands utilising best management practices to support nature appreciation and recreation activities.

Agency Comments:

N/A

Legal / Financial Implications:

Campfire wood purchases are funded from the approved annual conservation area budget. The total amount purchased in any given year is dependent on the demand from the public and can be affected by factors such as fire bans and weather. Actual costs will be based on the number of bags purchased with an annual average of 11,000 bags. In accordance with HCA's Purchasing Policy,

contracts valued under \$100,000 may normally be awarded by the CAO. However, where the recommended proponent is not the lowest bidder and the total contract value exceeds \$50,000, Board approval is required.

As the estimated value of the 2026 Firewood Supply Contract exceeds \$50,000 and staff are recommending award to a proponent other than the lowest bidder, this matter is being brought forward for Board approval in accordance with policy.

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Memorandum to: Board of Directors

Approved for Circulation By: Lisa Burnside, CAO

Reviewed By: T. Scott Peck, MCIP, RPP, Deputy CAO/Director, Watershed Management Services

Prepared By: Mike Stone, MCIP, RPP, Senior Manager, Watershed Planning, Stewardship & Ecological Services
Jonathan Bastien, P.Eng., Manager, Water Resources Engineering
Stacey Van Opstal, Water Monitoring Technologist
Lesley McDonnell, Supervisor of Stewardship and Ecological Services
Sarah Piett, Terrestrial Ecologist
Colin Oaks, Aquatic Ecologist

Meeting Date: March 5, 2026

Subject: 2025 Annual Monitoring Program Summary

Executive Summary:

HCA undertakes terrestrial and aquatic ecological monitoring and water quality monitoring programs to collect data regarding watershed conditions and to help inform the assessment of long-term trends in watershed health. The purpose of this report is to provide a summary of monitoring program activities and key findings from 2025.

Staff Comment / Discussion:

While it may be possible to provide some comments regarding watershed health based on annual monitoring results, identifying changes in conditions and longer-term trends based on annual data does have limitations. More detailed assessment and meaningful conclusions regarding changes in watershed health require a longer time frame, more similar to the five-year reporting cycle of the Watershed Report Card.

Water Quality Monitoring Program

The water quality (chemistry) monitoring programs undertaken by HCA WMS staff provide essential information regarding the current state of water quality in key streams and groundwater areas within the watershed. Maintaining these programs over extended periods of time allows HCA to assess changes and trends in water quality. In addition, the data and assessments provide valuable information to assist HCA and partner organizations and other groups (e.g. City of Hamilton, Ministry of Environment, Conservation & Parks (MECP), academia, development consultants) with their water quality programs, activities and decision making.

A summary of 2025 results from HCA's three water quality monitoring programs is presented below.

Hamilton Harbour Remedial Action Plan Water Quality Monitoring of Main Tributaries to Cootes Paradise

HCA's program focuses on collecting surface water quality samples and identifying water quality contributions to Cootes Paradise from key watercourses. Water quality samples collected and reviewed by HCA staff identify potential key sources of watercourse-delivered nutrient, sediment and *E. coli*, determines annual averages and long-term trends in watercourse concentrations, and monitors the effects of implemented remedial actions.

All sampling sites had samples in 2025 that exceeded the total phosphorus, *E. coli* and total suspended solid targets.

Chedoke Creek sampling exceeded the total phosphorus targets for all samples at all locations. Chedoke Creek *E. coli* targets ranged in exceedances from 11 out of 19 samples at Chedoke Creek at Kay Drage Park Bridge to 22 of 23 samples at Chedoke Creek at Princess Falls. Chedoke Creek located downstream of Chedoke Falls experienced 21 out of 24 sample exceedances for *E. coli*. Chedoke Creek downstream of the Stroud Park CSO had 18 out of 23 samples exceed target and Chedoke Creek downstream of the Aberdeen CSO had 20 of 23 samples exceeding.

The Spencer Creek site had 16 out of 20 samples exceed the *E.coli* target and 18 out of 20 samples exceed the total phosphorous target.

The Borers Creek site had 11 out of 23 samples exceed the target for *E.coli*, and 19 out of 23 samples above the total phosphorous target.

For Ancaster Creek, total phosphorous sampling experienced 7 to 15 exceedances out of 24 samples at each of the 4 locations sampled. The 3 downstream Ancaster Creek sites experienced 10 to 13 exceedances out of 24 samples for *E.coli*. The most upstream Ancaster Creek site located at Rousseaux Street had 19 out of 25 samples exceed the *E.coli* target.

