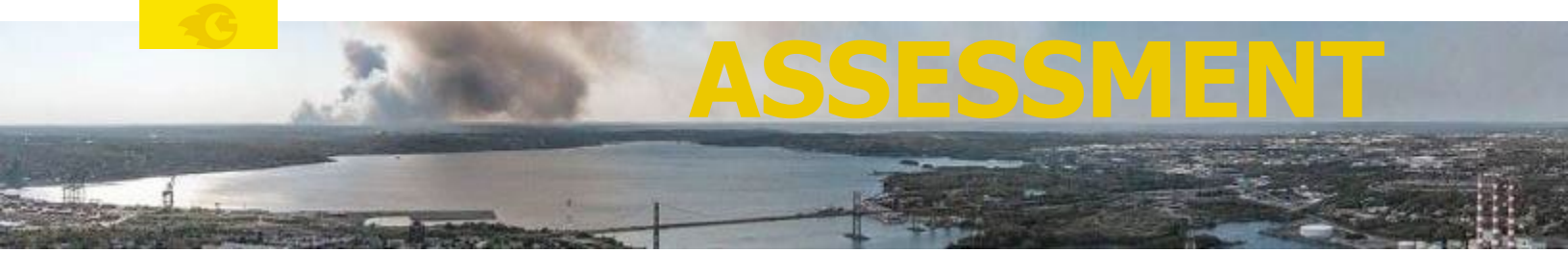
Point Pleasant Park Halifax Nova Scotia

WILDFIRE RISK ASSESSMENT



Date	Mar 27, 2025
	Wildfire Mitigation Program Manager - Kara McCurdy HRFE

OVERVIEW

Wildfire seasons are extending more into early spring and later fall. The increase in fire behaviour has pushed municipal planners and first responders to think differently about wildfire risk and mitigation practices.

Point Pleasant Park is a Halifax Regional Municipality property with a comprehensive plan to maintain Acadian Forest features and historical values and encourage residents to enjoy its natural beauty and recreational value. The park is located on the southern tip of the core of Nova Scotia's capital, Halifax and is subject to ALL Natural hazards within the park. Hurricanes have been a large driver in how the landscape is shaped in recent decades. Wildfires have increased provincially, becoming a concern for park visitors.

OBJECTIVE

A risk assessment has been completed for the park using the FireSmart Principles. Since FireSmart is more for homes and communities, accommodation had to be made in the current assessment for the park's priorities with considerations for wildfire mitigation, wind and ice damage, preserving the historical, wildlife and the esthetics of the park. It identifies the higher risk areas of the park, past fire occurrences, pathways, local topography, climate, and fuel type and loads.

Point Pleasant Park History

In 1866, the City of Halifax acquired Point Pleasant on a 999-year lease from Britain for a park. New roads and paths were designed and built, new tree species were imported, and Point Pleasant Park was born: a forest park where the ruins of fortifications as well as actives fortifications be found at every turn. Gradually many of the signs of earlier use became obscured. (Point Pleasant Park Comprehensive Plan | Halifax - Executive Summary)

After hurricane Juan landed in 2003, the park forest was heavily damaged, and management started on the landscape to renew the forest.

Landscape

Point Pleasant Park's 75-hectare wooded area is situated within the Eastern Interior Ecoregion, as outlined in the Ecological Land Classification guide (440 - Ecological-Land-Classification-guide.pdf). The park's terrain is predominantly characterized by gravelly and stony soils, with prominent bedrock ridging and shallow soil depths. It is located merely 0-30 meters above sea level.

The park features an extensive network of trails which provide access to its historical and coastal features as well as its diverse arboreal species. The forested areas of Point Pleasant Park consist predominantly of Acadian Forest species, white and yellow birch, sugar maple, hemlock, white pine, and spruce and balsam fir. Not prominent include aspen/poplar, During the assessment species noted were, ashes, black cherry, Ironwood, variety of pines. The Point Pleasant Park comprehensive plan indicates that numerous plantings occurred between 2007 and 2008. The park features predominantly south-facing slopes, which are the first to warm and dry following the winter season. These slopes host softwoods of various ages and health statuses, and in some cases, the vegetation is quite dense.

