

SECTION 5: FIRESMART PRINCIPLES

FireSmart® is the nationally accepted set of principles, practices, and programs for reducing losses from wildfire.³⁰ FireSmart concepts, including recommended FireSmart guidelines,³¹ have been formally adopted by almost all Canadian provinces and territories, including British Columbia in 2000. FireSmart has become the de facto Canadian standard. FireSmart is founded in standards published by the National Fire Protection Association.

FireSmart includes seven disciplines, which provide a sound framework for reducing wildfire risk to communities:

- Education
- Legislation and Planning
- Development Considerations
- Interagency Cooperation
- Cross-Training
- Emergency Planning
- Vegetation Management

The overarching goal of FireSmart is to encourage communities and citizens to adopt practices to mitigate the negative impacts of wildfire to assets on public and private property. While responsibility for effectively mitigating hazards must be shared between many entities including residents, industry, businesses, and governments,³² *the ultimate root of the WUI problem is the vulnerability of structures and homes to ignition during wildfire events, in particular vulnerability to embers.* As a result, risk mitigation actions on private properties are emphasized.

Findings from an investigation of how homes survived or ignited during the Fort McMurray 2016 Horse River wildfire indicate that the vast majority of initial home ignitions in the WUI were caused by embers rather than direct contact by flames or radiant heat.³³ Surviving homes in both urban and rural areas exhibited many attributes of FireSmart principles, regardless of the broader wildfire risk surrounding them.

A significant portion of the WUI area in Coquitlam is private property. As a result, FireSmart education, FireSmart building materials, and Home and Critical Infrastructure Ignition Zone vegetation

³⁰ FireSmart is the registered trademark held by the Partners in Protection Association.

³¹ FireSmart guidelines first published in the 1999 manual *“FireSmart: Protecting Your Community from Wildfire”*, with a second edition published in 2003. The most recent *“FireSmart Begins at Home Manual”* is available at <https://firesmartcanada.ca/resources/>. The *“British Columbia FireSmart Begins at Home Manual”* provides detailed guidance and is available at BC FireSmart: <https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prevention/firesmart>

³² <https://www.firesmartcanada.ca>

³³ Westhaver, A. 2017. Why some homes survived: Learning from the Fort McMurray wildland/urban interface fire disaster. Institute for Catastrophic Loss Reduction (ICLR) research paper series – number 56.

management are some of the most important factors towards structures and homes surviving a wildfire event in Coquitlam and its greater WUI.

The Coquitlam WUI occurs where the continuous, developed urban area of the Lower Mainland meets the Coast Mountains. The Coquitlam WUI is characterized by a relatively continuous line of private properties that extend east to west across the municipality. Neighbourhoods in the interface are organized and separated in places by the boundaries of protected areas, including the Coquitlam Watershed and Pinecone Burke Provincial Park, as well as topographic features, such as the Coquitlam River valley, Westwood Plateau below Eagle Mountain, and the lower slopes of Burke Mountain. While there are significant areas of private land (for example, Westbild lands on Burke Mountain) that are slated for development, the 2040 Metro Vancouver Urban Containment Boundary defines the eventual permanent extent of neighbourhoods in the Coquitlam interface.

There is variation in neighbourhood characteristics throughout the Coquitlam WUI, including variation in the extent to which FireSmart attributes are present. However, overall, newer neighbourhoods are more likely to be FireSmart in comparison with older ones. Neighbourhoods that are in *intermix* areas are more hazardous, overall, than neighbourhoods in *interface* areas. An intermix area is a part of the WUI in which forested inclusions separate or surround structures. In comparison, an interface area is part of the WUI in which a developed area meets non-developed, open or forested area along a defined boundary. As reviewed in Section 4.1.1, some residences around the Westwood Plateau area also benefit from the fuel breaks that occur where transmission lines, golf courses, and quarry operations are present.

FireSmart Implementation in Coquitlam

An evaluation of the current level of FireSmart implementation within Coquitlam’s WUI is presented below in Table 17. All the activities listed are eligible for funding under the 2022 CRI FireSmart Community Funding and Supports program.

Table 17: Select FireSmart activities funded under the 2022 UBCM CRI program and their level of implementation in the Coquitlam WUI

FireSmart Discipline / CRI Funding Category	FireSmart Activity Type ⁴⁹	Current Status
Education	<i>Update public signage, social media, websites and/or newsletters</i>	Achieved. Coquitlam Fire and Rescue has an established public communications strategy together with Coquitlam corporate communications to provide seasonal print and web content along with media releases, regarding wildfire risk.
	<i>Distribute FireSmart educational materials and resources</i>	In progress. Coquitlam Fire and Rescue has identified direct outreach to high-priority neighbourhoods as an opportunity for enhanced FireSmart resource delivery.

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FireSmart Discipline / CRI Funding Category	FireSmart Activity Type ⁴⁹	Current Status
	<i>Support the organization of a Neighbourhood Champion workshop, community FireSmart day, FireSmart events and workshops, and/or wildfire season open houses.</i>	Ongoing. Coquitlam Fire & Rescue has hosted FireSmart pop-up events at community centers and the Coquitlam Farmer’s Market.
	<i>Organize and host public information meetings related to a proposed activity in other CRI funding categories.</i>	Not yet achieved / not yet applicable.
	<i>Support neighbourhoods to apply for FireSmart Canada Neighbourhood Recognition Program.</i>	Not yet achieved.
Legislation and Planning	<i>Develop or amend a CWRP/CWPP.</i>	2007 CWPP and 2021 CWRP.
	<i>Develop FireSmart polices for the design and maintenance of public land, such as regional parks, or buildings.</i>	Not yet achieved.
	<i>Conduct FireSmart Assessments for publicly owned buildings.</i>	Not yet achieved.
Development Considerations	<i>Amend Citywide OCP or bylaws to incorporate FireSmart principles.</i>	Achieved.
	<i>Revise zoning and development permit documents to include FireSmart considerations (landscaping and exterior design and finish).</i>	Achieved. Interface Wildfire Risk Management Development Permit Area guidelines are included in Part 4 of the Citywide OCP.
	<i>Establish Development Permit Areas for Wildfire Hazard.</i>	Achieved. Recommended for review and update in this CWRP, and as part of future neighbourhood planning projects in the Northwest Burke Vision, and the Northwest and Northeast Coquitlam Area Plans.
	<i>Include wildfire prevention and suppression considerations in the design of subdivisions as well as neighbourhood and area plan policies.</i>	In progress. The Partington Creek Neighbourhood Plan identifies a series of Interface Wildfire Risk Management policies to complement the Interface Wildfire Risk Management Development Permit Area guidelines in Part 4 of the Citywide OCP. The Northwest Burke Vision identifies that wildfire mitigation policies will be established through future neighbourhood planning processes in the area, with the Partington Creek Neighbourhood Plan policies providing the foundation for wildfire mitigation policy development.

FireSmart Discipline / CRI Funding Category	FireSmart Activity Type ⁴⁹	Current Status
	<p><i>Complete recommended mitigation activities for critical infrastructure (based on FireSmart Critical Infrastructure assessment).</i></p> <p><i>Amend referral processes for new developments to ensure multiple departments, including the fire department and/or emergency management personnel, are included.</i></p> <p><i>Develop plans for residential areas:</i></p> <ul style="list-style-type: none"> • <i>Conduct Home Ignition Zone assessments for individual properties.</i> • <i>Offer a rebate program to property owners that complete eligible FireSmart activities.</i> • <i>Develop FireSmart Neighbourhood Plans.</i> • <i>Undertake Neighbourhood Wildfire Risk Assessments for neighbourhoods pursuing FireSmart Canada Neighbourhood Recognition.</i> • <i>Conduct Home Partners Program wildfire mitigation assessments.</i> 	<p>Not yet achieved.</p> <p>Ongoing. Coquitlam Fire & Rescue is involved in all planning referral processes.</p> <p>In progress. The City of Coquitlam has obtained funding to engage in direct outreach with 2500 residents to offer free Home Ignition Assessments during the winter of 2021 / 2022 (Northeast Sector FireSmart Initiative). Other actions to develop plans for residential areas have not yet been achieved. The Home Partners Program is a different program than FireSmart. It can be evaluated by the municipality to determine its effectiveness as an additional or alternate wildfire risk assessment tool.</p>
Interagency Cooperation	<p><i>Develop, coordinate, and / or participate in a Community FireSmart Resiliency Committee or multi-agency fire and/or fuel management planning table.</i></p> <p><i>Provide Indigenous cultural safety and humility training to emergency management personnel.</i></p> <p><i>Attend 2022 FireSmart BC Conference, to be hosted by the BC FireSmart Committee.</i></p>	<p>A CFRC was formed as part of the development for this CWRP.</p> <p>Not yet achieved.</p> <p>Not yet achieved.</p>
Cross-Training	<p><i>Provide or attend training for Local FireSmart Representatives (LFR).</i></p> <p><i>Support LFRs to qualify as LFR training facilitator.</i></p> <p><i>Cross-train fire department members:</i></p> <ul style="list-style-type: none"> • <i>SPP-WFF1 Wildland Firefighter Level 1</i> • <i>S-231 Engine Boss</i> • <i>ICS-100</i> <p><i>Cross-train emergency management personnel:</i></p> <ul style="list-style-type: none"> • <i>ICS-100</i> • <i>WRR Basics Course</i> 	<p>The Coquitlam Emergency Program Manager and a Fire Inspector / Educator with Coquitlam Fire & Rescue have been trained as LFRs. The FireSmart Coordinator (2021 / 2022 temporary position) is also trained as an LFR.</p> <p>Not yet achieved.</p> <p>Coquitlam has cross-trained 151 Fire & Rescue members in SPP-WFF-1. Training in S-231 has not yet been achieved.</p> <p>Not yet achieved.</p>

FireSmart Discipline / CRI Funding Category	FireSmart Activity Type ⁴⁹	Current Status
	<i>Complete Wildfire Mitigation Specialist training, and support local government staff that have completed this to qualify as facilitators.</i>	Not yet achieved.
Emergency Planning	<i>Develop and/or participate in cross-jurisdictional meetings and tabletop exercises focused on wildfire preparedness.</i>	Multi-jurisdictional exercises, including with BCWS have been done in the past. Good exposure to working with BCWS through deployments, but less through formalized cross-training.
	<i>Assess structural protection capacity.</i>	No concerns regarding structural protection capacity were identified for this CWRP.
	<i>Assess community water delivery ability as required for suppression activities (limited to current water system evaluation and available flow analysis).</i>	Community water delivery ability was assessed through the Fire Underwriter's Survey in 2019. A near-maximum high score was received. No concerns regarding community water delivery ability were identified for this CWRP.
	<i>Use and/or promote EMBC Wildfire Preparedness Guide for community emergency preparedness events focused on wildfire.</i>	5000 guidebooks were ordered and are being distributed through the Northeast Sector FireSmart Initiative.
Vegetation Management	<i>Undertake fuel management on publicly owned land (fuel management prescriptions, treatments, maintenance, or prescribed burns, including off-site debris disposal and professional assessments).</i>	Fuel management completed in Ridge Park, in 2011 as recommended in the 2007 CWPP.
	<i>Remove or reduce flammable vegetation up to 100 m from critical infrastructure.</i>	Not yet achieved.
	<i>Provide vegetative debris disposal for homeowners:</i> <ul style="list-style-type: none"> • <i>Provide a dumpster or chipper.</i> • <i>Waive tipping fees.</i> 	Yard waste, garden waste, and wood waste (also noxious weeds and infested vegetation) are free for disposal throughout the year at the Coquitlam Recycling and Waste Centre. Single-family homes can also dispose of yard waste, including branches <10 cm thick and <50 cm long, in their Green Cart. Site-specific initiatives for rural neighbourhoods have not been achieved.
	<i>Undertake fuel management demonstration projects.</i>	Not yet achieved.

