

Vancouver Fire Rescue Services Wildfire Risk Report

Prepared for Vancouver City Council, April 2 2025



Save lives. Build safer communities.



Agenda

This presentation is to provide an update to City Council on the risk of Urban Interface Wildfires within the City of Vancouver.

01

Background

Recent devastating wildfire events in Los Angeles, Lahaina, Jasper, Lytton, Ft McMurray & West Kelowna highlight the growing risks of interface fires.

02

Wildfire Risk

03

VFRS Response Capabilities

150 firefighters with 39 apparatus are on-duty 24/7 and additional capacity for major emergencies.

04

Wildfire Risk Mitigation Strategies

05

Jurisdictional Challenges

Fuel Management, enforcement, compliance and prevention responsibilities. Coordinated actions across jurisdictions.

06

Case Study – West 41st Fire

07

Future Opportunities

Expanding surge capacity, training initiatives and greater coordination.

08

Summary



This presentation aims to provide an update to City Council on the risk of urban interface wildfires within the City of Vancouver.

This goal of this presentation is to explore:

- Wildfire Risk in Vancouver
- VFRS Response capabilities
- Risk mitigation measures, preparedness and
- Review areas of opportunity

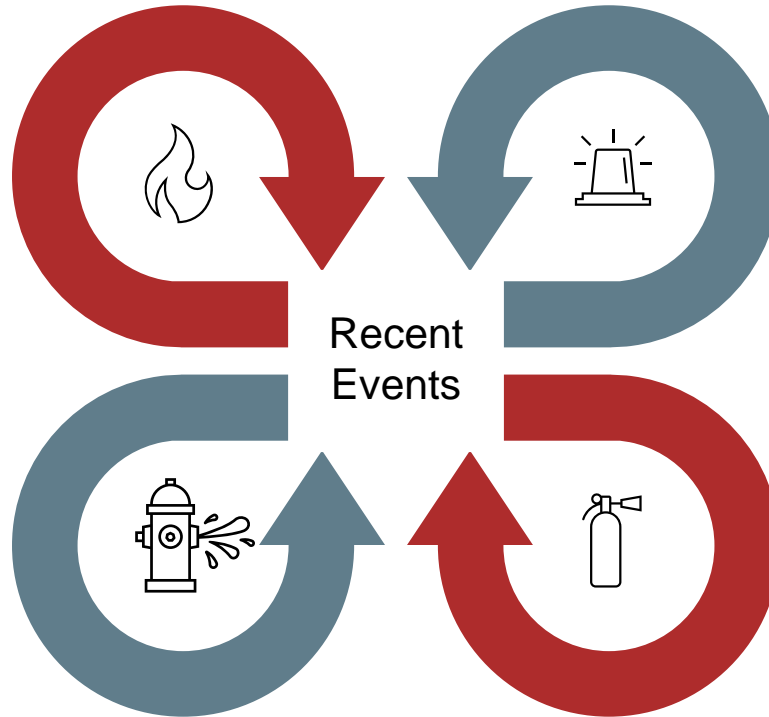


Background

Vancouver is a unique world-class city with significant amounts of forested lands and large parks within the city limits. Pacific Spirit Park and Stanley Park create Wildland Urban Interface (WUI) areas within our city's boundaries.

Vancouver is situated in Coastal Fire Weather Zone that is considered “temperate rainforest” because of our mild and wet climate. Overall, *the risk of wildfire is low* except during periods of extreme drought.

In 2024, British Columbia faced its fourth largest wildfire season with over *1.07 million* hectares burned