Targeted thinning operations have been conducted recently in isolated sections of the forest, primarily involving hardwood species. The residual brush from these thinning activities presents a minimal wildfire hazard. Additionally, the area retains many legacy trees and wildlife snags, either standing or fallen. These elements, due to sufficient decay and moisture retention, do not significantly contribute to wildfire risk.

Wildfire Occurrences

There have been no recorded wildfire incidents within the park; however, instances of illegal burning have occurred. Recent years have seen an uptick in homelessness in the area, leading to an increase in campfires. In 2024 alone, there were seven documented instances of campfires within the park. Notably, 97% of Nova Scotia's wildfires are human-caused, with wildfires sparked by lightning being relatively rare annually.

Less than a kilometre west across the Northwest Arm lies a heavily wooded area characterized by steep terrain and predominantly softwood trees. This region, with a significant presence of dead and dying forest, has experienced previous fire incidents and structural losses.

While the potential for a wildfire originating within the park is low, there is a viable risk of a wildfire igniting in the Purcell's Cove area. Fire embers could travel via wildfire smoke, landing on vulnerable slopes and fuel sources on the northwest side of Point Pleasant Park, particularly the south-facing slopes of the dense forest. The terrain along this park side, which features slopes of 10% (indicated in yellow on the attached map), facilitates a fire spread rate that is twice as fast as it would on flat terrain. Homes along Chain Rock Drive bordering this area of the park are at risk of fire impact due to factors such as the age and construction of the homes, their proximity to forests, and the potential for the fire to spread from one home to another.

Local Weather Conditions

The region regularly experiences severe winds, often associated with hurricanes progressing up the North American coast during the season. These conditions significantly influence the shaping of the forest and the dynamics of wildfire risk. Halifax is characterized by persistent foggy conditions extending from winter through August, which is locally recognized as the warmest and driest month. Additionally, the area typically receives minimal snowfall during the winter months, which tends to melt rapidly.

Local Observations

The main trails in the park are composed of crusher dust and are approximately 10 m wide, facilitating vehicle access to historical sites and maintenance operations by caretakers. The width and condition of these trails significantly mitigate the risk of wildfires starting from cigarettes or other small sparks caused by pedestrians. Additionally, these trails serve as effective barriers to the spread of surface fires. Over the years, the woodlands along the trails have undergone thinning, likely for public safety reasons, which has also reduced vegetation density and fire risk.

In contrast, secondary trails are not gravel-layered and consist of bare mineral soil. These trails, less than 3 m wide, are surrounded by denser forest vegetation, which could potentially contribute to higher fire risk areas. Historical structures within the park, made of rock or concrete and featuring ample surrounding space, are well-protected and pose no significant risk from wildfires.

Recommendations

The Point Pleasant Park Comprehensive Plan highlights the conservation efforts deemed essential by staff, volunteers, and residents for maintaining the park's aesthetics and ecological health. These efforts include sustaining a diverse age structure of vegetation that is resilient to natural hazards and prioritizing natural regeneration. The plan emphasizes preserving the park's natural beauty through landscapes dominated by native flora, thereby creating a welcoming environment for visitors to engage with the local and cultural history.

1. To enhance the health and resilience of the Point Pleasant Forest, it is imperative to continue promoting stand diversity through vigilant monitoring of forest pests, removal of hazardous trees, and strategic thinning and pruning of dense softwood stands. Implementing these actions in phased stages will allow for adaptive, healthy growth and mitigate the risk of uprooting during wind events.

2. Wind-resistant tree species include red oak, pine, yellow birch, red maple, and beech. Conversely, species such as spruces, fruit trees, elms, aspens, and trees with imbalanced crowns or large horizontal branches are more susceptible to damage from ice and snow.