Priority Neighbourhoods for FireSmart Initiatives

Coquitlam is a community divided into distinct neighbourhoods. For various reasons (funding amounts, available effort, etc.) FireSmart activities may not be able to cover them all, or all at one time. Based on

general field observations (local wildfire threat assessment, current level of FireSmart, proximity to the WUI edge, restrictions to access/egress, adjacent fuel types and hazards, etc.), neighbourhoods within the WUI have been prioritized below in Table 18 by those that would benefit the most from FireSmart planning and activities. As development on Burke Mountain continues, and neighbourhood characteristics change, prioritization may also change. It is recommended that this CWRP is scheduled for regular updates concurrent with development progress, to capture the shift in wildfire risk and hazard mitigation priorities.

Table 18: Priority neighbourhoods within the Coquitlam WUI

Priority	Location	Commentary
1	Quarry Road, north of Minnehada Regional Park	Outside of municipal water service area; older homes on large lots in intermix areas contribute to increased risk. Homes have fewer FireSmart attributes on average. Single access.
2	Partington Creek (Victoria Drive and Cedar Drive northeast of DeBoville Slough)	Longer hydrant lays compared to other neighbourhoods. Older homes on large lots in intermix areas contribute to increased risk. Homes have fewer FireSmart attributes on average.
2	Hazel Avenue (Burke Mountain)	Longer hydrant lays, older homes on large lots in intermix areas contribute to increased risk. Homes have fewer FireSmart attributes on average.
4	Pipeline Road, north of David Avenue	Higher frequencies of human-caused ignitions are reported along the Coquitlam River valley compared to other areas of the municipality. Single access.
5	Hockaday Street	Higher frequencies of human-caused ignitions are reported along the Coquitlam River valley compared to other areas of the municipality. This is an older interface neighbourhood, with more residences, on average, that do not have FireSmart attributes.
6	Oxford Street, north of David Avenue	Higher frequencies of human-caused ignitions are reported along the Coquitlam River valley compared to other areas of the municipality.
7	Coast Meridian Road at David Avenue and northeast (Burke Mountain)	Interface neighbourhoods with proximity to continuous tracts of forested area in Pinecone Burke Provincial Park.
8	David Avenue at Princeton Avenue and northeast (Burke Mountain)	Interface neighbourhoods with proximity to continuous tracts of forested area in Pinecone Burke Provincial Park.
9	Ridge Park, surrounding area (Westwood Plateau)	Proximity to hazardous values, continuous tracts of forested area, with forested inclusions along riparian protected areas.
10	Pinetree Way, north of David Avenue (Westwood Plateau)	Higher hazard topographic position (above steep slopes) and proximity to continuous tracts of forested area.
11	Residences (approximately 1-2 block radius) surrounding Mundy Park & Riverview Forest	Adjacent to large, natural green spaces. This is not considered a high priority for neighbourhood for landscape-level wildfire risk reduction activities, but localized interface fires are a potential risk in this area, which can threaten critical infrastructure, residences, and environmental and cultural values.

12	North from Como Lake Avenue to Dewdney Trunk Road, and West from Gatensbury Road to Mariner Way. (Chines)	Adjacent to large, natural green spaces, with structures located above and below steep slopes. This is not considered a high priority for neighbourhood for landscape-level wildfire risk reduction activities, but localized interface fires are a potential risk in this area, which can threaten critical infrastructure, residences, and environmental and cultural values.
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5.1 EDUCATION

The goal of FireSmart education is to provide information to communities and citizens on how best to adopt and conduct practices to mitigate the negative impacts of wildfire to assets on public and private property. The City of Coquitlam reports a strong level of resident engagement in the various FireSmart and wildfire hazard education initiatives that have been carried out to date.

Coquitlam has an established public communications strategy for wildfire risk and mitigation that utilizes several platforms, including the City website, social media, print materials, and media releases. Permanent pages are located on the City website, and publications are released in local media outlets during the fire season to provide information about wildfire ignition hazards, actions prohibited under local bylaws, and water restriction and fire danger rating changes. Additionally, in 2019, three public workshops were held, to provide information to homeowners about adopting FireSmart principles. Coquitlam reports that they were well-attended. In 2021, a webinar to increase awareness about interface wildfire hazard, and solicit community input about human ignition risk reduction in the Coquitlam Watershed was also held.³⁴

As a communications strategy for community-level wildfire safety messaging has been established, more targeted engagement with the highest risk interface neighbourhoods has become a priority for the City. As a result, in 2021, the Cities of Coquitlam, Port Coquitlam, and the Villages of Anmore and Belcarra partnered to obtain regional funding for the Northeast Sector FireSmart Initiative, to engage with 2500 residences in Coquitlam and 2500 more across the Tri-Cities, and offer free home assessments, as well as to employ a FireSmart Coordinator on a temporary term contract (2021-2022).

A summary of recommendations related to FireSmart education is detailed in Table 19 below. One priority recommendation is for the City of Coquitlam to assess the need for additional staff for the delivery of the recommendations, both related to FireSmart education, and the other FireSmart disciplines (Sections 5.2, 5.3, 5.4, 5.5, 5.6, and 5.7). If capacity to fulfill recommendations is limited, the City should consider creating another FireSmart Coordinator term contract position through UBCM CRI grant funding support. Table 19 and tables in the following CWRP document sections, highlight where a FireSmart Coordinator could be a potential support, if this role is maintained or re-instated in the future.

³⁴ Guest speakers included staff from the Port Coquitlam Fire Department and North Vancouver’s Environmental Sustainability section. The event was not facilitated by Coquitlam municipal staff.

Overall, Coquitlam should maintain the steps they have taken so far to promote wildfire risk awareness, wildfire preparedness, and FireSmart principles, while expanding initiatives that would target specific at-risk neighbourhoods within the WUI.

Table 19: Education recommendation and action items

Item #	Priority	Recommendation	Comments	Lead	Timeframe	Metric for Success	Funding Source
<p><i>Objective: provide information to communities and citizens empowering them to adopt and conduct FireSmart practices to mitigate the negative impacts of wildfire to their homes/businesses, properties, and neighbourhoods.</i></p>							
1	Moderate	This CWRP report and associated maps should be made publicly available on the City of Coquitlam website and social media.	The CWRP may also be directly shared with local stakeholders who may be interested in collaborating on FireSmart and wildfire risk reduction activities.	City of Coquitlam (Communications, potential FireSmart Coordinator)	1 year	Available for download or viewing on the City's website	Eligible for UBCM CRI funding
2	Moderate	The City of Coquitlam should continue to build up and conduct a FireSmart engagement campaign within the municipality. FireSmart approaches for wildfire risk reduction should be promoted to residents, businesses, and stakeholders within the municipality.	Support and build on the strong level of resident engagement by continuing to hold FireSmart workshops or presentations. Aim to conduct the engagement and promotion campaign before and during the fire season. Include education specific to Coquitlam such as best practices for landscaping, preferred materials for use when conducting home renovations, and safe debris removal methods. Promote the use of the <i>FireSmart Begins at Home</i> app to allow residents to self-assess their home for wildfire risk, and/or provide contact information to request a home assessment by a Local FireSmart Representative. Consider holding wildfire emergency preparedness and evacuation preparation workshops through the existing H.E.R.O.E.S. program.	City of Coquitlam (Communications, Emergency Management, potential FireSmart Coordinator)	Yearly	Two or more events held per year.	Eligible for UBCM CRI funding
3	Low	The City of Coquitlam should continue to work with other adjacent municipalities to share staff resources, collaboratively apply for grant funding, and hold FireSmart-informed events in tandem, as appropriate.	FireSmart-informed events may include a Fire Prevention Day / Week or a Wildfire Preparedness Day at the beginning of the fire season. Consider discussing FireSmart program goals and plans at any meetings of municipal Coquitlam Fire & Rescues in the Tri-Cities area.	City of Coquitlam (Communications, Coquitlam Fire & Rescue, potential FireSmart Coordinator)	Yearly	City of Coquitlam staff and/ or Coquitlam Fire & Rescue members continue to liaise with other adjacent municipalities.	Local government

Item #	Priority	Recommendation	Comments	Lead	Timeframe	Metric for Success	Funding Source
4	High	The City of Coquitlam should complete current plans for a door-to-door campaign to engage with home owners in interface neighbourhoods and provide the opportunity for a home assessment (Northeast Sector FireSmart Initiative). The City of Coquitlam should conduct an additional review of interface neighbourhoods to identify any other properties that would benefit from assessment, and complete another campaign to engage with those properties as necessary.	Consider developing a database with the results of the door-to-door campaign in order to compile information about higher-risk neighbourhoods, as well as to gauge resident engagement and community uptake. Neighbourhoods with high resilience or high vulnerability attributes can be mapped.	City of Coquitlam (Coquitlam Fire & Rescue, potential FireSmart coordinator)	2 years	Engagement with 2500 residents to offer a home assessment; home ignition zone assessments provided for those who request them; spatial data developed that identifies further assessments required; action items for further home assessments planned for.	Eligible for UBCM CRI funding.
5	Low	The City of Coquitlam should assess whether there is a need for additional staff support for the fulfillment of these recommendations, and if so, should consider creating another term contract FireSmart Coordinator position.	An assessment should include an initial CFRC meeting to review CWRP recommendations and to determine if support in the next UBCM CRI funding year is required. Subsequently, periodic CFRC meetings that are held may re-assess this. Consider identifying the upcoming UBCM CRI grant funding deadline, and holding a decision-making meeting in advance of that date.	City of Coquitlam (all parties involved in CFRC)	1 year	Meeting of CFRC members is held with a decision made about necessity for renewing FireSmart Coordinator position in 2022-2023 funding year.	Eligible for UBCM CRI funding.
6	Low	The City of Coquitlam should promote awareness of and aim to increase uptake in the FireSmart Neighbourhood Recognition Program.	Prioritize promotion of this program in high-risk interface neighbourhoods. Promoting this program will increase the opportunity to engage directly with residents in neighbourhoods at higher risk, and empower residents to reduce risk on private property at the neighbourhood level. Engagement and promotion efforts should take advantage of existing neighbourhood associations and organizations to share information.	City of Coquitlam (Coquitlam Fire & Rescue, potential FireSmart Coordinator), consultant support	3 years	At least one neighbourhood has been certified.	Eligible for UBCM CRI funding.