The 2023 fire season was the most destructive in BC's recorded history

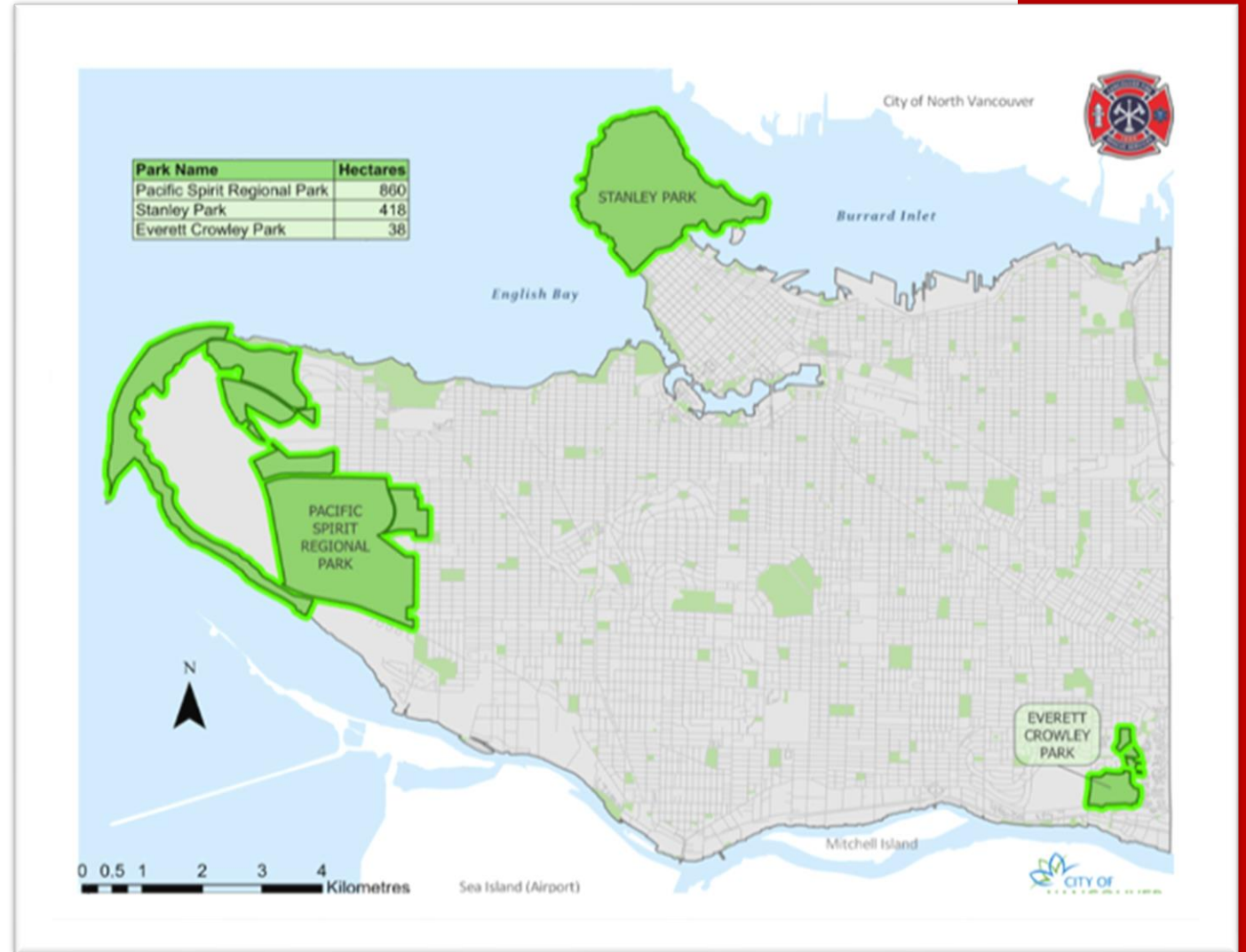
Climate Change is causing Vancouver to have longer drought periods and hotter summers

Greater potential for extreme heat events like the “Heat Dome” experienced in June 2022



Background: Our Urban Forests

- Unlike many other municipalities in BC, Vancouver is an urban island and **does not face the threat of wildfires encroaching from outside our municipal boundaries.**
- VFRS provides service for a total land area of 129 km².
- The City of Vancouver is roughly 114 square km and Stanley Park (8.6 km) makes up roughly 7.5% of Vancouver's area.
- 15 sq km is contained in University of British Columbia (UBC) and the University Endowment Lands (UEL) for which VFRS provides service through a service agreement. Pacific Spirit Regional Park makes up 57% of the UBC/UEL lands.
- Everett Crowley Park is 0.43 square km, has hydrants around the perimeter but has limited vehicle access.
- **The threat of Wildfire in Vancouver comes from within our boundaries in the Wildland areas for which VFRS provides fire response.**



- Wildfire risk is assessed as a combination of probability and consequence.
- The probability of a high-consequence wildfire event is relatively *low* in Vancouver.
- However, an ignition during a period of high-winds, high temperatures & extreme drought conditions, is the rare scenario that poses the **greatest risk to Vancouver**.
- The **consequence** of failing to suppress a wildfire early under these conditions could be disastrous with the *potential* for damage to infrastructure, loss of adjacent structures, destruction of valued park spaces and massive economic impacts.