3. Maintenance of the trail system will continue as currently practiced as it already follows the FireSmart principles.

4. In areas with known archaeological sites, the removal of trees is advised to prevent root systems from disturbing and potentially damaging buried artifacts, thereby preserving the integrity of these historical items. Wildfires can travel through root systems impacting an buried artifacts.

5. Enhancing access to natural water sources or establishing water tank or extinguisher stations throughout high-risk areas can significantly improve firefighting efforts by enabling rapid connection to portable pumps or quick access to fire extinguishing tools.

6. Educational Initiatives:

    a. An interpretive trail could be developed to illustrate the rationale behind certain forest management practices such as thinning or pruning, potentially reducing public concerns about residual brush.

    b. Creating a garden featuring wildfire-resistant native plants such as perennials, and annuals, could serve as a living classroom for fire prevention strategies.

    c. A virtual reality tour of the park could be introduced online, offering virtual experiences related to wildfire, pest management, climate adaptation, forest health, cultural history, and local wildlife, enhancing educational outreach.

7. Visibility and Accessibility Enhancements:

a) Improvements to trail signage are necessary to enhance visibility for new visitors and ensure quick access for first responders during emergencies.

b) If permissible, the installation of an outdoor message centre or pedestal sign could provide valuable information on wildfire prevention, cultural heritage, and historical insights. Alternatively, strategically placed QR codes on discreet, durable markers could offer a digital learning experience for park visitors.

Conclusion

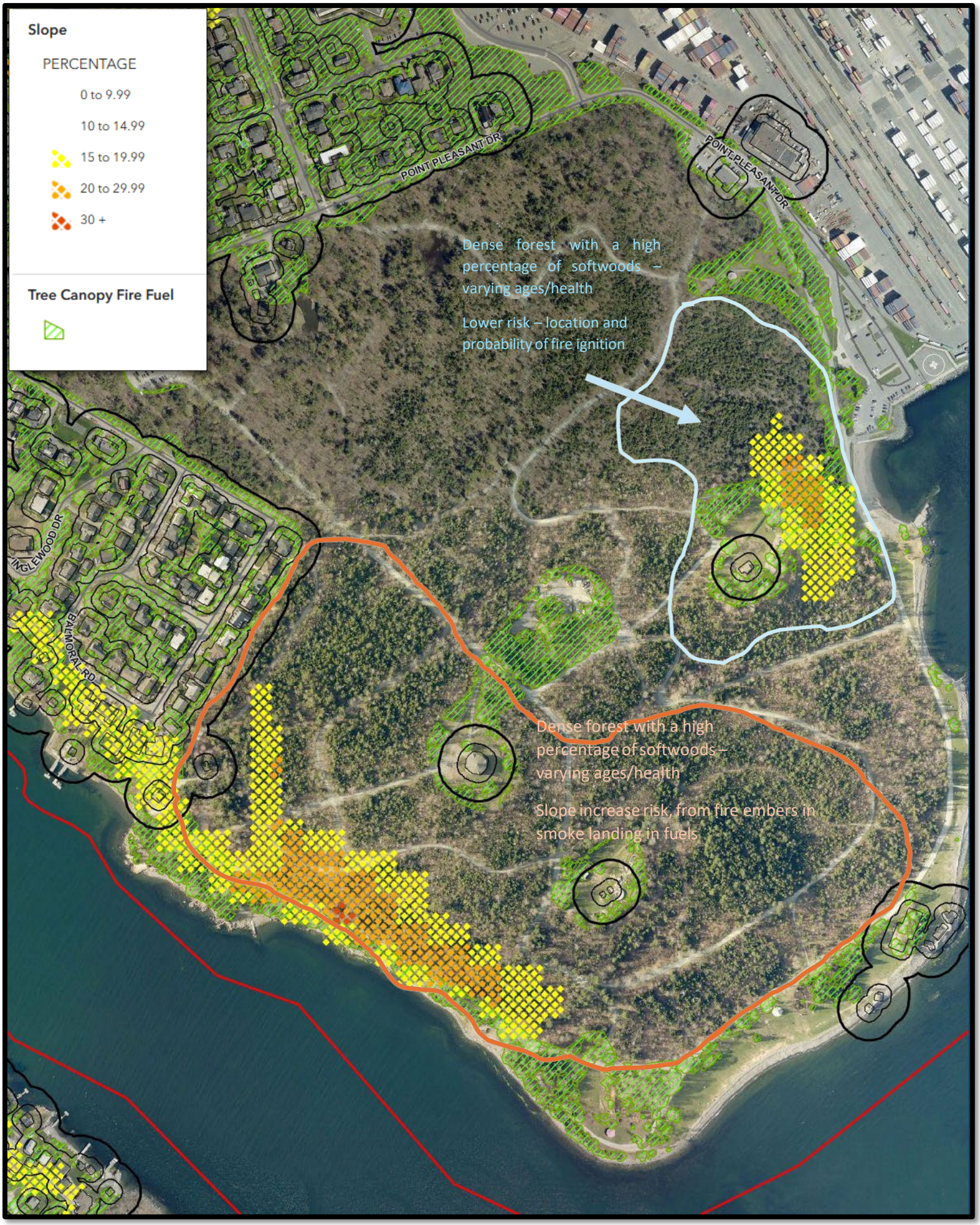
Point Pleasant Park vegetation and diversity are important to the community and enhance its resilience against wildfires. Additionally, strong community engagement facilitates prompt reporting and action in case of fires.