For all sampling sites, less than half of samples collected exceeded the total suspended solids target. Generally total suspended solids concentrations were highest on sampling days that experience precipitation and as a result runoff and erosion.

Reviewing longer term trends, the Spencer Creek site has had annual average concentrations of *E.coli* for 2024 and 2025 that are considerably higher than previous years. For 2024 and 2025, there was not an increased number of storm event samples nor individual samples with significantly higher concentrations, which would be expected to increase the annual average concentrations. HCA staff intend to review further potential reasons for this increase in concentrations of *E.coli*. There is a slight overall increasing trend in annual average concentrations of total phosphorus at the Spencer Creek site, while a slight overall decreasing trend in annual average concentrations of total suspended solids. It is noteworthy that the Spencer Creek site has had some years where the average annual concentration of *E.coli* and total suspended solids were below the targets. Total phosphorus annual average concentrations are consistently above the target concentration of 0.03 mg/L.

The Borers Creek site annual average concentrations of total phosphorus and *E.coli* have had slight overall increasing trends, while total suspended solids have had a slight overall decreasing trend. *E.coli* concentrations at this site are often near the target concentration. This site has had some years where the annual concentrations are below the total suspended solids objective of 25 mg/L. Total phosphorus annual average concentrations are consistently above the target concentration of 0.03 mg/L.

Ancaster Creek annual average concentrations of total phosphorus, *E.coli* and total suspended solids have had a slight overall decreasing trend at the three downstream sampling locations. These three locations often have had annual average concentrations near or below the target for *E.coli*. These sites also have had some years where the average annual total suspended solids concentration were below the target. The most upstream site along Ancaster Creek at Rousseaux Street has annual average concentrations of *E.coli* that are considerably higher than the other Ancaster sites. This site consistently has had annual average concentrations above the target for *E.coli*. That said, there is a moderate overall decreasing trend in annual average concentrations of *E.coli* at this site. Also, this site has had annual average total suspended solids concentrations that have remained relatively stable and below the delisting objective of 25 mg/L. This site has also had annual average total phosphorus concentration that has remained relatively stable. At all four sites, total phosphorus annual average concentrations are consistently above the target concentration of 0.03 mg/L.

Chedoke Creek has historically experienced high total phosphorus and *E.coli* concentrations, with annual average concentrations being consistently above the targets. Chedoke Creek is a highly impacted system. These impacts include municipal infrastructure (sewer cross-connections and combined sewer overflows), urban runoff, and concrete channelization including sections of the watercourse that are buried

underground. That said, the five sites have mainly had annual average total phosphorus and *E.coli* concentrations that have remained relatively stable or have had slight overall decreasing trends. There is a relatively stable overall trend in annual average concentrations of total suspended solids at most Chedoke Creek sampling sites, with a slight overall increasing trend at the most downstream site. All Chedoke sites have had a number of years where the average annual total suspended solids concentration is below the target.

Provincial Water Quality Monitoring Network (PWQMN) and Provincial Groundwater Monitoring Network (PGMN)

HCA's focus for these programs is on the collection of water quality samples on behalf of MECP. However, sampling results (provided by MECP) are used by HCA staff for the HCA Watershed Report Card water quality assessments every 5 years.

Surface water quality grades for subwatersheds from the latest Watershed Report Card (2023) were two graded 'B', six graded 'C', eight graded 'D' and five graded 'F'. Subwatersheds with higher grading tend to be in areas with more natural cover.

Groundwater quality grades from the latest Watershed Report Card (2023) for nitrate + nitrite concentrations were four wells graded 'A', one well graded 'B' and two wells graded 'C'. While for chloride concentrations, three wells graded 'A', one well graded 'B' and three wells graded 'F'.

Terrestrial Resource Monitoring Program

The Terrestrial Resource Monitoring Program (TRMP) was developed in 2012 to establish a long-term consistent approach to monitoring forest health in the watershed. The program is closely based on the monitoring methodology developed by Environment Canada in its Ecological Monitoring and Assessment Network (EMAN) and aims to determine the status and trend of hardwood forests following terrestrial indicators of ecological integrity (EI) through time and throughout the watershed. In addition to EMAN, HCA Ecology staff also undertake monitoring activities targeting specific invasive species and to track the success of restoration projects completed by HCA.

Ecological monitoring using standardized data collection protocols at regular intervals allows changes in natural systems over time to be documented, and provides information which can be used by HCA, partners and others, to identify emerging issues, restoration opportunities and help guide management decisions. A summary of 2025 results from the TRMP is presented below.