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Item #	Priority	Recommendation	Comments	Lead	Timeframe	Metric for Success	Funding Source
7	Low	The Parks Division should maintain current outreach efforts to educate residents about negative impacts of dumping yard waste, and to enforce no-dumping policies on municipally-owned land.	Outreach staff should consider incorporating wildfire hazard information into their engagement efforts.	City of Coquitlam (Parks Division)	Ongoing	Degree of in-person response to dumping complaints is maintained.	Eligible for UBCM CRI funding
8	Low	The City of Coquitlam should consider working with the Tri-Cities Off-Road Cycling Association to provide education on trail-maintenance practices that avoid increased fuel loading.	The City of Coquitlam should consider hosting a demonstration to illustrate best practices in Pinecone Burke Provincial Park, when the operational fuel treatment phase is reached.	City of Coquitlam, (Parks Division), consultant support	2 years	Educational tour provided during operational fuel treatment.	Eligible for UBCM CRI funding
9	Moderate	The City of Coquitlam should maintain or expand the online public education strategy that has been established to promote FireSmart and wildfire education.	Information should continue to be shared on social media, the Coquitlam city website, through media and print releases, or other sources.	City of Coquitlam (Communications, Coquitlam Fire & Rescue, potential FireSmart Coordinator)	Ongoing	Current number of posts or media releases is maintained or increased.	Local government funding
10	Low	Identify and engage with commercial users of natural green spaces and municipal parks in Coquitlam (e.g., film industry) and provide FireSmart principles and practices to reduce the potential human-caused ignitions as a result of these activities.	FireSmart education to fulfill this recommendation could be provided in a number of ways - for example, as documents supplied during permitting process, or as a workshop delivered to representatives of a particular industry.	City of Coquitlam (Parks Division, potential FireSmart Coordinator), consultant support	2 years	Activity-specific FireSmart educational materials are compiled and provided to at least one group of commercial users of green space / municipal parks.	Eligible for UBCM CRI funding.

5.2 LEGISLATION AND PLANNING

A summary of Coquitlam’s current bylaws, policies, and plans relevant to wildfire risk and emergency planning was provided earlier in Section 2.4. Reviewing zoning bylaws through a wildfire lens to assess where they inadvertently promote conditions that may contribute to fire spread (*i.e.*, landscaping, fencing), and determining where bylaws can be updated or strengthened to reduce wildfire risk to development (such as adopting bylaws tied to wildfire hazard levels and requiring minimum standards for access, water supply, construction materials and techniques, and vegetation management) can help accomplish the goal of a more wildfire resilient community.

The review of Coquitlam’s existing suite of bylaws, plans and legislation for this CWRP found that together, these policies are comprehensive, and sufficiently fulfill most needs for mitigating fire ignition and wildfire hazards on private and municipal land in the municipality. Opportunities to update or strengthen existing policies, and recommendations to incorporate an interface wildfire risk assessment into future plans, have been identified in Table 20.

Key recommendations for further improvement to municipal legislation and planning include the development of the citywide Urban Forest Management Plan. There is a significant opportunity in the development of the Urban Forest Management Plan to implement policies that will manage municipal green space at a landscape level. Managing forest ecosystems in Coquitlam to support their continued health and resilience will support wildfire risk reduction goals.

There is also significant opportunity to strengthen and update several development and planning policies, especially in relation to the timing of the Hazel-Coy Neighbourhood planning project, which will create a comprehensive plan for the Hazel-Coy neighbourhood on Burke Mountain. The planning project launched in early 2021. Phases 1 and 2, which included public engagement processes, concluded in August 2021. In a summary of public engagement findings³⁵, wildfire risk and management were identified as concerns, as well as the desire for more information about tree canopy loss and retention, development on sloping sites, and watershed management. A robust review and update of Coquitlam’s interface wildfire risk management policies could be an important mechanism to supply more detailed information about existing hazards and management strategies to the public, and address many of these concerns. As a result, key recommendations include a review and / or update of the Interface Wildfire Risk Management Development Permit Area, and the Partington Creek Neighbourhood Plan, and the inclusion of up-to-date interface wildfire risk management policies into the forthcoming Hazel-Coy Neighbourhood Plan.

³⁵ City of Coquitlam. (2021). *Hazel-Coy Neighbourhood Plan Phases 1 & 2 Engagement Feedback Summary*. Retrieved from: <https://letstalkcoquitlam.ca/hazelcoy>

Table 20: Legislation and planning recommendation and action items

Item #	Priority	Recommendation	Comments	Lead	Timeframe	Metric for Success	Funding Source
<i>Objective: Provide the means for Coquitlam to implement wildfire risk reduction actions through bylaws and legislation by outlining local government responsibilities regarding wildfire</i>							
11	Moderate	Complete Park plans for Coquitlam River Park and Ridge Park.	Coquitlam River Park and Ridge Park are two major parks in the Coquitlam interface. The Parks, Recreation, and Culture Master Plan (2017) references the possible development of Forest Management Plans for both these parks as an activity that could support goals for Natural Green Spaces in the municipality. It is recommended these proposed activities be undertaken, and that wildfire and forest health management strategies are incorporated into the planning process.	City of Coquitlam (Parks Division), consultant support	3-5 years	Plans completed.	Local government funding.
12	High	Develop standard operating procedures that guide debris removal from hazard tree felling to prevent accumulations of surface fuels in municipal parks and green spaces.	Standard operating procedure would guide actions of Urban Forestry operations staff in the City of Coquitlam. As part of the fulfillment of this recommendation, the Parks Division should determine if this policy should stand alone, or be incorporated into existing documentation.	City of Coquitlam (Parks Division), consultant support	1 year	Standard operating procedures adopted.	Eligible for UBCM CRI funding.
13	Moderate	Complete a city-wide Urban Forest Management Plan.	The Urban Forest Management Plan should include management strategies for the natural green spaces at the wildland-urban interface. A strong climate change and forest health analysis is also recommended, as these forces can affect forest stands at the landscape level, and resultant patterns of mortality can increase wildfire risk.	City of Coquitlam (Parks Division)	6-8 years	Plan adopted.	Local government funding
14	High	Continue to review the current Wildfire Development Permit Area to encompass newly developed neighbourhoods and to strengthen and update policy language as necessary within the CITYWIDE OCP.	Updates and revisions of the Wildfire Development Permit Area section of the Citywide OCP should be scheduled alongside revisions of the CWRP document itself, as well as with progressive neighbourhood construction on lands held by private developers.	City of Coquitlam, (Community Planning), consultant support.	Ongoing	Wildfire Development Permit Area section of Coquitlam Citywide OCP reviewed and updated as necessary.	Eligible for UBCM CRI funding

Item #	Priority	Recommendation	Comments	Lead	Timeframe	Metric for Success	Funding Source
15	High	Review the Partington Creek Neighbourhood Plan and update or strengthen Interface Wildfire Risk Management policies as necessary within the document.	Use updated and strengthened policies to inform future neighbourhood plans for development in interface areas.	City of Coquitlam (Community Planning), consultant support.	1-2 years	Partington Creek Neighbourhood Plan reviewed and language updated at necessary.	Eligible for UBCM CRI funding
16	High	Based on the findings of the Wildfire Development Permit Area and Partington Creek Neighbourhood Plan review and update process, identify interface wildfire risk management policies to include in the forthcoming Hazel-Coy Neighbourhood Plan.	Phase 3 of the Hazel-Coy Neighbourhood Plan (development of a draft plan and policies) is scheduled for fall 2021 to spring 2022. Phase 4 of the Hazel-Coy Neighbourhood Plan (development of the final neighbourhood plan, including an implementation plan) is scheduled for spring to fall 2022.	City of Coquitlam (Development and Planning) consultant support	1-2 years	Finalized Hazel-Coy Neighbourhood Plan includes interface wildfire risk management policies.	Eligible for UBCM CRI funding.

5.3 DEVELOPMENT CONSIDERATIONS

The City of Coquitlam has taken important initial steps to adopt and implement development policies to mitigate wildfire risk in interface areas of the municipality, and to begin to embed FireSmart practices and consideration into neighbourhood development. Strengthening, and updating these policies, and ensuring their effective implementation should be a leading priority for the municipality.

Important factors that can be planned for (and regulated through the land use planning and development process) which affect public safety during a wildfire include:¹

- Location of development, including hazardous or vulnerable land uses, in relation to high hazard forested vegetation, steep slopes, and other geographical features that contribute to extreme fire behavior.
- Access and circulation patterns.
- Availability and adequacy of water supply.
- Type of construction materials on structures and attachments (privately and publicly owned).
- Lot size and structure density.
- Design guidelines and architectural standards.

In Coquitlam, development locations, on a larger, citywide scale, have been defined by previous planning documents (i.e., Metro Vancouver Growth Strategy, Coquitlam’s Citywide OCP) and processes. A major new centre of growth in the interface is the Burke Mountain area, which has been conceptualized in the Northwest Burke Vision and for which neighbourhood level planning (e.g. Hazel-Coy Neighbourhood Plan) has also been initiated. Therefore, while location development at the landscape level is already relatively fixed, there may be some flexibility to plan for this factor at the neighbourhood level as subdivision and construction proceeds in this key area. Ensuring setbacks from steep slopes, and planning for vegetation maintenance and FireSmart landscaping on small segments of private land are examples of development considerations that can be incorporated into neighbourhood or area plans.

Ensuring adequate access and circulation is important to facilitate entry of first responders to neighbourhoods in the event of an interface wildfire incident, and the exit or evacuation of residents as necessary in any emergency. This can be guided by neighbourhood or area plans – for example, the Partington Creek Neighbourhood Plan includes a policy recommending that road networks provide adequate access for evacuation and first responders. An obviously problematic feature of neighbourhood design with regard to access and egress is a lack of alternate routes in and out. However, in addition to this, neighbourhood designs that promote ease of navigation, sufficient vegetation clearance from roads, and surge capacity for arterial roads are important components to consider. Details about access and egress availability in current neighbourhoods are provided in Section 5.6

Water availability is adequate from a fire suppression standpoint, with areas of vulnerability identified and mitigating measures implemented sufficiently (see Section 5.6). Coquitlam Fire and Rescue reports that overall water quantity and pressure is adequate, especially in interface zones, which typically

feature newer systems. A general concept of water servicing for new neighbourhoods on Burke Mountain, based on an extension of the existing municipal infrastructure, is incorporated into the Northwest Burke Vision plan. The Subdivision and Development Servicing Bylaw requires that new developments must be integrated into city water and sanitation service networks.