Old snags and large logs, while remnants within the park, provide essential habitat for birds and small mammals without significantly increasing wildfire risks.

However, vulnerabilities exist in high-risk areas where forest density issues are, less air movement, overcrowding, and insufficient sunlight, can hinder the growth and strength of trees, promote insect and fungal spread killing trees increasing wildfire risk. Implementing pruning practices—removing softwood limbs up to a minimum of 6 feet off the ground on larger trees and proportionately less on younger ones—can improve airflow, reduce pathogen presence, limit surface fire spread, and provide shelter for wildlife.

Safety concerns arise from snags near trails, which could pose hazards during storm events. It is critical to ensure that none threaten public safety.

The park's high visitor traffic presents opportunities for innovative educational initiatives and exploring grant funding to support such projects. The primary challenge lies in effectively engaging the public, particularly when the perception of immediate risk is low. For more information on wildfire mitigation visit: https://firesmartcanada.ca/resources-2/


Slope
PERCENTAGE
0 to 9.99
10 to 14.99
15 to 19.99
20 to 29.99
30 +
Tree Canopy Fire Fuel
POINT PLEASANT DR
POINT PLEASANT DR
INGLEWOOD DR
BALMORAL RD
Dense forest with a high percentage of softwoods – varying ages/health
Lower risk – location and probability of fire ignition
Dense forest with a high percentage of softwoods – varying ages/health
Slope increase risk, from fire embers in smoke landing in fuels

PointPleasant

P A R K

LEGEND

Softwoods are part of the natural landscape of Point Pleasant.
Pruning lower branches up will reduce fire spread from grass fuels to the full tree

Thinning is occurring within the park in locations. This will help with better growth of trees left behind.

Natural pockets of water should be encouraged. Water and gravel trails act as fire breaks, and water can be used in a small fire, but also serve as a source for wildlife.

Encouraging hardwood stands like this will reduce wildfire spread.

Downed woody material, will pose varying fire risks based on density, but provides shade and nutrients once decayed to regenerate forest soils.

Trail beds offer a fuel break for surface fires and reduce compaction in the forests.

Trail signs are difficult to see, and should be more visible for quick response by fire services and to help patrons find their way through the trails

Thinning and pruning like this along trail edges will reduce fire spread and full tree burning. A fire will pass by and not impact the tree.