Ecological Monitoring and Assessment Network (EMAN)

On a year-by-year basis ten of the TRMP's thirty-nine EMAN monitoring plots are surveyed. Surveys document tree species, size and health. Ground vegetation within plots is also recorded by species. Metrics completed from this work include tree health, snag abundance, tree mortality, native plant richness, invasive species occurrence, mean coefficient of conservatism, spring ephemeral diversity and tree regeneration. While the EMAN monitoring protocol does not lend itself easily to year-over-year reporting given only a subset of data is gathered each year, more comprehensive analysis can be completed based on multi-year data. HCA Ecology staff are in the process of compiling and analyzing EMAN data from 2013 onward. Notwithstanding this, a summary of 2025 EMAN survey findings is presented below.

- Ten plots were monitored in 2025, including two plots each in Felker's Falls, Valens Lake, Iroquoia Heights and Dundas Valley conservation areas, with an additional plot at 50 Point conservation area and one final plot on property owned by the Bruce Trail Conservancy on the Niagara Escarpment in Stoney Creek.
- Sugar maple (62%) was the most common species recorded during 2025 surveys. Of the 137-plant species recorded, 117 species (85%) were native and 20 species (15%) non-native. Invasive species were recorded in all plots; the most encountered were common buckthorn in 60% of plots, and garlic mustard in 70% of plots.
- Forest regeneration was noted in all plots. In all plots sugar maple and/or ash species were the most common in the plots, along with black cherry dominating some plots where canopy gaps have occurred due to tree dieback.

Invasive Species Monitoring

Five different invasive tree pests and pathogens are actively surveyed for on HCA owned lands, spongy moth, hemlock woolly adelgid (HWA), oak wilt, beech leaf disease, and beech bark disease. Each of these are considered threats to tree health and in turn the structure, composition and overall biodiversity of our forests. Oak wilt, HWA, and beech tree surveys aim to detect the presence/absence of these invasive tree pests and pathogens on our lands. Spongy moth egg mass surveys help staff predict the expected level of tree defoliation across known locations of these tree pests.

Oak wilt has yet to be detected on HCA lands as of 2025. However, HWA was detected on HCA property in 2025 through monitoring conducted by two summer contract staff hired through grant funding from the Invasive Species Action Fund. Following detections at the Royal Botanical Gardens and McMaster University, visual surveys were completed at Lower Spencer Conservation Area and throughout the Dundas Valley between the Spencer Creek Trail and Sulphur Springs Road. HWA was found throughout all areas surveyed, which has led to the creation of an HWA Management Plan to coordinate and evaluate a response to this threat. Beech Leaf and Beech Bark Disease surveys were expanded in 2025, and both diseases were detected in the

Dundas Valley on the Headwaters Trail, Merrick Orchard parking lot access road, Monarch Trail, and at Saltfleet, Eramosa Karst, and Valens Lake.

Spongy moth is a cyclical tree pest that was at its peak across Ontario in 2022. Since then, the numbers of these insects have declined. Egg mass survey results from the winter 2024 - 2025 period suggested that defoliation forecasts for HCA Conservation Areas in 2025 were expected to range from light to severe depending on location. HCA ecology staff also conduct forest canopy photo monitoring in five different Conservation Areas with monthly visits (May – September) to the same locations with pictures taken of the canopy. Comparing the forecasted defoliation to the photo monitoring results shows that while some areas were predicted to experience a severe defoliation, only the upper canopy leaves were impacted, and the lower canopy branches and smaller trees maintained their leaf cover at those locations. This lessens the impact on overall tree health.

Aquatic Resource Monitoring Program (ARMP)

The Aquatic Resource Monitoring Program was developed in 2004 to establish a long-term consistent approach to monitoring aquatic systems throughout the watershed. The ARMP focuses on monitoring parameters that are indicators of ecological health. The program integrates chemical (water chemistry via benthic macro-invertebrate community composition), biological (fish populations and communities) and physical (fish habitat, channel morphology) assessments within all major watersheds to allow for assessment of overall watershed health and comparison of results over time.

ARMP survey work is undertaken at sites across the watershed on a three-year cycle, which includes annual sites (sampled each year) and additional sites sampled in alternating years (year 1, year 2 and year 3 sites). The ARMP aims to improve knowledge regarding the health and composition of fisheries and fish habitat, and allow for the quantification of changes in these over time. Information collected regarding the health of fisheries and watercourses supports the review of development applications and helps to inform decision making.