Some regulation of construction materials, including roofing and siding materials, and landscaping is required through the existing Interface Wildfire Risk Management Development Permit Area guidelines in Part 4 of the Citywide OCP, for all types of development within and adjacent to the Interface Wildfire Risk Management Boundary. This Development Permit Area has been in place since 2013. Since that time the knowledge of FireSmart strategies for mitigating risk to structures has grown, and in a preliminary analysis of the policy, some opportunities to strengthen policy language were identified. For this reason, a systemic review of this policy is recommended.

The construction of critical infrastructure should also be considered through a wildfire lens. An inventory of critical infrastructure was listed in Section 3.2 above. Critical infrastructure assessments have not been completed for at least 10 years, and field assessments of critical infrastructure identified several locations with hazardous vegetation growth. This could present a barrier to access if ignited. Older pieces of critical infrastructure located in the interface are of particular concern. Assessments of critical infrastructure are recommended as a result.

Structure density is generally projected to increase in interface neighbourhoods, with planning for multi-unit structures in community nodes a priority for the City. Detached housing is also planned for, but the overall number of large rural lots may decrease as subdivision processes and neighbourhood development continues. Some of the more vulnerable neighbourhoods, while few overall, are older developments intermixed into forested areas with continuous vegetation between structures. This pattern of neighbourhood development should be recognized for the elevated interface wildfire hazards it poses, and appropriate mitigating actions should be taken where it cannot be avoided.

A summary of recommendations that Coquitlam can implement to embed FireSmart practices and considerations into development are detailed below in Table 21.

Table 21: Development Considerations recommendation and action items

Item #	Priority	Recommendation	Comments	Lead	Timeframe	Metric for Success	Funding Source
<i>Objective: To embed FireSmart practices and considerations into all development within Coquitlam.</i>							
17	High	Engage a qualified professional (such as a Local FireSmart Representative) to update or complete formal FireSmart assessments of critical infrastructure.	Plan and implement action items in the sequence of critical infrastructure importance.	City of Coquitlam (Coquitlam Fire & Rescue, potential FireSmart Coordinator), consultant support	3 years	Critical infrastructure assessments completed and action items being planned for.	Eligible for UBCM CRI funding
18	Moderate	Use fire-resistant construction materials, building design and landscaping for all critical infrastructure when completing upgrades or establishing new structures.	Plan and implement action items in the sequence of critical infrastructure importance.	City of Coquitlam (Engineering, Coquitlam Fire & Rescue, potential FireSmart Coordinator)	Ongoing	New critical infrastructure is FireSmart.	Local government funding
19	Moderate	As part of future neighbourhood plans where wildfire policies are introduced and where an Interface Wildfire Risk Management Boundary has been established, engage the development community to explain the rationale and effects of the updated policy.	Relevant parties of the development community that might be consulted in this process include developers, builders, landscapers, and architects. Engagement could involve workshop(s), a virtual webinar, or educational materials posted online.	City of Coquitlam (Development Planning, Communications)	1 year after adoption of an updated plan and / or ongoing	At least one workshop held.	Eligible for UBCM CRI funding
20	Moderate	Develop standard operating procedures to guide ongoing windfirming monitoring for riparian area reserves adjacent to new developments.	Windthrow is a hazard to public safety and property, and also can result in high levels of surface fuel loading close to homes. Windfirming monitoring of riparian area reserves already occurs and is funded through operating budgets.	City of Coquitlam (Parks Division), consultant support	Ongoing	Current budget and reporting output for windfirming monitoring is expanded to include areas in new developments.	Local government funding
21	Moderate	A standard for the quantity and distribution of woody debris that is acceptable for retention after land clearing operations should be developed	A qualified professional should be retained to write this standard, the objective of which should be to prevent the hazardous accumulation of woody debris in close proximity to newly developed homes within interface	City of Coquitlam (Parks Division), consultant support	6-8 years if developed along same timeline as	Standard developed and incorporated into Tree Management Bylaw.	Local government funding / potential eligibility for

Item #	Priority	Recommendation	Comments	Lead	Timeframe	Metric for Success	Funding Source
		and incorporated into the Tree Management Bylaw.	neighbourhoods. This standard could be incorporated into the Tree Management Bylaw, and triggered when a tree cutting permit is applied for. It could be developed concurrently with the Urban Forest Management Plan that is also recommended for completion by this CWRP.		Urban Forest Management Plan; 3-5 if separate.		UBCM CRI funding
22	High	Encourage the installation of perimeter paths or laneways behind new subdivision developments which back onto natural green spaces or large parks in interface neighbourhoods.	Perimeter paths and laneways can increase access for first responders to interface areas. As well, depending on the area set aside, these features can increase the area of defensible space behind homes.	City of Coquitlam (Community Planning)	1-3 years	Policy incorporated into revised Wildfire Development Permit Area text.	Eligible for UBCM CRI funding.

5.4 INTERAGENCY COOPERATION

Identifying and linking stakeholders such as staff members from different municipal government departments, emergency services, private critical infrastructure operators, parks managers (both from the municipality of Coquitlam and elsewhere) can reduce wildfire risk, increase UBCM funding opportunities, and allow Coquitlam to obtain valuable local knowledge.

Community FireSmart Resiliency Committee (CFRC)

The City of Coquitlam’s existing Community FireSmart Resiliency Committee is comprised of local government members, as well staff members from Metro Vancouver regional district, and BC Parks. Table 22 below details the agencies involved, their current representatives and titles, and their role within Coquitlam’s CFRC.

Table 22: Coquitlam’s Community FireSmart Resiliency Committee (CFRC)

Agency	Title	Role in CWRP Development	Future Opportunities
City of Coquitlam Fire & Rescue	Fire Chief	Provided data, information, and other relevant plan content, including local level fire response knowledge and wildfire risk reduction initiatives; coordination of CFRC activities; provided review and input.	Coordinate with other municipal departments to achieve the implementation of CWRP recommendations. Coordinate with Corporate Communications to provide outreach to applicable stakeholders and audiences. Support implementation of FireSmart education recommendations through public outreach, building on experience with 2021 programming.
	Deputy of Operations		
	FireSmart Coordinator	Provided information and ongoing updates of FireSmart 2021 programming; provided review and input.	
City of Coquitlam Parks & Forests	Manager – Urban Forests Manager- Parks, Planning, Forestry	Provided data, information, and other relevant plan content; provided advisory support to determine CWRP actions; provided review and input.	Support implementation of CWRP recommendations as applicable to department role by providing technical expertise, background knowledge and information.
City of Coquitlam Environmental Services	Manager Environment		
City of Coquitlam Planning & Development	Planner – Community Planning		
City of Coquitlam Emergency Management	Risk and Emergency Manager		
City of Coquitlam Geomapping	Manager – Geoinformation systems		
City of Coquitlam Corporate Communications	Communications Coordinator		
Metro Vancouver	Supervisor, Parks Operations, Regional Parks (Parks & Environment)		
BC Parks	Area Supervisor (Vancouver Area)	Burke Provincial Park. Assisted in an advisory capacity by	

Agency	Title	Role in CWRP Development	Future Opportunities
		providing input and plan review and identifying areas of concern regionally and specific to Metro Vancouver Regional Parks, and Pinecone Burke Provincial Park.	Pinecone Burke Provincial Park, including potential fuel management treatments, and maintain a strong relationship with Belcarra municipal staff.

In addition to the formalized interagency connections that have occurred through the development of the CFRC, other cooperative initiatives have occurred or are currently underway. These initiatives provide examples of some of the potential benefits and opportunities available through interagency cooperation:

- The Northeast Sector FireSmart Program is a regional effort involving Anmore, Belcarra, Port Coquitlam and Coquitlam, who jointly received funding to provide FireSmart programming throughout each municipality. Regional funding allowed for resource-sharing – for example, the City of Coquitlam was able to hire on a FireSmart Coordinator, who is contracted to provide services in each municipality.³⁶
- In 2021, a large scale, multi-agency training exercise and simulated evacuation was held around Eagle Mountain Park. This exercise involved nine organizations, with the goal of enhancing interagency understanding, cooperation, and response to wildland interface fires. Agencies involved included: Port Moody Fire & Rescue, Port Coquitlam Fire & Emergency Services, Metro Vancouver Wildfire Response, BC Wildfire Service, Coquitlam RCMP, Talon helicopters, fire exercise consultants GetSet Solutions, Coquitlam Search and Rescue, as well as staff from multiple Coquitlam city departments.³⁷

In addition, information sharing occurs through periodic meetings of fire departments from the Tri-Cities municipalities, the Sasamat Volunteer Fire Department (servicing the Villages of Anmore and Belcarra), and Metro Vancouver. Mutual aid agreements for fire response beyond municipal boundaries are also in place between Coquitlam Fire & Rescue and other municipalities – see Section 5.6 for details.

There are several other agencies who manage areas of land within the City of Coquitlam’s municipal borders:

- **BC Hydro** manages large right-of-way areas for major transmission line corridors that traverse the municipality north-south and east-west. An increased understanding of ignition hazards, relevant land management concerns or priorities, and BC Hydro’s schedule of vegetation maintenance could be achieved through an increased frequency of communication (see Section 5.7 for details).

³⁶ City of Coquitlam (2013). *Northeast sector municipalities receive funding for wildfire preparedness*. Retrieved from: <https://www.coquitlam.ca/CivicAlerts.aspx?AID=688>

³⁷ City of Coquitlam (2013). *Wildland fire exercise scheduled for May 13 on Eagle Mountain*. Retrieved from: <https://www.coquitlam.ca/CivicAlerts.aspx?AID=613>

- **Pinecone Burke Provincial Park** overlaps the north end of the municipality and presents environmental values at risk in the event of a wildfire, as well as potential human-caused ignition hazards. There is also the risk of fire igniting within the park and moving towards Coquitlam. Engagement with BC Parks to promote wildfire pre-planning would also provide wildfire risk management benefits to the City of Coquitlam.
- **Privately owned critical infrastructure** and hazardous values at risk includes a FortisBC substation and the BC Hydro Meridian substation near Eagle Mountain. Water treatment infrastructure for the Coquitlam Watershed is considered hazardous but not located within the area of interest of this plan. Some areas of municipally owned land near the FortisBC facility are proposed for fuel treatments (see Section 5.7 for details) – however, overall hazard mitigation to these structures would be optimized through an assessment and recommended upgrades.
- **The Coquitlam Watershed** is administered by Metro Vancouver and represents a large protected area overlapping with the municipality. The potential consequences of an interface wildfire burning within the watershed are very high, with wide-ranging impacts that could be felt across multiple communities in the Lower Mainland. The threat posed to the watershed was acknowledged in a June 2021 report to Council, which also recommended the creation of an inter-agency task force to review alternate ways of providing additional fire protection capacity in the watershed(s), and the potential for enhanced fuel management programs within the watersheds. The report also notes that other potential outcomes of establishing this task force could include clarifying responsibilities in the event of an interface wildfire, as well as supporting coordination of emergency planning to support Metro Vancouver.³⁸ As a result of the recommendations of that report, the task force was formally established in the fall of 2021, including representatives from Coquitlam Fire & Rescue, Metro Vancouver, BCWS, the District of North Vancouver Fire Department, and the District of West Vancouver Fire Department.