Successful Strategies Used

Effective monitoring and diligent fire response have protected our urban forests, to date.

Early Detection & Ignition Prevention



With many users and effective reporting, Vancouver's wildland areas are the most monitored forest spaces in the province. Beyond users, VFRS prevention staff, & Park Rangers conduct patrols during periods of extreme fire danger.

Fast & Aggressive Response



VFRS boasts an average response time of six minutes, and our crews aim to extinguish all fires when they are small, and the fire intensity & rate of spread are low.



VFRS Wildfire Response Capabilities



Personnel

- Call-out - Activation of off-duty firefighters as well as non-operational staff to create surge-capacity for major emergencies
- Mutual Aid Agreements, BC Wildfire Service support which includes aviation resources, airtankers, and access to extra staff and specialized crews.



Hydrants / Water Supply

- Vancouver has a robust network of hydrants and reliable water supply for firefighting
- Dedicated Fire Protection System (Blue Hydrants), drafting stations at UBC and the Fraser River
- Over 70 Fire Hydrants in Stanley Park & hydrant network adjacent to Pacific Spirit Park (PSP)



Assets

- 31 apparatus in-service (all pumping apparatus equipped with booster tanks & water on-board).
- 2 fireboats, 3 wildlands apparatus, 2 6X6 ATVs staged at Stanley Park.
- HydroSub for drafting, hose reels, and hose tender – To compliment alternative Water Supply.



24/7 Fire Response Capabilities

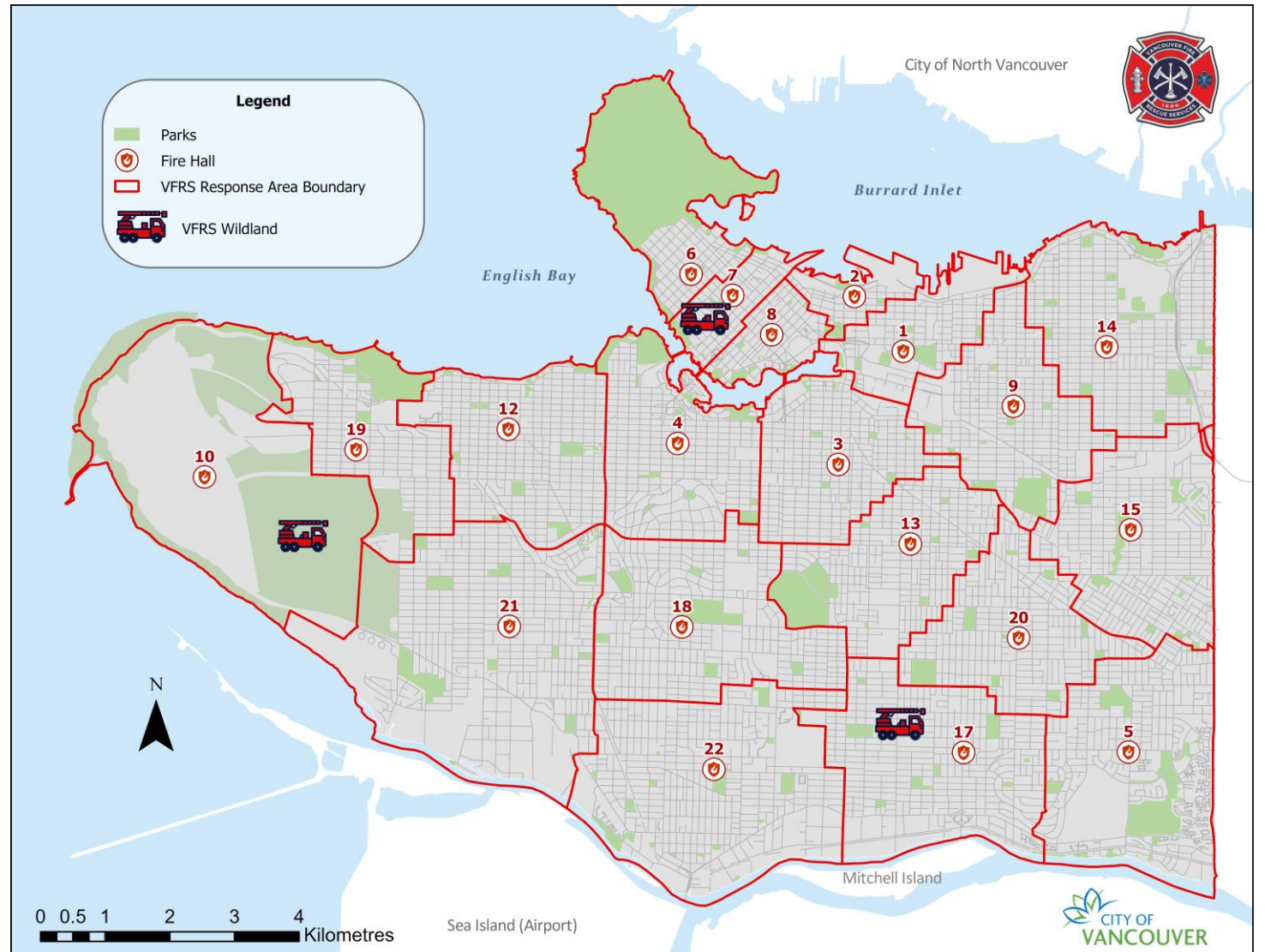
- 20 Firehalls, 150 personnel on duty
- Department Operations Centre (DOC)
- 6 Disaster Staging Areas (DSA) -