In addition to the ARMP program ecology staff also sample additional sites when required using the ARMP protocols for monitoring or inventory work related to HCA projects/programs such as conservation area master planning and restoration project monitoring.

HCA Ecology staff are in the process of compiling and analyzing all available ARMP data from 2000 to present on a subwatershed basis to allow for long-term trend identification. Notwithstanding this, a summary of 2025 ARMP survey findings is presented below.

Fisheries

Both electrofishing and seine netting sampling techniques are utilized to sample fish given the diversity of watercourses/waterbodies found within the HCA watershed. Electrofishing is generally applied in smaller streams that have woody debris and undercut banks, while seine netting is used in the reservoirs. HCA staff follow a modified version of the Ontario Streams Assessment Protocol (OSAP) for its electrofishing surveys. Twenty-eight sites were sampled for fish in 2025 (eleven annual sites, eight year 1 sites and an additional two sites at Conservation Areas in support of Master work). Additionally, a combined seven nearshore sampling sites were completed at Valens and Christie Lakes during the summer. Across the sampling a total of 3406 fish were captured, representing 34 different species. Notable catches for 2025 includes a young Emerald Bowfin (*Amia ocellicauda*) and a large adult Northern Hog Sucker (*Hypentelium nigricans*) in Spencer Creek.

In assessing the fisheries data recorded at the annual sampling sites in 2025, HCA ecology staff have calculated Index of Biotic Integrity (IBI) ratings for each applicable stream sample location. The IBI method is a multivariate indicator of stream health, which utilizes metrics such as species richness, indicator species, trophic composition, fish abundance, and fish condition to give an indication of stream health. Five of the thirteen annual sampling sites received a 'Good' rating, five sites had a 'Fair' rating, one site a 'Poor' rating, and two sites were not sampled (dry or hazardous conditions present).

Benthic Invertebrates

HCA follows the Ontario Benthos Biomonitoring Network (OBBN) protocol for the sampling of benthic invertebrates ('benthics') and analyzes findings using the Family Biotic Index (FBI) methodology. Given benthics are less able to readily move about the stream as compared to fish species, it is assumed they are a better indicator of physical, chemical, and biological conditions at the site level. Benthics were collected at 24 sites in 2025. The results have been reviewed and are mostly consistent with previous years' results at each of the sites.

For interest, the results of the analysis from the 2025 sampling found that one subwatershed was graded A, two were graded 'B', one graded 'C', four graded 'D' and seven graded 'F'. FBI scores and associated letter grades are based on averages for an entire creek/subwatershed system and are not necessarily an indication of poor water quality throughout an entire system. Additionally, there can also be a temporal error as not all sites within a subwatershed are sampled in every year thus in year averages can contain results not reflective of the 5-year summary period.

Strategic Plan Linkage:

The initiative refers directly to the HCA Strategic Plan 2025 - 2029:

- **Strategic Priority Area – Water Resources Management**
 - Initiative - Collaborate with the City of Hamilton on their Watershed Action Plan and support our partners involved in the Hamilton Harbour Remedial Action Plan to achieve shared environmental goals.
 - Initiative - Monitor the impacts of climate change through existing and enhanced monitoring programs and networks to inform adaptation and mitigation strategies.

- **Strategic Priority Area – Natural Heritage Conservation**
 - Initiative - Improve our understanding of watershed ecosystems and address emerging issues by broadening the scope of HCA monitoring activities, and working with our municipal partners on the Biodiversity Action Plan and Natural Areas Inventory.

Agency Comments:

N/A

Legal / Financial Implications:

There are no budget implications resulting from the monitoring programs, as current programming is covered under existing funding arrangements as required with the City of Hamilton and Township of Puslinch as either category 1 or 2 programs, and/or with support from the MECP.

Memorandum to: Board of Directors

Approved for Circulation By: Lisa Burnside, CAO

Reviewed By: T. Scott Peck, MCIP, RPP, Deputy Chief Administrative Officer / Director, Watershed Management Services

Prepared By: Jonathan Bastien, P. Eng., Manager, Water Resources Engineering

Meeting Date: March 5, 2026

Subject: Watershed Conditions Memorandum

Executive Summary:

During the period of January 23rd, 2026 to February 23rd, 2026, there were no significant watercourse flooding events, no significant water safety concern events, and no Lake Ontario shoreline flooding events. However, one rain and snowmelt event (February 19th to 23rd) warranted issuing messages and additional monitoring of watercourse conditions. There were no received observations, reports, or expectations of significant watercourse flooding, localized watercourse flooding of low-lying areas that typically flood during higher water levels, or significant water safety concerns.