Engagement and cooperation with these agencies can support wildfire risk mitigation efforts throughout the municipality, including on these areas of land that are either privately owned, or not managed the municipality. Because this necessarily involves the consideration of other organizations' budgets, timelines, and priorities, unforeseen constraints can limit action on these issues – recommendations made below note this as such. Recommendation and action items Coquitlam can implement to continue growing interagency relationships and increase interagency cooperation are listed below in Table 23.

³⁸ Deputy City Manager and Fire Chief. (2021). *Wildfire Protection in Metro Vancouver Watersheds and Adjacent Urban Communities*.

Table 23: Interagency Cooperation recommendation and action items

Item #	Priority	Recommendation	Comments	Lead	Timeframe	Metric for Success	Funding Source
<i>Objective: To broaden from a department or agency single jurisdiction-based approach to a risk driven, multi-agency and multi-scalable approach.</i>							
23	Low	The City of Coquitlam should continue to engage with utility companies to share information about planned maintenance activities, and to continue to promote right-of-way best management practices for regular brushing and clearing of woody debris and shrubs.	Implementation of best management practices can reduce fire risk, risk of potential damage to critical infrastructure and the possibility of subsequent outages.	City of Coquitlam (Coquitlam Fire & Rescue, potential FireSmart Coordinator), consultant support	Ongoing	Annual outreach before fire season is completed.	Eligible for UBCM CRI funding.
24	Moderate	Engage with utility companies to ensure that high-risk activities, such as vegetation management, pile burning, and harvesting do not occur during high/extreme fire danger times.	(none)	City of Coquitlam (Coquitlam Fire & Rescue, potential FireSmart Coordinator), consultant support	Ongoing	Annual outreach before fire season is completed.	Eligible for UBCM CRI funding.
25	High	Engage with private owners/operators of critical infrastructure to promote the completion of FireSmart Critical Infrastructure Assessments and plan mitigation work as a result of those assessments.	This could include assessments of BC Hydro, FortisBC, and Metro Vancouver water treatment facilities	City of Coquitlam (Coquitlam Fire & Rescue, potential FireSmart Coordinator), consultant support	3 years	Privately owned critical infrastructure are assessed.	Eligible for UBCM CRI funding.
26	High	Schedule CFRC meetings before and / or during fire season for information sharing and planning purposes.	Important topics to share information about may include FireSmart engagement campaign plans or findings, updates about changes to access of Pinecone Burke Provincial Park or Metro Vancouver Regional Parks, information sharing or updates from neighboring municipalities, industrial operators or other stakeholders, and/or fuel treatment plans.	City of Coquitlam (all parties involved in CFRC)	Ongoing	Meeting hosted annually.	Eligible for UBCM CRI funding.
27	Moderate	Continue to hold and / or participate in seasonal or annual meetings between Tri-City municipality Coquitlam Fire & Rescues (and	Meetings are currently held seasonally (e.g., pre- and post- fire season) or annually between Tri-City municipality Coquitlam Fire	City of Coquitlam (Coquitlam Fire & Rescue)	Ongoing	Meeting hosted annually.	Eligible for UBCM CRI funding.

Item #	Priority	Recommendation	Comments	Lead	Timeframe	Metric for Success	Funding Source
		Metro Vancouver, as appropriate) to promote inter-agency information sharing and wildfire preparedness.	& Rescues to share information. Metro Vancouver also currently holds information sharing meetings for the same purpose. It is recommended that this schedule of information sharing activities continue.				
28	High	Engage with BC Parks to promote the inclusion of wildfire management issues and strategies within the Pinecone Burke Provincial Park Management Plan (currently under development).	Relevant topics to be incorporated into this plan may include evacuation planning, emergency response planning, and strategies for fuel management and fire rehabilitation practices.	City of Coquitlam (Coquitlam Fire & Rescue, FireSmart Coordinator), consultant support	1 year	Engagement (meeting, or written communications) made.	Eligible for UBCM CRI funding.
29	High	Consider engaging with BC Parks to promote an update of the limited pre-attack / tactical response plan for Pinecone Burke Provincial Park.	(none)	City of Coquitlam (Coquitlam Fire & Rescue)	1 year	Engagement (meeting, or written communications) made.	Eligible for UBCM CRI funding.
30	Low	When the forthcoming Metro Vancouver Watershed Management Plan is complete, schedule a meeting to share information about the new plan and any identified wildfire management issues.	(none)	City of Coquitlam, Metro Vancouver Watershed	5 years (pending report completion date).	Meeting hosted.	Eligible for UBCM CRI funding.
31	High	Continue to participate in the newly-established Task Force for wildfire preparedness in Metro Vancouver watersheds.	(none)	City of Coquitlam (Coquitlam Fire & Rescue)	2 years	Instances of engagement (written communication, meetings) continues	Eligible for UBCM CRI funding.

5.5 CROSS-TRAINING

Coquitlam Fire & Rescue has taken several steps to provide training to its members for interface specific wildfire events and to gain experience in interface wildfire incidents. The following level of training is held by members of Coquitlam Fire & Rescue, which totals 183 staff, 158 of which are suppression firefighters:

SPP-WFF-1	151 members trained
S115	62 members trained
S-215	21 members trained
SPP-WFF-1 Instructors	9 member instructors

Department-wide awareness training for interface fire occurs annually. Each spring, an interface wildfire refresher training is held with a focus on a SPP-WFF-1 review with a focus on local interface responses and equipment supplied on front-line apparatuses. There is also a dedicated Forestry Team of 30 members that are qualified to be deployed throughout the Province on Structural Protection Unit (SPU) assignments. These members complete immersion training with lesson plans developed by the Forestry Instructor Group. This training varies each year, but focusses on skills necessary for SPU deployments (e.g., pumps, radio communications, equipment familiarization, chain saw training).

Members who train others within the department have all completed the SPP-WFF-1 Train-the-Trainer course. In addition, those who have completed SPU deployments or a wildfire background may draw on their experience in training fire department members. Forestry Team instructors complete an instructor training day prior to the department-wide forestry refresher training in the spring.

Coquitlam Fire & Rescue has also taken some steps to gain experience and training with other first responder and fire suppression agencies. SPU deployments have been completed throughout BC for more than ten years, which has provided exposure to BCWS operations. Additionally, in May 2021, a multi-agency training exercise occurred including BCWS, Metro Vancouver, and other agencies. Coquitlam should focus its efforts in maintaining or expanding these multi-agency training exercises. In particular, exercises with the Metro Vancouver Watershed Protection Agency initial attack team should be continued. This could provide learning opportunities for ways wildfire preparedness and response within and around the watershed might be enhanced, and support the objectives of the 2021 Report to Council (and subsequently appointed Task Force) seeking to increase wildfire preparedness for the Coquitlam Watershed.

The focus of these training exercises should be to enhance understanding of the capacity and capabilities of agencies with which Coquitlam Fire & Rescue might cooperate with in the event of an interface wildfire event. This will allow Coquitlam Fire & Rescue to focus their training and professional development within the role of their agency. It should be noted that the role of Coquitlam Fire & Rescue is limited to structure protection strategies and wildland fires within the interface.

Table 24: Cross-training recommendation and action items

Item #	Priority	Recommendation	Comments	Lead	Timeframe	Metric for Success	Funding Source
<i>Objective: To support the development of comprehensive and effective wildfire risk reduction planning and activities, as well as a safe and effective response.</i>							
32	Moderate	Maintain or expand the wildfire interface training program Coquitlam Fire & Rescue has established.	Various combinations of Coquitlam Fire & Rescue members are currently trained in SPP-WFF-1, S115, S-215, and SPP-WFF-1 Instructors, as well as participate in annual interface refresher trainings. Together this contributes to an overall robust training program.	City of Coquitlam (Coquitlam Fire & Rescue)	Ongoing	Proportion of Coquitlam Fire & Rescue members certified in basic wildfire interface and structure protection maintained.	Eligible for UBCM CRI funding.
33	Low	Pursue funding to enable Coquitlam Fire & Rescue members or potentially a FireSmart Coordinator to attend the annual FireSmart symposium.	Relevant learnings should be shared at CFRC meetings.	City of Coquitlam (Coquitlam Fire & Rescue, potential FireSmart Coordinator).	1 year	Attendance at 2022 FireSmart Conference	Eligible for UBCM CRI funding.
34	Moderate	Continue holding wildfire interface and/or structure protection exercises with Metro Vancouver Watershed Protection Agency.	The last exercise with Metro Vancouver was held in 2017. Consider scheduling these exercises (table-top and / or practical) on a rotation of 3-5 years.	City of Coquitlam (Coquitlam Fire & Rescue), Metro Vancouver Watershed Protection Agency	2 years	Training exercises occur.	Eligible for UBCM CRI funding.
35	Moderate	Maintain or expand schedule of multi-agency training with BCWS.	Consider scheduling periodic multi-jurisdictional exercises (table-top and / or practical)	City of Coquitlam, BCWS	Ongoing	Training exercises occur.	Eligible for UBCM CRI funding.
36	Low	Engage with the Office of the Fire Commissioner to obtain guidance on requirements and best practices for wildfire interface training programming.	Guidance on training in the Strike Team / Task Force Leader courses, and recommendations for in-house interface wildfire training (e.g., content and frequency of sessions) could be requested.	City of Coquitlam (Coquitlam Fire & Rescue)	1 year	Wildfire interface training program reviewed and updated in accordance with guidance from the Office of the Fire Commissioner.	Local government funding (training program review and update may be eligible for UBCM CRI funding).

5.6 EMERGENCY PLANNING

This section provides a high-level review of Coquitlam preparedness for an interface wildfire emergency and the resources available to fight one. Local government wildfire preparedness and resource availability are critical components of efficient wildfire prevention and planning.

Pre-Incident Planning

The City of Coquitlam's Disaster Response Plan¹¹ is a document that provides overall guiding principles for emergency planning, response, and preparedness. The concept of operations used for this plan were adopted from the British Columbia Emergency Management Systems. The broad guiding principles of this plan are supported by more detailed departmental plans.

