



P.O. Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Item No. 15.1.4
Halifax Regional Council
March 26, 2024

TO: Mayor Savage and Members of Halifax Regional Council

SUBMITTED BY: Original Signed

Cathie O'Toole, Chief Administrative Officer

DATE: March 13, 2024

SUBJECT: **Protecting Eastern Hemlock in HRM**

ORIGIN

November 14, 2023 Halifax Regional Council motion (Item No. 15.4.1):

MOVED by Councillor Morse, seconded by Councillor Stoddard

THAT Halifax Regional Council direct the Chief Administrative Officer (CAO) to provide a staff report on a Management Plan for Hemlock Woolly Adelgid in HRM. Woolly Adelgid is an emerging insect pest that can be fatal to hemlock. The Management Plan should include best practices for treatment, with a special focus on older hemlocks in HRM, and include funding sources to develop and implement the plan.

Cathie O'Toole, Chief Administrative Officer responded to questions of clarification from Regional Council.

MOTION PUT AND PASSED UNANIMOUSLY.

Not present: Councillor Lovelace

LEGISLATIVE AUTHORITY

Halifax Regional Municipality Charter

Section 35(1) The Chief Administrative Officer shall (a) coordinate and direct the preparation of plans and programs to be submitted to the Council for the construction, rehabilitation and maintenance of all municipal property and facilities; ...

Section 77(1) The Municipality May:

- (a) remove dead, dying or diseased trees on public and private property.
- (b) recommend and encourage
 - (i) the proper pruning, protection, and repair of privately-owned trees in the Municipality,
 - (ii) the planting of trees of suitable species at desirable sites within the Municipality.

By-law P-600, Respecting Municipal Parks
By-law T-600, Respecting Trees on Public Lands

RECOMMENDATION ON PAGE 2

RECOMMENDATION

It is recommended that Halifax Regional Council direct the Chief Administrative Officer to develop a plan for management of Hemlock Woolly Adelgid within the Halifax Regional Municipality.

BACKGROUND

Hemlock Woolly Adelgid (HWA) is a small insect, similar to a beetle (aphid), which originates from parts of Asia. It infects several species of Hemlock trees and feeds on nutrient and water-storing cells of the tree. Heavy infestations can lead to tree mortality and, in some cases, such as the southeastern seaboard of the United States, whole forests of Hemlock have been decimated.

HWA was discovered in southern Nova Scotia in 2017 and since its arrival, HWA has been slowly moving northward, infesting populations of native Eastern Hemlock.

In August 2023, the Canadian Food Inspection Agency (CFIA) received and positively confirmed a report of an HWA infestation in the Bedford Area. This is the first confirmed detection of HWA in the Halifax Regional Municipality.

DISCUSSION

Impacts

Eastern Hemlock, the primary host of HWA in Nova Scotia, is a dominant species of the Acadian-Wabanaki Forests in and around the HRM and is a characteristic to the limited extent of old-growth that remains in the region. It has been known to live up to 800 years.

Due to the high occurrence of Eastern Hemlock within the forests of HRM, the economic, social, and cultural impacts of the impending infestation will be significant.

From a timber use perspective, Eastern Hemlock is not an economically significant forest species in the province; but this has meant that it has often been left on the landscape to mature. As a result, many of the larger mature trees in the forests of Nova Scotia include Eastern Hemlock.

Despite its limited use economically, ecologically speaking Eastern Hemlock is a foundational species, and further provides notable recreational, and aesthetic benefits. To the communities that have coexisted with these trees for thousands of years, their cultural use and value is significant.

The tendency of Hemlock trees to grow along rivers and streams also gives it an importance in shading these watercourses, a necessity of cold-water fish such as brook trout and salmon.

If left unmanaged, the spread of this pest could decimate the Eastern Hemlock population within HRM. Dead standing trees, particularly mature trees, could pose a hazard to park users, including those sheltering in place, in windstorms. Dead standing trees also increase likelihood of brush fire occurrence. The disturbance to the soil structure of forests with a high percentage of Eastern Hemlock could also mean increase erosion as tree roots die and lose their ability to hold soils in place.