Wildfire Response

- VFRS assets are spaced around the city and the closest available pumping apparatus is assigned to any wildfire
- Wildlands Units offer improved off-road access, carry specialized equipment and are located at:
 - Firehall No. 10 – UBC/UEL
 - Firehall No. 7 – Stanley Park
 - Firehall No. 17 – Everett Crowley Park

***Wildlands 7 is now staffed full-time providing better wildfire response coverage and availability for dispatch to Stanley Park.



Specialized Wildfire Training

Expanded wildfire training capacity:

- 3 New Acting Training Officers (ATO) specialized in Wildland firefighting
- 18 Wildlands instructors (10 existing and **8 new instructors** currently being onboarded)
- 96 members scheduled to receive specialize WSPP-WFF1 training in April 2025.
- Seasonal interagency training (Spring 2025) and improved cooperation with MetroParks
- Many VFRS employees have prior work experience with BC Wildfire Service.

More than 400 VFRS members trained in
"Wildland Firefighter- Level 1" - WSPP-WFF1



Wildfire Risk Mitigation Measures



Jurisdictional Responsibility

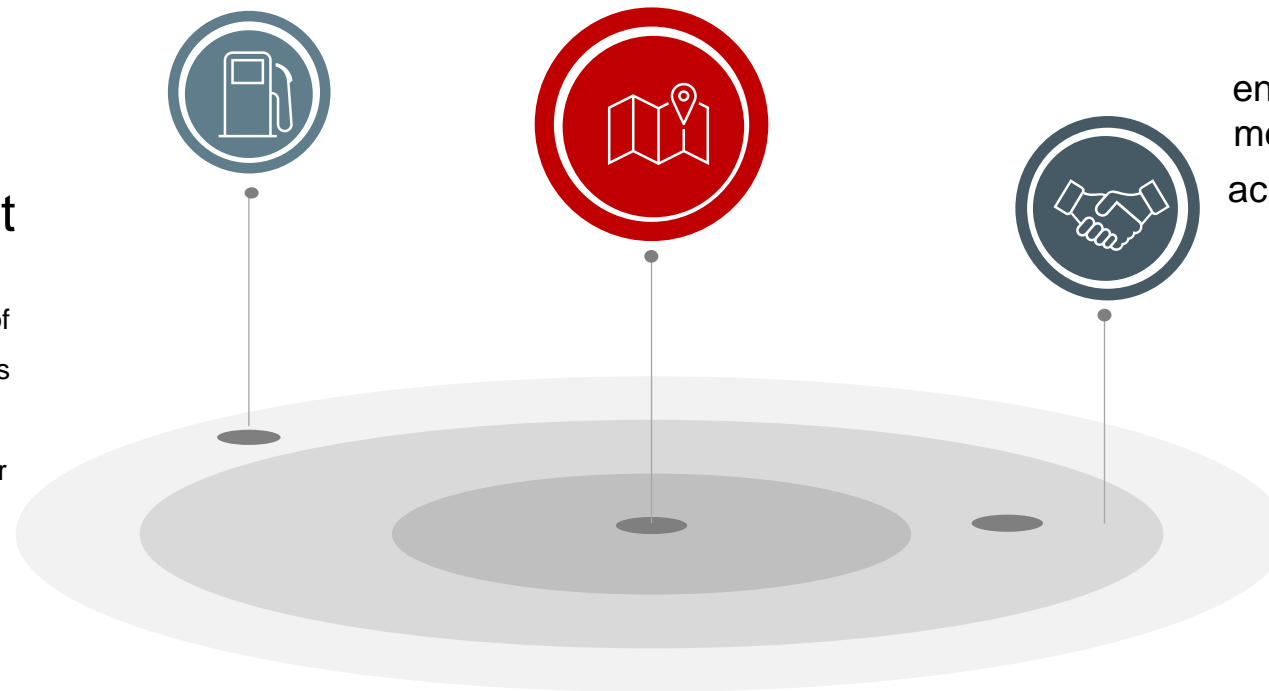
Pacific Spirit Park is managed by Metro Vancouver, they perform their own fuel management and risk mitigation strategies. Metro Parks staff have seasonal firefighting capability but have a longer response time.