Mandatory evacuations are one event that would require the activation of the City's Emergency Operations Centers and the use of the Disaster Response Plan. The locations of Emergency Operations Centers, and Department Operations Centers designated by the Disaster Response Plan are listed in Table 9. Operational evacuation plans have been developed for localized areas in the City, but not for interface neighbourhoods. Disaster response routes have been designated for emergency vehicle use only during emergency events, but key evacuation routes have not been identified in publicly available documents. Evacuation pre-planning and reporting has been completed for potential earthquake or storm events that could trigger flooding in the lower reaches of the Coquitlam River. An evacuation plan has also been completed for the Mundy Park area. However, this has not occurred for the Westwood Plateau or Burke Mountain neighbourhoods.

The creation of evacuation plans for this and other interface neighbourhood zones is a high priority recommendation. It is especially important as development and population density increases in the Burke Mountain neighbourhoods. Evacuation planning may include some public information for which a communications strategy should be developed, and some internal information, including spatial information to be shared amongst agencies which might participate in this event. A review of community demographics, geography, and available resources; completion of a transportation analysis and evacuation demand modelling; as well as other hazards and constraints that could pose unique challenges to evacuation could be considered as part of this plan, in order to generate community-specific strategies for emergency response.

In addition to evacuation planning, the development of pre-incident wildfire suppression plans and maps can be considered, as well as a wildfire response plan. To optimize preparedness a wildfire response plan would be reviewed annually and tested and practiced periodically. These plans and maps, developed in consultation with wildfire response professionals (*e.g.*, Coastal Fire Zone staff, wildfire and emergency planning consultants), should consider at a minimum:²⁷

- **Command:** Authority, constraints, structural protection needs, management constraints, etc.

- **Operations:** Helicopter base locations, flight routes, restrictions, and water intakes, fire control line locations and natural barriers, crew/personnel safety zones and staging locations, fuel caches, etc.
- **Logistics:** Base camp locations, roads and trails, utilities (CI), communications (CI).
- **Planning:** Maps (neighbourhoods, vegetation and fuel, hazards, critical infrastructure, archaeology and environmentally sensitive areas, water sources, access/egress, etc.)

While pre-incident wildfire planning is an important process and tool for increasing wildfire response readiness, the Lower Mainland is complex in terms of the jurisdiction and responsibility of emergency response and government agencies. A larger-size interface wildfire incident would likely impact more than one municipality at once, and as such the most appropriate scale at which to plan and prepare is collaboratively, at the regional level.

Mutual Aid Partners

The Metro Vancouver Mutual Aid Agreement includes the City of Coquitlam and other municipalities within the Lower Mainland. Typically, when Coquitlam Fire & Rescue requests aid, support arrives from Burnaby, Port Coquitlam, Port Moody, New Westminster, or Surrey. Mutual aid call-outs to Coquitlam occur 5-6 times per year and are requested 2-3 times per year. Coquitlam Fire & Rescue also has a Fire Protection Services Agreement with Kwikwetlem First Nation.

Additionally, the *Office of the Fire Commissioner, Fire Chiefs Association of BC and BC Wildfire Service Memorandum of Agreement for Inter-Agency Operational Procedures and Reimbursement Rates* governs the response to BCWS call-outs. Coquitlam Fire & Rescue is often deployed with BCWS' SPU (Structural Protection Units) units, to incidents throughout BC. Typically, deployments have occurred each fire season, and lasted between 5-60 days. These assistance callouts create valuable training opportunities for Coquitlam Fire & Rescue.

Firefighting Resources

Table 25 summarizes available firefighting resources to Coquitlam Fire & Rescue and its members. Key resources include the two Type II Structure Protection Units which have been outfitted from the department. They are maintained to the current standards of the Office of the Fire Commissioner, and are available for use on deployments during the fire season to BCWS wildfire incidents. A Type III Structure Protection Unit, is also maintained. A Type III is smaller than a Type II unit, and is intended to be a local resource for Coquitlam, not used for Provincial deployments. In addition to interface fire equipment stored in the Structure Protection Units, engines are also equipped with forestry equipment including coveralls and PPE for four, 600 feet of forestry hose, 6 nozzles, fittings, and backpack pumps.

It is recommended that Coquitlam Fire & Rescue continues to work with BCWS to train with wildfire fighting equipment and regularly evaluate the need for more equipment and training. Currently, they are well equipped to handle WUI wildfire response.

Table 25: Select inventory of Coquitlam Fire & Rescue firefighting resources for use at interface fire incidents.

Fire Department	Number of Stations	Number of Members	Apparatus Type	Description / Comment
Coquitlam Fire & Rescue	4	1 Fire Chief 183 members	Engines	8 vehicles
			Quints	2 vehicles
			Rescue Trucks	2 vehicles
			Ladders	2 vehicles
			Haz Mat Apparatus	1 vehicle
			Command Trailer	1 trailer, plus tow vehicle
			Tender	1 vehicle, 3500 gallon
			Light Attack Vehicle	1 vehicle (bush truck)
			Type II Structure Protection Unit	2 units
			Type III Structure Protection Unit	1 unit
			Forestry / high-angle tow vehicle	1 vehicle
			Utility Task Vehicle	2 vehicles plus trailer
			Rescue Boat	1 boat, with fire pump

When analyzing the last decade of callouts for Coquitlam Fire & Rescue, 2020 represented the lowest number of callouts since 2011. Typically, Coquitlam responds to approximately 65 callouts to wildland fires each year. Outside of a notably high number in 2015 (128 callouts), callouts have stayed relatively stable over the last ten years. Structural callouts over that same period also remained relatively constant, at approximately 80 per year – with low years consisting of 60-70 callouts and high years consisting of more than 85 callouts.

Recommendations and action items are detailed below in Table 26.

Table 26: Emergency Planning recommendation and action items

Item #	Priority	Recommendation	Comments	Lead	Timeframe	Metric for Success	Funding Source
<p><i>Objective: To create specific wildfire response pre-incident plans so those responding to a wildfire emergency know who is available to help with what and when, and to improve Coquitlam's ability to respond to (during and after) a wildfire emergency.</i></p>							
37	Low	As Widgeon Marsh Regional Park is expanded and management planning is finalized, formalize an agreement between Metro Vancouver and Coquitlam Fire & Rescue that establishes the parameters of Coquitlam Fire/Rescue response within the newly developed park area.	<i>(none)</i>	City of Coquitlam (Coquitlam Fire & Rescue), Metro Vancouver Regional Parks staff.	6-8 years (pending completion of park expansion)	Agreement adopted by Coquitlam Fire & Rescue and Metro Vancouver	Eligible for UBCM CRI funding.
38	High	Develop an evacuation plan (or plans) for priority interface neighbourhood areas.	Evacuation planning can establish the guidelines, requirements, and considerations for conducting this type of emergency response. An evacuation plan can be a more detailed, operationally-focused document that supports Coquitlam's overall Disaster Management Plan. Consider including a spatial data component to this plan. The evacuation plan should be regularly updated as development in the northeast and northwest areas of the city continues, and testing of the evacuation plan should occur regularly.	City of Coquitlam (Coquitlam Emergency Program, Coquitlam Fire & Rescue, other departments as necessary)	3 years	Plans developed and adopted by the municipality	Eligible for UBCM CRI funding.
39	Moderate	Engage with Metro Vancouver Regional Parks to promote the development of an evacuation plan for Widgeon Marsh Regional Park	<i>(none)</i>	City of Coquitlam (Coquitlam Fire & Rescue), Metro Vancouver Regional Parks staff.	6-8 years (pending completion of park expansion)	Evacuation plan adopted.	Local government funding, potential eligibility for UBCM CRI funding
40	Moderate	Maintain and promote availability of Clean Air Spaces at public facilities during air quality advisory alert periods.	<i>(none)</i>	City of Coquitlam (Emergency Management, Communications, other departments as appropriate)	Ongoing	Number of clean air spaces offered maintained.	Local government funding.

5.7 VEGETATION MANAGEMENT

The goal of vegetation management is to reduce the potential wildfire intensity and ember exposure to people, infrastructure, structures, and other values through manipulation of both the natural and cultivated vegetation that is within or adjacent to structures and the community. Three main zones are discussed to appropriately scale and plan vegetation management activities across the WUI landscape (see Appendix A-2: Proximity of Fuel to the Community for expanded descriptions and information):

- 1) the Home and Critical Infrastructure Ignition Zone,
- 2) the Community Zone; and
- 3) the Landscape Zone.

It was noted during field visits that compliance to FireSmart vegetation management in Coquitlam's Home and Critical Infrastructure Ignition Zone varied throughout the municipality, but that overall, there is opportunity to increase awareness and community uptake of FireSmart landscaping principles. Further information about the status of FireSmart vegetation management in the Coquitlam interface will be gathered through Home Ignition Zone Assessments completed for the FireSmart Northeast Sector program. Vegetation management within the Community and Landscape Zones of Coquitlam (i.e., through operational fuel treatments) has not yet taken place on a broader scale, although one pilot fuel treatment project was completed in Ridge Park. This should be expanded upon to further reduce wildfire risk to the community as well as the potential for fire transmission between neighbourhoods, through the assessment and treatment of proposed treatment units identified in Table 27: Summary of Proposed Fuel Treatment Units.

Overall, Coquitlam should focus on a multi-barrier vegetation management approach through two primary activities:

Residential-scale FireSmart Landscaping

FireSmart landscaping at a residential scale involves the removal, reduction, or conversion of flammable plants (such as landscaping for residential properties, parks, and open spaces) to create more fire-resistant areas in the FireSmart Noncombustible Zone and Priority Zones 1, 2 and 3. This is focused primarily in the Home or Critical Infrastructure Ignition Zones (Figure 4 below).