In December, January, February and currently, ice conditions artificially affected readings at the streamflow gauges, thus flow measurements are not considered accurate.

There are no observations, reports, or expectations that significant watercourse flooding, localized watercourse flooding of low-lying areas that typically flood during higher water levels, or significant water safety concerns are occurring at this time. Current flows are estimated to range from near baseflow conditions in some watercourses to elevated but below thresholds for significant water safety concerns in other watercourses.

The average monthly flows for December, January, and February so far are not considered accurate, due to ice conditions that have artificially affected readings at the streamflow gauges. November average recorded flows ranged between significantly below long-term averages to near long-term averages.

There are no observations, reports, or expectations that significant Lake Ontario shoreline flooding is occurring at this time. The Lake Ontario mean daily water level averaged across the entire lake is 8 cm below average for this time of year, as of yesterday.

Christie Lake levels are currently slightly above preferred winter operating levels, while Valens Lake water levels are currently within the preferred winter operating levels.

The most recent drought assessment indicated that Level 1 Low Water Conditions are an appropriate overall characterization of the watershed at this time. Given the time of year and the fact that this is the first recent consecutive assessment to indicate Level 1 Low Water Conditions, HCA staff have deferred notifying the Low Water Response Team to suggest declaration and will reassess conditions at the beginning of March.

There is currently one potentially significant Lake Ontario shoreline flooding event forecasted over the next 2 weeks. HCA staff continue to monitor conditions and forecasts closely and will issue flood messages as required.

There are currently no significant rainfall or snowmelt events (+20 mm in a day) forecasted for the watershed over the next 2 weeks.

HCA staff will continue to undertake monthly drought assessments, and coordinate with the Hamilton Low Water Response Team if drought conditions warrant actions.

Staff Comment / Discussion:

CURRENT WATERSHED CONDITIONS – February 23rd, 2026

Current Flows in Major Area Watercourses

In December, January, February and currently, ice conditions artificially affected readings at the streamflow gauges, thus flow measurements are not considered accurate.

There are no observations, reports, or expectations that significant watercourse flooding, localized watercourse flooding of low-lying areas that typically flood during higher water levels, or significant water safety concerns are occurring at this time.

Current flows are estimated to range from near baseflow conditions in some watercourses to elevated but below thresholds for significant water safety concerns in other watercourses. The five available streamflow gauges are Upper Spencer Creek at Safari Road, Middle Spencer Creek at Highway 5, Lower Spencer Creek at Market Street, Ancaster Creek at Wilson Street and Red Hill Creek at Barton Street.

The average monthly flows for December, January, and February so far are not considered accurate, due to ice conditions that have artificially affected readings at the streamflow gauges.

November average recorded flows ranged between significantly below long-term averages to near long-term averages. Monthly flow in Upper Spencer Creek at Safari Road was considered near average. However, Upper Spencer Creek at Safari Road gauge may have been experiencing debris related issues that artificially elevating recorded flows. Monthly

flow in Middle Spencer Creek at Highway 5 was considered significantly below average. Monthly flow in Lower Spencer Creek at Market Street was considered significantly below average. Monthly flow in Ancaster Creek at Wilson Street was considered below average. Monthly flow in Red Hill Creek at Barton Street was considered well below average. It is noted that streamflows in Spencer Creek were increased during November as a result of the winter drawdowns of the Valens Lake reservoir (October 20 to November 6) and the Christie Lake reservoir (October 24 to December 3).

Current Lake Ontario Water Levels

There are no observations, reports, or expectations that significant Lake Ontario shoreline flooding is occurring at this time. The Lake Ontario mean daily water level in the Hamilton area was 74.59 m IGLD85 as of yesterday. The Lake Ontario mean daily water level averaged across the entire lake (74.54 m IGLD85 as of yesterday) is 8 cm below average for this time of year.

Current Storages in HCA Reservoirs

Christie Lake levels (765.98 ft) are currently slightly above preferred winter operating levels (765.30 to 765.80 ft).

Valens Lake levels (274.24 m) are currently within the preferred winter operating levels (274.15 to 274.40 m).

Current Soil Conditions

Surface and root-zone soils are expected to be wet to saturated, and partially frozen, across the watershed.

RECENT STORM EVENTS

During the period of January 23rd, 2026 to February 23rd, 2026, there were no significant watercourse flooding events, no significant water safety concern events, and no Lake Ontario shoreline flooding events.