Management

Current management options for HWA are limited but evolving. Most options available today include some form of chemical use. While limited-use-practices have been a key aspect of chemical treatments employed in the southern portion of the province to date—something HRM could choose to emulate—careful consideration and planning should precede chemical use. Further, chemical treatments can be costly, and it would be impossible to treat every Eastern Hemlock. Therefore, a prioritization exercise, considering multiple values, will be important to identify treatment areas that will provide the greatest benefit.

Further to chemicals, work on biological controls within the province commenced in 2023. HRM will remain in close contact with the Maritime Hemlock Woolly Adelgid Working Group to stay abreast of biological control options as they become available. In the fall of 2023, HRM penned a letter of support for the Insect Neuroscience and Ecology Centre at Acadia University in their application for funding to support a breeding facility for HWA biological controls.

Costs associated with removing dead trees will be significant and may still be necessary to some degree despite management and control efforts. Characterizing the Eastern Hemlock Population across HRM will provide a better estimate of exposure to this pest, and thus the anticipated costs of management, regardless of treatment options chosen.

Planning

As Eastern Hemlock is ubiquitous in the forests in and around HRM, planning is critical to ensure the best use of resources, recognizing that not all trees can be protected. Understanding the population distribution of Eastern Hemlock will be essential to ensure efficient use of management resources. Treatment of trees near trails and heavily utilized areas will likely be prioritized to both reduce health and safety risks associated with standing dead trees and increase public awareness of treatment options.

Anticipating the arrival of HWA in HRM, work began in 2021, utilizing the Urban Forest Management Plan (UFMP) Research and Monitoring program, to assess the Eastern Hemlock population in several major HRM Parks; this work continued into 2023 with an intern under the Environment and Climate Change Team continuing to work on Eastern Hemlock populations, extending to more rural parkland. These early efforts will support more robust future planning.

As most current management options include chemical treatment, public engagement will be a critical component of planning. Research will also be required to enhance understanding of the 1) efficacy, 2) environmental impact, and 3) suitability to specific populations/locations of chemical treatment compared to alternative treatment options. Finally, project scoping will help determine feasibility of treatment options based on staff and local vendor capacity.

The Environment and Climate Change team has established an Environmental Specialist position which includes a focus on implementing the Integrated Pest Management Plan. Together with the Parks and Urban Forestry departments, a plan will be developed over the course of the 24/25 fiscal with the goal of having an operational ready plan prepared for the 25/26 budget planning process. Operationalization of the plan will be the responsibility of Parks and Urban Forestry.

FINANCIAL IMPLICATIONS

The HRM costs associated with this planning process, including a potential pilot project, can be accommodated within the proposed 2024-2025 operating budget.

RISK CONSIDERATION

Lack of a formal plan for managing this invasive species exposes the municipality to several risks, not least of which is reputational.

Leaving mature trees to die, poses a risk to recreational opportunities in urban parks and wilderness areas. Standing dead trees pose a risk of failure (e.g., blow down) and costs to mitigate this risk would be high.

Populations of standing dead and dry softwood can pose a fire hazard. While much of the Eastern Hemlock in HRM is found in mixed forests, which reduces this risk, some urban parks are known to have a high percentage of Eastern Hemlock, making them a higher risk for wildfire.

COMMUNITY ENGAGEMENT

No community consultation was completed as part of this report.

ENVIRONMENTAL IMPLICATIONS

While the environmental implications are articulated in the Discussion Section of this Report, it is important to highlight that a proactive approach to invasive pest management is often the most economical, with the best environmental outcomes. Additionally, because climate change with comes an increased risk of additional invasive pests, a proactive approach to managing this current infestation ensures the municipality remains ready for the next.

ALTERNATIVES

Regional Council could choose not to approve the recommendation.

ATTACHMENTS

N/A

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

Report Prepared by: [Crispin Wood/Manager, Urban Forestry/PW 902.225.2774]