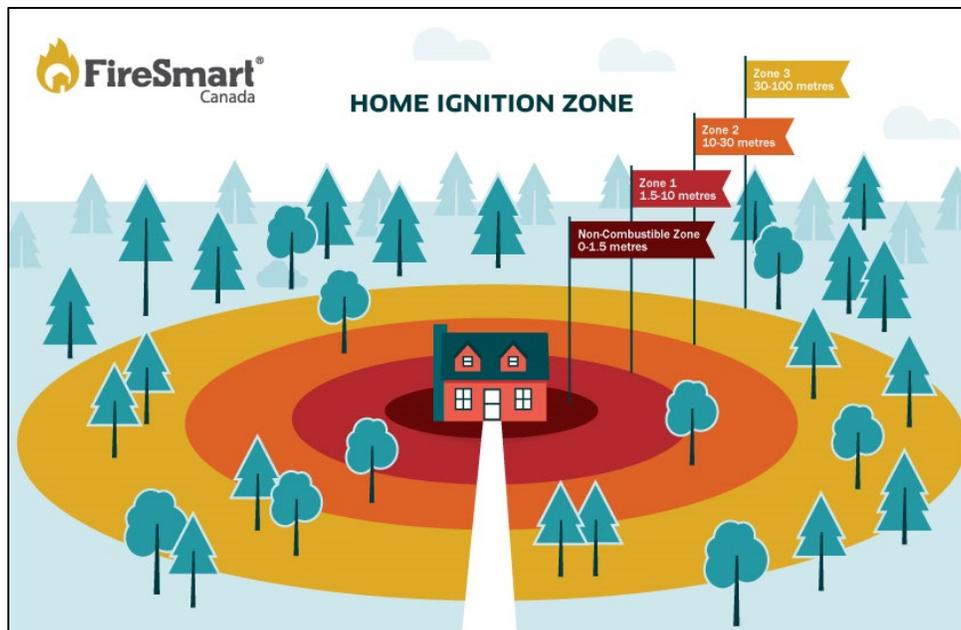


Figure 4: FireSmart home and critical infrastructure ignition zone

Coquitlam has begun taking steps to increase awareness and support residents in adopting FireSmart vegetation management principles at both the neighbourhood and individual home-level. A FireSmart Coordinator has been contracted to deliver home assessments to residents in some interface neighbourhoods, as part of the regional FireSmart Northeast Sector programming. This is an important initiative that will allow Coquitlam to engage with residents directly in high priority neighbourhoods. Coquitlam should aim to optimize the information gathered as a result of this campaign, build on the awareness generated by the 2021 program, and strengthen community uptake. Home assessment information should be reviewed to gain an understanding of the location of more vulnerable neighbourhoods, where further FireSmart engagement efforts should be targeted. In coming years, home assessments should continue to be offered, and initiatives such as the FireSmart Neighbourhood Recognition Program, or a community chipping program delivered to support the uptake of FireSmart principles on private land in Coquitlam interface neighbourhoods. The Neighbourhood Recognition Program is one way to promote cooperation between residents and neighbourhood level wildfire resiliency.

Recommendations and action items related to FireSmart vegetation management and practices within the WUI and associated Home and Critical Infrastructure Ignition Zones, Community Zones, and Landscape Zones are provided below in Table 29.

Fuel Management Treatments

Fuel management treatments are the manipulation or reduction of living or dead forest and grassland fuels to reduce rate of spread and head fire intensity, and to enhance the likelihood of successful suppression of potential wildfire events. They are focused in the Community Zone and Landscape Zone (Municipal and Crown Lands).

Multiple fuel treatments have been proposed in the WUI's Community and Landscape Zones, as described in Table 27 and shown on Map 8. One past treatment unit, in Ridge Park, was implemented as recommended by Coquitlam's 2007 CWPP was assessed as part of this CWRP. This treatment no longer retains efficacy in all areas and is recommended for re-treatment. One fuel treatment unit is recommended for implementation in Pinecone Burke Provincial Park. It is acknowledged that cooperation with BC Parks will be necessary to complete this treatment, and that fuel treatment is contingent on the compatibility of recommended treatment techniques and specifications with Park objectives.

Recommendations for fuel management treatment locations are provided below in Table 27 and displayed in Map 8: Coquitlam CWRP Proposed Fuel Treatment Units.

Interagency Cooperation for Vegetation Management

Coquitlam's primary approach to vegetation management should comprise fuel management treatments and actions to increase community uptake of residential FireSmart landscaping efforts. A secondary effort should involve engaging with other land managers within municipal boundaries to promote wildfire mitigation strategies in areas of land that the City of Coquitlam does not manage.

BC Hydro is an important third-party land manager in the municipality, with tenure for extensive right-of-way areas which run east-west through forested areas north of interface neighbourhoods, as well as north-south from the interface into more developed neighbourhoods of the city. In 2015, as part of construction for the new high-voltage Interior to Lower Mainland transmission line, rights-of-way running east-west through Coquitlam were twinned. This project involved a substantial vegetation removal effort. BC Hydro's best management practices for clearing for new line construction note that initial clearing of vegetation for powerlines involves the removal of all tall-growing target tree species or other incompatible vegetation, and the retention where possible of low-growing species.³⁹ Hazard or non-windfirm trees outside the corridor that can fall into powerlines are also removed. BC Hydro reports that in the years since the project was completed this windfirming effort was effective, and no windthrow events of concern have occurred along the new line.⁴⁰

Monitoring of potential target vegetation (plant species that can contact or growth within limits of approach of power lines), through aerial or ground patrols occurs regularly. BC Hydro reports that this often occurs annually. Best management practices state that transmission circuits must be inspected at least once per 18 months, but that most BC Hydro transmission circuits are patrolled twice per year, usually in the spring and fall. This monitoring schedule allows BC Hydro to determine whether

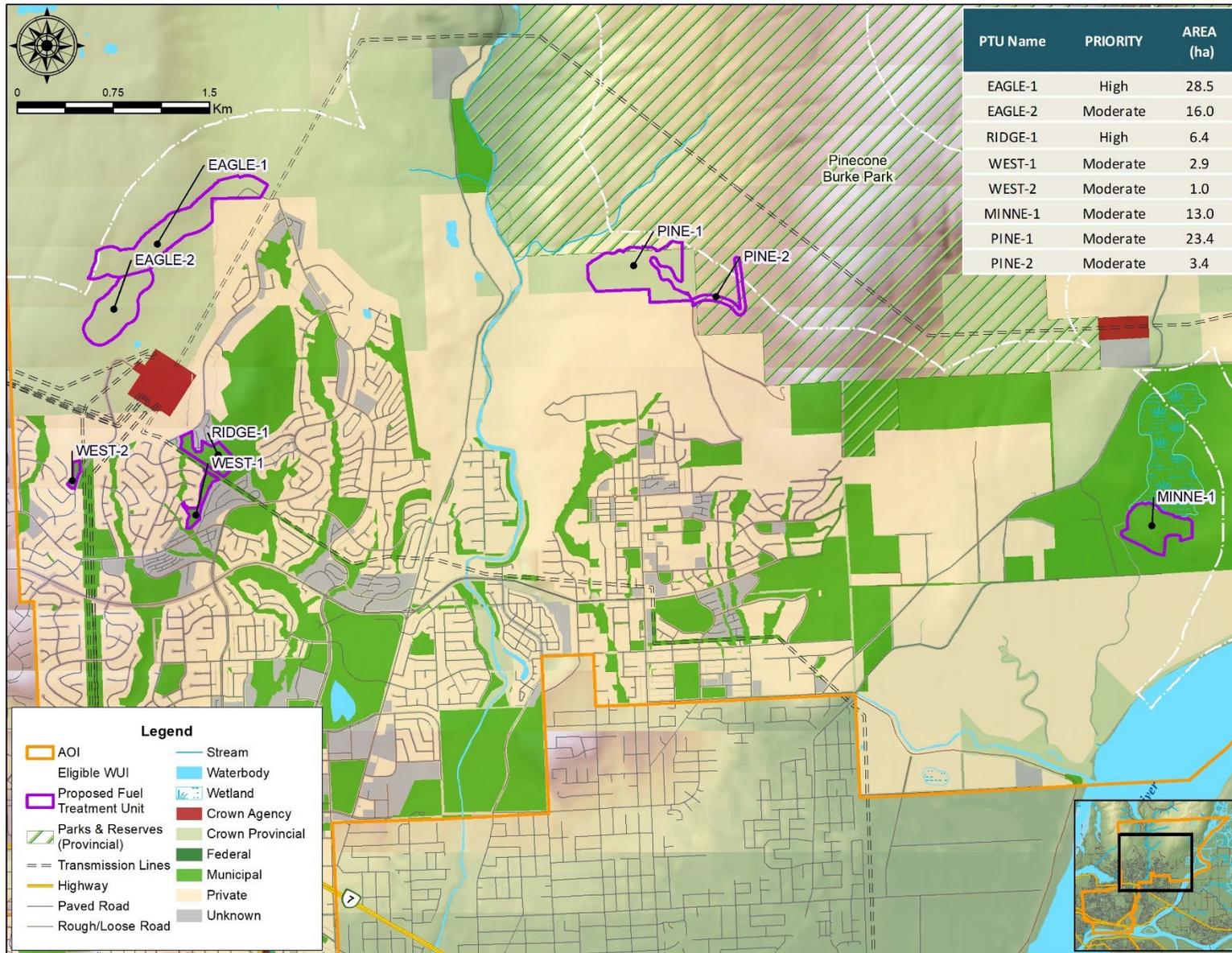
³⁹British Columbia Hydro and Power Authority. (2016). *Integrated Vegetation Management Plan for BC Hydro Transmission and Distribution Power Line Corridors*. Retrieved from: <https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/safety/Corridor-PMP-May-2016.pdf>

⁴⁰ M. Lands, personal correspondence, October 6, 2021.

treatments are necessary to meet site objectives, as well as the best timing for treatments, and post-treatment review.

Information gathered through monitoring, in combination with other best practices and analysis, is used to determine the timing of treatment and vegetation management. Maintenance of transmission line corridors is also mandated by Section 10 of the provincial *Wildfire Regulation*, which requires BC Hydro to maintain corridors in a manner that prevents any fire from spreading. Treatments that may be applied to rights-of-way to prevent hazardous or incompatible vegetation growth include brushing, mowing, felling, and debris removal. These activities are considered '*high risk*' as defined by the Wildfire Act, and are regulated by law to prevent ignitions during times of high fire danger.

BC Hydro reports that along transmission line rights-of-way within Coquitlam, issues of trespass and dumping are common. This has implications for wildfire risk mitigation for the City of Coquitlam, as trespass, campfire activity, and vehicle use along BC Hydro access roads can present an elevated risk of human-caused ignition in interface areas. Dumping of potentially flammable or hazardous materials is also a concern. Unauthorized vehicle use can degrade BC Hydro access roads, rendering them less usable for BC Hydro staff or potentially for the use of fire suppression crews responding to an interface incident. Interagency engagement and communication between the City of Coquitlam and BC Hydro is recommended to enhance understanding of the cause and effect of these issues, as well as to report other concerns of wildfire hazard, fuel accumulations, and for BC Hydro to communicate the status of regularly scheduled maintenance activities.