However, one rain and snowmelt event warranted issuing messages and additional monitoring of watercourse conditions.

Potential for Watercourse Flooding During Rain and Snowmelt Event

February 19th to 23rd, 2026

On February 19th, the forecasts for February 19th and 20th expected a combined 11 to 20 mm of rain, with an additional 5 to 10 mm possible if thunderstorms occurred on February 20th, and an additional 12 mm of snowmelt runoff. There was considerable uncertainty as

to the amount of runoff that would occur. HCA staff continued to monitor watercourse and weather conditions closely and reassessed the potential for flooding.

There were no received observations, reports, or expectations of significant watercourse flooding, localized watercourse flooding of low-lying areas that typically flood during higher water levels, or significant water safety concerns.

HCA engineering staff issued the following messages related to this event, to communicate the potential watercourse flooding and water safety concerns to the community:

- February 19th: Flood Watch – Inland Lake and River Flooding
- February 23rd: Cancellation - Flood Watch – Inland Lake and River Flooding

RECENT WATERSHED LOW WATER CONDITIONS

The most recent drought assessment (including data up to January 31) indicated that Level 1 Low Water Conditions are an appropriate overall characterization of the watershed at this time. Given the time of year and the fact that this is the first recent consecutive assessment to indicate Level 1 Low Water Conditions, HCA staff have deferred notifying the Low Water Response Team to suggest declaration and will reassess conditions at the beginning of March.

FORECASTED WATERSHED CONDITIONS

Watercourse Flooding

There are currently no significant rainfall or snowmelt events (+20 mm in a day) forecasted for the watershed over the next 2 weeks. HCA staff continue to monitor conditions and forecasts routinely. Resultant water levels and flows from currently anticipated rain or snowmelt are not expected to result in significant watercourse flooding.

Lake Ontario Shoreline Flooding

There is currently one potentially significant Lake Ontario shoreline flooding event (up to 2.2 m shore-bound waves on March 1st and 2nd) forecasted over the next 2 weeks. HCA staff continue to monitor conditions and forecasts closely and will issue flood messages as required.

Watershed Low Water Conditions

HCA staff will continue to undertake monthly drought assessments, and coordinate with the Hamilton Low Water Response Team if drought conditions warrant actions.

Memorandum to: Board of Directors

**Reviewed and
Approved for**

Circulation By: T. Scott Peck, MCIP, RPP, Deputy Chief Administrative Officer /
Director, Watershed Management Services

Prepared By: Brandon Good, Senior Manager, Conservation Area Services

Meeting Date: March 5, 2026

Subject: Conservation Area Services Update

Executive Summary:

March features a full slate of seasonal programming and operational efforts across Hamilton Conservation Authority's conservation areas. Maple Syrup Season at Westfield Heritage Village Conservation Area returns as a signature family event, offering seven program days with interactive maple syrup demonstrations and heritage experiences. March Break Day Camps at Dundas Valley Conservation Area run from March 16 to March 20, providing engaging outdoor learning opportunities for campers, focused on hands-on exploration of local ecosystems. Conservation area staff continue winter operations, maintaining safe access to parking areas, roadways, and facilities for visitors enjoying winter recreation across the watershed.

Staff Comment / Discussion:

Maple Syrup Season - Westfield Heritage Village Conservation Area

This family favourite event returns with seven (7) program days this month. Visitors will witness firsthand how sap transforms into liquid gold at two engaging demonstration sites, including the modern sugar shack. Visitors can explore the Maple Trivia Trail, enjoy wagon rides, and indulge in a pancake feast from the St. George Lions Club at Ironwood Hall. The historic charm of Westfield will be on display as select historic buildings open their doors and volunteer interpreters bring history to life with engaging demonstrations for visitors. Advanced reservations are required for this signature HCA event, which runs every Sunday throughout March, as well as two days during March Break.

March Break Camps - Dundas Valley

March Break Day Camps at Dundas Valley Conservation Area are set to start March 16 to March 20. Each day will hold new and exciting opportunities to discover the diverse plants and animals that live within the Dundas Valley. Participants will be hiking trails, investigating signs of animals, and exploring forests and meadows through hands-on activities and games.

Conservation Area Operations – Winter Operations

February brought heavy snow loads and ice-cold temperatures across the watershed. Conservation Area staff worked diligently to clear large amounts of snow from parking lots, roadways and campsites to maintain access for our visitors seeking winter recreational opportunities.