Shared Responsibility

VFRS is not responsible for fuel management in our urban forests. However, VEMA is ensuring that mitigation measures are captured across all departments.

Fuel Management

Forest/Fuel Management in Stanley Park is the responsibility of Vancouver Parks Board. The focus of Park Rangers is on prevention detection, and enforcement, rather than firefighting capabilities.



Case Study - **3477 West 41st Fire**

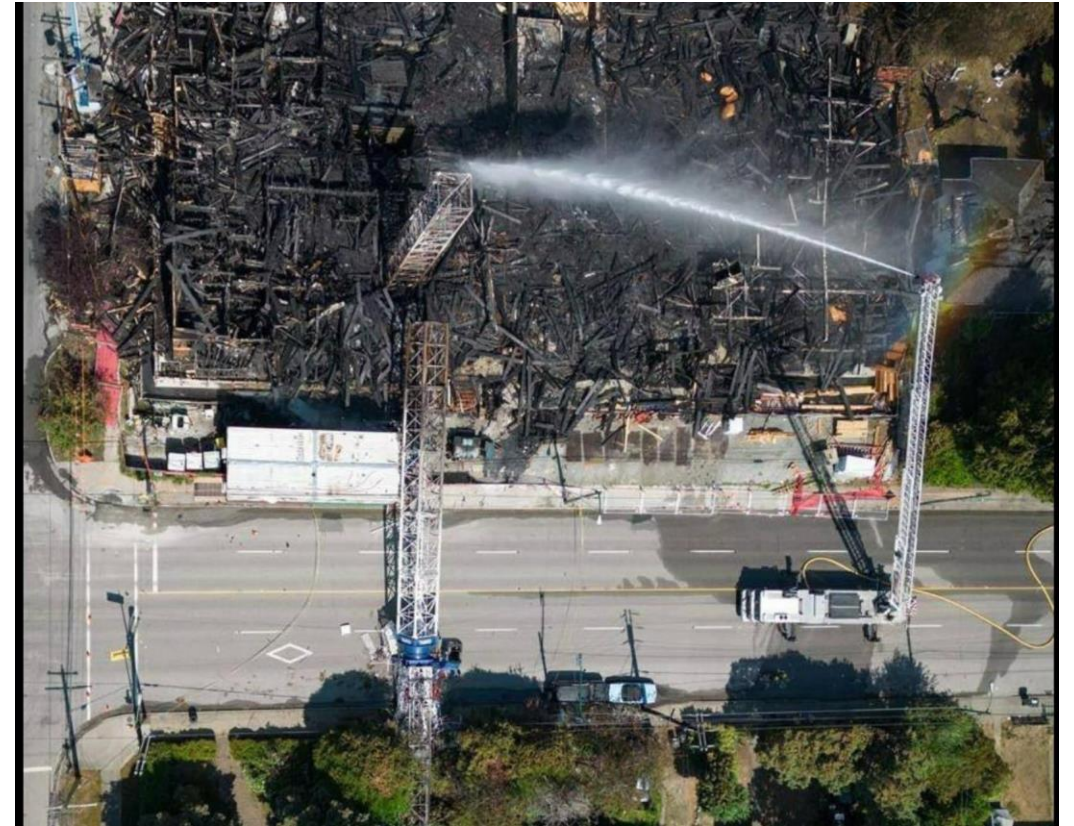
- Incident occurred:
 - Dry late summer conditions on **August 6, 2024** at **1837hrs**
 - Concurrent 2nd Alarm Fire with multiple apparatus already committed
- Fire occurred in a 6-storey wood-frame building under construction, quickly escalated to a **3rd alarm fire**, and triggered a **tower crane collapse** onto an occupied structure.
- The fire plume cast embers and burning debris into the neighbourhood starting **multiple fires on and around adjacent homes**
- VFRS resources were depleted. Reached Level 4 (the highest level) of our **High Demand Action Plan (HDAP)** triggering:
 - Single unit response to alarm calls
 - VFRS no longer responding to medical calls
 - **Mutual Aid support from Richmond and Burnaby**
 - **DOC and EOC Activation**