Map 8: Coquitlam CWRP Proposed Fuel Treatment Units

Table 27: Summary of Proposed Fuel Treatment Units (PTUs)

Map #	PTU Name	Total Area (ha)	Treatment Unit Location / Type	Priority	Overlapping Values / Treatment Constraints	Treatment Rationale
1	EAGLE-1	28.5	Interface Fuel Break Landscape Zone	High	Private land owned by Westwood Plateau Golf Academy borders this unit to the east. Overlaps with Crown land tenures for one oil and gas right-of-way, one electric powerline right-of-way and two public works leases are present. Authorized trail networks associated with the Tri-Cities Off-Road Cycling Association (TORCA) and Eagle Mountain Moto are overlap this PTU. Overlap with a previous western hemlock looper outbreak is present on far east side of treatment unit. This unit is located on Crown Provincial land. ⁴¹	This unit is buffers 100 meters along each side of Eagle Mountain Road for approximately 1.5 kilometers. Coquitlam Fire & Rescue reports some human-caused ignitions in this area, while Metro Vancouver reports frequent trespass into the Coquitlam Watershed from this location. Eagle Mountain Road is also a popular off-road vehicle trail. Combined, these characteristics elevate the risk of accidental human-caused ignitions. First responders also may use the route for backcountry access. The treatment unit is located perpendicular to prevailing winds, and is positioned as a strategic break between the forest stands, and Coquitlam Watershed on Eagle Mountain and values at risk in the Westwood Plateau neighbourhoods, including the BC Hydro Meridian and FortisBC substations. Hazardous fuel types (C-3) are located within this PTU, characterized by dense stands of mature western hemlock, and hazardous accumulations of surface fuel loading. Crown closure is high. High rates of dwarf mistletoe parasitism are present and associated stem, root and branch breakage is contributing to surface fuel loading.
2	EAGLE-2	16.0	Interface Fuel Break Landscape Zone	High	Private land borders this unit to the south, (private residences) and east, where the Westwood Plateau Golf Academy and private residences are located. Overlaps with Crown land tenure for one compressor site right-of-way, an oil and gas right-of-way and one electric power line right-of-way are present. Off-road and 4x4 trail overlap on Eagle Mountain. This unit is located on Crown Provincial land. ⁴¹	This unit is buffers 100 meters around the FortisBC Gas substation as well as 100 meters on each side of the access road. Hazardous C-3 fuel types were identified in this unit. Trail systems, used by hikers, dog-walkers and mountain bikers, overlap with this treatment unit, and high traffic increases the likelihood of accidental ignition. Treatment will reduce local fire threat by decreasing ladder fuels, horizontal continuity, and debris accumulation. By doing so, the FortisBC Gas substation will be effectively buffered along with several recreation trails. Dense, suppressed understory sapling growth is present at the substation fence perimeter, with high vertical and horizontal fuel continuity. Parts of this PTU include stands continuous with EAGLE-1 and are characterized by similar mature, hemlock-dominated stands with forest health issues present.

⁴¹ Depending on UBCM CRI funding criteria at the time of application, this may constrain the potential for the City of Coquitlam to prescribe and implement treatment. For example, 2022 FireSmart Community Funding and Supports program criteria require review and support from BCWS for fuel management treatments located on Provincial Crown land. However, this unit is still recommended for treatment as part of this CWRP because: a) it is located within Coquitlam municipal boundaries, and adjacent to values-at-risk that serve the City of Coquitlam; b) treatment of this unit could provide positive outcomes for public safety of Coquitlam residents and Coquitlam first responder safety; and c) the identification of the hazardous characteristics and strategic benefits of treating this unit means that even if the City of Coquitlam is not authorized to implement treatment another agency may (e.g. Ministry of Forests, Lands, Natural Resource Operations, & Rural Development through the Wildfire Risk Reduction stream of CRI).

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Map #	PTU Name	Total Area (ha)	Treatment Unit Location / Type	Priority	Overlapping Values / Treatment Constraints	Treatment Rationale
3	RIDGE-1	6.4	Critical / Hazardous Infrastructure Ignition Zone <i>Community Zone</i>	Moderate	The Westwood Plateau Golf Academy borders this PTU to the west. Private residences border the PTU at the south and east, while north of the treatment unit is the northern section of Ridge Park. Local walking trails are located throughout unit.	This PTU is located on Coquitlam municipal land, on a slope with private residences at the top. Homes adjacent to the treatment unit are recommended to have FireSmart assessments completed in 2021/2022 by City of Coquitlam. Treatment here is an opportunity to demonstrate, and work to increase community uptake of FireSmart principles. This unit overlaps with a previously treated area, but maintenance treatment is recommended to further reduce density. Forest stands are characterized by dense numbers of juvenile to mature western red cedar and western hemlock trees.
4	WEST-1	2.9	Interface Fuel Break <i>Community Zone</i>	High	Ridge Park to the north, private residences around the treatment unit to the west, east and south. Local walking trails throughout unit. Significant occurrences of invasive species are present at this location.	Located on Coquitlam municipal land with residences both above and below, this linear park treatment overlaps with previously treated areas, but maintenance treatment is required. Low crown base heights, and high surface fuel loading is present. High mortality rates in western hemlock, potentially resulting from impacts of hemlock looper, and poor stand health overall, is contributing to fuel loading. Dumping is also contributing to surface fuel loading. Homes adjacent to PTU are recommended for FireSmart assessments to be completed in 2021/2022 by the City.
5	WEST-2	1.0	Critical Infrastructure Ignition Zone <i>Community Zone</i>	Moderate	Private land borders to the north, west, and south. Small piece of mixed ownership land to the west. Coquitlam Municipal land to the east. Treatment unit on west side of Eagle Mountain Drive.	This unit is located on Coquitlam municipal land, buffering a water reservoir and surrounded by private land. There are residences upslope from the TU. Hazardous C-3 fuel types were identified around the reservoir and adjacent to right of way and private land, with stands characterized by patches of dense understory stems with low crown base heights, and hazardous accumulations of surface fuels. Homes adjacent to PTU are recommended for FireSmart assessments to be completed in 2021 / 2022 by the City. Treatment can protect the critical infrastructure and private residences by reducing ladder fuels, horizontal continuity, and surface fuel accumulation.
6	MINNE-1	13.0	Interface Fuel Break <i>Community Zone</i>	Moderate	Minnehada Regional Park borders all sides of the treatment unit. Overlaps with masked species and ecosystems at risk. Overlaps with two publicly available occurrences of species at risk: <i>Rana aurora</i> and <i>Chrysemys picta</i> . Overlaps with several invasive plant occurrences.	This unit is located on Coquitlam municipal land, but within Minnehada Regional Park (administered by Metro Vancouver). ⁴² It buffers a heritage structure on the south side of the park. Drought-affected western redcedar is present in this treatment unit. Standing dead stems, elevated quantities of existing surface fuel loading have produced increased wildfire hazard risk in an otherwise moderate hazard stand (fuel type C-5). High mortality rates are likely to increase surface fuel loading over time. Treatment of this unit will reduce ignition and high fire behaviour likelihood in a high-traffic area of the park and adjacent to heritage structure, and serve public and first responder safety objectives. A FireSmart assessment of the structure and possible mitigation measures are recommended to be completed in conjunction with fuel treatment.

⁴² Fuel treatments occurring within park boundaries (Metro Vancouver or BC Parks) will require the support and review of park agencies at the prescription and implementation stages to ensure that fuel management techniques are compatible with park management goals, objectives, and strategies, and the treatment of these areas is contingent on the approval of these agencies.

Map #	PTU Name	Total Area (ha)	Treatment Unit Location / Type	Priority	Overlapping Values / Treatment Constraints	Treatment Rationale
7	PINE-1	23.4	Interface Fuel Break <i>Landscape Zone</i>	Moderate	Private land borders the southern edge and is also west of the polygon. Overlap with a community facility lease (gun range) in the eastern part of treatment unit. A portion of the northern section of the treatment unit is within Pinecone Burke Provincial Park. Pinecone Burke also lies to the east. Overlap with mineral tenure throughout most of the unit. Overlaps with masked species and ecosystems at risk.	Located on Crown Provincial land, ⁴¹ this unit buffers around the gun range and the hazardous fuel types behind the range. This treatment unit also creates a buffer between Pinecone Burke Provincial Park and the private property slated for development in the next 10 years (part of the Northwest Burke neighbourhood plan). A FireSmart assessment of the gun range recommended to be completed at same time as this treatment. As private property development occurs in the upcoming years, treating and maintaining forest to decrease wildfire risk is recommended. Treatment in this area to reduce fire risk by decreasing surface fuel loading, horizontal continuity and ladder fuels.
8	PINE-2	3.4	Demonstration Treatment <i>Landscape Zone</i>	Moderate	Private land to the west of the treatment unit, while Pinecone Burke Provincial Park is to the north, east and south. Overlap with mineral tenure on the west portion of unit. Overlap with invasive plant on east side of polygon. Overlaps with masked species and ecosystems at risk.	This unit is on Crown Provincial land that buffers 20 meters along either side of the main access road into Pinecone Burke Provincial Park. ^{41,42} The route is used mainly by vehicles, mountain bikers, and may be used by first responders in the event of a wildfire incident. Treatment along road edge where ladder fuels are most dense and horizontal fuel loading is most continuous will decrease likelihood of ignition. This fuel treatment unit is recommended as a demonstration. Engagement with the local mountain bike association, concurrent with treatment operations, is recommended to share information about wildfire risk mitigation about trail management practices that can prevent increased wildfire hazard.

Table 28: Vegetation management action items

Item #	Priority	Recommendation	Comments	Lead	Timeframe	Metric for Success	Funding Source
<p><i>Objective: reduce the potential wildfire intensity and ember exposure to people, infrastructure, structures, and other values through manipulation of both the natural and cultivated vegetation that is within or adjacent to a community.</i></p>							
41	High	Proceed with detailed assessment, prescription development, and treatment of fuel treatment units identified and prioritized in this CWRP.	Treatment sites that fall entirely within Coquitlam municipal parks can be led by the Parks Division. Treatment sites that occur on Crown land (including within Pinecone Burke Provincial Park), if authorized to be treated by the City of Coquitlam, can be led by Coquitlam Fire & Rescue or potentially a FireSmart Coordinator if appropriate.	City of Coquitlam (Parks Division, or Coquitlam Fire & Rescue or potential FireSmart Coordinator), consultant support	5 years	Prescriptions written and implemented for all proposed treatment units.	Eligible for UBCM CRI funding.
42	Moderate	As part of fuel treatment implementation, Coquitlam should develop interpretive signage to demonstrate pre- and post-fuel treatment forest stands conditions.	Interpretive signage could include text explaining the purpose of the fuel management treatment, connection to the CWRP, and FireSmart practices residents nearby can take to reduce wildfire hazards around their yards and homes.	City of Coquitlam (Parks Division, Corporate Communications, potential FireSmart Coordinator), consultant support	5 years	Signage installed during implementation phases.	Eligible for UBCM CRI funding.
43	High	When operational fuel treatments are conducted, re-assessment should occur between 5-10 years after treatment by a qualified professional. This can be completed with a CWRP update or as a stand-alone exercise.	A more specific date for reassessment could be identified when fuel management prescriptions for treatment of the recommended areas are developed.	City of Coquitlam (Parks Division, potential FireSmart Coordinator), consultant support	Ongoing	Monitoring scheduled and completed.	Eligible for UBCM CRI funding.