Case Study- Essential Findings

- Quick and efficient response in collaboration among COV departments, VPD, and BCEHS
- Successful compliance and enforcement- Construction Safety Plan (CSP) was being followed with on-site security, adjacent building protection, temporary dry standpipe in place.
Adjacent building protection measures limited fire spread to the adjacent properties
- To enhance surge capacity for VFRS staff, **additional reserve apparatus are essential**. Currently, VFRS has only two reserve apparatus available, necessitating reliance on mutual aid. Utilizing our own staff in such incidents is significantly more effective than depending on mutual aid

This incident highlights the potential risk of multiple concurrent alarms, the elevated risk of wildfire during peak fire conditions, and shows the potential devastation that could occur if a fire like this occurred during a period of high-winds.



Mitigation Opportunities



Improve “Greater Alarm” Capacity- **VFRS Training Apparatus Proposal** recommends adding 3 Heavy Apparatus to our training division to strengthen our fleet and improve surge capacity for greater alarms



Training apparatus could be quickly activated and dispatched in periods of high-need. Emergent staffing requirements to be met from resources assigned to the training division, call-out procedures, & activation of non-suppression VFRS staff



Utilize new wildfire training capacity to expand the Wildfire training for VFRS staff



Public Education and engagement with citizens of Vancouver living adjacent to park lands. Improved integration with provincial FireSmart initiatives



Utilize Corporate Comms, VFRS PIO, VEMA and the Alertable app to share key messaging during major emergencies, e.g., inform citizens to watch for flying embers



Summary

- Overall, *the risk of wildfire in Vancouver is relatively low* except during periods of extreme drought.
- An ignition during a period of high-winds, high temperatures & extreme drought conditions, is the rare scenario that poses the **greatest risk to Vancouver**.
- Wildland interface fires are being added to the City's Hazard Risk and Vulnerability Assessment (HRVA) through VEMA to ensure the risk assessment and mitigation measures are captured across all departments.
- Protecting our urban forests from wildfire requires work across agencies to reduce the likelihood of ignition during extreme fire conditions and reduce risks through fuel management initiatives.
- Vancouver's urban forests are protected by quick and effective wildfire response from VFRS crews.
- Full-time staffing of Wildland 7 provides improved wildfire response to Stanley Park by making specialized crews and equipment more readily available for dispatch.
- The High-Demand Action Plan (HDAP) leads to the best-use of available resources and ensures that apparatus are available to respond to fires. Call-out procedures and mutual aid further strengthen our ability to respond to major emergencies.
- The **Training Apparatus Proposal** provides an opportunity to strengthen our fleet and improve our capacity to respond when risks are greatest and resources are needed most.

